
TRUMBULL PUBLIC SCHOOLS

TRUMBULL, CONNECTICUT

Budget Meeting – Tuesday, January 9, 2024, 7:00 p.m.
Long Hill Administration Building

https://us06web.zoom.us/j/82359218967?pwd=n8gneyTli6d5o4XozVi5m5_l6l3Cgg.kR4cMsBPK-ZWluno

Webinar ID: 823 5921 8967 Password: 912015

Join by telephone: (312) 626-6799 or (833) 548-0282 (Toll Free) / Webinar ID: 823 5921 8967

I. CALL TO ORDER

II. PRELIMINARY BUSINESS

- A. Pledge of Allegiance
- B. Correspondence – Mrs. Lisa Nuland - Correspondence may be sent to BoardofEd@trumbullps.org
- C. Public Comment – The Trumbull Public Schools Board of Education will be allowing public comment at the upcoming Board Meeting. If you are interested in speaking during the Public Comment portion of the meeting, please use [this form to signup](#). We will limit participants to the first **15** individuals that submit the form. Public comment will be limited to 2 minutes.
- D. Superintendent Report
- E. Board Chairman Report
- F. Student BOE Representatives Report

III. REPORTS/ACTION ITEMS

- A. Approval/Minutes
 - BOE Regular Meeting of 12/12/2023
- B. Personnel – Dr. Semmel
- C. Approval/Booth Hill Elementary Roof Replacement Project – Mr. Cote
- D. 2024-2025 Budget Presentation & Discussion – Dr. Semmel, Mr. Hendrickson, Staff

Part I – Introduction

- Overview
- Financial Summary

Part II – Budget by Object

- Salaries (Object 100)
- Benefits (Object 200)
- Services – Professional & Technical (Object 300)
- Services – Property (Object 400)
- Services – Purchased – Other (Object 500)
- Supplies (Object 600)
- Property (Object 700)
- Other (Object 800)

Part III – Trumbull High School, Agriscience & Athletics – Mr. Todd Manuel,

Mr. Michael Hoggatt, Dr. Linda Paslov, Mr. Michael King

Part IV – Transportation – Ms. Deena Robushi

Part V – Assistant Superintendent – Dr. Susan Iwanicki

Part VI – Human Capital and Talent Development – Mr. Joseph Chella

Part VII – Technology & Digital Learning – Mr. Jeffrey Van Steenburgh, Ms. Christina Hefe

IV. OTHER

TRUMBULL PUBLIC SCHOOLS
TRUMBULL, CONNECTICUT

Report to the Board of Education
Budget Meeting – January 9, 2024

Dr. Semmel

Agenda Item – III-A

Approval/Minutes

- BOE Regular Meeting of
December 12, 2023

Recommendation:

Approve the minutes of the above noted
meeting.

TRUMBULL PUBLIC SCHOOLS
TRUMBULL, CONNECTICUT
Board of Education
Regular Meeting – December 12, 2023

The Trumbull Board of Education met for a Regular Meeting at the Long Hill Administration Building.

EXECUTIVE SESSION – There was an Executive Session held at 6:00 p.m. regarding Pending Litigation: Deming v. Trumbull Board of Education.

In attendance:

Lucinda Timpanelli

Jackie Norcel

Julia McNamee

Tim Gallo

Lisa Nuland

Marie Petitti (on phone)

Alison Squicciarro

Absent:

Chris Bandecchi

The meeting was called to order at 6:02 p.m. At this time, it was moved (Norcel) seconded (McNamee) to discuss Pending Litigation: Deming v. Trumbull Board of Education. The Superintendent and Attorney Bryan LeClerc were invited to be a part of the discussion. Vote: Unanimous in favor. Executive Session began at 6:02 p.m.

It was moved (Norcel) and seconded (Nuland) to come out of Executive Session at 6:52 p.m. Vote: Unanimous in favor.

Agenda Item I—Call to Order

The meeting was called to order at 7:05 p.m.

Members present:

L. Timpanelli – Chairman

J. Norcel – Vice Chair

J. McNamee - Secretary

C. Bandecchi

T. Gallo

L. Nuland

M. Petitti - online

A. Squicciarro

Agenda Item II—Preliminary Business

A. Salute to the Flag - The Public Session began with the Pledge of Allegiance to the Flag.

B. The Board of Education held their election of BOE Officers – Dr. Semmel

It was moved (Gallo) and seconded (Norcel) to nominate Lucinda Timpanelli as the Chairman of the Board of Education. Vote: Unanimous in favor.

It was moved (Petitti) and seconded (Nuland) to nominate Jackie Norcel as the Vice Chairman of the Board of Education. Vote: Unanimous in favor.

It was moved (Norcel) and seconded (Gallo) to nominate Lisa Nuland as the Secretary of the Board of Education. Vote: Unanimous in favor.

- C. Correspondence – Ms. McNamee read the following correspondence: Brenda Windsor spoke in support of funding reading and math specialists; Elizabeth Klepack was concerned with the substitute staffing agency; Jamie Molgard noted an issue at Hillcrest and a concern regarding a student survey.

D. Public Comment

Meredith Bagley spoke of her dissatisfaction with a student survey.

E. Superintendent Report – Dr. Semmel

- We have been hard at work to develop a thoughtful budget with the priority of keeping staff positions to include literacy and math specialists. We plan to complete our budget documents that will be available for the public on our website prior to winter break.
- We learned that our Science of Reading waiver was only partially approved. We are disappointed that our District will be forced to pivot from exceptional teaching practices in order to purchase a required program and begin all over again. We will be reaching out to the State Department of Education for further review and discussion.
- Dr. Semmel hopes everyone has the opportunity to enjoy the upcoming winter break to enjoy the things that make you happy.

F. Board Chairman Report

Mrs. Timpanelli reported it was a pleasure to visit the revitalized planetarium on December 6. Plans will continue to upgrade for future student presentations. Mrs. Timpanelli, Dr. Semmel and Mrs. Petitti attended the legislative meeting at CES on December 8. Congratulations to the current BOE members who won the election, and to all members for their dedication to TPS. The BOE wishes the Trumbull community a happy holiday season.

G. Teacher BOE Representative Report

Mr. John Congdon reported: the November Professional Development featured staff members that presented modules on artificial intelligence, ML, math and reading topics; the last minute cancellation of two field trips due to lack of bus drivers/bus availability; the lack of substitute teachers at all building levels; and the TEA is eager for the Professional Development and Evaluation Committee to meet to develop a new evaluation plan for teachers for next year. The TEA wishes everyone a healthy and happy holiday season.

Agenda Item III—Reports/Action Items

A. Approval/THS Model UN Club to Philadelphia, PA

Advisor Mr. Jack LaBarca presented the THS Model UN Club trip to the Ivy League Model UN Conference in Philadelphia, which is scheduled for January 25, 2024 through January 28, 2024 for students to engage in debates on world issues in an academic world-renowned model United Nations conference. Funding for this trip is provided through parents, fundraising and a grant.

It was moved (Bandecchi) and seconded (McNamee) to approve the THS Model UN Club trip to Philadelphia, PA as presented. Vote: Unanimous in favor.

B. Approval/THS Model UN Club to Washington, DC

Advisor Mr. Jack LaBarca presented the THS Model UN Club trip to WAMUNC – Model UN Conference, Washington DC which is scheduled for March 21, 2024 through March 24, 2024 for students to engage in debates on world issues in an academic model United Nations conference. Funding for this trip is provided through the student/grant.

It was moved (Bandecchi) and seconded (Squicciarro) to approve the THS Model UN Club trip to Washington, DC as presented. Vote: Unanimous in favor.

C. Approval/Minutes

Minutes of the BOE Regular Meeting of November 14, 2023 were presented for Board approval.

It was moved (Norcel) and seconded (Gallo) to approve the minutes of the Regular Meeting of November 14, 2023 Board of Education as presented. Vote: Unanimous in favor.

D. Personnel Report

Dr. Semmel presented the following certified resignations:

Berti, Matia; grade 5 teacher at Frenchtown Elementary School since August 2016, resigning effective December 22, 2023.

Hunter, Vanessa, math teacher at Madison Middle School since September 2015, resigning effective January 5, 2024.

Kunschaft, Jennifer; literacy consultant at Tashua Elementary School since August 1999, resigning effective December 22, 2023.

A motion was made (Nuland) and seconded (Norcel) to accept the above resignations as presented. Vote: Unanimous in favor.

Dr. Semmel presented the following requests for Leave of Absence:

Noyes, Mariah; Social Worker at Hillcrest Middle School since August 2021 (currently on child rearing leave) is requesting a personal leave of absence without pay from December 1, 2023 through the end of the 2023-24 school year. This request complies with the Trumbull Board of Education Leave of Absence Policy, 4150.

Pia, Jennifer; World Language teacher at Madison Middle School since August 2015 (currently on an unpaid personal leave of absence) is requesting an extension of this leave from December 31, 2023 to January 31, 2024. This request complies with the Trumbull Board of Education Leave of Absence Policy, 4150.

A motion was made (Bandecchi) and seconded (Squicciarro) to approve the above requests for Leave of Absences as presented. Vote: Unanimous in favor.

E. Update on MTSS/PBIS

Dr. Iwanicki, Mr. Catalano and Ms. Dawson presented the Multi-Tiered Systems of Support (MTSS) which uses individualized instruction, leverages collective knowledge and begins with teacher assessment. Goals, how this system addresses behavioral and emotional supports, implementation and DESSA and PBIS next steps were discussed.

F. Curriculum Committee Report

Mrs. Petitti reported that the Curriculum Committee of the Board of Education met on November 30, 2023 and reviewed the following curriculum guides and texts:

Trumbull High School (Curriculum Guide):

- American Indian History 9-12
- Wood Technology I, Grades 9-12
- Percussion Ensemble, Grades 9-12
- Introduction to Piano, Grades 9-12

It was moved (Petitti) and seconded (McNamee) to approve the curriculum guides as presented. Vote: Unanimous in favor.

Trumbull High School (New Texts):

- Forensics--Saferstein, 2022. *Forensic Science: An Introduction*, 4th Edition High School Edition, MyLab Crime with Pearson eText.
- Astronomy-- Franknoi, A., Morrison, D, and S. Woff et al. 2022. *Astronomy2e* x/Rice University eText.

It was moved (McNamee) and seconded (Norcel) to approve the new texts as presented. Vote: Unanimous in favor.

G. Approval/Donation to ELITE Program

Dr. Semmel presented the donation of \$5,000 from Mr. Peter DiNardo to support the ELITE Program.

It was moved (Nuland) and seconded (Norcel) to accept the \$5,000 from Mr. Peter DiNardo with gratitude for the ELITE Program as presented. Vote: Unanimous in favor.

H. Financial Committee Report

Mrs. Norcel reported that the Finance Committee of the Board of Education met on November 16, 2023 which included the review of the financial reports through October 31, 2023. Mr. Hendrickson presented the details.

It was moved (Bandecchi) and seconded (Gallo) to approve the financial reports as of October 31, 2023 as presented. Vote: Unanimous in favor.

Adjournment

Board Members gave unanimous consent to adjourn the Public Session at 8:26 p.m.

TRUMBULL PUBLIC SCHOOLS
TRUMBULL, CONNECTICUT

Report to the Board of Education
Regular Meeting, January 9, 2024

Dr. Semmel

Agenda Item III-B

Personnel

There have been no changes since the last meeting.

TRUMBULL PUBLIC SCHOOLS
TRUMBULL, CONNECTICUT

Report to the Board of Education
Budget Meeting – January 9, 2024

Mr. David P. Cote, P.E.

Agenda Item III-C

Booth Hill Elementary Roof Replacement Project:
The attached drawings, specifications and cost estimate require Board of Education approval as per the Department of School Construction of the Connecticut State Department of Education.

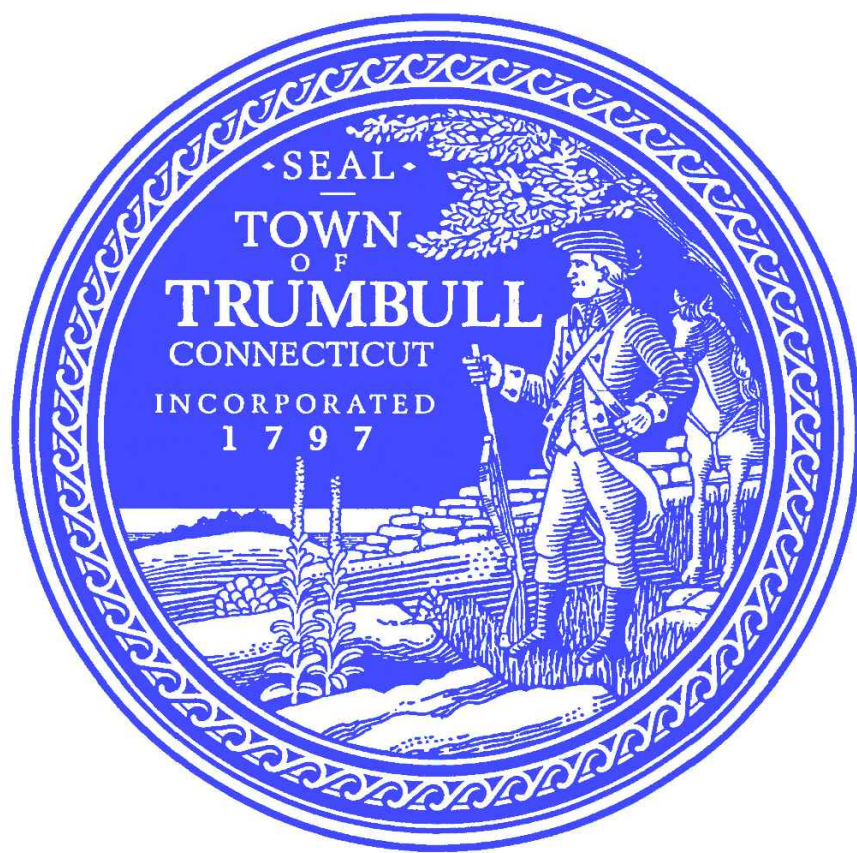
Recommendation:

The Board of Education to approve the Final Drawings, Specifications and Cost Estimate for the Booth Hill Elementary Roof Replacement Project.

TRUMBULL PUBLIC SCHOOLS

BOOTH HILL ELEMENTARY SCHOOL ROOF REPLACEMENT

545 BOOTH HILL ROAD
TRUMBULL, CONNECTICUT 06611



Martin J. Semmel Ed.D - Superintendent
David P.Cote, P.E. - Director of Operations

STATE PROJECT NUMBER 144-0107 RR
DECEMBER 20, 2023

ANTINOZZI
ASSOCIATES
ARCHITECTURE
+ INTERIORS

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Bridgeport, Connecticut 06604

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Certifications of Local Approval:		
I certify that I have local jurisdiction over the State Building Code and that the plans and project manual dated _____ for the above referenced project comply with all applicable building codes.		
Local Building Official's Name	Signature	Date
I certify that I have local jurisdiction over the State Fire Safety Code and that the plans and project manual dated _____ for the above referenced project comply with all applicable fire codes.		
Local Fire Marshal's Name	Signature	Date
I certify that I have local jurisdiction over the State Health Code and that the plans and project manual dated _____ for the above referenced project comply with all applicable health codes.		
Local Health Official's Name	Signature	Date
I certify that I have local jurisdiction over Section 504 of the Rehabilitation Act of 1973 , and the Uniform Federal Accessibility Standards (UFAS). I further certify that the plans and project manual dated _____ for the above referenced project comply with all applicable accessibility codes.		
Local Federal 504 Official's Name	Signature	Date

GRAPHICS LEGEND

CONSTRUCTION PLAN SYMBOLS

ROOM

ROOM NAME AND NUMBER

000

DOOR NUMBER

000

WINDOW TYPE

000

SIGNAGE DESIGNATION

000

WALL TYPE DESIGNATION

000

REVISION

000

REFERENCE POINT

000

CONSTRUCTION NOTE

000

DEMOLITION NOTE

000

NEW METAL STUD CONSTRUCTION

000

NEW CONC. MASONRY CONSTRUCTION

000

EXISTING WALL

000

WALL OR OBJECTS TO BE REMOVED

000

FINISH TYPE

000

COLUMN GRID LINES AND DESIGNATIONS

000

BUILDING SECTION

000

WALL SECTIONS

000

INTERIOR ELEVATIONS

000

DETAILED ENLARGED AREA

000

DETAIL NUMBER

FINISH PLAN SYMBOLS

P-#

WALL FINISH

B-#

BASE FINISH

C-#

FLOOR FINISH

INDICATES DIRECTION OF FLOORING

C-#

INDICATES FLOOR FINISH MATERIAL

INDICATES GRAPHIC FLOOR PATTERN

TILE

CPT

INDICATES FLOOR TRANSITION

ABBREVIATIONS

AB. ACT. ALUM. ALT. APPROX. ARCH. A.S. Ø AVB. BD. BIT. BLDG. BLKG. B.M. BM. BOT. BRK. B.U. CPT. C. CAB. C.B. CB. CAP. C.H. CL. C. CLG. CLK.G. CLR. C.M.U. COL. CONC. CONT. CRS. C.S.B.C. C & W C.T. C.W. DEG. DET./DTL D.F. DIAG. DIA. DISP. DN. DS. DUR. DWG. E. EA. E.J. EL. ELEV. ELEC. ELEV. EMER. E.P. EQ. EQUIP. E.W.G. EXP. JT. EXT. EXIST. F.D. FDN. F.E. F.E.C. F.F. FIN. FLR. FLUOR. F.O.B. F.O.C. F.P. F.R.P. FT. FT.G. FURK. GA. GALV. G.C. GL. GYP. BD. ANCHOR BOLT ACOUSTICAL CEILING TILE ABOVE FINISHED FLOOR AGGREGATE ALUMINUM ALTERNATE APPROXIMATE ACCESS PANEL ARCHITECTURAL ALUMINUM SADDLE AIR AIR / VAPOR BARRIER BOARD BITUMINOUS BUILDING BLOCKING BENCH MARK BEAM BOTTOM BRICK BUILD UP CARPET CLEAN, CLOSER CABINET CHALKBOARD CATCH BASIN CAPACITY CABINET HEATER CAST IRON CENTER LINE CONTROL JOINT CEILING CAULKING CLEAR CONCRETE MASONRY UNIT COLUMN CONCRETE CONTINUOUS COURSE CT STATE BUILDING CODE CLEAN AND WAX CERAMIC TILE COLD WATER DEGREE DETAIL DRINKING FOUNTAIN DIAGONAL DIAMETER DISPENSER DOWN DOWNSPOUT DURANODIC DRAWING EPOXY EACH EXPANSION JOINT ELEVATION ELECTRICAL ELEVATION EMERGENCY ELECTRICAL PANEL EQUAL EQUIPMENT ELECTRIC WATER COOLER EXPANSION JOINT EXTERIOR EXISTING (BY OWNER) FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH FLOOR FLUORESCENT FACE OF BRICK FACE OF CONCRETE FIRE RATED FIBER REINFORCED PLASTIC FOOT OR FEET FOOTING FURRING GAUGE GALVANIZED GENERAL CONTRACTOR GLASS GYPSUM BOARD HANDICAPPED HIGH DENSITY FIBER BOARD HOLLOW METAL HOLD OPEN (ELECTRO MAGNETIC) H.P. HOUR HEIGHT HEATING, VENTILATION AND AIR CONDITIONING HOT WATER H.W. INSIDE DIAMETER ISOLATED GROUND INSULATION INFORMATION INTERIOR INVERT JANITOR JAMB JAMB OPENING HEIGHT JAMB OPENING WIDTH JOINT JOIST KITCHEN K.B. LAB. LAM. LAV. L.C.C. L.H. LVR. L.P. LT. MAX. MECH. MEMB. MFR. M.H. MIN. MISC. M.O. M.S. MASONRY MTL. MUL. NOT IN CONTRACT NO. NOT TO SCALE OCC. OCCUPANT(S) O.C. ON CENTER O.D. OUTSIDE DIAMETER O.H. OVERHEAD O.P.G. OPENING OPP. OPPOSITE ORD. OVERFLOW ROOF DRAIN P. PAINT PART. BD. P.L. PROPERTY LINE P.LAM. PLASTIC LAMINATE PLAS. PLASTER PLYWD. PLYWOOD P.S. PROJECTION SCREEN R. RISER RAD. RADIUS R.C.P. REINFORCED CONCRETE PIPE R.D. ROOF DRAIN REFR. REFRIGERATOR REINF. REINFORCED REQ'D. REQUIRED R.H. RIGHT HAND RM. ROOM R.O. ROUGH OPENING R.V. ROOF VENT R.W.L. RAIN WATER LEADER S.C. SOLDIER COURSE SCHED. SCHEDULE SECT. SECTION S.F. SQUARE FOOT S.F.S.C. STATE FIRE SAFETY CODE SHI. SHEET SIM. SIMILAR SP. CAB. STANDPIPE CABINET SPEC. SPECIFICATION SQ. OR Φ SQUARE STAINLESS STEEL ST. STAIN STD. STANDARD STL. STEEL STRUC. STRUCTURAL SUSP. SUSPENDED SYS. SYSTEM T.B. TEMP. T.O.S. TOP OF STEEL T.O.D. TOP OF DECK TR. TREAD T & B TOP AND BOTTOM THK. THICK TYP. TYPICAL U.L. UNDERWRITERS LABORATORY UNLESS OTHERWISE NOTED VCT VINYL COMPOSITION TILE V.I.F. VERIFY IN FIELD VERT. VERTICAL W/ WITH WASH. F. WASH FOUNTAIN W.B. WHITEBOARD W.C. WATER CLOSET WD. WOOD W/O WITHOUT

GENERAL NOTES

A. ALL CONTRACTORS SHALL VISIT THE PROJECT SITE AND FAMILIARIZE THEMSELVES WITH ALL BUILDING AND WORKING CONDITIONS BEFORE SUBMITTING A BID.

B. ALL CONTRACTORS TO HAVE ADEQUATE INSURANCE AND SHALL SUBMIT PROOF OF SAME BEFORE STARTING WORK.

C. ALL CONTRACTORS SHALL OBTAIN AND PAY FOR ANY PERMITS REQUIRED FOR THEIR DISCIPLINE.

D. ALL CONTRACTORS SHALL VERIFY ALL DIMENSIONS IN THE FIELD AS REQUIRED BEFORE SUBMITTING SHOP DRAWINGS AND/OR PRIOR TO PERFORMING ALL WORK REQUIRED AS SHOWN ON THESE DRAWINGS. ALL DISCREPANCIES THAT MAY IMPEDE THE FINISHED PRODUCT OF THIS CONTRACT SHALL BE DISCUSSED WITH THE ARCHITECT BEFORE PROCEEDING WITH WORK.

E. ALL WORK SHALL CONFORM TO EXISTING CODES, REGULATIONS, AND SEISMIC REQUIREMENTS AND BE DONE IN A FIRST CLASS CRAFTSMAN-LIKE MANNER, ACCORDING TO GOOD CONSTRUCTION PRACTICES.

F. ALL CONTRACTORS TO BE RESPONSIBLE FOR KEEPING AREAS ADJACENT TO WORK AREA CLEAN AND FREE FROM ALL MATERIALS CONNECTED WITH ALTERATION/ RENOVATION WORK. AREAS TO BE CLEANED AT THE END OF EACH WORK DAY. EACH TRADE RESPONSIBLE FOR CLEAN-UP AND DISPOSAL OF WASTE DURING CONSTRUCTION. FINAL CLEAN-UP REQUIRED UPON COMPLETION OF JOB.

G. ALL SURFACES DISTURBED BY DEMOLITION & NEW CONSTRUCTION OPERATIONS SHALL BE PATCHED & REPAIRED TO MATCH & BLEND W/ EXISTING ADJACENT SURFACES UNLESS NOTED OTHERWISE.

H. CONTRACTOR SHALL PROVIDE ALL CUTTING & PATCHING OF EXISTING ROOF DECK. ANY CUTTING, PATCHING OR DEMOLITION FOR THEIR PROJECT SHALL BE PERFORMED BY EACH CONTRACTOR AS REQUIRED.

I. ANY NEW ITEM WHICH IS A REPLACEMENT FOR AN EXISTING ITEM AT THE SAME LOCATION WILL REQUIRE THE CONTRACTOR TO REMOVE THE EXISTING ITEM FOR THE REPLACEMENT INSTALLATION.

J. THE TERM "PROVIDE" SHALL MEAN THE CONTRACTOR SHALL PURCHASE AND INSTALL ITEM NOTED, ALONG WITH ANY AND/OR ALL REQUIRED LABOR TO INSTALL THEM. THE INTENT IS FOR A COMPLETE FUNCTIONING INSTALLATION.

K. THE CONTRACTOR SHALL TAKE, VERIFY ALL DIMENSIONS & SHALL BE RESPONSIBLE FOR SAME.

L. ALL DEMOLITION DEBRIS SHALL BE DISPOSED OF OFF SITE IN APPROVED DUMP SITES.

M. THE CONTRACTOR SHALL VISIT THE SITE AND DETERMINE TO THEIR OWN SATISFACTION THAT THEY ARE FAMILIAR WITH ALL CONDITIONS THAT IMPACT ON THE WORK AND WITH THE SCOPE OF THE WORK CALLED FOR BY CONSTRUCTION DOCUMENTS BEFORE SUBMITTING HIS BID. A BID SUBMISSION SHALL BE TAKEN TO MEAN COMPLIANCE WITH THE ABOVE (THIS ALSO SHALL APPLY TO SUBCONTRACTORS).

N. PATCH AND REPAIR ALL DISTURBED SURFACES AND AREAS AS REQUIRED TO MATCH EXISTING ADJACENT SURFACES AND AREAS. ALL MASONRY INFILL WORK TO MATCH AND ALIGN WITH ADJACENT SURFACE FINISHES FOR A SMOOTH TRANSITION.

O. ALL CUTTING AND PATCHING REQUIRED BY ALL TRADES NOT SPECIFICALLY NOTED ON THE DRAWINGS SHALL BE BY THE CONTRACTOR.

P. TEMPORARILY REMOVE AND/OR RELOCATE ALL PIPING, CONDUITS, EQUIPMENT, ETC ON ROOFS AND WALLS WHICH INTERFERE WITH NEW ROOFING.

Q. TAPER ALL NEW RIGID INSULATION TO PROVIDE POSITIVE DRAINAGE.

R. CONTRACTOR TO CONFIRM STAGING AREAS WITH OWNER TO MINIMIZE THE DISTURBANCE OF DAILY BUILDING OPERATIONS AND TO PROTECT EXISTING SITE ELEMENTS (PAVEMENT, SIDEWALKS, LANDSCAPING, ETC.) FROM DAMAGE.

S. DO NOT SCALE DRAWINGS, WRITTEN DIMENSIONS GOVERN, IN CASE OF CONFLICT, CONSULT THE ARCHITECT.

T. ALL COLORS, MATERIALS, ETC. TO BE SELECTED BY ARCHITECT. SUBMIT SAMPLES FOR APPROVAL IF ANY SUBSTITUTIONS ARE PROPOSED.

U. ALL CONTRACTORS ARE TO BE CONSIDERED PRIMARY FOR THEIR PARTICULAR DISCIPLINE; THE NOTES ABOVE APPLY TO ALL.

DRAWING LIST

COVER INFO-1

COVER DRAWING LIST, GENERAL NOTES, ABBREVIATIONS, GRAPHICS LEGENDS, SITE LOCATION MAP

ARCHITECTURAL DRAWINGS

A-001 SITE LOGISTICS PLAN

D-1R1 ROOF DEMOLITION PLAN

A-1R1 ROOF PLAN

A-1R1.1 ROOFING SCHEDULE

A-1R1.2 TAPERED INSULATION PLAN

A-150 ROOF DETAILS

A-151 ROOF DETAILS

A-152 ROOF DETAILS

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CERTIFICATION:

REVISIONS:

DATE

DESCRIPTION

BOOTH HILL ELEMENTARY SCHOOL

TRUMBULL PUBLIC SCHOOLS

ROOF REPLACEMENT

545 BOOTH HILL ROAD, TRUMBULL, CT 06611

STATE PROJECT NUMBER 144-01-07RR

DRAWING TITLE:

DRAWING LIST, GENERAL NOTES, ABBREVIATIONS, GRAPHICS LEGEND, HC ACCESSIBLE MOUNTING HT., SITE LOCATION MAP

SCALE: AS NOTED

DRAWN BY: SDH

REVIEWED BY: PAL

DRAWING NO:

INFO-1

DATE: DECEMBER 20, 2023

JOB NUMBER: 23008

Certifications of Local Approval:

I certify that I have local jurisdiction over the **State Building Code** and that the plans and project manual dated _____ for the above referenced project comply with all applicable building codes.

Local Building Official's Name

Signature

Date

I certify that I have local jurisdiction over the **State Fire Safety Code** and that the plans and project manual dated _____ for the above referenced project comply with all applicable fire codes.

Local Fire Marshal's Name

Signature

Date

I certify that I have local jurisdiction over the **State Health Code** and that the plans and project manual dated _____ for the above referenced project comply with all applicable health codes.

Local Health Official's Name

Signature

Date

I certify that I have local jurisdiction over **Section 504 of the Rehabilitation Act of 1973**, and the Uniform Federal Accessibility Standards (UFAS). I further certify that the plans and project manual dated _____ for the above referenced project comply with all applicable accessibility codes.

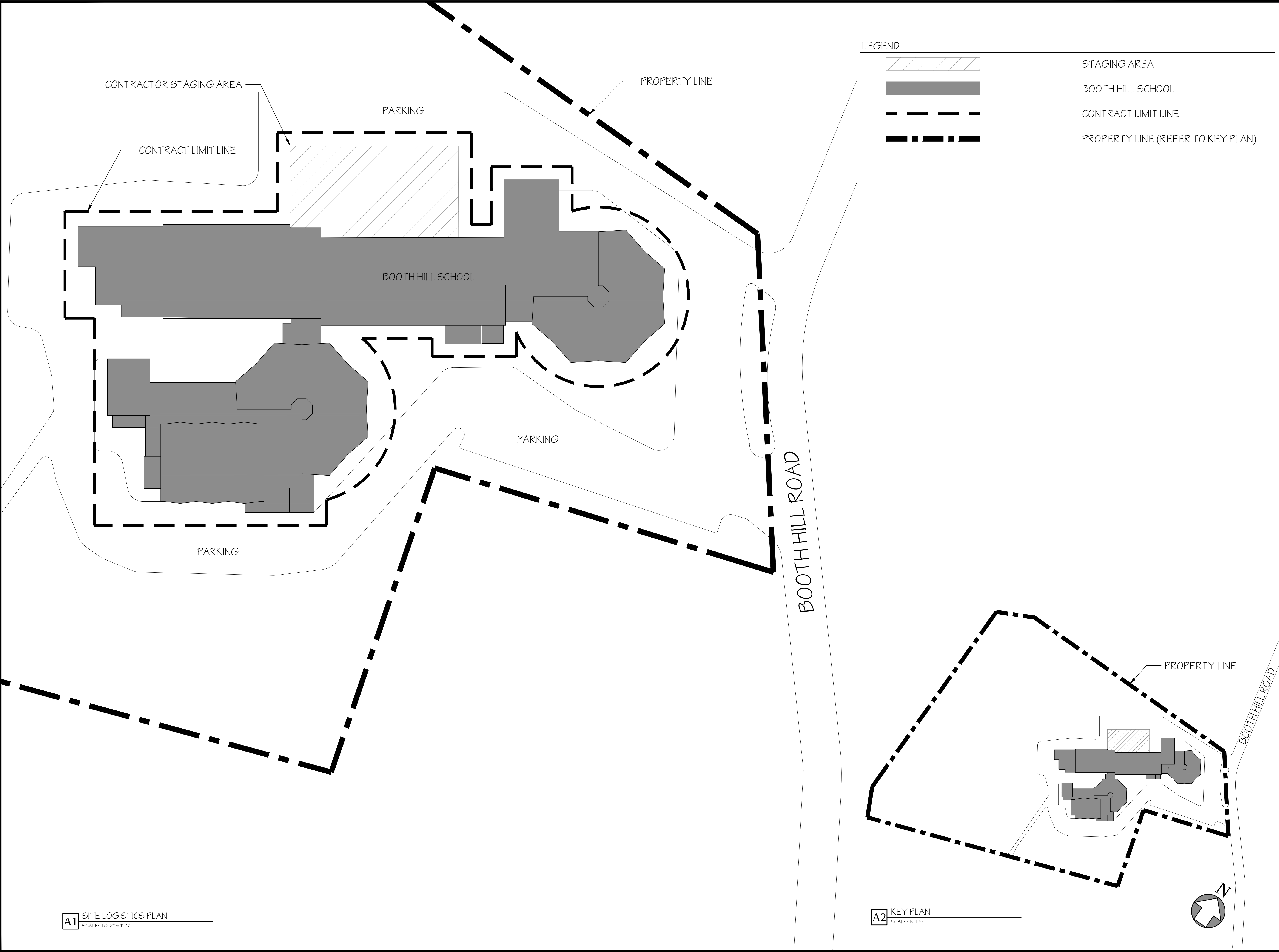
Local Federal 504 Official's Name

Signature

Date

AREA OF WORK:
545 BOOTH HILL ROAD

PROJECT NORTH



A1 SITE LOGISTICS PLAN
SCALE: 1/32" = 1'-0"

A2 KEY PLAN
SCALE: N.T.S.

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CERTIFICATION:

REVISIONS:

Δ	DATE	DESCRIPTION

BOOTH HILL ELEMENTARY SCHOOL
TRUMBULL PUBLIC SCHOOLS
ROOF REPLACEMENT
545 BOOTH HILL ROAD, TRUMBULL, CT 06611
STATE PROJECT NUMBER 144-01-07RR

DRAWING TITLE:
SITE LOGISTICS PLAN

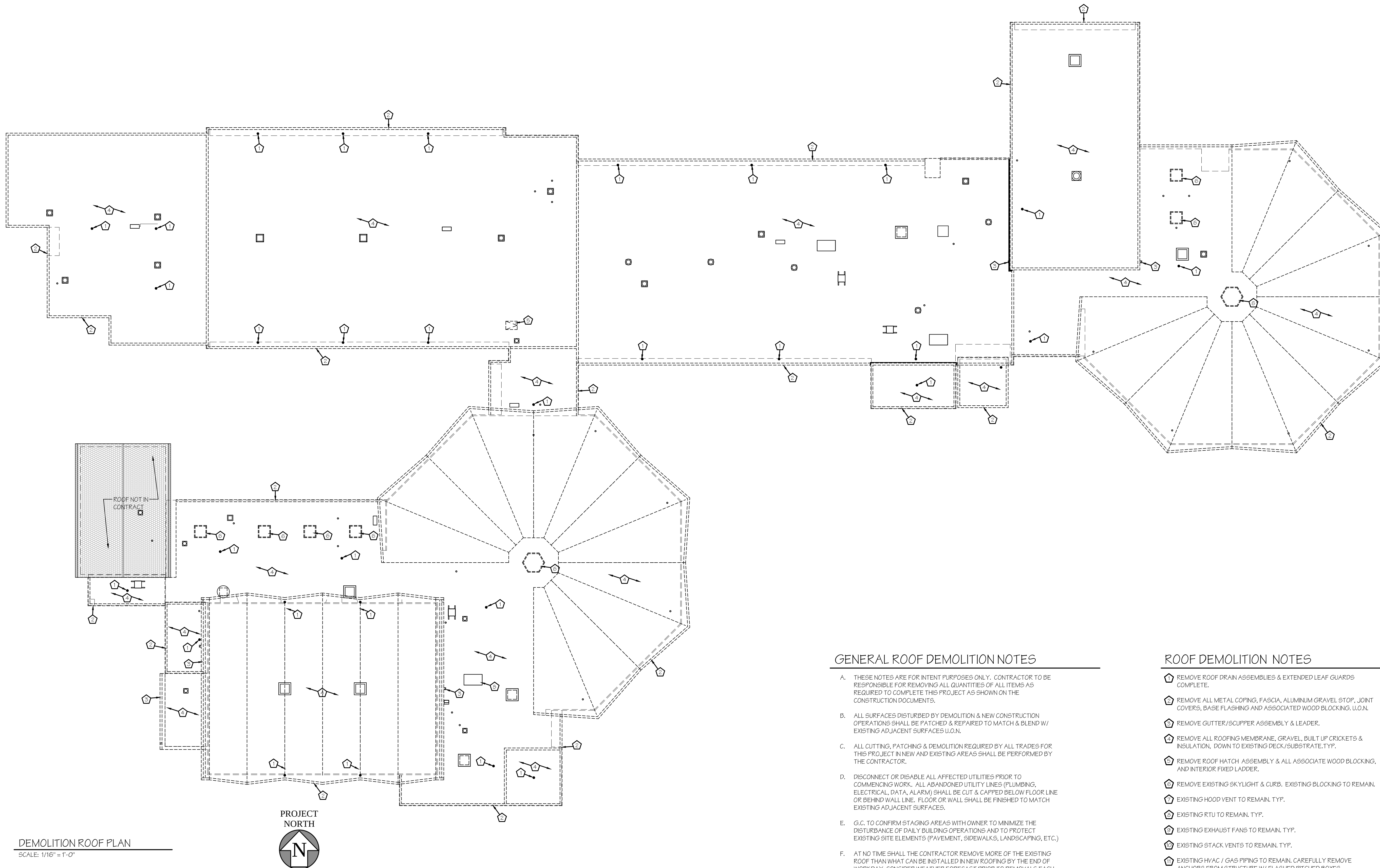
SCALE: AS NOTED	DRAWN BY: RLF	REVIEWED BY: PAL
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DRAWING NO.
A-001

DATE: DECEMBER 20, 2023	JOB NUMBER: 23008
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DATE	DESCRIPTION

**BOOTH HILL ELEMENTARY
SCHOOL**
TRUMBULL PUBLIC SCHOOLS
ROOF REPLACEMENT
545 BOOTH HILL ROAD, TRUMBULL, CT 06611
STATE PROJECT NUMBER 144-01-07RR

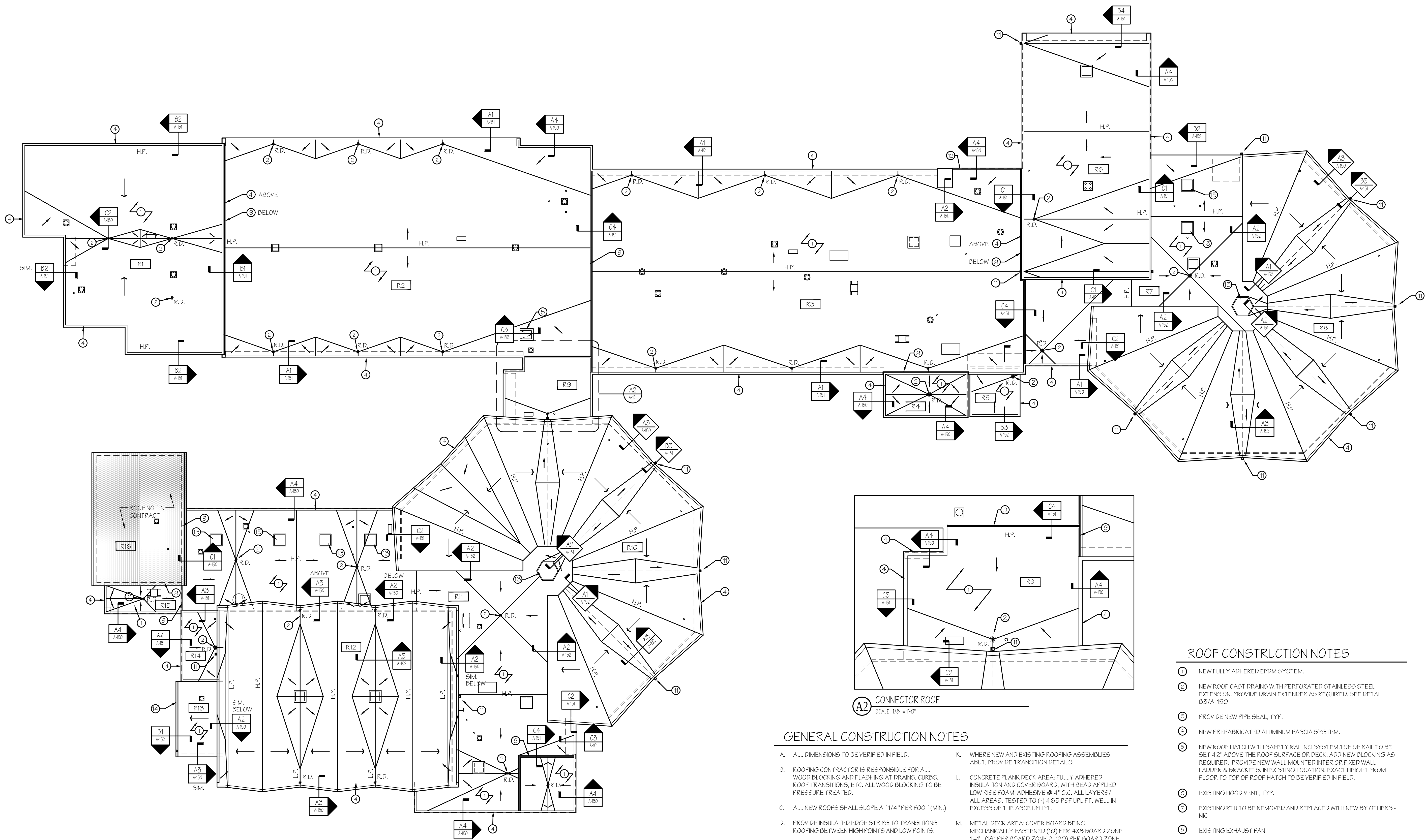


BOOTH HILL ELEMENTARY
SCHOOL

TRUMBULL PUBLIC SCHOOLS
ROOF REPLACEMENT

545 BOOTH HILL ROAD, TRUMBULL, CT 06611
STATE PROJECT NUMBER 144-01-07RR

A-1R1



ROOF PLAN
SCALE: 1/16" = 1'-0"



ROOF GRAPHIC LEGEND

FULLY ADHERED EPDM ROOFING SYSTEM, RIGID INSULATION
TAPERED 1/4" PER FOOT FOR DRAINAGE

AREA NOT IN CONTRACT (NIC)

H.P. ROOF HIGH POINT

L.P. ROOF LOW POINT

R.D. ROOF DRAIN

DIRECTION OF STRUCTURAL SLOPE

ROOF PENETRATIONS

ROOF TOP FAN

DIRECTION OF TAPERED INSULATION, REFER
TO TAPERED INSULATION PLAN

TAPERED INSULATION CRICKET AT
1/2" PER FOOT

WALK PADS
(SEE GENERAL ROOF NOTE "H")

GENERAL CONSTRUCTION NOTES

- ALL DIMENSIONS TO BE VERIFIED IN FIELD.
- ROOFING CONTRACTOR IS RESPONSIBLE FOR ALL WOOD BLOCKING AND FLASHING AT DRAINS, CURBS, ROOF TRANSITIONS, ETC. ALL WOOD BLOCKING TO BE PRESSURE TREATED.
- ALL NEW ROOFS SHALL SLOPE AT 1/4" PER FOOT (MIN).
- PROVIDE INSULATED EDGE STRIPS TO TRANSITIONS ROOFING BETWEEN HIGH POINTS AND LOW POINTS.
- WHERE MECHANICALLY FASTENING RIGID ROOF INSULATION TO ANY CONCRETE OR MASONRY BASE MATERIAL, PRE DRILL ALL HOLES PER MANUFACTURER INSTRUCTIONS.
- PATCH ALL ROOF OPENINGS, INCLUDING BUT NOT LIMITED TO: FORMER MECHANICAL PENETRATIONS, VENT PIPE, ETC. AS REQUIRED.
- PROVIDE WALKING PAD TO MECHANICAL EQUIPMENT AND OTHER ROOF MOUNTED FACILITIES THAT REQUIRE FREQUENT ACCESS.
- PROVIDE ALL NEW PIPE EXTENSIONS AT EXISTING VENT PIPE PENETRATION, (TYP.)
- ALL NEW ROOFS SHALL SLOPE AT 1/4" PER FOOT (MIN) WITH 1/2" CRICKET (TYP.)
- CONTRACTOR SHALL CONFIRM THE DIMENSIONS OF THE EQUIPMENT BASES AND THE EXTENT OF THE TAPERED CRICKETS. REQUIRED TO KEEP WATER OFF THE UNITS.
- WHERE NEW AND EXISTING ROOFING ASSEMBLIES ABUT, PROVIDE TRANSITION DETAILS.
- CONCRETE PLANK DECK AREA: FULLY ADHERED INSULATION AND COVER BOARD, WITH BEAD APPLIED LOW RISE FOAM ADHESIVE @ 4" O.C. ALL LAYERS/ ALL AREAS, TESTED TO (-) 465 PSF UPLIFT, WELL IN EXCESS OF THE ASCE UPLIFT.
- METAL DECK AREA: COVER BOARD BEING MECHANICALLY FASTENED (10) PER 4X8 BOARD ZONE 1+1', (18) PER BOARD ZONE 2, (20) PER BOARD ZONE 3, TESTED TO (-) 90 PSF UPLIFT, EXCEEDS ASCE CALCULATED UPLIFT.
- COMPOSITION AND ARRANGEMENT OF EXISTING WOOD BLOCKING HAS NOT BEEN VERIFIED. INSTALL NEW BLOCKING AS NEEDED TO ANCHOR FASCIA TO EXISTING STRUCTURE AND MAINTAIN A CONSISTENT TOP OF WALL HEIGHT.
- ELEVATION OF TOP OF FASCIA SHALL BE CONSISTENT FOR EACH ROOFING AREA EXCEPT WHERE ROOFING IS SLOPED AND THE DEPTH OF INSULATION CONTINUOUS.
- CONTRACTOR SHALL VERIFY MAXIMUM INSULATION THICKNESS, INCLUDING CRICKETS AND COVER BOARD, BEFORE SETTING BLOCKING AND ESTABLISHING THE TOP HEIGHT OF FASCIA.

ROOF CONSTRUCTION NOTES

- NEW FULLY ADHERED EPDM SYSTEM.
- NEW ROOF CAST DRAINS WITH PERFORATED STAINLESS STEEL EXTENSION; PROVIDE DRAIN EXTENDER AS REQUIRED. SEE DETAIL B3/A-150
- PROVIDE NEW PIPE SEAL, TYP.
- NEW PREFABRICATED ALUMINUM FASCIA SYSTEM.
- NEW ROOF HATCH WITH SAFETY RAILING SYSTEM. TOP OF RAIL TO BE SET 42" ABOVE THE ROOF SURFACE OR DECK. ADD NEW BLOCKING AS REQUIRED. PROVIDE NEW WALL MOUNTED INTERIOR FIXED WALL LADDER & BRACKETS, IN EXISTING LOCATION. EXACT HEIGHT FROM FLOOR TO TOP OF ROOF HATCH TO BE VERIFIED IN FIELD.
- EXISTING HOOD VENT, TYP.
- EXISTING RTU TO BE REMOVED AND REPLACED WITH NEW BY OTHERS - NIC
- EXISTING EXHAUST FAN
- NEW EXPANSION JOINT WITH FIELD FABRICATED COVER.
- EXISTING HVAC / GAS PIPING LINE W/ NEW PIPE SUPPORT ASSEMBLY. PLACED AT EVERY UNION, JUNCTION AND SOURCE AND AT 6'-0" O.C. OR AS MANUFACTURER RECOMMENDATIONS. BASIS OF DESIGN: BASE STRUT-5 BY MIRO INDUSTRIES W/ PIPE STRAP.
- OPEN TOP DRAINAGE SCUPPER FLASHED TO ROOF & PARAPET WITH SPOUT EXTENDED 4" MINIMUM FROM FACE OF WALL. PROVIDE NEW CONDUCTOR HEAD ASSEMBLY & DOWN SPOUT TO NEW SPLASH BLOCK AT GRADE OR ROOF LEVEL BELOW.
- MAINTAIN VENT IN FASCIA AND PROVIDE NEW COVER & SCREEN.
- NEW DOUBLE DOME HIGH EFFICIENCY SKYLIGHT WITH O.S.H.A. COMPLIANT FALL PROTECTION ON THERMALLY BROKEN INSULATED ALUMINUM SHEET METAL CURB BY SKYLIGHT MANUFACTURER.
- NEW PREFINISHED ALUMINUM SHEET METAL GUTTER WITH NEW CONDUCTOR HEAD ASSEMBLY & DOWN SPOUT TO EXISTING STORM LINE AT GRADE.

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ANTINOZZI ASSOCIATES, P.C.
271 Fairfield Avenue
Bridgeport, Connecticut 06604
Tel: (203) 377-1300
Fax: (203) 378-3002

www.antinozzi.com

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CERTIFICATION:

REVISIONS:		
Δ	DATE	DESCRIPTION

BOOTH HILL ELEMENTARY
SCHOOL
TRUMBULL PUBLIC SCHOOLS
ROOF REPLACEMENT
545 BOOTH HILL ROAD, TRUMBULL, CT 06611
STATE PROJECT NUMBER 144-01-07RR

DRAWING TITLE
ROOFING SCHEDULE

SCALE:	DRAWN BY:	REVIEWED BY:
A5 NOTED	KWG	PAL

DRAWING NO.

A-1R1.1

DATE:	JOB NUMBER:
DECEMBER 20, 2023	23008

ROOF SCHEDULE						
ROOF SECTION	EXISTING STRUCTURE	CONTINUOUS BASE INSULATION LAYERS	CONTINUOUS TAPERED INSULATION	PROTECTION BOARD	AVERAGE R-VALUE	COMMENTS
R1	METAL DECK PITCHED 1/4 IN. / FT.	(2) LAYERS OF 2.62 IN. POLYISO (R-29.8 MIN.)	NONE	1/2" HI-DENSITY POLYISO BOARD (R-2.5 MIN.)	R-30.2	
R2	LEVEL METAL DECK	NONE	1/4 IN. / FT. POLYISO (R-5.7 PER IN.)	1/2" HI-DENSITY POLYISO BOARD (R-2.5 MIN.)	R-32.5	
R3	LEVEL METAL DECK	NONE	1/4 IN. / FT. POLYISO (R-5.7 PER IN.)	1/2" HI-DENSITY POLYISO BOARD (R-2.5 MIN.)	R-31.3	
R4	LEVEL METAL DECK	(1) LAYER OF 2 IN. + (1) LAYER OF 1-1/2 IN. POLYISO (R-19.9 MIN.)	1/4 IN. / FT. POLYISO (R-5.7 PER IN.)	1/2" HI-DENSITY POLYISO BOARD (R-2.5 MIN.)	R-32.1	
R5	LEVEL METAL DECK	NONE	1/4 IN. / FT. POLYISO (R-5.7 PER IN.)	1/2" HI-DENSITY POLYISO BOARD (R-2.5 MIN.)	N/A	CANOPY ABOVE UNCONDITIONED SPACE
R6	LEVEL METAL DECK	(1) LAYER OF 1 IN. POLYISO (R-5.7 MIN.)	1/4 IN. / FT. POLYISO (R-5.7 PER IN.)	1/2" HI-DENSITY POLYISO BOARD (R-2.5 MIN.)	R-32.4	
R7	LEVEL METAL DECK	(1) LAYER OF 1-1/2 IN. POLYISO (R-8.5 MIN.)	1/4 IN. / FT. POLYISO (R-5.7 PER IN.)	1/2" HI-DENSITY POLYISO BOARD (R-2.5 MIN.)	R-31.9	
R8	SLOPING METAL DECK WITH WOOD FRAMED CRICKETS	(2) LAYERS OF 2.62 IN. POLYISO (R-29.8 MIN.)	NONE	1/2" FIBERGLASS REINFORCED GYPSUM BOARD (R-0.4 MIN.)	R-30.2	
R9	LEVEL METAL DECK	(1) LAYER OF 1-1/2 IN. POLYISO (R-8.5 MIN.)	1/4 IN. / FT. POLYISO (R-5.7 PER IN.)	1/2" HI-DENSITY POLYISO BOARD (R-2.5 MIN.)	R-31	
R10	SLOPING METAL DECK WITH WOOD FRAMED CRICKETS	(2) LAYERS OF 2.62 IN. POLYISO (R-29.8 MIN.)	NONE	1/2" FIBERGLASS REINFORCED GYPSUM BOARD (R-0.4 MIN.)	R-30.2	
R11	LEVEL METAL DECK	(1) LAYER OF 1-1/2 IN. POLYISO (R-8.5 MIN.)	1/4 IN. / FT. POLYISO (R-5.7 PER IN.)	1/2" HI-DENSITY POLYISO BOARD (R-2.5 MIN.)	R-30.4	
R12	SLOPING METAL DECK WITH WOOD FRAMED CRICKETS	(2) LAYERS OF 2.62 IN. POLYISO (R-29.8 MIN.)	NONE	1/2" FIBERGLASS REINFORCED GYPSUM BOARD (R-0.4 MIN.)	R-30.2	
R13	SLOPING METAL DECK	(2) LAYERS OF 2.62 IN. POLYISO (R-29.8 MIN.)	NONE	1/2" FIBERGLASS REINFORCED GYPSUM BOARD (R-0.4 MIN.)	R-30.2	
R14	LEVEL METAL DECK	(1) LAYER OF 2 IN. POLYISO (R-11.4 MIN.)	1/4 IN. / FT. POLYISO (R-5.7 PER IN.)	1/2" HI-DENSITY POLYISO BOARD (R-2.5 MIN.)	R-30.3	
R15	LEVEL METAL DECK	(1) LAYER OF 2 IN. + (1) LAYER OF 1-1/2 IN. POLYISO (R-19.95 MIN.)	1/4 IN. / FT. POLYISO (R-5.7 PER IN.)	1/2" HI-DENSITY POLYISO BOARD (R-2.5 MIN.)	R-32.5	
R16	EXISTING SHINGLE ROOF TO REMAIN					NOT IN CONTRACT

ALL NEW E.P.D.M. ROOFS SHARE IN COMMON MEMBRANE ROOFING ADHERED TO CONTINUOUS HIGH DENSITY INSULATION PROTECTION BOARD (R-2.5 MIN.) ADHERED TO STRUCTURALLY FASTENED TAPERED AND CONTINUOUS INSULATION BASE LAYERS SCHEDULED ABOVE OVER A CONTINUOUS SELF-ADHERED MEMBRANE AIR & VAPOR BARRIER OVER 5/8" GLASS-MAT GYPSUM ROOF SHEATHING.

TOTAL INSULATION VOLUME HAS BEEN MODELED TO INCLUDE CRICKETS WHERE BASE INSULATION INCLUDES TAPERED.

BOOTH HILL ELEMENTARY SCHOOL
TRUMBULL PUBLIC SCHOOLS
ROOF REPLACEMENT
545 BOOTH HILL ROAD, TRUMBULL, CT 06611
STATE PROJECT NUMBER 144-01-07RR

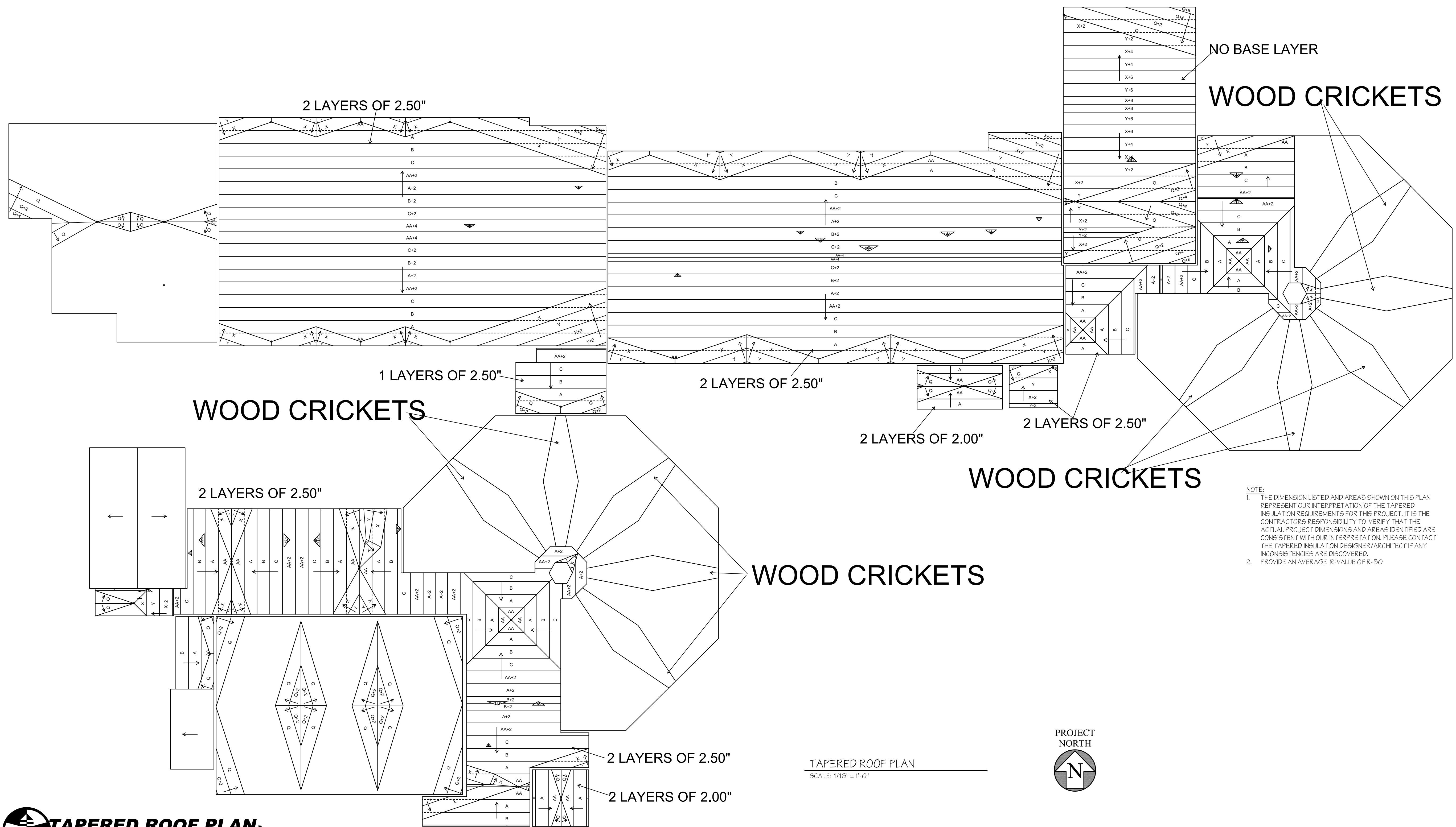
DRAWING TITLE:
TAPERED INSULATION PLAN

SCALE: AS NOTED
DRAWN BY: SDH/KWG
REVIEWED BY: PAL

DRAWING NO.

A-1R1.2

DATE: DECEMBER 20, 2023
JOB NUMBER: 23008

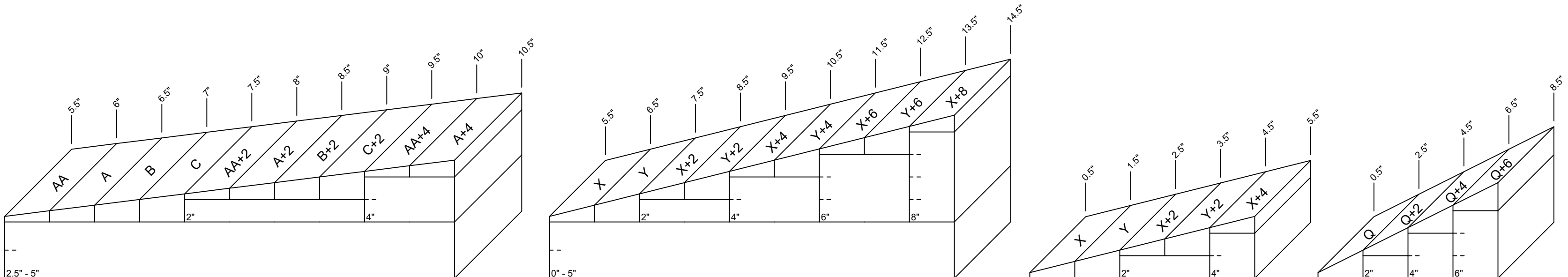


NOTE:
1. THE DIMENSION LISTED AND AREAS SHOWN ON THIS PLAN REPRESENT OUR INTERPRETATION OF THE TAPERED INSULATION REQUIREMENTS FOR THIS PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE ACTUAL PROJECT DIMENSIONS AND AREAS IDENTIFIED ARE CONSISTENT WITH OUR INTERPRETATION. PLEASE CONTACT THE TAPERED INSULATION DESIGNER/ARCHITECT IF ANY INCONSISTENCIES ARE DISCOVERED.
2. PROVIDE AN AVERAGE R-VALUE OF R-30

TAPERED ROOF PLAN
SCALE: 1/16" = 1'-0"

TAPERED PANELS		
PANEL	DIMENSION	SLOPE
AA	1 1/2" - 1"	1/8"
A	1" - 1 1/2"	1/8"
B	1 1/2" - 2"	1/8"
C	2" - 2 1/2"	1/8"
X	1 1/2" - 1 1/2"	1/4"
Y	1 1/2" - 2 1/2"	1/4"
Q	1 1/2" - 2 1/2"	1/2"

TAPERED PANELS



TAPERED SECTIONS

TAPERED CRICKET



TOWN OF TRUMBULL, CONNECTICUT

REQUEST FOR PROPOSAL, CONDITIONS, SPECIFICATIONS, SPECIAL PROVISIONS AND DRAWINGS

December 20, 2023

**RFP # TBD - ROOF REPLACEMENT
BOOTH HILL ELEMENTARY SCHOOL
545 Booth Hill Road
Trumbull, CT 06611**

**PRE-PROPOSAL MEETING: TBD, 2024 at 2:00pm
PROPOSAL SUBMITTAL: TBD, 2024 at 10:00am**

STATE PROJECT #: 144-0107 RR

PREPARED FOR THE TOWN OF TRUMBULL BY:



ANTINOZZI ASSOCIATES
ARCHITECTURE & INTERIORS

**271 Fairfield Avenue
Bridgeport, CT
203.377.1300**

Certifications of Local Approval:

I certify that I have local jurisdiction over the **State Building Code** and that the plans and project manual dated _____ for the above referenced project comply with all applicable building codes.

I certify that I have local jurisdiction over the **State Fire Safety Code** and that the plans and project manual dated _____ for the above referenced project comply with all applicable fire codes.

Local Fire Marshal's Name

Signature

Date

I certify that I have local jurisdiction over the **State Health Code** and that the plans and project manual dated _____ for the above referenced project comply with all applicable health codes.

Local Health Official's Name

Signature

Date

I certify that I have local jurisdiction over **Section 504 of the Rehabilitation Act of 1973**, and the Uniform Federal Accessibility Standards (UFAS). I further certify that the plans and project manual dated _____ for the above referenced project comply with all applicable accessibility codes.

Local Federal 504 Official's Name

Signature

Date

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<u>Section No.</u>	<u>Title</u>
011000	Summary of Work
011100	Milestone Schedule
012100	Allowances
012200	Unit Prices
012500	Substitution Procedures
012600	Contract Modification Procedures
012900	Payment Procedures
013100	Project Management and Coordination
013300	Submittal Procedures
014000	Quality Requirements
015000	Temporary Facilities and Controls
016000	Product Requirements
017300	Execution Requirements
017329	Cutting and Patching
01770	Closeout Procedures
<u>Division 02</u>	<u>Existing Conditions</u>
<u>Section No.</u>	<u>Title</u>
020700	Roof Demolition
020800	Asbestos Report
024119	Selective Demolition
<u>Division 05</u>	<u>Metals</u>
<u>Section No.</u>	<u>Title</u>
053000	Metal Roof Deck
<u>Division 06</u>	<u>Wood, Plastics & Composites</u>
<u>Section No.</u>	<u>Title</u>
061100	Roof Rough Carpentry
<u>Division 07</u>	<u>Thermal and Moisture Protection</u>
<u>Section No.</u>	<u>Title</u>
071940	Vapor Retarder
072210	Roof Insulation
075410	Fully Adhered EPDM Roofing
076000	Flashing and Sheet Metal
077100	Roof Accessories
077233	Roof Hatches
079000	Joint Sealants

Division 15	Plumbing
<u>Section No.</u>	<u>Title</u>
154020	Roof Drainage Replacement

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NOTICE TO PROPOSERS

**TOWN OF TRUMBULL
REQUEST FOR PROPOSALS
DUE: MONTH DAY, 2024 @ 10:00AM
RFP # TBD**

ROOF REPLACEMENT AT BOOTH HILL SCHOOL

Sealed proposals for the roof replacement at Booth Hill School, 545 Booth Hill Road, Trumbull, CT will be received at the office of the Purchasing Agent, 5866 Main Street, Trumbull, Connecticut, on or before the date indicated above, at which time all proposals received will be opened and read aloud.

Proposal documents may be obtained (at a cost to you) from Digiprint, 25 Ferry Blvd., Stratford, CT 06615, (203-375-1228). The consulting engineer for this project is: Paul Lisi, Antinozzi Associates, Bridgeport, CT (203-377-1300).

A Pre-Proposal meeting will be held on **Month Day, 2024 at 2:00pm** for interested parties at the school.

Proposers shall comply with State mandated Prevailing Wage Guidelines, Equal Opportunity Employment Practices, and Safety and Health Regulations.

Contractor must hold current certification from the Connecticut Department of Administrative Services ("DAS")

Proposal (Bid) Security is required in the amount of ten percent (10%) of the base proposal and shall be in the form of a Certified Check or Bond. A Performance and Payment Bond in the full amount (100%) of the contract is required and shall be included in the Base Proposal. No oral, telephone or telegraphic responses shall be considered. A proposer may not withdraw a proposal within ninety (90) days of the proposal opening.

The Town of Trumbull reserves the right to waive and/or reject any and all proposals or any part thereof, waive the information in the proposal process, and reject any unqualified proposals, or accept any proposal or part thereof, deemed to be in the best interest of the Town of Trumbull.

Kevin Bova
Purchasing Agent

**TOWN OF TRUMBULL
REQUEST FOR PROPOSAL
RFP # TBD- ROOF REPLACEMENT AT BOOTH HILLS SCHOOL
DUE: Month Day, 2024 at 10:00AM**

GENERAL INSTRUCTIONS

The Town of Trumbull, (hereinafter referred to as Town or Owner), through the office of the Purchasing Agent, will accept sealed proposals for the **ROOF REPLACEMENT AT BOOTH HILL SCHOOL** in the Town of Trumbull in accordance with the specifications and requirements detailed in this request. All qualified and interested parties (hereinafter referred to as proposer, bidder, contractor or supplier) are invited to submit proposals under the terms and conditions set forth as follows:

This RFP is not a contract offer, and no contract exists until a written contract is signed by the Town and the successful proposer.

A Pre proposal meeting meeting will be conducted for interested parties on Month Day, 2024 at 2:00pm at the school located at 545 Booth Hill Road., Trumbull, CT.

1. PREPARATION FOR PROPOSALS

An original and three (3) exact copies of each Proposal shall be submitted in a sealed envelope, and addressed to: Purchasing Agent, Town of Trumbull, in a sealed envelope and plainly marked on the outside as “**ROOF REPLACEMENT AT BOOTH HILL SCHOOL**”. The envelope shall bear on the outside the name of the proposer and address. No oral, telephone or telegraphic responses will be considered. Proposals received after the advertised time and date due shall not be opened or considered. The Town reserves the right to communicate with any or all of the proposers to clarify the provisions of Proposals. The Town further reserves the right to request additional information from any proposer at any time after proposals are opened

2. PROPOSAL SUBMISSION

- a) Proposals are to be completed (unless directed otherwise in the specifications), printed, signed by an authorized agent, and sealed in an envelope (including all official literature, brochures, etc., which support this request) and addressed as follows:

PROPOSAL # TBD DUE: Month Day, 2024 AT 10:00AM

Trumbull Town Hall – Attn: Kevin Bova, Purchasing Agent

5866 Main Street, Trumbull CT 06611

- b) All Proposals must be made on the enclosed Proposal form. All blank spaces for Proposal prices must be filled in, in ink or typewritten, and the proposal form must be fully completed and executed when submitted. Please be advised that the person signing the formal proposal must be authorized by your organization to contractually bind your firm with regard to prices and related contractual obligations for the subject project
- c) The party signing the formal proposal must be authorized by your organization to contractually bind your firm with regard to prices and related contractual obligations for the contractual period requested.
- d) The Town reserves the right to correct, after proposer verification, any mistake in a proposal that is a clerical error, such as a price extension or decimal point error.

3. PROPOSAL RESPONSE TIME

Responses to this request shall be received at the office of the Purchasing Agent, Town Hall prior to the advertised hour (noted above) of opening, at which time all proposals (total proposal amount only) shall be publicly opened and read aloud. A proposer may withdraw a proposal at any time prior to the above scheduled date and time. Any proposal received after the above scheduled date and time shall not be considered or opened. No proposer may withdraw a proposal within ninety (90) days after the actual proposal opening.

4. TOWN OPTIONS

The Town reserves the right to accept all or any part of a proposal, reject any or all proposals and to waive any requirements, informalities or irregularities, technical defects or non-material deficiencies in a proposal. The Town also reserves the right, if applicable, to award the purchase of individual items under this RFP to any combination of separate proposals or proposers. The award shall be made after careful consideration of all factors including but not limited to price.

5. TAX EXEMPT

The Town of Trumbull is exempt from the payment of taxes imposed by the Federal Government and/or State of Connecticut. Such taxes must not be included in the proposal price. The Town of Trumbull Tax Exempt number is 05-010 31-000.

6. SPECIFICATIONS

If quoted materials and/or equipment do not meet or better the attached specifications on ALL points, the proposer must note ALL exceptions as separate attachments to their formal response; otherwise, it will be presumed that the proposal is in accordance with all specifications requested herein.

7. INQUIRIES & ADDENDUMS

- All technical inquiries regarding this request may be directed to Paul Lisi – Antinozzi Associates (203-377-1300 (PLisi@Antinozzi.com)). No inquiries shall be responded to that are received after close of business on Month Day, 2024.
- Answers to questions the Town deems to be in the interest of all proposers will be made available in writing, email or by Fax as appropriate to all proposers.
- The Town reserves the right to communicate with any or all of the proposers to clarify the provisions of this request; the Town further reserves the right to request additional information from any proposer at any time after proposals are opened.
- It is the sole responsibility of a proposer to verify any addendums that may have been issued relating to this request prior to submission of a proposal. Any notice of addendum shall be published on the Town website (www.trumbull-ct.gov) in the Purchasing Department Section (Bid Notices). Failure to submit a response that does not address any changes or addendums may result in a disqualification of a proposal submission.**

8. ASSIGNMENT OF RIGHTS, TITLES, AND INTERESTS

Any assignment or subcontracting by a proposer, bidder, supplier, or contractor for work to be performed, or goods and/or services to be provided, in whole or in part, and any other interest in conjunction with a Town procurement shall not be permitted without the express written consent of the Town of Trumbull.

9. HOLD HARMLESS CLAUSE

The Contractor agrees to indemnify, hold harmless and defend the Town from and against any and all liability for loss, damage or expense which the Town may suffer or for which the Town may be held liable by reason of injury, including death, to any person or damage to any property arising out of or in any manner connected with the operations to be performed under this request, whether or not due in whole or in part of any act, omission or negligence of the Owner or any of his representatives or employees.

10. WORK REGULATIONS, STANDARDS AND FEDERAL AND STATE PREVAILING WAGE

- All work activities performed in association with this request must be performed and completed for the Town in accordance with current Federal State and Local regulations. All services performed shall also conform to the latest OSHA standards and/or regulations.
- Applicable laws and regulations relating to **State Prevailing Wages**, employment practices, nondiscrimination, safety and health regulations shall be adhered to by the contractor. The contractor shall be responsible for "Certified Statements of Compliance" regarding Prevailing Wages. Contractor shall also collect and submit four (4) Certified "Statements of Compliance" from any sub-contractors.

11. INSURANCE

The successful proposer shall provide the Town Purchasing Agent with a Certificate of Insurance before work commences. The Town shall be named as an additional insured with an Insurance Company licensed to write such insurance in Connecticut, against the following risks and in not less than the following amounts:

Commercial General Liability	Each Occurrence	Aggregate
Bodily Injury Liability	\$2,000,000	\$5,000,000
Property Damage Liability	\$1,000,000	\$5,000,000
Personal Injury Liability	\$1,000,000	\$5,000,000
Comprehensive Auto Liability	Each Occurrence	Aggregate
Including coverage of owned, non owned & rented vehicles	\$2,000,000	\$5,000,000

The insurance policy must contain the additional provision wherein the company agrees that fifteen (15) days prior to termination, expiration, cancellation or reduction of the insurance afforded by this policy with respect to the contract involved, written notice will be served by registered mail to the Purchasing Agent, Town of Trumbull.

Additionally the successful proposer (Contractor) shall provide adequate statutory Workmen's Compensation Insurance for all labor employed on this project, and comprehensive General Public Liability Insurance (Coverage "B")

The successful proposer (Contractor) and each Subcontractor agree that their insurance carriers waive subrogation against the Town, its agents or employees with respect to any loss covered by the Contractor's and each Subcontractor's insurance.

12. CONFLICT OF INTEREST

No purchase shall be made from nor shall services (other than services as an officer, agent, or employee of the Town) be secured from any officer or employee of the Town, or from any partnership or corporation in which such officer or employee is a partner or officer, or holds a substantial interest, unless such relationship and the fact that such purchase is contemplated shall be made known in writing to the agency making such purchase, and notice thereof posted, for at least five (5) days before such purchase be made, in the office of the agency making such purchase and in a public place in the Trumbull Town Hall.

13. PROPOSAL, PERFORMANCE AND PAYMENT BONDS

- a) A Bond payable to the Owner must accompany each Proposal for ten (10%) percent of the total amount of the Proposal. As soon as the Proposal prices have been compared, the Owner will return the bonds of all except the three lowest responsible Proposals. When the Agreement is executed, the bonds of the two remaining unsuccessful Proposers will be returned. The Proposal Bond of the successful Proposer will be retained until the Payment Bond and Performance Bond have been executed and approved, after which it will be returned. A certified check may be used in lieu of a Proposal (Bid) Bond.
- b) A Performance Bond and a Payment Bond, each in the amount of 100 percent (100%) of the Contract Price, with a corporate surety approved by the Owner, will be required for the faithful performance of the contract. Attorneys-in-fact who sign the Bid Bonds or Payment Bonds and Performance Bonds must file with each bond, a certified and effective dated copy of their power of attorney.
- c) The party to whom the contract is awarded will be required to execute the Agreement and obtain the Performance Bond and Payment Bond within ten (10) calendar days from the date when Notice of Award is delivered to the Proposer. The Notice of Award shall be accompanied by the necessary Agreement and Bond forms. In case of failure of the Proposer to execute the Agreement, the Owner may, at his option, consider the Proposer in default, in which case the Bid Bond accompanying the proposal shall become the property of the Owner.
- d) The Owner, upon receipt of acceptable Performance Bond, Payment Bond and Agreement signed by the Contractor, shall sign the Agreement and return to the Contractor an executed duplicate of the Agreement within a reasonable period of time. The returned executed Agreement by the Owner to the Contractor shall be accompanied with a Notice to Proceed.

14. LIQUIDATED DAMAGES:

- a) Non-compliance with the scheduled completion date of the Contract shall result in engineering charges as follows:
- b) The Contractor shall pay liquidated damages of \$250.00 per working day for each day after the agreed Contract completion date up to, and including, the actual date of completion.

15. LOWEST RESPONSIBLE PROPOSAL

- a) The Town shall determine the "lowest responsible qualified proposer" on the basis of the Proposer submitting the lowest "Total Proposal", responsiveness of his Technical Proposal; and demonstrating a history of the ability and integrity necessary to perform the required work; and certifying that it shall perform the work in accordance with the specifications.
- b) Proposals will be compared on the basis of the "Total Proposal" of the items listed in the Proposal and on basis of the Proposer's experience and competence.
- c) If the Lowest Total Proposal exceeds the amount of funds available for the project, the Town reserves the right to increase or decrease any class, item or part of the work. After determining the "lowest responsible qualified proposer", the Town will issue a Notice of Award to the successful Proposer.
- d) The Proposer designated by the Town as the "lowest responsible qualified proposer" to whom the contract is awarded shall execute the Contract and submit the following documents:
 - i. Performance Bond
 - ii. Labor, Payment and Materials Bond
 - iii. Copy of valid license issued by the State of Connecticut, Department of Consumer Protection.
- e) In the event that the lowest responsible qualified proposer fails to execute the Contract and/or fails to provide the required documents within the time period prescribed, the Town, at its option, may consider the lowest responsible qualified proposer to be in default, in which case the Bid Guarantee shall become the property of the Town.

16. MISCELLANEOUS

- a) All Contractors must develop a complete and thorough schedule which demonstrates that the Contractor will be able to complete the project in a timely fashion.
- b) Selected proposer agrees to warranty all work completed for this requirement.
- c) The Town may make such investigations as necessary and it deems appropriate to determine the qualifications of the proposer to perform the work required. Each proposer shall submit a Statement of Bidder Qualifications. If the Town is not satisfied that the proposer is properly qualified, the Town reserves the right to reject the proposal of said proposer.

17. STATE SET-ASIDE

- a. The contractor who is selected to perform this State project must comply with CONN. GEN.STAT. §§ 4a-60, 4a-60a, 4a-60g, and 46a-68b through 46a-68f, inclusive, as amended by June 2015 Special Session Public Act 15-5.
- b. State law requires a minimum of twenty-five (25%) percent of the state-funded portion of the contract for award to subcontractors holding current certification from the Connecticut Department of Administrative Services ("DAS") under the provisions of CONN. GEN. STAT. §4a-60g. (25% of the work with DAS certified Small and Minority owned businesses and 25% of that work with DAS certified Minority, Women and/or Disabled owned business) The contractor must demonstrate good faith effort to meet the 25% set-aside goals.
- c. Contractor will coordinate with the State directly for Commission on Human Rights & Opportunity Contract Compliance regulations (CHRO)
- d. For municipal public works contracts and quasi-public agency projects, the contractor must file a written or electronic non-discrimination certification with the Commission on Human Rights and Opportunities. Forms can be found at:

http://www.ct.gov/opm/cwp/view.asp?a=2982&g=390928&opmNav_GID=1806

Forms and Reports For Construction Contractors

- [Checklist for Contractors on Municipal Public Works Contracts](#)
- [Affirmative Action Plan Format](#)
- [Set Aside Plan Format](#)
- [Sample AA/EOE Policy Statement](#)
- [Instructions for Filing Forms](#)
- [Minority Workforce Utilization Report \(CHRO CC257 AND CC 257a\)](#)
- [Cumulative Minority Workforce Utilization Report \(CHRO CC257b\)](#)
- [Small Contractor and MBE Status Report \(CC258a\)](#)
- [Monthly Materials Consumption Report \(CHRO CC259\)](#)
- [Map of CT Metropolitan Statistical Areas](#)
- [Links to maps for download in various formats](#)

STATEMENT BIDDERS QUALIFICATION STATEMENT

Submitted by:

Name of Organization _____

Name of Individual _____

Title _____

Address _____

Telephone _____

Submitted to:

Name _____

Address _____

Telephone _____

Project Name and Description (if applicable)

Contractor's General Business Information

Check If:

Corporation Partnership Joint Venture Sole Proprietorship

If Corporation:

a. Date and State of Incorporation

b. List of Executive Officers

Name Title

Contractor must hold current certification from the Connecticut Department of Administrative Services ("DAS")

If Partnership:

a. Date and State of Organization

b. Names of Current General Partners

c. Type of Partnership

General Publicly Traded

Limited Other (describe): _____

If Joint Venture:

a. Date and State of Organization

b. Name, Address and Form of Organization of Joint Venture Partners: (Indicate managing partner by an asterisk*)

If Sole Proprietorship:

a. Date and State of Organization

and Address of Owner or Owners

b. Name

1. On Schedule A, attached, list major engineered construction projects completed by this organization in the past five (5) years. (If a joint venture list each participant's projects separately).

2. On Schedule B, attached, list current projects under construction by this organization. (If joint venture, list each participant's projects separately).

3. Name of surety company and name, address, and phone number of agent.

4. Is your organization a member of a controlled group of corporations as defined in I.R.C. Sec. 1563?

Yes _____ No _____

If yes, show names and addresses of affiliated companies.

5. Furnish on Schedule C, attached, details of the construction experience of the principal individuals of your organization directly involved in construction operations.

6. Has your organization ever failed to complete any construction contract awarded to it?

Yes _____ No _____

If yes, describe circumstances on attachment.

7. Has any Corporate officer, partner, joint venture participant or proprietor ever failed to complete a construction contract awarded to him or her in their own name or when acting as a principal of another organization?

Yes ____ No ____

If yes, describe circumstances on attachment.

8. In the last five years, has your organization ever failed to substantially complete a project in a timely manner?

Yes ____ No ____

If yes, describe circumstances on attachment.

9. Indicate general types of work performed with your own work force.

10. If required, can your organization provide a bid bond for this project? Yes ____ No ____

11. What is your approximate total bonding capacity?

\$500,000 to \$2,000,000 ____

\$2,000,000 to \$5,000,000 ____

\$5,000,000 to \$10,000,00 ____

\$10,000,000 or more ____

12. Describe the permanent safety program you maintain within your organization. Use attachment if necessary.

13. Furnish the following information with respect to an accredited banking institution familiar with your organization.

Name of Bank _____

Address _____

Account Manager _____

Telephone _____

I hereby certify that the information submitted herewith, including any attachment is true to the best of my knowledge and belief.

Name of Organization: _____

By: _____

Title: _____

Dated: _____

Notary Public Signature

Date Commission Expires

Schedule A: Prior Experience (Copy Additional Pages as Needed)

[illegible]

Schedule B: Current Experience (Copy Additional Pages as Needed)

[illegible]

Schedule C: Personnel (Copy Additional Pages as Needed)

[illegible]

**TOWN OF TRUMBULL
REQUEST FOR PROPOSAL
RFP # TBD – ROOF REPLACEMENT AT BOOTH HILL SCHOOL
DUE: Month Day, 2024 at 10:00AM
PROPOSAL**

Proposal of _____ (hereinafter called "Proposer, Bidder"), organized and existing under the laws of the State of Connecticut, doing business as to the Engineering Department, Town of Trumbull, Connecticut (hereinafter called the "Owner").

In compliance with your Advertisement for Proposals, Proposer hereby proposes for the **ROOF REPLACEMENT AT BOOTH HILL SCHOOL** project, in the Town of Trumbull, Connecticut together with all related incidental and appurtenant work as described in the specifications or outlined and/or shown on the exhibits. The work is to be done in strict accordance with the Specifications, Drawings and all Contract Documents, within the time set forth therein, and at the prices stated on the Proposal Schedule.

By submission of this Proposal, each Proposer certifies, that this Proposal has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this Proposal with any other Proposer or with any competitor.

Proposer hereby agrees to commence work under this contract on or before a date to be specified in the "Notice to Proceed", and to fully complete the Project within the time period as specified in Section 011100 Milestone Schedule.

Proposer further agrees to pay as liquidated damages, the sum of (\$250.00) two hundred and fifty dollars for each consecutive calendar day thereafter till completion of the full contract as provided in the General Conditions. Proposer further agrees that he will provide and sustain the required Bonds and Insurance Policies as required.

Proposer understands that the Owner reserves the right to reject any or all proposals and to waive any informality in the bidding.

Proposer agrees that this proposal shall be good and may not be withdrawn for a period of ninety (90) calendar days after the scheduled closing time for receiving proposals.

Upon receipt of written notice of the acceptance of this proposal, proposer shall execute the formal contract attached within five (5) days and deliver a Surety Bond or Bonds as required in the General Conditions. The Bid Security attached in the sum of _____ Dollars (\$_____) is to become the property of the Owner in the event the contract and bond are not executed within the time above set forth, as liquidated damages for the delay and additional expense to the Owner caused thereby.

Company Name

By (Signature)

Address

Print Name

Title

Date

Telephone/Fax

PROPOSAL – ROOF REPLACEMENT AT BOOTH HILL SCHOOL (continued)

The undersigned hereby declares that in regard to all conditions affecting the work to be done and the labor and materials required, this proposal is based on his investigations and findings, and the Town of Trumbull and the Engineers and their officers, agents and employees shall not in any manner be held responsible for the accuracy of, or be bound by any estimates, borings, water or underground conditions relative to the proposed work, indicated in this or in the other contract documents; that no warranty or representation has been made by the Town of Trumbull or the Engineers or their officers, agents and employees as to subsurface soil or rock conditions, ground water, or other underground and similar conditions; nor has any representation or warranty been so made that the estimated quantities to be used for comparison of proposals will even approximate the actual quantities or materials and work which the Contractor may be required to furnish or perform.

Respectfully submitted,

Company Name

By (Signature)

Address

Print Name

Address

Title

(SEAL-if proposal is by a corporation)

Note: Insert Proposer's name. If a corporation, give the State of Incorporation using the phrase, "A corporation organized under the laws of

_____, composed of officers as follows:

President

Secretary

Vice President

Treasurer

If a partnership, give names of partners, using also the phrase, "co-partners trading and doing business under the firm name and style of _____, composed of partners as follows:

PROPOSAL - ROOF REPLACEMENT AT BOOTH HILL SCHOOL (continued)

(TO BE ON BIDDER'S LETTERHEAD)

To: Town of Trumbull
5688 Main Street
Trumbull, CT 06611

Project TRUMBULL TOWN HALL
ROOF REPLACEMENT AT BOOTH HILL SCHOOL
545 BOOTH HILL ROAD, TRUMBULL, CONNECTICUT

Date: _____

Submitted by: _____

(full name)

(full address)

1. OFFER

Pursuant to and in compliance with the Invitation to Bid relating thereto, the Undersigned,

himself/herself with the conditions present and carefully examined all the documents (including the drawings and specifications dated December 20, 2023), General Instructions, Bid Proposal Form, etc., together with all Addenda issued and received prior to closing time for receipt of Bids as prepared by Antinozzi Associates hereby offers and agrees as follows:

To provide all materials, all labor and all else whatsoever necessary to erect and properly finish all work in accordance with said documents for the above mentioned projects to the satisfaction of the Architect and Owner for the stipulated sum of

Base Bid (in words) _____

Base Bid (in figures) \$ _____

Base Bid inserted above shall include the costs of all Allowances listed in specifications section 012100 – Allowances.

Enclosed herewith is the Bid Guaranty (10% of Base Bid minimum), which is in the form of:

() Bid Bond () Certified Check

All State of Connecticut taxes are excluded from the Bid Sum.

2. ACCEPTANCE

- a. This offer shall be open to acceptance for ninety (90) days from the Bid opening date.
- b. If this Bid is accepted by the Owner within the time period stated above, Undersigned will:
- c. Execute this Agreement within ten days of receipt of acceptance of this Bid.
- d. Furnish the required bond (s) within ten days of receipt of acceptance of this Bid.
- e. Commence work within seven days after written Notice to Proceed or Contract signing.
- f. If this Bid is accepted within the time stated, and the Undersigned fails to provide the required Bond(s), the Owner may charge against the Undersigned the difference between the amount of this bid and the amount for which the contract for the work is subsequently executed, irrespective of whether the amount thus due exceeds the amount of the bid guaranty.
- g. In the event this Bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

PROPOSAL – ROOF REPLACEMENT AT BOOTH HILL SCHOOL (continued)

3. CONTRACT TIME

If this Bid is accepted, the Undersigned will complete all the work per the contract documents and shall receive satisfactory inspection by the appropriate municipal and state entities **within the time period as specified in Section 011100 Mile-stone Schedule**. It is additionally understood that liquidated damages, in the amount of **\$250 per calendar day**, will be assessed for failure to complete the project within the above time period.

4. CHANGES TO THE WORK

For change order work performed by the contractor, the cost to the owner may include an allowance for overhead and profit not to exceed ten (10) percent on the contractors own labor and equipment and ten (10) percent on materials, supplies, rental equipment and subcontractor work. Total mark-up shall not exceed 20% for any change orders.

5. ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted therein have been considered and all costs thereto are included in the Base Bid.

Addenda # _____, _____, _____, _____, _____

6. UNIT PRICES

1. Unit Price #1: Provide a unit price for replacement of existing deteriorated steel roof deck with new 1.5", 20 gauge galvanized metal deck, Type 'B'. Refer to Section "053000 – Metal Roof Deck" for additional information.

\$ _____ Per square foot

2. Unit Price #2: Provide a unit price for wiring brushing and painting of existing rusted steel roof deck. Refer to Section "053000 – Metal Roof Deck" for additional information.

\$ _____ Per square foot

3. Unit Price #3: Provide a unit price for reinforcing existing deteriorated steel roof deck. Refer to Section "053000 – Metal Roof Deck" for additional information.

\$ _____ Per square foot

4. Unit Price #4: Provide a unit price for repairing and fastening broken welds. Refer to Section "053000 – Metal Roof Deck" for additional information.

\$ _____ Per weld location

5. Unit Price #5: Provide a unit price to fasten mid-span of adjacent steel roof deck where fasteners are missing. Refer to Section "053000 – Metal Roof Deck" for additional information.

\$ _____ Per location

8. BID FORM SIGNATURE (S)

The Corporate Seal

(Bidder - please print the full name of your Proprietorship, Partnership, or Corporation)

Was hereunto affixed in the presence of:

(Authorized signing officer) (Title)

(Seal)

(Authorized signing officer) (Title)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

END OF BID FORM

PROPOSAL – ROOF REPLACEMENT AT BOOTH HILL SCHOOL (continued)

THE PROPOSER SHALL STATE THE NAMES OF ALL OF ALL PROPOSED SUBCONTRACTORS.

PROPOSED SUBCONTRACTORS

If none, write "None" _____.

*Description of Work _____
Proposed Subcontractor Name _____
Address _____

*Description of Work _____
Proposed Subcontractor Name _____
Address _____

*Description of Work _____
Proposed Subcontractor Name _____
Address _____

*Description of Work _____
Proposed Subcontractor Name _____
Address _____

*Insert description of work and subcontractors' names as may be required.

This is to certify that the names of the above mentioned subcontractors are submitted with full knowledge and consent of the respective parties.

The Proposer warrants that none of the proposed subcontractors have any conflict of interest as respects this contract.

Proposer _____
(Fill in Name)

By _____
(Signature and Title)



DEPARTMENT OF ADMINISTRATIVE SERVICES (DAS)
Office of School Construction Grants & Review (OSCG&R)

CURRENT PREVAILING WAGE RATES

FORM SCG-6000

**IN COMPLIANCE WITH SECTION 31-53 OF THE CONNECTICUT
GENERAL STATUTES (C.G.S.)**

SHALL BE INSERTED

**PRIOR TO RELEASE OF DOCUMENTS
For BID or PROCUREMENT**

ANNUAL ADJUSTMENT OF WAGE RATES

WILL BE AS REQUIRED

PER C.G.S. SECTION 31-55a

**If you have questions regarding wages and workplace standards refer to the
Department of Labor website: <http://www.ctdol.state.ct.us> or call 860-263-6000**

SECTION 011000 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 PROJECT INFORMATION

- A. Project: **Roof Replacement.**
- B. Project Locations:
 - 1. **BOOTH HILL ELEMENTARY SCHOOL
545 BOOTH HILL RD.
TRUMBULL, CT 06611**
- C. Owner: Trumbull Public Schools, 6254 Main Street, Trumbull, CT 06611
- D. Architect: Antinozzi Associates Architects, PC, 271 Fairfield Avenue, Bridgeport, CT 06604
- E. This project consists of renovations at the above listed building, including but not limited to roofing replacement.
- F. Work by Owner: No separate contracts are anticipated for the completion of this work.
- G. The Project will be constructed under a single prime-contracting arrangement.

1.2 GENERAL REQUIREMENTS

- A. DIVISION 0 - BIDDING DOCUMENTS, CONTRACTS AND CONDITIONS
- B. DIVISION 1 - GENERAL REQUIREMENTS

1.3 CONTRACTOR'S USE OF PREMISES

- A. General: During the construction period the prime Contractors jointly shall have full use of the premises for construction operations, including use of the site. The General Contractors use of the premises is limited only by the Owner's right to perform work or retain other contractors on portions of the Project.
- B. Access to the building will be Monday through Friday, 6:00 am thru 9:00 pm. Access to the buildings on weekends will not be permitted without written permission by the Owner. If access is granted on weekends, the district reserves the right to invoice the Contractor for their personnel costs in the form of a change order to the Contract.
- C. Use of the Site: Limit use of the premises to work in areas indicates. Confine operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated.

1. Owner Occupancy: Allow for Owner occupancy and use by the public.
 2. Driveways and Entrances: Keep driveways and entrances serving the premises clear and available to the Owner, the Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
- D. Use of the Existing Building: Maintain the existing building in a weather tight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period.

1.4 OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: The Owner will occupy the site and existing building during the entire construction period. Cooperate with the Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with the Owner's operations.

1.5 DEFINITIONS

- A. Definitions as applied to "Contractors" involved with the work of this Project:
1. "The Contractor" or "Contractor" meaning that General Contractor (GC) responsible for the work referenced.
 2. "Trade Contractor" meaning that General Contractor as above; and such other terms relating to Contractors to be taken in context with respect to referenced work.
 3. Further, wherein said Division 00 and 01 and respective Sections therein, any reference is made to "General Contractor", same shall be construed to mean "Contractor for the General Construction".
 4. The Architect cannot guarantee the correctness of the existing conditions shown and assumes no responsibility therefore, it shall be the responsibility of the Contractor to visit the site and verify all existing conditions prior to bid.

B. ADDITIONAL SECURITY PROVISIONS

1. All Contractors' employees shall use a single means of access and egress, except in the case of emergency, to be designated by the Owner.
2. Each Contractor and each Subcontractor shall require his employees, while on the job site, to wear, in a conspicuous location, a Photo I.D. button bearing the name of the Contractor. The buttons of each Contractor shall be numbered consecutively. An up-to-date list of all I.D. buttons, indicating the name and number for each employee, shall be furnished to the Construction Manager.

1.6 ASBESTOS AND LEAD PAINT AWARENESS REQUIREMENTS

- A. Contractor agrees not to use or permit the use of any asbestos containing material in or on any property belonging to the Owner.
- B. For purposes of this requirement, asbestos free shall mean free from all forms of asbestos, including - actinolite, amosite, anthrophyhlite, chrysotile, cricidolite and tremolite, both in friable and non-friable states and without regard to the purposes for which such material is used.

1.7 CONSTRUCTION TIME REQUIREMENTS

- A. The Contractor is advised the “time is of the essence” of the Contract as defined in Article 8 of the “General Conditions” for the completion of the construction of the facility.
 - 1. It is understood that the work is to be carried through to completion with the utmost speed consistent with good workmanship.
- B. Work shall proceed in such a manner as to cause the least amount of disruption to the ongoing operations as possible.
- C. COORDINATE CLOSELY WITH SCHOOL OPERATING PERSONNEL.
- D. All work and storage areas shall be completely enclosed by a fence or barricade at all times so that no student or the public can approach the area or the equipment.
 - 1. The Contractor shall maintain fences and barricades at all times and shall:
 - 2. Repair/ restore and/ or pay for any temporary fencing damaged by their work.
 - 3. Maintain at all times, all exits and walkways from the building.
 - 4. Where the barricade is removed for work, the Contractor performing such work shall provide adequate safety personnel to prevent unauthorized persons from approaching the work area.

1.8 PROOF OF ORDERS AND DELIVERY DATES - Coordinate with Sections 013300.

- A. Within 2 weeks after the approval of shop drawings, samples, product data and the like, the Contractor shall provide copies of purchase orders for all equipment and materials which are not available in local stock. The Contractor shall submit written statements from suppliers confirming the orders and stating promised delivery dates.

1.9 INTENT OF DOCUMENTS

- A. In the event of conflict, ambiguity and/or unclear circumstances between any of the requirements of the Contract Documents, the requirement that is most inclusive and of highest quality, quantity, and/or cost shall govern. The Contractor shall (1) provide the better quality or greater quantity of Work and/or (2) comply with the more stringent requirement; either or both in accordance with the Architect’s interpretation. The Contractor herewith agrees that

no extra compensation shall be awarded to him based upon a claim of conflict, ambiguity or unclear circumstances in the Contract Documents. See the General Conditions for greater detail.

1.10 FIELD MEASUREMENTS

- A. The General Contractor shall take all necessary field measurements prior to fabrication and installation of work and shall assume complete responsibility for accuracy of same.
- B. This project is an ALTERATION / RENOVATION and therefore necessitates additional attention to existing conditions receiving newly fabricated and installed equipment, i.e. note the requirements for field dimensioning of shop fabricated items whether or not so required by each technical section.

1.11 INITIAL SUBMITTAL REQUIREMENTS

- A. As outlines in Sections 013300 and 015000, the General Contractor shall provide items noted including - bonds, insurance, emergency telephone numbers, progress scheduling, schedules of submittals, subcontractor listings and the like prior to the start of any work.

1.12 SCHEDULES

- A. General
 - 1. The objective of this project is to complete the overall work in the shortest period of time and to protect the building and occupants from damages caused by weather and construction activity during the progress of the work.
 - 2. To meet these objectives, the Contractor shall plan the work, obtain materials, and execute the construction in the most expeditious manner possible in accordance with the requirements listed below.
 - 3. If the Contractor fails to expedite and pursue any part of the work, the Owner may terminate the Contract.
 - 4. The Contractor shall work in coordination with work of other Contractors and with Elementary School activities with special attention to noise, dust, safety and other contract requirements for work in and around the occupied buildings.

1.13 DELAYS IN TIMEFRAME / TIME CHARGE

- A. The Contractor recognizes that time is of the essence for this Project and the date set for Final Completion shall be no later than the date indicated in their Contract Documents.
- B. Within four (4) calendar days from an occurrence of any such delay, The Contractor shall notify the Purchasing Director in writing as soon as he/she knows that the original Final Completion timeframe cannot be met. The Town shall have the right to agree to a new completion timeframe that will include working on Saturdays.

- C. The Contractor shall be liable for all additional cost (at the applicable District pay rates) incurred by the Owner to provide staff required to make the facility accessible to the Contractor, Consultants and Owner's representative as required to perform inspection after the contract completion date.
- D. All costs incurred by the Owner, and the cost of additional services and Owner's representative inspections will be subtracted from payment due the Contractor or, if the amount due the Contractor for payment is sufficient, the deficiency shall be paid by the Contractor to the Owner.

1.14 ADDITIONAL REQUIREMENTS

- A. The following are additional general and special requirements which will govern the work of the projects covered by these Documents.
 - 1. If it appears that some of the work cannot be completed by the scheduled date, the Contractor shall increase the work force or increase the hours of work, including evenings and weekends as necessary, at no additional cost to the Owner.
 - 2. If the work is complete but the area is not cleaned and debris or equipment is not removed, the Owner shall have the right to prepare the area for occupancy with his own forces and deduct the costs from the Contract Amount. (If Contractor does not respond within 24 hours' notice).
 - 3. If the Contractor fails to staff the job adequately to meet the completion date, the Owner reserves the right to assume possession of the material and complete installation with the Owner's forces or other Contractors or to require the Contractor to work evenings and weekends at no additional cost (See Section 000301).
 - 4. The Elementary School can be made available on weekends and evenings to allow the Contractor adequate time to complete the work before final completion date. Any custodial cost resulting in this after-hours scheduling will be the Contractor's responsibility.
 - 5. In addition to the above-stated requirements for phasing of the work, the General Contractor shall not do any noisy work in the areas where examinations will be conducted as per the published Elementary School calendar.
 - 6. Work in each work period shall progress at least at a pace in proportion to the Contract time available.
 - 7. The Contractor is responsible for temporary protection of all work until acceptance.
 - 8. The Elementary School will be closed on Saturdays, Sundays, regularly scheduled District holidays, and at night after cleaning crews have finished.
 - 9. If any contractor wishes to work at any time when the Elementary School is

normally closed, that Contractor shall arrange and pay for custodial services for the building at the applicable district pay rates.

10. All existing conditions must be verified in the field. The Owner takes no responsibility for actual conditions found deviating from the drawings. If existing condition interferes with contract work, contractor is responsible to eliminate this condition.
11. Contractor must plan, provide and maintain his/her own access, ramping, and egress as required into and out of the site, staging of trailer(s), materials, machinery, and equipment in agreement with the Owner. Maintain free and safe access on the jobsite for other related project personnel. Maintain safe pedestrian or vehicular traffic must be regulated by a flagman. Trucking and delivery operation should be coordinated with Construction Manager's Superintendent and all other trades.
12. Contractors' proposed schedule must be approved by the Owner. Contractor shall indicate significant events such as submittals, shop drawings, material ordering, fabrication, delivery, coordination precedents, installation, testing and turnover by area or system as agreed with Owner. A revised progress status shall be required on a weekly basis.
13. Decisions required from the Owner, Architect and/or Engineer, shall be anticipated by the Contractor to provide ample time for inspection, investigation or detailed drawings.
14. Contractor shall limit his operations including storage of materials and prefabrication to areas within the Contract Limit Lines unless otherwise permitted by the Owner.
15. Contractor shall coordinate the use of premises with the Owner and Construction Manager and shall move at his own expense any stored products under Contractor's control, including excavated material, which interfere with operations of the Owner or separate contractors.
16. Contractor shall obtain and pay for the use of additional storage of work areas needed for operations.
17. Contractor shall assume full responsibility for the protection and safekeeping of products under this Contract stored on the site and shall cooperate with the Owner to insure security for the Owner's Property.
18. The intention of the work is to follow a logical sequence; however, the Contractor may be required by Owner to temporarily omit or leave out any section of his work, or perform his work out of sequence. All such out of sequence work and come back time to these areas shall be performed at no additional cost.
19. Contractor shall submit a two-week look ahead (man-loaded by work activity and area) to the Owner each week. Contractor's representative shall attend a weekly meeting with all contractors, chaired by the Architect, for the purpose of job coordination and sequencing. Contractor is responsible to coordinate the job with other trades and the Architect, and to cooperate with other trades in pursuit of the overall project's

shop drawings and actively participate in resolving discrepancies, conflicts, interferences, etc.

20. Sufficient manpower shall be provided at all times to maintain progress of the job. A shortage of labor in the industry shall not be accepted as an excuse for not properly manning the job.
21. The Contractor shall take special care in verifying that his equipment matches the characteristics of the power being supplied.
22. Insubordination, unsafe practices, horseplay, abusive behavior or language, wanton destruction of property, use of drugs or alcohol, possession of firearms, and solicitation shall not be tolerated. There will be no warnings, and Contractor shall designate a responsible on-site supervisor to handle any situations that may arise, including termination.
23. Contractor is responsible to supply and install all wood blocking/bracing necessary to properly secure their work. This responsibility includes coordinating the installation in concealed areas without delaying other trades.
24. Organize daily clean ups as well as participating in a weekly joint clean up involving all prime contractors on site. Clean up shall be considered a safety issue. All Contractors that do not participate in clean-up will have the work performed by others and their contract amount adjusted accordingly.
25. General Contractor shall provide protection from damage to adjacent and adjoining work and/or structures. Contractor shall clean, repair and/or replace any damage for which this contractor is responsible.
26. General Contractor shall submit hourly rate sheets that would apply to time and material work for all pertinent trades upon Award of Contract.
27. General Contractor shall examine surfaces and conditions prior to start of work. Report unacceptable conditions to the Architect. Do not proceed until unacceptable conditions are corrected and acceptable. Starting of work implies acceptance.
28. General Contractor shall include general housekeeping of light debris. All debris from will be collected daily and disposed of into dumpsters. Contractor shall provide a weekly broom sweep of all areas for the entire duration of the project. The broom sweep shall include debris from all trades working on site.
29. It is the responsibility of the General Contractor to review the entire Summary of Work and remaining documents for additional work items.
30. General Contractor shall coordinate with the Owner for lay down areas, staging areas, and overall use of project site.

31. All contractors and their employees, subcontractors and supplier are expressly prohibited from entering the occupied areas of the Elementary School buildings during Elementary School hours without prior written permission of the Owner and for using any of its facilities (i.e. restrooms, cafeteria, etc.).
32. Janitorial hourly wage rate to be charged to the Contractor for access to the building(s) on off work hours shall be \$45.00 per hour.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 011100 – MILESTONE SCHEDULE**PART 1 - GENERAL**

1.1 MILESTONE

The following milestone schedule serves as a basis for bidding. A Master Schedule will be developed at a general meeting of the successful bidders within 7 days of Letter of Intent to Award the Contracts. General Contractor will coordinate activities, forward submittals, deliver materials and provide necessary manpower to meet the milestones listed below.

1.2 MILESTONE SCHEDULE

A. Start Date: Mobilization (start of regular full work day on site)

a. **June 24, 2024**

B. Completion Dates:

a. Substantial Completion: **August 23, 2024**

- i. Work shall be completed in accordance with the Contract Documents so that the Owner can occupy or use the Work or a portion thereof for its intended use.
- ii. If necessary, the Owner will allow the Contractor access to the building after regular school hours and on Saturdays at no additional cost for custodial O.T., only to complete all work necessary for Final Completion.
- iii. The Owner and Architect will make the determination whether the project is substantially complete.

b. Final Completion: **August 27, 2024**

- i. ALL WORK must be checked, tested and fully operational, and punch list complete.

ALL WORK REQUIRED BY ANY OF THE OWNER'S REPRESENTATIVES AND CONSULTANTS, INCLUDING THE ARCHITECT, ARCHITECT'S CONSULTANTS, OWNER'S ATTORNEYS, ETC., TO EXECUTE FINAL CLOSE-OUT OF CONTRACT AFTER 60 DAYS BEYOND MILESTONE DATES IF DETERMINED TO BE CAUSED BY CONTRACTOR, SHALL RESULT IN PAYMENT(S) TO THE OWNER'S REPRESENTATIVES AND CONSULTANTS, INCLUDING THE ARCHITECT, ARCHITECT'S CONSULTANTS, OWNER'S ATTORNEYS, ETC., IN THE FORM OF A CHANGE ORDER DEDUCT TO THE BASE CONTRACT.

PART 2 - PRODUCTS (Not Used)**PART 3 - EXECUTION (Not Used)****END OF SECTION 011100**

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Quantity allowances.

1.3 DEFINITIONS

- A. Allowance is a quantity of work or dollar amount established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

1.4 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed by the Owner to avoid delaying the Work.
- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

1.5 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.6 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.7 QUANTITY ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include freight and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
 - 1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.8 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
 - 3. Submit substantiation of a change in scope of Work, if any, claimed in Change Orders related to unit-cost allowances.
 - 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.
2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance #1: Provide an allowance in the Base Bid for replacement of 2,500 square feet existing deteriorated steel roof deck with new 1.5", 20 gauge galvanized metal deck, Type 'B'. Refer to Section "053000 – Metal Roof Deck" for additional information.
 1. Quantity adjustments in Allowances will be made utilizing unit prices. Coordinate quantity allowance adjustment with unit price requirements of Division 1 Section "Unit Prices".
- B. Allowance #2: Provide an allowance in the Base Bid for wiring brushing and painting of 20,000 square feet of existing rusted steel roof deck. Refer to Section "053000 – Metal Roof Deck" for additional information.
 1. Quantity adjustments in Allowances will be made utilizing unit prices. Coordinate quantity allowance adjustment with unit price requirements of Division 1 Section "Unit Prices".
- C. Allowance #3: Provide an allowance in the Base Bid for reinforcing 500 square feet of existing deteriorated steel roof deck. Refer to Section "053000 – Metal Roof Deck" for additional information.
 1. Quantity adjustments in Allowances will be made utilizing unit prices. Coordinate quantity allowance adjustment with unit price requirements of Division 1 Section "Unit Prices".

- D. Allowance #4: Provide an allowance in the Base Bid for repairing and fastening 50 broken welds. Refer to Section “053000 – Metal Roof Deck” for additional information.
1. Quantity adjustments in Allowances will be made utilizing unit prices. Coordinate quantity allowance adjustment with unit price requirements of Division 1 Section “Unit Prices”.
- E. Allowance #5: Provide an allowance in the Base Bid to fasten mid-span of adjacent steel roof deck where fasteners are missing at 100 locations. Refer to Section “053000 – Metal Roof Deck” for additional information.
1. Quantity adjustments in Allowances will be made utilizing unit prices. Coordinate quantity allowance adjustment with unit price requirements of Division 1 Section “Unit Prices”.
- F. Allowance #6: Provide an allowance in the Base Bid for repairing 500 square feet by 1” depth of deteriorated or uneven concrete roof deck in conjunction with new roofing. Refer to Section “037330 – Concrete Roof Deck” Repair for additional information.
1. Quantity adjustments in Allowances will be made utilizing unit prices. Coordinate quantity allowance adjustment with unit price requirements of Division 1 Section “Unit Prices”.

END OF SECTION 012100

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
 - 1. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

- A. Unit price is a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Refer to Bid Form for list of Unit Prices.

END OF SECTION 012200

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Sections:
 - 1. Division 01 Section "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.
 - 2. Divisions 02 through 33 Sections for specific requirements and limitations for substitutions.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use CSI Form 13.1A.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.

- b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable specification section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor through Construction Manager of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

- A. Coordination: Modify or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
 - 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Architect will consider requests for substitution if received within 60 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.
 - 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 - b. Requested substitution does not require extensive revisions to the Contract Documents.

- c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
- d. Substitution request is fully documented and properly submitted.
- e. Requested substitution will not adversely affect Contractor's construction schedule.
- f. Requested substitution has received necessary approvals of authorities having jurisdiction.
- g. Requested substitution is compatible with other portions of the Work.
- h. Requested substitution has been coordinated with other portions of the Work.
- i. Requested substitution provides specified warranty.
- j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
 - 1. Division 1 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, within this specification.

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within 5 days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and

finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Architect.
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.
 5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 6. Comply with requirements in Division 1 Section "Product Requirements" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Recommended form is AIA Document G709 for Proposal Requests.

1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701 (or similar format).

1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714 (or similar format). Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

23008

Town of Trumbull

**Booth Hill Elementary School
Roof Replacement
State Project # 144-0107 RR**

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
 - B. Related Sections:
 - 1. Division 01 Section "Payment Procedures" for submitting Applications for Payment and the schedule of values.
 - 2. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 3. Division 01 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
 - C. Action Submittals: Written and graphic information and physical samples that require Architect's [and Construction Manager's] responsive action. Action submittals are those submittals indicated in individual Specification Sections as action submittals.
 - D. Informational Submittals: Written and graphic information and physical samples that do not require Architect's [and Construction Manager's] responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as informational submittals.
 - E. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
 - F. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.
- 1.3 ACTION SUBMITTALS
- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing,

fabrication, and delivery when establishing dates. Include additional time required for making corrections or modifications to submittals noted by the Architect and Construction Manager and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Initial Submittal: Submit concurrently with start-up construction schedule. Include submittals required during the first 15 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action, informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Architect's and Construction Manager's final release or approval.
 - g. Scheduled dates for purchasing.
 - h. Scheduled dates for installation.
 - i. Activity or event number.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Architect can furnish Contractors access to the digital model of the Contract Drawings for use in preparing Shop Drawings, Coordination Drawings and Project record drawings.
 1. Upon issuance of a Notice to Proceed or similar authorization by the Owner, the Architect will transfer a copy of the current version of the digital model of the project to the Construction Manager's website for use by all trade contractors in preparing submittals and coordination drawings. The model was prepared using Revit 2013 software.
 2. All contractors using or accessing the digital Model shall first be required to execute a data licensing agreement in the form of AIA Document C106 Agreement form acceptable to the Owner and Architect. A fee of \$5,000 will be requested to gain access to the digital model.
 3. Over the course of the multi-year construction project, all contractors using or accessing the model shall be required to update their version of Revit to the latest available version of the software in general use at that time.

4. File Preparation Format: RVT operating in Microsoft Windows operating system.
 5. File Submittal Format: Submit or post coordination drawing files using the same format as the file preparation or PDF format.
 6. The Architect or his consultants make no representation as to the accuracy or completeness of the digital model as it relates to the drawings.
 7. The Architect and his consultants shall be granted access to the coordination model on the Construction Manager's website for their use in conducting their construction administration responsibilities.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with the project phasing, fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - a. Transmit submittals only as required for the work of the current phase. Do not transmit submittals for work in subsequent phases prior to or concurrently with the submittals of the current phase. Submittals issued for work that is not in the current phase of construction will not be reviewed until all other submittals have been reviewed for the work in the current phase.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect and Construction Manager reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 15 days for review of each resubmittal.

4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
 5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Construction Manager, through Architect, before being returned to Contractor.
- D. Identification and Information: Place a permanent label or title block on each paper copy submittal item for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately **6 by 8 inches** on label or beside title block to record Contractor's review and approval markings and action taken by Architect and Construction Manager.
 3. Include the following information for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of subcontractor.
 - g. Name of supplier.
 - h. Name of manufacturer.
 - i. Submittal number or other unique identifier, including revision identifier.
 - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).
 - j. Number and title of appropriate Specification Section.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Other necessary identification.
- E. Identification and Information: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect [and Construction Manager].
4. Include the following information on an inserted cover sheet:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of firm or entity that prepared submittal.
 - g. Name of subcontractor.
 - h. Name of supplier.
 - i. Name of manufacturer.
 - j. Number and title of appropriate Specification Section.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Related physical samples submitted directly.
 - n. Other necessary identification.
5. Include the following information as keywords in the electronic file metadata:
 - a. Project name.
 - b. Number and title of appropriate Specification Section.
 - c. Manufacturer name.
 - d. Product name.
- F. Options: Identify options requiring selection by the Architect.
- G. Deviations: Identify deviations from the Contract Documents on submittals.
- H. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect or Construction Manager observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
 1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect and Construction Manager.
- I. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect and Construction Manager will return submittals, without review, received from sources other than Contractor.
 1. Transmittal Form: Use CSI Form 12.1A.
 2. Transmittal Form: Provide locations on form for the following information:
 - a. Project name.
 - b. Date.
 - c. Destination (To:).
 - d. Source (From:).
 - e. Names of subcontractor, manufacturer, and supplier.
 - f. Category and type of submittal.

- g. Submittal purpose and description.
 - h. Specification Section number and title.
 - i. Indication of full or partial submittal.
 - j. Drawing number and detail references, as appropriate.
 - k. Transmittal number [numbered consecutively].
 - l. Submittal and transmittal distribution record.
 - m. Remarks.
 - n. Signature of transmitter.
3. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect and Construction Manager on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- J. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
- 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Architect's and Construction Manager's action stamp.
- K. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- L. Use for Construction: Use only final submittals that are marked with approval notation from Architect's and Construction Manager's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
- 1. Post electronic submittals as PDF electronic files directly to Construction Manager's FTP site specifically established for Project.
 - a. Architect, through Construction Manager, will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 - 2. Action Submittals: Submit two paper copies of each submittal, unless otherwise indicated. Architect, will not return paper copies.
 - 3. Informational Submittals: Submit two paper copies of each submittal, unless otherwise indicated. Architect and Construction Manager will not return copies.

4. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."
 5. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
 6. Test and Inspection Reports Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in the following format:
 - a. PDF electronic file.
 - b. Two paper copies of Product Data, unless otherwise indicated. Architect will not return paper copies.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based upon Architect's digital data drawing files is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.
 3. Submit Shop Drawings in the following format:
 - a. Two opaque copies of each submittal. Architect will not return paper copies.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect, through Construction Manager, will return one submittal with options selected.

5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three sets of Samples. Architect and Construction Manager will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a Project record sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 1. Type of product. Include unique identifier for each product [indicated in the Contract Documents].
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
 5. Submit product schedule in the following format:
 - a. Two paper copies of product schedule or list, unless otherwise indicated. Architect will not return paper copies.
- F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."
- G. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."
- H. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."
- I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A.
 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 2. Number and title of related Specification Section(s) covered by subcontract.

3. Drawing number and detail references, as appropriate, covered by subcontract.
4. Submit subcontract list in the following format:
 - a. Number of Copies: Three paper copies of subcontractor list, unless otherwise indicated. Architect, through Construction Manager, will return two copies.
- J. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination."
- K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on American Welding Society (AWS) forms. Include names of firms and personnel certified.
- M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- R. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- S. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 1. Name of evaluation organization.
 2. Date of evaluation.
 3. Time period when report is in effect.
 4. Product and manufacturers' names.
 5. Description of product.

6. Test procedures and results.
7. Limitations of use.

- T. Schedule of Tests and Inspections: Comply with requirements specified in Division 01 Section "Quality Requirements."
- U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- W. Field Test Reports: Submit reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- X. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."
- Y. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally-signed PDF electronic file and three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect and Construction Manager.
- B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 01 Section "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S AND CONSTRUCTION MANAGER'S ACTION

- A. General: Architect and Construction Manager will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect and Construction Manager will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect and Construction Manager will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- C. Informational Submittals: Architect and Construction Manager will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect and Construction Manager will forward each submittal to appropriate party.
- D. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect and Construction Manager.
- E. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- F. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Coordination Drawings.
 - 2. Administrative and supervisory personnel.
 - 3. Project meetings.
 - 4. Requests for Interpretation (RFIs).
- B. Related Sections include the following:
 - 1. Division 1 Section "Construction Progress Documentation" for preparing and submitting Contractor's Construction Schedule.
 - 2. Division 1 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Division 1 Section "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

1.4 COORDINATION

- A. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.

3. Make adequate provisions to accommodate items scheduled for later installation.
 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's Construction Schedule.
 2. Preparation of the Schedule of Values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1.5 SUBMITTALS

- A. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1.6 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
1. Attendees: Architect will inform participants and others involved, and individuals whose presence is required, of date and time of each meeting.
 2. Agenda: Architect shall prepare the meeting agenda and distribute the agenda to all invited attendees.
 3. Minutes: Architect shall record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Contractor, within three days of the meeting.

- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for RFIs.
 - g. Procedures for testing and inspecting.
 - h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.
 - j. Submittal procedures.
 - k. Preparation of Record Documents.
 - l. Use of the premises.
 - m. Work restrictions.
 - n. Owner's occupancy requirements.
 - o. Responsibility for temporary facilities and controls.
 - p. Construction waste management and recycling.
 - q. Parking availability.
 - r. Office, work, and storage areas.
 - s. Equipment deliveries and priorities.
 - t. First aid.
 - u. Security.
 - v. Progress cleaning.
 - w. Working hours.
 3. Minutes: Architect will record and distribute meeting minutes.
- C. Progress Meetings: Conduct progress meetings at regular intervals not exceeding every week. Coordinate dates of meetings with preparation of payment requests.
1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

- a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Status of correction of deficient items.
 - 14) Field observations.
 - 15) RFIs.
 - 16) Status of proposal requests.
 - 17) Pending changes.
 - 18) Status of Change Orders.
 - 19) Pending claims and disputes.
 - 20) Documentation of information for payment requests.
3. Minutes: Architect will record and distribute the meeting minutes to the Project team.
 4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 - a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

1.7 REQUESTS FOR INTERPRETATION (RFIs)

- A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.

1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
1. Project name.
 2. Date.
 3. Name of Contractor.
 4. Name of Architect.
 5. RFI number, numbered sequentially.
 6. Specification Section number and title and related paragraphs, as appropriate.
 7. Drawing number and detail references, as appropriate.
 8. Field dimensions and conditions, as appropriate.
 9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 10. Contractor's signature.
 11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.
 - a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.
- C. Hard-Copy RFIs: CSI Form 13.2A.
1. Identify each page of attachments with the RFI number and sequential page number.
- D. Software-Generated RFIs: Software-generated form with substantially the same content as indicated above.
1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- E. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow five working days for Architect's response for each RFI. RFIs received after 3:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or RFIs with numerous errors.
 2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.

3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 1 Section "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.
- G. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log at each progress meeting. Include the following:
 1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect.
 4. RFI number including RFIs that were dropped and not submitted.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Architect's response was received.
 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
 - B. Related Sections:
 - 1. Division 01 Section "Payment Procedures" for submitting Applications for Payment and the schedule of values.
 - 2. Division 01 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 3. Division 01 Section "Operation and Maintenance Data" for submitting operation and maintenance manuals.
 - C. Action Submittals: Written and graphic information and physical samples that require Architect's [and Construction Manager's] responsive action. Action submittals are those submittals indicated in individual Specification Sections as action submittals.
 - D. Informational Submittals: Written and graphic information and physical samples that do not require Architect's [and Construction Manager's] responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as informational submittals.
 - E. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
 - F. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.
- 1.3 ACTION SUBMITTALS
- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing,

fabrication, and delivery when establishing dates. Include additional time required for making corrections or modifications to submittals noted by the Architect and Construction Manager and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Initial Submittal: Submit concurrently with start-up construction schedule. Include submittals required during the first 15 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action, informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Architect's and Construction Manager's final release or approval.
 - g. Scheduled dates for purchasing.
 - h. Scheduled dates for installation.
 - i. Activity or event number.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Architect can furnish Contractors access to the digital model of the Contract Drawings for use in preparing Shop Drawings, Coordination Drawings and Project record drawings.
 1. Upon issuance of a Notice to Proceed or similar authorization by the Owner, the Architect will transfer a copy of the current version of the digital model of the project to the Construction Manager's website for use by all trade contractors in preparing submittals and coordination drawings. The model was prepared using Revit 2013 software.
 2. All contractors using or accessing the digital Model shall first be required to execute a data licensing agreement in the form of AIA Document C106 Agreement form acceptable to the Owner and Architect. A fee of \$5,000 will be requested to gain access to the digital model.
 3. Over the course of the multi-year construction project, all contractors using or accessing the model shall be required to update their version of Revit to the latest available version of the software in general use at that time.

4. File Preparation Format: RVT operating in Microsoft Windows operating system.
 5. File Submittal Format: Submit or post coordination drawing files using the same format as the file preparation or PDF format.
 6. The Architect or his/her consultants make no representation as to the accuracy or completeness of the digital model as it relates to the drawings.
 7. The Architect and his consultants shall be granted access to the coordination model on the Construction Manager's website for their use in conducting their construction administration responsibilities.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with the project phasing, fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - a. Transmit submittals only as required for the work of the current phase. Do not transmit submittals for work in subsequent phases prior to or concurrently with the submittals of the current phase. Submittals issued for work that is not in the current phase of construction will not be reviewed until all other submittals have been reviewed for the work in the current phase.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect and Construction Manager reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 15 days for review of each resubmittal.

4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
 5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Construction Manager, through Architect, before being returned to Contractor.
- D. Identification and Information: Place a permanent label or title block on each paper copy submittal item for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately **6 by 8 inches** on label or beside title block to record Contractor's review and approval markings and action taken by Architect and Construction Manager.
 3. Include the following information for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of subcontractor.
 - g. Name of supplier.
 - h. Name of manufacturer.
 - i. Submittal number or other unique identifier, including revision identifier.
 - 1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).
 - j. Number and title of appropriate Specification Section.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Other necessary identification.
- E. Identification and Information: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect [and Construction Manager].
4. Include the following information on an inserted cover sheet:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.
 - d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of firm or entity that prepared submittal.
 - g. Name of subcontractor.
 - h. Name of supplier.
 - i. Name of manufacturer.
 - j. Number and title of appropriate Specification Section.
 - k. Drawing number and detail references, as appropriate.
 - l. Location(s) where product is to be installed, as appropriate.
 - m. Related physical samples submitted directly.
 - n. Other necessary identification.
5. Include the following information as keywords in the electronic file metadata:
 - a. Project name.
 - b. Number and title of appropriate Specification Section.
 - c. Manufacturer name.
 - d. Product name.
- F. Options: Identify options requiring selection by the Architect.
- G. Deviations: Identify deviations from the Contract Documents on submittals.
- H. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect or Construction Manager observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
 1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect and Construction Manager.
- I. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect and Construction Manager will return submittals, without review, received from sources other than Contractor.
 1. Transmittal Form: Use CSI Form 12.1A.
 2. Transmittal Form: Provide locations on form for the following information:
 - a. Project name.
 - b. Date.
 - c. Destination (To:).
 - d. Source (From:).
 - e. Names of subcontractor, manufacturer, and supplier.
 - f. Category and type of submittal.

- g. Submittal purpose and description.
 - h. Specification Section number and title.
 - i. Indication of full or partial submittal.
 - j. Drawing number and detail references, as appropriate.
 - k. Transmittal number [numbered consecutively].
 - l. Submittal and transmittal distribution record.
 - m. Remarks.
 - n. Signature of transmitter.
3. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect and Construction Manager on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- J. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
- 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Architect's and Construction Manager's action stamp.
- K. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- L. Use for Construction: Use only final submittals that are marked with approval notation from Architect's and Construction Manager's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
- 1. Post electronic submittals as PDF electronic files directly to Construction Manager's FTP site specifically established for Project.
 - a. Architect, through Construction Manager, will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
 - 2. Action Submittals: Submit two paper copies of each submittal, unless otherwise indicated. Architect, will not return paper copies.
 - 3. Informational Submittals: Submit two paper copies of each submittal, unless otherwise indicated. Architect and Construction Manager will not return copies.

4. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Section "Closeout Procedures."
 5. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically-submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
 6. Test and Inspection Reports Submittals: Comply with requirements specified in Division 01 Section "Quality Requirements."
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in the following format:
 - a. PDF electronic file.
 - b. Two paper copies of Product Data, unless otherwise indicated. Architect will not return paper copies.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based upon Architect's digital data drawing files is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.
 3. Submit Shop Drawings in the following format:
 - a. Two opaque copies of each submittal. Architect will not return paper copies.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 3. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 4. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect, through Construction Manager, will return one submittal with options selected.

5. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit three sets of Samples. Architect and Construction Manager will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a Project record sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 1. Type of product. Include unique identifier for each product [indicated in the Contract Documents].
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
 5. Submit product schedule in the following format:
 - a. Two paper copies of product schedule or list, unless otherwise indicated. Architect will not return paper copies.
- F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation."
- G. Application for Payment: Comply with requirements specified in Division 01 Section "Payment Procedures."
- H. Schedule of Values: Comply with requirements specified in Division 01 Section "Payment Procedures."
- I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A.
 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 2. Number and title of related Specification Section(s) covered by subcontract.

3. Drawing number and detail references, as appropriate, covered by subcontract.
4. Submit subcontract list in the following format:
 - a. Number of Copies: Three paper copies of subcontractor list, unless otherwise indicated. Architect, through Construction Manager, will return two copies.
- J. Coordination Drawings: Comply with requirements specified in Division 01 Section "Project Management and Coordination."
- K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on American Welding Society (AWS) forms. Include names of firms and personnel certified.
- M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- R. Product Test Reports: Submit written reports indicating current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- S. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 1. Name of evaluation organization.
 2. Date of evaluation.
 3. Time period when report is in effect.
 4. Product and manufacturers' names.
 5. Description of product.

6. Test procedures and results.
7. Limitations of use.

- T. Schedule of Tests and Inspections: Comply with requirements specified in Division 01 Section "Quality Requirements."
- U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- W. Field Test Reports: Submit reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- X. Maintenance Data: Comply with requirements specified in Division 01 Section "Operation and Maintenance Data."
- Y. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally-signed PDF electronic file and three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect and Construction Manager.
- B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Division 01 Section "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S AND CONSTRUCTION MANAGER'S ACTION

- A. General: Architect and Construction Manager will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect and Construction Manager will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect and Construction Manager will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- C. Informational Submittals: Architect and Construction Manager will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect and Construction Manager will forward each submittal to appropriate party.
- D. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect and Construction Manager.
- E. Incomplete submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- F. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION

SECTION 01 40 00 – QUALITY REQUIREMENTS

PART 1 - GENERAL

1.01 REQUIREMENTS INCLUDED

- A. General Quality Control.
- B. Workmanship.
- C. Mockups
- D. Manufacturers' Instructions.
- E. Manufacturers' Certificates.
- F. Testing Laboratory Services.

1.02 QUALITY CONTROL - GENERAL

- A. Maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Submit to the owner safety data sheets for all materials delivered to the site.

1.03 WORKMANSHIP

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.
- B. Employ persons qualified to produce workmanship of specified quality.
- C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and racking.

1.04 MOCKUPS

- A. Mockups: Before installing portions of the Work, build mockups for each item listed below and for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups of the following prior to proceeding with any further work:
 - a. Per each specification section requirements.
 - 2. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
 - 3. Notify Architect seven days in advance of dates and times when mockups will be constructed.
 - 4. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at the Project.

5. Demonstrate the proposed range of aesthetic effects and workmanship.
6. Obtain Architect's approval of mockups before starting work, fabrication, or final construction.
 - a. Allow two days for initial review and each re-review of each mockup.
7. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
8. Mockups can become part of the completed work.

1.05 MANUFACTURERS' INSTRUCTIONS

- A. When required by individual specification sections, submit manufacturer's printed instructions in the number of copies the Contractor requires plus three (3) which will be retained by Architect.
- B. Comply with instructions in full detail and include each step in sequence. Should instructions conflict with Contract Documents, request clarification from Architect before proceeding.

1.06 MANUFACTURERS' CERTIFICATES

- A. When required by individual Specification Sections, submit manufacturers' certificate, in duplicate, that products meet or exceed specified requirements.

1.07 TESTING LABORATORY SERVICES

- A. Employ and pay for services of an independent testing laboratory to perform inspections and tests, when so specified in individual Specification Sections.
- B. Services shall be performed in accordance with requirements of governing authorities and with specified standards.
- C. Reports shall be submitted to Architect giving observations and results of tests, indicating compliance or non-compliance with specified standards and with Contract Documents.
- D. Contractor shall cooperate with testing laboratory personnel; furnish tools, samples of materials, design mix, equipment, storage, and assistance as requested.
 1. Notify Architect and testing laboratory 24 hours prior to expected time for operations requiring testing services.
 2. Make arrangements with testing laboratory and pay for additional samples and tests ordered for Contractor's convenience.
- E. When reports indicate non-compliance, take appropriate corrective measures and request for inspection or retesting. The costs of corrective work, reinspections, and retesting shall be paid by the Contractor at no extra cost to the Owner.

PART 2 - PRODUCTS

Not used

23008

Town of Trumbull

**Booth Hill Elementary School
Roof Replacement
State Project # 144-0107 RR**

PART 3 - EXECUTION

Not used

END OF SECTION 01 40 00

SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 GENERAL

- A. Specific administrative and procedural minimum actions are specified in the section, as extensions of provisions in General Conditions and other contract documents. These requirements have been included for special purposes as indicated. Nothing in this section is intended to limit types and amounts of temporary work required, and no omission from this section will be recognized by an indication by the Architect or Owner that such temporary activity is not required for successful completion of the work and the compliance with requirements of contract documents. Provisions of this section are applicable to, but not by way of limitation, utility services, construction facilities, security/protection provisions and support facilities.
- B. All work and procedures: Conform to NFPA 241-1986, Safeguarding Construction, Alteration, and Demolition Operation Operations.

1.02 LIFTING DEVICES AND HOISTING FACILITIES

- A. Provide cranes, hoists, and other lifting devices necessary for proper and efficient movement of materials. Provide operating personnel required for equipment. Provide with proper guys, bracing, and other safety devices required by local and State Codes.
- B. Remove hoisting equipment when no longer needed.

1.03 TEMPORARY LADDERS, RAMPS, RUNWAYS

- A. Furnish and maintain such equipment as temporary ladders, ramps, scaffolds, runways, chutes, and the like required for proper execution of work by all trades.
- B. Construct and maintain such apparatus, equipment in accordance with labor laws and other applicable state and local codes and regulations.

1.04 CONSTRUCTION SHEDS/STORAGE SHEDS

- A. Locate and place construction sheds/storage sheds on property as directed by the Owner. Remove from site at end of project.

1.05 STORAGE OF MATERIALS

- A. Delivery and storage materials for buildings shall be under direct control of the Contractor. Stack, store, or otherwise dispose of on premises when, where, and as directed.
- B. Store and keep protected in a dry and weatherproof enclosure materials which are subject to deterioration by exposure to moisture and the elements.

1.06 TEMPORARY FACILITIES

- A. General Contractor to provide temporary field office of sufficient size to accommodate the needs of the Owner, Architect and the construction personnel office activities and to accommodate project meetings. Provide prefabricated or mobile units with serviceable finishes, temperature controls and foundations adequate for normal loading.

1.07 SANITARY FACILITIES

- A. Temporary toilet facilities shall be provided by the General Contractor at the site to be used by the General Contractor and sub-contractor's construction personnel. Coordinate locations for temporary toilet facilities with Owner prior to mobilization.

1.08 TEMPORARY WATER

- A. The General Contractor shall be responsible for supplying water required for construction activities and for clean up activities. Water shall be provided in tanks or other similar means. The contractor will not be allowed to connect to the tenant's water supply.

1.09 TEMPORARY ELECTRIC

- A. The General Contractor shall be responsible for supplying power required for construction activities. Power shall be provided by generators or temporary utility service. The contractor will not be allowed to connect to the tenant's electrical service.
- B. If required, provide all necessary wiring and lamps required for temporary lighting for all trades and for the operation of all the electrical machines.
- C. All temporary wiring shall be done in strict accordance with the regulations of the electric company.

1.10 WEATHER CONDITIONS

- A. In event of temporary suspension of work, or during inclement weather, or whenever further directed by Architect, work and material will be carefully protected against elements. All work of any kind found to be damaged by elements shall be removed and replaced without cost to Owner.

1.10 PROJECT SIGN

- A. Furnish and erect a project sign of MDO plywood, secured to posts set in ground and securely braced at the project site as directed by the Owner.
- B. The sign shall be constructed, painted, and lettered in accordance with Project Sign Drawing following this Section.

Submit layout drawing for approval by Owner prior to fabrication.

- C. No other construction signs will be allowed on the site without specific authorization from the Owner and the Architect.

END OF SECTION 01 50 00

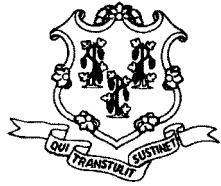
DEPARTMENT OF ADMINISTRATIVE SERVICES (DAS)

Office of School Construction Grants & Review (OSCG&R)

Project Sign

FORM SCG-3021

8'-0"



NAME OF THE PROJECT

Town
Seal

State Project Number 000-0000 XYZ

Constructed in Partnership

STATE OF CONNECTICUT
NED LAMONT, GOVERNOR

Department of Administrative Services
Josh Geballe, Commissioner

and the
Name of Town/City
Name and Title of Chief Elected Official

Architect

Project Manager

Construction Manager

SIGN PANEL: ¾" MDO-EXT-APA PLYWOOD SUPPORTED WITH (2) 4X4 TREATED WOOD COLUMNS AND SECURED 4' INTO GRADE. TOP OF SIGN AT 8'-0" ABOVE GRADE.

COLORS: ALL LETTERS AND SYMBOLS ARE TO BE ROYAL BLUE. THE BACKGROUND WILL BE WHITE ENAMEL. BACK OF PLYWOOD AND SUPPORT STRUCTURE SHALL BE PAINTED MATTE BLACK.

TYPEFACE: HELVETICA MEDIUM

LOCATION: SIGN MUST BE LOCATED TO BE CLEARLY VISIBLE TO THE PUBLIC.

TIMING: INSTALL AT THE START OF CONSTRUCTION AND REMOVE AT CONSTRUCTION COMPLETION.

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.
- B. Related Sections include the following:
 - 1. Division 1 Section "Closeout Procedures" for submitting warranties for Contract closeout.
 - 2. Divisions 2 through 32 Sections for specific requirements for warranties on products and installations specified to be warranted.

1.3 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other

designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.

1.4 SUBMITTALS

- A. Product List: Submit a list, in tabular form, showing specified products. Include generic names of products required. Include manufacturer's name and proprietary product names for each product.
1. Coordinate product list with Contractor's Construction Schedule and the Submittals Schedule.
 2. Completed List: Within 30 days after date of commencement of the Work, submit 3 copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.
 3. Architect's Action: Architect will respond in writing to Contractor within 15 days of receipt of completed product list. Architect's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Architect's response, or lack of response, does not constitute a waiver of requirement to comply with the Contract Documents.
- B. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Substitution Request Form: Use CSI Form 13.1A.
 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified material or product cannot be provided.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.

- i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
 - j. Cost information, including a proposal of change, if any, in the Contract Sum.
 - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
 3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within 7 days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
 - a. Form of Acceptance: Change Order.
 - b. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.
- C. Comparable Product Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Division 1 Section "Submittal Procedures."
 - b. Use product specified if Architect cannot make a decision on use of a comparable product request within time allocated.
- D. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.
 1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
 2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
- C. Storage:
 - 1. Store products to allow for inspection and measurement of quantity or counting of units.
 - 2. Store materials in a manner that will not endanger Project structure.
 - 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 4. Store cementitious products and materials on elevated platforms.
 - 5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 - 6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 - 7. Protect stored products from damage and liquids from freezing.
 - 8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using appropriate form properly executed.
 3. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.
 5. Where products are accompanied by the term "match sample," sample to be matched is Architect's.
 6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
 7. Or Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with provisions in Part 2 "Comparable Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures:
1. Product: Where Specifications name a single product and manufacturer, provide the named product that complies with requirements.
 2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements.
 3. Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.
 4. Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
 5. Available Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.

6. Available Manufacturers: Where Specifications include a list of manufacturers, provide a product by one of the manufacturers listed, or an unnamed manufacturer, that complies with requirements. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product.
7. Product Options: Where Specifications indicate that sizes, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide the specified product or system. Comply with provisions in Part 2 "Product Substitutions" Article for consideration of an unnamed product or system.
8. Basis-of-Design Product: Where Specifications name a product and include a list of manufacturers, provide the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in Part 2 "Comparable Products" Article for consideration of an unnamed product by the other named manufacturers.
9. Visual Matching Specification: Where Specifications require matching an established Sample, select a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
 - a. If no product available within specified category matches and complies with other specified requirements, comply with provisions in Part 2 "Product Substitutions" Article for proposal of product.
10. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product that complies with other specified requirements.
 - a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that does not include premium items.
 - b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Architect will select color, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 PRODUCT SUBSTITUTIONS

- A. Timing: Architect will consider requests for substitution if received within 60 days after commencement of the Work. Requests received after that time may be considered or rejected at discretion of Architect.
- B. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect

for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.

2. Requested substitution does not require extensive revisions to the Contract Documents.
3. Requested substitution is consistent with the Contract Documents and will produce indicated results.
4. Substitution request is fully documented and properly submitted.
5. Requested substitution will not adversely affect Contractor's Construction Schedule.
6. Requested substitution has received necessary approvals of authorities having jurisdiction.
7. Requested substitution is compatible with other portions of the Work.
8. Requested substitution has been coordinated with other portions of the Work.
9. Requested substitution provides specified warranty.
10. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

2.3 COMPARABLE PRODUCTS

- A. Conditions: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. General installation of products.
 - 2. Coordination of Owner-installed products.
 - 3. Progress cleaning.
 - 4. Starting and adjusting.
 - 5. Protection of installed construction.
 - 6. Correction of the Work.
- B. Related Sections include the following:
 - 1. Division 1 Section "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
 - 2. Division 1 Section "Submittal Procedures" for submitting surveys.
 - 3. Division 1 Section "Cutting and Patching" for procedural requirements for cutting and patching necessary for the installation or performance of other components of the Work.
 - 4. Division 1 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of underground utilities and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 2. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 3. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 4. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
1. Make vertical work plumb and make horizontal work level.
 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
 4. Maintain minimum headroom clearance of 8 feet (2.4 m) in spaces without a suspended ceiling.

- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties' involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.4 OWNER-INSTALLED PRODUCTS

- A. Site Access: Provide access to Project site for Owner's construction forces.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction forces.
 - 1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.

3.5 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 1 Section "Quality Requirements."

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.8 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1 Section "Cutting and Patching."
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

SECTION 01 73 29 – CUTTING AND PATCHING

PART 1 - GENERAL

1.01 DESCRIPTION OF REQUIREMENTS

- A. Cutting and patching includes cutting into previously built construction to provide for the installation or performance of other work and subsequent fitting and patching required to restore surfaces to their original condition.
 - 1. Cutting and patching is performed for coordination of the work, to uncover work for access or inspection, to obtain samples for testing, to permit alterations to be performed, or for other similar purposes.
 - 2. Cutting and patching performed during the manufacture of products, or during the initial fabrications, erection, or installation processes is not considered to be cutting and patching under this definition. Drilling of holes to install fasteners and similar operations are also not considered to be cutting and patching.
- B. Refer to other sections of the specifications for specific cutting and patching requirements and limitations applicable to individual units of work.

1.02 QUALITY ASSURANCE

- A. Do not cut and patch structural work in a manner that would result in a reduction of load carrying capacity or of load-deflection ratio.
- B. Do not cut and patch operational elements or safety related components in a manner that would result in a reduction of their capacity to perform in a manner intended, including energy performance, or that would result in increased maintenance, decreased operational life, or decreased safety.
- C. Do not cut and patch work exposed on the building's exterior or in it's occupied spaces in a manner that would, in the architect's opinion, result in lessening the building's aesthetic qualities. Do not cut and patch work in a manner that would result in substantial visual evidence of cut and patch work. Remove and replace work judged by the architect to be cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Except as otherwise indicated, or as directed by the architect, use materials for cutting and patching that are identical to existing materials. If identical materials are not available, or cannot be used, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials for cutting and patching that will result in equal or better performance characteristics.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Before cutting, examine the surfaces to be cut and patched and the conditions under which the work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with the work.

3.02 PREPARATION

- A. To prevent failure, provide temporary support of work to be cut.
- B. Protect other work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for that part of the project that may be exposed during cutting and patching operations.
- C. Take precautions not to cut pipe, conduit, or duct that are in use until provisions have been made to bypass them.

3.03 PERFORMANCE

- A. Employ skilled workmen to perform cutting and patching work. Except as otherwise indicated or as approved by the Architect, proceed with cutting and patching at the earliest feasible time and complete work without delay.
- B. Cut the work using methods that are least likely to damage work to be retained or adjoining work. Where possible review proposed procedures with the original installer; comply with original installer's recommendations.
 - 1. In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering or chopping. Cut through concrete and masonry using a cutting machine such as a carborundum saw or core drill to insure a neat hole. Cut holes and slots neatly to size required with minimum disturbance of adjacent work. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces. Temporarily cover openings when not in use.
 - 2. If required, by-pass utility services such as pipe and conduit, before cutting, where such utility services are required to be relocated. After by-pass and cutting, cap, valve or plug and seal tight remaining portion of pipe and conduit to prevent entrance of moisture or other foreign matter.
- C. Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.
 - 1. Where feasible, inspect and test patched areas to demonstrate integrity of work.
 - 2. Restore exposed finishes of patched areas and where necessary extend finish restoration into adjoining work in a manner which will eliminate evidence of patching and refinishing. Where patch occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing patch, after patched area has received prime and base coat.

- D. If applicable, where cutting is required of asbestos containing materials that are not scheduled to be abated, the contractor shall take precaution and follow strict requirements outlined in the asbestos abatement specifications. Where required to remove items attached to asbestos containing materials that are not scheduled to be abated, the contractor shall carefully remove such items using methods to minimize disturbance to existing materials to remain. Items to be removed shall be carefully unscrewed / unfastened, etc.

3.04 CLEANING

- A. Thoroughly clean areas and spaces where work is performed or used as access to work. Remove completely all paint, mortar, oils, putty, and items of similar nature. Thoroughly clean items and similar features before painting or other finishing is applied. Restore damaged covering to its original condition.

END OF SECTION 01 73 29

SECTION 01 77 00 – CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Special Conditions and other Division 1 - specification sections, apply to work of this section.

1.02 DESCRIPTION OF REQUIREMENTS

- A. Closeout is hereby defined to include general requirements near the end of Contract Time, in preparation for final acceptance, final payment, normal termination of contract, and similar actions evidencing completion of the work.

1.03 INSPECTIONS

- A. It is the Contractor's responsibility to complete the project in accordance with the Contract Documents and to enforce their requirements on his employees, suppliers and subcontractors.

1.04 FINAL INSPECTION

- A. Upon completion of all items, upon written notice from the Contractor certifying that the work is complete, the Architect will, within seven days, make the final inspection.
- B. Should Architect consider that work is finally complete in accordance with requirements of Contract Documents, he shall request contractor to submit project closeout documents not previously received and approved.
- C. Should Architect consider that work is not finally completed, he shall notify the Contractor, in writing, stating reasons. Contractor shall take immediate steps to remedy the stated deficiencies, and send second written notice to Architect certifying that work is complete. Architect will re-inspect work.
- D. The "punch list" inspection will not be made until two (2) sets of project record documents; test reports and operation and maintenance manuals have been delivered to the Architect and found by him to be substantially complete.

1.05 PREREQUISITES TO FINAL ACCEPTANCE

- A. Prior to requesting Architect's final inspection for certification of final acceptance and final payment, as required by the General Conditions, complete the following list known exceptions (if any) in request:
 - 1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 - 2. Submit all technical closeout documents including but not limited to the following:
 - a. Material and workmanship warranties.

- b. Project Record Documents.
- c. Operation and Maintenance Manuals.
- d. Certificate of Occupancy / Building Department Approvals

3. Submit updated final statement, accounting for additional (final) changes to contract sum.

PART 2 - PRODUCTS	NOT USED
PART 3 - EXECUTION	NOT USED

END OF SECTION 01 77 00

SECTION 020700 - ROOF DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. This Contractor shall provide all labor, equipment, and materials required to perform the work called for in this Section. This Contractor shall coordinate his work with other trades and work in other Sections.
- C. Work of this Section includes, but is not limited to, the following:
 - 1. Removal of all built-up roofing, modified roofing, EPDM roofing, all insulations, base flashings, fascia, edging, etc., down to surface of steel or concrete decking.
 - 2. Cut deck for installation of new drain bodies where indicated.
 - 3. Release, cut, elevate, disconnect, extend, reconnect all mechanical/electrical, including all gas piping and ductwork, as required to raise equipment and install new roofing system at all rooftop equipment.
 - 4. Mechanically clean off all roof drain lines down to storm drain line in pavement.
 - 5. Temporarily support all existing ducts, gas, and electrical lines.
 - 6. Removal of existing vapor barriers and asphalt from concrete decks.
 - 7. Removal of all abandoned capped equipment curbs and install new metal deck over.
 - 8. Removal of existing expansion joints.
 - 9. Raise all existing gas piping and reconnect. Modify as required at rooftop equipment.
 - 10. Remove all existing asphalt roof shingles, felts, and ice dam materials from Roof Area R11.
- D. Related Work Specified Elsewhere Includes:
 - 1. 053000 Metal Roof Deck
 - 2. 061100 Roof Rough Carpentry
 - 3. 072210 Roof Insulation
 - 4. 075410 Adhered EPDM Roofing
 - 5. 076000 Flashing and Sheet Metal

1.2 QUALITY ASSURANCE

- A. All work of this Section shall be carried out in accordance with the State Demolition Code.
- B. The existing building is an Elementary School. The Contractor shall notify the Owner of where work will start three (3) days before and provide a demolition and roofing schedule.

- C. Contractor shall check the test cut information in Specification Section 020600 - Roof Test Cuts for existing roofing conditions and the makeup of the existing roofing to be removed. Note: Test cut information is only at the point of the cut and may vary in other areas. This information is for general usage.

PART 2 - MATERIAL

2.1 POLY TARPS.

2.2 ROOF CEMENT.

PART 3 - EXECUTION

- 3.1 Prior to commencing any work called for in this Section, carefully examine the substrata and conditions under which the work is to be performed and notify the Architect in writing of any unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected. Start of work shall indicate acceptance of conditions.
- 3.2 Contractor at no time shall uncover more roof area than can be covered with a complete new roof system and made watertight by the end of the working day or in case of a sudden storm. Contractor shall have on hand sufficient quantities of temporary covers in case of a sudden rain storm to dry-in the area. At the end of each day, install a temporary patch between new roofing and existing roofing to completely seal against moisture penetration.
- 3.3 Remove all existing roofing, built-up, EPDM and modified bitumen; insulation; and miscellaneous flashings from roof area, taking care not to damage existing roof deck.
- 3.4 Contractor shall not drop materials from the roof or remove materials or equipment in such a manner as to cause unnecessary noise or dust. All debris to be trash chuted into covered containers. No debris shall be visible on the grounds at the end of each workday.
- 3.5 All debris resulting from the work performed under this Section shall be cleaned up daily, loaded in proper containers, and removed from the site and disposed of by the Contractor on a daily basis. No debris shall pile up or be left overnight on the site.
- 3.6 Deck surface shall be left broom clean, dry, and dust free, ready for application of new roofing materials. All debris shall be removed from the flutes of the metal deck areas. Contractor shall have the deck checked each day for structural integrity. Rotted deck or extremely rusted deck shall be removed and replaced in kind anchoring down new to sound deck.

- 3.7 Temporarily remove with care roof mounted mechanical equipment and all other roof accessories as required for the proper execution of the work called for in other Sections of the Specifications. Notify the Owner at least two (2) days prior to temporary removal of equipment.
- 3.8 Reinstall all items, which were disturbed after other work is complete. Restore to original condition.
- 3.9 Remove existing drains. Cut deck to allow installation of new combination dual outlet overflow/roof drains.
- 3.10 Remove all bituminous products from walls and curbs.
- 3.11 Those items, which are not to be incorporated into the new roofing, are to be removed and properly disposed of.
- 3.12 There are no clogged drains at this time. The Contractor is to plug drains with expansion plug at beginning of demolition work each day. Plugs shall be removed by the end of each working day, or in the event of rain.
- 3.13 Mechanically clean all drains to level of storm drain in pavement.

END OF SECTION 020700



EAGLE
Environmental, Inc.

- Industrial Hygiene / IAQ
- Hazardous Building Materials
- Environmental Assessments
- Laboratory Services & Training

October 21, 2022

Mr. David Cote
Trumbull Public Schools
6254 Main Street
Trumbull, Connecticut 06611

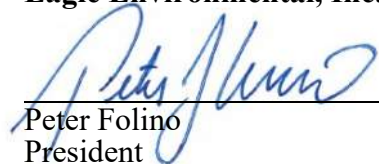
**RE: Pre-Renovation Asbestos-Containing Materials Roof Inspection Report
Booth Hill Elementary School
545 Booth Hill Road
Trumbull, Connecticut
Eagle Project No. 22-065.12T1**

Dear Mr. Cote:

Please find the report for the asbestos-containing materials (ACM) inspection conducted of the roofs associated with the Booth Hill Elementary School at 545 Booth Hill Road in Trumbull, Connecticut (Site). The inspection was performed to support the replacement of the existing roofing systems on the subject building.

Please do not hesitate to contact us if you have any questions regarding the contents of this report.

Sincerely,
Eagle Environmental, Inc.



Peter Folino
President

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1.0 INTRODUCTION

On September 27, 2022, Eagle Environmental, Inc. (Eagle) conducted a pre-renovation asbestos containing materials (ACM) inspection of the roofs associated with Booth Hill Elementary School located at 545 Booth Hill Road in Trumbull, Connecticut. The roofs will be replaced and asbestos testing of the existing roofing systems was necessary prior to roof replacement activities.

The asbestos inspection was performed by Peter Folino; a State of Connecticut Department of Public Health (CT DPH) licensed Asbestos Inspector/Management Planner (license #000184) and assisted by Evan Kulig, Environmental Consultant I. The roofs were patched by the Town's roofing contractor.

1.1 Roof Descriptions

The building was built in 1955 with additions made in 1957, 1970 and 1996. The building has multiple roofs totaling in approximately 54,000 square feet. It is Eagle's understanding that the original roofs were formerly replaced and the existing roofs are second or third generation roofs. During the inspection, Eagle assigned dedicated roof numbers to each roof for ease of identification. Refer to the Roof Plan (RP-1) in Appendix A for roof diagrams and numbering. The following are the general descriptions for each roof:

Roof 1 is a flat roof with rolled asphalt roofing over Polyiso insulation board with a black vapor barrier on a corrugated metal deck. The roof has a wood termination bar along the edge of the roof with metal coping. Various roof penetrations are present including vents and piping.

Roofs 2 and 3 consists of a flat roof with 2-ply felt with asphaltic tar over Perlite insulation board and brown Polyiso insulation board. The roof deck is corrugated metal. The roof edge consists of wood termination bars and metal coping. Various type of vents, inverters, former HVAC curbs are also present on these roofs.

Roofs 3A and 3B are small sectional roofs located off of main roof 3. The roofs were holding standing water and were not sampled but were observed to contain an Ethylene Propylene Diene Monomer (EPDM) rubber roof as the top layer.

Roof 4 consists of a raised flat roof over the gymnasium. The roof consists of an Ethylene Propylene Diene Monomer (EPDM) rubber roof over Perlite and Polyiso insulation board. The roof has a corrugated metal deck.

Roof 5 consists of a flat roof and roof 6 pitched triangular shaped roofs containing EPDM rubber roofing over Perlite and Polyiso insulation on a corrugated metal roof deck. These roofs appear to be associated with newer building additions.

Roof 8 consists of a flat roof and roof 7 pitched triangular shaped roofs containing EPDM rubber roofing over Perlite and Polyiso insulation on a corrugated metal roof deck.

Roof 9 consists of a two-story pitched roof with EPDM roofing. The roof was not accessible for sampling due to height restrictions but is presumed to consist of similar roof layer of Roofs 7 and 8.

Roof 10 is a pitched roof with architectural asphalt shingles and felt paper.

2.0 SCOPE OF INSPECTION

2.1 Asbestos Containing Roofing Materials

The asbestos inspection was conducted in order to satisfy the USEPA National Emission Standard for Hazardous Air Pollutants Act (NESHAP) as amended November 20, 1990. The USEPA NESHAP final rule requires the identification and removal of regulated asbestos containing roofing materials as a part of the replacement of the existing roofing materials.

3.0 INSPECTION PROTOCOLS

3.1 Bulk Sampling

During the sampling process, only suspect miscellaneous roofing materials were sampled. This includes but is not limited to suspect roofing felts, roofing tar, asphalt rolled roofing and shingles, and caulk. Roof sampling was performed by using a roof coring tool to remove core samples of the suspect layers of roofing materials. The layers of suspect roofing materials were separated for analysis. The roofs were patched by the Town's roofing contractor.

Miscellaneous Materials

Eagle collected samples of miscellaneous roofing materials in accordance with USEPA and OSHA requirements and current industry standards. A minimum of two (2) samples for each suspect miscellaneous material was collected. Additional samples are collected at the Inspector's discretion. Where large quantities of miscellaneous materials are present, additional samples are collected. Current regulations require that sampling of miscellaneous materials shall be conducted in a manner sufficiently to provide accurate results. Miscellaneous roofing materials include roofing felts, mastics, transite and caulks.

3.2 Bulk Sample Analysis

The samples of the suspect ACM are sent to a CT DPH approved laboratory for analysis by Polarized Light Microscopy (PLM). PLM is the USEPA accepted method of analysis for identification of asbestos in bulk matrices. Each set of samples is systematically analyzed until one (1) sample was determined to contain asbestos. Upon determination that one (1) sample in the set contained asbestos, analysis of the remaining samples in the set is discontinued. If no asbestos was observed during analysis of the set of samples, the suspect material is determined to be negative for asbestos content. A minimum of two (2) samples of suspect materials were collected during the inspection.

Sample analysis results are reported in percentage of asbestos and non-asbestos components. The USEPA defines any material that contains greater than one percent ($\geq 1\%$) asbestos, utilizing PLM, as being ACM. Materials containing greater than or equal to 1% are defined as ACM by the State of Connecticut Department of Public Health. Suspect materials containing greater than or equal to 1% asbestos utilizing the NOB TEM method are also considered to be asbestos containing. Sample results indicating "no asbestos detected" (NAD) are specified as non-ACM. Samples results indicating "Did Not Analyze" (DNA) are not analyzed due to the stop on first positive request to the laboratory.

3.2.1 Friable ACM Analysis

Certain samples of friable materials shown to contain less than ten percent (<10%) asbestos are analyzed further by the “Point Count Method”. This procedure is recommended by the United States Environmental Protection Agency to confirm friable bulk samples shown to have <10% asbestos by PLM to be definitively negative or positive for asbestos. This method is accepted as providing statistically reliable results when analyzing bulk samples with very low asbestos concentrations. Friable materials containing “Trace” or “less than one percent (1%)” asbestos must be analyzed by the PLM Point Count Method. No samples were further analyzed by the PLM Point Count Method.

3.2.2 Non-Friable ACM Analysis

Certain samples of non-friable materials shown to contain “less than one percent (<1%) asbestos”, “TRACE” or “NAD” are recommended for analyses by the “NOB TEM ELAP 198.4 Method”. This procedure is recommended by the USEPA to further evaluate non-friable bulk samples for asbestos. Suspect materials confirmed by NOB TEM to be “<1% asbestos”, “TRACE” or “NAD” are considered non-asbestos containing. A total of three (3) samples were further analyzed by the NOB TEM Method.

4.0 INSPECTION RESULTS

4.1 Conclusion

During the roof inspection, forty-two (42) bulk samples of suspect ACM were collected and analyzed by PLM analysis. From the forty-two (42) samples collected, none were confirmed to be ACM. No further action is required. However, if during the course of the roof removal work materials are identified that were not previously sampled, work should be stopped, and the newly identified material sampled for asbestos content.

The results of the bulk sample analysis are provided in two (2) independent tables provided as Table I and Table II, respectively. Table I is the Asbestos Containing Materials Summary Table. This table provides an overall inventory of the ACM identified during the inspection. The table provides the location, material type, sample number, category, bulk sample result for each analytical procedure performed, a total estimated quantity of each type of ACM and the friability of the material. For the purpose of this report, the roof numbers identified in the “Location” column correspond to the roof numbers on the attached roof plans.

Table II provides an inventory of all negative (non-ACM). Table II provides the location, material type, sample number, category and the bulk sample result for each analytical procedure performed. The materials in Table II are negative and require no further action.

Any suspect material not specifically identified in this report as non-ACM should be assumed to contain asbestos unless sample results prove otherwise.

TABLE I
ASBESTOS-CONTAINING MATERIALS SUMMARY TABLE

KEY FOR TABLES I and II

* Please utilize the following key for abbreviations used in Tables I and II

KEY		ANALYTICAL METHODS
DNA = DID NOT ANALYZE	SF = SQUARE FEET	PLM PC = EPA 600/R-93/116 QUANTITATION 400 POINT COUNT
NAD = NO ASBESTOS DETECTED	LF = LINEAR FEET	TEM NOB = NEW YORK ELAP 198.4 METHOD
F = FRIABLE	Chrys = Chrysotile	PLM = EPA 600/R-93/116
NF = NON-FRIABLE	Amos = Amosite	PS = Previously Sampled
TSI = THERMAL SYSTEMS INSULATION	Anth = Anthophyllite	EA = Each
SURF = SURFACING MATERIAL	Trem = Tremolite	IM = Insufficient Material
MISC = MISCELLANEOUS MATERIAL	Croc = Crocidolite	NQ = Not Quantifiable
BOLD TEXT IN "LOCATION" COLUMN INDICATES SAMPLE LOCATION		

TABLE I
ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
BOOTH HILL ELEMENTARY SCHOOL
545 BOOTH HILL ROAD
TRUMBULL, CONNECTICUT

LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS				ESTIMATED QUANTITY	F/NF
				PLM	PLM PC	TEM NOB	ACM		
NO ASBESTOS CONTAINING MATERIALS WERE IDENTIFIED DURING THIS INSPECTION									

TABLE II
NON-ASBESTOS-CONTAINING MATERIALS SUMMARY TABLE

KEY FOR TABLES I and II

* Please utilize the following key for abbreviations used in Tables I and II

KEY		ANALYTICAL METHODS
DNA = DID NOT ANALYZE	SF = SQUARE FEET	PLM PC = EPA 600/R-93/116 QUANTITATION 400 POINT COUNT
NAD = NO ASBESTOS DETECTED	LF = LINEAR FEET	TEM NOB = NEW YORK ELAP 198.4 METHOD
F = FRIABLE	Chrys = Chrysotile	PLM = EPA 600/R-93/116
NF = NON-FRIABLE	Amos = Amosite	PS = Previously Sampled
TSI = THERMAL SYSTEMS INSULATION	Anth = Anthophyllite	EA = Each
SURF = SURFACING MATERIAL	Trem = Tremolite	IM = Insufficient Material
MISC = MISCELLANEOUS MATERIAL	Croc = Crocidolite	NQ = Not Quantifiable
BOLD TEXT IN "LOCATION" COLUMN INDICATES SAMPLE LOCATION		

TABLE II
NON - ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
BOOTH HILL ELEMENTARY SCHOOL
545 BOOTH HILL ROAD
TRUMBULL, CONNECTICUT

SAMPLE LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS			
				PLM	PLM PC	TEM NOB	ACM
Roof 1 - Roof Field	Rolled asphalt	09-27-PF-01A	MISC	NAD			NO
		09-27-PF-01B		NAD			
Roof 1 - Roof Field	Seam tar - black	09-27-PF-02A	MISC	NAD			NO
		09-27-PF-02B		NAD			
Roof 1 - Roof Field	Perlite insulation	09-27-PF-03A	MISC	NAD			NO
		09-27-PF-03B		NAD			
Roof 1 - Roof Field	PolyIso board paper backing	09-27-PF-04A	MISC	NAD			NO
		09-27-PF-04B		NAD			
Roof 1 - Roof Field	Black vapor barrier on metal deck	09-27-PF-05A	MISC	NAD			NO
		09-27-PF-05B		NAD			
Roof 1 - Roof Field	Base flashing felt/tar on wood termination bar	09-27-PF-06A	MISC	NAD		NAD	NO
		09-27-PF-06B		NAD			
Roof 1 - Vents, Roof 2 - Vents, Roof 3 - Roof Wall	Roof vent curb flashing felts/tar	09-27-PF-07A	MISC	NAD		NAD	NO
		09-27-PF-07B		NAD			
		09-27-PF-07C		NAD			
Roof 1 - Roof Field, Roof 3 - Roof Field	Grey flashing patch cement	09-27-PF-08A	MISC	NAD		NAD	NO
		09-27-PF-08B		NAD			
Roof 2 - Roof Field, Roof 3 - Roof Field	2-Ply tar/felts - field	09-27-PF-09A	MISC	NAD			NO
		09-27-PF-09B		NAD			
		09-27-PF-09C		NAD			
Roof 2 - Roof Field, Roof 3 - Roof Field	Perlite insulation	09-27-PF-10A	MISC	NAD			NO
		09-27-PF-10B		NAD			
		09-27-PF-10C		NAD			
Roof 2 - Roof Field, Roof 3 - Roof Field	Brown Poly Iso insulation	09-27-PF-11A	MISC	NAD			NO
		09-27-PF-11B		NAD			
		09-27-PF-11C		NAD			
Roof 2 - Roof Field, Roof 3 - Field	Black tar on brown Poly Iso insulation	09-27-PF-12A	MISC	NAD			NO
		09-27-PF-12B		NAD			
		09-27-PF-12C		NAD			
Roof 2 - Base, Roof 3 - Base	Base flashing felts/tar	09-27-PF-13A	MISC	NAD			NO
		09-27-PF-13B		NAD			
		09-27-PF-13C		NAD			

TABLE II
NON - ASBESTOS CONTAINING MATERIALS
SUMMARY TABLE
BOOTH HILL ELEMENTARY SCHOOL
545 BOOTH HILL ROAD
TRUMBULL, CONNECTICUT

SAMPLE LOCATION(S)	MATERIAL TYPE	SAMPLE NUMBER	CATEGORY	BULK SAMPLE ANALYSIS RESULTS			
				PLM	PLM PC	TEM NOB	ACM
Roof 5, Roof 7	EPDM seam caulk - black	09-27-PF-14A	MISC	NAD			NO
		09-27-PF-14B		NAD			
Roof 3, Roof 5	Reglet caulk - tan	09-27-PF-15A	MISC	NAD			NO
		09-27-PF-15B		NAD			
Roof 7, Roof 8	Bottom layer black felt/tar	09-27-PF-16A	MISC	NAD			NO
		09-27-PF-16B		NAD			
Roof 10	Architectural asphalt shingle	09-27-PF-17A	MISC	NAD			NO
		09-27-PF-17B		NAD			
Roof 10	Black felt paper	09-27-PF-18A	MISC	NAD			NO
		09-27-PF-18B		NAD			

APPENDIX A

ROOF PLANS AND SAMPLE LOCATION DIAGRAM

TRUMBULL PUBLIC SCHOOLS BOOTH HILL SCHOOL

545 BOOTH HILL ROAD
TRUMBULL, CONNECTICUT

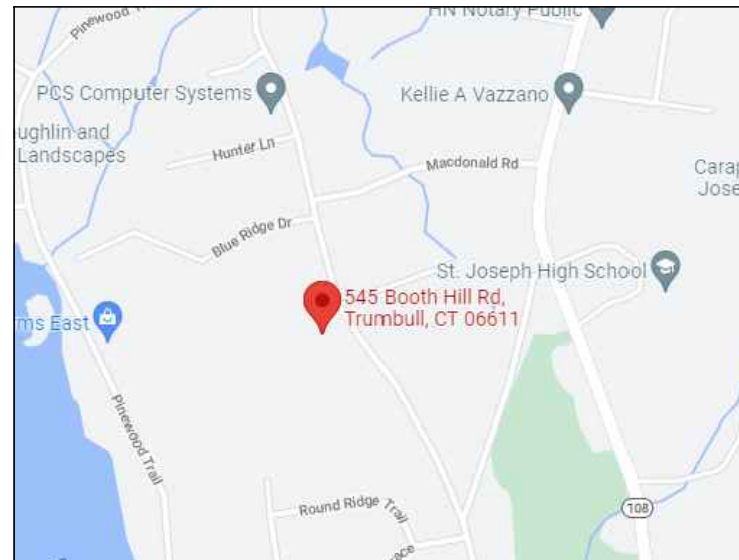
EAGLE PROJECT NUMBER: 22-065.12T1

INDEX OF DRAWINGS

RP-1

ROOF

LOCATION MAP



OCTOBER 17, 2022



8 SOUTH MAIN STREET, SUITE 3
TERRYVILLE, CONNECTICUT 06786
860-589-8257

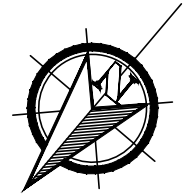
KEY:

9-27-PF-## = ASBESTOS SAMPLE
LOCATION AND NUMBER

BOLDED SAMPLE NUMBERS

INDICATE PRESENCE OF ASBESTOS IN
CONCENTRATIONS GREATER THAN 1%
WITHIN SAMPLE SET.

ROOF 1 = EAGLE ROOF NUMBER



PROJECT NO.: 22-065.10T1
DATE: 10/17/2022
DRAWN BY: BB
REVIEWED BY: PF

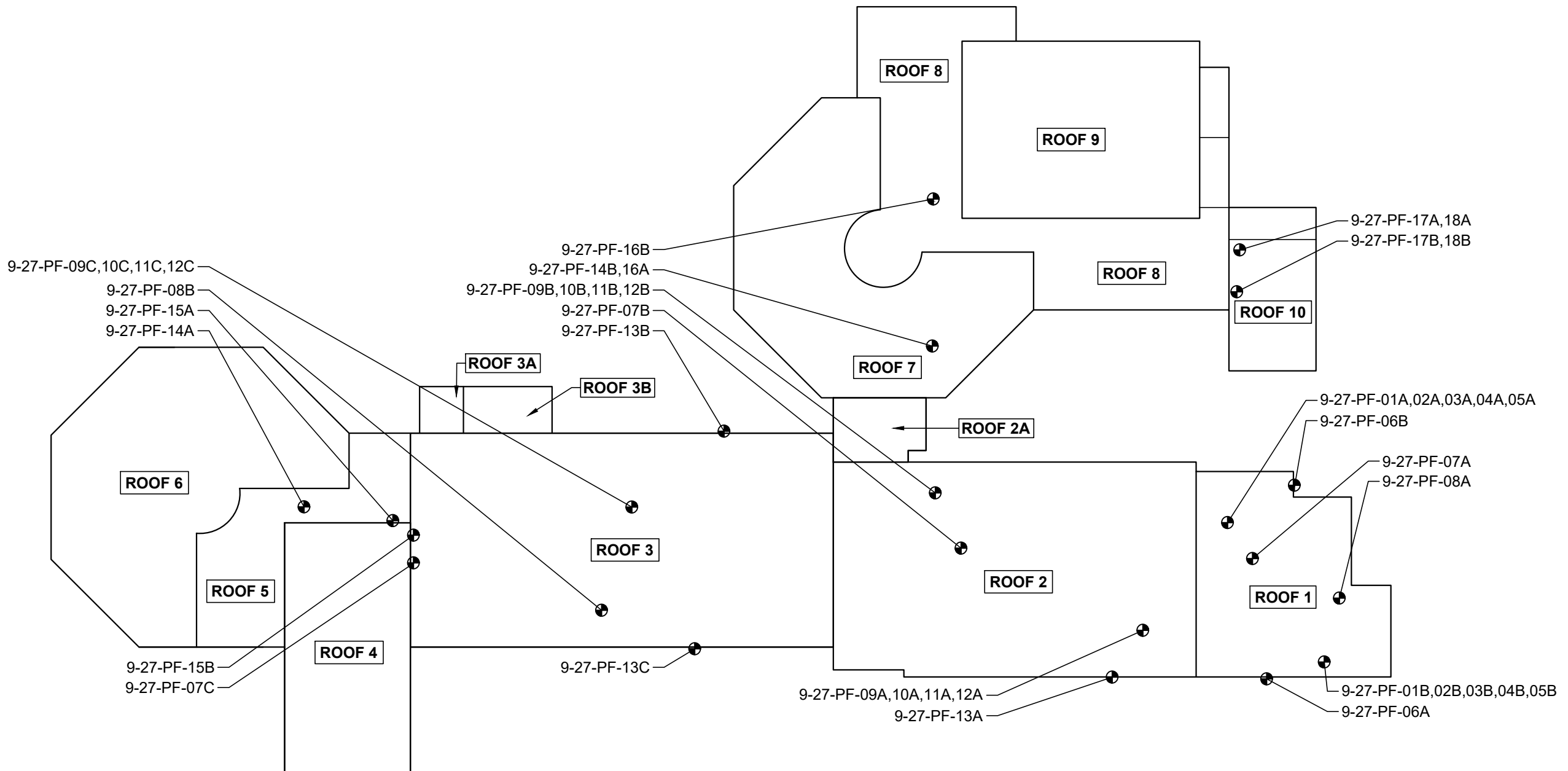
ASBESTOS-CONTAINING MATERIALS INSPECTION
TRUMBULL PUBLIC SCHOOLS
BOOTH HILL SCHOOL
545 BOOTH HILL ROAD
TRUMBULL, CONNECTICUT



SHEET NO.

RP-1

SHEET 1 OF 1



ROOF
NOT TO SCALE

SIDE-A (STREET SIDE)

SIDE-B

SIDE-D

APPENDIX B

ACM BULK SAMPLE LABORATORY REPORTS



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and
40 CFR, Part 763, Subpart E, App.E



Customer: Eagle Environmental, Inc
8 South Main Street Suite 3
Terryville, CT 06786

Attn: Victoria Farkas
Brandy LeBlanc-Christen

Lab Order ID: 10007156

Analysis: PLM

Date Received: 09/29/2022

Date Reported: 10/06/2022

Project: Trumbull PS Booth Hill ES 545 Booth Hill Rd

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
09-27-PF-01A	Rolled asphalt	None Detected	60% Fiber Glass	40% Other	Black, Gray Fibrous Heterogeneous
10007156_0001					Teased, Dissolved
09-27-PF-01B	Rolled asphalt	None Detected	60% Fiber Glass	40% Other	Black, Gray Fibrous Heterogeneous
10007156_0002					Teased, Dissolved
09-27-PF-02A	Seam tar - black	None Detected		100% Other	Black Non-Fibrous Homogeneous
10007156_0003					Dissolved
09-27-PF-02B	Seam tar - black	None Detected		100% Other	Black Non-Fibrous Homogeneous
10007156_0004					Dissolved
09-27-PF-03A	Perlite insulation	None Detected	50% Cellulose	10% Other 40% Perlite	Gray Fibrous Homogeneous
10007156_0005					Teased
09-27-PF-03B	Perlite insulation	None Detected	50% Cellulose	40% Perlite 10% Other	Gray Fibrous Homogeneous
10007156_0006					Teased
09-27-PF-04A	PolyIso board paper backing	None Detected	40% Cellulose	60% Other	Gray, Yellow Fibrous Heterogeneous
10007156_0007					Crushed, Teased
09-27-PF-04B	PolyIso board paper backing	None Detected	40% Cellulose	60% Other	Gray, Yellow Fibrous Heterogeneous
10007156_0008					Crushed, Teased

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogenous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 1%.

Christina Molnar (42)

Nathaniel J. Durham

Analyst

Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and
40 CFR, Part 763, Subpart E, App.E



Customer: Eagle Environmental, Inc
8 South Main Street Suite 3
Terryville, CT 06786

Attn: Victoria Farkas
Brandy LeBlanc-Christen

Lab Order ID: 10007156

Analysis: PLM

Date Received: 09/29/2022

Date Reported: 10/06/2022

Project: Trumbull PS Booth Hill ES 545 Booth Hill Rd

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
09-27-PF-05A	Black vapor barrier on metal deck	None Detected	60% Fiber Glass	40% Other	Black Fibrous Homogeneous
10007156_0009					Teased
09-27-PF-05B	Black vapor barrier on metal deck	None Detected	60% Fiber Glass	40% Other	Black Fibrous Homogeneous
10007156_0010					Teased
09-27-PF-06A	Base flashing felt/tar on wood termination bar	None Detected	60% Fiber Glass	40% Other	Black Fibrous Heterogeneous
10007156_0011					Teased, Dissolved
09-27-PF-06B	Base flashing felt/tar on wood termination bar	None Detected	60% Fiber Glass	40% Other	Black Fibrous Heterogeneous
10007156_0012					Teased, Dissolved
09-27-PF-07A	Roof vent curb flashing felts/tar	None Detected	40% Fiber Glass 20% Cellulose	40% Other	Black Fibrous Heterogeneous
10007156_0013					Teased, Dissolved
09-27-PF-07B	Roof vent curb flashing felts/tar	None Detected	40% Fiber Glass 20% Cellulose	40% Other	Black Fibrous Heterogeneous
10007156_0014					Teased, Dissolved
09-27-PF-07C	Roof vent curb flashing felts/tar	None Detected	40% Fiber Glass 20% Cellulose	40% Other	Black Fibrous Heterogeneous
10007156_0015					Teased, Dissolved
09-27-PF-08A	Grey flashing patch cement	None Detected	70% Cellulose	30% Other	Black Fibrous Heterogeneous
10007156_0016					Teased

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Christina Molnar (42)

Nathaniel J. Durham

Analyst

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Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and
40 CFR, Part 763, Subpart E, App.E



Customer: Eagle Environmental, Inc
8 South Main Street Suite 3
Terryville, CT 06786

Attn: Victoria Farkas
Brandy LeBlanc-Christen

Lab Order ID: 10007156

Analysis: PLM

Date Received: 09/29/2022

Date Reported: 10/06/2022

Project: Trumbull PS Booth Hill ES 545 Booth Hill Rd

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
09-27-PF-08B	Grey flashing patch cement	None Detected	70% Cellulose	30% Other	Black Fibrous Heterogeneous
10007156_0017					Teased
09-27-PF-09A	2-Ply tar/felts - field	None Detected	60% Fiber Glass	40% Other	Black Fibrous Heterogeneous
10007156_0018					Teased, Dissolved
09-27-PF-09B	2-Ply tar/felts - field	None Detected	60% Fiber Glass	40% Other	Black Fibrous Heterogeneous
10007156_0019					Dissolved, Teased
09-27-PF-09C	2-Ply tar/felts - field	None Detected	60% Fiber Glass	40% Other	Black Fibrous Heterogeneous
10007156_0020					Teased, Dissolved
09-27-PF-10A	Perlite insulation	None Detected	40% Cellulose	60% Perlite	Gray Fibrous Homogeneous
10007156_0021					Teased
09-27-PF-10B	Perlite insulation	None Detected	40% Cellulose	60% Other	Gray Fibrous Homogeneous
10007156_0022					Teased
09-27-PF-10C	Perlite insulation	None Detected	40% Cellulose	60% Perlite	Gray Fibrous Homogeneous
10007156_0023					Teased
09-27-PF-11A	Brown Poly Iso insulation	None Detected		100% Other	Brown Non-Fibrous Homogeneous
10007156_0024					Crushed

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogenous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 1%.

Christina Molnar (42)

Nathaniel J. Durham

Analyst

Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and
40 CFR, Part 763, Subpart E, App.E



Customer: Eagle Environmental, Inc
8 South Main Street Suite 3
Terryville, CT 06786

Attn: Victoria Farkas
Brandy LeBlanc-Christen

Lab Order ID: 10007156

Analysis: PLM

Date Received: 09/29/2022

Date Reported: 10/06/2022

Project: Trumbull PS Booth Hill ES 545 Booth Hill Rd

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
09-27-PF-11B	Brown Poly Iso insulation	None Detected		100% Other	Brown Non-Fibrous Homogeneous
10007156_0025					Crushed
09-27-PF-11C	Brown Poly Iso insulation	None Detected		100% Other	Brown Non-Fibrous Homogeneous
10007156_0026					Crushed
09-27-PF-12A	Black tar on brown Poly Iso insulation	None Detected	30% Cellulose	70% Other	Black, Brown Fibrous Heterogeneous
10007156_0027					Dissolved, Teased
09-27-PF-12B	Black tar on brown Poly Iso insulation	None Detected	30% Cellulose	70% Other	Brown, Black Fibrous Heterogeneous
10007156_0028					Teased, Dissolved
09-27-PF-12C	Black tar on brown Poly Iso insulation	None Detected	30% Cellulose	70% Other	Brown, Black Fibrous Heterogeneous
10007156_0029					Teased, Dissolved
09-27-PF-13A	Base flashing felts/tar	None Detected	60% Fiber Glass	40% Other	Black Fibrous Heterogeneous
10007156_0030					Teased, Dissolved
09-27-PF-13B	Base flashing felts/tar	None Detected	60% Fiber Glass	40% Other	Black Fibrous Heterogeneous
10007156_0031					Teased, Dissolved
09-27-PF-13C	Base flashing felts/tar	None Detected	60% Fiber Glass	40% Other	Black Fibrous Heterogeneous
10007156_0032					Teased, Dissolved

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogenous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 1%.

Christina Molnar (42)

Nathaniel J. Durham

Analyst

Approved Signatory

Scientific Analytical Institute, Inc. 4604 Dundas Dr. Greensboro, NC 27407 (336) 292-3888



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and
40 CFR, Part 763, Subpart E, App.E



Customer: Eagle Environmental, Inc
8 South Main Street Suite 3
Terryville, CT 06786

Attn: Victoria Farkas
Brandy LeBlanc-Christen

Lab Order ID: 10007156

Analysis: PLM

Date Received: 09/29/2022

Date Reported: 10/06/2022

Project: Trumbull PS Booth Hill ES 545 Booth Hill Rd

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
09-27-PF-14A	EPDM seam caulk - black	None Detected		100% Other	Black Non-Fibrous Homogeneous
10007156_0033					Ashed
09-27-PF-14B	EPDM seam caulk - black	None Detected		100% Other	Black Non-Fibrous Homogeneous
10007156_0034					Ashed
09-27-PF-15A	Reglet caulk - tan	None Detected		100% Other	Tan Non-Fibrous Homogeneous
10007156_0035					Ashed
09-27-PF-15B	Reglet caulk - tan	None Detected		100% Other	Tan Non-Fibrous Homogeneous
10007156_0036					Ashed
09-27-PF-16A	Bottom layer black felt/tar	None Detected	70% Cellulose	30% Other	Black Fibrous Heterogeneous
10007156_0037					Teased, Dissolved
09-27-PF-16B	Bottom layer black felt/tar	None Detected	70% Cellulose	30% Other	Black Fibrous Heterogeneous
10007156_0038					Teased, Dissolved
09-27-PF-17A	Architectural asphalt shingle	None Detected	40% Fiber Glass	60% Other	Black Fibrous Heterogeneous
10007156_0039					Teased, Dissolved
09-27-PF-17B	Architectural asphalt shingle	None Detected	40% Fiber Glass	60% Other	Black Fibrous Heterogeneous
10007156_0040					Dissolved, Teased

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 1%.

Christina Molnar (42)

Nathaniel J. Durham

Analyst

Approved Signatory



Bulk Asbestos Analysis

By Polarized Light Microscopy
EPA Method: 600/R-93/116 and
40 CFR, Part 763, Subpart E, App.E



Customer: Eagle Environmental, Inc
8 South Main Street Suite 3
Terryville, CT 06786

Attn: Victoria Farkas
Brandy LeBlanc-Christen

Lab Order ID: 10007156

Analysis: PLM

Date Received: 09/29/2022

Date Reported: 10/06/2022

Project: Trumbull PS Booth Hill ES 545 Booth Hill Rd

Sample ID	Description	Asbestos	Fibrous Components	Non-Fibrous Components	Attributes
Lab Sample ID	Lab Notes				Treatment
09-27-PF-18A	Black felt paper	None Detected	80% Cellulose	20% Other	Black Fibrous Homogeneous
10007156_0041					Teased
09-27-PF-18B	Black felt paper	None Detected	80% Cellulose	20% Other	Black Fibrous Homogeneous
10007156_0042					Teased

Disclaimer: Due to the nature of the EPA 600 method, asbestos may not be detected in samples containing low levels of asbestos. We strongly recommend that analysis of floor tiles, vermiculite, and/or heterogeneous soil samples be conducted by TEM for confirmation of "None Detected" by PLM. This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Analytical uncertainty available upon request. Scientific Analytical Institute participates in the NVLAP Proficiency Testing program. Unless otherwise noted blank sample correction was not performed. Estimated MDL is 1%.

Christina Molnar (42)

Analyst

Approved Signatory

10007156

Client: Eagle Environmental, Inc.
Contact: Victoria Farkas, Brandy Christen
Address: 8 South Main Street, Terryville, CT
Phone: 860-589-8257
Fax: 860-585-7034
Email: vfarkas@eagleenviro.com
 bleblanc@eagleenviro.com

Project: Trumbull PS Booth Hill ES
 545 Booth Hill Rd
Client Notes: Please stop on first positive in sets
 Please do not split samples
P.O. #. 22-065.12T1
Date Submitted: 9/28/2022 0:00
Analysis: PLM
TurnAroundTime: 5 Day

***Instructions:**
 Use Column "B" for your contact info

To See an Example Click the
 bottom Example Tab.

Enter samples between "<<" and ">>"
 Begin Samples with a "<<" above the first sample
 and end with a ">>" below the last sample.
 Only Enter your data on the first sheet "Sheet1"

Note: Data 1 and Data 2 are optional
 fields that do not show up on the official
 report, however they will be included
 in the electronic data returned to you
 to facilitate your reintegration of the report data.

Scientific
 Analytical
 Institute



4604 Dundas Drive
 Greensboro, NC 27407
 Phone: 336.292.3888
 Fax: 336.292.3313
 Email: lab@sailab.com

Sample Number	Data 1	Sample Description	Data 2
<<			
09-27-PF-01A	sel	Rolled asphalt	Roof 1 - Roof Field
09-27-PF-01B		Rolled asphalt	Roof 1 - Roof Field
09-27-PF-02A	sel	Seam tar - black	Roof 1 - Roof Field
09-27-PF-02B		Seam tar - black	Roof 1 - Roof Field
09-27-PF-03A	sel	Perlite insulation	Roof 1 - Roof Field
09-27-PF-03B		Perlite insulation	Roof 1 - Roof Field
09-27-PF-04A	sel	Polyiso board paper backing	Roof 1 - Roof Field
09-27-PF-04B		Polyiso board paper backing	Roof 1 - Roof Field
09-27-PF-05A	sel	Black vapor barrier on metal deck	Roof 1 - Roof Field
09-27-PF-05B		Black vapor barrier on metal deck	Roof 1 - Roof Field
09-27-PF-06A	sel	Base flashing felt/tar on wood termination bar	Roof 1 - Base Flashing
09-27-PF-06B		Base flashing felt/tar on wood termination bar	Roof 1 - Base Flashing
09-27-PF-07A		Roof vent curb flashing felts/tar	Roof 1 - Vents
09-27-PF-07B	sel	Roof vent curb flashing felts/tar	Roof 2 - Vents
09-27-PF-07C		Roof vent curb flashing felts/tar	Roof 3 - Roof Wall
09-27-PF-08A	sel	Grey flashing patch cement	Roof 1 - Roof Field
09-27-PF-08B		Grey flashing patch cement	Roof 3 - Roof Field

Relinquished By

Accepted ☒

Rejected ☐

Received By

J. Allen 9/29 10:30am

09-27-PF-09A		2-Ply tar/felts - field	Roof 2 - Roof Field
09-27-PF-09B	sel	2-Ply tar/felts - field	Roof 2 - Roof Field
09-27-PF-09C		2-Ply tar/felts - field	Roof 3 - Roof Field
09-27-PF-10A		Perlite insulation	Roof 2 - Roof Field
09-27-PF-10B	sel	Perlite insulation	Roof 2 - Roof Field
09-27-PF-10C		Perlite insulation	Roof 3 - Roof Field
09-27-PF-11A		Brown Poly Iso insulation	Roof 2 - Roof Field
09-27-PF-11B	sel	Brown Poly Iso insulation	Roof 2 - Roof Field
09-27-PF-11C		Brown Poly Iso insulation	Roof 3 - Roof Field
09-27-PF-12A		Black tar on brown Poly Iso insulation	Roof 2 - Roof Field
09-27-PF-12B	sel	Black tar on brown Poly Iso insulation	Roof 2 - Roof Field
09-27-PF-12C		Black tar on brown Poly Iso insulation	Roof 3 - Field
09-27-PF-13A		Base flashing felts/tar	Roof 2 - Base
09-27-PF-13B	sel	Base flashing felts/tar	Roof 3 - Base
09-27-PF-13C		Base flashing felts/tar	Roof 3 - Base
09-27-PF-14A		EPDM seam caulk - black	Roof 5
09-27-PF-14B	sel	EPDM seam caulk - black	Roof 7
09-27-PF-15A	sel	Reglet caulk - tan	Roof 5
09-27-PF-15B	sel	Reglet caulk - tan	Roof 3
09-27-PF-16A		Bottom layer black felt/tar	Roof 7
09-27-PF-16B	sel	Bottom layer black felt/tar	Roof 8
09-27-PF-17A		Architectural asphalt shingle	Roof 10
09-27-PF-17B	sel	Architectural asphalt shingle	Roof 10
09-27-PF-18A		Black felt paper	Roof 10
09-27-PF-18B	sel	Black felt paper	Roof 10

>>

Relinquished By

Received By



Bulk Asbestos Analysis by Transmission Electron Microscopy

Semi-Quantitative
Chatfield SOP 1988-02 Rev. 1

Customer: Eagle Environmental, Inc
8 South Main Street Suite 3
Terryville, CT 06786

Attn: Victoria Farkas
Brandy LeBlanc-Christen
Peter Folino

Lab Order ID: 10007156

Analysis: TBS

Date Received: 10/10/2022

Date Reported: 10/11/2022

Project: Trumbull PS Booth Hill ES 545 Booth Hill
Rd

Sample ID	Description	Organic (Wt %)	Acid Soluble (Wt. %)	Asbestos (Wt %)	LCL-UCL (Wt. %)
Lab Sample ID	Lab Notes				
09-27-PF-06A	Base flashing felt/tar on wood termination bar	59%	0%	None Detected	
10007156_0011					
09-27-PF-07A	Roof vent curb flashing felts/tar	49%	0%	None Detected	
10007156_0013					
09-27-PF-08A	Grey flashing patch cement	78%	0%	None Detected	
10007156_0016					

Disclaimer: This report relates only to the samples tested and may not be reproduced, except in full, without the written approval of SAI. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government.

Daniel Schwartz (3)

Analyst

Approved Signatory

10067156 R

Client: Eagle Environmental, Inc.
Contact: Victoria Farkas, Brandy Christen
Address: 8 South Main Street, Terryville, CT
Phone: 860-589-8257
Fax: 860-585-7034
Email: vfarkas@eagleenviro.com
bleblanc@eagleenviro.com
pfolino@eagleenviro.com
Project: Trumbull PS Booth Hill ES
545 Booth Hill Rd
Client Notes: Please stop on first positive in sets
Please do not split samples
P.O. #: 22-065.12T1
Date Submitted: 10/6/2022 0:00
Analysis: Chatfield
TurnAroundTime: 24 Hour

***Instructions:**

Use Column "B" for your contact info

To See an Example Click the
bottom Example Tab.

Enter samples between "<<" and ">>"
Begin Samples with a "<<" above the first sample
and end with a ">>" below the last sample.
Only Enter your data on the first sheet "Sheet1"

Note: Data 1 and Data 2 are optional
fields that do not show up on the official
report, however they will be included
in the electronic data returned to you
to facilitate your reintegration of the report data.

Scientific
Analytical
Institute



4604 Dundas Drive
Greensboro, NC 27407
Phone: 336.292.3888
Fax: 336.292.3313
Email: lab@sailab.com

Sample Number	Data 1	Sample Description	Data 2
<<			
09-27-PF-06A		Base flashing felt/tar on wood termination bar	Roof 1 - Base Flashing
09-27-PF-07A		Roof vent curb flashing felts/tar	Roof 1 - Vents
09-27-PF-08A		Grey flashing patch cement	Roof 1 - Roof Field

>>

Accepted ☒Rejected ☐

10/10

Relinquished By

Received By

APPENDIX C

EAGLE ENVIRONMENTAL INC. AND LABORATORY CERTIFICATES AND LICENSES

CERT#: A-508-Virtual.628

CHEMSCOPE TRAINING DIVISION
ASBESTOS INSPECTOR/MANAGEMENT PLANNER REFRESHER
8-HOUR TRAINING CERTIFICATE

Peter J. Folino

8 South Main Street, Suite 3, Terryville CT

Has attended an 8-hour course on the subject discipline on

09/02/2022 and has passed a written examination.

"The person receiving this certificate has completed the requisite training required for asbestos accreditation as an inspector/management planner under TSCA Title II"

Course topics include a review and update on asbestos health hazards, functions of inspectors and management planners, building systems, planning, inspecting for asbestos, sampling and analysis, respiratory protection, government regulations and preparing the inspection report.

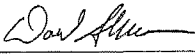
The training course has been accredited by the State of Connecticut.

Examination 1 Score: 98%

Examination 2 Score: 98%

Exam Date: 09/02/2022

Expiration Date: 09/02/2023


Daniel Sullivan
Training Manager

Chem Scope, Inc.
15 Moulthrop Street
North Haven CT 06473
Phone: 203.865.5605
www.chem-scope.com

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STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

PURSUANT TO THE PROVISIONS OF THE GENERAL STATUTES OF CONNECTICUT

THE INDIVIDUAL NAMED BELOW IS CERTIFIED

BY THIS DEPARTMENT AS A

ASBESTOS CONSULTANT-INSPECTION/MANAGEMENT PLANNER

PETER J. FOLINO

CERTIFICATE NO.

000184

CURRENT THROUGH

05/31/23

VALIDATION NO.

03-958963


SIGNATURE


COMMISSIONER

State of Connecticut, Department of Public Health

Approved Environmental Laboratory

THIS IS TO CERTIFY THAT THE LABORATORY DESCRIBED BELOW HAS BEEN APPROVED BY THE STATE DEPARTMENT OF PUBLIC HEALTH PURSUANT TO APPLICABLE PROVISIONS OF THE PUBLIC HEALTH CODE AND GENERAL STATUTES OF CONNECTICUT, FOR MAKING THE EXAMINATIONS, DETERMINATIONS OR TESTS SPECIFIED BELOW WHICH HAVE BEEN AUTHORIZED IN WRITING BY THAT DEPARTMENT.

SCIENTIFIC ANALYTICAL INSTITUTE, INC.

LOCATED AT 4604 DUNDAS DRIVE IN GREENSBORO, NC 27407

AND REGISTERED IN THE NAME OF NATHANIEL DURHAM

THIS CERTIFICATE IS ISSUED IN THE NAME OF NATHANIEL DURHAM WHO HAS BEEN DESIGNATED
BY THE REGISTERED OWNER/AUTHORIZED AGENT TO BE IN CHARGE OF THE LABORATORY WORK COVERED BY THIS CERTIFICATE OF
APPROVAL AS FOLLOWS:

DRINKING WATER

Examination For:
ASBESTOS

ENVIRONMENTAL HEALTH & HOUSING

LEAD IN PAINT
LEAD (PAINT) IN SOIL
LEAD IN DUST WIPES

BUILDING MATERIALS

Examination For:
ASBESTOS FIBERS – PCM, TEM
ASBESTOS IN BULK – PLM, TEM

SEE COMPUTER PRINT-OUT FOR SPECIFIC TESTS APPROVED

EFFECTIVE RENEWAL DATE JANUARY 1, 2022

THIS CERTIFICATE EXPIRES DECEMBER 31, 2023 AND IS REVOCABLE FOR CAUSE BY THE STATE DEPARTMENT OF PUBLIC HEALTH

DATED AT HARTFORD, CONNECTICUT, THIS 1st DAY OF November, 2021



Registration No.

PH-0336

Lori J. Mathieu
Public Health Branch Chief

SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:

- 1. Demolition and removal of selected portions of a building or structure.
 - 2. Repair procedures for selective demolition operations.

- B. Related Sections include the following:

- 1. Division 1 Section "Cutting and Patching" for cutting and patching procedures for selective demolition operations.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.
- B. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain Owner's property.

Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.

1.5 SUBMITTALS

- A. Proposed Dust-Control and Noise-Control Measures: Submit statement or drawing that indicates the measures proposed for use, proposed locations, and proposed time frame for their operation. Identify options if proposed measures are later determined to be inadequate.
- B. Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged.
- C. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.6 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI A10.6 and NFPA 241.

1.7 PROJECT CONDITIONS

- A. Tenants will occupy portions of building immediately adjacent to selective demolition areas. Conduct selective demolition so Tenants will not be disrupted. Provide not less than 72 hours' notice to Owner of activities that will create excessive disturbance to the Tenants.
- B. Maintain access to existing walkways, doorways, and other adjacent occupied or used facilities.
 - 1. Do not close or obstruct walkways, doorways, or other occupied or used facilities without written permission from authorities having jurisdiction and the Owner.
- C. Owner assumes no responsibility for condition of areas to be selectively demolished.
 - 1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- D. Storage or sale of removed items or materials on-site will not be permitted.
- E. Hazardous Materials: Hazardous materials, if present shall be the responsibility of the building owner. Do not disturb hazardous materials or items suspected of containing hazardous materials. The Contractor shall contact the Owner immediately upon discovery of suspect material.

- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1.8 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 REPAIR MATERIALS

- A. Use repair materials identical to existing materials.
 - 1. If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - 2. Use materials whose installed performance equals or surpasses that of existing materials.
- B. Comply with material and installation requirements specified in individual Specification Sections.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to the Architect.
- E. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES

- A. Existing Utilities: Maintain services indicated to remain and protect them against damage during selective demolition operations.

- B. Do not interrupt existing utilities serving occupied or operating facilities unless authorized in writing by the Owner. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to authorities having jurisdiction.

- 1. Provide at least 72 hours' notice to the Owner if shutdown of service is required.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from the Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
 - 2. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
 - 3. Protect existing site improvements, appurtenances, and landscaping to remain.
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to existing areas to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Protect walls and other existing finish work that are to remain or that are exposed during selective demolition operations.

3.4 POLLUTION CONTROLS

- A. Dust Control: Limit the spread of dust and dirt. Comply with governing environmental-protection regulations.
 - 1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding and pollution.
- B. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- C. Cleaning: Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.5 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows.
 - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above before disturbing the next lower areas below.
 - 2. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 3. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 4. Dispose of demolished items and materials promptly.
 - 5. Return elements of construction and surfaces that are to remain to condition existing before selective demolition operations began.
- B. Existing Facilities: Protect existing, stairs, walkways, building entries, and other building facilities during selective demolition operations.
- C. Removed and Reinstalled Items: Comply with the following:
 - 1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
 - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 - 3. Protect items from damage during transport and storage.
 - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Owner, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.6 PATCHING AND REPAIRS

- A. General: Promptly repair damage to adjacent construction caused by selective demolition operations.
- B. Patching: Comply with Division 1 Section "Cutting and Patching."
- C. Repairs: Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.
 - 1. Completely fill holes and depressions in existing masonry walls that are to remain with an approved masonry patching material applied according to manufacturer's written recommendations.
- D. Finishes: Restore exposed finishes of patched areas and extend restoration into adjoining construction in a manner that eliminates evidence of patching and refinishing.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.8 SELECTIVE DEMOLITION SCHEDULE

- A. Scope of Selective Demolition is indicated on the Drawings.

END OF SECTION 02 41 19

SECTION 053000 - METAL ROOF DECK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. This Contractor shall provide all labor, equipment, and materials required to perform the work called for in this Section. This Contractor shall coordinate his work with other trades and work in other Sections.
- C. Work of this Section includes, but is not limited to, the following:
 - 1. Supply and installing new 22 gauge galvanized metal deck Type "B" over all openings in deck created by removal of equipment or old capped curbs.
 - 2. Metal Roof Deck repair work per allowances. Refer to Section 012100.
- D. Related Work Specified Elsewhere Includes:
 - 1. 020700 Roof Demolition
 - 2. 012100 Allowances
 - 3. 072210 Roof Insulation

PART 2 - PRODUCTS

2.1 MATERIALS

- A. 20 Ga. G60 galvanized steel reinforcement sheets.
- B. #8 x 1" Tek cadmium plated self-drilling self-tapping screws (Mid-span).
- C. #12 x 1-1/2" Tek cadmium plated self-drilling self-tapping screws (broken welds).
- D. Paint - black asphaltum ASTM 1187-82, Type I.
- E. 20 Ga. Steel deck to match existing (deteriorated areas requiring replacement).

PART 3 - EXECUTION

3.1 INSPECTION

- A. Installer must examine areas and conditions under which metal decking is to be installed and notify Construction Coordinator/Architect in writing of conditions detrimental to proper and timely completion of work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the Construction Coordinator/Architect.
- 3.2 Wire brush rusted deck areas and paint entire steel deck with black asphaltum paint ASTM 1187-82, Type I. do not install so that paint drips to interior. Any interior damage from paint drippage will be cleaned to the owner's satisfaction at the full cost of the Contractor.
- 3.3 Areas found to be weak which are less than 12" x 12" shall be reinforced with 20 Ga. galvanized Fasten with 1" x #8 Tek fasteners spaced 6" on center at perimeter of sheet and 12" on center throughout field of sheet. No piece shall be less than 4 sq. ft.
- 3.4 Provide #8 x 1" self-drilling, self-taping fasteners where missing at adjacent deck panels at no more than 30" on center along seam.
- 3.5 Provide self-drilling, self-tapping fasteners at all locations where welds are broken. These must retain decking to structural steel.
- 3.6 New steel deck required to replace deteriorated shall match existing. Steel deck shall be retained to structural support 12" on center maximum with minimum #12 x 1-1/2" tek screws. Deck shall nest into existing. Deck shall extend a minimum of 6" onto existing deck.
 - A. Should replacement deck to match not be available, minimum 18 gauge galvanized splice plates 12" in width shall be placed at the junction of the two (2) dissimilar pieces of deck. Fasten splice plates 6" on center to each side of the discontinuity in the deck.
- 3.7 Install new deck over openings to close them off. Lap deck over onto existing metal or concrete deck at 12" all around. Use appropriate fasteners in each flute for the existing deck type.
- 3.8 METHOD OF MEASUREMENT AND PAYMENT
 - A. The Owner's Representative shall be notified of all areas.
 - B. The quantities of all Unit Price items shall be noted and signed for by both the Contractor's Representative and the Owner's Representative.

END OF SECTION 053000

SECTION 061100 - ROOF ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. This Contractor shall provide all labor, equipment, and materials required to perform the work called for in this Section. This Contractor shall coordinate his/her work with other trades and work in other Sections.
- C. Work of this Section includes, but is not limited to, the following:
 - 1. All items required to complete rough carpentry including curbs, wood blocking, nailing strips, furring, anchoring, shoring, bracing, nailers, and miscellaneous closures for all work, including electrical, mechanical work requiring such work as described elsewhere in the Specifications and Drawings.
 - 2. All rough hardware required for fabrication and installation of the work, including bolts, spikes, anchors, nails, braces, insulation and similar items.
 - 3. Temporary enclosures as required for protection of work, equipment and materials.
 - 4. New gypsum board at new skylight interiors as noted on the Drawings.
 - 5. New 2x6 stud walls with batt insulation at control joints.
- D. Related Work Specified Elsewhere Includes:
 - 1. 020700 Roof Demolition
 - 2. 072210 Roof Insulation
 - 3. 076000 Flashing and Sheet Metal

1.2 SUBMITTALS

- A. Submit sample of new wood blocking.
- B. Submit certification of pressure treatment and kiln drying.
- C. Sample of fasteners.
- D. Certification of fastener corrosion resistance.

1.3 QUALITY ASSURANCE

- A. National Forest Products Association (NFPA):
NFPA-1977 "National Design Specification for Wood Construction"

B. Southern Forest Products Association (SFPA):

SFPA-1977 “Grading Rules”

C. Western Wood Products Association (WWPA):

WWPA-1977 “Grading Rules for Western Lumber”

D. National Lumber Grades Authority (NLGA):

NLGA-1978 “Standard Grading Rules”

E. American Wood Preserver’s Bureau (AWPB):

LP-2 “Above Ground Use, Pressure Treated with Water-Bourne Preservatives”

F. American Plywood Association (APA):

(WB50) “Design Construction Guide” - APA Panel Roof Sheathing

1.4 Keep materials dry during delivery and storage. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber and plywood, and provide air circulation within the stacks.

1.5 Factory-mark each piece of lumber and plywood with type, grade, mill and grading agency identification and submit mill certificate that material has been inspected and graded in accordance with requirements.

PART 2 – PRODUCTS

2.1 LUMBER

- A. Lumber for blocking, nailing and similar concealed work shall be graded and marked by the Manufacturer’s Association recognized as responsible for the grading rules of the species involved. All rough lumber shall be air-seasoned or kiln dried to a moisture content not to exceed 19%.
- B. All lumber shall be surfaced four (4) sides and dressed to mill sizes
- C. Lumber species for blocking, nailing strips, and the like shall be Douglas Fir-Larch or Southern Pine No. 2 or better.
- D. All lumber shall be pressure treated with water-borne, salt-treated preservative in accordance with American Wood Preservers Association (AWPA) Standards LP-2 and shall also bear American Wood Preservers Bureau (AWPB) quality mark designation. Wood preservative shall be Celcure, Wolman Salts, Chemonite, or approved equal. Oil based preservatives, such as creosote, will not be used. Cuprinol coatings are not acceptable. All pressure treated materials shall be kiln dried after treatment. Treater shall stamp KDAT on all pieces.

2.2 FASTENERS

- A. Fasteners shall be corrosion resistant and suitable for the intended use, unless shown otherwise
- B. Wood to wood, use hot dip galvanized nails. ASTM A123.
- C. Screw fasteners shall be hi performance fluorocarbon coated #12 or larger. They shall meet the requirements of FM document 4470 as it relates to corrosion, as manufactured by OMG, Buildex, or Dekfast
- D. Concrete or masonry fasteners shall be fluorocarbon coated such as Tapcon, or approved equal.

2.3 PLYWOOD: Plywood shall be span rated APA grade stamped conforming to product standard PS-1-83 Exposure #1, Group 1. Thickness as shown or required on the Drawings.

2.4 BATT INSULATION: Batt insulation at stud walls shall be unfaced fiberglass. Size to fill the width of the stud wall.

2.5 SHEETROCK: Sheetrock to be 5/8" Firecode "C", fastened with Type "S" screws where noted. Tape all joints and paint to match existing interior.

PART 3 – EXECUTION

3.1 WORKMANSHIP

- A. Measurements required to ensure proper fitting of all work will be obtained or verified at the building.
 - 1. Fastening shall be as recommended by State Building Code Anchor and Nail schedule.
- B. Crooked, warped, bowed, or cracked materials shall not be employed. Where found they shall be replaced

3.2 BLOCKING, ETC.

- A. All necessary underlayment for various roofs, nailing strips, cant strips, and blocking shall be installed to fulfill the purposes for which they are to be used and as detailed. Top of blocking shall finish flush with top of insulation.
- B. Attach to substrates as required to support applied loading. Countersink screws, bolts and nuts flush with surfaces, unless otherwise shown.
- C. Install new plywood over studs to provide backup for installation of new flashings.
- D. Install new gypsum board at skylights. Size as noted on the Drawings.

3.3 ROUGH HARDWARE

- A. All rough hardware and metal fastenings specified herein, or required for proper installation of carpentry shall be provided and installed. Nails, screws, bolts, anchors and similar items shall be galvanized, sized, and of types shown or of approved size and types required to secure members rigidly in place.
- B. Furnish and install pressure treated lumber for all roof nailers, stripping, fillers, blocking and nailing for all sheet metal work. Coat or paint all cuts and holes required with a concentrated solution of the preservative, in accordance with AWPA Standard M-4.

3.4 TEMPORARY PROTECTION

- A. Provide temporary protection such as wood doors, wood railings, protection on stairs, at floor openings and the like; maintain in good condition and satisfactory repair

3.5.1 JOB CONDITIONS

- A. Prior to commencing any work called for in this Section, carefully examine the substrata and conditions under which the work is to be performed and notify the Consultant in writing of any unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected. Start of work shall indicate acceptance of conditions.

3.6 METHOD OF MEASUREMENT AND PAYMENT

- A. The Project Representative shall be notified of all areas to be repaired

END OF SECTION 061100

23008

Town of Trumbull

**Booth Hill Elementary School
Roof Replacement
State Project # 144-0107 RR**

SECTION 071940 - VAPOR RETARDER

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. This Contractor shall provide all labor, equipment, and materials required to perform the work called for in this Section. This Contractor shall coordinate his work with other trades and work in other Sections.
- C. Work of this Section includes, but is not limited to, the following:
 - 1. Provide vapor retarder complete, in place, as shown on the Drawings, specified herein, or needed for a complete and proper installation.
- D. Related Work Specified Elsewhere Includes:
 - 1. 020700 Roof Demolition
 - 2. 061100 Roof Rough Carpentry
 - 3. 072210 Roof Insulation

1.2 SUBMITTALS

- A. Manufacturer's specifications and other data required demonstrating compliance with specified documents.

1.3 PRODUCT HANDLING, DELIVERY, AND STORAGE

- A. Deliver all purchased materials to the job site in their original unopened containers with all labels intact and legible at the time of inspection.
- B. Deliver materials in sufficient quantity to allow continuity of work.
- C. Handle rolled goods so as to prevent damage to edge or ends. Store rolled goods on end.
- D. Protect all materials from ground or construction moisture and weather. Store materials off the ground on wood pallets and cover with tarpaulins.
- E. Select and operate material handling equipment so as not to damage existing construction or applied vapor retarder.
- F. Provide continuous protection for materials against wetting and moisture absorption.

- G. Protect materials against damage by construction traffic.
- H. Remove wet materials from project site.
- I. Carefully inspect all materials from suppliers when unloading and reject and remove from site immediately any damaged or unsuitable materials.
- J. Construction Loading: Exercise caution to prevent damage to existing structure and new work by excessive or eccentric construction loading.

1.4 JOB CONDITIONS

- A. Environmental Requirements: All work to be performed on dry days only. No work to be installed on damp or wet surfaces. Do not apply vapor retarder when ambient temperature is below 40°F.

1.5 PROTECTION

- A. Provide special protection or avoid traffic on completed work. Restore to original condition or replace vapor retarder damaged during handling of insulation, and roofing materials.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Vapor retarder system for metal roof deck shall be 6 mil polyethylene with taped and sealed seams at all metal deck roof areas.
- B. Vapor retarder system for all concrete roof deck areas shall be a self-adhering modified bitumen as provided by the primary roofing manufacturer, complete with primers.

2.2 MATERIALS

- A. 6 mil polyethylene.
- B. Duct tape.
- C. Self-adhering modified bitumen vapor retarder system by primary roofing manufacturer. Sheets to have a polyethylene surface, either smooth or textured. No sand or gravel surfaced allowed. Products equal to Ice and Water Shield by GCP as a standard.
- D. Primer as supplied by the manufacturer.
- E. Compatible mastic as supplied by the manufacturer.

2.3 OTHER MATERIALS

- A. All other materials, not specifically described, but required, for a complete and proper installation of the work of this Section shall be as selected by the Contractor and subject to the approval of the roof membrane manufacturer and Consultant.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine the areas and conditions under which work of this Section will be installed. Correct conditions detrimental to the proper and timely completion.
- B. Proceed with work only after preparation of substrate and penetrating work has been completed.

3.2 SURFACE CONDITIONS

- A. Proceed with work only when weather conditions are in compliance with roofing materials manufacturer's recommendations and limitations. Do no work when the temperature is below 40°F or in wet weather.
- B. Surface shall be clean, smooth, dry, rigid and free of debris, projections and foreign substances detrimental to the satisfactory performance of the work called for in this Section.
- C. All vertical surfaces to receive vapor retarder must be free of dirt, gravel, or other loose material. All surfaces must be smooth and dry.
- D. Clean old asphalt from concrete roof areas.

3.3 INSTALLATION OF POLYETHYLENE VAPOR RETARDER

- A. Lay polyethylene over steel deck using the largest sizes practical.
- B. Tape all joints together with duct tape. Fold joint in polyethylene prior to taping.
- C. Turn vapor retarder up 4" onto and around all penetrations. Seal vapor retarder to all penetrations and perimeter blocking.

- 3.4 Repair all breaks in the vapor retarder to the approval of the roof membrane manufacturer and the Architect prior to the installation of the roof insulation. Where required by roofing membrane manufacturer or Architect, remove damaged vapor retarder and install new materials.

3.5 INTALLATION OF SELF-ADHERED VAPOR RETARDER

- A. Prime concrete deck with asphalt primer and let dry per manufacturer's directions.
- B. Provide one-ply of self-adhering modified bitumen to the primed surface of the concrete deck with minimum 3" side laps and 6" end laps.
 - 1. All laps shall be rolled and sealed.
- C. No more vapor retarder shall be installed in one (1) day than can be properly covered and roofed that same day.
- D. Extend up and adhere the vapor retarder at perimeters and penetrations for 4" up and around all penetrations. Seal all edges with two-ply glass fabric and compatible mastic.

END OF SECTION 071940

SECTION 072210 - ROOF INSULATION

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

B. Contractor shall provide all labor, equipment, and materials required to perform the work called for in this Section. This Contractor shall coordinate his work with other trades and work in other Sections.

C. Work of this Section includes, but is not limited to, the following:

1. At metal deck roof areas over the peel and stick vapor retarder, install a 1/4" per foot tapered insulation system comprised of 4' x 4' x 1/4" tapered 25 PSI insulation, overlaid with coverboard mechanically fastened to deck.

D. Related Work Specified Elsewhere Includes:

1. 024119 Selective Demolition
2. 061100 Roof Rough Carpentry
3. 075410 Fully Adhered EPDM Roofing

1.2 REFERENCE STANDARDS

A. ASTM

1. C1289, Type II, Class 1, Grade 3 Plastic Foam Insulation, 25 PSI.

1.3 SUBMITTALS

A. Product data and samples of all materials.

B. Submit Taper Plan and sections.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original containers, in sufficient quantity to allow continuity of work. Store on clean, raised platforms with approved weather protection when stored outdoors. Insulation shall be completely protected while in storage and during application to keep it dry at all times. Insulation shrink-wrap will not be considered adequate protection. All insulation must be tarped over with waterproof tarps at all times.

1.5 JOB CONDITIONS

A. Proceed with work only when weather conditions comply with manufacturer's recommendations. Do not work when temperature is 20°F and falling or in wet weather.

PART 2 – MATERIALS

2.1 ISOCYANURATE INSULATION

A. ASTM C1289, Type II, Class 1, Grade 3 Plastic Foam Insulation, size 4'x4', minimum compressive strength of 25 PSI, supplied and/or approved by the roofing manufacturer for usage under their roofing system. Tapered system to be sloped at 1/4" per foot, with 1/2" slope tapered insulation crickets. Min thickness of tapered system to be 2", not including coverboard.

2.2 OVERLAY BOARD

A. DensDeck Prime 1/2" thickness for roofing, as supplied or approved by the roofing manufacturer.

2.3 ADHESIVES

A. Insulation Adhesive: Plural low rise foam or urethane adhesive as supplied or approved by the membrane manufacturer.

2.4 FASTENERS

A. Screw type, corrosion resistant fasteners, of appropriate length to penetrate through deck a minimum of 1". Washer shall be minimum 3" diameter. Fastener and washer shall be FM approved for uplift and corrosion resistance and be supplied by the membrane manufacturer. Fasteners to be sized to penetrate through deck by min. 3/4".

PART 3 – EXECUTION

3.1 INSPECTION

A. Verify that substrate is clean, dry, and proper for application of insulation. All work of other trades penetrating the roof deck must be complete. Verify that wood blocking is installed. Do not proceed until all defects are corrected. Ensure that the vapor retarder is installed and turned up on all penetrations and sealed.

1. Contractor shall investigate underside of deck for items which may become penetrated by mechanical fasteners. Contractor shall exercise caution to avoid damaging items below the deck. Contractor shall repair, at his cost, any items damaged by mechanical fasteners.

3.2 INSULATION AND DENSDECK OVERLAY

A. At metal deck roof areas over the peel and stick vapor retarder, install a 1/4" per foot tapered insulation system comprised of 4' x 4' x 1/4" tapered 25 PSI insulation mechanically fastened to deck with manufacturer approved insulation fasteners and Plates, sized to penetrate deck min. 3/4". Coverboard to be fastened @ (10) per 4x8 In field of roof, (18) per 4x8 at 8' wide perimeters, and (20) at 10' x 10' corners

B. Install an insulation cricket 1/2" per foot behind all equipment as noted on Roof Plan.

3.3 PROTECTION: Do not install more insulation at one time than will be protected from wetting or other damage by installation of roofing membrane on the same day or prior to rain or dew. Remove installed insulation that has become wet and replace with dry material. Protect installed insulation at all times against damage by roof traffic.

A. Insulation shall be staggered and roofed over at the end of each day.

1. All insulation shall be staggered from day to day. No straight joints will be accepted at start/stop areas. Leave 1/2 board out for start of new work.

B. Provide positive water stops at the end of each day to prevent moisture from entering into the building or the finished roofing system.

END OF SECTION 072210

SECTION 075410 - FULLY ADHERED EPDM ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. This Contractor shall provide all labor, equipment, and materials required to perform the work called for in this Section. This Contractor shall coordinate his work with other trades and work in other Sections.
- C. Work of this Section includes, but is not limited to, the following:
 - 1. Provide all labor and material to complete the fully adhered .090" EPDM membrane system.
 - 2. System to provide a 30-year labor and materials warranty from the manufacturer.

NOTE: The work described herein is not intended to be a final and/or specific list of work to be performed or materials to be provided, but rather it is to be used as a guide. The roofing contractor is admonished to examine and review the drawings and these specifications in order to properly assess those items of work which are obviously requisite whether they are specifically noted or not. It is implicit in the intent of the plans and specifications that a complete, watertight, expertly fabricated system of work be delivered to the Owners.

- D. Related Work Specifications Elsewhere Includes:
 - 1. 061100 Roof Rough Carpentry
 - 2. 072210 Roof Insulation
 - 3. 076000 Flashing and Sheet Metal

1.2 QUALITY ASSURANCE

- A. Installer shall be thoroughly trained and experienced in the materials and methods required for application of the EPDM Roof Membrane System and shall be by an applicator approved by the EPDM product manufacturer. Applicator shall have a minimum of five (5) year's experience in this type of roofing.
- B. All materials and workmanship shall comply with the recommendations of the National Roofing Contractors Association and S.P.R.I.
- C. Owner may retain the services of a roof consultant to observe the roof construction.

1.3 SYSTEM

- A. Fully adhered .090" non-reinforced EPDM roof membrane system by Carlisle, Firestone or Johns Manville.
- B. System shall carry Class A fire rating and FM wind storm rating.

1.4 SUBMITTALS

- A. Approved Applicator: Submit evidence of contractor's status as an approved applicator of the EPDM. Roof Membrane System.
- B. Manufacturer's Warranty: The manufacturer shall provide the Owner with a thirty (30) year minimum written labor and material warranty for the System. These must be submitted prior to award of contract. The original copy of this warranty shall be delivered to the Owner when the job is completed and the terms of the warranty are satisfied.
- C. Samples of all roofing products.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Use all means necessary to protect roofing materials before, during and after installation and to protect the work of all other trades. In the event of damage, immediately make all repairs and replacements necessary to the approval of the Consultant and at no additional cost to the Owner.
- B. All materials shall be delivered to the site in the original unopened packaging with legible manufacturer's identification and shall be stored in a fashion to provide continuous protection from damage and the weather.
- C. Carefully inspect all materials from suppliers when unloading and reject immediately any damaged or unsuitable materials.
- D. Adhesives shall be stored between 60oF and 80oF. If subject to lower or higher temperatures they shall be returned to room temperature for three (3) days before use. Do not use materials damaged in handling or storage.

PART 2 - MATERIALS (all materials to be low VOC compliant)

2.1 All materials used in the EPDM Roof system shall be furnished by the system manufacturer or its distributor except as noted herein. Acceptable manufacturers are Carlisle Syntec, John Manville, and Firestone. No others will be considered.

- A. Roof Membrane: Membrane shall be an average .090" +/- 10% thick EPDM rubber sheet.
 - 1. EPDM shall conform to ASTM D-4637, Type I, Class NR.
 - 2. EPDM system shall carry a UL Class A rating.

- B. Base Flashing: Flashing shall be .090" minimum cured EPDM sheet for straight run applications, and .060" minimum uncured EPDM sheet for corners and metal flange applications.
- C. Bonding Adhesive: Shall be a low VOC contact adhesive as furnished by the system manufacturer. It shall be compatible to all materials to which the EPDM Roof Membrane, or flashing, is to be bonded. Not to be used to bond EPDM to EPDM.
- D. Rubber Fastening Strips: 6" reinforced EPDM strips with applied seam tape for use at base tie in locations.
- E. Seam Tape: Shall be as furnished by the manufacturer of the system. Shall be used to bond EPDM to EPDM or EPDM flashing.
 - 1. Seam tape to be 6" width
- F. Lap Splice Cleaner: Shall be furnished or approved by the manufacturer of the system.
- G. Water Cut-off Mastic: Shall be furnished by the manufacturer of EPDM system.
- H. Termination Bars: Shall be furnished by the manufacturer of the system fabricated from 1/8" x 1" aluminum strip. Corners shall be rounded and free of burrs. Holes shall be slotted and spaced at 8" o.c.
 - 1. Masonry expansion fasteners shall have stainless steel pins.
- I. Rubber walkway pads supplied by the roofing manufacturer.
- J. Screws, Washers, Nailing Strips, and Accessories: Shall be as furnished by the manufacturer of the system, and as shown in the drawings. Fasteners and washers shall be treated so that they are corrosion resist. Fasteners shall pass the requirements of Factory Mutual Document 4470 as it relates to corrosion.
- K. Field seam stripped with 6" composite EPDM/seam tape.

PART 3 - EXECUTION

- 3.1 Prior to commencing any work called for in this Section, carefully examine the substrate and conditions under which the work is to be performed, and notify the Consultant in writing of any unsatisfactory substrate or conditions. Do not proceed with the work until unsatisfactory conditions and substrate have been corrected. Start of work shall indicate acceptance of conditions.
- 3.2 Surfaces on which the EPDM Roof Membrane is to be applied shall be clean, smooth, free of fins, sharp edges, loose and foreign material, oil, grease, roof cement and solvents.
- 3.3 Provide pressure treated wood blocking as shown in Drawings. (See Section 061100).

3.4 INSTALLATION

- A. General: Comply with manufacturer's instruction for installation of all materials. EPDM Roof Membrane shall be installed in the maximum sizes possible. Where there is a difference between the manufacturer's recommendation and the Project Manual, the more stringent mode will be chosen. The Architect shall decide.
- B. EPDM Membrane:
1. Inspect each sheet of membrane on both sides before installation. Sheets which are defective will be returned to manufacturer.
 2. Position the EPDM roof membrane over the insulation substrate without stretching. Allow membrane to relax approximately 1/2 hour prior to bonding.
 3. Fold sheet back 10' such that half of the underside of the sheet is exposed. Sheet fold shall be smooth without wrinkles or buckles.
 4. Apply bonding adhesive evenly, without gobs or puddles, with a 9" wide plastic core short nap paint roller to both the sheet and the substrate at the rate specified by the membrane manufacturer. DO NOT APPLY BONDING ADHESIVE TO THE SPLICE AREA.
 5. Allow adhesive to dry until it is tacky but will not string or stick to a dry finger touch.
 6. Roll the coated membrane into the coated substrate while avoiding wrinkles.
 7. Brush down the bonded half of the sheet immediately after rolling the sheet into the adhesive, with a soft bristle push broom to achieve maximum contact.
 8. Fold back the unbonded half of the sheet and repeat the bonding procedure.
 9. Roll with a weighted roller to enhance adhesion
 10. Install adjoining sheets in the same manner, overlap splice edges a minimum of 6".
- C. Splicing Procedure:
1. Remove dirt and excess dust from the mating surfaces of both sheets by wiping with a clean rag. If necessary, scrub the sheet with warm soapy water and rinse with clean water. Extra cleaning is required where a factory seam intersects a field seam.
 2. Fold back the top sheet and clean both mating surfaces with washing solvent. Change rags frequently; soiled/contaminated rags to be discarded. Allow surface to dry. The splice tape is then applied as directed by the manufacturer to both surfaces. Lap splice to be 6" minimum. Laps shall go with the flow of water.
 - a. No wrinkles in the splice tape will be acceptable.
 - b. Splice tape shall be exposed at the splice a nominal 1/4" plus or minus 1/4".
 - (1) Exposure of > 1/2" will require patching.
 3. Roll the splice with a steel roller, using positive downward pressure, toward the outer edge of the splice. Any wrinkles, defects, or fishmouths must be patched with .090" flashing sheet. The patch must extend a minimum of 12" in each direction from the defect.
 4. After completion of the seam, strip all seams with a minimum 6" width of composite EPDM, splice tape flashing.

D. EPDM Attachment:

1. Fully Adhered Membrane System:

- a. Reinforced EPDM strips to be fastened 12" on center, to perimeter walls, adjoining vertical walls, penetrations and curbs as shown on Drawings or required by the EPDM manufacturer.

3.5 FLASHING

- A. Flash all perimeters, curb flashings, and flashings around roof projections (vent pipes, etc.). Straight runs of base flashing may be done with cured .090" FR EPDM material. The flashing shall be fully spliced to the main sheet as per splicing procedure including in the seam sealant. Bonding adhesive shall be applied to the flashing and the surface to which it is to be bonded, and when dry to the touch, roll the flashing onto the surface.
- B. All flashing shall have a minimum 8" height including stack flashings.
- C. Flashing shall be done in accordance with details by the manufacturer of the system or as detailed herein, whichever is more stringent.

3.6 TERMINATION BARS: The perimeter of the roof and top edge of all projections shall be sealed as shown in the detail drawing or with a 1" x 1/8" aluminum termination bar fastened 8" on center, lap sealant at top edge, and water cut-off mastic behind membrane at termination bar location, whichever is more stringent.

3.7 REPAIR OF DEFICIENCIES IN ROOF MEMBRANE SYSTEM

- A. Correction of splices, fishmouths, tears, etc., may be accomplished by splicing a membrane section over the affected area.
- B. Select repair membrane which is the same material as that to be repaired.
- C. Extend the repair membrane section at least 6" in every direction from the splice, tear, etc. to be corrected.
- D. Remove field dirt by scrubbing the splice area with warm soapy water; rinse with clean water, and dry.
- E. Follow the splicing procedure found above.

3.8 PERFORMANCE REQUIREMENTS

- A. It is required that the roofing and associated work be watertight and not deteriorate excessively or at rates more rapid than indicated by manufacturer's published literature. Any failure of the work to comply with these requirements will be considered a failure of materials and workmanship under the guarantee.

- B. It is intended that the whole system of roofing and associated work, under normal conditions and with normal maintenance, will perform without failure, including any necessity for excessive maintenance, for at least 30 years after the time of final acceptance.
- C. Wind blow-off of roofing or associated work, when independent of structural failure, will be considered a failure of materials and workmanship, unless there is reasonable evidence that blow-off occurred at a time when wind velocities at the project site exceeded FM approved system wind speeds as published by the National Weather Service.

3.9 PROTECTION

- A. Provide walk pads at top and bottom of ladder, at doors, or as shown on the Drawings. Install per manufacturer's directions.

3.10 INSPECTION AND WARRANTY

- A. Inspection: Upon completion of installation of the Membrane and Flashing, the manufacturer of the system, or its representatives shall inspect the installation to ascertain if the EPDM Roof Membrane System is installed in accordance with specifications and details. The issuance of the manufacturer's Warranty shall indicate the manufacturer's approval of the installation.
- B. Shop Drawings: Shop drawings are required for final inspection. They may be provided by the manufacturer of the system, its representative, "as built" drawings by the approved applicator. Shop drawings shall include:
 - 1. Outline and size of the roof.
 - 2. Location and type of penetrations.
 - 3. Perimeter and penetration details.
- C. The Contractor and manufacturer shall issue the pre-approved guarantees and warranties each countersigned by all parties as follows:
 - 1. Manufacturer's 30-year guarantee including materials and workmanship.
 - 2. Roofing Contractor's five (5) year warrantee including materials and workmanship.

END OF SECTION 075410

SECTION 076000 - FLASHING AND SHEET

METAL PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. This Contractor shall provide all labor, equipment, and materials required to perform the work called for in this Section. This Contractor shall coordinate his work with other trades and work in other Sections.
- C. Work of this Section includes, but is not limited to, the following:
 - 1. Furnish all labor, materials, tools, appliances, equipment, hoist, ladders, scaffolding, work platforms, etc., all as may be required to complete the work.
 - 2. New 20 oz. lead coated copper, counterflashing, dutchmen cleats, and end wall closures.
 - 3. New .040" aluminum fascia extensions.
 - 4. New .040" aluminum hook strips.
 - 5. .032" aluminum drain basket corner retainers.
 - 6. .040" Painted Aluminum scuppers as shown on the Drawings.
 - 7. Manufacturer's prefabricated aluminum fascia system.
 - a. Fascia system by Metal-Era Anchor-Tight; size as noted on the Drawings.
 - 8. Secondary stainless steel strainers 1/2" mesh .050" welded stainless steel wire, 2'6" x 2'6"x 8" at all roof drains.
 - 9. New .018" stainless steel accessory counterflashing at hvac units and curbs.
 - 10. New .032" aluminum box gutter with Kynar 500 finish. Color to be selected by Owner and Architect from full selection of Kynar colors.
 - 11. 4" .032" aluminum round downspouts with Kynar 500 finish. Color to be selected by Owner and Architect from full selection of Kynar colors.
 - 12. Box gutter hidden aluminum gutter hangers
- D. Related Work Specified Elsewhere Includes:
 - 1. 061100 Roof Rough Carpentry
 - 2. 079000 Joint Sealants

1.2 QUALITY ASSURANCE

- A. Preconstruction Conference: Review all proposed materials and procedures with the Owner prior to starting work. All work will be inspected and complete approval must be obtained before final acceptance by the Owner.

- B. Comply with all applicable codes and regulations and all pertinent recommendations contained in "Architectural Sheet Metal Manual," latest edition, published by the Sheet Metal and Air Conditioning Contractors Association.
- C. Comply with all pertinent recommendations of the National Roofing Contractors Association as contained in the Association Manual of Roofing Practice.
- D. Comply with all applicable recommendations of Revere Copper & Brass, Inc., as contained in "Copper and Common Sense," latest edition.

1.3 REFERENCE STANDARDS (LATEST EDITIONS)

- A. American Society for Testing & Materials (ASTM):
 - 1. B32 Solder Metals
 - 2. B101 Lead-Coated Copper Sheets
 - 3. B370 Copper Sheet and Strip for Building Construction
 - 4. A167 Stainless Steel
 - 5. B209 Aluminum alloy sheet and plate.

1.4 SUBMITTALS

- A. Submit samples and product data on all materials.
- B. Submit Shop Drawings of flashing details should the detail deviate from the Drawings.
- C. Submit two (2) copies of the warranty to the Owner.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle materials in manner to prevent damage and deterioration. Provide packaging as required for protection. Schedule delivery of materials to coincide with use on job. Store materials indoors protected from weather until installed.

1.6 JOB CONDITIONS

- A. Install materials in dry weather on dry, smooth surfaces only.
- B. If when installing roofing, insulation, etc., it is disclosed that repairs must be made to the structure before roofing work may continue, it shall be immediately called to the attention of the Architect/Consultant for their examination, documentation and solution. A price for such repairs or replacement as may be deemed necessary shall be presented to the Owners for their approval and authorization to issue a change order. Unless otherwise ordered the Roofing Contractor shall employ such tradesmen as may be required to perform corrective work.

- C. The Roofing Contractor shall, during his operations and at all times, protect workmen of all trades, building personnel, general public and the structure against injury or damage. Provide roof top/edge protection for workmen as required by O.S.H.A.

1.7 WARRANTY

- A. Prior to start of work, furnish sample of Contractor's written warranty for five (5) years for the Owner's approval.

PART 2 - PRODUCTS

- 2.1 LEAD-COATED COPPER: ASTM B101, Type I, Class A, cold rolled, hard temper, lead coated, with lead coating both sides.

- A. Tolerances in thickness of sheet copper (exclusive of lead coating) shall be not less than the following:

WEIGHT (OUNCES) THICKNESS (INCHES)

NOMINAL	NOMINAL	MINIMUM
16	.0216	.019
20	.0270	.0245
24	.0323	.0295

(All thickness listed in these Specifications are exclusive of lead coatings.)

- 2.2 RED COPPER: ASTM B370.

- 2.3 SOLDER: ASTM B32, 50% tin and 50% lead composition.

- 2.4 FLUX: Rosin, muriatic acid neutralized with zinc chloride for copper, stainless acid for stainless steel.

- 2.5 NAILS FOR FASTENING COPPER: Copper or hardware bronze of stronghold type with a large flat head. Not smaller than #12 gauge with length sufficient to penetrate roof deck/blocking not less than 7/8".

2.6 MASONRY FASTENERS

- A. Zamac expansion anchors with stainless steel pin equal to Nail-In by Rawl for securement of flashings.

2.7 SCREWS, BOLTS, AND RIVETS: Copper, bronze or brass for fastening copper. Rivets shall be 1/8" diameter, stainless steel pop-type. Pop rivet shall have non-ferrous mandrels.

2.8 EXPANSION INSERTS: Lead, bronze, nylon or plastic as approved.

2.9 STAINLESS STEEL: ASTM A 167 Type 302, 304, sheet.

2.10 1/2" mesh stainless steel hardware cloth Type 302, 304 .050" welded wire.

2.11 Mill aluminum alloy 3003 H14, ASTM B209 thickness as shown on the Drawings.

2.12 Hi Performance metal edge system complying with ANSI ES-1 as supplied by the primary roofing manufacturer

PART 3 - EXECUTION

3.1 Sheet metal work of every description shall be performed by expert tradesmen thoroughly familiar with and normally engaged in this type of roofing.

3.2 The Roofing Contractor shall have been engaged in the type of work required of this Specification for not less than five (5) years. He shall, upon demand (prior to executing a contract), show evidence of work he has performed of similar scope of this caliber and magnitude.

3.3 SURFACES: Surfaces to be covered with sheet metal shall be smooth and free from defects of every description. All such surfaces shall be cleaned of dirt, rubbish and other foreign materials before sheet metal work is started. All projecting nails shall be driven flush with roof boarding.

- A. Protect all work against breakage, staining or damage of any character. All such damage shall be repaired or replaced as ordered by the Architect/Consultant to his complete satisfaction and at the roofer's full expense.

- B. The Roofing Contractor shall remove by mechanical or other means (including hand chipping) all products found on the structure, which will interfere with the proper installation of new

work or in its performance after installation. Solvents will not be permitted except for unusual conditions and then only at the express approval of the Owner.

- 3.4 TINNING: Edges of all sheets to be soldered whether lead coated or not shall be tinned with solder on both sides for a width of not less than 2 inches. Lead coated materials shall be thoroughly wire brushed to produce a bright finish prior to tinning.
- A. The Contractor shall protect tinned metals from becoming soiled.
- 3.5 SOLDERING: All soldering shall be done slowly with well heated coppers -to heat sheet thoroughly and to sweat solder completely through full width of seam. Ample solder shall be used and seam shall show at least one full inch of evenly flowed solder. Wherever possible, all soldering shall be done in flat position. Seams on slope steeper than 45 degrees shall be soldered second time. When soldering lead coated copper, liberal amount of flux shall be brushed into seams. Solder all seams in copper. All soldering shall be done within the tinned area.
- 3.6 OPEN FLAME EQUIPMENT: Open flame equipment shall be carefully placed and utilized to protect against promotion of accidental fire. Fire extinguishers and fireproof blankets shall be employed and/or be readily available for use. Extinguishers shall be within "arm's reach" of any workmen employing an open-flame device.
- 3.7 SOLDERING COPPER: Soldering shall be done with heavy soldering copper of blunt design, properly tinned before using. They shall weight not less than 10 pounds per pair except, when gas heated soldering torch is used, copper itself shall weigh not less than 3 pounds.
- 3.8 COUNTERFLASHING: Counterflashing shall be 20 oz. lead coated copper with soldered seams. Counterflashing shall be installed as shown on the Drawings.
- A. Provide .018" stainless steel accessory counterflashing to be installed at all existing counterflashings where detailed and shall have a 4" face with hemmed edge. Solder all corners.
- 3.9 RIVETS: Rivets, where employed for soldered lap joints, shall generally be staggered at 3" intervals (1-1/2" between rivets). Where staggering of rivets is not possible, they shall be installed at 1" intervals. All rivet heads shall be soldered.
- 3.10 If a particular piece of work has been inadvertently omitted from these Specifications or not shown on the Drawings the design principle and techniques carried in "The Application of Copper and Common Sense" as published by Revere shall govern.
- 3.11 Provide 4" x 4" clad metal notched retainers at the corners of the debris baskets centered at all roof drains. Strip in with .060" membrane.

- 3.12 Large 1/2" mesh stainless steel debris baskets measuring 2'6" x 2'6" x 8" shall be installed at all roof drains. Provide 3" hemmed flange around edges and attach to retainers on two (2) sides.
- 3.13 Provide new scuppers were shown on roof plan.
- A. Notch out blocking as required to install scupper.
- B. Scupper to have all seams lapped and sealed.
1. Sealant to be installed between sections of metal.
- 3.14 Provide expansion joints in copper work maximum 30' on center as called for in Copper & Common Sense.
- 3.15 Install perimeter edging as recommended by Primary roofing manufacturer.
- A. Provide fascia extensions complying with SMACNA manual.
- 3.16 COORDINATION
- A. The Contractor shall be responsible for directing and coordinating all trades engaged in performing work in each Section of the Specifications and properly schedule their operations to keep the overall work flowing smoothly with minimum interruption.
- B. If, in the judgment of the Consultant, the Contractor can better serve the progress and general quality of the project as a whole by redirecting their efforts, they shall comply with such directive forthwith; said compliance shall be without recourse.
- C. The Roofing Contractor shall delegate a job superintendent to attend all job meetings and make all manner of decisions in his stead which shall, once made, be as binding as though they were made by The/A Principal of the Company.
- D. The Contractor shall be required to fully cooperate with and coordinate his and his Subcontractors work with the contracting persons or project managers selected and designated by the Owners.

END OF SECTION 076000

SECTION 077100 - ROOF ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. This Contractor shall provide all labor, equipment, and materials required to perform the work called for in this Section. This Contractor shall coordinate his work with other trades and work in other Sections.
- C. Work of this Section includes, but is not limited to, the following:
 - 1. New skylights.
 - 2. New gas pipe supports.
- D. Related Work Specified Elsewhere Includes:
 - 1. 061100 Roof Rough Carpentry
 - 2. 075323 Ethylene-Propylene-Diene-Monomer (EPDM) Roofing
 - 3. 076000 Flashing and Sheet Metal

1.2 SUBMITALS

- A. Submit Shop Drawings and product data.
- B. Indicate on Shop Drawings, configuration and dimension of components, adjacent construction, required clearances and tolerances, and other affected work.
- C. Provide product data on shape of components, materials and finishes, anchor types and locations.
- D. Submit manufacturer's installation instructions.
- E. Submit manufacturer's five (5) year warranty.

PART 2 - MATERIALS

2.1 SKYLIGHTS

- A. New square and hexagonal double dome skylight assembly. Clear over clear at Roof Area R7 and shall be fall protection units to meet OSHA Standards, including hexagon skylight. New square skylights at Roof Area R11 shall be clear over white and be fall protection units. Hexagon skylight at Roof Area R11 shall be clear over clear and be fall protection unit to meet OSHA Standards.
- B. Skylights shall be based on Wasco with equals by Fisher, Plasteco, or approved equal.
- C. Skylights to be Energy Efficient EcoSky3. To be NFRC certified to meet IECC 2021 requirements for all climate zones.

- D. New curbs for skylights shall be provided by the skylight manufacturer. Curbs to be thermally broken sheet aluminum with 1.5" rigid insulation. Interior of curb to be painted White.

2.2 GAS PIPE SUPPORTS

- A. To be Base Strut-5 by Miro Industries with pipe strap. All supports to be installed on a piece of walk pad.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Beginning of installation means acceptance of existing conditions.

Contractor shall field measure all existing curbs and match the existing sizes to the new replacement curbs. This is for all rooftop units and exhaust fans.

3.2 INSTALLATION

- A. Install components in accordance with manufacturer's instructions.
- B. Coordinate roofing membrane and base flashings with installation of components of this Section.
- C. Install walk pads around all curbs (exhaust fans/rooftop units). pad requirements.

3.3 WARRANTY

- A. Provide ten (10) year warranty for skylights.

END OF SECTION 077100

SECTION 077233 - ROOF HATCHES

PART 1 - GENERAL

1.1 SUMMARY

- A. Work Included: Provide factory-fabricated roof hatches for ladder access.
- B. Related Sections: Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
 - 1. Division 7 Section "Sheet Metal Flashing and Trim" for shop- and field-fabricated metal flashing and counterflashing, roof expansion-joint covers, and miscellaneous sheet metal trim and accessories.

1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's product data.
- B. Shop Drawings: Submit shop drawings including profiles, accessories, location, adjacent construction interface, and dimensions.
- C. Warranty: Submit executed copy of manufacturer's standard warranty.

1.3 QUALITY ASSURANCE

- A. Manufacturer: A minimum of 5 years experience manufacturing similar products.
- B. Installer: A minimum of 2 years experience installing similar products.
- C. Manufacturer's Quality System: Registered to ISO 9001 Quality Standards including in-house engineering for product design activities.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original packaging. Store materials in a dry, protected, well-ventilated area. Inspect product upon receipt and report damaged material immediately to delivering carrier and note such damage on the carrier's freight bill of lading.

1.5 PROJECT CONDITIONS

- A. Field Measurements: Verify required openings for each type of roof accessory by field measurements before fabrication and indicate measurements on Shop Drawings.

1.6 COORDINATION

- A. Coordinate layout and installation of roof accessories with roofing membrane and base flashing and interfacing and adjoining construction to provide a leakproof, weathertight, secure, and noncorrosive installation.
 - 1. With Architect's approval, adjust location of roof accessories that would interrupt roof drainage routes or roof expansion joints.

1.7 WARRANTY

- A. Manufacturer's Warranty: Provide manufacturer's standard warranty. Materials shall be free of defects in material and workmanship for a period of five years from the date of purchase. Should a part fail to function in normal use within this period, manufacturer shall furnish a new part at no charge.

PART 2 - PRODUCTS

2.1 ROOF HATCH

- A. Basis-of-Design Manufacturer: Type E Roof Hatch by The BILCO Company, P.O. Box 1203, New Haven, CT 06505, 1-800-366-6530, Fax: 1-203-535-1582, Web: www.BILCO.com.
 - 1. Field measure and coordinate with requirements of installed roof hatch.
- B. Furnish and install where indicated on plans metal roof hatch Type E, basis of design, size width: 36" (914mm) x length: 36" (914mm). Length denotes hinge side. The roof hatch shall be single leaf. The roof hatch shall be pre-assembled from the manufacturer.
- C. Performance characteristics:
 - 1. Cover shall be reinforced to support a minimum live load of 40 psf (195kg/m²) with a maximum deflection of 1/150th of the span or 20 psf (97 kg/m²) wind uplift.
 - 2. Operation of the cover shall be smooth and easy with controlled operation throughout the entire arc of opening and closing.
 - 3. Operation of the cover shall not be affected by temperature.
 - 4. Entire hatch shall be weather tight with fully welded corner joints on cover and curb.
- D. Cover: Shall be 14 gauge (1.9mm) paint bond G-90 galvanized steel with a 3" (76mm) beaded flange with formed reinforcing members. Cover shall have a heavy extruded EPDM rubber gasket that is bonded to the cover interior to assure a continuous seal when compressed to the top surface of the curb.
- E. Cover insulation: Shall be fiberglass of 1" (25mm) thickness, fully covered and protected by a metal liner 22 gauge (.8mm) paint bond G-90 galvanized steel.
- F. Curb: Shall be 12" (305mm) in height and of 14 gauge (1.9mm) paint bond G-90 galvanized steel. The curb shall be formed with a 3-1/2" (89mm) flange with 7/16" (11.1mm) holes provided for securing to the roof deck. The curb shall be equipped with an integral metal

capflashing of the same gauge and material as the curb, fully welded at the corners, that features the Bil-Clip® flashing system, including stamped tabs, 6" (153mm) on center, to be bent inward to hold single ply roofing membrane securely in place.

- G. Curb insulation: Shall be rigid, high-density fiberboard of 1" (25mm) thickness on outside of curb.
- H. Lifting mechanisms: Manufacturer shall provide compression spring operators enclosed in telescopic tubes to provide, smooth, easy, and controlled cover operation throughout the entire arc of opening and closing. The upper tube shall be the outer tube to prevent accumulation of moisture, grit, and debris inside the lower tube assembly. The lower tube shall interlock with a flanged support shoe [for aluminum construction: welded to the curb assembly; for steel construction: through bolted to the curb assembly].
- I. Hardware
 - 1. Heavy pintle hinges shall be provided
 - 2. Cover shall be equipped with a spring latch with interior and exterior turn handles
 - 3. Roof hatch shall be equipped with interior and exterior padlock hasps.
 - 4. The latch strike shall be a stamped component bolted to the curb assembly.
 - 5. Cover shall automatically lock in the open position with a rigid hold open arm equipped with a 1" (25mm) diameter red vinyl grip handle to permit easy release for closing.
 - 6. All hardware shall be zinc plated and chromate sealed. [For installation in highly corrosive environments or when prolonged exposure to hot water or steam is anticipated, specify Type 316 stainless steel hardware].
 - 7. Cover hardware shall be bolted into heavy gauge channel reinforcing welded to the underside of the cover and concealed within the insulation space.
- J. Finishes: Factory finish shall be [select: alkyd based red oxide primed steel or mill finish aluminum].

2.2 HATCH RAIL SYSTEM

- A. Basis-of-Design Manufacturer: Type Bil-Guard® 2.0 Roof Hatch Railing System by The BILCO Company, P.O. Box 1203, New Haven, CT 06505, 800-366-6530, Fax: 203-933-8478, Web: www.bilco.com.
 - 1. Field measure and coordinate with requirements of installed roof hatch.
- B. Furnish and install where indicated on plans hatch rail system, basis of design, Model RL2-E. The hatch rail system shall be field assembled and installed (by others) per the manufacturer's instructions.
- C. Performance characteristics:
 - 1. High visibility safety yellow powder coat paint finish (*other colors available as a special order*).
 - 2. Hatch rail system shall attach to the capflashing of the roof hatch and shall not penetrate any roofing material.

3. Hatch rail system shall satisfy the requirements of OSHA 29 CFR 1910.23 and shall meet OSHA strength requirements with a factor of safety of two.
 4. Corrosion resistant construction with a five-year warranty.
 5. Hinged gate shall ensure continuous barrier around the roof hatch.
 6. Self-closing gate hinge and positive latching system provided with hatch rail system.
- D. Posts and Rails: 1-1/4" (32mm) 6061 T6 schedule 40 aluminum pipe
- E. Hardware: Mounting brackets shall be 3/8" (9mm) thick extruded aluminum. Pivoting post guides with compression fittings and latching mechanism shall be cast aluminum. Self-closing hinges and all fasteners shall be type 316 stainless steel.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and openings for compliance with requirements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install products in strict accordance with manufacturer's instructions and approved submittals. Locate units level, plumb, and in proper alignment with adjacent work.
1. Test units for proper function and adjust until proper operation is achieved.
 2. Repair finishes damaged during installation.
 3. Restore finishes so no evidence remains of corrective work.

3.3 ADJUSTING AND CLEANING

- A. Clean exposed surfaces using methods acceptable to the manufacturer which will not damage finish.

END OF SECTION

SECTION 079000 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. This Contractor shall provide all labor, equipment, and materials required to perform the work called for in this Section. This Contractor shall coordinate his work with other trades and work in other Sections.
- C. Work of this Section includes, but is not limited to, the following:
 - 1. Caulking of exterior joints, masonry and metal, metal and metal, and joints between dissimilar materials.
- D. Related Work Specified Elsewhere Includes:
 - 1. 076000 Flashing and Sheet Metal

1.2 SUBMITTALS

- A. Submit product data and samples of all materials.
- B. Submit warranties at completion of work.

PART 2 - PRODUCTS

- 2.1 GENERAL: Sealants equal to products listed by Pecora Corporation, Harleysville, PA 19438.
- 2.2 SEALANTS: colors as selected by the Owners.
 - A. One-part Silicone, (Non-Sag): TT-S-001543A, Type II: #864 Architectural Silicone Sealant.
 - B. One-part Polysulfide, (Non-Sag): TT-S-00230C, Type II: #GC-9 Synthcalk Sealant.
- 2.3 FOAM BACK-UP: Polyethylene rod equal to Denverfoam by Pecora.
- 2.4 SURFACE PRIMERS: As recommended by sealant manufacturer.

PART 3 - EXECUTION

- 3.1 INSPECTION: Verify that joints to receive sealants are proper depth, clean, dry, frost-free, and appropriate for application of sealants.
- 3.2 PREPARATION: Prime required surfaces with proper materials in accordance with manufacturer's instructions.
- 3.3 APPLICATION: For joints up to 1/2" width, sealant depth shall equal width. Sealant joints over 1/2" width shall have depth equal one-half width. Fill excessive depth with foam back-up rod material. Fill joint with sealant to required depth using filler to obtain concave shape. Do not caulk when temperature is below 40o F. Leave surfaces neat, smooth, clean and watertight. Exterior joints to have foam back-up material as indicated. Apply sealant with hand gun, tooling if necessary, to obtain concave surface within ten (10) minutes. Remove any masking tape immediately.
- 3.4 SCHEDULE
- | | |
|--------------------------------|----------------------|
| Exterior Masonry: | One-part Polysulfide |
| Exterior Dissimilar Materials: | One-part Polysulfide |
| Flashing and Sheet Metal: | One-part Silicone |
- 3.5 GUARANTEE: Furnish written guarantee stating that the Contractor at his own expense will repair or replace all caulking work which becomes defective due to faulty materials or workmanship within a period of five (5) years from the date of acceptance of the work.

END OF SECTION 079000

SECTION 154020 - ROOF DRAINAGE REPLACEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. This Contractor shall provide all labor, equipment, and materials required to perform the work called for in this Section. This Contractor shall coordinate his work with other trades and work in other Sections.
- C. Work of this Section includes, but is not limited to, the following:
 - 1. Remove and replace all existing roof drains.
 - 2. Provide new combination roof drains at to replace existing roof drains.
 - 3. Provide all piping, fittings, and hangers as required to connect new drain bodies to existing.
- D. Related Work Specified Elsewhere Includes:
 - 1. 061100 Roof Rough Carpentry
 - 2. 072210 Roof Insulation
 - 3. 076000 Flashing and Sheet Metal

PART 2 – PRODUCTS

2.1 MATERIALS

- A. New Roof Drain Assemblies: Josam 21500 with cast iron basket and underdeck clamp. Match existing leader diameter and connection, or equal by Froet, Wade, Zurn, or Jay R. Smith.
- B. Combo Roof Drain/Overflow Drain Assemblies: Froet Industries 1000 Large Sump with cast iron baskets under deck clamps Match existing leader diameter and connection, or equal by Josam, Wade, Zurn, or Jay R. Smith.
- C. Schedule 40 hub-less cast iron.
- D. No hub connectors with minimum of four (4) stainless steel clamps per connector.
- E. Hangers and Supports:

- a. All piping shall be supported from the vertical building walls by means of approved hangers and supports. No supports or hangers are to be hung or connected to roof deck due to structural limitations. Piping shall be supported to maintain required grading and pitching or lines, to prevent vibration and to secure piping in place, and shall be so arranged as to provide for expansion and contraction.
- F. Josam 25010 downspout nozzle or equal by Wade, Zurn, or Jay R. Smith

2.2 INSULATION

- A. Scope - the following piping system shall be insulated:
 1. All horizontal roof drainage piping, except buried conductors, including connections to roof boxes.
- B. Materials - the following materials are specified:
 1. Pipe insulation - fiberglass.
- C. Insulation Thickness:
 1. All piping installed in this contract shall be insulated with the following minimum thicknesses:
 - a) Horizontal rain water conductors, including underside of roof drain and vertical drops from roof drain to offset and elbow at end of the horizontal run 1" thick with vapor retarder, two layers.
- D. Finish:
 1. Concealed: Vapor retarder jacket on all water piping shall not be punctured or disturbed. All service jackets shall be furnished. Pre-sized glass cloth jacket may be used on hot water piping. Fittings shall be finished with pasted canvas or pre-sized glass cloth jacket.
- E. Exposed: Same as concealed except all insulation shall be finish or pre-sized glass cloth jacket.

PART 3 - EXECUTION

3.1 REMOVAL AND INSTALLATION

- A. Remove and replace existing roof drains in cooperation with the Roofing Contractor's operations.
- B. Establish and maintain a "tight" schedule with the roofer so that the roofing work is not delayed or hindered.
- C. Provide roof drains with connections to match existing. All connections to be watertight.

- D. Make up the work watertight and in keeping with current standards and work practices.
- E. Fit drain assemblies to their leaders at roof openings. Coordinate with roofer in placement of flashing, insulation, and setting of drains.
- F. Attach leaders as necessary; make up connections watertight and to maintain drainage way of leader run to delivery point.

END OF SECTION 154020

ANTINOZZI ASSOCIATES P.C.		TOWN OF TRUMBULL			PROJECT: BOOTH HILL ROOFING OCTOBER 4, 2023						
ITEM	FULLY ADHERED EPDM	QUANTITY	UNIT	LABOR UNIT	MATERIAL UNIT	TOTAL \$/UNIT	TOTAL HOURS	LABOR \$/UNIT	TOTAL LABOR	TOTAL MATERIAL	TOTAL \$
1	REMOVE ROOFING MATERIALS	527	100 SF	1.5	\$58.42	\$189.12	790.5	\$130.70	\$68,879	\$30,785	\$99,664
2	REMOVE METAL FLASHING	2132	LF	0.08	\$3.00	\$10.00	170.56	\$7.00	\$14,924	\$6,396	\$21,320
3	REMOVE SCUPPERS	11	#	0.25	\$24.00	\$45.80	2.75	\$21.80	\$240	\$504	\$744
4	REPAIR STEEL DK ... 2%	11	100 SF	6	\$73.00	\$635.80	66	\$562.80	\$6,191	\$803	\$6,994
5	CORE DECK OVERFLOW	31	EA	4	\$75.00	\$423.50	124	\$348.50	\$10,804	\$2,325	\$13,129
6	REMOVE DRAINS	31	EA	2	\$50.00	\$224.30	62	\$174.30	\$5,403	\$1,550	\$6,953
7	DISCONNECT RAISE GAS LINE	3	EA	8	\$168.00	\$865.00	24	\$697.00	\$2,091	\$504	\$2,595
8	CUT REGLETS	518	LF	0.1	\$16.00	\$24.70	51.8	\$8.70	\$4,507	\$8,288	\$12,795
9	NEW DRAINS	31	100 SF	6	\$470.00	\$992.80	186	\$522.80	\$16,207	\$14,570	\$30,777
10	NEW OVER RD	31	100 SF	4	\$470.00	\$818.50	124	\$348.50	\$10,804	\$14,570	\$25,374
11	VAPOR RETARDER	527	100 SF	0.15	\$243.67	\$256.77	79.05	\$13.10	\$6,904	\$128,416	\$135,320
12	NEW 5" ISO	527	100 SF	0.8	\$595.83	\$665.53	421.6	\$69.70	\$36,732	\$314,004	\$350,736
13	NEW TAPERED ISO	527	100 SF	1.04	\$383.87	\$503.87	548.08	\$120.00	\$63,240	\$202,299	\$265,539
14	COVER BOARD	527	100 SF	0.5	\$490.69	\$534.29	263.5	\$43.60	\$22,977	\$258,592	\$281,569
15	WOOD BLOCKING	1808	LF	0.02	\$4.00	\$5.70	36.16	\$1.70	\$3,074	\$7,232	\$10,306
16	ADHERED EPDM .090" (30 YR)	527	100 SF	2	\$1,045.84	\$1,220.14	1054	\$174.30	\$91,856	\$551,156	\$643,012
17	BASE FLASHING	518	LF	0.15	\$68.00	\$81.10	77.7	\$13.10	\$6,786	\$35,224	\$42,010
18	ALUM EDGING .040" ES-1	2132	LF	0.1	\$54.00	\$62.70	213.2	\$8.70	\$18,548	\$115,128	\$133,676
19	REPLACE SCUPPERS & FLASHING	11	EA	1	\$450.00	\$537.10	11	\$87.10	\$958	\$4,950	\$5,908
20	NEW SKYLIGHTS	8	EA	1	\$3,250.00	\$3,337.10	8	\$87.10	\$697	\$26,000	\$26,697
21	FLASH SKY CURB	8	EA	1.5	\$35.00	\$165.70	12	\$130.70	\$1,046	\$280	\$1,326
22	FLASH STACKS	31	EA	0.4	\$19.00	\$53.90	12.4	\$34.90	\$1,082	\$589	\$1,671
23	FLASH FANS	21	EA	1.25	\$25.00	\$133.90	26.25	\$108.90	\$2,287	\$525	\$2,812
24	FLASH HVAC	12	EA	2	\$75.00	\$249.30	24	\$174.30	\$2,092	\$900	\$2,992
25	NEW CFLASHING	518	EA	0.15	\$35.00	\$51.10	77.7	\$16.10	\$8,340	\$18,130	\$26,470
26	PLYWOOD CRICKETS	11	EA	1	\$3,409.00	\$3,452.60	11	\$43.60	\$480	\$37,499	\$37,979
27	NEW EJ	165	EA	1	\$40.00	\$127.10	165	\$87.10	\$14,372	\$6,600	\$20,972
28	PENETRATION FLASH	4	EA	1	\$35.00	\$122.10	4	\$87.10	\$348	\$140	\$488
29	MULTI PENETRATION	5	EA	3	\$75.00	\$336.40	15	\$261.40	\$1,307	\$375	\$1,682
30	AC MOUNT	5	EA	1	\$35.00	\$122.10	5	\$87.10	\$436	\$175	\$611
31	DOWNSPOUTS	310	LF	0.25	\$35.00	\$56.80	77.5	\$21.80	\$6,758	\$10,850	\$17,608
32	GUTTERS	25	LF	0.25	\$35.00	\$56.80	6.25	\$21.80	\$545	\$875	\$1,420
33	SET UP CLEAN UP	4	EA	16	\$660.00	\$2,054.00	64	\$1,394.00	\$5,576	\$2,640	\$8,216
34	GUARANTEE	527	100 SF	0.15	\$41.70	\$54.80	79.05	\$13.10	\$6,904	\$21,976	\$28,880
										\$443,390	\$2,268,000
										\$1,824,609	\$2,268,000
										ESCALATION	\$90,700
										CONSTRUCTION CONTINGENCY	\$235,900
										OWNER'S SOFT COSTS	\$389,200
										TOTALS	\$2,983,800