

EXPANSION & RENOVATE AS NEW – PHASE 1

**CRYSTAL LAKE ELEMENTARY SCHOOL
284 SANDY BEACH ROAD
ELLINGTON, CT 06029
STATE PROJECT NO. 048-0058 EA/RR/PS**

S/P+A PROJECT NO. 12.140

DATE: January 3, 2013

The following changes to the Drawings and Project Specifications shall become a part of the Drawings and Project Specifications; superseding previously issued Drawings and Project Specifications to the extent modified by Addendum No. 4.

General Information/Clarifications:

- See attached RFIs. (24)
- See attached 2nd walk-through meeting sign-in sheet for reference. (3)

New Specifications:

- SECTION 123553.19, WOOD LABORATORY CASEWORK has been added and is attached as part of this addendum. (11)

Changes to the Specifications:

- TABLE OF CONTENTS:
 - Page 3, Division 9 – Finishes, Sections 095133, 095423, 096400, 096519 and 096536, delete in their entirety.
 - Page 4:
 - Division 9 – Finishes, Section 097200, delete in its entirety.
 - Division 10 – Specialties, Section 101200, delete in its entirety.
 - Division 12 – Furnishings:
 - * Section 123553.15, Pages, revise “10” to read “9”.
 - * Add the following:

“Section 123553.19	Wood Laboratory Casework	11”
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 - Division 13 – Special Construction, Section 132700, delete in its entirety.
- BID FORM has been deleted in its entirety. A new BID FORM has been added and is attached as part of this addendum. (3)
- SECTION 023219, EXPLORATORY EXCAVATIONS, Page 1, Article 1.2.B., delete in its entirety.

- SECTION 028433, PCB REMEDIATION, Page 2, Article 1.2.1, Notes, revise “(24)” to read “(12)”.
- SECTION 064113, WOOD-VENEER-FACED ARCHITECTURAL CABINETS:
 - Page 2, Article 1.5.B., add the following:

“3. Glass.”
 - Page 6, Article 2.4, add the following:

“P. Aluminum Slides for Sliding Glass Doors: BHMA A156.9, B07063.

Q. Tempered Float Glass for Cabinet Doors and Shelves: ASTM C 1048, Kind FT, Condition A, Type I, Class 1 (clear), Quality-Q3, with exposed edges seamed before tempering, ½ inch thick unless otherwise indicated.”
- SECTION 090000, SCHEDULE OF FINISHES:
 - Page 4, Floors, WOM-3, Location, revise “(C131)” to read “(C146)”.
 - Page 13, Window Treatments, RS-1, Location, revise to read as follows:

“Motorized: Media Reading C141, Window Types CW C2C, C12 and C12.1
Manual: All other exterior windows plus all interior doors with glazing and all interior sidelights”
- SECTION 095133, ACOUSTICAL METAL PAN CEILINGS has been deleted in its entirety.
- SECTION 095423, LINEAR METAL CEILINGS has been deleted in its entirety.
- SECTION 096400, WOOD FLOORING has been deleted in its entirety.
- SECTION 095113, ACOUSTICAL PANEL CEILINGS:
 - Page 4:
 - Article 2.4.A., revise “(ACT1)” to read “(ACT-4)”.
 - Article 2.4.A.7., revise “Angled Tegular” to read “Square”.
 - Article 2.4.B., revise “(ACT3)” to read “(ACT-5)”.
 - Article 2.4.D., revise to read as follows:

“Basis-of-Design Product (ACT-3):

 1. Armstrong World Industries, Inc.; **GRAPHIS Finetex**
 2. Classification: Provide panels complying with ASTM E 1264 for type, form, and pattern as follows:
 - a. Type and Form: Type III, mineral base with painted finish; Form 2, water felted.
 - b. Pattern: J (embossed-in-register)/Z (other patterns as described).

-
3. Color: White.
 4. LR: Not less than 0.90.
 5. CAC: Not less than 35.
 6. Edge/Joint Detail: Wrapped Tegular.
 7. Thickness: $\frac{3}{4}$ inch.
 8. Modular Size: 24 by 24 inches.”
- Page 6, Article 2.6, add the following:
 - “D. Narrow-Face, Capped, Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet; prepainted, electrolytically zinc coated, or hot-dip galvanized according to ASTM A 653, not less than G30 coating designation; with prefinished 9/16-inch-wide metal caps on flanges.
 1. Basis-of-Design Product:
 - a. **Armstrong World Industries, Inc.; Suprafine XL Exposed Tee System**
 2. Structural Classification: Heavy-duty system.
 3. Face Design: Flat, flush.
 4. Face Finish: Painted white.”
 - Page 7, Article 2.7.D., delete in its entirety.
 - SECTION 096519, RESILIENT TILE FLOORING has been deleted in its entirety.
 - SECTION 096536, STATIC-CONTROL RESILIENT FLOORING has been deleted in its entirety.
 - SECTION 097200, WALL COVERINGS has been deleted in its entirety.
 - SECTION 101200, DISPLAY CASES has been deleted in its entirety.
 - SECTION 101400, SIGNAGE:
 - Page 1, Article 1.2.A.2., delete in its entirety.
 - Page 2, Article 1.4.C.2., delete in its entirety.
 - Page 3, Article 2.1.B., delete in its entirety.
 - Page 4, Article 2.3, delete in its entirety.
 - Page 5
 - Article 2.4, delete in its entirety.
 - Articles 2.5.A.1. and .3., delete in their entirety.
 - Articles 2.6.A. and .B., delete in their entirety.
 - Article 2.8, delete in its entirety.
 - Page 6:
 - Article 3.1.B., delete in its entirety.
 - Article 3.2.C., delete in its entirety.
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- SECTION 102600, WALL AND DOOR PROTECTION:
 - Page 1
 - Article 1.2.A.1., delete in its entirety.
 - Article 1.3.E.1., delete in its entirety.
 - Page 2:
 - Article 1.6.A.1., delete in its entirety.
 - Article 1.8.A.2.a., delete in its entirety.
 - Page 3:
 - Article 2.1.B., delete in its entirety.
 - Article 2.2, delete in its entirety.
 - Page 4, Article 2.4, delete in its entirety.
 - SECTION 122413, ROLLER WINDOW SHADES:
 - Page 1, Article 1.2.B.1., delete in its entirety.
 - Page 3:
 - Article 2.1.A.1., revise “MechoShade Systems, Inc.” to read “SWF Contract Shading Systems”.
 - Article 2.1.B., add the following:
 - “5. MechoShade Systems, Inc.”
 - Page 4:
 - Article 2.2.E.1., revise “Light-blocking” to read “Light-filtering”.
 - Article 2.2.E.2.b., revise to read as follows:
 - “Color and Finish: As indicated in Section 090000 “Schedule of Finishes”.”
 - Article 2.2.F.2., revise to read as follows:
 - “Endcap Covers: To cover exposed endcaps.”
 - Article 2.2.F.3., revise to read as follows:
 - “4. Recessed Shade Pocket: Rectangular, extruded-aluminum enclosure designed for recessed ceiling installation; with front, top, and back formed as one piece, end plates, and removable bottom closure panel.
 - a. Height: Manufacturer's standard height required to enclose roller and shadeband when shade is fully open, but not less than 4 inches.

-
- b. Provide pocket with lip at lower edge to support acoustical ceiling panel.”
 - Article 2.2.F.4., revise to read as follows:

“Installation Accessories Color and Finish: As indicated in Section 090000 “Schedule of Finishes”.”
 - Article 2.3.A.3.a, revise last sentence to read as follows:

“Locate control station outside of Media Office B133, behind circulation desk”.
 - Page 5:
 - Article 2.3.E.1., revise “Light-blocking” to read “Light-filtering”.
 - Article 2.3.E.2.b., revise to read as follows:

“Color and Finish: As indicated in Section 090000 “Schedule of Finishes”.”
 - Articles 2.3.F.2. and .3., delete in their entirety.
 - Page 6:
 - Article 2.3.F.4., revise to read as follows:

“Installation Accessories Color and Finish: As indicated in Section 090000 “Schedule of Finishes”.”
 - Article 2.4.B., revise to read as follows:

“Light-Filtering Fabric: Woven fabric, stain and fade resistant.

 1. Source: Roller-shade manufacturer.
 2. Thickness: 0.019 inches.
 3. Weight: 14.1 oz./sq. yd.
 5. Orientation on Shadeband: Up the bolt.
 6. Style, Color, Openness, Roll Width and Composition: As indicated in Section 090000 “Schedule of Finishes”.”
 - Page 7, Article 3.2.A.1., delete in its entirety.
 - SECTION 123553.15, PHENOLIC LABORATORY CASEWORK has been deleted in its entirety. A new SECTION 123553.15, PHENOLIC LABORATORY CASEWORK has been added and is attached as part of this addendum. (9)
 - SECTION 132700, VAULTS has been deleted in its entirety.
 - SECTION 230900, AUTOMATIC TEMPERATURE CONTROLS, Page 32, Part 4, add the following:
-

“4.15 Sump Pump SEP1

- A. Sump Pump SEP1 shall operate On/Off through its level monitoring/control system.

4.16 Floor Water Alert System – Basement Electrical Equipment Area

- A. Floor water sensing system shall monitor for liquid on floor in vicinity of major electrical equipment in Basement (Refer to Sketch SKP2).
- B. Upon sensing water on floor in vicinity of major electrical equipment in Basement, water sensing system shall signal alarm to BMS.”

New Drawings:

- DRAWING CSK-001, WALL UNDERDRAIN CONNECTION has been added and is attached as part of this addendum. This sketch adds information to Drawing C-604.
- DRAWING CSK-002, DETENTION BASIN OUTLET has been added and is attached as part of this addendum. This sketch revises information on Drawing C-400.
- DRAWING CSK-003, UNDERGROUND WATER TANK REMOVAL has been added and is attached as part of this addendum. This sketch revises information on Drawing C-200.
- DRAWING SKA3, PT/OT WALL PADS has been added and is attached as part of this addendum. This sketch clarifies information on Drawing A723.
- DRAWING SKP1, REMOVE BURIED TANK & FOUNDATION WALL PENETRATION has been added and is attached as part of this addendum. This sketch revises information on Drawing PD103.~
- DRAWING SKP2, PROVIDE BASEMENT FLOOR WATER DETECTION SYSTEM has been added and is attached as part of this addendum. This sketch revises information on Drawing P104.~

Changes to the Drawings:

- DRAWING C-600, DETAILS, Temporary Construction Fence 13, revise height of “6’-0”” to read “8’-0””.
- DRAWING C-602, DETAILS, Single Ornamental Swing Gate 8, revise gauge and thickness of pickets and rails to match Ornamental Fence 7.
- DRAWING A801, CASEWORK DETAILS, Phenolic Drawer Detail 9, revise “¼” veneer plywood back panel” to read “¼” solid phenolic back panel”.
- DRAWING A912, DOOR & FRAME ELEVATIONS, Door Type Elevations 1, Type AL-1, revise “Doors A100A” to read “Door C100A”.
- DRAWING M302, MAIN FLOOR HYDRONIC PLAN has been deleted in its entirety. A new DRAWING M302, MAIN FLOOR HYDRONIC PLAN has been added and is attached as part of this addendum.*

- DRAWING P501, PLUMBING LEGENDS, NOTES, SCHEDULES, Plumbing Pump Schedule, SEP1, Notes, 2nd to last sentence, revise “building fire alarm control panel” to read “BMS system”.
- DRAWING E202, 1ST FLOOR POWER PLAN, AREA ‘C’, Power Plan Notes, add the following:

“17. Provide 120 volt single phase circuits to each of the motorized shades in Media Reading C141.”
- DRAWING E203, BASEMENT & TUNNEL POWER PLAN, Power Plan Note 1, add to the end the following:

“Provide additional unistrut bracket and duplex receptacle fed from panel “EM-1”, for water alert power supply. Coordinate with Div. 22.”

The bid dates are unchanged by this addendum.

The addendum consists of fifty-seven (57) pages of 8½” x 11” text, four (4) 8½” x 11” drawings, two (2) 11” x 17” drawings and one (1) 30” x 42” drawing.

End of Addendum #4

GERBER CONSTRUCTION

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 (860) 875-6684
 ron@gerberconstructioninc.com

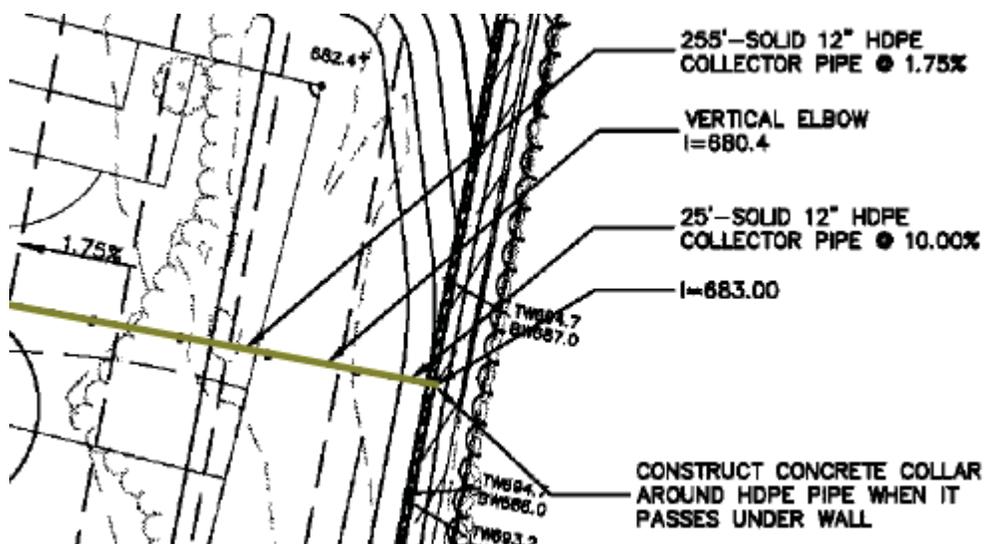
RFI # 004

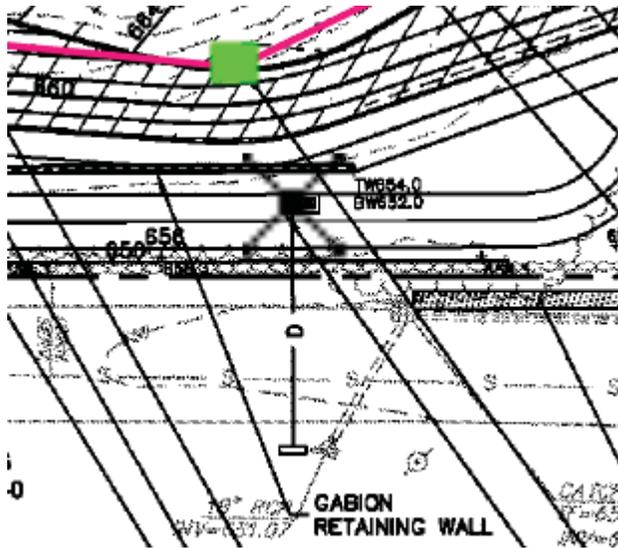
RFI

TO:	Paul Jorgensen <pjorgensen@silverpetrucelli.com>	FROM:	Benjamin Luginbuhl
EMAIL:	RSteiner@Fusco.com	# PAGES:	1
COPY:	Ron Gerber	PHONE:	8608756684
SUBJECT:	BID PACKAGE-SITWORK	DATE:	12/30/13

QUESTION: Please clarify the detail for how the 12" HDPE field collector drain will connect to the perforator field drainage and the gravity wall drain on the South side of the property.

Please clarify the slope, concrete head wall design and invert elevation for the 18" RCP outlet of Outlet Control Structure #2 that crosses South Rd.





Field Collector Drain:

- 12" solid HDPE collector drain will connect to field underdrains (6" perforated HDPE) by utilizing 12"x12"x6" solid HDPE tees or 12"x6"x12"x6" solid crosses.
- 12" solid HDPE collector drain will connect to wall underdrain per CSK-001 (attached).

Outlet Control Structure 2 Outlet:

- A reinforced culvert end will be utilized in lieu of a concrete headwall. Construct per CSK-002 (attached).

GERBER CONSTRUCTION

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RFI # 003

RFI

TO:	Paul Jorgensen <pjorgensen@silverpetrucelli.com>	FROM:	Benjamin Luginbuhl
EMAIL:	RSteiner@Fusco.com	# PAGES:	1
COPY:	Ron Gerber	PHONE:	8608756684
SUBJECT:	BID PACKAGE-SITWORK	DATE:	12/30/13

QUESTION:What is the size of the existing septic tank, that is to be removed?

Per Skips Septic Systems, who pump the tank periodically, tank information is as follows:

- Tank Size: 4,000 gallons
- Top of Tank: 60 inches below grade

Will Walter, PE - BSC Group

December 31, 2013

Paul Jorgensen

From: Paul Jorgensen
Sent: Thursday, January 02, 2014 11:01 AM
To: 'carl@hneequipment.com'
Cc: Rebecca Bouchard
Subject: FW: CRYSTAL LAKE question

Carl,

Please see responses below. Thanks for your interest in the project.

Paul Jorgensen, AIA

Associate/Project Architect

www.silverpetrucelli.com

SILVER / **PETRUCELLI + ASSOCIATES**

Architects/Engineers/Interior Designers

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P: 203-230-9007 ext. 208

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S/P+A is a member of the U.S. Green Building Council

From: Carl Ponticello [<mailto:carl@hneequipment.com>]

Sent: Monday, December 30, 2013 9:49 AM

To: Joan Ireland

Subject: CRYSTAL LAKE

HELLO...

WE HAVE A FEW QUESTIONS ABOUT THE ABOVE PROJECT THAT BIDS ON THE 8TH OF JANUARY

WE HAVE SEEN ADDENDUM # 1& 2... WILL THERE BE A ADDENDUM #3...???? **Addendum #3 was issued on Tuesday, December 31.**

THE SPECS CALL FOR PHEONOLIC CASEWORK IN THE SCIENCE ROOM BUT THE SCHEDULE AND THE DWG'S SHOW WOOD **See RFI response #13 in Addendum #3.**

Carl Ponticello

carl@hneequipment.com

H & E EQUIPMENT CORP.

1493 CHURCH STREET

HOLBROOK, N.Y. 11741

PHONE 631-563-6500

FAX 631-563-6502

From: Paul Jorgensen
Sent: Thursday, January 02, 2014 12:23 PM
To: 'Rich Walsh'
Cc: jjpetronella@enfieldbuilders.com; 'Steven J. Butler'; Rebecca Bouchard
Subject: RE: Crystal Lake Elementary School - RFI
Attachments: Existing Structural Framing - Crystal Lake School.pdf

Rich, please see responses below to your questions. We will issue this as well as the responses to your other RFI's in an upcoming addendum tomorrow.

Paul Jorgensen
SP+A

From: Rich Walsh [mailto:rwalsh@enfieldbuilders.com]
Sent: Friday, December 20, 2013 1:13 PM
To: Paul Jorgensen
Cc: jjpetronella@enfieldbuilders.com; 'Steven J. Butler'
Subject: RE: Crystal Lake Elementary School - RFI

Paul, a couple more questions

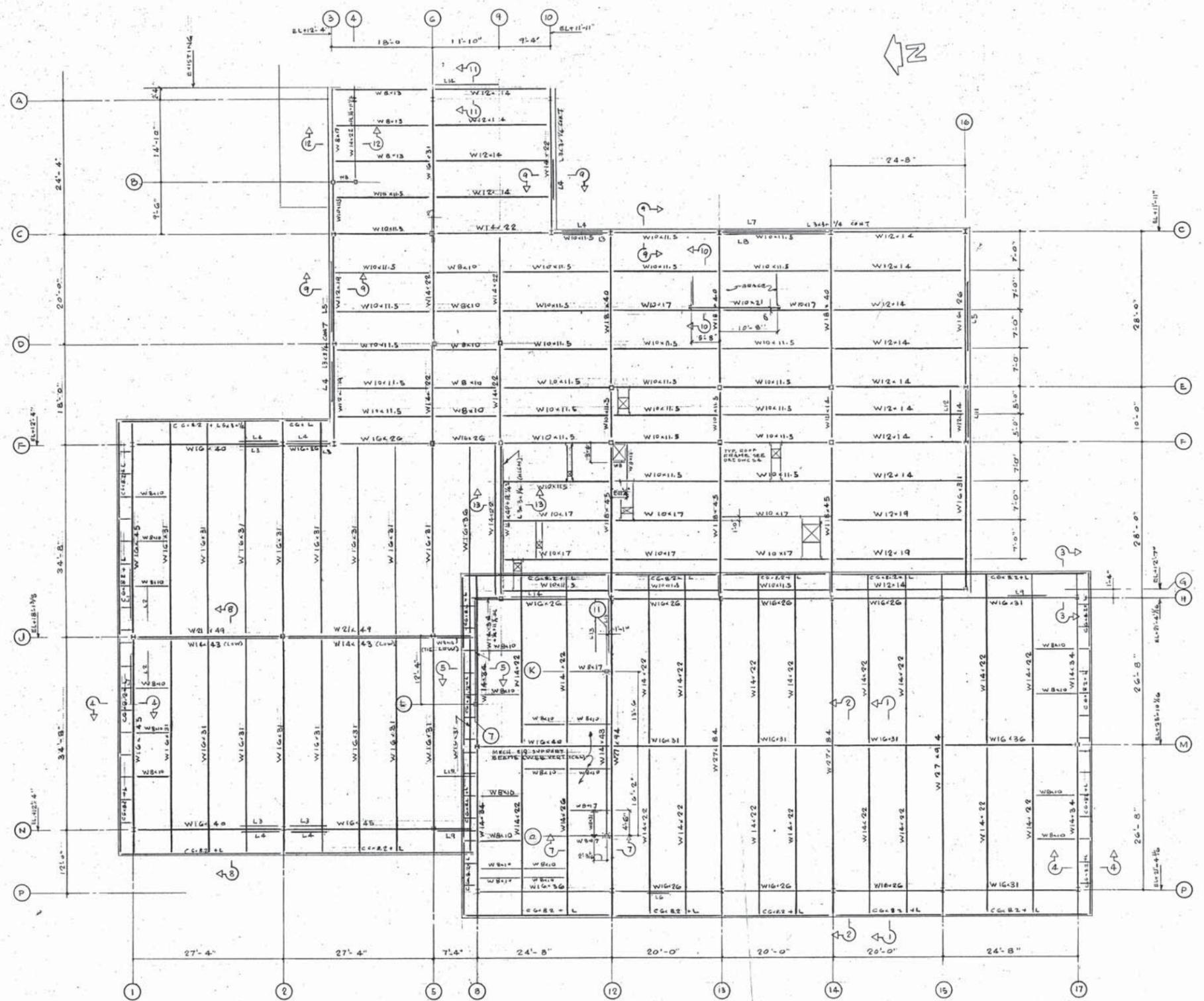
1. Drawing S132 – does the column bay X11/X13 & Xq/Xh have the pair of existing W14 beams like the bay X15/X17 & Xq/Xh? This info needed to determine the additional support required for the overhead supported basketball backboard supports. **Please see attached existing framing plan for the gym area.**
2. Please confirm the gym flooring will continue into the new alcove where the telescoping stands will be installed. **Yes, the gym flooring will continue under the entire telescoping stands.**

Thank you,

Richard Walsh
Estimating/Purchasing



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ROOF FRAMING PLAN
 SCALE 1/8" = 1'-0"
 ELEVATIONS SHOWN ARE TAKEN TO UNDERSIDE OF ROOF DECK FROM FINISHED FLOOR ELEVATION 100.05 (E101)

ROOF DECK REQUIREMENTS
 1. 1 1/2" DEPTH, TYPE 30
 2. MINIMUM 5/16" DIA.
 MINIMUM 9" x 27 1/2" DIA.

ELIMINATION BUILDING DEPARTMENT
 APPROVED FOR CONSTRUCTION
 DATE 2/16/26
 BUILDING OFFICIAL



McHUGH and ASSOCIATES
 Architects, A.I.A. Farmington, Conn.

KAHN & BAYER ENGINEERS
 STRUCTURAL ENGINEERS
 M. STALLER & ASSOCIATES
 MECHANICAL ENGINEERS

**ADDITIONS & ALTERATIONS TO
 CRYSTAL LAKE SCHOOL
 ELLINGTON, CONNECTICUT**

FRAMING PLAN



OCT. 8, 1975

Requests For Information #1
Crystal Lake School, Ellington
FROM: AES Remedial Contracting
DATE: 12/19/2013

Asbestos Abatement/PCB Related Questions

1. What Phase will the window and roof abatement be scheduled?
Response: Refer to Phasing Plans. Abatement to occur just prior to window replacement in accordance with G.C.s schedule. (possibly spring 2015?). Abatement of roofing would be in accordance with G.C.s schedule. (possibly later in 2015?).
2. For the clearances on the PCB/ACM caulk removal the clearances require a visual, bulk substrate testing, and after bulk samples have passed then wipe sampling is required. What time frame should be assumed for bulk collection, analysis, wipe collection and analysis after visual clearance?
Response: 3 day turnaround on sample analysis.
3. A few areas requiring abatement are on the phasing drawing for renovation Phase 3 – does the abatement correspond to the renovation phase? For example in Phase 3 – those areas scheduled for renovation will they also be abated in Phase 3? (Areas include Music Storage B-22, Corridor B18, and Entryways to Boys & Girls Locker Rooms, cafeteria, etc).
Response: Perform as much abatement as possible in the summer of 2014. There will be callbacks for the cafeteria etc: probably in early 2015 when there are no children in the school.

UST Removal Related Questions

4. The specification indicates that we should include excavation of soil around tank up to 3 yards in all directions around tank. Will the disposal and replacement be determined by unit price or do you have a quantity to carry for the bid?
Response: Remove 50 cu yds of contaminated soil.
5. Please confirm that excavated soils will be sampled and analyzed by the Owner's consultant.
Response: The Town's consultant will perform confirmation samples in the grave. The contractor is responsible for sampling to identify where the material can be properly disposed.
6. Sampling results post UST excavation will determine disposal requirements – should we provide a unit price for soil disposal for different potential results? Also should we provide a unit price for additional clean fill?
Response: Provide unit price for disposal of contaminated soil greater than the 50 cu yds identified.

Requests For Information #2
Crystal Lake School, Ellington
FROM: AES Remedial Contracting
DATE: 1/2/14

Asbestos Abatement/PCB Related Questions (continuation from previously submitted RFI's)

7. The HAZ drawings indicate that the substrate adjacent to the PCB caulk (>50 PPM) shall be removed to a distance of 12" to either side of the caulk line. The specifications (028433 page 2) indicate the substrate abutting caulks shall be removed to a distance of 24" inches from the caulk line. Please clarify.(1977 Wing)

Response: Use the dimension on the Drawing, 12" out.

8. The drawing HAZ001 legend indicates that a circle identifies areas where there is impact of the substrate by >50 PPM PCB caulk. Are all **interior** locations requiring substrate removal included on this drawing? The specification indicates 200 LF of interior caulk on walls and I-Beams, at the site visit there were numerous locations where there was caulk on steel columns and expansion joints (**interior**) that were not indicated on the drawing. Should we include only the indicated locations in our bid? (1977 Wing). Also the specs indicate expansion joint caulk total of 410 LF and the inspection indicates 800 LF – does the specification override the inspection?

Response: Yes, all impacted areas are on the Drawing. Only include indicated locations on the Drawing. Specifications override the inspection report.

9. In the 1955 Wing – the perimeter (exterior) windows have ACM caulk and hazardous levels of lead paint (please confirm there is no PCBC > 1 PPM related to these windows). The hallway interior windows have glazing with PCB >1 PPM <50 PPM (CT State regulated) and asbestos. Please confirm.

Response: Confirmed, no PCBs in window caulk and window glazing putty on perimeter windows. There are State regulated PCBs in the hallway window caulk, but there is no asbestos.

10. HAZ003 indicates limited areas of roofing requiring removal as ACM – the inspection indicates that Roof 5 and 3 have ACM built up roofing which have not been included on HAZ003. Should we bid what is on HAZ003 only?

Response: Bid what is indicated on HAZ-003 only.

Collins Electric

Information Systems Division
Founded 1906

53 Second Street Avenue Opp. Mass. Tpke. Exit 6 Chicopee, Ma : Mailing Address Post Office Box 3311: Springfield, Ma. 01102-3311

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12-27-13

Paul Jorgensen
Silver/Petrucci & Ass, Inc.
3190 Whitney Av, Bld 2
Hampden, CT 06518

RE RFI 1: Crystal Lake Elementary School Ellington CT

- 1) Is the Technology contractor (div 27000) responsible for all conduits, boxes and stubs or is this the responsibility of the electrical contractor (div 26000)?
- 2) Is the Security contractor (div 28000) responsible for all conduits, boxes and stubs or is this the responsibility of the electrical contractor (div 26000)?

While it is typical for Division 26 to cover all boxes and conduit for both technology and security, it is ultimately the responsibility of the General Contractor to coordinate this division of responsibility with all of their respective subs.
Bob Banning 1-2-14

Very truly yours,
The Collins Electric Co., Inc.
Michael J. Angelica
mangelica@ce1906.com
Estimator/Project Manager

**W. J. MOUNTFORD CO.**

GENERAL CONTRACTOR • CONSTRUCTION MANAGER

170 Commerce Way, South Windsor, CT 06074, (860) 291-9448, Fax (860) 289-6382

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RFI -TRANSMITTAL**Attention:** Paul Jorgensen **Company:** Silver/Petrucci & Associates**Email:** pjorgensen@silverpetrucci.com **Fax:** 203-230-8247**Reference:** **RFI # 03 (note: received as RFI #2)**
Crystal Lake Elem School

Question:

- 1) Can you verify there are 2 locker benches in each locker room? The floor plan shows 2 rectangles in the middle of the floor that are different sizes. I could not find a bench detail.
- 2) Spec 101400 calls for aluminum Dimensional Characters. I cannot locate any on the drawings. Please clarify.

Thanks.

Architect's Response

1. **One standard bench (10" x 72") and one ADA bench (16" x 42") is provided in each locker room. The ADA bench detail can be found on 12/A803.**
2. **Dimensional characters are not part of this project.**

P. Jorgensen/R. Bouchard 01.03.14

From: Mike Garneau
Estimator**Date:** 12/26 /13**Copy:**

GERBER CONSTRUCTION

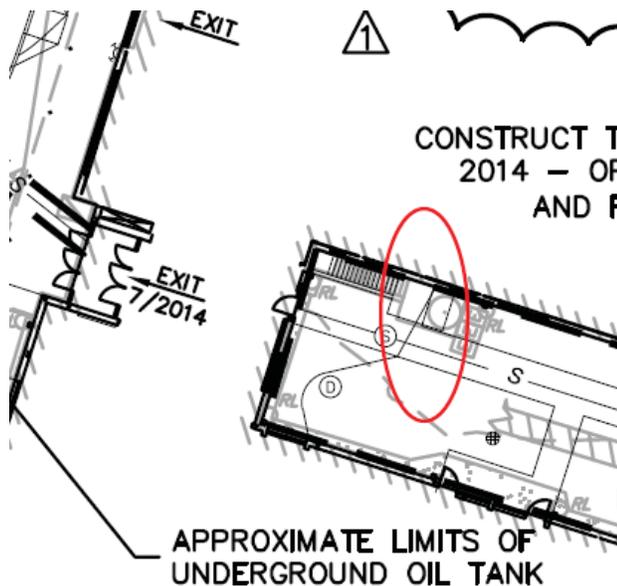
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 Ellington, CT 06029
 AA/EOE
 (860) 875-6684
 ron@gerberconstructioninc.com

RFI # 002

RFI

TO:	Paul Jorgensen <pjorgensen@silverpetrucelli.com>	FROM:	Benjamin Luginbuhl
EMAIL:	RSteiner@Fusco.com	# PAGES:	1
COPY:	Ron Gerber	PHONE:	8608756684
SUBJECT:	BID PACKAGE-SITWORK	DATE:	12/30/13

QUESTION: During our site visit today, we noticed an underground water tank located in the small vestibule on the West wall of the basement/boiler room. This water tank is not shown on the site demo drawing C200 or PD 103. It appears this tank will be in conflict with the proposed sanitary installation. See location circled in Red below and photo.



RESPONSE: This tank was *previously* a wellwater storage tank; it was abandoned in place and is not connected to the recently upgraded wellwater supply system. It should be demo'd. Refer to Sketch SKP1, dated 1-3-2014, and related architectural and site Addendum #4 items. MBQ 1-3-2014



Request for Information

Job Name: Crystal Lake Elementary School KBE Project #:13-160

Job Address:284 Sandy Beach Road, Ellington, CT 06029

RFI# 7

Date Created: 12/19/13

Submitted To:	Submitted By:
Paul Jorgensen	Ray Suite
Silver/Petrucci + Associates, Inc.	KBE Building Corporation
3190 Whitney Avenue, Building 2	30 Batterson Park Road
Hamden, CT 06518	Farmington, CT 06032
Phone: 203-230-9007 X208	Phone: 860-284-7630
Email:pjorgensen@silverpetrucci.com	Email: 860-284-0121

Subject:	Discipline:	Co-Author:
Asbestos Abatement/Cabinet Removal		

Submittal #:	Drawing #:	Addendum:	Spec Section:	Schedule #:

Distribution:

Information Requested:	Date Required:

Answer Received:	Date Received:
<p>Addendum # 2 calls for the removal and reinstallation of existing cabinets to abate floor tile/mastic in the 1955 Wing.</p> <p>Please indicate which cabinets in the rooms will need to be removed and reinstalled.</p> <p>Removal and reinstallation of the cabinet may cause extensive damage to the cabinets. We would like to suggest replacing the cabinets. Please advise.</p> <p>Response: All existing cabinets in the 1955 wing classrooms require temporary removal and reinstallation for abatement under and behind them. The possibility of damage to the cabinets has been noted.</p>	



Request for Information

Job Name: Crystal Lake Elementary School KBE Project #:13-160

Job Address:284 Sandy Beach Road, Ellington, CT 06029

RFI# 9

Date Created: 12/23/13

Submitted To:	Submitted By:
Paul Jorgensen	Ray Suite
Silver/Petrucci + Associates, Inc.	KBE Building Corporation
3190 Whitney Avenue, Building 2	30 Batterson Park Road
Hamden, CT 06518	Farmington, CT 06032
Phone: 203-230-9007 X208	Phone: 860-284-7630
Email:pjorgensen@silverpetrucci.com	Email: 860-284-0121

Subject:	Discipline:	Co-Author:
Sitework		

Submittal #:	Drawing #:	Addendum:	Spec Section:	Schedule #:

Distribution:

Information Requested:	Date Required:

Answer Received:	Date Received:
<ol style="list-style-type: none"> 1) Spec Section 015000 call for 8' tall temporary fence. Detail 13/C-600 shows 6' tall. Which is correct? Temporary fencing should be 8' high. 2) Refer to Geotech Report Section 8.0.1 "Where pavements are in cuts". Section says there shall be pavement edge drains, and drains in the middle of the parking areas. This drainage is not shown on Drawing C-400. Are these recommendations part of the scope of work? There are no pavement underdrains included in the scope. 	

From: Paul Jorgensen
Sent: Thursday, January 02, 2014 7:10 PM
To: 'bob@nutmegcompanies.com'
Cc: Rebecca Bouchard
Subject: FW: Crystal Lake Elementary School

Robert, my responses are below (at the bottom of the email string) to the questions from Ron Gingras of Zavarella Woodworking.
I would like to be of more assistance but cannot provide specification sections, drawings or other missing documents to bidders. They can be obtained from Joseph Merritt in New Haven per the Invitation to Bid.

Paul Jorgensen, AIA
Associate/Project Architect

www.silverpetrucelli.com

SILVER / **PETRUCELLI + ASSOCIATES**
Architects/Engineers/Interior Designers

3190 Whitney Avenue Bldg 2
Hamden, Connecticut 06518
P: 203-230-9007 ext. 208
F: 203-230-8247
M: 203-435-7447
S/P+A is a member of the U.S. Green Building Council

From: Robert Bugbee [<mailto:bob@nutmegcompanies.com>]
Sent: Tuesday, December 31, 2013 12:10 PM
To: Paul Jorgensen
Subject: FW: Crystal Lake Elementary School

Mr. Paul Jorgensen,

Zavarella Woodworking has the following questions.

Thank You,

Robert Bugbee



nutmeg companies inc.
31 New London Tpke.
Norwich, CT. 06360
bob@nutmegcompanies.com
Phone (860) 823-1780
Fax (860) 885-1421

From: Jacob Gawendo [<mailto:jacob@nutmegcompanies.com>]
Sent: Tuesday, December 31, 2013 10:54 AM
To: bids@nutmegcompanies.com
Subject: Fwd: Crystal Lake Elementary School

Unsure of RFI process on this bid. Millworker has questions.

Regards,

Jacob Gawendo

Sent from my iPhone

Begin forwarded message:

From: Ron Gingras <rgingras@zavarellawoodworking.com>
Date: December 31, 2013 at 10:36:17 AM EST
To: "'jacob@nutmegcompanies.com'" <jacob@nutmegcompanies.com>
Subject: Crystal Lake Elementary School

Jacob,

Q: # 1 - Section 090000 finish schedule does not exist on line with drawings and specifications. I need to verify what P.L.-1, SS-1, SS-3 is for materials and get pricing. Please advise.

Response: The complete, official set of bid documents is available from Joseph Merritt in New Haven. Sorry, but we do not recognize on line document sources - which in this case appears to be missing entire sections/scopes of work.

Q: # 2 – Is white melamine acceptable as a semi exposed finish IE: Interior of cabinets, or are interiors all plastic laminate. Please advise.

Response: No, white melamine is not acceptable. Please refer to section 064116 for plastic laminate faced architectural cabinet requirements.

Thank you,

Ron G.

Ronald Gingras
Zavarella Woodworking, Inc.
rgingras@zavarellawoodworking.com

From: Paul Jorgensen
Sent: Friday, January 03, 2014 9:50 AM
To: 'preferredverticals@cox.net'; 'mgarneau@wjmountford.com'
Cc: Rebecca Bouchard
Subject: FW: Crystal Lake Shade RFI

Dan, please see responses below to your questions which will also be included in an upcoming addendum.

Paul Jorgensen, AIA

Associate/Project Architect

www.silverpetrucelli.com

SILVER / **PETRUCELLI + ASSOCIATES**
Architects/Engineers/Interior Designers

3190 Whitney Avenue Bldg 2
Hamden, Connecticut 06518
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F: 203-230-8247
M: 203-435-7447
S/P+A is a member of the U.S. Green Building Council

From: preferred verticals [<mailto:preferredverticals@cox.net>]
Sent: Wednesday, January 01, 2014 12:36 PM
To: mgarneau@wjmountford.com
Cc: Paul Jorgensen
Subject: Crystal Lake Shade RFI

RFI

1-The shade spec, finish schedule and electrical power plans do not identify which rooms receive motorized shades. Which rooms get motorized shades? **Response: See addendum #3, RFI #12**

2-The spec. says to located controls for motorized shades in room B131 (media office), the media office is B133, and also in A109(gym ofc),room A109 is the boys lav. **Response: Controls shall be located outside of the media office (B133) behind the circulation desk. Exact placement to be coordinated in field.**

3-Dwg#A550 detail A,B,F,G shows shades in headboxes.
The finish schedule calls for fascia's.
Which is correct? **Response: The drawing details on A550 are correct.**

4-The spec says that Mecho,Lutron,Nysan,OEM shades are the acceptable shade suppliers but the finish schedule refers to SWF(Springs Window Fashions) for fabric selections.
Is SWF also acceptable? **Response: Yes**

Thank you

Dan Steiner-VP
Preferred Verticals Inc
285 Argyle Road
Cheshire Ct 06410
phone/fax: 203-250-1866
preferredverticals@cox.net
www.preferredverticals.com



Request for Information

Job Name: Crystal Lake Elementary School KBE Project #:13-160

Job Address:284 Sandy Beach Road, Ellington, CT 06029

RFI# 6

Date Created: 12/19/13

Submitted To:	Submitted By:
Paul Jorgensen	Ray Suite
Silver/Petrucci + Associates, Inc.	KBE Building Corporation
3190 Whitney Avenue, Building 2	30 Batterson Park Road
Hamden, CT 06518	Farmington, CT 06032
Phone: 203-230-9007 X208	Phone: 860-284-7630
Email:pjorgensen@silverpetrucci.com	Email: 860-284-0121

Subject:	Discipline:	Co-Author:
Ornamental Fence		

Submittal #:	Drawing #:	Addendum:	Spec Section:	Schedule #:

Distribution:

Information Requested:	Date Required:
<p>Detail 7/C-602 indicates a ¾", 16 ga. square pickets for the fence; detail 8/C-602 indicates a 1", 14 ga. square pickets for the gate.</p> <p>Please confirm these dimensions are correct.</p>	

Answer Received:	Date Received:
<p>The pickets and rails on the ornamental gate should match those shown on the fence detail.</p> <p>Will Walter, PE</p>	<p>January 3, 2014</p>



Request for Information

Job Name: Crystal Lake Elementary School KBE Project #:13-160

Job Address:284 Sandy Beach Road, Ellington, CT 06029

RFI# 11

Date Created: 12/27/13

Submitted To:	Submitted By:
Paul Jorgensen	Ray Suite
Silver/Petrucci + Associates, Inc.	KBE Building Corporation
3190 Whitney Avenue, Building 2	30 Batterson Park Road
Hamden, CT 06518	Farmington, CT 06032
Phone: 203-230-9007 X208	Phone: 860-284-7630
Email:pjorgensen@silverpetrucci.com	Email: 860-284-0121

Subject:	Discipline:	Co-Author:
Display Cases, Wall Coverings & Wood Flooring		

Submittal #:	Drawing #:	Addendum:	Spec Section:	Schedule #:

Distribution:

Information Requested:	Date Required:

Answer Received:	Date Received:

- 1.) Specification Section 101200 – Display Cases does not provide specific information with regard to manufacturer, construction, finishes, etc. Please update the specification to provide final selections.

Not applicable, section to be deleted

- 2.) Specification Section 097200 – Wall Coverings provides material designations for WC-1, WC-2 and WC-3. The finish schedule on A930 does not provide any specific locations where wall covering is specified. Please review and advise where these are scheduled to be installed.

Not applicable, section to be deleted

Specification Section 096400- Wood Flooring provides information for field finished wood flooring, WDF-1. Section 096466 – Wood Athletic Flooring provides information for an alternate WDF-1, with a basis of design by Action Floor Systems. Please clarify the appropriate specification section for the wood flooring. Please also confirm the locations for this scheduled wood flooring, WDF-1, as it is not indicated on the Finish Schedule on Drawing A930.

**Section 096400 Wood Flooring (field finishing) is not applicable and shall be deleted.
Section 096466 Wood Athletic Flooring is a bid alternate for the gymnasium (B113).**



RFI - Request for Information

Project: Crystal Lake Elementary School **Date:** 12-17-13

<p>To: Mr. Paul Jorgensen Silver/Petrucci + Associates, Inc. 3190 Whitney Ave, Bldg 2 Hamden, CT 06518 pjorgensen@silverpetrucci.com</p>	<p>From: Steven Bushnik R&R Window Contractors, Inc. One Arthur Street Easthampton, MA 01027 413-527-7500 x156 413-527-6380 FAX sbushnik@rrwindow.com</p>
--	---

Bid Package:

Description:

7. On A103, vestibule C100 shows frame CW-C18. This elevation is not shown on any schedule (A620-A622). Please provide elevation for CW-C18. **See addendum #3, SK A2**
8. On A911, Door C116A is listed as being in CW-C19. CW-C19 is not shown on window elevation schedule (A620-A622). A103 also does not label this door as CW-C19. Please clarify if this frame is indeed CW-C19, and if so, please provide elevation. **See addendum #3, SK A2**
9. Reference A912 – Note at door type AL-1 states 'Only at door A100A...'. A100A is shown on A910 as door type WD-3. Please clarify if door A100A is to be WD-3 or AL-1.

Referenced note should be revised to "Only at door C100A", which is aluminum type AL-1.



W. J. MOUNTFORD CO.

GENERAL CONTRACTOR • CONSTRUCTION MANAGER

170 Commerce Way, South Windsor, CT 06074, (860) 291-9448, Fax (860) 289-6382

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RFI -TRANSMITTAL

Attention: Paul Jorgensen **Company:** Silver/Petrucci & Associates

Email: pjorgensen@silverpetrucci.com **Fax:** 203-230-8247

Reference: **RFI # 03**
Crystal Lake Elem School

Question:

- 1) Can you verify there are 2 locker benches in each locker room for a total of 4? The floor plan shows 2 different size rectangular symbols in the middle of the floor, but I do not see any notations or details.
- 2) Per spec 101400, there are aluminum dimensional characters, I cannot locate any on the drawings.
- 3) Regarding spec 102600; where are the SS corner guards scheduled to be installed?
Also is the wall and door protection limited to the FRP in the Kitchen and Kitchen Storage per the finish schedule? I do not see any door protection noted, is this correct? Please Advise.
- 4) The Display Case spec 101200 does not seem complete or project oriented.
- 5) Spec 122413 notes manual and motor operated operated roller shades, I do not see any notations on the drawings showing which are manual or electric.

Thanks.

Architect's Response

1. **Duplicate question...same response as for Mountford RFI #2, question 1.**
2. **Duplicate question...same response as for Mountford RFI #2, question 2.**
3. **There are no corner guards in the project. FRP is the only protection required, where indicated on the Finish Schedule.**
4. **Not applicable, section to be deleted.**
5. **See Addendum #3, RFI #12.**

From: Mike Garneau
Estimator

Date: 12/27 /13

Copy:



Request for Information

Job Name: Crystal Lake Elementary School KBE Project #:13-160

Job Address:284 Sandy Beach Road, Ellington, CT 06029

RFI# 8

Date Created: 12/21/13

Submitted To:	Submitted By:
Paul Jorgensen	Ray Suite
Silver/Petrucci + Associates, Inc.	KBE Building Corporation
3190 Whitney Avenue, Building 2	30 Batterson Park Road
Hamden, CT 06518	Farmington, CT 06032
Phone: 203-230-9007 X208	Phone: 860-284-7630
Email:pjorgensen@silverpetrucci.com	Email: 860-284-0121

Subject:	Discipline:	Co-Author:
132700 Vaults		

Submittal #:	Drawing #:	Addendum:	Spec Section:	Schedule #:

Distribution:

Information Requested:

Date Required:

Please provide the following clarifications for section 132700 Vaults:

- a) The exact size of the modular vault.
- b) Is the modular vault 5 sided? (4 walls and floor only) or
- c) Is the modular vault 6 sided? (4 walls, floor and ceiling)
- d) What style is the modular vault? (Class M or Class 1)
- e) We need the exact make of the vault door. Only 32" wide and 40" wide (clear opening) are available: Which size ?
- f) Provide the hourly rating: 2 hour, 4 hour or 6 hour UL 350 are available. Which one is needed? There is no 3 hour offered.
- g) Spec calls for a time lock but those are for bank style vault doors only. Please advise
- h) Is there a day gate needed? Only Plexiglas is offered on the fire rated gates.

Answer Received:

Date Received:

Response: Not applicable, section 132700 to be deleted in its entirety.



Request for Information

Job Name: Crystal Lake Elementary School KBE Project #:13-160
 Job Address:284 Sandy Beach Road, Ellington, CT 06029

RFI# 5

Date Created: 12-19-13

Submitted To:	Submitted By:
Paul Jorgensen	Ray Suite
Silver/Petrucci + Associates, Inc.	KBE Building Corporation
3190 Whitney Avenue, Building 2	30 Batterson Park Road
Hamden, CT 06518	Farmington, CT 06032
Phone: 203-230-9007 X208	Phone: 860-284-7630
Email:pjorgensen@silverpetrucci.com	Email: 860-284-0121

Subject:	Discipline:	Co-Author:
Resilient Flooring		

Submittal #:	Drawing #:	Addendum:	Spec Section:	Schedule #:

Distribution:

Information Requested:

Date Required:

In review of the specifications we have identified some discrepancies with regard to the resilient flooring. Specification section 096519 and 096536 identify flooring types RF-1, BBT and RF-2. We have been unable to locate where these floor finishes are identified on the finish schedule on A930. Additionally, these floor finishes do not appear in Specification 090000 Schedule of Finishes.

Please review and advise if and where these are required.

Answer Received:

Date Received:

Not applicable, sections 096519 and 096536 to be deleted.



Request for Information

Job Name: Crystal Lake Elementary School KBE Project #:13-160
 Job Address:284 Sandy Beach Road, Ellington, CT 06029

RFI# 4

Date Created: 12-19-13

Submitted To:	Submitted By:
Paul Jorgensen	Ray Suite
Silver/Petrucci + Associates, Inc.	KBE Building Corporation
3190 Whitney Avenue, Building 2	30 Batterson Park Road
Hamden, CT 06518	Farmington, CT 06032
Phone: 203-230-9007 X208	Phone: 860-284-7630
Email:pjorgensen@silverpetrucci.com	Email: 860-284-0121

Subject:	Discipline:	Co-Author:
Acoustical Ceilings		

Submittal #:	Drawing #:	Addendum:	Spec Section:	Schedule #:

Distribution:

Information Requested:	Date Required:
<p>In review of the specifications we have identified some discrepancies with regard to the acoustical ceiling designations. We have found that ACT-1, ACT-2, ACT-3, ACT-4, and ACT-5 are defined as different manufacturers and models within the following specification sections:</p> <p>090000 – Schedule of Finishes 095113 – Acoustical Panel Ceilings 095133 – Acoustical Metal Pan Ceilings 098439 – Acoustical Ceiling Clouds</p> <p>Please review and advise which specification designation takes priority for these ceiling systems.</p>	

Answer Received:	Date Received:
<p>Per Section 090000: ACT-1 and ACT-2 refer to Section 098439, Addendum #2. ACT-3, ACT-4 and ACT-5 refer to Section 095113, Addendum #4. Section 095133 is not applicable and will be deleted from the project. R. Bouchard 01.03.13</p>	



SILVER / PETRUCCELLI & ASSOCIATES
 Architects / Engineers / Interior Designers
 3190 Whitney Avenue, Hamden, CT 06518-2340
 Tel: 203 230 9007 Fax: 203 230 8247
 silverpetrucci.com

Sign-in Sheet
 December 30, 2013

Project: Crystal Lake Elementary School, Non-Mandatory Pre-Bid Walk (II)
 10:00 am - 12:00 noon

NAME	COMPANY	PHONE	FAX	MOBILE	EMAIL
Clare Olsen	AES Remedial Cont.	860 620-1791	860 620-1792	860-985- 1793	clare@aesremedial.com
Rob Labrecque	CRISTO PEST	860 748- 9579			
Glen Bunnhan	Beebe Construction	860 429 9358	860 429-9359		Beebe Glen@SBCGlobal.net
Bill Leonard	Silk Tower Roofing	860 647 0198	860 646 0775	860 250 9712	Bill@SILKtowerroofing.com
Tom Rodrigues	THE IMPERIAL CO	860 632 2256	860 692 2278	860 940 8474	TOM@THEIMPERIALCO.COM
Max Abge	Max Fire Protection	860-398-5035	860-432-808	860-933-9391	Max@Gmaxfire.com
Scot Robert	Greenwood Ind.	308-865- 4040	508-865- 1123		scot@greenwood-industries.com
Ray Suite	KBE BUILDING	860-284-7630	860-284-0124		rsuite@KBEBUILDING.COM
Jon Lord	GHL CO.	860-724-4115			Jon Lord@chilco.com
Dave Phillips	PHI CO	860-544-4463			dave@Phillips@PHIco.com
Allen Dunn	AMS ENVIRONMENTAL	4			
ALLEN DUNN	AMS ENVIRONMENTAL	860-955-9012	860-955-9024	413-454-4574	adunn@amsenviro.com
SALTECCO	SMS	781-835-5735		781-835-5735	saltecco@smsconcast.net
Joe Petronelli	enfield builders	860 860-627-6870	860 627-8017		sbyHer@enfieldbuilders.com

SECTION 123553.19 – WOOD LABORATORY CASEWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Wood laboratory casework.
2. Filler and closure panels.
3. Laboratory countertops.
4. Tables.
5. Laboratory sinks.
6. Laboratory accessories.
7. Water, laboratory gas, and electrical service fittings.

B. Related Sections:

1. Section 061000 "Rough Carpentry" for wood blocking for anchoring laboratory casework.
2. Section 096513 "Resilient Base and Accessories" for resilient base applied to wood laboratory casework.
3. Divisions 22 and 26 Sections for installing service fittings specified in this Section, including connecting service utilities.

1.3 DEFINITIONS

- A. MDF: Medium-density fiberboard.

- B. Exposed Surfaces of Casework: Surfaces visible when doors and drawers are closed, including bottoms of cabinets more than 48 inches above floor, and visible surfaces in open cabinets or behind glass doors.

1. Ends of cabinets indicated to be installed directly against and completely concealed by walls or other cabinets are defined as "concealed."

- C. Semiexposed Surfaces of Casework: Surfaces behind opaque doors, such as cabinet interiors, shelves, and dividers; interiors and sides of drawers; and interior faces of doors. Tops of cabinets 78 inches or more above floor are defined as "semiexposed."

- D. Concealed Surfaces of Casework: Include sleepers, web frames, dust panels, and other surfaces not usually visible after installation.

- E. Hardwood Plywood: A panel product composed of layers or plies of veneer, or of veneers in combination with lumber core, hardboard core, MDF core, or particleboard core, joined with adhesive and faced both front and back with hardwood veneers.

1.4 PERFORMANCE REQUIREMENTS

- A. System Structural Performance: Laboratory casework and support framing system shall withstand the effects of the following gravity loads and stresses without permanent deformation, excessive deflection, or binding of drawers and doors:
 - 1. Support Framing System: 600 lb/ft.
 - 2. Suspended Base Cabinets (Internal Load): 160 lb/ft.
 - 3. Work Surfaces (Including Tops of Suspended Base Cabinets): 160 lb/ft.
 - 4. Wall Cabinets (Upper Cabinets): 160 lb/ft.
 - 5. Shelves: 40 lb/sq. ft.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. HPBS Submittals:
 - 1. Certificates for Section 16a-38k-6(d)(13): Chain-of-custody certificates indicating that cabinets and shelves comply with forest certification and chain-of-custody requirements. Include evidence that casework manufacturer is certified for chain of custody by an FSC-accredited certification body. Include statement indicating cost for each certified wood product.
 - 2. Product Data for Section 16a-38k-6(b)(4): For adhesives and composite wood products, documentation indicating that product contains no urea formaldehyde.
- C. Shop Drawings: For laboratory casework. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Indicate locations of hardware and keying of locks.
 - 2. Indicate locations and types of service fittings.
 - 3. Indicate locations of blocking and reinforcements required for installing laboratory casework.
 - 4. Include details of exposed conduits, if required, for service fittings.
 - 5. Indicate locations of and clearances from adjacent walls, doors, windows, other building components, and other laboratory equipment.
 - 6. Include coordinated dimensions for laboratory equipment specified in other Sections.
- D. Samples for Verification: For each type of cabinet finish and each type of countertop material indicated, in manufacturer's standard sizes.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified manufacturer.

- B. Product Test Reports for Casework: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating compliance of laboratory casework with requirements of specified product standard.
- C. Product Test Reports for Countertop Surface Material: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating compliance of laboratory countertop surface materials with requirements specified for chemical and physical resistance.

1.7 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish complete touchup kit for each type and color of wood laboratory casework provided. Include scratch fillers, stains, finishes, and other materials necessary to perform permanent repairs to damaged laboratory casework finish.
- B. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Cabinet Mounting Clips and Related Hardware: Quantity equal to five percent (5%) of amount installed, but no fewer than twenty (20) of each type.
 - 2. Modular Countertop Units: Two (2) extra units of each length and material installed.

1.8 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that produces casework of types indicated for this Project that has been tested for compliance with SEFA 8.
- B. Source Limitations: Obtain laboratory casework from single source from single manufacturer unless otherwise indicated.
 - 1. Obtain countertops, sinks and accessories from casework manufacturer and service fittings from appropriate trades.
- C. Product Designations: Drawings indicate sizes and configurations of laboratory casework by referencing designated manufacturer's catalog numbers. Other manufacturers' laboratory casework of similar sizes and similar door and drawer configurations and complying with the Specifications may be considered. Refer to Section 016000 "Product Requirements."
- D. Casework Product Standard: Comply with SEFA 8, "Laboratory Furniture - Casework, Shelving and Tables - Recommended Practices."
- 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.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Protect finished surfaces during handling and installation with protective covering of polyethylene film or other suitable material.

1.10 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install laboratory casework until building is enclosed, utility roughing-in and wet work are complete and dry, and temporary HVAC system

is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

1.11 COORDINATION

- A. Coordinate layout and installation of framing and reinforcements for support of laboratory casework.
- B. Coordinate installation of laboratory casework with installation of other laboratory equipment.

PART 2 - PRODUCTS

2.1 CASEWORK, GENERAL

- A. Casework Product Standard: Comply with SEFA 8 W, "Laboratory Grade Wood Casework."
- B. Flammable Liquid Storage: Where cabinets are indicated for solvent or flammable liquid storage, provide units that are listed and labeled as complying with requirements in NFPA 30 by a testing and inspecting agency acceptable to authorities having jurisdiction.
- C. 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.
- D. Regional Materials: Casework shall be manufactured within five hundred (500) miles of Project site.
- E. Certified Wood: Casework shall be produced from wood and wood products certified as "FSC Pure" or "FSC Mixed Credit" according to FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship," and to FSC STD-40-004, "FSC Standard for Chain of Custody Certification."
- F. Low-Emitting Materials: Fabricate casework, including countertops, with adhesives and composite wood products containing no urea formaldehyde.

2.2 WOOD CABINET AND TABLE MATERIALS

- A. General:
 - 1. Hardwood Plywood: HPVA HP-1, either veneer core or particleboard core, unless otherwise indicated.
 - 2. MDF: ANSI A208.2, Grade 130.
 - 3. Particleboard: ANSI A208.1, Grade M-2.
 - 4. Hardboard: AHA A135.4, Class 1 Tempered.
 - 5. Edgebanding for Wood-Veneered Construction: Wood veneer of same species as face veneer.
- B. Exposed Materials:
 - 1. General: Provide materials that are selected and arranged for compatible grain and color. Do not use materials adjacent to one another that are noticeably dissimilar in color, grain, figure, or natural character markings.

2. Wood Species: Red oak.
3. Plywood: Hardwood plywood with face veneer of species indicated, selected for compatible color and grain. Grade A exposed faces at least 1/50 inch thick, and Grade J crossbands. Provide backs of same species as faces.
 - a. Face Veneer Cut: Plain sliced.
4. Solid Wood: Clear hardwood lumber of species indicated and selected for grain and color compatible with exposed hardwood plywood.

C. Semiexposed Materials:

1. Solid Wood: Sound hardwood lumber, selected to eliminate appearance defects, of same species as exposed solid wood.
2. Plywood: Hardwood plywood of same species as exposed plywood. Grade B faces and Grade J crossbands. Provide backs of same species as faces.
3. Provide solid wood or hardwood plywood for semiexposed surfaces unless otherwise indicated.

D. Concealed Materials:

1. Solid Wood: Any species, with no defects affecting strength or utility.
2. Plywood: Hardwood plywood. Provide backs of same species as faces.
3. Particleboard.
4. MDF.
5. Hardboard.

2.3 COUNTERTOP, SINK AND TABLE TOP MATERIALS

- A. As indicated in Section 123553.15 “Phenolic Laboratory Casework”.

2.4 WOOD CABINETS AND RECTANGULAR TABLES

A. Basis-of-Design Product:

1. Kewaunee Scientific Corporation; Laboratory Products Group; **Signature Series**

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. CampbellRhea
2. Diversified Woodcrafts, Inc.
3. Fisher Hamilton L.L.C.
4. Substitutions: Under provisions of Section 012500 “Substitution Procedures”.

C. Design: Flush overlay with square edges.

1. Provide 1/8-inch reveals between doors and drawers that are adjacent.

D. Grain Direction:

1. Vertical on both doors and drawer fronts, with continuous vertical matching.

2. Lengthwise on face frame members.
 3. Vertical on end panels.
 4. Side to side on bottoms and tops of units.
 5. Vertical on knee-space panels.
 6. Horizontal on aprons and table frames.
- E. Veneer Matching:
1. Provide veneers for each cabinet from a single flitch, book or slip and running matched.
 - a. Provide continuous matching of adjacent drawer fronts within each cabinet.
- F. Construction: Provide wood-faced laboratory casework of the following minimum construction:
1. Bottoms of Base Cabinets and Tall Cabinets: $\frac{3}{4}$ -inch-thick veneer-core hardwood plywood.
 2. Tops and Bottoms of Wall Cabinets and Tops of Tall Cabinets: 1-inch-thick veneer-core hardwood plywood.
 3. Ends of Cabinets: $\frac{3}{4}$ -inch-thick hardwood plywood.
 4. Shelves: 1-inch-thick veneer-core hardwood plywood.
 5. Base Cabinet Stretchers: $\frac{3}{4}$ -by-4 $\frac{1}{2}$ -inch panel product strips or solid wood boards at front and back of cabinet, glued and pinned or screwed.
 6. Backs of Cabinets: $\frac{3}{4}$ -inch-thick, hardwood plywood where exposed, $\frac{1}{4}$ -inch-thick, hardwood plywood dadoed into sides, bottoms, and tops where not exposed.
 7. Drawer Fronts: $\frac{3}{4}$ inch-thick, hardwood plywood or solid hardwood.
 8. Drawer Sides and Backs: $\frac{1}{2}$ -inch-thick, solid hardwood or veneer-core hardwood plywood, with glued dovetail or multiple-dowel joints.
 9. Drawer Bottoms: $\frac{1}{4}$ -inch-thick, veneer-core hardwood plywood glued and dadoed into front, back, and sides of drawers. Use $\frac{1}{2}$ -inch-thick material for drawers more than 24 inches wide.
 10. Doors: $\frac{3}{4}$ inch thick, with particleboard or MDF cores, and hardwood face veneers and crossbands.
- G. Tables: Solid hardwood legs, not less than 2 inches square with solid hardwood stretchers as needed to comply with product standard. Bolt stretchers to legs and cross-stretchers, and bolt legs to table aprons. Provide leveling device at bottom of each leg.
1. Leg Shoes: Black vinyl or rubber, open-bottom, slip-on type.
- H. Filler and Closure Panels: Provide where indicated and as needed to close spaces between cabinets and walls, ceilings, and indicated equipment. Fabricate from same material and with same finish as adjacent exposed cabinet surfaces unless otherwise indicated.
1. Provide utility-space closure panels at spaces between base cabinets where utility space would otherwise be exposed, including spaces below countertops.
 2. Provide closure panels at ends of utility spaces where utility space would otherwise be exposed.
 3. Provide knee-space panels (modesty panels) at spaces between base cabinets, where indicated. Fabricate from same material and with same finish as exposed cabinet backs.

2.5 WOOD TRAPEZOIDAL TABLE/BENCH

- A. Basis-of-Design Product:
 - 1. Flinn Scientific, Inc.; similar to **AP605**, 34 inch height
- B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. CampbellRhea
 - 2. Diversified Woodcrafts, Inc.
 - 3. Fisher Hamilton L.L.C.
 - 4. Kewaunee Scientific Corporation; Laboratory Products Group
 - 5. Substitutions: Under provisions of Section 012500 “Substitution Procedures”.
- C. Design, grain, veneer matching and construction to match that of other paragraphs of this specification section.

2.6 WOOD FINISH

- A. Preparation: Sand lumber and plywood before assembling. Sand edges of doors, drawer fronts, and molded shapes with profile-edge sander. Sand after assembling for uniform smoothness at least equivalent to that produced by 220-grit sanding and without machine marks, cross sanding, or other surface blemishes.
- B. Staining: Remove fibers and dust and apply stain to exposed and semiexposed surfaces as necessary to match approved Samples. Apply stain in a manner that will produce a consistent appearance. Apply wash-coat sealer before applying stain to closed-grain wood species.
 - 1. Stain Color: **WD-1**, as indicated in Section 090000 “Schedule of Finishes”.
- C. Chemical-Resistant Finish: Apply laboratory casework manufacturer's standard two-coat, chemical-resistant, transparent finish. Sand and wipe clean between coats. Topcoat(s) may be omitted on concealed surfaces.
 - 1. Chemical and Physical Resistance of Finish System: Finish complies with acceptance levels of cabinet surface finish tests in SEFA 8. Acceptance level for chemical spot test shall be no more than four Level 3 conditions.

2.7 HARDWARE

- A. General: Provide laboratory casework manufacturer's standard, commercial-quality, heavy-duty hardware complying with requirements indicated for each type.
- B. Hinges: Stainless-steel, 5-knuckle hinges complying with BHMA A156.9, Grade 1, with antifriction bearings and rounded tips. Provide two (2) for doors 48 inches high or less and three (3) for doors more than 48 inches high.
- C. Hinged Door and Drawer Pulls: Solid aluminum, stainless steel, or chrome-plated brass back-mounted pulls. Provide two (2) pulls for drawers more than 24 inches wide.

- D. Door Catches: Nylon-roller spring catches. Provide 2 catches on doors more than 48 inches high.
- E. Drawer Slides: Side mounted, epoxy-coated steel, self-closing; designed to prevent rebound when drawers are closed; complying with BHMA A156.9, Type B05091.
 - 1. Heavy Duty (Grade 1HD-100 and Grade 1HD-200): Full-extension, ball-bearing type.
- F. Locks for Wood Cabinets: Cam type, brass with chrome-plated finish; complying with BHMA A156.11, Type E07281.
 - 1. Provide a minimum of two (2) keys per lock and two (2) master keys.
 - 2. Provide on all drawers and doors.
 - 3. Keying: Key locks within each room alike, key each room separately.
 - 4. Master Key System: Key all locks to be operable by master key.
- G. Adjustable Shelf Supports for Wood Cabinets: Powder-coated steel shelf rests complying with BHMA A156.9, Type B04013.
- H. Grommets for Cable Passage through Countertops: 2-3/8-inch OD, molded-plastic grommets and matching plastic caps with slot for wire passage; color as selected by Architect from manufacturer's full range.
 - 1. Product: Subject to compliance with requirements, provide "**TG Series**" by Doug Mockett & Company, Inc.

2.8 COUNTERTOPS, SINKS AND TABLE TOPS

- A. Countertops, General: Provide units with smooth surfaces in uniform plane free of defects. Make exposed edges and corners straight and uniformly beveled. Provide front and end overhang of 1 inch, with continuous drip groove on underside ½ inch from edge.
- B. Sinks, General: Provide sizes indicated or laboratory casework manufacturer's closest standard size of equal or greater volume, as approved by Architect.
 - 1. Outlets: Provide with strainers and tailpieces, NPS 1-1/2 (DN 40), unless otherwise indicated.
 - 2. Overflows: Where indicated, provide overflow of standard beehive or open-top design with separate strainer. Height 2 inches less than sink depth. Provide in same material as strainer.
- C. Epoxy Countertops, Sinks and Table Tops:
 - 1. Countertop and Table Top Fabrication: Fabricate with factory cutouts for sinks, holes for service fittings and accessories, and with butt joints assembled with epoxy adhesive and concealed metal splines.
 - a. Countertop and Table Top Configuration: Flat, 1 inch thick, with beveled edge and corners, and with drip groove and applied backsplash (at counters).
 - b. Countertop and Table Top Construction: Uniform throughout full thickness.

2. Sink Fabrication: Molded in one (1) piece with smooth surfaces, coved corners, and bottom sloped to outlet; ½-inch minimum thickness.
 - a. Provide with polypropylene strainers and tailpieces.
 - b. Provide integral sinks in epoxy countertops, bonded to countertops with invisible joint line.
 - c. Provide manufacturer's recommended adjustable support system for table- and cabinet-type installations.

2.9 LABORATORY ACCESSORIES

- A. Fire Blanket Cabinet: Fiberglass, w/ Container, 168 cm x 198 cm, **Model# 6168201** by Science Kit, Tonawanda, NY (800.828.7777) or approved equal.
- B. First Aid Kit: **Crusader 75** First Aid Kit by Conney Safety, Madison, WI (800.356.9100) or approved equal. A metal kit box consisting of dressings, waterproof tape, blood flow compresses, first aid burn cream, elastic bandages, bandages, knuckle and fingertip bandages, plastic strips, sterile pads, stretch patches scissors, thermometers, bandages and ointment, as well as other materials provided with this standard model. Sized to serve up to seventy-five (75) people.
- C. Goggle Sanitizer Cabinet: **Model SE1000** by Flinn Scientific, Inc., Batavia, IL (800.452.1261), **Model S47604B** by Fischer Scientific (800.766.7000) or approved equal; UV light cabinet, constructed of 24-gauge steel with a white baked enamel finish. Provide with a heavy-duty 8 foot neoprene cord. Cabinet dimensions are 28½ inches H x 26¼ inches W x 10¼ inches D to hold up to thirty-six (36) goggles.

2.10 WATER AND LABORATORY GAS SERVICE FITTINGS

- A. Gas Turrets and Faucets will be provided by the appropriate trade contractor. Casework manufacturer shall refer to the sink fixture in Plumbing Fixture schedule on Drawings for the preparation and installation requirements of the specified fittings.

2.11 ELECTRICAL SERVICE FITTINGS

- A. GFCI Receptacles will be provided by Electrical Contractor. Devices will require cutouts and recesses in approximate locations as shown on Electrical Drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances, location of reinforcements, and other conditions affecting performance of laboratory casework.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF CABINETS

- A. Comply with installation requirements in SEFA 2.3. Install level, plumb, and true; shim as required, using concealed shims. Where laboratory casework abuts other finished work, apply filler strips and scribe for accurate fit, with fasteners concealed where practical. Do not exceed the following tolerances:
1. Variation of Tops of Base Cabinets from Level: 1/16 inch in 10 feet.
 2. Variation of Bottoms of Upper Cabinets from Level: 1/8 inch in 10 feet.
 3. Variation of Faces of Cabinets from a True Plane: 1/8 inch in 10 feet.
 4. Variation of Adjacent Surfaces from a True Plane (Lippage): 1/32 inch.
 5. Variation in Alignment of Adjacent Door and Drawer Edges: 1/16 inch.
- B. Base Cabinets: Fasten cabinets to utility-space framing, partition framing, wood blocking, or reinforcements in partitions with fasteners spaced not more than 24 inches o.c. Bolt adjacent cabinets together with joints flush, tight, and uniform.
1. Where base cabinets are installed away from walls, fasten to floor at toe space at not more than 24 inches o.c. and at sides of cabinets with not less than two (2) fasteners per side.
- C. Wall Cabinets: Fasten to hanging strips, masonry, partition framing, blocking, or reinforcements in partitions. Fasten each cabinet through back, near top, at not less than 24 inches o.c.
- D. Install hardware uniformly and precisely. Set hinges snug and flat in mortises.
- E. Adjust laboratory casework and hardware so doors and drawers align and operate smoothly without warp or bind and contact points meet accurately. Lubricate operating hardware as recommended by manufacturer.

3.3 INSTALLATION OF COUNTERTOPS

- A. Comply with installation requirements in SEFA 2.3. Abut top and edge surfaces in one (1) true plane with flush hairline joints and with internal supports placed to prevent deflection. Locate joints only where shown on Shop Drawings.
- B. Field Jointing: Where possible, make in same manner as shop-made joints using dowels, splines, fasteners, adhesives, and sealants recommended by manufacturer. Prepare edges in shop for field-made joints.
- C. Fastening:
1. Secure countertops, except for epoxy countertops, to cabinets with Z-type fasteners or equivalent, using two (2) or more fasteners at each cabinet front, end, and back.
 2. Secure epoxy countertops to cabinets with epoxy cement, applied at each corner and along perimeter edges at not more than 48 inches o.c.
 3. Where necessary to penetrate countertops with fasteners, countersink heads approximately 1/8 inch and plug hole flush with material equal to countertop in chemical resistance, hardness, and appearance.

- D. Provide required holes and cutouts for service fittings.
- E. Provide scribe moldings for closures at junctures of countertop, curb, and splash with walls as recommended by manufacturer for materials involved. Match materials and finish to adjacent laboratory casework. Use chemical-resistant, permanently elastic sealing compound where recommended by manufacturer.
- F. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

3.4 INSTALLATION OF LABORATORY ACCESSORIES

- A. Install accessories according to Shop Drawings, installation requirements in SEFA 2.3, and manufacturer's written instructions.

3.5 INSTALLATION OF SERVICE FITTINGS

- A. Service fittings to be installed by the appropriate trade contractor.
- B. Installers shall prepare countertops and casework for all required fittings according to the actual fixture provided in the approved Shop Drawings.

3.6 CLEANING AND PROTECTING

- A. Clean finished surfaces, touch up as required, and remove or refinish damaged or soiled areas to match original factory finish, as approved by Architect.
- B. Protect countertop surfaces during construction with 6-mil plastic or other suitable water-resistant covering. Tape to underside of countertop at a minimum of 48 inches o.c.

END OF SECTION 123553.19

(To be submitted in triplicate)

BIDDER: _____
Name

Address

To: **The Finance Officer of the Town of Ellington, CT
55 Main Street
Ellington, CT 06029**

Project: **Crystal Lake Elementary School Expansion & Renovate As New
Phase 1 of 3
284 Sandy Beach Road
Ellington, Connecticut 06029
State Project No. 048-0058 EA/RR/PS**

In preparing this bid, we have carefully examined the Bidding Documents for this Project. We have visited the site and noted the conditions affecting the Work.

The Bidding Documents referred to include Drawings and Project Manual dated June 18, 2013 entitled Crystal Lake Elementary School Expansion & Renovate As New, Ellington, CT prepared by Silver/Petrucci + Associates, Inc., Hamden, Connecticut.

We propose to perform the work described in the Bidding Documents, in keeping with definitions of Article 1 of the Instructions to Bidders, for the Base Bid Sum as follows:

Base Bid:

Entire Phase 1 Project for the Total Cost of:

\$ _____ Dollars (\$) .00).
written figure

We will commence work on the project _____ calendar days after receipt of "Notice to Proceed" or signing of Contract.

The undersigned acknowledges that he has examined the documents, visited and examined the site as required under "Instructions to Bidders", examined the availability of labor and materials and further agrees to comply with all the requirements as to the conditions of employment and wage rates set forth by the Department of Labor.

Bid Alternates:

The undersigned proposes to furnish all Labor, Materials, Equipment and Services necessary to construct the items listed in the Alternates described in Section 012300 for the stipulated sum of:

ADD ALTERNATE NO. 1: Cafeteria Air Conditioning:

Add to the Entire Project Base Bid a Total of: _____
_____ Dollars (\$) .00
written figure

ADD ALTERNATE NO. 2: Gymnasium B113 Flooring:

Add to the Entire Project Base Bid a Total of: _____
_____ Dollars (\$) .00
written figure

ALTERNATE NO. 3: Sanitary Pipe Tunneling:

Add to / Deduct from the Entire Project Base Bid a Total of: _____
_____ Dollars (\$) .00
written figure

ADD ALTERNATE NO. 4: Epoxy Terrazzo in Corridors Only:

Add to the Entire Project Base Bid a Total of: _____
_____ Dollars (\$) .00
written figure

Allowances: (Part of Base Bid – See Section 01019):

- Allowance No. 1: Tongue & Groove Wood Deck Replacement \$ _____
- Allowance No. 2: Metal Deck Replacement \$ _____
- Allowance No. 3: Brick Masonry Replacement \$ _____
- Allowance No. 4: Existing Brick Façade Repointing \$ _____

Unit Prices:

As required by the Base Bid, should deteriorated or damaged materials be required to be removed as determined by the Architect or Owner, the cost to remove and replace the referenced material, (or credit for specified material not provided or installed) including all labor, material, equipment and related furnishings is as follows:

- 1. Metal roof deck, sized to match existing roof deck to be removed (including deteriorated roof deck removal, credit and add) \$_____/sf
- 2. T&G wood roof deck, sized to match existing roof deck to be removed (including deteriorated roof deck removal, credit and add) \$_____/sf
- 3. Add pressure treated wood blocking, as specified, cut to fit around roof structure and systems and installed \$_____/bf
- 4. Deduct pressure treated wood blocking, as specified, cut to fit around roof structure and systems and installed \$_____/bf

- 5. Brick removal, replacement, to match existing \$ _____/sf
- 6. Mortar repointing, removal, cleaning, to match existing \$ _____/lf
- 7. Contaminated soil greater than the 50 cy identified, removal and disposal \$ _____/cy
- 8. Clean fill greater than quantity identified, provision and installation \$ _____/cy

Addenda:

The undersigned acknowledges receipt of the following addenda to the Contract Documents, listed by number and date:

Number , Dated: _____
 Number , Dated: _____
 Number , Dated: _____
 Number , Dated: _____

Exceptions: _____

ATTACHMENTS – Contractor is to attach the following:

- 1. Bid Bond**
- 2. Contractor Prequalification Statement**
- 3. Update Bid Statement**

Date: _____

Signature: _____

Printed Name and Title
of Agent submitting bid: _____

Name of Company: _____

Address: _____

Telephone Number: _____ Fax Number: _____

E-mail: _____

This Bid may be withdrawn prior to the scheduled Bid Opening or any postponement thereof.

SECTION 123553.15 – PHENOLIC LABORATORY CASEWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Phenolic resin laboratory casework.
2. Filler and closure panels.
3. Laboratory countertops.
4. Laboratory sinks.
5. Shelves.
6. Water and electrical service fittings.

B. Related Sections:

1. Section 061000 "Rough Carpentry" for wood blocking for anchoring laboratory casework.
2. Divisions 22 and 26 Sections for installing service fittings specified in this Section, including connecting service utilities.

1.3 PERFORMANCE REQUIREMENTS

- A. System Structural Performance: Laboratory casework and support framing system shall withstand the effects of the following gravity loads and stresses without permanent deformation, excessive deflection, or binding of drawers and doors:

1. Support Framing System: 600 lb/ft.
2. Suspended Base Cabinets (Internal Load): 160 lb/ft.
3. Work Surfaces (Including Tops of Suspended Base Cabinets): 160 lb/ft.
4. Wall Cabinets (Upper Cabinets): 160 lb/ft.
5. Shelves: 40 lb/sq. ft.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

- B. Shop Drawings: For laboratory casework. Include plans, elevations, sections, details, and attachments to other work.

1. Indicate locations of hardware and keying of locks.
2. Indicate locations and types of service fittings.
3. Indicate locations of blocking and reinforcements required for installing laboratory casework.

4. Include details of exposed conduits, if required, for service fittings.
 5. Indicate locations of and clearances from adjacent walls, doors, windows, other building components, and other equipment.
- C. Samples for Verification: For each type of cabinet finish and each type of countertop material indicated, in manufacturer's standard sizes.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified manufacturer.
- B. Product Test Reports for Casework: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating compliance of laboratory casework with requirements of specified product standard.
- C. Product Test Reports for Countertop Surface Material: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating compliance of laboratory countertop surface materials with requirements specified for chemical and physical resistance.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Cabinet Mounting Clips and Related Hardware: Quantity equal to five percent (5%) of amount installed, but no fewer than twenty (20) of each type.
 2. Modular Countertop Units: Two (2) extra units of each length and material installed.

1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that produces casework of types indicated for this Project that has been tested for compliance with SEFA 8. Modern plant with proper tools, dies, fixtures and skilled production staff to produce high quality laboratory casework and shall meet the following minimum requirements:
1. Minimum of ten (10) years experience in the manufacturing of laboratory casework.
 2. Ten (10) installations of equal or larger size.
 3. Must be financially stable.
- B. Installer Qualifications: Certified by the manufacturer.
- C. Source Limitations: Obtain laboratory casework from single source from single manufacturer unless otherwise indicated.
1. Obtain countertops, sinks and accessories from casework manufacturer and service fittings from appropriate trades.
- D. Product Designations: Drawings indicate sizes and configurations of laboratory casework by referencing designated manufacturer's catalog numbers. Other manufacturers' laboratory casework of similar sizes and similar door and drawer configurations and complying with the Specifications may be considered. Refer to Division 01 Section "Product Requirements."

- E. Casework Product Standard: Comply with SEFA 8, "Laboratory Furniture - Casework, Shelving and Tables - Recommended Practices."
- F. 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.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Protect finished surfaces during handling and installation with protective covering of polyethylene film or other suitable material.

1.9 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install laboratory casework until building is enclosed, utility roughing-in and wet work are complete and dry, and temporary HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

1.10 COORDINATION

- A. Coordinate layout and installation of framing and reinforcements for support of laboratory casework.
- B. Coordinate installation of laboratory casework with installation of other laboratory equipment.

1.11 WARRANTY

- A. Warranty: Provide manufacturer's one (1) year warranty against defects in materials and workmanship.

PART 2 - PRODUCTS

2.1 CABINET AND TABLE MATERIALS

- A. General:
 - 1. Phenolic Resin: **Trespa Athlon** or equal based on performance.
 - a. Color as selected by Architect and Owner from manufacturer's full range.

2.2 COUNTERTOP AND SINK MATERIALS (SS-2)

- A. Epoxy: Factory-molded, modified epoxy-resin formulation with smooth, nonspecular finish.
 - 1. Basis of Design:
 - a. ChemTops
 - 2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- a. Durcon Company (The).
 - b. Epoxyn Products.
 - c. Laboratory Tops, Inc.
 - d. Substitutions: Under provisions of Section 012500 “Substitution Procedures”.
3. Physical Properties:
- a. Flexural Strength: Not less than 10,000 psi.
 - b. Modulus of Elasticity: Not less than 2,000,000 psi.
 - c. Hardness (Rockwell M): Not less than 100.
 - d. Water Absorption (Twenty-Four (24) Hours): Not more than 0.02 percent.
 - e. Heat Distortion Point: Not less than 260 deg F (127 deg C).
4. Chemical Resistance: Epoxy-resin material has the following ratings when tested with indicated reagents according to NEMA LD 3, Test Procedure 3.4.5:
- a. No Effect: Acetic acid (ninety-eight percent (98%)), acetone, ammonium hydroxide (twenty-eight percent (28%)), benzene, carbon tetrachloride, dimethyl formamide, ethyl acetate, ethyl alcohol, ethyl ether, methyl alcohol, nitric acid (seventy percent (70%)), phenol, sulfuric acid (sixty percent (60%)), and toluene.
 - b. Slight Effect: Chromic acid (sixty percent (60%)) and sodium hydroxide (fifty percent (50%)).
5. Color: As indicated in Section 090000 “Schedule of Finishes”.

2.3 CABINETS

A. Basis-of-Design Product:

1. BMT/Nelson Casework

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Thermo Fisher Scientific
2. Substitutions: Under provisions of Section 012500 “Substitution Procedures”.

C. Design:

1. Flush overlay with square edges.
 - a. Provide 1/8-inch reveals between door to door, door to drawer, drawer to drawer; 1/16-inch vertical reveal between doors/drawers and cabinet ends.
2. Cabinet end panels must have finished ends. Exposed screws are acceptable for fasteners. Black plastic caps to conceal screws.
3. Cabinets to be rigid, self-supporting design for use in assembly or as a single standalone unit. Suspended units are without sub base.
4. Flush Interiors: Surface mounted bottoms and offsets caused by front face frames, which interfere with ease of cleaning, are not acceptable.
5. Joinery: Rabbeted and screwed joinery.

6. Casework width and depth dimension are to be within plus or minus ½ inch from what is shown on the drawings. No exceptions. Manufacturer's standards are not acceptable unless able to meet these requirements.
- D. Construction: Provide laboratory casework of the following minimum construction:
1. Base Units:
 - a. Cabinet Ends: ½ inch thick phenolic resin with polished front edges. Bore interior faces, as appropriate, for security panels, rails and four (4) rows of shelf support holes:
 - 1) Provide four levelers (Peter Meier Style) with threaded adjustment screws and floor pad on all base cabinets.
 - b. Horizontal Front Top, Intermediate and Back Rail: 1 inch x 3 inch phenolic resin attach to cabinet ends with screws.
 - c. Toe Space Rail: 3¾ inch x ½ inch phenolic resin attach to cabinet ends with screws forming a 4 inch high x 2½ inch deep toe space.
 - d. Bottoms: ½ inch thick phenolic resin panel set flush and joined to cabinet end panels with screws. Front edge to be polished.
 - e. Backs:
 - 1) Cupboard and Drawer Units: One-piece ¼ inch thick phenolic resin panel, rabbetted into sides, bottom and back rail.
 - 2) Sink Units: Half height, one-piece ¼ inch thick phenolic resin panel, rabbetted into sides and bottom panels.
 - f. Vertical Dividers in Combination Cabinets: 1 inch thick phenolic resin panel screwed in place, top and bottom with front edge polished.
 - g. Shelves: ¾ inch thick, phenolic resin panel with polished front edge, adjustable on 32mm centers.
 - 1) Depth:
 - a) Full depth shelf, 20 inches deep.
 - h. Drawer Construction:
 - 1) Box: Four (4) sided drawer box with back, front and sides of ½ inch phenolic resin panel with polished top edges. **Three-sided drawer box attached to outer drawer front is not acceptable.** Sides shall be joined by compression dowels and glued.
 - 2) Bottom: ¼ inch phenolic resin panel, inset into all four (4) sides of drawer box and sealed with hot melt glue process around entire drawer bottom perimeter.
 - i. Door and Removable Drawer Front Construction: ½ inch thick phenolic resin panel with polished edges.
 - j. Fillers, Kneespace Panels, Scribes, etc.: ½ inch thick phenolic resin panel.

2. Wall, Upper and Tall Cases:
 - a. Shall be manufactured with appropriate materials and joinery methods as specified for base units except as noted below.
 - b. Tops: ¾ inch thick, phenolic resin panel with polished front edge.
 - c. Bottoms: ***Exposed pocket shoulder screws are not acceptable.***
 - 1) Wall and Upper Case: ¾ inch thick, phenolic resin panel with polished front edge.
 - 2) Tall Case: ½ inch thick, phenolic resin panel with polished front edge. Bottom phenolic resin kick rail ¾ inch high joined to cabinet sides.
 - d. Backs: ¼ inch thick phenolic resin panel recessed 7/8 inch and set into top, bottom and ends, sealed with hot melt glue process around entire perimeter.
 - e. Shelves: ¾ inch thick, phenolic resin panels with polished front edges; adjustable on 32mm centers. Depth of shelf to be within 1 inch of the door.
 - f. Door Construction: ½ inch thick phenolic resin panel with polished edges.

2.4 HARDWARE

- A. General: Provide laboratory casework manufacturer's standard, commercial-quality, heavy-duty hardware complying with requirements indicated for each type.
- B. Hinges: Stainless steel, 165 degree, self closing complying with BHMA A156.9, Grade 1, with antifriction bearings and rounded tips. Provide two (2) hinges for doors up to 36 inches, three (3) hinges for doors 36-63 inches and four (4) hinges for doors over 63 up to 78¾ inches.
- C. Hinged Door and Drawer Pulls: Solid stainless steel back-mounted pulls. Provide two (2) pulls for drawers more than 24 inches wide.
- D. Drawer Slides: Side mounted, epoxy-coated steel, self-closing; designed to prevent rebound when drawers are closed; complying with BHMA A156.9, Type B05091.
 1. Heavy Duty (Grade 1HD-100 and Grade 1HD-200): Full-extension, self-closing, ball-bearing type.
- E. Locks for Cabinets: Cam type, satin chrome with chrome-plated finish; complying with BHMA A156.11, Type E07281.
 1. Provide a minimum of two (2) keys per lock and two (2) master keys.
 2. Provide on all drawers and doors.
 3. Keying: Key locks within each room alike, key each room separately.
 4. Master Key System: Key all locks to be operable by master key of existing system.
- F. Adjustable Shelf Supports for Cabinets: Powder-coated steel shelf rests complying with BHMA A156.9, Type B04013.
- G. Grommets for Cable Passage through Countertops: 2-3/8-inch OD, molded-plastic grommets and matching plastic caps with slot for wire passage; color as selected by Architect and Owner from manufacturer's full range.

1. Product: Subject to compliance with requirements, provide "**TG Series**" by Doug Mockett & Company, Inc.

2.5 COUNTERTOPS AND SINKS

- A. Countertops, General: Provide units with smooth surfaces in uniform plane free of defects. Make exposed edges and corners straight and uniformly beveled. Provide front and end overhang of 1 inch, with continuous drip groove on underside ½ inch from edge.
- B. Sinks, General: Provide sizes indicated or laboratory casework manufacturer's closest standard size of equal or greater volume, as approved by Architect.
 1. Outlets: Provide with strainers and tailpieces, NPS 1-1/2 (DN 40), unless otherwise indicated.
 2. Overflows: Where indicated, provide overflow of standard beehive or open-top design with separate strainer. Height 2 inches less than sink depth. Provide in same material as strainer.
- C. Epoxy Countertops and Sinks:
 1. Countertop Fabrication: Fabricate with factory cutouts for sinks, holes for service fittings and accessories, and with butt joints assembled with epoxy adhesive and concealed metal splines.
 - a. Countertop Configuration: Flat, 1 inch thick, with beveled edge and corners, and with drip groove and applied backsplash (at counters).
 - b. Countertop Construction: Uniform throughout full thickness.
 2. Sink Fabrication: Molded in one (1) piece with smooth surfaces, coved corners, and bottom sloped to outlet; ½-inch minimum thickness.
 - a. Provide with polypropylene strainers and tailpieces.
 - b. Provide integral sinks in epoxy countertops, bonded to countertops with invisible joint line.
 - c. Provide manufacturer's recommended adjustable support system for table- and cabinet-type installations.

2.6 ELECTRICAL SERVICE FITTINGS

- A. GFCI Receptacles will be provided by Electrical Contractor. Devices will require cutouts and recesses in approximate locations as shown on Electrical Drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances, location of reinforcements, and other conditions affecting performance of laboratory casework.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF CABINETS

- A. Comply with installation requirements in SEFA 2.3. Install level, plumb, and true; shim as required, using concealed shims. Where laboratory casework abuts other finished work, apply filler strips and scribe for accurate fit, with fasteners concealed where practical. Do not exceed the following tolerances:
1. Variation of Tops of Base Cabinets from Level: 1/16 inch in 10 feet.
 2. Variation of Bottoms of Upper Cabinets from Level: 1/8 inch in 10 feet.
 3. Variation of Faces of Cabinets from a True Plane: 1/8 inch in 10 feet.
 4. Variation of Adjacent Surfaces from a True Plane (Lippage): 1/32 inch.
 5. Variation in Alignment of Adjacent Door and Drawer Edges: 1/16 inch.
- B. Base Cabinets: Fasten cabinets to utility-space framing, partition framing, wood blocking, or reinforcements in partitions with fasteners spaced not more than 24 inches o.c. Bolt adjacent cabinets together with joints flush, tight, and uniform.
1. Where base cabinets are installed away from walls, fasten to floor at toe space at not more than 24 inches o.c. and at sides of cabinets with not less than two (2) fasteners per side.
- C. Wall Cabinets: Fasten to hanging strips, masonry, partition framing, blocking, or reinforcements in partitions. Fasten each cabinet through back, near top, at not less than 24 inches o.c.
- D. Install hardware uniformly and precisely. Set hinges snug and flat in mortises.
- E. Adjust laboratory casework and hardware so doors and drawers align and operate smoothly without warp or bind and contact points meet accurately. Lubricate operating hardware as recommended by manufacturer.

3.3 INSTALLATION OF COUNTERTOPS

- A. Comply with installation requirements in SEFA 2.3. Abut top and edge surfaces in one (1) true plane with flush hairline joints and with internal supports placed to prevent deflection. Locate joints only where shown on Shop Drawings.
- B. Field Jointing: Where possible, make in same manner as shop-made joints using dowels, splines, fasteners, adhesives, and sealants recommended by manufacturer. Prepare edges in shop for field-made joints.
- C. Fastening:
1. Secure epoxy countertops to cabinets with epoxy cement, applied at each corner and along perimeter edges at not more than 48 inches o.c.
 2. Where necessary to penetrate countertops with fasteners, countersink heads approximately 1/8 inch and plug hole flush with material equal to countertop in chemical resistance, hardness, and appearance.
- D. Provide required holes and cutouts for service fittings.

- E. Provide scribe moldings for closures at junctures of countertop, curb, and splash with walls as recommended by manufacturer for materials involved. Match materials and finish to adjacent laboratory casework. Use chemical-resistant, permanently elastic sealing compound where recommended by manufacturer.
- F. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

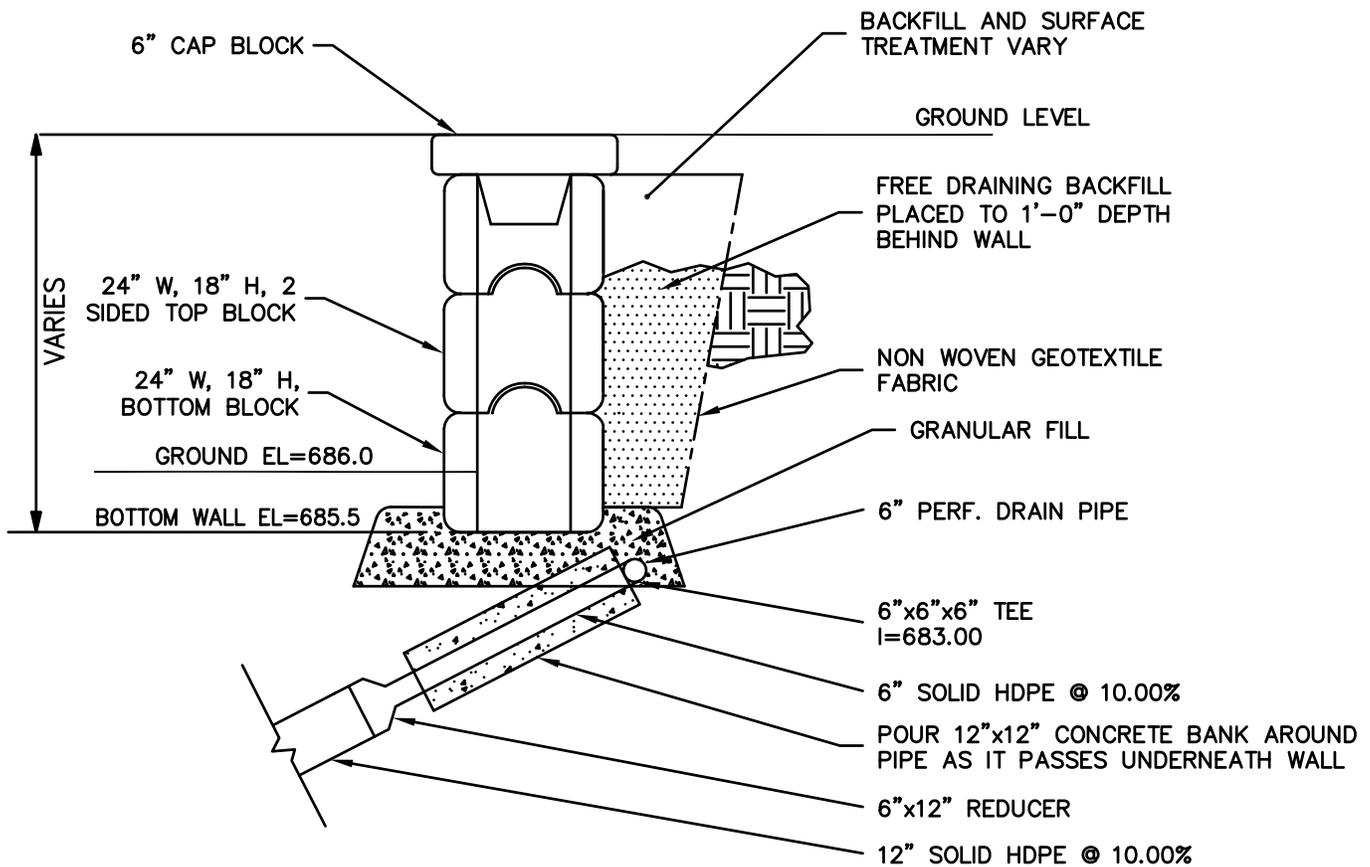
3.4 INSTALLATION OF SERVICE FITTINGS

- A. Service fittings to be installed by the appropriate trade contractor.
- B. Installers shall prepare countertops and casework for all required fittings according to the actual fixture provided in the approved Shop Drawings.

3.5 CLEANING AND PROTECTING

- A. Clean finished surfaces, touch up as required, and remove or refinish damaged or soiled areas to match original factory finish, as approved by Architect.
- B. Protect countertop surfaces during construction with 6-mil plastic or other suitable water-resistant covering. Tape to underside of countertop at a minimum of 48 inches o.c.

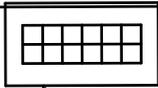
END OF SECTION 123553.15



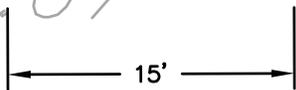
PROJECT #:	12.140
DRAWN BY:	JMC
CHECKED BY:	WGW
SCALE:	NONE
DATE:	12/31/13
ISSUED FOR:	

TITLE:	WALL UNDERDRAIN CONNECTION
CRYSTAL LAKE ELEMENTARY SCHOOL 284 SANDY BEACH ROAD ELLINGTON, CT. 06029	

CSK-001
REF. SHEET: C-604



18" RCP
INV=651.07



I=652.00

CONTRACTOR SHALL REMOVE AND RESET EXISTING STONE WALL, AS REQUIRED TO CONSTRUCT DRAINAGE PIPE

50'-18" RCP @ 2.00%

CONTRACTOR TO PERFORM EXPLORATORY EXCAVATION TO DETERMINE EXACT ELEVATION OF EXISTING FORCE MAIN PRIOR TO CONSTRUCTION

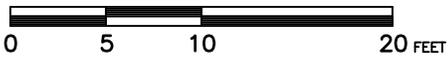
REINFORCED CULVERT END PER DETAIL 2/C-603 I=651.00

RIPRAP APRON PER DETAIL 11/C-603-USE DIMENSION SHOWN ON THIS SHEET

NOTES:

1. CONTRACTOR SHALL REPAIR ROAD, PER DETAIL 9/C-601, AS NECESSARY TO CONSTRUCT DRAINAGE PIPE.

SCALE: 1" = 10'



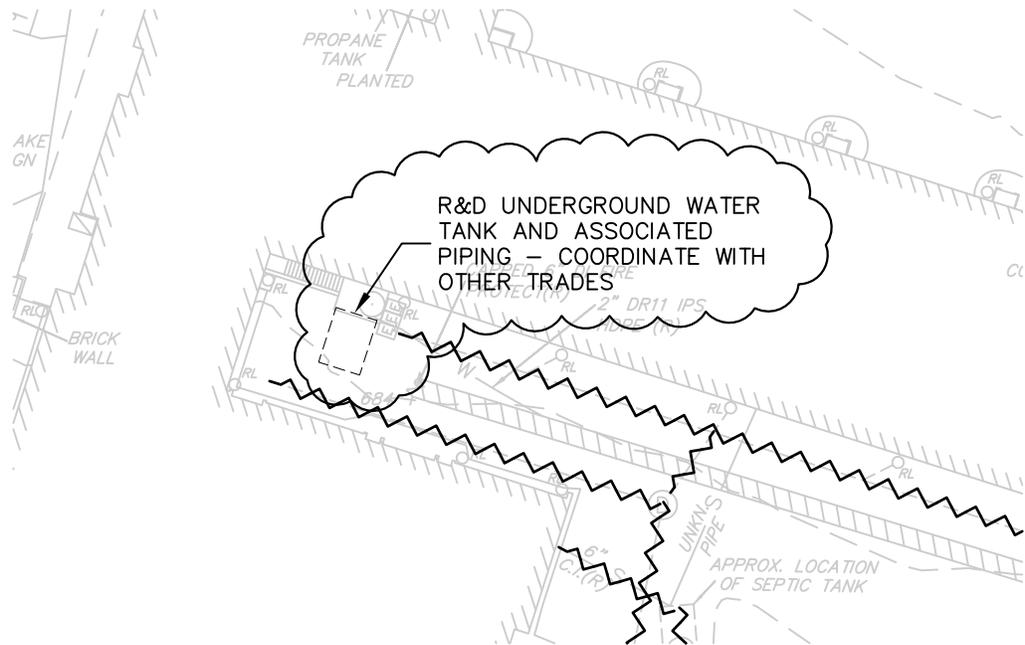
PROJECT #:	12.140
DRAWN BY:	JMC
CHECKED BY:	WGW
SCALE:	1"=10'
DATE:	12/31/13
ISSUED FOR:	

TITLE:
DETENTION BASIN OUTLET

CRYSTAL LAKE ELEMENTARY SCHOOL
284 SANDY BEACH ROAD ELLINGTON, CT. 06029

CSK-002

REF. SHEET: C-400

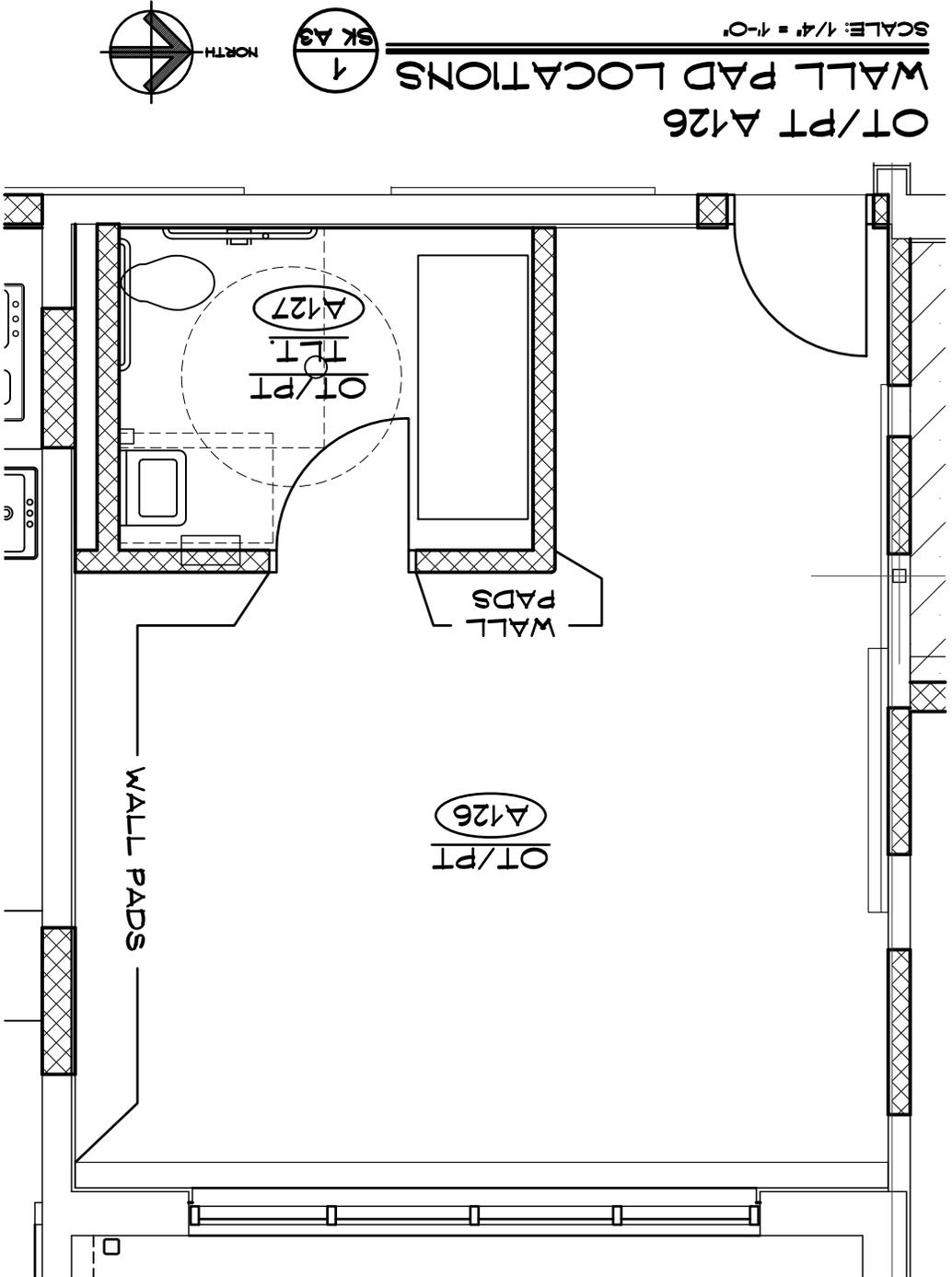


WATER TANK DEMOLITION NOTES:

1. REMOVE AND PROPERLY DISPOSE EXISTING UNDERGROUND WATER TANK.
2. PROTECT ADJACENT CONCRETE FOUNDATION AND SLAB.
3. ANY DAMAGE TO FOUNDATION AND/OR SLAB SHALL BE REPAIRED BY THE CONTRACTOR, IN KIND, AT NO ADDITIONAL COST TO THE OWNER.

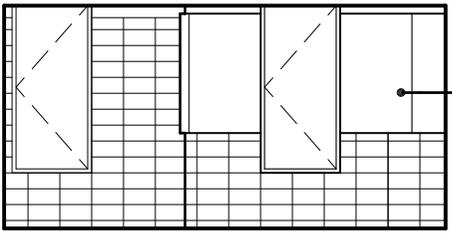


PROJECT #:	12.140	TITLE:	UNDERGROUND WATER TANK REMOVAL	CSK-003
DRAWN BY:	JMC			
CHECKED BY:	WGW			
SCALE:	1"=40'			
DATE:	01/02/14			
ISSUED FOR:	CRYSTAL LAKE ELEMENTARY SCHOOL 284 SANDY BEACH ROAD ELLINGTON, CT. 06029		REF. SHEET: C-200	



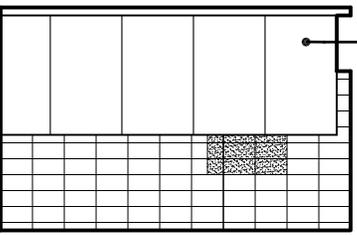
**OT/PT A126
WALL PAD LOCATIONS**
SCALE: 1/4" = 1'-0"
SK A3 1

**OT/PT A126
WEST ELEVATION**
SCALE: 1/4" = 1'-0"
SK A3 3



**NEW WALL PADS:
COORDINATE PUNCHED
AREAS/TRIM NEEDED FOR
SWITCHES AND OTHER WALL
MOUNTED OBSTACLES; SEE
PROJECT MANUAL**

**OT/PT A126
SOUTH ELEVATION**
SCALE: 1/4" = 1'-0"
SK A2 2



Project Title:
Expansion & Renovate as New
Crystal Lake Elementary School
284 Sandy Beach Road
Ellington, Connecticut 06029

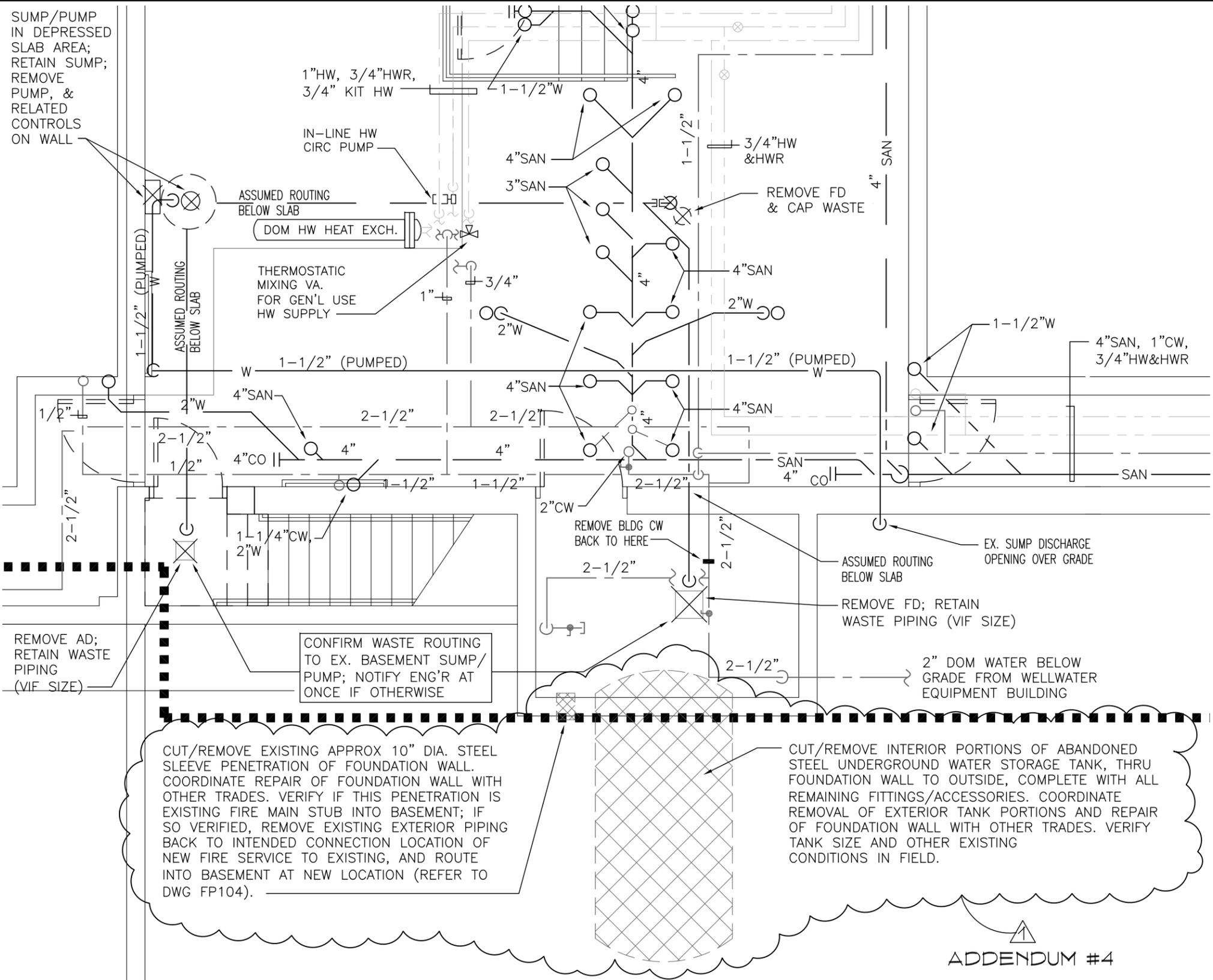


SILVER/PETRUCCI + ASSOCIATES
Architects / Engineers / Interior Designers
3190 Whitney Avenue, Hamden, CT 06518-2340
Tel. 203 230 9007 Fax. 203 230 8347
silverpetrucci.com

Drawing Title:
PT / OT Wall
Pads

Date: 01/02/18
Scale: AS NOTED
Drawn By: AMC
Project Number: 12440

Drawing Number:
SID PHASE
SKA3



SUMP/PUMP IN DEPRESSED SLAB AREA; RETAIN SUMP; REMOVE PUMP, & RELATED CONTROLS ON WALL

1"HW, 3/4"HWR, 3/4" KIT HW

IN-LINE HW CIRC PUMP

ASSUMED ROUTING BELOW SLAB

DOM HW HEAT EXCH.

THERMOSTATIC MIXING VA. FOR GEN'L USE HW SUPPLY

REMOVE FD & CAP WASTE

REMOVE AD; RETAIN WASTE PIPING (VIF SIZE)

CONFIRM WASTE ROUTING TO EX. BASEMENT SUMP/PUMP; NOTIFY ENG'R AT ONCE IF OTHERWISE

REMOVE BLDG CW BACK TO HERE

EX. SUMP DISCHARGE OPENING OVER GRADE

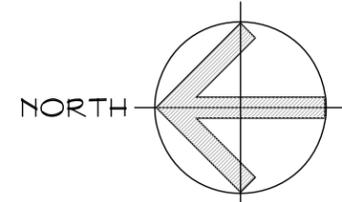
REMOVE FD; RETAIN WASTE PIPING (VIF SIZE)

2" DOM WATER BELOW GRADE FROM WELLWATER EQUIPMENT BUILDING

CUT/REMOVE EXISTING APPROX 10" DIA. STEEL SLEEVE PENETRATION OF FOUNDATION WALL. COORDINATE REPAIR OF FOUNDATION WALL WITH OTHER TRADES. VERIFY IF THIS PENETRATION IS EXISTING FIRE MAIN STUB INTO BASEMENT; IF SO VERIFIED, REMOVE EXISTING EXTERIOR PIPING BACK TO INTENDED CONNECTION LOCATION OF NEW FIRE SERVICE TO EXISTING, AND ROUTE INTO BASEMENT AT NEW LOCATION (REFER TO DWG FP104).

CUT/REMOVE INTERIOR PORTIONS OF ABANDONED STEEL UNDERGROUND WATER STORAGE TANK, THRU FOUNDATION WALL TO OUTSIDE, COMPLETE WITH ALL REMAINING FITTINGS/ACCESSORIES. COORDINATE REMOVAL OF EXTERIOR TANK PORTIONS AND REPAIR OF FOUNDATION WALL WITH OTHER TRADES. VERIFY TANK SIZE AND OTHER EXISTING CONDITIONS IN FIELD.

ADDENDUM #4



ENLARGED PART PLAN - BASEMENT PLUMBING DEMO PLAN

SCALE: 1/4" = 1'-0"

2
PD103

THIS SKETCH MODIFIES A PORTION OF DRAWING PD103

Project Title: Expansion & Renovate as New Project Phase 1
Crystal Lake Elementary School
284 Sandy Beach Road
Ellington, Connecticut 06029

Project Number: 12-140
Drawing Title: REMOVE BURIED TANK AND FOUNDATION WALL PENETRATION
Drawing Number: 1-3-2014 (ADD #4)
Drawing Scale: 1/8" = 1'-0"
Drawing By: MBG

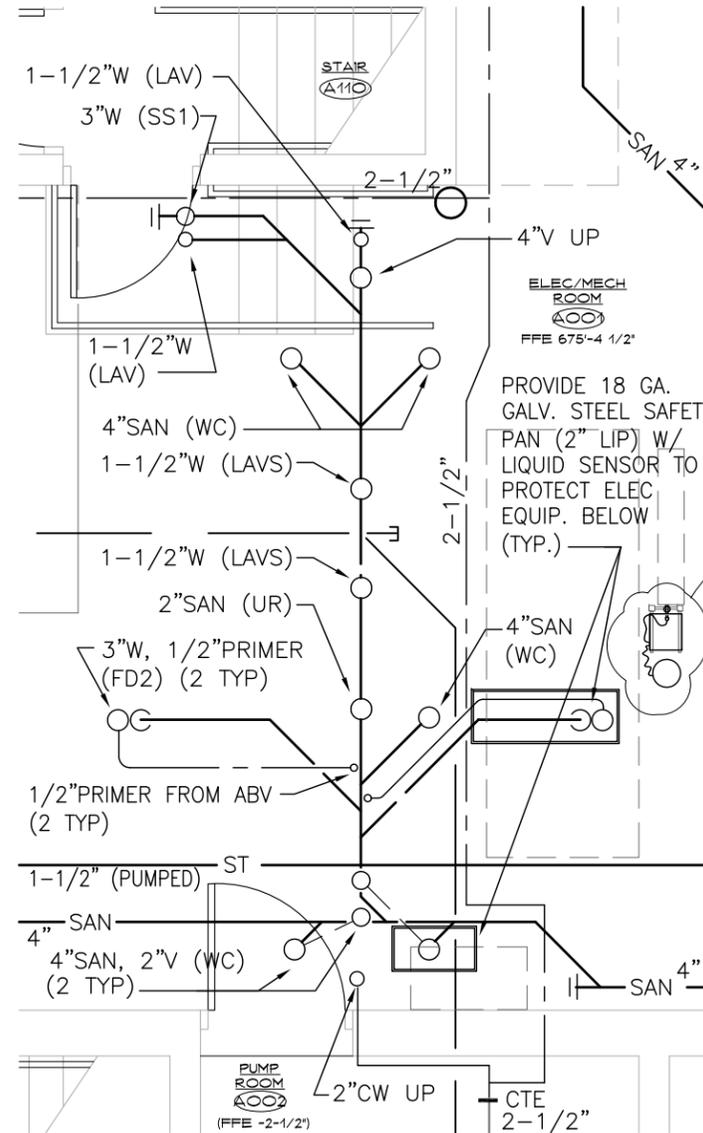
Architects / Engineers / Interior Designers
3100 Whitney Avenue, Hamden, CT 06518-2340
Tel. 203 230 9007 Fax. 203 230 8247
silverpetrucelli.com

SILVER/PETRUCELLI + ASSOCIATES



Project Title: Expansion & Renovate as New Project Phase 1
Crystal Lake Elementary School
284 Sandy Beach Road
Ellington, Connecticut 06029

Project Number: 12-140



PROVIDE WATER ALERT SYSTEM FOR FLOOR OF ELECTRICAL EQUIPMENT AREA, DORLEN PRODUCTS, CONSISTING OF:

POWER RELAY/POWER SUPPLY MODEL PR-WM: PLUG-IN TO 120VAC/1 PHASE RECEPTACLE, 9VDC OUTPUT), NORMALLY OPEN INPUT. UL-LISTED TRANSFORMER, POWER ON LED, RELAY-ACTIVATED LED, SPDT RELAY CONTACT (FORM C) RATED UP TO 120VAC @ 20 AMPS.

WATER DETECTOR MODEL SS-4: POWERED FROM PR-WM POWER RELAY/POWER SUPPLY; ALL CIRCUITRY EPOXY-ENCAPSULATED; WITH DPDT (2 FORM C) RELAY CONTACT OUTPUTS RATED AT 1 AMP@28 VDC MAX., FOR TIE-IN TO BMS.

POWER RELAY/SUPPLY AND DUPLEX RECEPTACLE SHALL BE MOUNTED ADJACENT TO EMERGENCY POWER PANEL "EM-1", ON UNISTRUT BRACKETS PROVIDED BY ELEC. CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE DUPLEX RECEPTACLE POWERED FROM PANEL "EM-1". COORDINATE WITH DIVISION 26. WATER DETECTOR SHALL BE MOUNTED ON FLOOR ADJACENT TO ELECTRICAL EQUIPMENT HOUSEKEEPING CURB.

ALL COMPONENTS SHALL HAVE 5-YEAR WARRANTY MINIMUM

ENLARGED PART PLAN -
(FORMER) BOILER ROOM A001

SCALE: 1/4" = 1'-0"

THIS SKETCH MODIFIES A PORTION OF DRAWING P104

Drawing Number:
BIDDING PHASE
SKP2

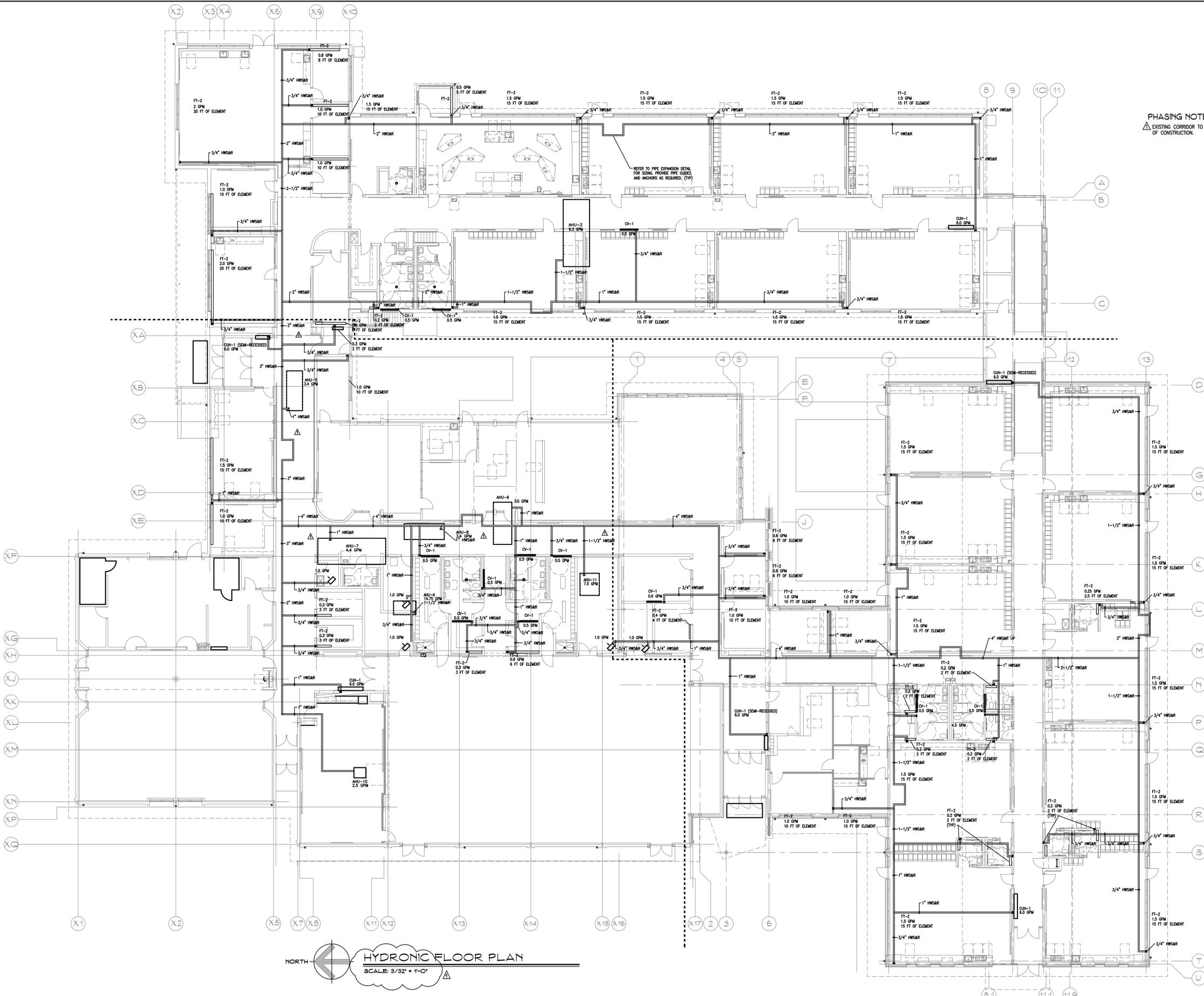
1-3-2014 (ADD #4)
1/8" = 1'-0"
MBQ
12.140

PROVIDE BASEMENT
FLOOR WATER
DETECTION SYSTEM

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silverpetrucelli.com



Expansion & Renovate as New Project Phase 1
Crystal Lake Elementary School
284 Sandy Beach Road
Ellington, Connecticut 06029



PHASING NOTES
 ▲ EXISTING CORRIDOR TO HAVE NEW HOT WATER MAINS RUN DURING PHASE 2 OF CONSTRUCTION.

HYDRONIC FLOOR PLAN
 SCALE: 3/32" = 1'-0"
 NORTH

Project Title:
Expansion and Renovate as New Project - PHASE 1 of 3
Crystal Lake Elementary School
 284 Sandy Beach Road
 Ellington, Connecticut 06029



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Revision: Description Date Revised By:
 -- ISSUED FOR BIDDING NOV. 26, 2013 --
 ▲ ADDENDUM #4 1/03/14 MJC

Drawing Title:
MAIN FLOOR HYDRONIC PLAN
 State Project Number: 048-0058 EA/RR/PS

Date: **JUNE 18, 2013**
 Scale: AS NOTED
 Drawn By: MJC
 Project Number: 12.140
 Drawing Number: **M302**