Woodbridge Board of Education
Woodbridge Board of Education Regular Meeting
Monday, February 26, 2024 7:00 PM

South Assembly Room

Agenda

I. **Preliminary Business / WebEx Log-in / Motions**
https://woodbridgeps.webex.com/woodbridgeps/j.php?MTID=mb9fd3163e794c339a80513fce29b022b

Meeting Number: 2480 237 3361
Meeting Password: nbSpbEpb829

This meeting is being conducted as a hybrid meeting consistent with Connecticut Public Act 22-3. The public may attend in person at the location indicated above or electronically via WebEx with the link provided above.

A. 6:15 PM Executive Session, in accordance with State Statute
B. Call to Order
C. Pledge of Allegiance
D. Correspondence - *Correspondence may be submitted via email no later than 4:00 PM on the day of the meeting to mdegennaro@woodbridgeps.org*
E. Public Comment - *The Board welcomes public participation. We ask that speakers please limit their comments to three minutes. Please be aware that the Board will not respond to any comments made during the public comment period, except to clarify issues, but we will take into consideration your comments, and when appropriate, district administration will follow-up with you at a later point in time. Public Comments may be submitted electronically to mdegennaro@woodbridgeps.org*
F. PTO Update

II. **Consent Agenda**
A. Approval of Minutes from the December 11, 2023 Special Meeting, the January 3, 2024 Special Meeting and the January 16, 2024 Regular Meeting
B. Budget Narrative Report
C. Budget Summary Report
D. Budget Detail Report
E. Combining Financial Statements
F. Accept Policy 5111 Admission/Placement for 30-Day Review

III. **Reports**
A. Superintendent's Report
1. Math Update
2. Kindergarten Entrance Age

3. CSDE Mandated Recruitment / Hiring Plan Approval
4. BRS Update

B. BRS Town Building Committee Update
   1. Approve BRS Roof Replacement Plan as submitted by Silver Petrucelli
C. Curriculum Committee Report
D. Finance Committee Report
E. Policy Committee Report
F. CABE Liaison Report
G. Upcoming Meeting Presentation(s): Technology Upgrades Overview and WBOE Appreciation

IV. **New Business**

V. **Other**

A. Public Comment - *The Board welcomes public participation. We ask that speakers please limit their comments to three minutes. Please be aware that the Board will not respond to any comments made during the public comment period, except to clarify issues, but we will take into consideration your comments, and when appropriate, district administration will follow-up with you at a later point in time.*
B. Executive Session, in accordance with State Statute
   1. Superintendent Mid-Year Evaluation

VI. **Adjournment**


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TOWN · OF · WOODBRIDGE
INCORPORATED · 1784 · CONNECTICUT

Marsha DeGennaro <mdegennaro@woodbridgeps.org>

Fwd: [External Email] Math track Beecher and beyond

1 message

Lynn Piascyk <lpiascyk@woodbridgeps.org> Wed, Feb 21, 2024 at 7:44 AM
To: Marsha DeGennaro <mdegennaro@woodbridgeps.org>, Vonda Tencza <vtencza@woodbridgeps.org>

Vonda - FYI
Marsha - Please include this Board correspondence in Boardbook
Thank you.

---------- Forwarded message ---------
From: **Sivan Doron** <sivan_doron@yahoo.com>
Date: Tue, Feb 20, 2024 at 4:57 PM
Subject: [External Email] Math track Beecher and beyond
To: <lpiascyk@woodbridgeps.org>, <jdahya@woodbridgeps.org>, <slawrence@woodbridgeps.org>, <lfrancese@woodbridgeps.org>, <bhopkins@woodbridgeps.org>, <mstrambler@woodbridgeps.org>, <jhughes@woodbridgeps.org>, <sdelprete@woodbridgeps.org>, <ewilliamson@woodbridgeps.org>

Dear members of the WBOE,
First, thank you for all you do for our school.
I have been following the initiation among parents who are concerned with the current math track at Beecher and its implications for future math learning in upper grades.
A few topics that were raised are particularly important for me and my currently 4th grader. I would appreciate if the questions below would earn your consideration:

1. There is no math curriculum available to the public via the BRS website. Only a philosophy statement. Parents need a transparent view curriculum to understand all math pathways and options.
2. How are you going to identify the kids who can proceed on an accelerated path?
3. How can you support teachers to provide adequate support in class and differentiation? Differentiation is currently NOT happening in every classroom. How would teachers be held accountable?
4. How is the track to Pre-Algebra in 6th grade going to be made more equitable? It is currently only addressing children who have been taught advanced concepts in prior grades (by the few teachers who differentiate and have allowed advancement) or those taught outside of school through extracurricular activities that not all children can access.
5. Can the school provide updated communication to all parents or at least to explain the plan to all the parents who signed the advanced math petition?

Thank you
Sivan Doron

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Beecher Road School

Marsha DeGennaro <mdegennaro@woodbridgeps.org>

[External Email] WBOE/Admin Math Update for BOE meeting 2/26/24- questions from the community

1 message

Hillary Drumm <hiljor@gmail.com> Wed, Feb 21, 2024 at 8:29 PM
To: lpiascyk@woodbridgeps.org, lfrancese@woodbridgeps.org, sdelprete@woodbridgeps.org, bhopkins@woodbridgeps.org, jdahya@woodbridgeps.org, slawrence@woodbridgeps.org, jhughes@woodbridgeps.org, mstrambler@woodbridgeps.org, ewilliamson@woodbridgeps.org, Marsha Degennaro <mdegennaro@woodbridgeps.org>, Analisa Sherman <asherman@woodbridgeps.org>, Vonda Tencza <vtencza@woodbridgeps.org>

Dear Members of the Woodbridge BOE & Beecher Administration:
Thank you so much for your consideration and support in improving Beecher's Math curriculum to date, especially in the upper grades.
We as a parent community would like to ask the following list of questions in response to the last Math Update during the Dec BOE meeting and in looking forward to February's update.
We would respectfully request to have a conversation/forum to address these questions so that the curriculum process is transparent and accountable, especially as we have a STEAM teacher as a future potential.
Respectfully and with gratitude,
Hillary Drumm

Math Questions and Concerns for WBOE & Admin

CONTENT

- How is this new plan going to prepare the current 5th graders to take the pre-algebra test at the end of 5th grade? How you are going to teach a combined 5th/6th grade curriculum to prepare them for the pre-algebra test since it was discussed previously that skipping 6th grade curriculum would be unwise.
- What is the argument for enrichment only and not advancement for those who demonstrate ability and aptitude?
- Enrichment means challenging, it doesn't mean additional work. Students in 5th grade are receiving additional work, on top of the regular work when they receive enrichment- and lately no enrichment has been offered.

EQUITY

- It is an equity issue to provide math enrichment to only those children who pass a pre-test, as opposed to children who demonstrate aptitude for accelerated instruction.
- How is the track to Pre-Algebra in 6th grade going to be made more equitable? It is currently only addressing children who have been taught advanced concepts in prior grades (by the few teachers who differentiate and have allowed advancement) or those taught outside of school through extracurricular activities that not all children can access.
- How can the school support teachers to provide appropriate enrichment through guidance and support throughout the school experience for ALL students?

QUALIFICATIONS

- How are you going to identify the kids who can proceed on an accelerated path?

SOCIAL EMOTIONAL LEARNING

- The TAG program's philosophy states that it provides emotional support for those who qualify. Why does this philosophy not extend to Advanced Math Ability Students? Why are the advanced math kids not being challenged and valued?

COMMUNICATION

- Could there be a clearer communication about math curriculum from administration as well as this new program. Can the school provide updated communication to all parents or at least to explain the plan to all the parents who signed the advanced math petition?
- Would it be possible to have a Math Forum that is open to the public where admins/math specialists from Woodbridge/Orange/Bethany Elementary schools, AMSB/AMSO & AHS explain curriculum pathways and let parents ask questions where everyone can benefit from the answers since choices for middle school and highschool classes depend on what happens in elementary schools.
- There is no math curriculum available to the public via the BRS website. Only a philosophy statement. We request a transparent view curriculum to understand all math pathways and options.

STAFFING

- How can you support teachers to provide adequate support in class and differentiation? Differentiation is currently NOT happening in every classroom. ALL teachers should be differentiating to make math education equitable for all students, how can they be more accountable?
- Is part of the pushback due to AMSB's inability to hire a full-time Geometry teacher?
- What staffing needs do you have for math advancement or enrichment? Hiring instructional para support for math? Changing classes for math in 5th grade, other ideas? Students already leave the classroom for TAG or Band, being pulled for Advanced Math Class would not be an unusual idea.
- Do 5th and 6th grade math teachers receive Professional Development for teaching grade 4-7 math?

Public Comment to Woodbridge Board of Education

Dear members of the Woodbridge Board of Education,

I am writing as a member of the community whose family has benefited from the ACES Open Choice program. Our family lives in New Haven, and we were thrilled when our son Remy was offered a place in kindergarten in the Woodbridge Public Schools starting in 2022. We were thrilled not just for him, but because we have a second child, and the ACES Open Choice program applies sibling preference to determine where applicants are placed. Remy is now a first grader with established friendships in the Woodbridge community and we, as a family, have developed relationships with families, teachers, and other staff at Beecher Road School.

We don't presume to understand the history and concerns underlying the decision for Woodbridge Public Schools to no longer participate in ACES Open Choice. We can speak to our personal experience as a family that has benefited from the program and will be impacted by its closure, and we would like to share that now. Like all families, we have made the best decisions we could for our family at major crossroads in our lives. In addition to the excellent social and learning environment at Woodbridge Public Schools, the sibling preference policy used by ACES Open Choice was a major factor in our decision to enroll Remy in Woodbridge Public Schools through this program. Our daughter, Lila, will turn 3 years old in April, and she will be ready to start kindergarten in 2026. If the option to apply to Woodbridge Public Schools through ACES Open Choice is not reinstated, we will have to enroll our children in two different school systems, or otherwise remove Remy from Beecher Road School in the 4th grade (which is not a grade generally available for new student acceptance through Open Choice). We are sure you can imagine how challenging this would be for a family.

Therefore, we would like to ask the Board of Education to please consider providing an exception to families with children already enrolled in Woodbridge Public Schools through ACES Open Choice to allow siblings to attend school in the district. Thank you for considering our request.

Sincerely,

Catherine Mezzacappa and Ben Carey

catherine.mezzacappa@gmail.com
gbcarey@gmail.com



[External Email] Public Comment for WBOE

Cindy's Super family <cindywarnerkruger@gmail.com> Mon, Feb 26, 2024 at 9:14 AM
To: Woodbridge School District / Beecher Road School <mdegennaro@woodbridgeps.org>
Cc: Beecher Road School <asherman@woodbridgeps.org>, Vonda Tencza <vtencza@woodbridgeps.org>, Lynn Piascyk <lpiascyk@woodbridgeps.org>, Michael Strambler <mstrambler@woodbridgeps.org>

Dear WBOE members and Beecher administration:

My apologies that I cannot make the Board meeting tonight; I have a conflict with another Board meeting. I wish to submit the following comments for your consideration:

1. **Math Enrichment Support**. I appreciate that the school is making efforts to provide math enrichment for advanced students in the 5th grade. However, these efforts have been very uneven -- sometimes the students are pulled out once/cycle, sometimes twice; the group of students they are learning with changes; and I understand some classroom teachers are more supportive than others. My child is under the impression that the math enrichment teacher is "too busy" for this work. I ask that the school and school board consider if additional resources are needed to provide consistent and appropriate support for math for students who need enrichment.

2. **Math Communication**. Unfortunately my understanding of math enrichment program is coming from a tired child who often can't remember much about his day, and has no insight into what the overall plan for his education is. **I request that the school set up a parent forum (outside of the formality of the school board meeting) to explain to parents what the enrichment program is, and answer questions parents may have.** Many parents have this request to understand what is going on with advanced math in a forum where they may ask questions. Please also see the list of questions Hilary Drum submitted separately.

3. **Library.** The library is struggling to provide services, unsurprisingly for such a large school down to only one staff member, and generally more support is needed. I want to support the reinstatement of a 2nd librarian to support the needs of the school.

Thank you to all of you for your hard work to improve Beecher -- both the professional staff and the volunteer work of the Board is much appreciated! I know you are committed to excellence, and I hope these comments are helpful.

Respectfully submitted,
Cindy Kruger, parent (2nd & 5th graders)

Vonda Tencza <vtencza@woodbridgeps.org> Mon, Feb 26, 2024 at 9:53 AM
To: Marsha DeGennaro <mdegennaro@woodbridgeps.org>

please put into boardbook. per Lynn's request
V

CONFIDENTIALITY NOTICE: This email transmission (and/or attachments accompanying it) may contain privileged and/or confidential information, and is intended only for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any dissemination, disclosure, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please promptly notify the sender by reply email and destroy the original message.

Lynn Piascyk <lpiascyk@woodbridgeps.org> Mon, Feb 26, 2024 at 10:30 AM
To: Marsha DeGennaro <mdegennaro@woodbridgeps.org>

Good morning Marsha -
Would you kindly include Cindy's email (found below) in Boardbook for tonight's meeting?

PTO Update for WBOE

Feb. 26, 2024

BRS PTO Update



Beecher Road School PTO 2023-24 Program on a Page

August
- Kindergarten Social ✓
- Welcome Back Teachers ✓

September – GM Mtg ✓
- Ice Cream Social ✓
- Grade Level Socials ✓
- Original Works Kids' Art fundraiser ✓
- Woodbridge Like Me ✓

October
- Picture Day ✓
- Halloween Hoot ✓

November
- Thanksgiving Drive ✓
- Fall Book Fair ✓

December – GM Mtg ✓
[School Events]

*PTO Donation Ask ✓

January – GM Mtg ✓
- Planning

February
- STEM Night ✓
- V-Day Gratitude Project ✓
- Math Night

March – GM Mtg
- International Night
- Book Swap

April
- Spring Book Fair
- Arts Week

May – GM Mtg (elections)
- Teacher Appreciation Week
- Quassy

June
- *Field Day* – FUN RUN
- 6th Grade Graduation

STEM Night Successful Partnership!

- Over 300 students learned about light and chemistry
- Thanks Monica for Coordinating and Beecher for helping to fund with a STEAM grant!









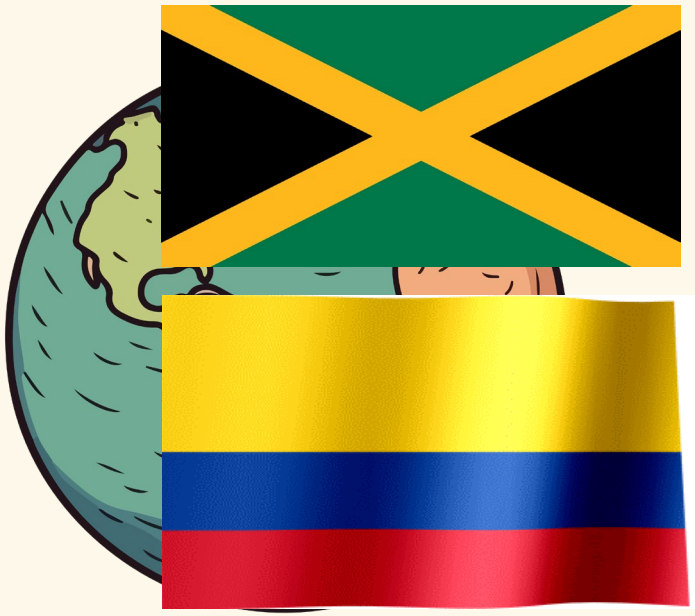




Valentine’s Day Teacher/Staff Gratitute

- The PTO is grateful for all of the donations from the parent community to allow us to provide breakfast and a sweet treat to appreciate our teachers & staff!

2024 Featuring a Taste Around the World of:
Jamacia, Colombia, Italy, India & Greece



Inaugural INTERNATIONAL NIGHT 2024 – March

What's the Plan?

- ✓ Survey families for input
- ✓ Charge for tickets - community building not fundraising
- ✓ Hoping for school/classroom engagement
- ✓ Food from different local restaurants
- ✓ Activities/crafts









School Educational Enhancement Examples



Teacher grants (e.g. flexible seating; 3D printers)



In-school presenters (e.g. Birds of Prey Show; Yoga)



Supplementing field trip costs



Author visits – for 2024, change to Scholastic Classroom Grants



Empathy week – for 2024, change to STEM event partnerships



Library Support

SCHOLASTIC

We thank you all!

Sincerely,

PTO 2023-24 Executive Board

President – Cindy Kruger

Vice President – Monica Philipp

Secretary – Jennifer Plonsky

Treasurers – Saurabh Vilekar & Betsy Hull

Chair of Communications – Cara Rosner

Chairs of Social Events – Jennifer Clarke-Lofters

Chair of Academic Events – Sumi Sudhir

Chair of Fundraising – Susan Lettelleir

Teacher Liaisons – Aimee Meacham & Larissa Crocco

MINUTES OF THE HYBRID SPECIAL WOODBRIDGE BOARD OF EDUCATION MEETING
Via WebEx https://woodbridgeps.webex.com/woodbridgeps/j.php?MTID=md30c1f3a2cb10570c6229a113d8f6506
Meeting Number: 2488 150 2187 **Meeting Password:** DsFAaiX3i25
Monday, December 11, 2023
South Assembly Room

CALL TO ORDER: Ms. Lynn Piascyk, Chair, called the meeting to order (6:13 PM).

BOARD MEMBERS PRESENT: Ms. Lynn Piascyk, Chair (in-person); Mr. Steven Lawrence, (in-person); Dr. Michael Strambler (in-person) and Ms. Erin Williamson (in-person).

STAFF: Vonda Tencza, Superintendent.

Executive Session
The Board entered Executive Session in accordance with State statute to discuss the Superintendent Evaluation Process and invited the Superintendent to attend.

MOTION #1 – EXECUTIVE SESSION (6:13 PM)
Move that we enter Executive Session in accordance with State statute to discuss the Superintendent Evaluation Process and invite the Superintendent to attend.
Mr. Lawrence
Second by Ms. Williamson
UNANIMOUS

The Board discussed the Superintendent Evaluation Process.

MOTION #2 – RETURN TO PUBLIC SESSION
Move that we return to Public Session (6:55 PM).
Mr. Lawrence
Second by Dr. Strambler
UNANIMOUS

CALL TO ORDER: Ms. Lynn Piascyk, Chair, called the meeting to order (7:06 PM).

BOARD MEMBERS PRESENT: Ms. Lynn Piascyk, Chair (in-person); Dr. Maria Madonick, Vice Chair (in-person); Dr. Jay Dahya (in-person); Mr. Jeff Hughes (remote); Mr. Steven Lawrence (in-person); Dr. Michael Strambler (in-person) and Ms. Erin Williamson (in-person).

STAFF: Vonda Tencza, Superintendent; Analisa Sherman, Principal; James Sapia, Assistant Principal; Cheryl Tafel, Assistant Principal; Carrie Borcherding, Special Services Director; Donna Coonan, Director of Business Services/Operations; and Marsha DeGennaro, Clerk of the Board.

The Board reviewed the 2024/25 Superintendent's Proposed Budget of $17,679,200 representing a 3.89% increase. Budget includes increases in negotiated staffing contracts, transportation, and insurance allocation rates.

Proposed Staffing Changes include:
- Reduce one (1) FTE Elementary Section due to exiting Grade 6 section while maintaining Class Size Guidelines *(projected enrollment decreasing from 885 to 873).*
- Restoration of STEAM teacher *(reallocation of current staff).*
- Restore 10 hours per week of Business Office Accounts Payable/Account Clerk position *(return to pre-Covid staffing level)*.
- Increase North Office 10 month position to 8 hours per day vs 6.
- Reduce two (2) vacant para positions *(result of enrollment scheduling efficiencies).*

Increases in Technology

- 150 iPads
- Touch Board Replacements Grades 2 and 5 Classrooms
- 15 Document Cameras
- 15 Macbooks

Questions were raised relative to the impact of the Library / Media staffing reduction in the 2023/24 school year, the percentage of discretionary funding / increases in non-instructional areas as well as insurance, classroom supplies, special education staffing and associated costs, professional development and math curriculum programming, maintenance of the STEAM position and math differentiation in future years, and the potential for Grade 1 becoming a hot spot next year resulting in an additional section.

MOTION TO ADJOURN: (8:32 PM)
Dr. Madonick
Second by Mr. Lawrence
UNANIMOUS

MINUTES OF THE HYBRID SPECIAL WOODBRIDGE BOARD OF EDUCATION MEETING
Via WebEx ttps://woodbridgeps.webex.com/woodbridgeps/j.php?MTID=mfe0710e16323001c87a137f8d0bc2650
Meeting Number: 2480 185 9310 **Meeting Password:** h3G567YpyvP
Wednesday, January 3, 2024
South Assembly Room

CALL TO ORDER: Ms. Lynn Piascyk, Chair, called the meeting to order (7:07 PM).

BOARD MEMBERS PRESENT: Ms. Lynn Piascyk (in-person); Dr. Jay Dahya (in-person); Sarah Beth Del Prete (in-person); Mr. Steven Lawrence, (in-person); Dr. Michael Strambler (remote) and Ms. Erin Williamson (7:15 PM remote).

STAFF: Vonda Tencza, Superintendent; Analisa Sherman, Principal; Donna Coonan, Director of Business Services/Operations; and Marsha DeGennaro, Clerk of the Board.

Ms. Piascyk reviewed the process for election of officers in accordance with Board Policies 9110, 9120, 9121, 9122, 9123 and 9325.43. The floor was opened for nominations for Chair.

MOTION #1 – NOMINATIONS FOR CHAIR
I nominate Lynn Piascyk to serve as Chair of the Woodbridge Board of Education.
Ms. Del Prete
Second by Mr. Lawrence

No other nominations were made.

MOTION #2 – CLOSE NOMINATIONS FOR CHAIR
Move that we close nominations for Chair.
Ms. Hopkins
Second by Dr. Dahya
UNANIMOUS

MOTION #1A – NOMINATIONS FOR CHAIR
I nominate Lynn Piascyk to serve as Chair of the Woodbridge Board of Education.
Ms. Del Prete
Second by Mr. Lawrence
UNANIMOUS

Ms. Piascyk was elected Chair and thanked the Board for their support. Ms. Piascyk opened the floor for nominations for Vice Chair.

MOTION #3 – NOMINATIONS - VICE CHAIR
I nominate Steven Lawrence to serve as Vice Chair of the Woodbridge Board of Education.
Ms. Hopkins
Second by Dr. Dahya

There were no other nominations.

MOTION #4 – CLOSE NOMINATIONS FOR VICE CHAIR
Move that we close nominations for Vice Chair.
Ms. Hopkins
Second by Ms. Del Prete
UNANIMOUS

Ms. Williamson arrived remotely (7:15 PM).

MOTION #3A – NOMINATIONS - VICE CHAIR

I nominate Steven Lawrence to serve as Vice Chair of the Woodbridge Board of Education.
Ms. Hopkins
Second by Dr. Dahya
UNANIMOUS

Mr. Lawrence accepted the nomination for Vice Chair and thanked the Board for their support.

Ms. Piascyk opened the floor for nominations for Secretary.

MOTION #5 – NOMINATIONS - SECRETARY

I nominate Sarah Beth Del Prete to serve as Secretary of the Woodbridge Board of Education.
Mr. Lawrence
Second by Dr. Dahya

No other nominations were received.

MOTION #6 – CLOSE NOMINATIONS FOR SECRETARY

Move that we close nominations for Secretary.
Ms. Hopkins
Second by Mr. Lawrence
UNANIMOUS

MOTION #5A – NOMINATIONS - SECRETARY

I nominate Sarah Beth Del Prete to serve as Secretary of the Woodbridge Board of Education.
Mr. Lawrence
Second by Dr. Dahya
UNANIMOUS

Ms. Del Prete looked forward to continuing her role as Secretary and thanked the Board for their support.

2024/25 Budget – The Board reviewed the 2024/25 Superintendent's Proposed Budget of $17,679,200 representing a 3.89% increase. Budget includes increases in negotiated staffing contracts, transportation, and insurance allocation rates.

Proposed Staffing Changes include:

- Reduce 1 FTE Elementary Section due to exiting Grade 6 section while maintaining Class Size Guidelines. *(Projected enrollment decreasing from 885 to 873).*
- Restoration of STEAM teacher *(reallocation of current staff).*
- Restore 10 hours per week of Business Office Accounts Payable/Account Clerk position. *(Return to pre-Covid staffing level)*.
- Increase North Office 10 month position to 8 hours per day vs 6.
- Reduce two (2) vacant para positions *(result of enrollment scheduling efficiencies).*

Increases in Technology

- 150 iPads
- Touch Board Replacements Grades 2 and 5 Classrooms
- 15 Document Cameras
- 15 Macbooks

Superintendent Tencza reviewed the budget development process noting that this budget included everything necessary to support the district in 2024/25. Questions were raised relative to maintenance of the STEAM position in future years, restoring the recommended reduction of two (2) paraeducators and the addition of a teacher for Grade 5 and/or Grade 1. It was suggested that additional staff be added to the budget to ensure staffing and programming would not be reduced should the Town decide to reduce the budget request.

Superintendent Tencza reminded the Board the district remains committed to the restoration of the STEAM teacher and will continue to monitor class sizes and student enrollment. It is imperative that the district remain transparent with the Town and administration builds the budget predicated on what needs are currently known to exist to ensure the budget is not artificially inflated.

MOTION #7 – 2024/25 BUDGET

Move that we approve the 2024/25 operating budget as recommended by administration.

Mr. Lawrence
Second by Ms. Hopkins
UNANIMOUS

It was suggested that in September / October the Finance Committee receive a brief report on the top 10% increases in expenses inclusive of anticipated insurance premium costs. It is hoped that with the change of elections from May to November, the timeline for budget development will occur later in the year as the first week in January is too early for accurate forecasting of expenses, staffing etc.

MOTION TO ADJOURN: (7:58 PM)

Ms. Hopkins
Second by Mr. Lawrence
UNANIMOUS

MINUTES OF THE REMOTE REGULAR WOODBRIDGE BOARD OF EDUCATION MEETING
Tuesday, January 16, 2024
Via WebEx https://woodbridgeps.webex.com/woodbridgeps/j.php?MTID=me6595a310c82d04ca61efebba0665e77
Meeting Number: 2496 825 4077 **Meeting Password:** gPcK8i5BpM7

CALL TO ORDER: Ms. Lynn Piascyk, Chair, called the meeting to order (7:01 PM).

BOARD MEMBERS PRESENT: Ms. Lynn Piascyk, Chair; Dr. Jay Dahya; Ms. Sarah Beth Del Prete, Secretary (7:19 PM); Dr. Lauren Francese; Mr. Jeff Hughes; Mr. Steven Lawrence, Vice Chair; Dr. Michael Strambler and Erin Williamson.

STAFF: Vonda Tencza, Superintendent; Analisa Sherman, Principal; James Sapia, Assistant Principal; Cheryl Tafel, Assistant Principal; Carrie Borcherding, Special Services Director; Donna Coonan, Director of Business Services/ Operations; and Marsha DeGennaro, Clerk of the Board.

Ms. Piascyk welcomed new Board member Dr. Lauren Francese who was recently appointed to fill the vacancy created by the election of Dr. Madonick to the Board of Selectmen.

CORRESPONDENCE – None

PUBLIC COMMENT – No Report

PTO Update – No Report

CONSENT AGENDA
MOTION #1 – CONSENT AGENDA
Move that we approve the consent agenda as presented.
Ms. Hughes
Second by Mr. Lawrence
UNANIMOUS

Superintendent Report – Superintendent Tencza provided an update on enrollment, the hiring of a Grade 6 staff member, and submission of the grant related to the roofing project. Superintendent Tencza apprised the Board on the request from the Board of Selectmen at their January 8 meeting regarding amending the 2025/30 Capital Budget submission to include portions of the Construction Solutions Group proposal as well as funding other portions from the current surplus in the 2023/24 budget. It was noted that the Board of Selectmen are fully aware that the funding of this project is a capital project. However, the Board is in a position to expedite the process by funding the first two phases (approximately $20,000) through the current operating budget instead of having to wait until the late spring for funding to occur by the Board of Selectmen process.

Ms. Del Prete arrived (7:19 PM).

MOTION #2 – BUILDING NEEDS AND SPACE PLANNING PROPOSAL
Move that we approve the Building Needs and Space Planning Proposal as presented and authorize the Superintendent to enter into a contract with CSG (Construction Solutions Group) and to fund Phase 1 and II from the 2023/24 Operating Budget.
Ms. Piascyk
Second by Mr. Hughes
UNANIMOUS

MOTION #3 – 2025/30 CAPITAL BUDGET

Move that we amend the 2025/30 Capital Budget 2025/30 Capital Budget to include the costs associated with Phases III-V of the Building Needs and Space Planning Proposal from CSG (Construction Solutions Group).

Ms. Piascyk
Second by Dr. Dahya
UNANIMOUS

Special Education Update – Currently, the BRS overall student population is 876 with approximately 18 PK students, 113 students receiving special education services and 56 students serviced by 504. Staffing is inclusive of approximately 26 teachers/related service individuals and 25 paraeducators. Eligibility for services is determined through the Planning and Placement Team (PPT) process. Questions were raised regarding student / staffing ratios, the number of supervisory evaluations, physical space constraints and programming needs.

BRS Update – Ms. Sherman noted the hosting of two students (Grade 1 and Kindergarten) who were the recipients of a Hoot auction item as BRS Principal for ½ a day and the review of state approved resources, protocols and rubrics by the literacy team as it pertains to the reading waiver denial. Assistant Principal Sapia noted the collaboration of the PE/Health Teacher and Officer Lynch in the revamp of the DARE program and the inclusion of student choice / voice in the process as well as the creation of a culminating year end activity. Targeted health mandates and the DARE decision-making model create a natural alliance of objectives within the classroom. Ms. Tafel noted the recent deployment of the new streamlined dismissal app *PikMyKid* with approximately 89% of parents participating in the initial rollout. The program allows for daily dismissal updates. It was suggested that proven effective evidence-based programs be explored and an update on the DARE program be provided to the Curriculum Committee or the full Board at a future meeting.

Town Building Committee Update – Mr. Hughes noted that the roofing project is moving forward with funding approved at the special Town meeting on January 8, 2024.

Facilities Committee – Mr. Hughes noted this Committee met on January 4 and received a facilities update on a variety of projects. A working session was held with a representative from Van Zelm on January 11 to review various aspects of the HVAC air quality report. It is anticipated Van Zelm will disseminate the official report shortly. Given the limited number of consultants available to perform this service, this district is fortunate to have this work completed in compliance with the CSDE mandate.

CABE Liaison Report – No report

Finance Committee – Mr. Lawrence reviewed the January 9 meeting inclusive of the standard monthly reports. With approximately half the year expended, it appears there will be a projected surplus. As suggested by the Board of Selectmen, the funding for the CSG project voted on earlier will be incorporated into the 2023/24 budget.

Policy Committee – Ms. Piascyk presented the two policies currently under 30-day review for approval.

MOTION #4 – POLICY ADOPTION – 9132.4 FINANCE COMMITTEE

Move that we adopt Policy 9132.4 as revised.

Ms. Piascyk
Second by Dr. Strambler
UNANIMOUS

MOTION #5 – POLICY ADOPTION – 3515 OPERATIONS USE OF SCHOOL FACILITIES

Move that we adopt Policy 3515 as revised.

Ms. Piascyk
Second by Dr. Dahya
UNANIMOUS

CABE Report – Ms. Del Prete noted the attendance of several board members at the CABE Legislative Breakfast on January 11 and the upcoming advocacy webinar on January 24. Chair Piascyk presented a draft letter prepared by Ms. Williamson regarding the significant dollars the district could incur as a result of the reading waiver denial by the CSDE. The letter requests that districts, such as Woodbridge, who are maintaining high levels of academic performance as

validated by student performance ratings / scores be excluded from having to spend millions of dollars to purchase one of the seven CSDE approved reading curriculums. There was consensus from Board members that the letter should be signed by the full Board and sent to members of the legislative short session by the end of the week.

Upcoming Meeting Presentation – Math and Kindergarten Entrance Legislation.

Upcoming WBOE Committee / Meeting Schedule – Curriculum Committee on February 1 at 4:00 PM, Policy Committee on February 5 at 4:30 PM, Finance Committee on February 13 at 4:30 PM, the WBOE Capital Budget presentation to the BOS / BOF on January 25 at 7:00 PM and the regular WBOE Regular Meeting February 26 at 7:00 PM.

NEW BUSINESS

Superintendent Tencza presented two certified staff retirement notifications. Ms. MacDonald has been with BRS for 23 years serving as a Grade 3 teacher as well as a senior member of the Literacy team and Ms. Golden has served for 35 years initially as a Grade 5 teacher and then primarily in the MAG program.

MOTION #6 – CERTIFIED STAFF RETIREMENT (MACDONALD)

Move that we accept the retirement of Monique MacDonald effective June 30, 2024 with regret.

Ms. Piascyk
Second by Mr. Lawrence
UNANIMOUS

MOTION #7 – CERTIFIED STAFF RETIREMENT (GOLDEN)

Move that we accept the retirement of Louise Golden effective June 30, 2024 with regret.

Ms. Piascyk
Second by Dr. Francese

IN FAVOR: Ms. Piascyk, Ms. Del Prete, Dr. Francese, Mr. Hughes, Mr. Lawrence, Dr. Strambler and Ms. Williamson

AGAINST: Dr. Dahya

MOTION PASSES 7-1-0

PUBLIC COMMENT – None

MOTION TO ADJOURN: (9:20 PM)

Mr. Hughes
Second by Dr. Dahya
UNANIMOUS

Recorded by Marsha DeGennaro, Clerk of the Board

Woodbridge Public School's 2023-2024 Budget Narrative

February 12, 2024

The attached financial reports represent seven months (58%) of the fiscal year.

100 Series Salaries - Salaries represent 61% of the budget. Two teacher resignations which were filled for a period of time by substitutes gave us additional salary savings in this category. We continue to average between 4-7 vacant paras. We have not yet been able to hire a part time school Psychologist, so we decreased the estimate of what we will spend in that category for the year. We are recording the new SRO position in non-certified salaries. The net of all these items has us showing $131K of salary savings on the year which is about $24K less than the prior month. In January we were able to hire one vacant para. Two newly hired 6th grade teachers have been hired at a slightly higher rate than was estimated last month.

200 Series Benefits – Benefits are 21% of our budget is based on the elections of last year's staff. Our insurance expenses are running on track with the budget. Continued vacancies have us trending upward to additional savings in CMERS and payroll taxes. We are now estimating $70K of savings over $29K in the prior month. Another reason for our CMERS being materially under budget is that in March the State indicated that our CMERS rate would 19.57%, but we were later informed in June that rate was decreased to 15.77%.

300 Series Purchased Professional Services- This category represents 3% of our budget and includes legal, audit and other expenses that are generated on a month-by-month basis. With the two previously mentioned teacher vacancies being staffed by long term substitutes, this line is trending $15K over budget. We still have the savings from employing our School Resource Officer directly and not as a Professional Service giving this category a net $100K savings. This is about $20K less than December due to committing to Phases I & II of the CSG proposal.

400 Series Purchased Property Services - Purchased Property Services are 4% of the total budget and have been increased over the previous year to keep up with higher natural gas prices. The combination of mild to average winter coupled with the pool being empty for 6 months has allowed us to increase our utility savings estimate. The pool is now filled so we do not expect these savings to continue to grow. Total projected savings of $53K is $45K higher than the prior month.

500 Series Other Purchased Services - This category is 9% of our budget and includes student transportation, tuition, interns, liability insurance and items that do not fall within the professional services/property services categories. We expect some small savings in our Worker's Comp and Liability insurance expenses, as well a small amount of saving in Internet expense. Additional outplaced tuition and transportation expenses continue to come in and we are now estimating that this category will go over budget by $100K. This overage is $45K larger than last month.

600 Series Materials and Supplies – These supplies account for 2% of our budget. With the exception of custodial/maintenance supplies, this category is direct support for classroom instruction. There is a large custodial supply blanket PO open is causing this category to be $15K over budget. It's possible this PO can come down. More investigation will be done during the month of February.

700 Series Furniture and Equipment - This category represents 6/10 of one percent of the budget and we anticipate utilizing all of the funds before the end of the fiscal year. Previously we were showing a savings due to the pre-purchase of some student devices with last year's surplus, but we now anticipate spending all of the funds.

800 Series Dues and Fees – This budget category is small but important as it links staff to professional organizations that help keep them up-to-date in their respective academic fields. We anticipate utilizing all available fund.

900 Series Misc. Expenses - The primary expense in this category is the Ezra Nurse, a non-public health expense we are required by law to maintain.

WOODBRIDGE BOARD OF EDUCATION
MONTH SUMMARY REPORT
FOR THE MONTH ENDED 01-31-2024

OBJECT	DESCRIPTION	ADOPTED BUDGET	TOTAL AVAILABLE	ESTIMATED ADDITIONAL	(OVER) UNDER YEAR END
100	TOTAL SALARIES	10,298,303	280,131	148,591	131,540
200	TOTAL BENEFITS	3,497,674	1,205,260	1,134,259	71,002
300	TOTAL PROFESS. SERVICES	522,182	297,651	196,838	100,813
400	TOTAL PROPERTY SERVICES	728,899	344,833	291,185	53,648
500	OTHER SERVICES	1,512,357	96,920	197,624	(100,704)
600	SUPPLIES & MATERIALS	322,601	94,812	109,904	(15,091)
700	TOTAL PROPERTY SERVICES	98,400	73,420	73,420	-
800	TOTAL DUES, FEES, MISC.	36,675	14,191	14,191	-
	TOTAL ADOPTED BUDGET	**17,017,091**	**2,407,217**	**2,166,010**	**241,207**

OBJECT	DESCRIPTION	ADOPTED BUDGET	TOTAL AVAILABLE	ESTIMATED ADDITIONAL	(OVER) UNDER YEAR END
390	OT/PT SERVICES/CONSULTING	41,800	(8,955)	-	(8,955)
510	TRANSPORTATION	225,274	(34,928)	-	(34,928)
560	TUITION SPECIAL ED	328,480	(73,236)	6,500	(79,736)
	SPECIAL EDUCATION CARVEOUT	**595,554**	**(117,119)**	**6,500**	**(123,619)**

SUMMARY	
Special Ed Surplus / (Deficit)	(123,619)
Under / (Over) Spending in OTHER programs	364,825
Total Surplus / (Deficit) Projected	241,207

WOODBRIDGE BOARD OF EDUCATION
MONTHLY DETAIL BY OBJECT
FOR THE MONTH ENDED January 31, 2024

Object Code	Descriptions	Adopted Budget	Expended to Date	Encumbered to Date	Available Balance	Estimated Additional	Projected Year-End Balance
110	Administrators	964,865	614,630	338,655	11,579		11,579
120	Teachers - Regular	5,808,080	2,946,121	2,680,623	181,337	112,125	69,212
120	Teachers - Special Education	948,002	499,784	449,718	(1,500)		(1,500)
1201	Psychologist	201,290	59,550	77,415	64,325	20,000	44,325
1203	Counselor	52,573	40,019	26,286	(13,732)		(13,732)
	Sub-Total Certified Salaries	**7,974,810**	**4,160,104**	**3,572,697**	**242,009**	**132,125**	**109,884**
1303	Custodians	450,218	288,124	129,999	32,095	27,000	5,095
140	Nurses	170,995	86,509	85,818	(1,332)		(1,332)
150	Secretaries, Clerical	383,229	236,905	141,719	4,606	2,466	2,140
160	Paraprofessionals	581,232	280,440	239,142	61,650	15,000	46,650
1601	Special Education Paraprofess.	545,517	264,619	254,334	26,565	(28,000)	54,565
170/10	Salaries OT / PT	60,793	56,322	56,322	(51,851)		(51,851)
190	IT Manager	79,568	51,772	27,409	387		387
190	Salaries, Miscellaneous	51,941	45,422	40,517	(33,998)		(33,998)
	Sub-Total Non-Certified Salaries	**2,323,493**	**1,310,112**	**975,260**	**38,121**	**16,466**	**21,655**
	TOTAL SALARIES	**10,298,303**	**5,470,216**	**4,547,956**	**280,131**	**148,591**	**131,540**
220	FICA	303,375	153,104		150,271	134,729	15,542
230	CMERS	498,265	213,084		285,181	228,000	57,181
270	Medical Insurance	2,649,631	1,897,394	368	751,869	751,869	-
280	Life Insurance	29,353	20,491		8,862	10,584	(1,722)
2902	Other Employee Benefits	17,050	7,973		9,077	9,077	-
	TOTAL BENEFITS	**3,497,674**	**2,292,046**	**368**	**1,205,260**	**1,134,259**	**71,002**
320	Professional Development	45,425	4,965	216	40,245	40,245	-
330	Legal Fees	62,000	22,724	-	39,276	39,276	-
340	Software Support	26,959	22,587	-	4,372	4,372	-
350	Substitutes	143,000	82,735		60,265	75,265	(15,000)
390/01	Consultant Services	41,800	11,320	39,435	(8,955)		(8,955)
3902	Financial Audit	32,680			32,680	32,680	-
390	Other Prof/Tech. Services	170,318	14,020	26,530	129,767	5,000	124,767
	TOTAL PROFESSIONAL SERVICES	**522,182**	**158,351**	**66,181**	**297,651**	**196,838**	**100,813**
410/01	Utilities - Electric and Water	205,500	73,629		131,871	106,871	25,000
420	Heating	151,602	31,396		120,206	75,000	45,206
430	Repairs and Maintenance	72,000	49,243	6,801	15,956	15,956	-
450	Leases and Rentals	109,123	80,878		28,245	40,745	(12,500)
4501	Building Improvements	-		4,058	(4,058)	-	(4,058)
490	Other Purchased Services	27,412	17,037		10,375	10,375	-
4901	Service Contracts	163,262	86,361	34,663	42,238	42,238	-
	TOTAL PROPERTY SERVICES	**728,899**	**338,544**	**45,522**	**344,833**	**291,185**	**53,648**
510	Pupil Transportation-Regular	457,642	323,004		134,638	134,638	-
510	Pupil Transportation-Spec. Educ.	225,274	120,042	140,161	(34,928)		(34,928)
520	Insurance-General Liability	134,307	93,895	36,142	4,271	-	4,271
5201	Worker's Compensation	239,734	116,657	114,702	8,375	-	8,375
530	Telephone Services	17,070	11,904		5,166	7,366	(2,200)

WOODBRIDGE BOARD OF EDUCATION
MONTHLY DETAIL BY OBJECT
FOR THE MONTH ENDED January 31, 2024

Object Code	Descriptions	Adopted Budget	Expended to Date	Encumbered to Date	Available Balance	Estimated Additional	Projected Year-End Balance
535	Internet	27,500	18,668	6,318	2,514		2,514
537	Postage	4,400	2,970		1,430	1,430	-
540	Advertising	1,000			1,000	-	1,000
550	Interns	57,000	23,650		33,350	33,350	-
560	Tuition - Wintergreen	6,000			6,000	6,000	-
560	Tuition - Out of District	328,480	139,288	262,427	(73,236)	6,500	(79,736)
590	Other Purchased Services	13,950	5,340	271	8,340	8,340	-
	TOTAL OTHER PURCH SERVICES	**1,512,357**	**855,417**	**560,020**	**96,920**	**197,624**	**(100,704)**
610	Instructional Supplies	115,185	51,299	19,111	44,775	44,775	-
620	Computer Software	73,796	41,880		31,916	31,916	-
625	Supplies Nurses	5,370	2,181	8	3,180	3,180	-
630	Supplies Custodial	52,300	29,095	34,714	(11,510)		(11,510)
635	Supplies Office	12,800	2,370	242	10,188	10,188	-
640	Books and Audio Visual	16,000	6,299	4,420	5,281	5,281	-
645	Subscriptions	26,500	10,936	1,000	14,564	14,564	-
650	Testing	17,650	15,642	4,632	(2,623)		(2,623)
690	Misc. Supplies - DW Security	3,000	3,914	44	(958)		(958)
	TOTAL SUPPLIES & MATERIALS	**322,601**	**163,617**	**64,172**	**94,812**	**109,904**	**(15,091)**
730	Equipment - Office	-			-		-
732	Computer Hardware	76,500	11,801	6,463	58,236	58,236	-
735	Equipment - Teaching	10,900	-	1,957	8,943	8,943	-
740	Equipment - Building	5,000	1,153	-	3,847	3,847	-
745	Furniture	6,000	3,606		2,394	2,394	-
	TOTAL PROPERTY	**98,400**	**16,560**	**8,420**	**73,420**	**73,420**	**-**
810	Dues and Fees	23,475	21,280	1,138	1,057	1,057	-
900	Other Fees	13,200	67		13,133	13,133	-
	TOTAL DUES AND FEES	**36,675**	**21,346**	**1,138**	**14,191**	**14,191**	**-**
	TOTAL ADOPTED BUDGET	**17,017,091**	**9,316,096**	**5,293,778**	**2,407,217**	**2,166,010**	**241,207**

WOODBRIDGE BOARD OF EDUCATION
SPECIAL REVENUE PROGRAMS
FINANCIAL REPORT FOR THE MONTH ENDED 1-31-2024

	Café	Extended Day	Field Trips	Expendable Trust	Activity Fund
Revenues:					
Charges for services	$143,438	$171,350	$8,058	$88,728	$0
Intergovernmental	$67,163	$0	$0	$0	
Donations	$0	$0	$0	$1,000	$0
Other income	$0	$0	$0	$0	
Additions	$0	$0	$0	$0	
Total Revenues:	**$210,602**	**$171,350**	**$8,058**	**$89,728**	**$0**
Expenditures:					
Wages, FICA, MERF	$103,785	$123,572	$0	$71,432	$0
Medical Insurance	$0	$0	$0		
Cost of food sold	$93,284	$0	$0		
Equipment	$0	$6,584	$0		
Repairs	$10,803	$0	$0		
Other Expenses	$2,824	$30,805	$15,534	$2,462	$0
Total Expenditures:	**$210,696**	**$160,960**	**$15,534**	**$73,895**	**$0**
Year to Date Net Income / (Loss):	**($95)**	**$10,390**	**($7,475)**	**$15,833**	**$0**
BOE Year to Date Cost of Health Insurance	$7,255				

	Café	Extended Day	Field Trips	Expendable Trust	Activity Fund
Assets:					
Cash	$317,005	$134,562	$467	$94,153	$20,994
Prepaid Expenses	$0	$0	$0	$0	$0
Accounts Receivable	$4,547	$250	$11	$3,329	$0
Intergovernment Receivable	$25,367	$0	$0	$0	$0
Inventory	$7,830	$0	$0	$0	$0
Total Assets:	**$354,749**	**$134,812**	**$478**	**$97,482**	**$20,994**
Liabilities:					
Amounts Held As Agent	$0	$0	$0	$0	$0
Accounts Payable	$3,459	$0	$0	$0	$0
Deferred Revenue	$31,786	$5,805	$0	$0	$0
Wages Payable	$5,585	$0	$0	$0	$0
Due To Other Funds		$45,737	$404	$181	$2,600
Total Liabilities:	**$40,829**	**$51,542**	**$404**	**$181**	**$2,600**
Fund Balance:					
Prior Year Ending Fund Balance	$314,014	$72,880	$7,549	$81,468	$18,394
Year to Date Income / (Loss)	($95)	$10,390	($7,475)	$15,833	$0
Current Fund Balance	**$313,919**	**$83,270**	**$74**	**$97,301**	**$18,394**
	$0	-	0	-	-

	Café	Extended Day	Field Trips	Expendable Trust	Activity Fund
Current Fund Balance	$313,919	$83,270	N/A	N/A	N/A
Baseline - Minimum Fund Balance (30 days)	$21,788	$37,731	N/A	N/A	N/A
Operating Reserve Fund Balance (90 days)	$65,364	$113,194	N/A	N/A	N/A
# of Days Expenses in Fund Balance	432	66	N/A	N/A	N/A
Fund Balance Excess	$248,555	($29,924)	N/A	N/A	N/A

Students

Admission/Placement

General Principles

In accordance with Connecticut General Statute 10-186, the Woodbridge Board of Education shall provide education for all persons residing in the District who are five years of age and older, or who have attained age five on or before ~~January~~ September 1 of any school year, and who are under 21 years of age who are not graduates of a high school or vocational school, except as provided in Connecticut General Statutes 10-233c and 10-233d. *If the child does not meet the cutoff date, the parent / guardian has the right to submit a written request* ***to the Principal*** *that an assessment of the child be conducted to determine that admitting such child is developmentally appropriate.* ***For decisions relating to early admissions to the District, the decision of the Principal shall be final***. The Woodbridge Board of Education recognizes the statutory right of children residing in the District to be enrolled in school if residency and age are confirmed. However, homeless students shall not be required to show residency.

Residency shall be defined as full-time occupancy of a Woodbridge residence (fixed permanent domicile), by at least one parent / guardian and the student. Living with a Woodbridge resident - even a close relative - for purposes of attending the Woodbridge School District is forbidden under Connecticut law and Woodbridge Board of Education policy. Temporary residence in the Town of Woodbridge, solely for the purpose of attending the Woodbridge School District, is also not considered residency. In accordance with Connecticut school law, being a land owner, tax payer, or business owner in the Town of Woodbridge does not confer residency privileges for school purposes. **The burden of proving residency falls to the parent / guardian.**

Each such child shall have, and shall be so advised by the appropriate school authorities, an equal opportunity to participate in the program and activities of the school system without discrimination on account of race, color, sex, religion, national origin or sexual orientation, gender identity or expression, or any other basis identified by State or federal law. Students who are classified as homeless under federal law, or an unaccompanied youth, as described in 42 USC 11434a, and therefore do not have a fixed residence, will be admitted pursuant to federal law and policy 5118.1. Exceptions from routine admission may be made by the school Principal on the basis of supporting evidence from physical and psychological examinations.

The parent or person having control of a child five years of age shall have the option of not sending the child to school until the child is six years of age; the parent or person having control of a child six years of age shall have the option of not sending the child to school until the child is seven years of age.

The parent/guardian of any child who is denied admission to the District's schools, or an unaccompanied minor, a homeless child or youth, or an unaccompanied youth who is denied schooling on the basis of residency, or an agent or officer charged with the enforcement of the laws concerning attendance at school may request, in writing, a hearing by the Woodbridge Board of Education.

According to Connecticut General Statute 10-76d (b2), special education will be provided for children who have attained the age of three and who have been identified as being in need of special education, and whose educational potential will be irreparably diminished without special education. If a special education student is being considered for an exception, the Planning and Placement Team (PPT) will make a recommendation to the administrator in charge of special education.

The enrollment process shall be focused on obtaining only the information deemed necessary to establish residency and age. The District shall not request other information as a condition of enrollment or state in its policies, on its website, or otherwise that other information is required to enroll children. The District shall immediately enroll a homeless child and allow such student to attend school even if the student is unable to produce records normally required for enrollment. Additional data collection may occur, but it must be completed in such a manner that does not interfere with the enrollment of a child in school.

In order to determine a child's eligibility for multilingual education programs, parents/guardians of all new students enrolling for the first time, and all re-enrolling students who have not previously attended a Connecticut public school, must complete a Home Language Survey (HLS) at the time of enrollment. A student may also take a screening exam. The student must be enrolled first before the administration of the assessment. Neither the survey nor the exam are conditions of enrollment.

Documents to Establish Age and Immunizations
Each child entering the district schools for the first time must present a birth certificate or offer legal evidence of birth data, as well as proof of a recent physical examination and required immunizations. Other documents that may be accepted as proof of a child's age include, but are not limited to, a photocopy of a birth certificate, earlier school records, a State-issued identification document, a driver's license or passport, a parent's affidavit or unsworn statement as to a child's age, a physician's certificate verifying a child's age, or an immunization record.

Completion of immunization and health assessment requirements is required prior to a child's attendance in school, but is not considered prerequisite to enrolling a child who resides in the District and is of appropriate age to attend school. If the parents or guardians of any children are unable to pay for such immunizations, the expense of such immunizations shall on the recommendation of the Board, be paid by the town. Proof of domicile may also be requested by the Building Principal.

Documents to Establish Residency
In the establishment of residency, the Board will accept such documentation as, but not limited to, a current signed notarized lease agreement and rent receipt (signed by owner/landlord and tenant/resident), proof of home ownership (a mortgage document, a property tax record), a homeowner's / renter's insurance policy record, ~~a~~ two current utility bills, current proof of government benefits, a Connecticut's driver's license showing current Woodbridge address, ~~or automobile registration or insurance record~~. A cellphone ***or cable*** bill is not acceptable. An Affidavit of Residence, properly executed, shall also be acceptable. The District, when determining residency, shall not request documentation of citizenship or immigration status of a child or the child's parents/guardians. The Woodbridge School District reserves the right to request additional documents and/or to conduct an investigation at any time. Students will not be enrolled until ~~**all**~~ acceptable proofs of residency have been ***verified and*** approved.

A student who resides in a dwelling located in more than one town shall be considered, for purposes of school attendance, a resident of each town in which the dwelling is located and may attend school in any one of such towns.

For purposes of establishing the residency of a child of a member of the armed forces, as defined in Connecticut General Statutes 27-103, and who is seeking enrollment in a district school, the Board shall accept as proof of residency the military orders directing such member to Connecticut or any other documents from the armed forces indicating the transfer of such member to Connecticut.

Special Circumstances
A student whose family intends to become residents of Woodbridge ~~by December 31 of~~ **in** a given school year may enroll in the Woodbridge School District at the start of that school year by presenting evidence that such residence will be established and occupancy will occur within 60 days from the time the student is enrolled including a notarized statement from the landlord and/or closing attorney. Evidence shall include: ownership of property approved as a building site and a signed construction contract stating that the home will be ready for occupancy ~~prior to December 31~~ within 60 days from the time the student is enrolled or a binding lease agreement to rent a home in Woodbridge with occupancy ~~prior to December 31~~ occurring within 60 days from the time the student is enrolled, or a binding agreement to purchase a home in Woodbridge, such binding agreement clearly stating "closing" to occur within 60 days from the time the student is enrolled. Any such evidence shall be presented as a sworn or notarized affidavit from the closing attorney. Until the family takes residence in Woodbridge, responsibility to transport the student to school will be the family's.

Failure to ultimately establish residence ~~by December 31~~ within 60 days will ~~would~~ obligate the family to be liable for payment of full tuition costs from the date of the student's entry in the district's school. Tuition, including the payment of any delinquent or liable tuition, would then need to be paid monthly for the child to be eligible to continue in school until residency is established. Tuition cost would be determined by the Business Office based on the general education per-pupil cost. In such circumstances, a child will not be continued as a tuition student for a period greater than ten (10) months.

A student whose family moves from Woodbridge after February 1 of a given school year may complete that year in the Woodbridge School District, but the student's family is responsible for the student's transportation to and from school.

Children of school age who are not residents of Woodbridge but who are permanent residents with adult relatives or non-relatives who are bona fide residents of Woodbridge shall be entitled to free school accommodations provided by the Woodbridge Board of Education provided that the child's residence in Woodbridge: (1) is to be permanent; (2) is provided by the Woodbridge relative or non-relative without payment or compensation by the child's parent or legal guardian and; (3) is not for the sole purpose of attending Woodbridge Public Schools.

Connecticut General Statute 10-253d addresses the circumstances of children who are permanent residents in the homes of relatives or non-relatives citing conditions of residence as being permanent, provided without pay, and not for the sole purpose of obtaining school accommodations. The statute also provides that the local Board of Education may require documents from the parent or guardian, the relative or non-relative, the emancipated minor, or the student 18 years of age or older, in the form of an affidavit attesting to residency under conditions not in conflict with Connecticut General Statute 10-253(d). The transportation of a child to Woodbridge from a parent's residence in another community does not qualify as residency (if the child actually resides in the other parent's community).

The Superintendent shall require that affidavits shall be executed by both the child's parent or legal guardian and the Woodbridge relative or non-relative attesting to the child's residence in Woodbridge. The Superintendent may also require any other supporting documentation as he/she deems necessary. For the purposes of this policy, the term "permanent" shall be defined as the intent by the non-resident student, the Woodbridge relative or non-relative, and the student's parent or guardian that said student intends to reside in Woodbridge indefinitely.

The Superintendent shall require that parents or guardians of a child provide appropriate proof of residency in Woodbridge prior to enrollment of their child in the Woodbridge Public Schools. The Superintendent may also require that parents or guardians of a child already enrolled in the Woodbridge Public Schools provide appropriate proof of residency in Woodbridge from time to time.

~~***The Superintendent shall also require that emancipated minors produce appropriate documentation of their emancipated status, and of their residency.***~~

In the event it is determined that a child is not legally entitled to be provided school accommodations by the Woodbridge Board of Education, the Woodbridge Board of Education may, pursuant to Connecticut General Statute 10-186, assess the child's parent or guardian for tuition and/or the resident with whom the child resides. The tuition charge may be imposed for that period of time that the child was not legally entitled to attend the Woodbridge School District in the current school year and/or for any past year in which the child was enrolled in the Woodbridge School District. ~~***The Board of Education may, in its sole discretion, exclude the child from the Woodbridge School District for the balance of the school year***~~. The Woodbridge School District may seek civil remedies, including fines and legal action, to collect any unpaid assessments of tuition and additional penalties. ***If determination is made by the Superintendent that the student is residing other than in Woodbridge, the student's enrollment in Woodbridge shall be terminated immediately***.

If a child is placed out by the Department of Children and Families or any other State agency with a bona fide resident of Woodbridge, the child shall be entitled to free school accommodations in Woodbridge.

Payment for such services shall be provided by the Board of Education of the school district under whose jurisdiction such child would otherwise be attending school where such school district is identified (Connecticut General Statute 10-253(d)). The Superintendent shall require documentation of such placement, in addition to proof of residency.

Children in temporary shelters in Woodbridge shall be entitled to free school accommodations from either Woodbridge, or the school district in which the child would otherwise reside. Upon notification from Woodbridge, the school district in which the child would otherwise reside shall either pay tuition to Woodbridge or shall continue to provide educational services, including transportation, to such child (Connecticut General Statute 10-253(d)). The Superintendent shall require proof of residency in the temporary shelter.

Any child entering or returning to the district from placement in a juvenile detention school, the Connecticut Juvenile Training School, or any other residential placement shall have the educational records of such child provided to the Superintendent of Schools by the Department of Children and Families (DCF) and the Judicial Department. Such information will be shared with the Principal of the school to which the student is assigned. The Principal can disclose them to the staff who teach or care for the child.

The District will immediately enroll any student who transfers from Unified District No. 1 or Unified District No 2. A student transferring from either Unified School Districts who had previously attended school in the local District shall be enrolled in the school such student previously attended, provided such school has the appropriate grade level for the student.

~~The parent or person having control of a child 17 years of age may consent to such child's withdrawal from school. For the school year commencing July 1, 2011, and each school year thereafter, the parent or person having control of a child 17 years of age shall exercise this option by personally appearing at the school district office to sign a withdrawal form. Such withdrawal form shall include an attestation from a school counselor or school administrator of the school that the district has provided the parent or person with information on the educational options available in the school system and in the community.~~

~~A child who has attained the age of 17 and who have terminated enrollment in the district's schools with parental permission as described previously and subsequently seeks readmission may be denied readmission for up to ninety school days from the date of such termination, unless such child seeks readmission to a district school not later than ten days after such termination. In such case the child will be provided school accommodations not later than three days after the requested readmission.~~

Note: When a student is enrolling in a new school district or new state charter school, written notification of such enrollment shall be provided to the previous school district or charter school not later than two business days after the student enrolls.

~~Children who have attained the age of 19 or older may be placed in an alternative school program or other suitable educational program if they cannot acquire a sufficient number of credits for graduation by age twenty-one.~~

Students of non-resident employees may attend district schools as per benefits that may be provided by the relevant collective bargaining agreement.

Placement
Children who apply for initial admission to the district's schools by transfer from nonpublic schools or from schools outside the district will be placed at the grade they would have reached elsewhere pending observation and evaluation by classroom teachers, guidance personnel, and the school Principal. After such observations and evaluations have been completed, the Principal will determine the final grade placement of the children.

(cf. 0521 - Nondiscrimination)
(cf. 5112 - Ages of Attendance)
(cf. 5118.1 - Homeless Students)

(cf. 5141 - Student Health Services)
(cf. 6171 - Special Education)
(cf. 6146 - Graduation Requirements)

Legal Reference: Connecticut General Statutes

10-15 Towns to maintain schools

10-15c Discrimination in public schools prohibited. School attendance by five-year olds, as amended by PA 97-247

10-76a - 10-76g re special education

10-184 Duties of parents (re mandatory schooling for children ages five to sixteen, inclusive) - as amended by PA 98-243, PA 00-157 and PA 09-6 (September Special Session)

10-186 Duties of local and regional boards of education re school attendance. Hearings. Appeals to state board. Establishment of hearing board. Readmission, as amended.

10-220h Transfer of student records, as amended.

P.A. 11-115 An Act Concerning Juvenile Reentry and Education

10-233a - 10-233f Inclusive; re: suspend, expel, removal of pupils

10-233c Suspension of pupils

10-233d Expulsion of pupils

10-233k Notification of school officials of potentially dangerous students. (as amended by PA 01-176)

10-261 Definitions

State Board of Education Regulations

10-76a-1 General definitions (c) (d) (q) (t)

10-76d-7 Admission of student requiring special education (referral)

10-204a Required immunizations (as amended by PA 98-243)

McKinney-Vento Homeless Assistance Act, 42 U.S.C. §11431 et seq.

Plyler vs. Doe, 457 U.S. 202 (1982)

10-253 School privileges for children in certain placements, non-resident children, children in temporary shelters, homeless children, and children in juvenile detention facilities.

PA 21-86 An Act Concerning the Enrollment of Children of Members of the Armed Forces in Public Schools . . .

PA 23-208 New Entry Age for Kindergarten

"Guidance for Connecticut School Districts: Enrollment Process and Practice," Connecticut State Department of Education," December 2019

Policy adopted: ~~**May 19, 2022**~~

WOODBRIDGE PUBLIC SCHOOLS
Woodbridge, Connecticut

Mathematics at BRS

Presentation to the Board of Education
Woodbridge School District
February 2024

Presentation topics

- Research
- Philosophy and beliefs
- Current practices
- Data review
- Staffing
- Continuous improvement
- Looking ahead
    - What to expect at BRS
    - What we see at Amity Middle and High School

Research

- Review of standards and resources
- Review of district mission, vision, and beliefs
- Discussions with several districts within our DRG & BOWA
- Meeting with Dr. Katherine Gavin, UCONN NEAG School of Education, Renzulli Center for Creativity, Gifted Education, and Talent Development
- Review of relevant articles and research
- Ongoing BOWA Curriculum Meetings
- Vertical alignment with AMSB through meetings and class visits
- Classroom visits to look at math tasks and student work
- Ongoing data review– both Standardized and Curriculum Based Measures

Research continued

From IM 2020, Guidance on Accelerating Students in Mathematics

“The concepts addressed in K–8 mathematics are extremely important, and students need time to learn this content properly. Acceleration approaches that involve skipping standards put future learning at risk. A survey conducted by ACT (2012) found that topics from grades 6–9 were more important to college faculty for college preparation than advanced topics.”

From NCTM 2023, “Disrupting High, Medium, and Low in Mathematics Education”

“… Valuable recommendations including creating opportunities for students to show their strengths by supporting all students’ access to rich content and open-ended problem solving; and keeping support groups flexible and focused on information about students’ understanding of specific topics rather than general assessments of ability.”

BRS Foundational Belief

What are the consequences of thinking that your intelligence is something you can develop, as opposed to something that is a fixed, deep-seated trait?

Carol Dweck, Mindset

Mathematics Beliefs at BRS

- ★ Mathematical Practice Standards are a critical component of instruction in today's classroom

  "*Standards for Mathematical Practice describe the nature of the learning experiences, thinking processes, habits of mind, and disposition that students need to develop a deep, flexible, and enduring understanding of mathematics." CSDE Website*

- ★ All learners deserve opportunities to think deeply and practice inquiry
- ★ Growth mindset research guides BRS instruction
- ★ Gaps in student understanding are created by skipping foundational learning standards
- ★ Passion, perseverance, and being able to communicate mathematically are just as important as computational skills
- ★ Teacher-student relationships drive instructional decisions

Research Recommendations

- Commit to cultivating a solid K–8 mathematics foundation by appropriate implementation of grade-level standards and limiting acceleration options before high school
- Provide extension and enrichment opportunities, aiming for deeper understanding (which is great for future learning), before acceleration is considered
- Compact curriculum in upper grades rather than skip important foundational content
- Use high-quality research-based resources
- Provide ongoing, targeted professional learning

Important Definitions

Compacting: Students complete a pre-assessment. If they score 90% or higher, they are then given a post-assessment for the same unit. If they score a 90% or higher they are then compacted out. Students who are compacted out receive small group work that allows them to apply mastered skills to projects and problem solving tasks.

Flexible grouping: Teachers utilize data to identify students who have mastered concepts and skills. Students are provided with different work to complete during specific class sessions. Flexible grouping changes each unit.

Current Practice: Grades 5

- All grade 5 students stay within their homeroom for math class
  - Support provided: intervention and extension within and outside of homeroom classroom
- Curriculum is compacted
  - “The term compacted means to compress content, which requires a faster pace to complete; it does not involve skipping content.”
- At the end of Grade 5, students are assessed for their grade 6 math placement
  - Identification and timeline for these processes to be shared in spring

Curriculum Compacting data

Unit	Number of students
1 (Multiplication, Division and Order of Operations)	17
2 (Decimals)	6 (one chose not to be part of the group)

Current practice: Grade 6

- All grade 6 students are departmentalized for all subject areas
  - Support provided: intervention and extension both within and outside of the classroom through differentiated instruction and flexible grouping based on formative and summative assessments and curriculum based measures

- For the 2023-2024 school year→ Grade 6 learners who qualified for Pre-algebra are provided with online learning platform (Aleks), a pre-algebra textbook and ongoing check ins from a Math Specialist 1-2x per cycle

- At the end of Grade 6, students may be identified for grade 7 math, pre-algebra, or to take the algebra readiness assessment

Pre-Algebra Data

2021-2022	2022-2023	2023-2024
10%	14%	2%

- Criteria adjusted to match AMSB for the 23-24 school year

What our data shows

Smarter Balanced Math	% Meet/Exceeded
Grade 3	75.7%
Grade 4	87.2%
Grade 5	82.8%
Grade 6	76.5%
All Grades	80.7%

STAR Winter 2024	% at Level 3 and 4
Grade 3	74%
Grade 4	83%
Grade 5	88%
Grade 6	84%
All Grades	83%

Within our District Reference Group (DRG)

DRG Math Ranking for Math SBAC Performance				
Ranking	District	Subject	Level 3&4 Met or Exceeded	
			Count	%
1	Woodbridge School District	Math	380	80.7
2	Madison School District	Math	816	79.2
3	Cheshire School District	Math	1,354	73.7
4	Farmington School District	Math	1,368	72.9
4	Glastonbury School District	Math	1,828	72.9
6	Trumbull School District	Math	2,200	71.6
7	Simsbury School District	Math	1,322	71.5
8	Greenwich School District	Math	2,636	70.3
9	Regional School District 05	Math	484	69.1
10	South Windsor School District	Math	1,577	67.8
11	New Fairfield School District	Math	628	67.2
12	Fairfield School District	Math	2,767	67.1
13	Guilford School District	Math	924	66.3
14	Orange School District	Math	467	65.9
15	Newtown School District	Math	1,138	64.9
16	Monroe School District	Math	970	64.4
17	Avon School District	Math	907	62.5
18	West Hartford School District	Math	2,366	59.4
19	Brookfield School District	Math	601	54.9
20	Granby School District	Math	414	53.3
21	State of Connecticut	Math	92,970	42.5

Collective Teacher Efficacy

“It is the collective belief of teachers in their ability to positively affect students.”

- *Dr. John Hattie, Visible Learning*

Continuous Improvement

- Communication
  - Administration
  - Math Specialists
  - Classroom teachers
  - Special area teachers (ie TAG Teachers, Technology teachers etc.)
- Ongoing conversations with AMSB and BOWA
- Review and revise resources for curriculum compacting, flexible grouping, and homework
- Professional learning
- Strategic Plan
  - Inquiry Teaching and Learning
  - Project Based Learning

Looking ahead- what to expect at BRS

- Pre-Algebra offered to grade 6 students who qualify
- Compacting and flexible grouping continuing
- After-school opportunities in Mathematics for all interested learners
- New resources for learners compacting out
- New resources for flexible grouping
- Closer look at differentiated homework
- Involvement of STEAM teacher
- Continued involvement with math curriculum leaders
- Opportunities for ongoing professional development
- Continued support for ALL students
- Communication with the BRS Community

Communication with the BRS Community

Now:

- Letter sent to the community with information from this presentation

Next:

- Information sent to grade 5 parents regarding process for assessment

In the future:

- Ongoing communication regarding mathematics instruction from teachers and administration

Looking Ahead: Amity

What does the Amity Middle and High School data tell us about our practices at BRS?

Presentation by: Frank Purcaro, Amity Assistant Superintendent

Questions?

Math Pathways

Presentation to the Woodbridge Board of Education

February 26th, 2024

Frank Purcaro, Assistant Superintendent

Amity Region #5



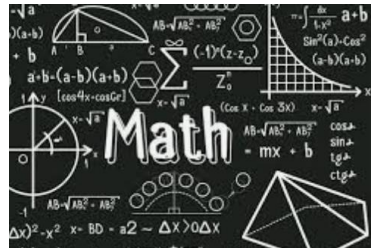
Presentation Contents

- MS Pathways to Advanced Math
- HS Pathways to Advanced Math
- 2018-19 Grade 7 Cohort Math Pathways Analysis
- 2019-20 Grade 7 Cohort Math Pathways Analysis
- AP Math Enrollment by Year, Grade, Performance & Town (3 Year Trends)



MS Pathways to Advanced Math

Math Entry Points in 7th Grade



7th Grade Accelerated Math/Algebra I

4 Major considerations for placement in Algebra:

1. **At least a 97th percentile** on all STAR/iReady assessments in grades 5 and 6 (with one score exception).
2. *Meets all 5 classroom performance criteria as rated by 6th grade teachers.
3. Must "exceed" Mathematical Claims as rated by 6th grade teachers .
4. **Must take** the Pre-Algebra Final Exam and achieve a grade of B+ or higher

7th Grade Advanced Math/Pre-Algebra

3 Major considerations for placement in Pre-Algebra:

1. 6th Grade Math STAR/iReady Scale Scores (SS) - **at least an 83rd percentile** on Winter and Spring Assessments.
2. Meets at least 4 out of 5 classroom performance criteria as rated by 6th grade teachers.*****
3. **Must "meet" or "exceed"** SBA Mathematical Claims as rated by 6th grade teachers.

7th Grade Math/Comp

Traditional, direct placement from 6th grade math.

Parents can waive students in 7th Grade Advanced Math/Pre-Algebra.

***Classroom performance criteria factors considered by 6th grade teachers includes:** Outstanding math achievement (>85% on summative assessments), Completes homework on time with attention to detail and organization; Independent learner, perseveres toward mastery; Developmentally mature, thinks abstractly, makes connections; Ability to make relevant applications of new concepts

7th to 8th Grade Placement

7th Grade Accelerated Math/Algebra I

Student meets criteria and moves to **Geometry** in 8th grade.



7th Grade Advanced Math/Pre-Algebra

Student meets the criteria and receives teacher recommendation to advance to **Algebra I.**

OR

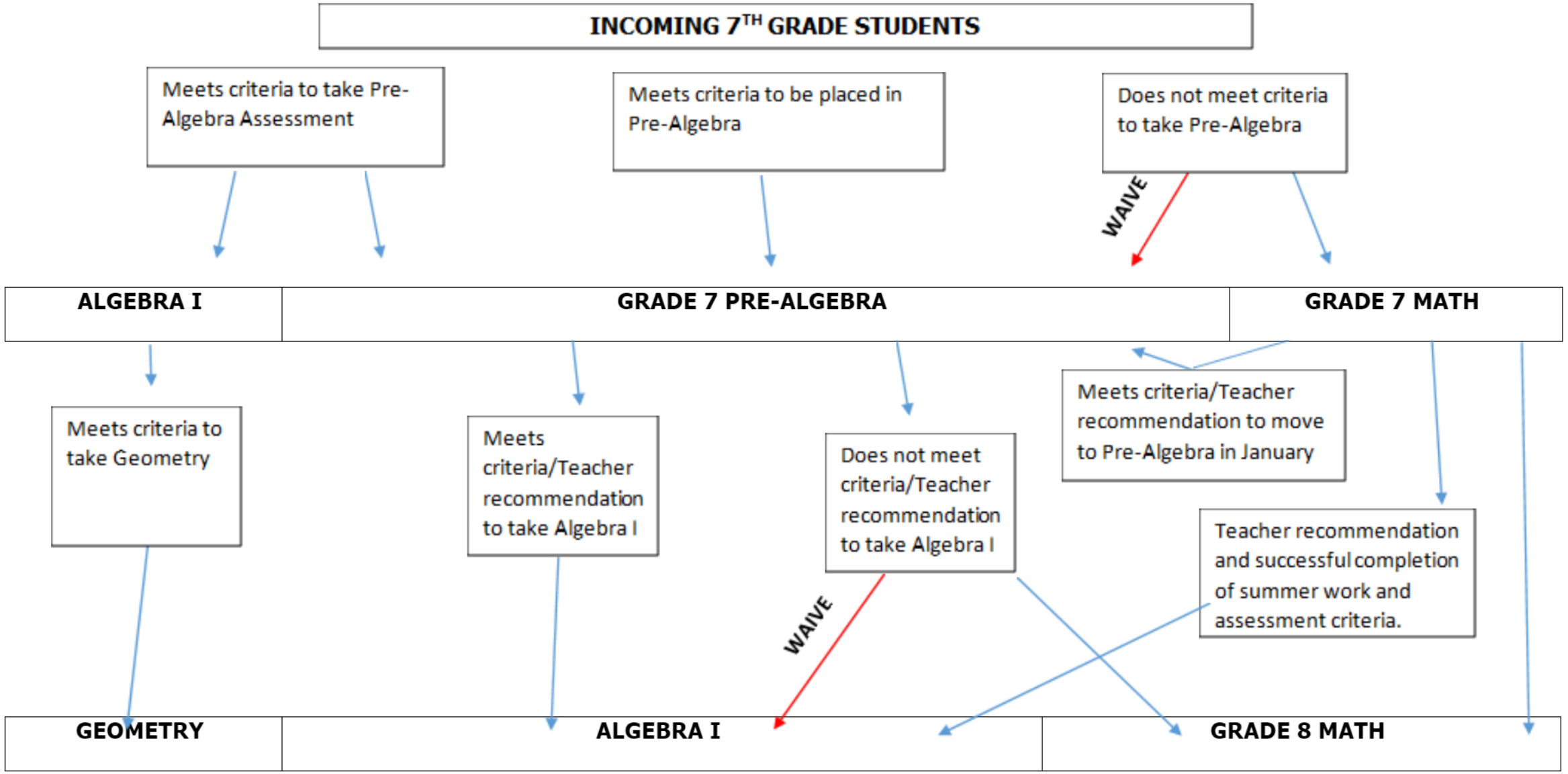
If the student does not meet the criteria/recommendation, parent has the option of waiving student into Algebra I

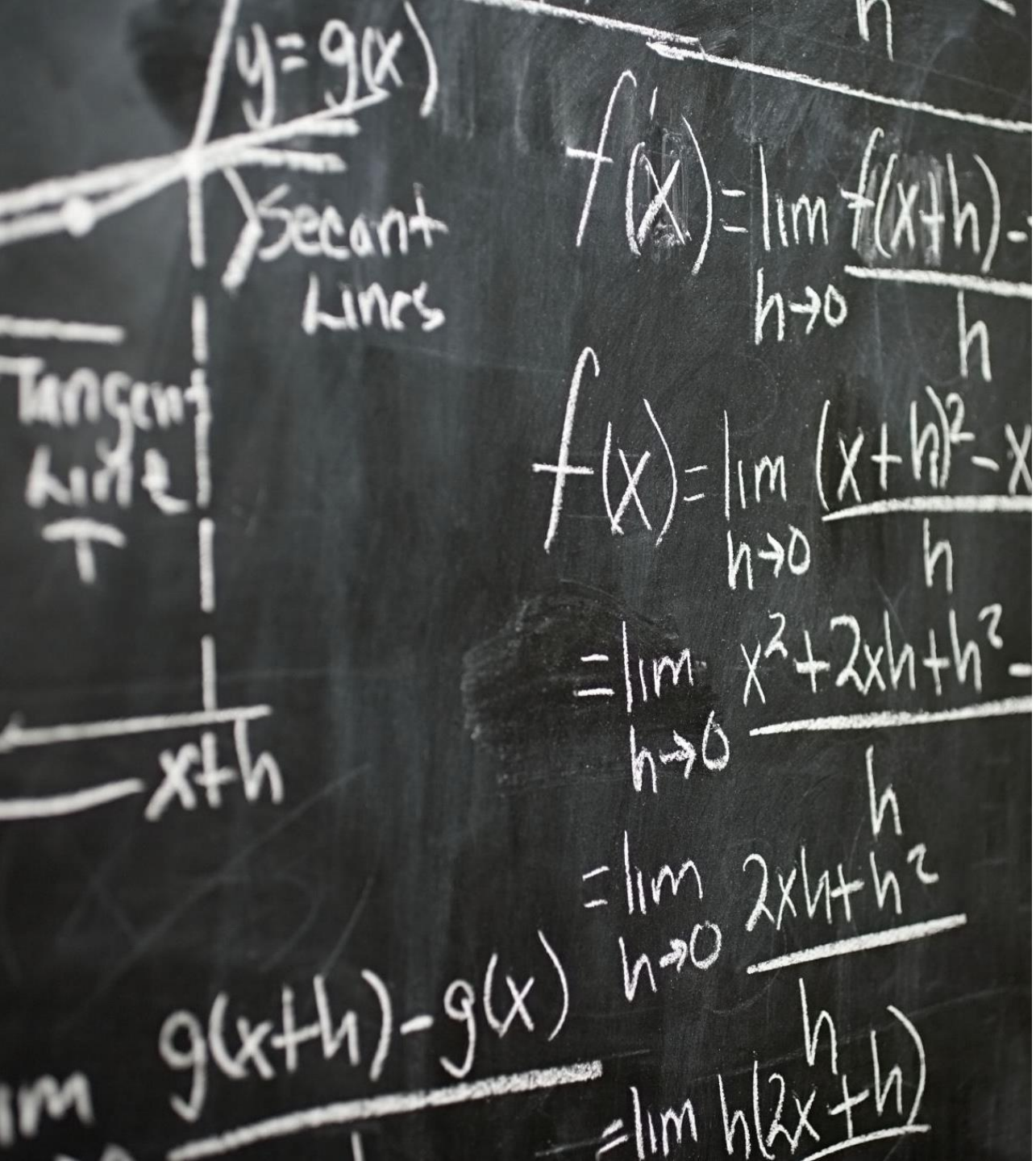
7th Grade Math/Comp

Student advances to **8th Grade Math.**

Option #1: High achievement and teacher recommendation, student moves to **Pre-Algebra** at the mid year.

Option #2: Student advances to **Pre-Algebra** after meeting assessment criteria, completion of summer work, and teacher recommendation


INCOMING 7TH GRADE STUDENTS
Meets criteria to take Pre-Algebra Assessment
Meets criteria to be placed in Pre-Algebra
Does not meet criteria to take Pre-Algebra
WAIVE
ALGEBRA I
GRADE 7 PRE-ALGEBRA
GRADE 7 MATH
Meets criteria to take Geometry
Meets criteria/Teacher recommendation to take Algebra I
Does not meet criteria/Teacher recommendation to take Algebra I
Meets criteria/Teacher recommendation to move to Pre-Algebra in January
Teacher recommendation and successful completion of summer work and assessment criteria.
WAIVE
GEOMETRY
ALGEBRA I
GRADE 8 MATH



HS Pathway to Advanced Math

- Students placed in Grade 7 Math/Comp, Advanced Math/Pre-Calculus and Accelerated Math/Algebra I **ALL** have a pathway to Calculus in HS.
- The next slides include:
  1. Overview of HS Math Pathways.
  2. Trace the current pathway of the 2018-19 Grade 7 Cohort.
  3. Trace the current pathway of the 2019-20 Grade 7 Cohort.

Student Example #1 – Geometry in 8th Grade

Geometry Algebra I 8th Grade Math



Grade	Course
8th	Geometry
9th	Algebra II Hon/L1
10th	Precalculus Hon/L1
11th	Calculus AP/L1
12th	AP Statistics

Student Example #2 – Algebra I in 8th Grade

Geometry | Algebra I | 8th Grade Math



Grade	Course
8th	Algebra 1
9th	Geometry Hon/L1
10th	Algebra II Hon/L1
11th	Precalculus Hon/L1
12th	Calculus AP/L1 & AP Statistics

Student Example #3 – 8th Grade Math

Geometry

Algebra I

8th Grade Math

Option #1	
Grade	**Course**
8th	8th Grade Math
9th	Algebra I
10th	Geometry
11th	Algebra II
12th	Precalculus

Option #2 – Summer Geometry	
Grade	**Course**
8th	8th Grade Math
9th	Algebra I
Summer	Geometry
10th	Algebra II
11th	Precalculus
12th	Calculus

Option #3 – Double Math	
Grade	**Course**
8th	8th Grade Math
9th	Algebra I
10th	Geometry & Algebra II
11th	Precalculus
12th	Calculus

2018-19 Grade 7 Cohort* - Current 12th Graders

Algebra I in 7th Grade and Geometry in 8th Grade



Grade	Course
8th	Geometry
9th	Algebra II Hon/L1
10th	Precalculus Hon/L1
11th	Calculus AP/L1
12th	AP Statistics

7th Grade Accelerated/Algebra I / 2018-19 School Year / 4 Students Total	
Course in Grade 11 (2022-23 School Year)	AP Calculus
# of Students	4
Current Grade 12 Course (2023-24 School Year)	AP Statistics
# of Students	4
Percent	100%

In 2018-19, 4 students were enrolled in Algebra I in 7th grade; all 4 advanced to AP Calculus and AP Statistics in their 12th grade year.

* These are “loose” cohorts, as the data does not account for students who moved in or out of district.

2019-20 Grade 7 Cohort* - Current 11th Graders

Algebra I in 7th Grade and Geometry in 8th Grade



Grade	Course
8th	Geometry
9th	Algebra II Hon/L1
10th	Precalculus Hon/L1
11th	Calculus AP/L1
12th	AP Statistics

7th Grade Accelerated/Algebra I / 2019-20 School Year / 2 Students Total		
Current Grade 11 Course (2023-24 School Year)	AP Calculus AB	AP Calculus BC
# of Students	1	1

In 2019-20, 2 students were enrolled in Algebra I in 7th grade; both students are currently in AP Calculus this year.

* These are “loose” cohorts, as the data does not account for students who moved in or out of district.

2018-19 Grade 7 Cohort* - Current 12th Graders

PreAlgebra in 7th Grade and Algebra I in 8th Grade



Grade	Course
8th	Algebra 1
9th	Geometry Hon/L1
10th	Algebra II Hon/L1
11th	Precalculus Hon/L1
12th	Calculus AP/L1 & AP Statistics

7th Grade Advanced/Pre-Algebra / 2018-19 School Year / 119 Students Total					
Current Grade 12 Course (2023-24 School Year)	PreCalc L1	Calc L1	AP Calc AB	AP Calc BC	AP Stats
# of Students	9	24	21	11	24
Percent	8%	20%	18%	9%	20%

In 2018-19, 119 students were enrolled in PreAlgebra in 7th grade; 89 of the students were enrolled in courses ranging from PreClac L1 through AP Statistics in their 12th grade year, with the majority of students in one of the two AP Calc offering.

2019-20 Grade 7 Cohort* - Current 11th Graders

PreAlgebra in 7th Grade and Algebra I in 8th Grade



Grade	Course
8th	Algebra 1
9th	Geometry Hon/L1
10th	Algebra II Hon/L1
11th	Precalculus Hon/L1
12th	Calculus AP/L1 & AP Statistics

7th Grade Advanced/Pre-Algebra / 2019-20 School Year / 124 Students Total				
Current Grade 11 Course (2023-24 School Year)	Algebra II L1	PreCalc L1	PreCalc LH	AP Calc AB
# of Students	13	56	28	1
Percent	11%	46%	23%	1%

For the tables above, if a student is currently in Alg II L1, they will most likely be in PreCalc L1 next year. For the students in PreCalc LH, they will most likely be in either AP Calc class and/or AP Stats. For the students in PreCalc L1, they may go to Calc L1 or AP Stats (they can waive into AP Calc).

2018-19 Grade 7 Cohort* - Current 12th Graders

7th Grade Math, then 8th Grade Math

Option #1		
	**Grade**	**Course**
	8th	8th Grade Math
	9th	Algebra I
	10th	Geometry
	11th	Algebra II
	12th	Precalculus

7th Grade Math/Comp / 2018-19 School Year / 161 Students Total					
Current Grade 12 Course (2023-24 School Year)	PreCalc L1	Calc L1	AP Calc AB	Statistics L1	AP Stats
# of Students	19	3	1	16	1
Percent	12%	2%	1%	10%	1%

2019-20 Grade 7 Cohort* - Current 11th Graders

7th Grade Math, then 8th Grade Math

Option #1		
	**Grade**	**Course**
	8th	8th Grade Math
	9th	Algebra I
	10th	Geometry
	11th	Algebra II
	12th	Precalculus

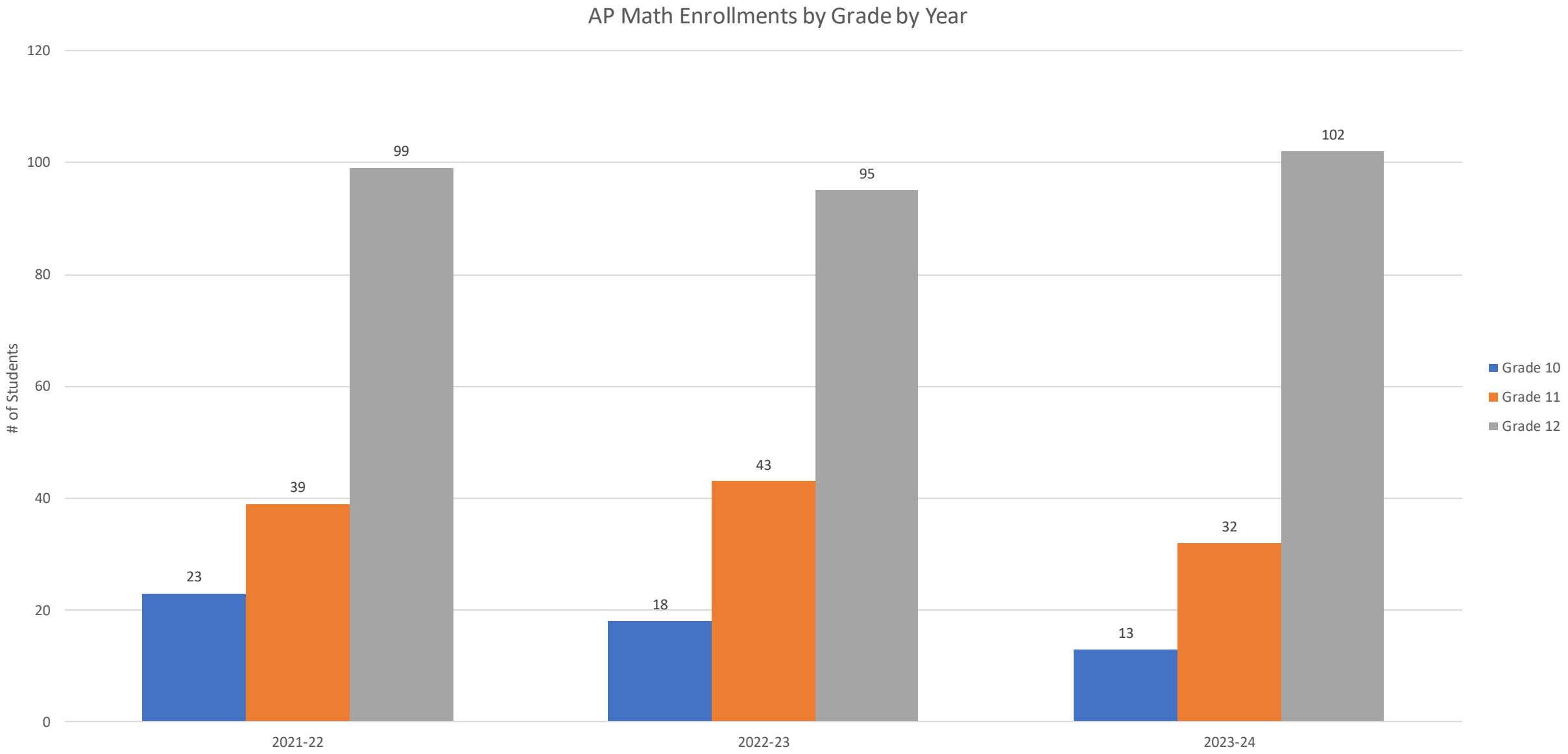
7th Grade Math/Comp / 2019 School Year / 154 Students Total		
Current Grade 11 Course (2023-24 School Year)	Algebra II L1	PreCalc LH
# of Students	21	1
Percent	14%	1%

For the tables above, if a student is currently in Alg II L1, they will most likely be in PreCalc L1 next year. For the students in PreCalc LH, they will most likely be in either AP Calc class and/or AP Stats. For the students in PreCalc L1, they may go to Calc L1 or AP Stats (they can waive into AP Calc).

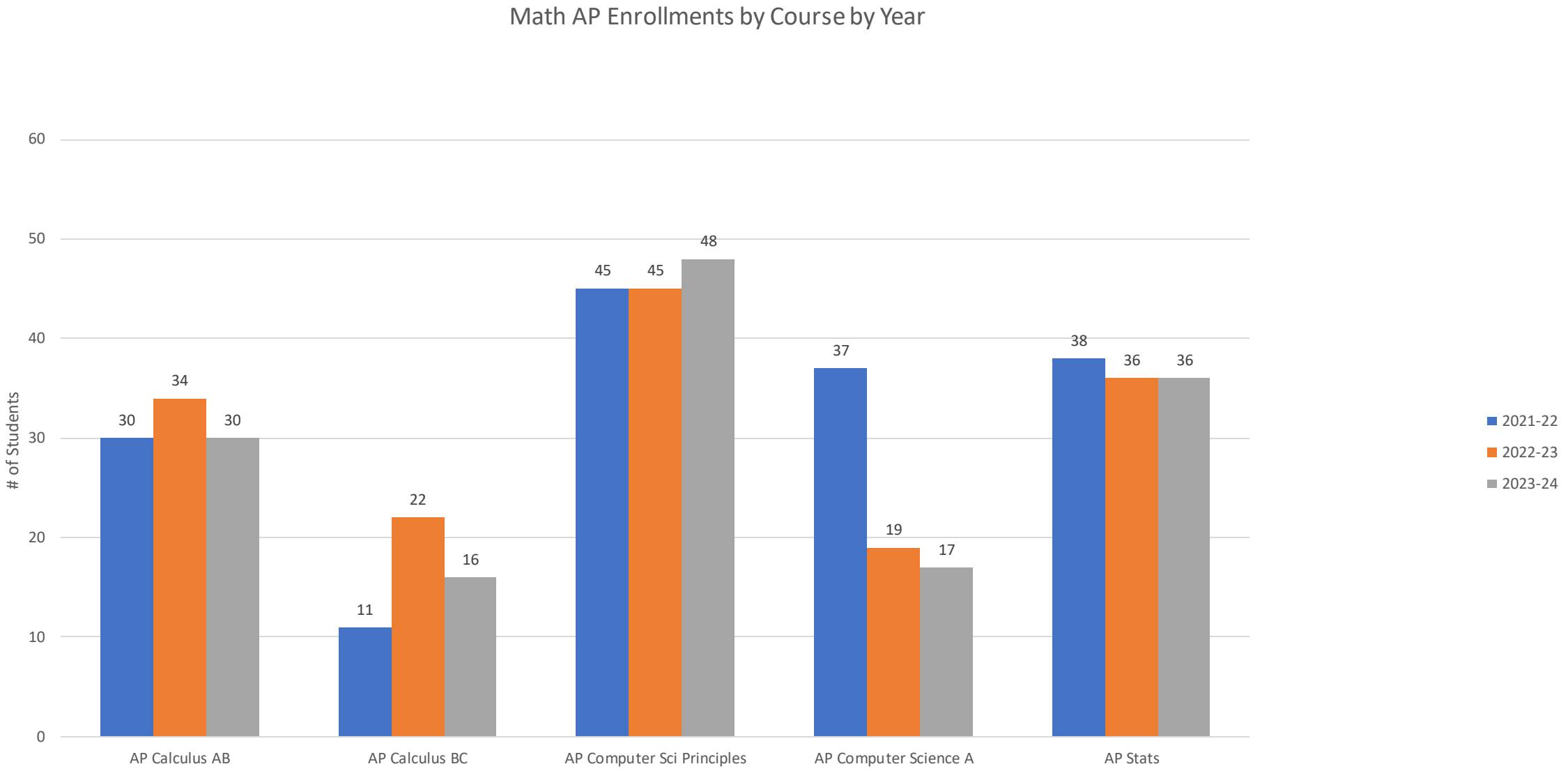


Do students ever move up levels? What does the data say?

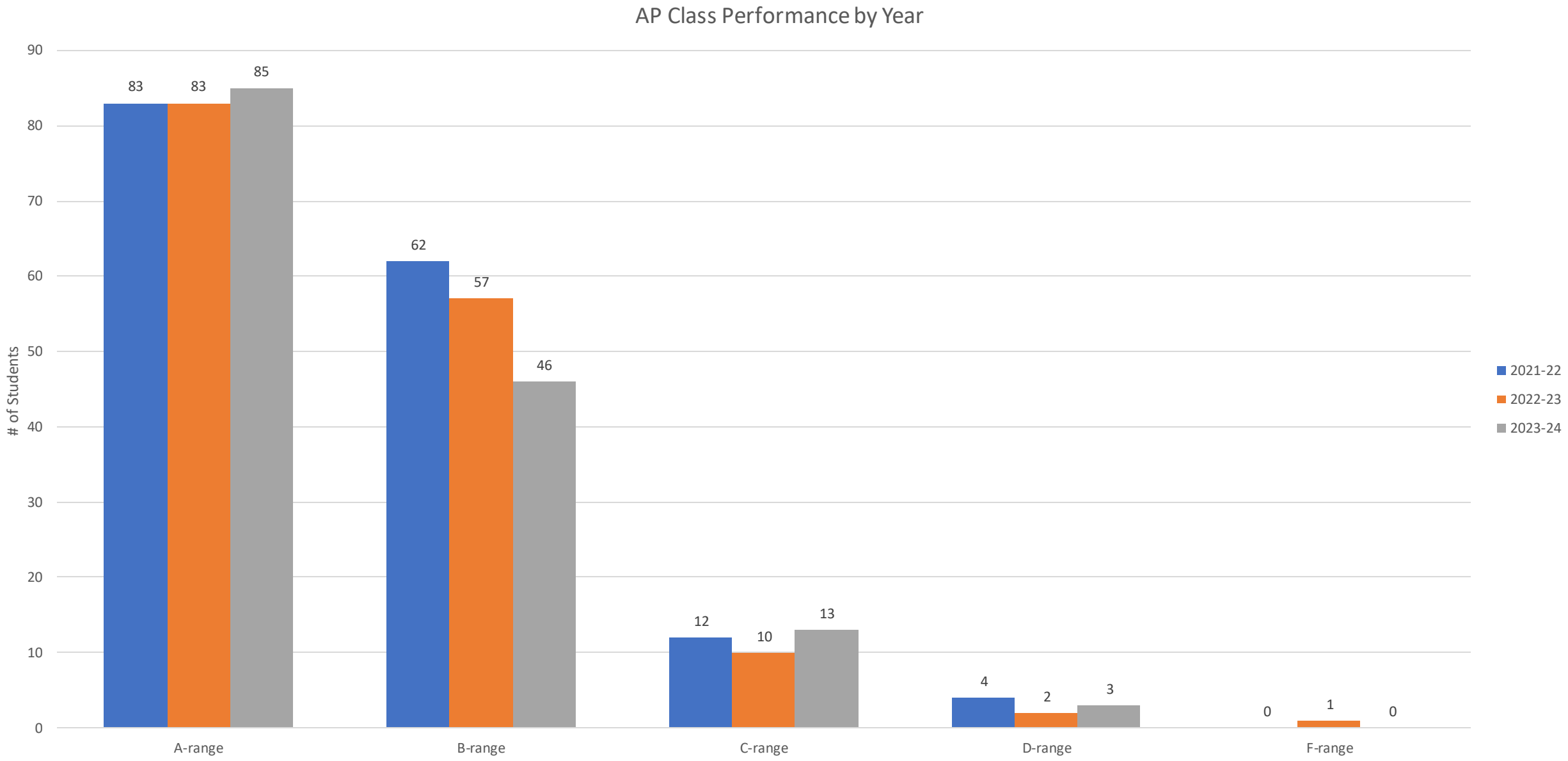
- Over the last two, 12 Woodbridge students who were in 7th Grade Math/Comp or Pre-Algebra moved up the Accelerated Pathway and are now taking Algebra II or Geo in this current 9th grade year.



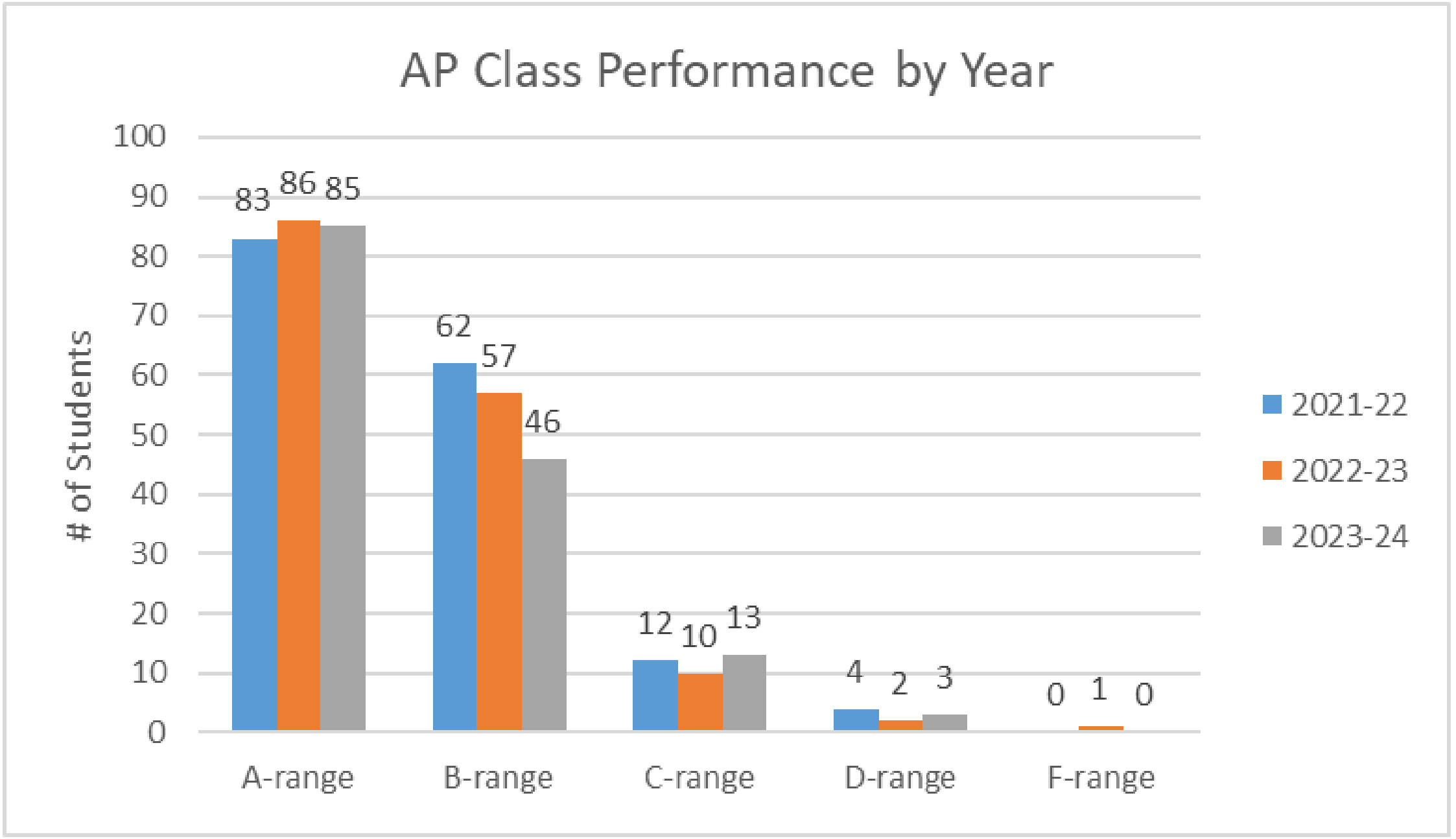
Total Enrollment AP Math Courses:2021-22=161, 2022-23=156, 2023-24=147



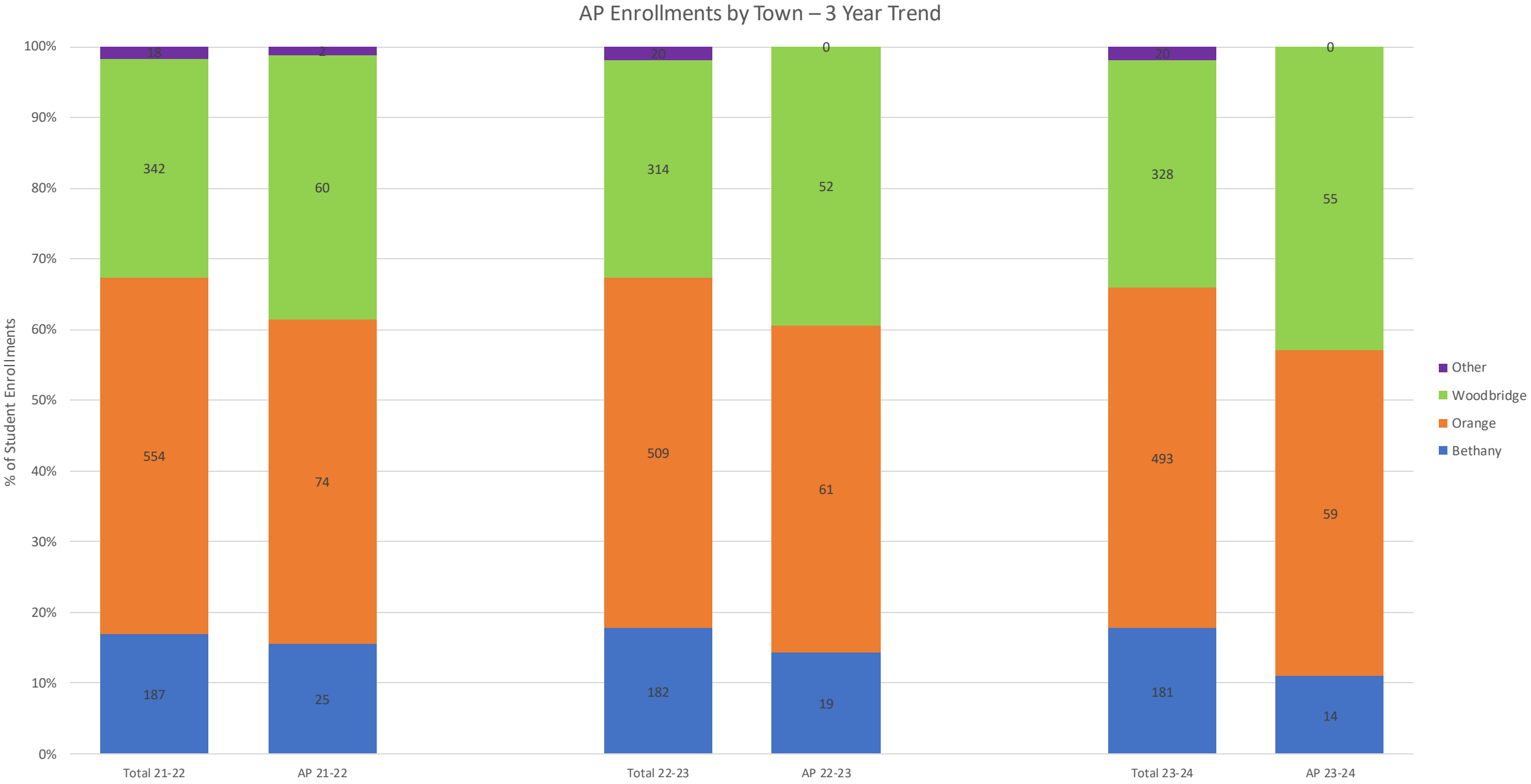
Total Enrollment AP Math Courses:2021-22=161, 2022-23=156, 2023-24=147



Total Enrollment AP Math Courses:2021-22=161, 2022-23=156, 2023-24=147

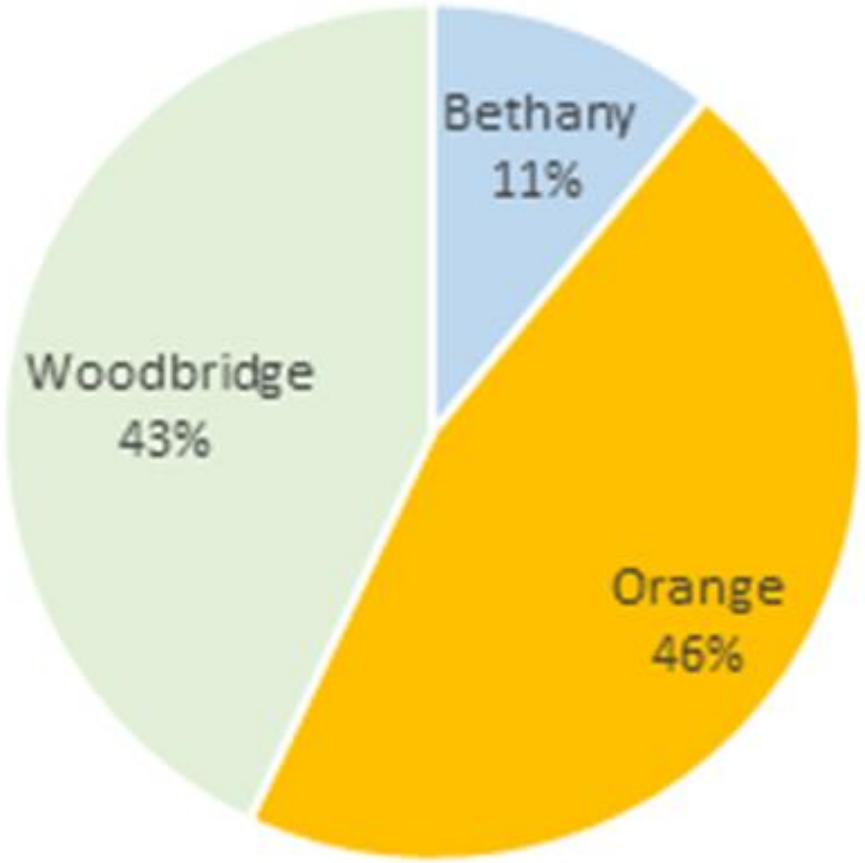


Total Enrollment AP Math Courses:2021-22=161, 2022-23=156, 2023-24=147



*Numbers reflect where students resided in any given school year – Does not count students from the same town taking more than one AP course.

AP Math 2023-2024 Current Towns




Questions

CSDE
CONNECTICUT STATE
DEPARTMENT OF EDUCATION
Charlene Russell-Tucker,
Commissioner

STATE OF CONNECTICUT
OFFICE OF EARLY CHILDHOOD
STATE DEPARTMENT OF EDUCATION

Connecticut Office of
Early Childhood
Beth Bye
Commissioner

New Entry Age for Kindergarten

Beginning with the 2024-2025 school year, children need to turn 5 years old on or before September 1 in order to be automatically eligible for kindergarten. This is a change from the current kindergarten cutoff date of January 1.

KEY POINTS

- Children entering kindergarten in the 2023-2024 school year must turn 5 on or before January 1, 2024
- To start kindergarten in the **2024-25 school year**, however, your child must turn 5 on or before **September 1, 2024**.
- If your child turns 5 on September 2, 2024, through September 1, 2025, they will now enter kindergarten in the 2025-26 school year.

The following questions and answers are intended to address and respond to questions you may have regarding the new entry date for kindergarten.

What is the new entry date for kindergarten?

For the 2023-2024 school year there is no change to the entry date	Children must be 5 on or before January 1, 2024 in order to enter kindergarten for the 2023-2024 school year.
For the 2024-25 school year and all following years	Children must turn 5 on or before September 1 to enter kindergarten for any given school year.

Are there any exceptions to this change?
Yes. If your child does not meet the new entry cutoff date, they may still be admitted into kindergarten upon (1) a written request from the parent or guardian, and (2) an assessment completed by the school that determines admitting the child to kindergarten would be developmentally appropriate.

What if my child is receiving special education services?
If your child receives special education services and does not meet the new entry cutoff date, your child's planning and placement team (PPT) will review/revise your child's individualized education program (IEP) to meet your child's needs during the additional year of preschool. **Please note**: Parents may submit a written request for their child to be admitted into kindergarten if they do not meet the new entry cutoff date. The school will complete an assessment to determine whether admitting the child to kindergarten would be developmentally appropriate.

My child was born between September 2 and January 1, and I was planning to send them to kindergarten when they were eligible to attend. What can I do now that the entry date has changed?

- If your child attends preschool, communicate with the program about your family's situation and how they will continue to support your child's development.
- If your child is not attending an early care and education program, consider how a preschool experience might support them for the year(s) prior to kindergarten entry. You can find information about child care by talking with other families, searching online, or use the 2-1-1 Child Care online search tool.
- Seek out possible supports for child care expenses, such as Care 4 Kids, state-funded preschool opportunities, public school preschool programs, or Head Start. To find out about possible low-cost programs and Care4Kids financial assistance, use the 2-1-1 Child Care online search tool or call (800) 505-1000
- If you believe that it is developmentally appropriate for your child to enter kindergarten., communicate with your elementary school to request an assessment for admitting your child to kindergarten.

How can I support my child's learning and development before the transition to kindergarten?

- You can support learning throughout the day by sharing new words, reading with your child, asking questions, and playing.
- Begin planning how and when you will talk with your child about their transition to kindergarten to ensure a positive experience.
- Check out the Hello Kindergarten! brochure for more ideas on supporting your child across different areas of learning.

How was this change made?

In 2023, the Connecticut Legislature changed how old a child must be to start kindergarten. Public Act 23-208, Section 1(a) changed the birth date cutoff date from January 1 of any given school year to September 1 of any given school year.

Who can I contact if I have additional questions?

Reach out to your home school district to discuss the process for registration and placement in kindergarten. You can search for your local schools and find contact information on the Find Contacts website.

Request for Early Kindergarten Entrance Waiver Information

Woodbridge School District: Beecher Road School

Information for parents/guardians of children who will turn 5 between *September 2, 2024 & January 1, 2025.*

NEW! Beginning July 1, 2024, Section 3 of Public Act 23-159, as amended by Section 1 of Public Act 23-208, amends *Connecticut General Statutes § 10-15c* to require that children turn five years old on or before September 1 of the school year in order to enroll in kindergarten.

National longitudinal studies and our review of local longitudinal assessment data indicate that students who begin Kindergarten at 5 years old in September have statistically stronger performance than students who enter Kindergarten early.

Parents/guardians of children who are not five years old on or before September 1, 2024 may apply to be considered for early kindergarten entry by:

A. Submitting a letter to the building principal requesting assessment waiver process AND
B. Attending an assessment and information session with your child.

A decision regarding your request for early entry will be made following the assessment session. The parent(s)/guardian(s) will be emailed the decision in accordance with the timelines outlined below.

Request for early Kindergarten entrance timelines and process is as follows:

Wednesday, February 14, 2024	Written request to principal for assessment waiver process by families interested in early Kindergarten entry for children who are not 5 on or before September 1, 2024. **All Requests for Early Kindergarten Entrance waivers must be received by February 14 for Fall 2024 enrollment consideration.**
Friday, February 16, 2024	Assessment session attendance date/time emailed to parents(s)/guardian(s).
Tuesday, February 27, 2024	Student and parent(s)/guardian(s) are required to attend one assigned assessment session with district staff. While students are assessed, parent(s)/guardian(s) will complete an online questionnaire. Location of assessment and information session will be included in your confirmation receipt email.
Friday, March 15, 2024	Determination of request for early Kindergarten entry by exception to CT statute communicated with parent(s)/guardian(s) via email.

Parents/Guardians should NOT initiate registration for kindergarten until they have received a final waiver decision from the District.

We will be offering another assessment date in April and will be communicating with families about that date in the spring.

Any children who move into the district after the April assessment date and/or any children who require reassessment will be provided with a date in August, prior to the start of the school year.

Woodbridge Increasing Educator Diversity Plan Overview

- developed in collaborative partnership with the Bethany, Orange, Woodbridge, and Amity school districts
- reflects the district's Equity and Diversity Policy
- fosters a collective commitment to promoting inclusivity and embracing diversity within the educational landscape

Theory of Action- If the District proactively engages in researching, establishing, and implementing diverse, inclusive, and equitable hiring and selection practices; continuously analyzes, critiques, and modifies recruitment, selection, and retention practices; and concurrently provides professional learning support to enhance diversity and cultural awareness among responsible staff, then we will witness an increase in the establishment and maintenance of a more diverse educator workforce. This workforce will be reflective of our student population and community, and as a result, prepare our students for an increasingly diverse world.

Recruitment Goal – Beginning in the 2024-2025 school year, we will decrease the gap between diverse students and diverse certified staff by engaging in key strategies to recruit more diverse candidates reflecting the richness of our community and fostering an inclusive and equitable learning environment.

- Application review
- Data review
- Job fairs
- College partnerships

Hiring and Selection Goal – Beginning in the 2024-2025 school year, we will decrease the gap between diverse students and diverse certified staff by employing strategic hiring practices to increase diversity of personnel, reflecting the richness of our community and fostering an inclusive and equitable learning environment.

- Uniform hiring practices for hiring committees
- Aggressive timelines for hiring
- CSDE mandated training on implicit bias
- Data review
- Candidate feedback on process

Retention Goal – Beginning in the 2024-2025 school year, we will decrease the gap between diverse students and diverse certified staff by enhancing staff retention initiatives to ensure the continued presence and success of diverse staff members reflecting the richness of our community and fostering an inclusive and equitable learning environment.

- Exit surveys
- Professional learning
- TEAM mentoring and feedback
- Data review

Increasing Educator Diversity Plan Template

WestEd
WestEd.org

District:

Team Lead:

Vision:

Team Members:

Theory of Action:

	Goal (What are we trying to do?)	**Who Manages the Goal?** (name, position)	**Strategies/Key Activities** (How are we going to do it?)			**Indicators of Progress** (How will we know if we are on track for success?)	**Resources Required** (What people, time, money, and technology will be needed?)	**Risks and Mitigation** (What could go wrong? How will we make that less likely to happen?)	**Communication/ Engagement Efforts** (Who needs to be consulted/ engaged? What needs to be communicated? To whom?)
			What?	**Who Owns This?**	**By When?**				
Recruitment									
Hiring & Selection									
Retention									

PROJECT NAME:

PARTIAL ROOF REPLACEMENT AT:

BEECHER ROAD ELEMENTARY SCHOOL

40 BEECHER ROAD.
WOODBRIDGE, CONNECTICUT 06525

PROJECT LOCATION:



DRAWING LIST

COVER SHEET

ARCHITECTURAL:

C1	CODE INFORMATION
A1	OVERALL ROOF PLAN
A2	ROOF PLAN PART "1"
A3	ROOF DETAILS

ARCHITECT
SILVER PETRUCELLI & ASSOC.
3190 WHITNEY AVENUE, HAMDEN CT 06518
311 STATE STREET NEW LONDON, CT 06320
PHONE 203 230 9007 silverpetrucelli.com

SILVER PETRUCELLI + ASSOCIATES

3190 WHITNEY AVENUE HAMDEN CT 06518
311 STATE STREET NEW LONDON CT 06320
203 230 9007 silverpetrucelli.com

OFFICIALS:

BUILDING INSPECTOR | FIRE MARSHAL | SANITARIAN/ HEALTH INSPECTOR | ADA/504 COORDINATOR

CONSTRUCTION DOCUMENT SUBMISSION: 02/14/2024

STATE PROJECT 167-0026 RR

CODE INFORMATION

DATE OF ORIGINAL CONSTRUCTION: 1963
DATE OF ADDITION:

1. GROUP CLASSIFICATION (CHAPTER 3)
   (PRIMARY): E-EDUCATIONAL
   (INCIDENTAL): A3-ASSEMBLY
2. CONSTRUCTION TYPE (CHAPTER 6)
   MINIMUM TYPE REQUIRED: 2B
   ACTUAL TYPE PROVIDED (EXISTING): --
   (NEW): 2B
3. BUILDING HEIGHT (CHAPTER 5)
   ALLOWABLE HEIGHT (STORY/FEET): 3/75'-0"
   ACTUAL HEIGHT (STORY/FEET): 1/50'-0"
   (STORIES ABOVE GRADE): 2
4. BUILDING AREA (CHAPTER 5)
   A) BUILDING AREA (FIRST)

EXISTING CONSTRUCTION	152,355	sq.ft.
NEW CONSTRUCTION	0	sq.ft.
TOTAL FLOOR	152,355	sq.ft.

   B) BUILDING AREA (SECOND)

EXISTING CONSTRUCTION	0	sq.ft.
NEW CONSTRUCTION	0	sq.ft.
TOTAL FLOOR	0	sq.ft.

   TOTAL (ALL FLOORS): 152,355 sq.ft.
5. AREA MODIFICATIONS TO TABLE 503 (FOR EACH SEPARATE BUILDING AS DEFINED BY FIRE WALLS AND/OR EXTERIOR WALLS): NA
6. CASE 1 - SINGLE OCCUPANCY OR NONSEPARATED USES (302.3.1) (ALLOWABLE AREA 506.4): NA
7. CASE 2 - MIXED OCCUPANCY SEPARATED USES (302.3.2) (ALLOWABLE AREA 506.4): NA
8. FIRE-RESISTANCE RATED REQUIREMENTS FOR BUILDING ELEMENTS (TABLE 601, SEE CODE PLANS FOR SPECIFIC DESIGNATIONS)

1 STRUCTURAL FRAME: INCLUDING COLUMNS, GIRDERS, TRUSSES	0	Hr(s)
2 BEARING WALLS: EXTERIOR (TABLE 602)	0/1	Hr(s)
INTERIOR	0	Hr(s)
3 NONBEARING WALLS & PARTITIONS EXTERIOR (TABLE 602)	0/1	Hr(s)
4 NONBEARING WALLS & PARTITIONS INTERIOR	0	Hr(s)
5 FLOOR CONSTRUCTION (INCLUDING SUPPORTING BEAMS & JOISTS)	0	Hr(s)
6 ROOF CONSTRUCTION (INCLUDING SUPPORTING BEAMS & JOISTS)	0	Hr(s)

9. OCCUPANCY LOAD

DESIGN TOTAL FOR BASEMENT	NA
TOTAL EXIT CAPACITY FOR BASEMENT	NA
DESIGN TOTAL FOR FIRST FLOOR	NA
TOTAL EXIT CAPACITY FOR FIRST FLOOR	NA
DESIGN TOTAL FOR BUILDING	NA
TOTAL EXIT CAPACITY FOR BUILDING	NA

10. MODIFICATIONS

	APPROVED	NOT APPROVED

11. ACCESSIBLE BUILDING: X DESIGNATED; NON DESIGNATED

12. MINIMUM PLUMBING FIXTURE COUNT (I.P.C. CHAPTER 4) FOR EACH TYPE OF OCCUPANCY PER ENTIRE FACILITY

GROUP "A3" OCCUPANCY (DESIGN LOAD = NA)

	REQUIRED	PROVIDED
W/C MALE	NA	NA
W/C FEMALE	NA	NA
LAVS	NA	NA
D/F	NA	NA
W/C UNISEX	NA	NA
LAVS UNISEX	NA	NA

GROUP "E" OCCUPANCY, (DESIGN LOAD = NA)

W/C	NA	NA
LAVS	NA	NA
D/F	NA	NA

(TOTAL DESIGN LOAD FOR ENTIRE FACILITY = NA)

13. ENTIRE BUILDINGS SPRINKLERED: YES ; NO X
14. THRESHOLD BUILDING CONDITIONS: YES ; NO X
15. CODES TO WHICH THIS PROJECT WAS DESIGNED

State Building Code	2021 IBC CTSBC/2022 AMEND.
State Mechanical Code	2017 ICC
State Plumbing Code	2015 IPC
State Energy Conservation Code	2015 IECC
State Electrical Code	2020 NFPA 70
State Health Code	MOST CURRENT
OSHA	MOST CURRENT
Section 504	CURRENT
ADA	MOST CURRENT
ANSI 117.1	MOST CURRENT

16. BUILDING AREAS FOR GRANT CALCULATION (ENTIRE FACILITY)
(MEASURED TO INSIDE FACE OF EXTERIOR WALLS)

EXISTING UNRENOVATED CONSTRUCTION	0	SQ.FT.
EXISTING RENOVATED CONSTRUCTION	0	SQ.FT.
EXISTING BEING DEMOLISHED	0	SQ.FT.
TOTAL EXISTING CONSTRUCTION	34,860	SQ.FT.
TOTAL NEW CONSTRUCTION	0	SQ.FT.
TOTAL FACILITY	152,355	SQ.FT.

OPEN AREAS (NOT INCLUDED IN TOTAL FACILITY)
NA: NA SQ.FT.

17. TOTAL CONSTRUCTED BUILDING AREA (OUTSIDE FACE OF EXTERIOR WALLS INCLUDING OPEN AREAS ABOVE): NA SQ.FT.

FIRE SAFETY CODE DATA:

1. CLASSIFICATION OF OCCUPANCY: EDUCATIONAL/ASSEMBLY
2. MINIMUM CONSTRUCTION REQUIRED: 2B
   ACTUAL CONSTRUCTION PROVIDED: 2A
3. NOTIFICATION / ALARMS (CFSC 2005, NFPA 72, NATIONAL FIRE ALARM CODE 2002): YES X NO
4. DETECTION (CFSC 2005, NFPA 72, NATIONAL FIRE ALARM CODE 2002): YES X NO
5. EXTINGUISHMENT REQUIREMENTS (NFPA 13, 2002): YES X NO

MEANS OF EGRESS

MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT IBC TABLE 1004.1.2

USE	FLOOR AREA IN S.F. PER OCCUPANT
1. CLASSROOMS	20 S.F. NET
2. SHOPS & VOCATIONAL	50 S.F. NET
3. ASSEMBLY	
WITHOUT FIXED SEATS	7 S.F. NET
TABLES AND CHAIRS	15 S.F. NET
4. PLATFORMS	15 S.F. NET
5. LIBRARY	
READING ROOMS	50 S.F. NET
STACK AREA	100 S.F. GROSS
6. LOCKER ROOMS	50 S.F. GROSS
7. MECHANICAL AREAS	300 S.F. GROSS
8. STORAGE	300 S.F. GROSS
9. BUSINESS AREAS	100 S.F. GROSS
10. Courtyards	15 S.F. NET

MAXIMUM LENGTH OF EXIT TRAVEL
1. I.B.C. TABLE 1015.1: 250 feet

SYMBOL LEGEND

- X / XX - PLAN SECTION DETAIL OR ELEVATION- SHEET NUMBER
- SL - INDICATES SLOPE DIRECTION OF SLOPED STRUCTURAL DECK.
- SL @X - TAPERED INSULATION CRICKET SLOPED @ ¼" PER FOOT
- @X - INDICATES SLOPE DIRECTION & INDICATES EXISTING ROOF PITCH.
- NIC. - NOT IN CONTRACT SCOPE
- WALKWAY PADS, SEE CONSTRUCTION NOTE #2
- ERD. - EXISTING ROOF DRAIN TO BE REMOVED, SEE DEMOLITION NOTES.
- NRD. - NEW ROOF DRAIN TO BE INSTALLED, SEE DETAIL A/A3
- SRD. - SECONDARY OVERFLOW ROOF DRAIN, SEE DETAIL B/A3
- CB. - METAL SCUPPER W/ COLLECTION BOX, SEE DETAIL C/A3
- VS. - EXISTING VENT STACK, SEE DETAIL E/A3
- PP. - PITCH POCKET, SEE DETAIL F/A3
- RH. - ROOF HATCH, SEE DETAIL G & H/A3
- SK. - SKYLIGHT, SEE DETAIL J/A3
- MS. - NEW METAL STAIRCASE, SEE DETAIL K/A3
- FU. - EXISTING ROOF TOP FAN UNIT, SEE DETAIL L/A3
- MU. - EXISTING MECHANICAL UNIT, SEE DETAIL M/A3
- RTU-1. - EXISTING ROOF TOP MECHANICAL UNIT, SEE DETAIL N/A3
- RTU-2. - EXISTING ROOF TOP MECHANICAL UNIT, SEE CONSTRUCTION NOTE #3
- DS. - METAL DOWNSPOUT, SEE CONSTRUCTION NOTE #4
- DW. - EXISTING ROOF TOP DUCT WORK, SEE CONSTRUCTION NOTE #5
- GP. - EXISTING GAS PIPING, SEE CONSTRUCTION NOTE #6
- EC. - EXISTING ELECTRICAL CONDUIT, SEE CONSTRUCTION NOTE #7
- AD. - ABANDONED METAL DUNNAGE, SEE DEMOLITION NOTE #5
- AM. - ABANDONED MECHANICAL CURB., SEE DEMOLITION NOTE #6

GENERAL NOTES

1. ALL FLAT ROOFS TO RECEIVE ¼" PER FOOT TAPERED RIGID INSULATION MINIMUM UNLESS OTHERWISE NOTED.
2. FIELD VERIFY ALL DIMENSIONS & PERFORM TEST CUTS AT EACH ROOF PRIOR TO THE BID.
3. ALL MATERIALS ARE NEW UNLESS OTHERWISE NOTED "EXISTING".
4. ALL WOOD BLOCKING, PLYWOOD & NAILERS TO BE PRESSURE TREATED. (P.T.)
5. ALL WOOD BLOCKING INDICATED IN DETAILS ARE TO BE ANCHORED TO THE EXISTING STRUCTURE.
6. ALL MEMBRANE FLASHING INDICATED IS TO EXTEND A MINIMUM OF 8", (VERTICAL OR HORIZONTAL)
7. CONTRACTOR IS TO SURVEY THE EXISTING ROOF DECKS W/A LEVEL (AFTER DEMOLITION) TO VERIFY THE SLOPES INDICATED ON PLAN ARE ACCURATE, NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO PERFORMING ANY ADDITIONAL ROOFING OPERATIONS.
8. CONTRACTOR IS TO INSPECT THE UNDERSIDE OF ALL ROOF DECKS PRIOR TO ROOFING OPERATIONS TO ENSURE THAT NO INTERIOR MATERIALS, EQUIPMENT, FINISHES OR OBJECTS WILL BE PIERCED OR DAMAGED.
9. CONTRACTOR ASSUMES ALL RESPONSIBILITY DURING PROJECT & WILL REPLACE ANY & ALL DAMAGED EQUIPMENT W/NO ADDITIONAL COST TO OWNER.
10. SITE AREAS DISTURBED SHALL BE CLEANED & RE-LEVELED, W/LAWN AREAS MAGNETICALLY RAKED TO REMOVE ANY METAL DEBRIS & RE-SEEDED AS REQUIRED TO MATCH ADJACENT CONDITIONS.
11. CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR CLEAN UP OF ROOFING MATERIALS & DEBRIS THAT PENETRATES THE INTERIOR ENVELOPE OF THE BUILDING W/NO ADDITIONAL COST TO THE OWNER.
12. SNAKE/CLEAN OUT ALL EXISTING VERTICAL & HORIZONTAL LEADERS OUT TO NEAREST MANHOLE OUTSIDE OF BUILDING.
13. ALL CRICKETS ARE TO BE SLOPED @ A MINIMUM OF ¼" PER FOOT & COORDINATE CRICKETS AROUND EXIST. HVAC UNITS AS REQUIRED TO AVOID PONDING.
14. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL & RE-INSTALLATION OF ALL HVAC UNITS INCLUDING ANY ELECTRICAL OR MECHANICAL CONNECTIONS. THIS MAY INCLUDE THE EXTENSION OF EXISTING ELECTRICAL & DUCTWORK SYSTEMS TO ACCOMMODATE NEW MECHANICAL UNIT CURBING & NEW ROOFING SYSTEM.
15. SNAKE/CLEAN OUT ALL EXISTING VENT STACKS BEFORE THE INSTALLATION OF METAL SLEEVE.
16. ALL DRAIN PIPING IS INSULATED ABOVE THE CEILINGS. THE EXACT ROUTE WILL BE DETERMINED IN THE FIELD. MAKE MINOR ADJUSTMENT IN THE ROUTE AT NO ADDITIONAL COST TO OWNER.
17. NEW ROOF INSULATION TO BE A MINIMUM OF R-30 AT ALL NEW ROOF DRAINS AND/OR THE LOW POINTS OF THE ROOF AREAS.
18. ALL ANTENNAE, CONDUITS & ANY OTHER OBJECTS TO REMAIN AFFECTED BY SCOPE OF WORK, TO BE REMOVED & REINSTALLED.

DEMOLITION NOTES (X)

1. REMOVE EXISTING ROOFING MEMBRANE, 1-1/2" OF RIGID INSULATION DOWN TO EXISTING METAL DECK.
2. REMOVE EXISTING ROOFING MEMBRANE, 1-1/2" BASE LAYER OF POLYISO & ¾" TAPERED INSULATION SYSTEM DOWN TO EXISTING METAL DECK.
3. REMOVE ALL PERIMETER METAL FLASHING WITHIN SCOPE OF WORK.
4. REMOVE EXISTING ROOF DRAINS & SUMP.
5. REMOVE & DISPOSE OF EXISTING METAL DUNNAGE.
6. REMOVE EXISTING ABANDONED MECHANICAL UNIT CURB. PATCH EXISTING METAL DECK TO MATCH EXISTING. SEE DETAIL Z/A3

CONSTRUCTION NOTES (X)

1. CONTRACTOR TO PROVIDE A SPECIFIED QUANTITY OF EXISTING DECK REPAIR & REPLACEMENT. SEE PROJECT MANUAL.
2. WALKWAY PADS TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATION. SEE PROJECT MANUAL FOR ADDITIONAL INFORMATION. COORDINATE & FINALIZE EXACT ROUTE W/ OWNER & ARCHITECT.
3. EXISTING ROOFTOP MECHANICAL UNIT, RAISE ENTIRE UNIT MIN. 8" ABOVE HIGH POINT OF NEW ROOF INSULATION. EXTEND ALL DUCTWORK & ELECTRICAL WIRING. SEE DETAIL P/A3 & PROJECT MANUAL.
4. NEW METAL DOWNSPOUT LOCATION, CONNECT TO EXIST UNDERGROUND PIPING, OR PROVIDE NEW CONCRETE SPLASH BLOCK IF NO UNDERGROUND PIPING EXISTS.
5. EXISTING MECHANICAL UNIT DUCT WORK TO REMAIN, MODIFY ALL STAND-OFFS TO ACCOMMODATE NEW ROOF INSULATION HEIGHT, SEE DETAIL O/A3 & PROJECT MANUAL.
6. EXISTING GAS PIPING TO BE DISCONNECTED & PURGED. RAISE EXISTING GAS PIPING AS REQUIRED TO ACCOMMODATE NEW ROOFING INSULATION HEIGHTS, PROVIDE NEW PIPING EXTENSIONS, JOINTS, FITTINGS & RECONNECT TO EXISTING GAS MAIN. INSTALL ALL EXIST. & NEW GAS PIPING ON NEW PIPE CURBS 24" O.C. PRIME & PAINT ALL EXISTING & NEW GAS PIPING. SEE DETAIL W/A3 & PROJECT MANUAL.
7. EXISTING ELECTRICAL CONDUIT TO BE DISCONNECTED & RAISED TO ACCOMMODATE NEW ROOF INSULATION HEIGHTS. REMOVE WIRE/CONDUIT & DISPOSE OF, INSTALL NEW CONDUIT & WIRING IN EXIST LOCATIONS & REPLACE ALL EXISTING JUNCTION BOXES TO MATCH EXISTING, EXTEND CONDUIT & WIRING AS REQUIRED TO ACCOMMODATE NEW ROOF HEIGHTS & ADD NEW JUNCTION BOXES AS REQUIRED. SEE DETAIL W/A3 & PROJECT MANUAL.

ROOF AREAS

ROOF "A"	6,400	SF.
ROOF "B"	6,960	SF.
ROOF "C"	21,500	SF.

TOTAL ROOF AREAS: 34,860 SF.
THIS AREA IS APPROXIMATE- V.I.F.
IECC CODE REQUIREMENT R-VALUE MIN. R-30
CONNECTICUT ZONE 2B
CBSC REQUIREMENT : R-30 -U.0333

ROOF ASSEMBLY

OUTSIDE AIR	0.17
ROOF MEMBRANE	0.33
COVERBOARD	2.20
5" POLYISO INSUL.	29.7
EXISTING DECK	1.23
INSIDE AIR	0.61
R-VALUE TOTAL	34.24

CODE INFORMATION

USE GROUP : E
CONSTRUCTION CLASS: 2B
RISK CATEGORY #3
ULTIMATE DESIGN WIND SPEED: 135 MPH
NOMINAL DESIGN WIND SPEED: 105 MPH

FACTORY MUTUAL ENGINEERING & RESEARCH CORPORATION (FM): ROOF ASSEMBLY CLASSIFICATION OF NON-COMBUSTIBLE CONSTRUCTION, WIND UPLIFT REQUIREMENT OF I-60 FOR FIELD, I-75 FOR PERIMETER AND I-110 FOR CORNERS, IN ACCORDANCE WITH FM PROPERTY LOSS PREVENTION DATA SHEETS 1-28.

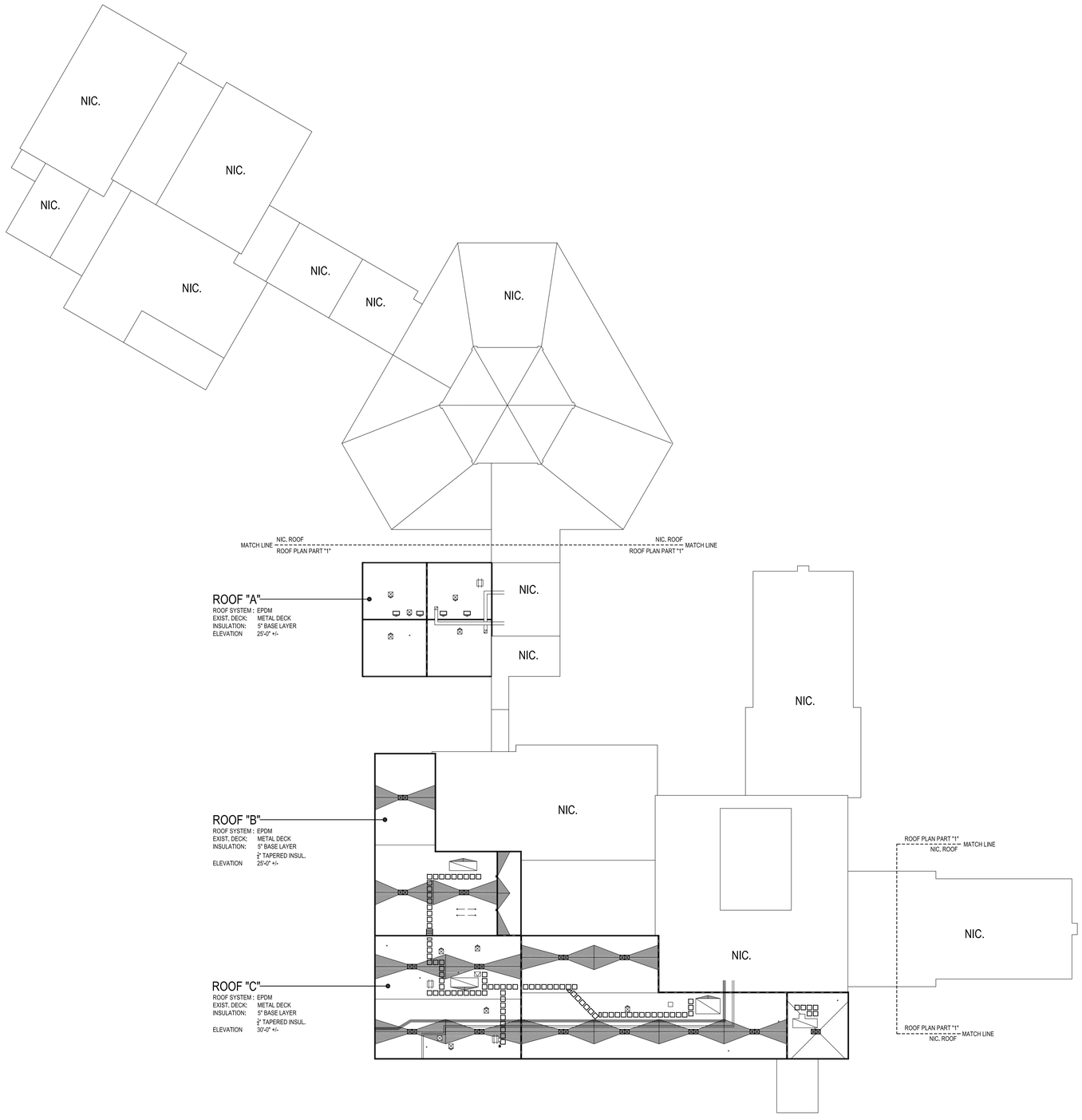
Project Title:
PARTIAL ROOF REPLACEMENT AT:
BEECHER ROAD ELEMENTARY SCHOOL
40 BEECHER ROAD.
WOODBRIDGE, CONNECTICUT 06525

SILVER PETRUCELLI + ASSOCIATES
3190 WHITNEY AVENUE HAMDEN CT 06518
311 STATE STREET NEW LONDON CT 06320
203 230 9007 silverpetrucelli.com

Revision: | Description: | Date: | Revised By:

Drawing Title:
CODE INFORMATION
STATE PROJECT 167-0026 RR

Date: 02/14/2024
Scale: NONE
Drawn By: K.LINSLEY
Project Number: 23.108
Drawing Number: C1



A1 OVERALL ROOF PLAN
1/32"=1'-0"

SYMBOL LEGEND

X / XX	-	PLAN SECTION DETAIL OR ELEVATION- SHEET NUMBER
SL	-	INDICATES SLOPE DIRECTION OF SLOPED STRUCTURAL DECK.
SL	-	TAPERED INSULATION CRICKET SLOPED @ ¼" PER FOOT
@X / X	-	INDICATES SLOPE DIRECTION & INDICATES EXISTING ROOF PITCH.
NIC.	-	NOT IN CONTRACT SCOPE
□□□	-	WALKWAY PADS, SEE CONSTRUCTION NOTE #2
ERD.	-	EXISTING ROOF DRAIN TO BE REMOVED, SEE DEMOLITION NOTES.
NRD.	-	NEW ROOF DRAIN TO BE INSTALLED, SEE DETAIL A/A3
SRD.	-	SECONDARY OVERFLOW ROOF DRAIN, SEE DETAIL B/A3
CB.	-	METAL SCUPPER W/ COLLECTION BOX, SEE DETAIL C/A3
VS.	-	EXISTING VENT STACK, SEE DETAIL E/A3
PP.	-	PITCH POCKET, SEE DETAIL F/A3
RH.	-	ROOF HATCH, SEE DETAIL G & H/A3
SK.	-	SKYLIGHT, SEE DETAIL J/A3
MS.	-	NEW METAL STAIRCASE, SEE DETAIL K/A3
FU.	-	EXISTING ROOF TOP FAN UNIT, SEE DETAIL L/A3
MU.	-	EXISTING MECHANICAL UNIT, SEE DETAIL M/A3
RTU-1.	-	EXISTING ROOF TOP MECHANICAL UNIT, SEE DETAIL N/A3
RTU-2.	-	EXISTING ROOF TOP MECHANICAL UNIT, SEE CONSTRUCTION NOTE #3
DS.	-	METAL DOWNSPOUT, SEE CONSTRUCTION NOTE #4
DW.	-	EXISTING ROOF TOP DUCT WORK, SEE CONSTRUCTION NOTE #5
GP.	-	EXISTING GAS PIPING, SEE CONSTRUCTION NOTE #6
EC.	-	EXISTING ELECTRICAL CONDUIT, SEE CONSTRUCTION NOTE #7
AD.	-	ABANDONED METAL DUNNAGE, SEE DEMOLITION NOTE #5
AM.	-	ABANDONED MECHANICAL CURB., SEE DEMOLITION NOTE #6

GENERAL NOTES

1. ALL FLAT ROOFS TO RECEIVE ¼" PER FOOT TAPERED RIGID INSULATION MINIMUM UNLESS OTHERWISE NOTED.
2. FIELD VERIFY ALL DIMENSIONS & PERFORM TEST CUTS AT EACH ROOF PRIOR TO THE BID.
3. ALL MATERIALS ARE NEW UNLESS OTHERWISE NOTED "EXISTING".
4. ALL WOOD BLOCKING, PLYWOOD & NAILERS TO BE PRESSURE TREATED, (P.T.)
5. ALL WOOD BLOCKING INDICATED IN DETAILS ARE TO BE ANCHORED TO THE EXISTING STRUCTURE.
6. ALL MEMBRANE FLASHING INDICATED IS TO EXTEND A MINIMUM OF 8", (VERTICAL OR HORIZONTAL)
7. CONTRACTOR IS TO SURVEY THE EXISTING ROOF DECKS W/A LEVEL (AFTER DEMOLITION) TO VERIFY THE SLOPES INDICATED ON PLAN ARE ACCURATE, NOTIFY ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO PERFORMING ANY ADDITIONAL ROOFING OPERATIONS.
8. CONTRACTOR IS TO INSPECT THE UNDERSIDE OF ALL ROOF DECKS PRIOR TO ROOFING OPERATIONS TO ENSURE THAT NO INTERIOR MATERIALS, EQUIPMENT, FINISHES OR OBJECTS WILL BE PIERCED OR DAMAGED.
9. CONTRACTOR ASSUMES ALL RESPONSIBILITY DURING PROJECT & WILL REPLACE ANY & ALL DAMAGED EQUIPMENT W/NO ADDITIONAL COST TO OWNER.
10. SITE AREAS DISTURBED SHALL BE CLEANED & RE-LEVELED, W/LAWN AREAS MAGNETICALLY RAKED TO REMOVE ANY METAL DEBRIS & RE-SEEDED AS REQUIRED TO MATCH ADJACENT CONDITIONS.
11. CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR CLEAN UP OF ROOFING MATERIALS & DEBRIS THAT PENETRATES THE INTERIOR ENVELOPE OF THE BUILDING W/NO ADDITIONAL COST TO THE OWNER.
12. SNAKE/CLEAN OUT ALL EXISTING VERTICAL & HORIZONTAL LEADERS OUT TO NEAREST MANHOLE OUTSIDE OF BUILDING.
13. ALL CRICKETS ARE TO BE SLOPED @ A MINIMUM OF ¼" PER FOOT & COORDINATE CRICKETS AROUND EXIST. HVAC UNITS AS REQUIRED TO AVOID PONDING.
14. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL & RE-INSTALLATION OF ALL HVAC UNITS INCLUDING ANY ELECTRICAL OR MECHANICAL CONNECTIONS. THIS MAY INCLUDE THE EXTENSION OF EXISTING ELECTRICAL & DUCTWORK SYSTEMS TO ACCOMMODATE NEW MECHANICAL UNIT CURBING & NEW ROOFING SYSTEM.
15. SNAKE/CLEAN OUT ALL EXISTING VENT STACKS BEFORE THE INSTALLATION OF METAL SLEEVE.
16. ALL DRAIN PIPING IS INSULATED ABOVE THE CEILINGS, THE EXACT ROUTE WILL BE DETERMINED IN THE FIELD. MAKE MINOR ADJUSTMENT IN THE ROUTE AT NO ADDITIONAL COST TO OWNER.
17. NEW ROOF INSULATION TO BE A MINIMUM OF R-30 AT ALL NEW ROOF DRAINS AND/OR THE LOW POINTS OF THE ROOF AREAS.
18. ALL ANTENNAE, CONDUITS & ANY OTHER OBJECTS TO REMAIN AFFECTED BY SCOPE OF WORK, TO BE REMOVED & REINSTALLED.

DEMOLITION NOTES (X)

1. REMOVE EXISTING ROOFING MEMBRANE, 1-1/2" OF RIGID INSULATION DOWN TO EXISTING METAL DECK.
2. REMOVE EXISTING ROOFING MEMBRANE, 1-1/2" BASE LAYER OF POLYISO & ¼" TAPERED INSULATION SYSTEM DOWN TO EXISTING METAL DECK.
3. REMOVE ALL PERIMETER METAL FLASHING WITHIN SCOPE OF WORK.
4. REMOVE EXISTING ROOF DRAINS & SUMP.
5. REMOVE & DISPOSE OF EXISTING METAL DUNNAGE.
6. REMOVE EXISTING ABANDONED MECHANICAL UNIT CURB. PATCH EXISTING METAL DECK TO MATCH EXISTING, SEE DETAIL Z/A3

CONSTRUCTION NOTES (X)

1. CONTRACTOR TO PROVIDE A SPECIFIED QUANTITY OF EXISTING DECK REPAIR & REPLACEMENT, SEE PROJECT MANUAL.
2. WALKWAY PADS TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATION, SEE PROJECT MANUAL FOR ADDITIONAL INFORMATION, COORDINATE & FINALIZE EXACT ROUTE W/ OWNER & ARCHITECT.
3. EXISTING ROOFTOP MECHANICAL UNIT, RAISE ENTIRE UNIT MIN. 8" ABOVE HIGH POINT OF NEW ROOF INSULATION. EXTEND ALL DUCTWORK & ELECTRICAL WIRING. SEE DETAIL P/A3 & PROJECT MANUAL.
4. NEW METAL DOWNSPOUT LOCATION, CONNECT TO EXIST UNDERGROUND PIPING, OR PROVIDE NEW CONCRETE SPLASH BLOCK IF NO UNDERGROUND PIPING EXISTS.
5. EXISTING MECHANICAL UNIT DUCT WORK TO REMAIN, MODIFY ALL STAND-OFFS TO ACCOMMODATE NEW ROOF INSULATION HEIGHT, SEE DETAIL Q/A3 & PROJECT MANUAL.
6. EXISTING GAS PIPING TO BE DISCONNECTED & PURGED, RAISE EXISTING GAS PIPING AS REQUIRED TO ACCOMMODATE NEW ROOFING INSULATION HEIGHTS, PROVIDE NEW PIPING EXTENSIONS, JOINTS, FITTINGS & RECONNECT TO EXISTING GAS MAIN, INSTALL ALL EXIST. & NEW GAS PIPING ON NEW PIPE CURBS 24" O.C. PRIME & PAINT ALL EXISTING & NEW GAS PIPING, SEE DETAIL W/A3 & PROJECT MANUAL.
7. EXISTING ELECTRICAL CONDUIT TO BE DISCONNECTED & RAISED TO ACCOMMODATE NEW ROOF INSULATION HEIGHTS, REMOVE WIRE/CONDUIT & DISPOSE OF, INSTALL NEW CONDUIT & WIRING IN EXIST LOCATIONS & REPLACE ALL EXISTING JUNCTION BOXES TO MATCH EXISTING, EXTEND CONDUIT & WIRING AS REQUIRED TO ACCOMMODATE NEW ROOF HEIGHTS & ADD NEW JUNCTION BOXES AS REQUIRED, SEE DETAIL W/A3 & PROJECT MANUAL.

ROOF AREAS

ROOF "A"	6,400	SF.
ROOF "B"	6,960	SF.
ROOF "C"	21,500	SF.

TOTAL ROOF AREAS: 34,860 SF.
THIS AREA IS APPROXIMATE- V.I.F.
IECC CODE REQUIREMENT R-VALUE MIN. R-30
CONNECTICUT ZONE 2B
CBSC REQUIREMENT : R-30 -U.0333

CODE INFORMATION

USE GROUP : E
CONSTRUCTION CLASS: 2B
RISK CATEGORY #3
ULTIMATE DESIGN WIND SPEED: 135 MPH
NOMINAL DESIGN WIND SPEED: 105 MPH

FACTORY MUTUAL ENGINEERING & RESEARCH CORPORATION (FM): ROOF ASSEMBLY CLASSIFICATION OF NON-COMBUSTIBLE CONSTRUCTION, WIND UPLIFT REQUIREMENT OF I-60 FOR FIELD, I-75 FOR PERIMETER AND I-110 FOR CORNERS, IN ACCORDANCE WITH FM PROPERTY LOSS PREVENTION DATA SHEETS 1-28.

ROOF ASSEMBLY

OUTSIDE AIR	0.17
ROOF MEMBRANE	0.33
COVERBOARD	2.20
5" POLYISO INSUL.	29.7
EXISTING DECK	1.23
INSIDE AIR	0.61
R-VALUE TOTAL	34.24

0 4'-0" 8'-0" 12'-0" 20'-0"
GRAPHIC SCALE - 1/8" = 1'-0"

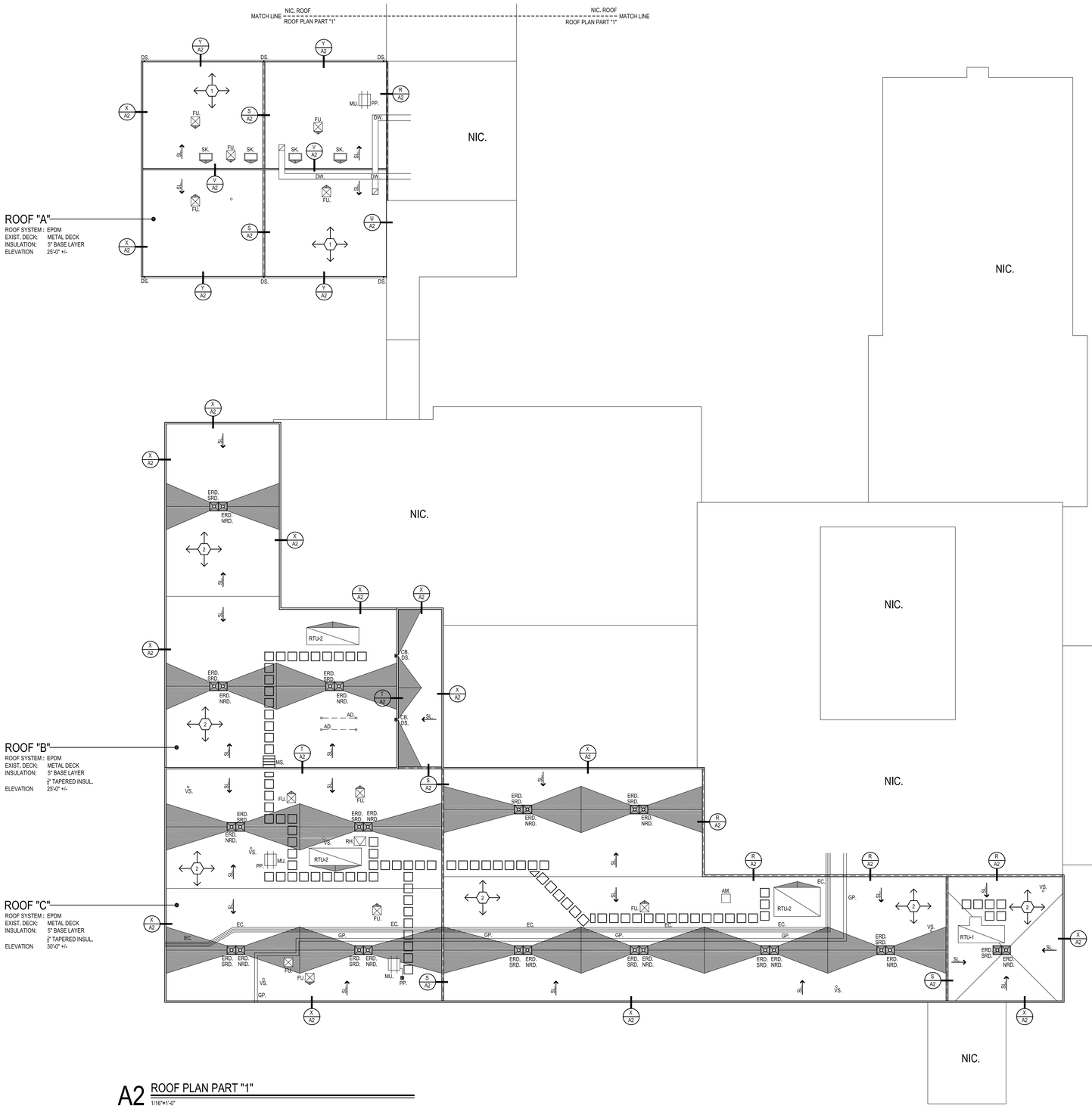
Project Title:
PARTIAL ROOF REPLACEMENT AT:
BEECHER ROAD ELEMENTARY SCHOOL
40 BEECHER ROAD.
WOODBRIDGE, CONNECTICUT 06525

SILVER PETRUCELLI + ASSOCIATES
3190 WHITNEY AVENUE HAMDEN CT 06518
311 STATE STREET NEW LONDON CT 06320
203 230 9007 silverpetrucelli.com

Revision:	Description:	Date:	Revised By:

Drawing Title:
OVERALL ROOF PLAN
STATE PROJECT 167-0026 RR

Date: 02/14/2024
Scale: 1/32"=1'-0"
Drawn By: K.LINSLEY
Project Number: 23.108
Drawing Number: A1



A2 ROOF PLAN PART "1"
1/16"=1'-0"

SYMBOL LEGEND

- PLAN SECTION DETAIL OR ELEVATION- SHEET NUMBER
- INDICATES SLOPE DIRECTION OF SLOPED STRUCTURAL DECK.
- TAPERED INSULATION CRICKET SLOPED @ ¼" PER FOOT
- INDICATES SLOPE DIRECTION & INDICATES EXISTING ROOF PITCH.
- NIC. - NOT IN CONTRACT SCOPE
- WALKWAY PADS, SEE CONSTRUCTION NOTE #2
- ERD. - EXISTING ROOF DRAIN TO BE REMOVED, SEE DEMOLITION NOTES.
- NRD. - NEW ROOF DRAIN TO BE INSTALLED, SEE DETAIL A/A3
- SRD. - SECONDARY OVERFLOW ROOF DRAIN, SEE DETAIL B/A3
- CB. - METAL SCUPPER W/ COLLECTION BOX, SEE DETAIL C/A3
- VS. - EXISTING VENT STACK, SEE DETAIL E/A3
- PP. - PITCH POCKET, SEE DETAIL F/A3
- RH. - ROOF HATCH, SEE DETAIL G & H/A3
- SK. - SKYLIGHT, SEE DETAIL J/A3
- MS. - NEW METAL STAIRCASE, SEE DETAIL K/A3
- FU. - EXISTING ROOF TOP FAN UNIT, SEE DETAIL L/A3
- MU. - EXISTING MECHANICAL UNIT, SEE DETAIL M/A3
- RTU-1. - EXISTING ROOF TOP MECHANICAL UNIT, SEE DETAIL N/A3
- RTU-2. - EXISTING ROOF TOP MECHANICAL UNIT, SEE CONSTRUCTION NOTE #3
- DS. - METAL DOWNSPOUT, SEE CONSTRUCTION NOTE #4
- DW. - EXISTING ROOF TOP DUCT WORK, SEE CONSTRUCTION NOTE #5
- GP. - EXISTING GAS PIPING, SEE CONSTRUCTION NOTE #6
- EC. - EXISTING ELECTRICAL CONDUIT, SEE CONSTRUCTION NOTE #7
- AD. - ABANDONED METAL DUNNAGE, SEE DEMOLITION NOTE #5
- AM. - ABANDONED MECHANICAL CURB., SEE DEMOLITION NOTE #6

GENERAL NOTES

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CONSTRUCTION NOTES (X)

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TOTAL ROOF AREAS: 34,860 SF.
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IECC CODE REQUIREMENT R-VALUE MIN. R-30
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CBSC REQUIREMENT : R-30 -U.0333

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CODE INFORMATION

USE GROUP : E
CONSTRUCTION CLASS: 2B
RISK CATEGORY #3
ULTIMATE DESIGN WIND SPEED: 135 MPH
NOMINAL DESIGN WIND SPEED: 105 MPH

FACTORY MUTUAL ENGINEERING & RESEARCH CORPORATION (FM): ROOF ASSEMBLY CLASSIFICATION OF NON-COMBUSTIBLE CONSTRUCTION. WIND UPLIFT REQUIREMENT OF I-60 FOR FIELD, I-75 FOR PERIMETER AND I-110 FOR CORNERS, IN ACCORDANCE WITH FM PROPERTY LOSS PREVENTION DATA SHEETS 1-28.

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

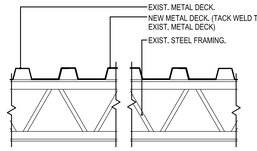
Project Title:
PARTIAL ROOF REPLACEMENT AT:
BEECHER ROAD ELEMENTARY SCHOOL
40 BEECHER ROAD.
WOODBRIDGE, CONNECTICUT 06525

SILVER PETRUCELLI + ASSOCIATES
3190 WHITNEY AVENUE HAMDEN CT 06518
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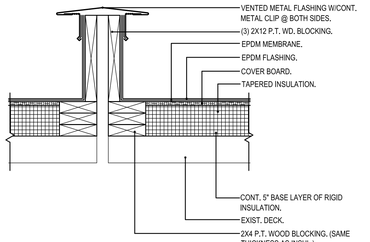
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Drawing Title:
ROOF PLAN PART "1"
STATE PROJECT 167-0026 RR

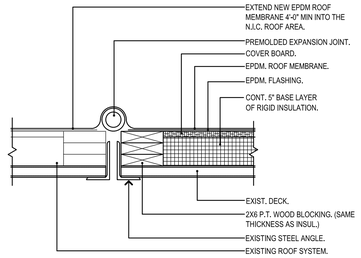
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Drawn By: K.LINSLEY
Project Number: 23.108
Drawing Number: A2



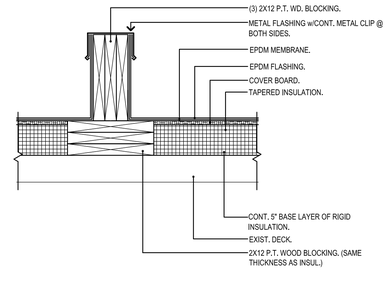
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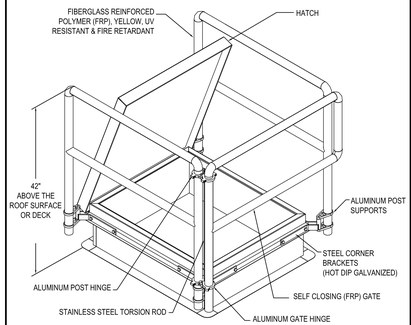
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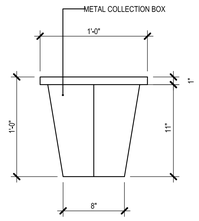
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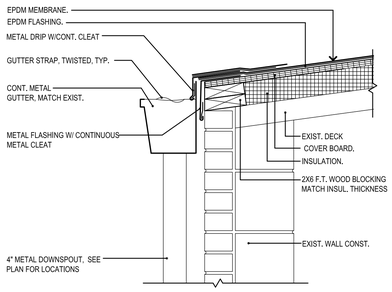
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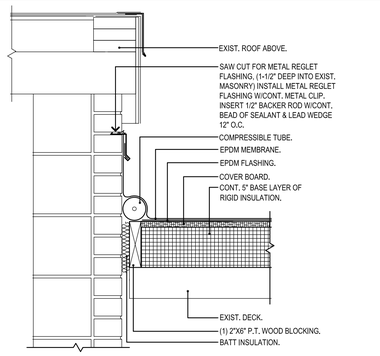
H ROOF HATCH SAFTEY RAIL
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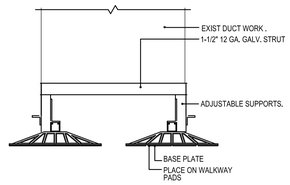
D COLLECTION BOX
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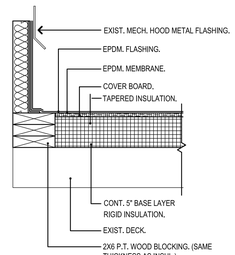
Y ROOF TO WALL
1-1/2"=1'-0"



U ROOF TO WALL REGLET
1-1/2"=1'-0"

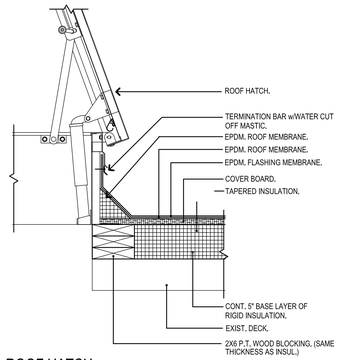


Q DUCT WORK SUPPORT
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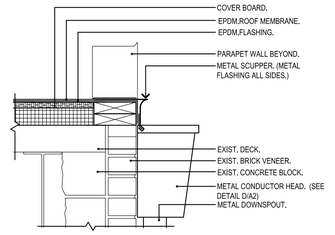


NOTE:
EXIST. MECHANICAL UNIT TO BE REMOVED & REINSTALLED AS REQUIRED FOR NEW CURB & ROOFING OPERATIONS. EXTEND ALL ELECTRICAL WIRING & DUCTWORK AS REQUIRED.

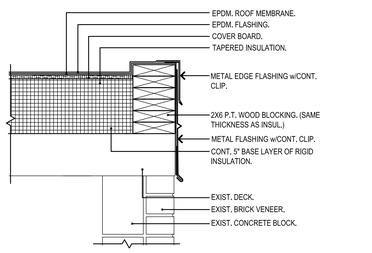
L ROOF FAN UNIT
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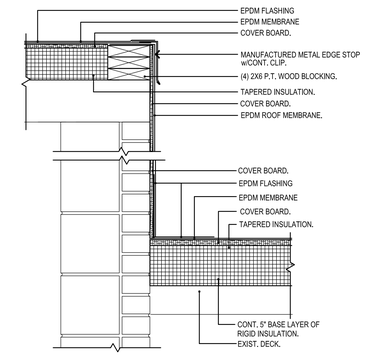
G ROOF HATCH
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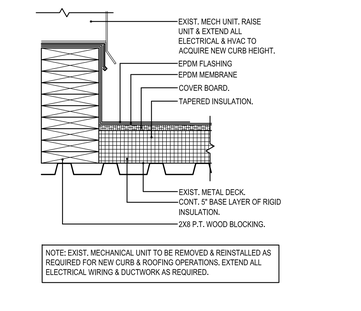
C SCUPPER WITH COLLECTION BOX
1-1/2"=1'-0"



X ROOF EDGE
1-1/2"=1'-0"

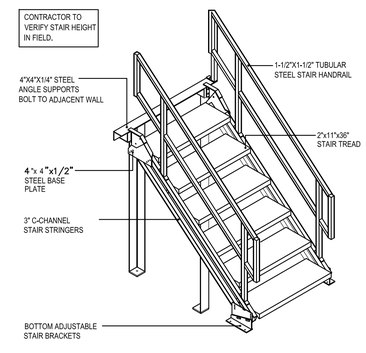


T ROOF TO WALL
1-1/2"=1'-0"

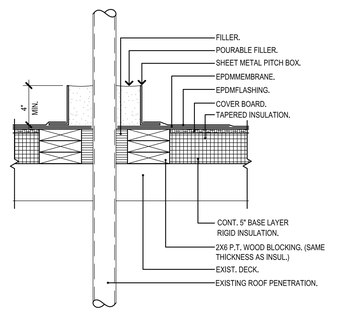


NOTE: EXIST. MECHANICAL UNIT TO BE REMOVED & REINSTALLED AS REQUIRED FOR NEW CURB & ROOFING OPERATIONS. EXTEND ALL ELECTRICAL WIRING & DUCTWORK AS REQUIRED.

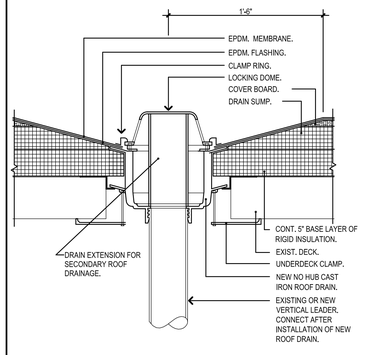
P ROOF TOP MECHANICAL UNIT- 2
1-1/2"=1'-0"



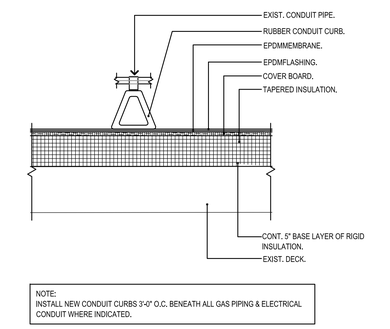
K METAL STAIRCASE
1-1/2"=1'-0"



F PITCH POCKET
1-1/2"=1'-0"

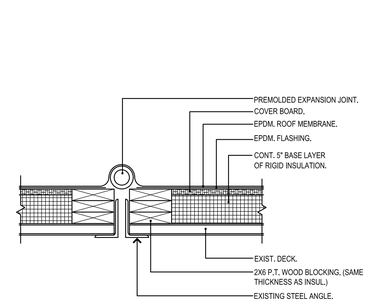


B SECONDARY OVERFLOW ROOF DRAIN
1-1/2"=1'-0"

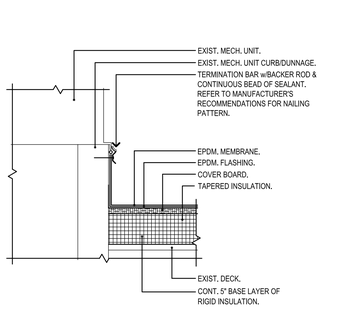


NOTE:
INSTALL NEW CONDUIT CURBS 3'-0" O.C. BENEATH ALL GAS PIPING & ELECTRICAL CONDUIT WHERE INDICATED.

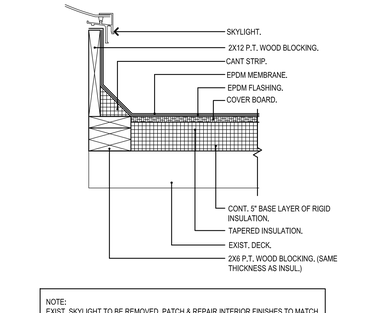
W CONDUIT CURB
1-1/2"=1'-0"



S EXPANSION JOINT
1-1/2"=1'-0"

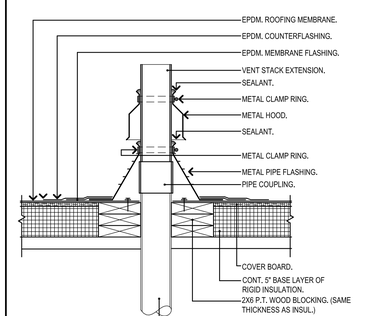


N ROOF TOP MECHANICAL UNIT- 1
1-1/2"=1'-0"

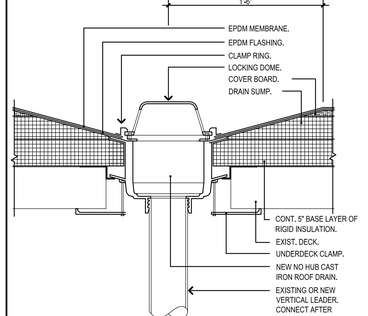


NOTE:
EXIST. SKYLIGHT TO BE REMOVED. PATCH & REPAIR INTERIOR FINISHES TO MATCH EXISTING.

J SKYLIGHT
1-1/2"=1'-0"



E VENT STACK
1-1/2"=1'-0"



A ROOF DRAIN
1-1/2"=1'-0"

Project Title:

PARTIAL ROOF REPLACEMENT AT:

BEECHER ROAD ELEMENTARY SCHOOL

40 BEECHER ROAD.
WOODBRIDGE, CONNECTICUT 06525

SILVER PETRUCELLI + ASSOCIATES

3190 WHITNEY AVENUE HAMDEN CT 06518
311 STATE STREET NEW LONDON CT 06320
203 230 9007 silverpetrucelli.com

Revision:	Description:	Date:	Revised By:

Drawing Title:

ROOF DETAILS

STATE PROJECT 167-0026 RR

Date: 02/14/2024
Scale: 1-1/2"=1'-0"
Drawn By: K.LINSLEY
Project Number: 23.108

Drawing Number: A3

PROJECT MANUAL

TOWN OF WOODBRIDGE
CONNECTICUT

PARTIAL ROOF REPLACEMENT

BEECHER ROAD ELEMENTARY SCHOOL
40 BEECHER ROAD
WOODBRIDGE, CT 06525

BID #2024-___
STATE PROJECT #167-0026 RR
S/P+A PROJECT #23.108

VOLUME 1 OF 1

Town Officials

Building Inspector	Fire Marshal
_____	_____
Health Inspector	ADA/504 Coordinator
_____	_____

CD Submission: February 14, 2024

Architects | Engineers | Interiors
Silver Petrucelli + Associates, Inc.
3190 Whitney Avenue, Hamden, CT 06518
311 State Street, New London, CT 06320

Town Officials

Building Inspector	Fire Marshal
Sanitation/Health Inspector	ADA/504 Coordinator

PARTIAL ROOF REPLACEMENT

BEECHER ROAD ELEMENTARY SCHOOL
40 BEECHER ROAD
WOODBRIDGE, CT 06525
STATE PROJECT #167-0026 RR
BID #2024-__

S/P+A PROJECT #23.108

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Legal Notice

TOWN OF WOODBRIDGE
11 Meetinghouse Lane – Woodbridge, CT 06525
Tel (203) 389-3482

INVITATION TO BID

Notice is hereby given that sealed bids by which the Town of Woodbridge will contract for the

Beecher Road Elementary School Partial Roof Replacment
Bid #2024-XX

will be received in the Finance Director's Office until

3:30 pm, Wednesday, January 3, 2023

as determined by the Finance Office's clock,
when bids will be publicly opened and read aloud.

A non-mandatory pre-bid meeting between prospective bidders and the Architect will convene at this site, **40 Beecher Road, Woodbridge, December 12, 2023 at 11:30 am** when project details will be discussed and questions answered. All prospective bidders are urged attend.

Documents can be viewed at www.woodbridgect.org under the Government tab, Requests for Bids/Proposals.
Each bidder is responsible for checking the websites to determine if any addenda have been issued.

Bid security payable to the Town of Woodbridge is required in the amount of ten percent (10%) of the base bid proposal and shall be in the form of a certified check or Bid Bond. Bid Bonds must be AIA Document A310 or comparable legal bond form, issued by a Surety Company licensed in Connecticut.

Bids must be held firm for ninety (90) days beyond the bid opening date.

A performance and payment bond in the full amount of the Contract is required and shall be included in the bid price. AIA Document A311 or comparable legal bond form shall be used as the form for the bond, except that such bond must be consistent with Supplementary Instruction to Bidders.

Bidder's attention is particularly called to the requirements as to the conditions of employment to be observed and to the minimum wage rates to be paid under the contract. The bidder must submit certified payrolls throughout the project.

In accordance with Connecticut General Statute Sections 4a-100 and 4b-91, a responsible bid must contain two (2) documents: The Contractor Prequalification Certificate and the Update (Bid) Statement. The classification GENERAL BUILDING CONSTRUCTION (GROUP B) is required as a minimum.

The Town of Woodbridge reserves the right to reject any and all bids or any part thereof, or to waive defects in same, or to accept any proposal, or part thereof, deemed to be in the best interest of the Town of Woodbridge for whatever reason. This request for bid does not necessarily contemplate an award based solely on price.

"An Affirmative Action/Equal Opportunity Employer. Minority/Women's business Enterprises are encouraged to apply. This contract is subject to State set-aside and contract compliance requirements."

INSTRUCTIONS TO BIDDERS

The following instructions and specifications shall be observed by all bidders:

1. PROPOSAL COMPLIANCE

Bids shall be submitted on the enclosed forms. Incomplete forms may be cause for disqualification of the bid. Bids must be signed by the authorized representative/officer/agent of the bidder.

The Town of Woodbridge shall be the sole judge as to whether any bid complies with these specifications, and such a decision shall be final and conclusive. Bidders shall state any exceptions taken to the bid specifications.

All Bidders must complete, sign, and return the "CHRO Contract Compliance Regulations Notification to Bidders" form to the Grantee at the time of bid opening. Bids not including this form shall be considered incomplete and rejected.

2. BID RETURN ENVELOPE

All bids shall be submitted in sealed, opaque envelopes clearly labeled with the name of the bidder, his address, and the words "BID DOCUMENTS". Please clearly mark your envelope with the bid title and opening date to prevent opening of a sealed bid prior to the opening date. Proposals submitted in unmarked envelopes which are opened by the Town in its normal course of business will not be accepted. If time permits, the proposals will be returned to the bidder informing them that the proposal may be resubmitted in a sealed envelope properly marked as indicated above. The town will not be held responsible for those bids lost in the mail.

3. BID PROPOSAL/PRICE

Each bid must be submitted on the prescribed form and all blank spaces for bid prices must be filled in ink or typewritten in both words and figures. Bid prices shall include all labor, materials, and equipment necessary to complete the work in accordance with the contract documents or these specifications and instructions. All prices must be NET, F.O.B. to the Town of Woodbridge, 11 Meetinghouse Lane, Woodbridge, Connecticut unless otherwise indicated. Bidders may quote on any, some or all items.

Negligence on the part of the bidder in preparing a bid confers no right of withdrawal or modification of a bid after such bid has been opened.

The Town of Woodbridge is exempt from the Connecticut sales tax, Federal excise taxes and the provisions of the Federal Robinson-Patman Act.

4. WITHDRAWAL OF BIDS

Bids may be withdrawn personally or in writing by the bidder in time for delivery in the normal course of business prior to the time fixed for opening. Once bids are opened the prices shall remain firm for ninety (90) days after the bid opening.

5. RIGHT OF REJECTION

The Request for Proposal/Bid does not necessarily contemplate an award based solely on price. The Board of Selectmen or its designee may reject or accept any and all bids in whole or in part or may waive any informality in bids received if, in its/his/her opinion, it is in the best interest of the Town to do so, for whatever reason.

6. METHOD OF AWARD – FACTORS

a) Where more than one (1) item is bid, the Town reserves the right to split the bid award individually or grouped if it is in the Town's best interest.
b) In the event there is a discrepancy between the price written in words and in figures, the price written in words shall govern.

7. FAMILIARITY WITH LAWS, SITE CONDITIONS, AND DOCUMENTS

Each bidder is required to be familiar and comply with the terms and conditions of the specifications and all other contract documents and with all federal, state, and local laws, ordinances, or regulations which in any manner relate to the furnishing of the equipment, material, or services in accordance with the contract.

The submission of a bid shall be construed as an assurance that the bidder has examined all the conditions of the bid documents and specifications, and the failure of the bidder to familiarize himself with conditions related to the specifications shall in no way relieve any bidder from any obligation in respect to this bid.

8. QUALIFICATIONS OF BIDDER

The Town may make such investigation as it deems necessary to determine the ability of the bidder to perform the work. The bidder shall furnish to the Town all such information for this purpose as the Town may request. The Town reserves the right to reject any bid if the evidence submitted by or discovered by investigation of a bidder fails to satisfy the Town that such bidder is qualified to carry out the obligations of the contract and to the work contemplated therein.

9. ERRORS, INTERPRETATIONS, AND ADDENDA

Should the bidder find any omissions, discrepancies, or errors in the specifications or other contract documents or should the bidder be in doubt as to the meaning of the specifications or other contract documents, the bidder should immediately notify the Town Finance Director, who may correct, amend, or clarify such documents by a written interpretation or addendum. No oral interpretation shall be made to any bidder and no oral statement of the Town or any agent or representative of the Town shall be effective to modify any of the provisions of the contract documents. The Town of Woodbridge shall have the right to request clarifications of bids submitted and hold public hearings for the consideration of the merits of any or all bidders. Refer to Supplementary Instruction to Bidders for additional information.

10. SUBSTITUTION FOR NAMED BRANDS OR SUBCONTRACTING

Should brand name items appear in these specifications, before bidding on any item considered equal to or better than a named item, the bidder shall get written approval from the Finance Director for the substitution. The bidder shall not subcontract the work under this project without the written approval of the Finance Director. Refer to Supplementary Instructions to Bidders for additional information.

11. GUARANTEE

All equipment and materials including all parts and assemblies, if applicable, shall be guaranteed against defects in material and workmanship and shall be in accordance with specifications and adequate for its intended use. Where it is required for the vendor to repair, replace, or to modify, alter, add, or remove hardware, parts, components, or related accessories for the purpose of insuring proper appearance, performance, or operation, the same shall be done as required by the vendor until such time as acceptable performance, operation, or

appearance has been established. Problems that may occur shall be corrected consistent with the guarantee. The vendor shall attend to and remedy such items in a reasonable and timely manner. Appropriate logs, schedules, and reports shall be maintained by the vendor to document these items and the action taken. Warranty information, catalogues of parts, and/or instructions of use shall be provided with the Bid Form when appropriate; otherwise, the same shall be provided upon delivery. All warranties shall be assignable to any customer of the Town of Woodbridge or agent thereof intended to benefit from such services. These warranties shall be in addition to any remedies provided by applicable law. Bidder warrants that all goods and services furnished hereunder shall be designed, constructed, and performed so as to comply with the Williams-Steiger Occupational Safety and Health Act of 1970, as amended from time to time, and the rules, regulations, and standards issued thereunder by any applicable governmental authority which as of the date of performance will apply to the goods and services furnished hereunder.

12. HAZARDOUS WASTE

In the event that equipment or materials are the subject of this bid and they involve the handling of hazardous waste and associated insurance coverages are not identified elsewhere in the bid documents, the bidder's insurance policy must provide Environmental Impairment Liability. The bidder warrants that it understands the currently known and suspected hazards to persons, property, and the environment by the transport, treatment, and disposal of hazardous waste. The bidder warrants that it will perform all services hereunder in a safe, efficient, and lawful manner using industry-accepted practices and in full compliance with all applicable Connecticut and federal laws and regulations.

13. INDEMNIFICATION

The bidder shall at all times indemnify and hold harmless the State of Connecticut and Town of Woodbridge and its officers, agents, and employees on account of and from any and all claims, damages, losses, judgments, workers' compensation payments, litigation expenses, and legal counsel fees arising out of injuries to persons (including death) or damage to property alleged to have been sustained by (a) officers, agents, and employees of the Town of Woodbridge or (b) the bidder, his subcontractors, or material men, or (c) any other person, which injuries are alleged to have occurred on or near the work or to have been caused in whole or in part by the acts, omissions, or neglect of the bidder or his subcontractor or material men or by reasons of his or their use of faulty, defective, or unsuitable materials, tools, or equipment of defective design in constructing or performing under this bid. The existence of insurance shall in no way limit the scope of this indemnification. The bidder shall reimburse the Town of Woodbridge for damage to property of the Town of Woodbridge caused by the bidder, or his employees, agents, subcontractors, or material men or by faulty, defective, or unsuitable material or equipment used by him or them. Bidder agrees that he will indemnify and hold the Town harmless for all claims growing out of the lawful demands of subcontractors, laborers, suppliers, and assignees. Bidder further agrees to assume and pay for the defense of all such claims, demands, suits, proceedings, and litigation. The provisions of this paragraph shall survive the expiration or early termination of this agreement.

14. QUANTITIES

The quantities as listed are estimates. The Town is in no way obligated to purchase any set amount at any time but will purchase as needs dictate. The estimates listed can be considered average purchases per year. The Town reserves the right to increase or decrease the quantity of each bid item at the same bid price stated on the bid form.

15. EVIDENCE OF ORDER

If notified of the acceptance of this proposal and the proposal involves ordering equipment or materials, the bidder agrees to submit evidence of having ordered the equipment and/or material within five (5) days of the "NOTICE TO PROCEED".

16. RIGHT TO TERMINATE CONTRACT

In the event that any of the provisions of this contract are violated by the bidder or any of his subcontractors, the Town may serve written notice upon the contractor of its intention to terminate the contract. Such notices shall contain the reasons for such intention to terminate the contract and the contract shall cease and terminate within five (5) days, unless within five (5) days after the delivery of such notice upon the bidder, such violation or delay shall cease and mutually acceptable arrangements for correction are made. In the event of any such termination, the Town shall deliver notice of such termination to bidder.

The Town of Woodbridge reserves the right to cancel outstanding orders awarded against this bid after reasonable time for delivery has passed. In addition, in the event of any such cancellation, the Town of Woodbridge shall have the right to contract with the next most qualified bidder hereunder, as determined by the Town of Woodbridge, if it deems it in the best interest of the Town of Woodbridge. Notwithstanding the foregoing, the Town shall not be held to a basis of the lowest prices for which the completion of the work or the supplying of equipment or any part thereof might have been accomplished, but it shall charge the defaulting bidder and the defaulting bidder shall be liable for all sums actually paid or expenses actually incurred in effecting prompt performance hereunder. In the event the Town of Woodbridge incurs any loss, cost, or expense on account of such termination or cancellation (including, without limitation, additional cost of the next most qualified bid or performing under the contract and attorneys' fees), the bidder as to whom or which the contract shall have been terminated or cancelled shall be liable to the Town of Woodbridge for such loss, cost, or expense.

17. DELIVERY

Delivery of items or commencement of project shall be within thirty (30) days of purchase order issuance or specified date scheduled in this document. The Town may establish blanket purchase orders under these specifications and require delivery on a monthly basis.

18. RISK OF LOSS

Bidders agree to bear the risk of loss, injury, or destruction of goods and material ordered herein which occurs prior to acceptance. Such loss, injury, or destruction shall not release the bidder from any obligation under this bid. Delivery shall be F.O.B.

19. PAYMENT

Invoices shall be furnished to the Town Finance Department for verification and approval of the amount due the successful bidder. Final payment shall not be made until final acceptance by the Town of Woodbridge of all vehicles, equipment, materials, or services. Payment shall be made within thirty (30) days after approval and acceptance. Terms and conditions other than those stated above must be stated on bid. If a successful bidder is in default hereunder and/or the Town of Woodbridge is of the opinion that a meritorious claim exists or will exist against such bidder of the Town arising out of the negligence of such bidder, then the Town may withhold payment of any amount otherwise due and payable hereunder. Any amount so withheld may be retained by the Town for such period as it may deem advisable to protect the Town against any loss and may, after written notice to such bidder, be applied in satisfaction of any claim herein described. This provision is intended solely for the benefit of the Town and no

person shall have any right against the Town or claim against the Town by reason of the Town's failure or refusal to withhold monies. This provision is not intended to limit or in any way prejudice any other right of the Town and no interest shall be payable by the Town on any amounts withheld under this provision.

20. EQUAL OPPORTUNITY – AFFIRMATIVE ACTION

Each bidder with ten (10) or more employees shall complete the Certificate of Bidder which is included as part of these specifications. Bidders with less than ten (10) employees should indicate this on the Certification and return it with their bid.

A signature on the form certifies that the bidder does not discriminate on the basis of race, color, sex, national origin, age, or disability.

21. APPLICABLE LAW

This agreement shall be construed in accordance with the laws of the state of Connecticut and any action at law in connection herewith shall be brought in Connecticut state courts.

22. REQUIRED PROVISIONS

Each and every provision and clause required by law to be inserted in this agreement shall be deemed to be inserted herein and the agreement shall be read and enforced as though such provisions and clauses were included herein. If, through mistake or otherwise, any such provision is not inserted or is not correctly inserted, then, upon the written consent of the parties, this agreement shall forthwith be physically amended to make such insertion.

23. GENERAL

A successful bidder will be required to furnish a Payment and Performance bond accepted to Town Counsel.

Any unit furnished as a result of this bid is to be a new and unused model currently in production. Accessories necessary for its proper functioning on delivery are assumed to be included in the bid even though not necessarily mentioned in the specifications. All assemblies, sub-assemblies, and component parts for all units specified are to be standard and interchangeable except where noted.

The award of any contract hereunder is subject to the following conditions and contingencies:

a) The approval of such governmental agencies as may be required by law;
b) The appropriation of adequate funds by the proper agencies or governmental bodies;
c) If the bidder is a corporation or other legal business entity, it must have a current license to do business in the state of Connecticut that is on file with the Connecticut Secretary of the State or it must be organized and in good standing under the laws of the State of Connecticut.

24. CONFLICTING PROVISIONS

If any of the provisions hereunder conflict with the provisions of any specifications attached hereto or issued in connection herewith, the contractual provisions of these instructions shall control. Notwithstanding the foregoing, the Town of Woodbridge reserves the right to issue written clarification regarding resolution of any conflicting provisions, in which event such written clarification shall control.

25. INSURANCE REQUIREMENTS

The bidder shall carry at its expense and provide evidence of insurance coverage listed below to protect itself and the Town of Woodbridge from and against liability, loss, damage, expense, cost (including without limitation to litigation and court costs and attorneys' fees) out of or in connection with the performance of any work performed in accordance with the specifications or any related documents, whether such work is performed by the bidder or any subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. Coverage must be written with insurance companies licensed in the State of Connecticut and approved by the Town of Woodbridge. The insurance company writing coverage must have at least an A- rating by Best & Company. All policies shall provide a 30-day advance notice of cancellation to the Town of Woodbridge.

a. **Worker's Compensation:**

Coverage A:	Statutory	
Coverage B:		
Employers Liability:		
	Bodily injury by accident	$500,000 per person
	Bodily injury by disease	$500,000 per person
	Bodily injury by disease	$500,000 aggregate

All states and voluntary compensation endorsements

b. **Commercial General Liability**

Limits of Liability:	$1,000,000 each occurrence
	$2,000,000 general aggregate
	$2,000,000 products/completed operations aggregate

c. **Auto Liability**

Limits of Liability:	$1,000,000 each accident

d. **Excess (Umbrella) Liability:**

Limits of Liability:	$1,000,000 each occurrence
	$1,000,000 general aggregate

e. **Professional Liability/E&O:**

Limits of Liability:	$1,000,000 each wrongful act
	$1,000,000 aggregate

d. **Pollution Liability:**

Limits of Liability:	$1,000,000 each wrongful act
	$2,000,000 aggregate

The Town of Woodbridge and the State of Connecticut are to be named as additional insured on a primary and non-contributory basis on all policies except Worker's Compensation and Professional Liability. All policies shall include a Waiver of Subrogation except Professional Liability.

Certificates of insurance shall be presented to the building committee for approval before the successful bidder, its agents, and/or employees commence any work whatsoever pursuant to the contract.

The successful bidder should he subcontract out any of the work, shall also provide Certificates of Insurance from all of his/subcontractors.

26. SET-ASIDE REQUIREMENTS

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.

State law requires a minimum of twenty-five (25%) percent of the state-funded portion of the contract be set aside for award to subcontractors holding current certification from the Connecticut Department of Administrative Services ("DAS") under the provisions of Conn. Gen. Stat. § 4a-60g. (Twenty-five percent (25%) of the total state-funded value with DAS-certified Small Businesses and six and one-quarter percent (6.25%) of the total state-funded value with DAS-certified Minority-, Women-, and/or Disabled-owned Businesses.) The Contractor must demonstrate good faith effort to meet the twenty-five percent (25%) set-aside goals.

PART 1 - GENERAL

1.1 COMPLETION DATE

A. All work as required by these specifications and drawings shall be completed by the date stipulated in the Contractor's bid form. There is no exception to this contract requirement, unless approved otherwise by contract change order.

B. If the Contractor neglects, fails, or refuses to achieve substantial completion by 11:59 pm by the date stipulated in the Contractor's bid form for each of the bid components requiring durations or deadlines, liquidated damages of Five Hundred Dollars ($500.00) per day or part thereof shall be due for each bid component to the Owner and subtracted from the unpaid contract amount or bond held by the Owner. "Substantial completion" is as defined in the General Conditions of the Contract for Construction, AIA Document A201 included in this project manual. "Substantial completion" is further defined as the date at which the local authorities with jurisdiction over this project grant a temporary or permanent certificate of occupancy (if required for occupancy) for each project area.

1.2 QUESTIONS

A. Questions (RFI's) regarding this bid can be directed, in writing only, to:

Bid Procedures/Administrative
Mr. Anthony Genovese
Director of Finance
Town of Woodbridge
11 Meeting House Lane
Woodbridge, CT 06525
Tel: 203-389-3482
Email: agenovese@woodbridgect.org

Technical/Construction
Mr. Ken Linsley, Project Designer
Silver/Petrucelli + Associates, Inc.
3190 Whitney Avenue, Bldg. 2
Hamden, CT 06518
Tel: 203-230-9007 x236
Email: klinsley@silverpetrucelli.com

B. Due date for RFI's: 4:30 p.m., _____ __, 20__.

C. Substitution requests shall follow suit complying with Section 012500 "Substitution Procedures".

1.3 RESPONSIBILITY FOR MEASUREMENT OF QUANTITIES

A. The Contractor shall have sole responsibility for the accuracy of all measurements and for estimating the material quantities required to satisfy these specifications.

1.4 SCHEDULE OF VALUES

A. A detailed Schedule of Values must be submitted from the apparent low bidder within five (5) days of notice. Comply with requirements in Section 012900 "Payment Procedures".

1.5 WATCHMAN

A. The employment of continuous watchman service to guard the property during any and all hours shall be at the discretion of the Contractor. However, the Contractor shall remove and restore all work or temporary structures damaged by fire, vandalism, or similar acts at no extra cost to the Owner.

1.6 OVERTIME

A. The Contractor must include within their base price all overtime, nights, holidays, and weekends as required to meet the Project Completion date.

1.7 SUPERVISION

A. The Contractor must provide full-time, properly qualified on-site supervision for the entire duration of the project, while workpersons are on site. Resumes of Project Superintendent and Project Manager for this project are to be provided with bid.

1.8 OSHA

A. All workers on site are to have completed 30 hours of OSHA training, providing proof of completion.

1.9 REMOVAL OF MATERIALS

A. All removed materials and rubbish shall be constantly sprinkled with water or other dusting agent to mitigate dust. Provide drop cloths or other type of coverings to prevent infiltration of dust to other parts of the existing building.

1.10 DEPARTMENT OF ADMINISTRATIVE SERVICES (DAS)

A. In accordance with Connecticut General Statute Secs. 4a-100 and 4b-91, a responsible bid that exceeds $1,000,000 for this vertical building project must contain two (2) documents: **The Contractor Prequalification Certificate and the Update (Bid) Statement.** These two (2) documents must be submitted with the bid form. Contact the DAS Contractor Prequalification Unit at 860-713-5280 for more information. The classification ROOFING is required as a minimum.

1.11 PUBLIC HEALTH EMERGENCY

A. The Contractor shall anticipate and incorporate in their Bid all potential costs related to a public health emergency such as the COVID-19/Coronavirus Pandemic, including rules, regulations, and recommendations issued by public authorities. The potential costs may include, but are not limited to, costs related to social distancing, manpower levels, project scheduling, construction coordination, material/product supplies and delivery delays, material escalation costs, increased subcontractor/supplier costs, loss of productivity and inefficiency costs, extended general conditions costs, and any other potential costs.

1.12 BIDDERS REPRESENTATION

A. Each bidder shall fully acquaint himself with conditions as they exist, so that he fully understands the complexities and restrictions attending the execution of the Work included in the Bid Documents. The failure to receive or examine any form, instrument, or document, or to visit the site to become acquainted with field conditions, shall in no way relieve the Bidder from any obligation with respect to the Bidder's proposal.

END OF SECTION

(To be submitted in duplicate)

BIDDER: _____
Name

_____
Address

To: **Finance Director**
Town of Woodbridge
11 Meetinghouse Lane
Woodbridge, CT 06525

Project: **Beecher Road Elementary School Partial Roof Replacement**
40 Beecher Road
Woodbridge, CT 06525
State Project #167-0026 RR
Bid #2024-__

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

The Bidding Documents referred to include Drawings and Project Manual dated February 14, 2024, prepared by Silver/Petrucelli + Associates, Inc., Hamden, Connecticut.

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

Base Bid:

Entire Project for the Total Cost of:

$ _____ Dollars ($ .00).
written figure

We will commence work on the project _____ calendar days after receipt of "Notice to Proceed" or signing of Contract, whichever is sooner. We will be able to substantially complete the project within _____ calendar days thereafter. (Also refer to SIB 1.1.B).

Allowances: (See Section 012100)

Allowance #1: Metal Deck Replacement (part of Base Bid) $ _____

Alternates:

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

DEDUCT ALTERNATE #1: Twenty (20) Year Warranty: Deduct from the Base Bid a Total of:

$ _____ Dollars ($ .00).
written figure

The project schedule will be (increased/decreased) by _____ calendar days to complete the work indicated under Deduct Alternate 1.

Unit Prices:

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

Item	Description	Unit Price
1.	Metal roof deck, thickness to match existing roof deck to be removed (including deteriorated roof deck removal, credit and add)	$ sf
2.	Add pressure treated wood blocking, as specified, cut to fit around roof structure and systems installed	$ bf
3.	Deduct pressure treated wood blocking, as specified, cut to fit around roof structure and system installed	$ bf

If written notice of the acceptance of this Bid is mailed, telegraphed, or delivered to the undersigned at the Address designated below, within ninety (90) days after the date of Bid Opening, or any time thereafter before this Bid is withdrawn, the undersigned will, within ten (10) days after the date of mailing, telegraphing, or delivering of the notice, execute and deliver a contract in the Standard Form of Agreement Between the Owner and Contractor, AIA Document A101, or similar contract modified as may be mutually agree upon.

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

Addenda:

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

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

Exceptions: _____

ATTACHMENTS – Attached hereto is:

1. **Bid Bond**
2. **CHRO Bidder Contract Compliance Monitoring Report**
3. **Non-Collusion Affidavit**
4. **Delinquent Tax Affidavit**
5. **Certification of Bidder**
6. **Reference Sheet Listing**
7. **Form W-9**
8. **Preliminary Construction Schedule per Section 013200, including List of Long Lead Time Items as well as Submittal Schedule per Section 013300**
9. **Site Logistics Plan**
10. **Resumes of Project Superintendent & Project Manager**
11. **List of Work to be Self-Performed/Work to be Subcontracted**

12. Contractor's Specific OSHA Safety Program, Certifying 30 Hours of Training for All Workers

Signature: _____ Date: _____

Printed Name and Title
of Agent submitting bid: _____

Name of Company: _____

Address: _____

Telephone Number: _____ Fax Number: _____

E-mail: _____

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

COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES
CONTRACT COMPLIANCE REGULATIONS
NOTIFICATION TO BIDDERS
(Revised 09/3/15)

The contract to be awarded is subject to contract compliance requirements mandated by Sections 4a-60 and 4a-60a of the Connecticut General Statutes; and, when the awarding agency is the State, Sections 46a-71(d) and 46a-81i(d) of the Connecticut General Statutes. There are Contract Compliance Regulations codified at Section 46a-68j-21 through 43 of the Regulations of Connecticut State Agencies, which establish a procedure for awarding all contracts covered by Sections 4a-60 and 46a-71(d) of the Connecticut General Statutes.

According to Section 46a-68j-30(9) of the Contract Compliance Regulations, every agency awarding a contract subject to the contract compliance requirements has an obligation to "aggressively solicit the participation of legitimate minority business enterprises as bidders, contractors, subcontractors and suppliers of materials." "Minority business enterprise" is defined in Section 4a-60 of the Connecticut General Statutes as a business wherein fifty-one percent or more of the capital stock, or assets belong to a person or persons: "(1) Who are active in daily affairs of the enterprise; (2) who have the power to direct the management and policies of the enterprise; and (3) who are members of a minority, as such term is defined in subsection (a) of Section 32-9n." "Minority" groups are defined in Section 32-9n of the Connecticut General Statutes as "(1) Black Americans . . . (2) Hispanic Americans . . . (3) persons who have origins in the Iberian Peninsula . . . (4)Women . . . (5) Asian Pacific Americans and Pacific Islanders; (6) American Indians . . ." An individual with a disability is also a minority business enterprise as provided by Section 4a-60g of the Connecticut General Statutes. The above definitions apply to the contract compliance requirements by virtue of Section 46a-68j-21(11) of the Contract Compliance Regulations.

The awarding agency will consider the following factors when reviewing the bidder's qualifications under the contract compliance requirements:

(a) the bidder's success in implementing an affirmative action plan;
(b) the bidder's success in developing an apprenticeship program complying with Sections 46a-68-1 to 46a-68-17 of the Administrative Regulations of Connecticut State Agencies, inclusive;
(c) the bidder's promise to develop and implement a successful affirmative action plan;
(d) the bidder's submission of employment statistics contained in the "Employment Information Form", indicating that the composition of its workforce is at or near parity when compared to the racial and sexual composition of the workforce in the relevant labor market area; and
(e) the bidder's promise to set aside a portion of the contract for legitimate minority business enterprises. See Section 46a-68j-30(10)(E) of the Contract Compliance Regulations.

INSTRUCTIONS AND OTHER INFORMATION

The following BIDDER CONTRACT COMPLIANCE MONITORING REPORT must be completed in full, signed, and submitted with the bid for this contract. The contract awarding agency and the Commission on Human Rights and Opportunities will use the information contained thereon to determine the bidders compliance to Sections 4a-60 and 4a-60a CONN. GEN. STAT., and Sections 46a-68j-23 of the Regulations of Connecticut State Agencies regarding equal employment opportunity, and the bidder's good faith efforts to include minority business enterprises as subcontractors and suppliers for the work of the contract.

1) Definition of Small Contractor

Section 4a-60g CONN. GEN. STAT. defines a small contractor as a company that has been doing business under the same management and control and has maintained its principal place of business in Connecticut for a one year period immediately prior to its application for certification under this section, had gross revenues not exceeding fifteen million dollars in the most recently completed fiscal year, and at least fifty-one percent of the ownership of which is held by a person or persons who are active in the daily affairs of the company, and have the power to direct the management and policies of the company, except that a nonprofit corporation shall be construed to be a small contractor if such nonprofit corporation meets the requirements of subparagraphs (A) and (B) of subdivision 4a-60g CONN. GEN. STAT.

MANAGEMENT: Managers plan, organize, direct, and control the major functions of an organization through subordinates who are at the managerial or supervisory level. They make policy decisions and set objectives for the company or departments. They are not usually directly involved in production or providing services. Examples include top executives, public relations managers, managers of operations specialties (such as financial, human resources, or purchasing managers), and construction and engineering managers.

BUSINESS AND FINANCIAL OPERATIONS: These occupations include managers and professionals who work with the financial aspects of the business. These occupations include accountants and auditors, purchasing agents, management analysts, labor relations specialists, and budget, credit, and financial analysts.

MARKETING AND SALES: Occupations related to the act or process of buying and selling products and/or services such as sales engineer, retail sales workers and sales representatives including wholesale.

LEGAL OCCUPATIONS: In-House Counsel who is charged with providing legal advice and services in regards to legal issues that may arise during the course of standard business practices. This category also includes assistive legal occupations such as paralegals, legal assistants.

COMPUTER SPECIALISTS: Professionals responsible for the computer operations within a company are grouped in this category. Examples of job titles in this category include computer programmers, software engineers, database administrators, computer scientists,systems analysts, and computer support specialists

ARCHITECTURE AND ENGINEERING: Occupations related to architecture, surveying, engineering, and drafting are included in this category. Some of the job titles in this category include electrical and electronic engineers, surveyors, architects, drafters, mechanical engineers, materials engineers, mapping technicians, and civil engineers.

OFFICE AND ADMINISTRATIVE SUPPORT: All clerical-type work is included in this category. These jobs involve the preparing, transcribing, and preserving of written communications and records; collecting accounts; gathering and distributing information; operating office machines and electronic data processing equipment; and distributing mail. Job titles listed in this category include telephone operators, bill and account collectors, customer service representatives, dispatchers, secretaries and administrative assistants, computer operators and clerks (such as payroll, shipping, stock, mail and file).

BUILDING AND GROUNDS CLEANING AND MAINTENANCE: This category includes occupations involving landscaping, housekeeping, and janitorial services. Job titles found in this category include supervisors of landscaping or housekeeping, janitors, maids, grounds maintenance workers, and pest control workers.

CONSTRUCTION AND EXTRACTION: This category includes construction trades and related occupations. Job titles found in this category include boilermakers, masons (all types), carpenters, construction laborers, electricians, plumbers (and related trades), roofers, sheet metal workers, elevator installers, hazardous materials removal workers, paperhangers, and painters. Paving, surfacing, and tamping equipment operators; drywall and ceiling tile installers; and carpet, floor and tile installers and finishers are also included in this category. First line supervisors, foremen, and helpers in these trades are also grouped in this category..

INSTALLATION, MAINTENANCE AND REPAIR: Occupations involving the installation, maintenance, and repair of equipment are included in this group. Examples of job titles found here are heating, ac, and refrigeration mechanics and installers; telecommunication line installers and repairers; heavy vehicle and mobile equipment service technicians and mechanics; small engine mechanics; security and fire alarm systems installers; electric/electronic repair, industrial, utility and transportation equipment; millwrights; riggers; and manufactured building and mobile home installers. First line supervisors, foremen, and helpers for these jobs are also included in the category.

MATERIAL MOVING WORKERS: The job titles included in this group are Crane and tower operators; dredge, excavating, and lading machine operators; hoist and winch operators; industrial truck and tractor operators; cleaners of vehicles and equipment; laborers and freight, stock, and material movers, hand; machine feeders and offbearers; packers and packagers, hand; pumping station operators; refuse and recyclable material collectors; and miscellaneous material moving workers.

PRODUCTION WORKERS: The job titles included in this category are chemical production machine setters, operators and tenders; crushing/grinding workers; cutting workers; inspectors, testers sorters, samplers, weighers; precious stone/metal workers; painting workers; cementing/gluing machine operators and tenders; etchers/engravers; molders, shapers and casters except for metal and plastic; and production workers.

White (not of Hispanic Origin)- All persons having origins in any of the original peoples of Europe, North Africa, or the Middle East. Black(not of Hispanic Origin)- All persons having origins in any of the Black racial groups of Africa. Hispanic- All persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.	Asian or Pacific Islander- All persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippine Islands, and Samoa. American Indian or Alaskan Native- All persons having origins in any of the original peoples of North America, and who maintain cultural identification through tribal affiliation or community recognition.

BIDDER CONTRACT COMPLIANCE MONITORING REPORT

PART I - Bidder Information

Company Name Street Address City & State Chief Executive	Bidder Federal Employer Identification Number _____ Or Social Security Number_____
Major Business Activity (brief description)	Bidder Identification (response optional/definitions on page 1) -Bidder is a small contractor. Yes __No __ -Bidder is a minority business enterprise Yes __No __ (If yes, check ownership category) Black ___ Hispanic___ Asian American___ American Indian/Alaskan Native ___Iberian Peninsula___ Individual(s) with a Physical Disability___ Female ___
Bidder Parent Company (If any)	- Bidder is certified as above by State of CT Yes__ No__
Other Locations in Ct. (If any)	

PART II - Bidder Nondiscrimination Policies and Procedures

1. Does your company have a written Affirmative Action/Equal Employment Opportunity statement posted on company bulletin boards? Yes__ No__	7. Do all of your company contracts and purchase orders contain non-discrimination statements as required by Sections 4a-60 & 4a-60a Conn. Gen. Stat.? Yes__ No__
2. Does your company have the state-mandated sexual harassment prevention in the workplace policy posted on company bulletin boards? Yes__ No__	8. Do you, upon request, provide reasonable accommodation to employees, or applicants for employment, who have physical or mental disability? Yes__ No__
3. Do you notify all recruitment sources in writing of your company's Affirmative Action/Equal Employment Opportunity employment policy? Yes__ No__	9. Does your company have a mandatory retirement age for all employees? Yes__ No__
4. Do your company advertisements contain a written statement that you are an Affirmative Action/Equal Opportunity Employer? Yes __No __	10. If your company has 50 or more employees, have you provided at least two (2) hours of sexual harassment training to all of your supervisors? Yes__ No__ NA__
5. Do you notify the Ct. State Employment Service of all employment openings with your company? Yes __No __	11. If your company has apprenticeship programs, do they meet the Affirmative Action/Equal Employment Opportunity requirements of the apprenticeship standards of the Ct. Dept. of Labor? Yes __No __NA __
6. Does your company have a collective bargaining agreement with workers? Yes__ No__ 6a. If yes, do the collective bargaining agreements contain non-discrim ination clauses covering all workers? Yes__ No__ 6b. Have you notified each union in writing of your commitments under the nondiscrimination requirements of contracts with the state of Ct? Yes__ No__	12. Does your company have a written affirmative action Plan? Yes __No __ If no, please explain. 13. Is there a person in your company who is responsible for equal employment opportunity? Yes __No __ If yes, give name and phone number. _____

Part III - Bidder Subcontracting Practices

1. Will the work of this contract include subcontractors or suppliers? Yes__ No__

1a. If yes, please list all subcontractors and suppliers and report if they are a small contractor and/or a minority business enterprise. (defined on page 1 / use additional sheet if necessary)

1b. Will the work of this contract require additional subcontractors or suppliers other than those identified in 1a. above? Yes__ No__

PART IV - Bidder Employment Information

Date:

JOB CATEGORY *	OVERALL TOTALS	WHITE (not of Hispanic origin)		BLACK (not of Hispanic origin)		HISPANIC		ASIAN or PACIFIC ISLANDER		AMERICAN INDIAN or ALASKAN NATIVE	
		Male	Female	Male	Female	Male	Female	Male	Female	male	female
Management											
Business & Financial Ops											
Marketing & Sales											
Legal Occupations											
Computer Specialists											
Architecture/Engineering											
Office & Admin Support											
Bldg/ Grounds Cleaning/Maintenance											
Construction & Extraction											
Installation , Maintenance & Repair											
Material Moving Workers											
Production Occupations											
TOTALS ABOVE											
Total One Year Ago											
FORMAL ON THE JOB TRAINEES (ENTER FIGURES FOR THE SAME CATEGORIES AS ARE SHOWN ABOVE)											
Apprentices											
Trainees											

*NOTE: JOB CATEGORIES CAN BE CHANGED OR ADDED TO (EX. SALES CAN BE ADDED OR REPLACE A CATEGORY NOT USED IN YOUR COMPANY)

1. Which of the following recruitment sources are used by you? (Check yes or no, and report percent used)				2. Check (X) any of the below listed requirements that you use as a hiring qualification		3. Describe below any other practices or actions that you take which show that you hire, train, and promote employees without discrimination
SOURCE	YES	NO	% of applicants provided by source	(X)		
State Employment Service					Work Experience	
Private Employment Agencies					Ability to Speak or Write English	
Schools and Colleges					Written Tests	
Newspaper Advertisement					High School Diploma	
Walk Ins					College Degree	
Present Employees					Union Membership	
Labor Organizations					Personal Recommendation	
Minority/Community Organizations					Height or Weight	
Others (please identify)					Car Ownership	
					Arrest Record	
					Wage Garnishments	

Certification (Read this form and check your statements on it CAREFULLY before signing). I certify that the statements made by me on this BIDDER CONTRACT COMPLIANCE MONITORING REPORT are complete and true to the best of my knowledge and belief, and are made in good faith. I understand that if I knowingly make any misstatements of facts, I am subject to be declared in non-compliance with Section 4a-60, 4a-60a, and related sections of the CONN. GEN. STAT.

(Signature)	(Title)	(Date Signed)	(Telephone)

ATTACHMENT A

NON COLLUSION AFFIDAVIT

This Affidavit must be completed, notarized and attached to your Bid Proposal. Failure to do so will result in the rejection of your Bid. A separate Affidavit must be submitted by each principal of a Joint Venture.

City/Town **Woodbridge**

Description of Project: _____

I, _____, acting in behalf of _____
(*Name of Party Signing Affidavit)* **(*person, firm, association, corporation, or organization)***

of which I am _____, submitting a bid/request for proposal for the above project, certify and affirm that
(Title of Person)

the _____ has neither directly or indirectly entered into any agreements,
(person, firm, association, corporation, or organization)

participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with such bid.

False statements made herein may be the subject of criminal prosecution.

_____
Name of Corporation or Firm

_____
Signature and Title of Official Making the Affidavit

Subscribed and sworn to before me this _____day of _____, 20_____.

_____
Notary Public/Commission of the Superior Court

My Commission Expires:_____

CERTIFICATE OF CORPORATION

I, _____, certify that I am the _____ of the Corporation named in the foregoing instrument: That I have been duly authorized to affix the seal of the Corporation to such papers as require the seal; that _____, who signed said instrument on behalf of the Corporation, was then_____ of said Corporation; that said instrument was duly signed for and in behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.

(Corporate Seal)

_____
Signature of Person Certifying

DELINQUENT TAX AFFIDAVIT

This Affidavit must be completed, notarized and attached to your Bid Proposal. Failure to do so may result in the rejection of your Bid.

City/Town **Woodbridge**

Description of Project: _____

I, _____**, acting on behalf of** _____ **of which I**
(Name of Party Signing Affidavit) *(person, firm, association, corporation, or organization)*

am _____**, submitting a bid/request for proposal for the above project, certify and affirm the following:**
(Title of Person)

1. **the undersigned, certifies that neither the above-captioned entity, nor individually, owes delinquent taxes or any other financial obligation to the Town;**

2. **the undersigned has (check one)**

_____**(a) filed a list of taxable personal property with the assessor for the most recent grand list as required by state statute, or**

_____**(b) is not required to file such list**

To the best of my knowledge and belief no affiliated entity of the undersigned, either directly or through a lease agreement, owes taxes to the Town;

To the best of my knowledge and belief the following are the names of all persons who are owners or officers of the undersigned.

_____
(attach additional sheets if necessary)

False statements made herein may be the subject of criminal prosecution.

_____
Name of Corporation or Firm

_____
Signature and Title of Official Making the Affidavit

Subscribed and sworn to before me this _____**day of** _____**, 20**_____**.**

_____
Notary Public/Commission of the Superior Court

My Commission Expires:_____

CERTIFICATE OF CORPORATION

I, _____**, certify that I am the** _____
of the Corporation named in the foregoing instrument: That I have been duly authorized to affix the seal of the Corporation to such papers as require the seal; that _____**, who signed said instrument on behalf of the Corporation, was then**_____ **of said Corporation; that said instrument was duly signed for and in behalf of said Corporation by authority of its governing body and is within the scope of its corporate powers.**

(Corporate Seal)

_____
Signature of Person Certifying

Certification of Bidder

Concerning Equal Employment Opportunities and/or Affirmative Action Policy

I/We, the bidder, certify that:

1) I/We comply/ies with the equal opportunity clause as set forth in the Connecticut state law.
2) I/We do not maintain segregated facilities.
3) I/We have filed all required employer's information reports.
4) I/We list job openings with federal and state employment services.
5) I/We am/are in compliance with the American with Disabilities Act.
6) I/We (check one):

_____ Have an affirmative action program
_____ Employ ten or fewer people

_____
Bidder-Company Name

_____
Name

_____
Title

_____
Signature

_____
Date

TOWN OF WOODBRIDGE, CONNECTICUT
GENERAL CONDITIONS & BID SPECIFICATONS

REFERENCE SHEET LISTING

Please provide a minimum of three (3) municipal references including community, contact person and telephone number.

Form **W-9**
(Rev. October 2004)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give form to the requester. Do not send to the IRS.

Print or type See **Specific Instructions** on page 2.

Name (as reported on your income tax return)

Business name, if different from above

Check appropriate box: ☐ Individual/ Sole proprietor ☐ Corporation ☐ Partnership ☐ Other ► ..... ☐ Exempt from backup withholding

Address (number, street, and apt. or suite no.)

Requester's name and address (optional)

City, state, and ZIP code

List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on Line 1 to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. *If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.*

Social security number
___ ___ ___ – ___ ___ – ___ ___ ___ ___

or

Employer identification number
___ ___ – ___ ___ ___ ___ ___ ___ ___

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. person (including a U.S. resident alien).

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the Certification, but you must provide your correct TIN. (See the instructions on page 4.)

Sign Here **Signature of U.S. person ►** **Date ►**

Purpose of Form

A person who is required to file an information return with the IRS, must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

U.S. person. Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee.

Note. *If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.*

For federal tax purposes you are considered a person if you are:

- an individual who is a citizen or resident of the United States,
- a partnership, corporation, company, or association created or organized in the United States or under the laws of the United States, or
- any estate (other than a foreign estate) or trust. See Regulation section 301.7701-6(a) for additional information.

Foreign person. If you are a foreign person, use the appropriate Form W-8 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the recipient has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.

4. The type and amount of income that qualifies for the exemption from tax.

5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity not subject to backup withholding, give the requester the appropriate completed Form W-8.

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments (after December 31, 2002). This is called "backup withholding." Payments that may be subject to backup withholding include interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester, or

2. You do not certify your TIN when required (see the Part II instructions on page 4 for details), or

3. The IRS tells the requester that you furnished an incorrect TIN, or

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See the instructions below and the separate Instructions for the Requester of Form W-9.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of $50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a $500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of Federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Name

If you are an individual, you must generally enter the name shown on your social security card. However, if you have changed your last name, for instance, due to marriage without informing the Social Security Administration of the name change, enter your first name, the last name shown on your social security card, and your new last name.

If the account is in joint names, list first, and then circle, the name of the person or entity whose number you entered in Part I of the form.

Sole proprietor. Enter your individual name as shown on your social security card on the "Name" line. You may enter your business, trade, or "doing business as (DBA)" name on the "Business name" line.

Limited liability company (LLC). If you are a single-member LLC (including a foreign LLC with a domestic owner) that is disregarded as an entity separate from its owner under Treasury regulations section 301.7701-3, enter the owner's name on the "Name" line. Enter the LLC's name on the "Business name" line. Check the appropriate box for your filing status (sole proprietor, corporation, etc.), then check the box for "Other" and enter "LLC" in the space provided.

Other entities. Enter your business name as shown on required Federal tax documents on the "Name" line. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on the "Business name" line.

Note. You are requested to check the appropriate box for your status (individual/sole proprietor, corporation, etc.).

Exempt From Backup Withholding

If you are exempt, enter your name as described above and check the appropriate box for your status, then check the "Exempt from backup withholding" box in the line following the business name, sign and date the form.

Generally, individuals (including sole proprietors) are not exempt from backup withholding. Corporations are exempt from backup withholding for certain payments, such as interest and dividends.

Note. If you are exempt from backup withholding, you should still complete this form to avoid possible erroneous backup withholding.

Exempt payees. Backup withholding is not required on any payments made to the following payees:

1. An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2),

2. The United States or any of its agencies or instrumentalities,

3. A state, the District of Columbia, a possession of the United States, or any of their political subdivisions or instrumentalities,

4. A foreign government or any of its political subdivisions, agencies, or instrumentalities, or

5. An international organization or any of its agencies or instrumentalities.

Other payees that may be exempt from backup withholding include:

6. A corporation,

7. A foreign central bank of issue,

8. A dealer in securities or commodities required to register in the United States, the District of Columbia, or a possession of the United States,

9. A futures commission merchant registered with the Commodity Futures Trading Commission,

10. A real estate investment trust,

11. An entity registered at all times during the tax year under the Investment Company Act of 1940,

12. A common trust fund operated by a bank under section 584(a),

13. A financial institution,

14. A middleman known in the investment community as a nominee or custodian, or

15. A trust exempt from tax under section 664 or described in section 4947.

The chart below shows types of payments that may be exempt from backup withholding. The chart applies to the exempt recipients listed above, 1 through 15.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt recipients except for 9
Broker transactions	Exempt recipients 1 through 13. Also, a person registered under the Investment Advisers Act of 1940 who regularly acts as a broker
Barter exchange transactions and patronage dividends	Exempt recipients 1 through 5
Payments over $600 required to be reported and direct sales over $5,000 [1]	Generally, exempt recipients 1 through 7 [2]

[1] See Form 1099-MISC, Miscellaneous Income, and its instructions.

[2] However, the following payments made to a corporation (including gross proceeds paid to an attorney under section 6045(f), even if the attorney is a corporation) and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees; and payments for services paid by a Federal executive agency.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-owner LLC that is disregarded as an entity separate from its owner (see *Limited liability company (LLC)* on page 2), enter your SSN (or EIN, if you have one). If the LLC is a corporation, partnership, etc., enter the entity's EIN.

Note. See the chart on page 4 for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local Social Security Administration office or get this form on-line at *www.socialsecurity.gov/online/ss-5.pdf*. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at *www.irs.gov/businesses/* and clicking on Employer ID Numbers under Related Topics. You can get Forms W-7 and SS-4 from the IRS by visiting *www.irs.gov* or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note. Writing "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: *A disregarded domestic entity that has a foreign owner must use the appropriate Form W-8.*

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, and 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). Exempt recipients, see *Exempt From Backup Withholding* on page 2.

Signature requirements. Complete the certification as indicated in 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account [1]
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor [2]
4. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee [1]
b. So-called trust account that is not a legal or valid trust under state law	The actual owner [1]
5. Sole proprietorship or single-owner LLC	The owner [3]
For this type of account:	**Give name and EIN of:**
6. Sole proprietorship or single-owner LLC	The owner [3]
7. A valid trust, estate, or pension trust	Legal entity [4]
8. Corporate or LLC electing corporate status on Form 8832	The corporation
9. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
10. Partnership or multi-member LLC	The partnership
11. A broker or registered nominee	The broker or nominee
12. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity

[1] List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

[2] Circle the minor's name and furnish the minor's SSN.

[3] You must show your individual name and you may also enter your business or "DBA" name on the second name line. You may use either your SSN or EIN (if you have one). If you are a sole proprietor, IRS encourages you to use your SSN.

[4] List first and circle the name of the legal trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.)

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons who must file information returns with the IRS to report interest, dividends, and certain other income paid to you, mortgage interest you paid, the acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA, or Archer MSA or HSA. The IRS uses the numbers for identification purposes and to help verify the accuracy of your tax return. The IRS may also provide this information to the Department of Justice for civil and criminal litigation, and to cities, states, and the District of Columbia to carry out their tax laws. We may also disclose this information to other countries under a tax treaty, or to Federal and state agencies to enforce Federal nontax criminal laws and to combat terrorism. The authority to disclose information to combat terrorism expired on December 31, 2003. Legislation is pending that would reinstate this authority.

You must provide your TIN whether or not you are required to file a tax return. Payers must generally withhold 28% of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to a payer. Certain penalties may also apply.

DRAFT

AIA® Document A101® – 2017

Standard Form of Agreement Between Owner and Contractor

where the basis of payment is a Stipulated Sum

AGREEMENT made as of the « » day of « » in the year « »
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

« »« »
« »
« »
« »

and the Contractor:
(Name, legal status, address and other information)

« »« »
« »
« »
« »

for the following Project:
(Name, location and detailed description)

« »
« »
« »

The Architect:
(Name, legal status, address and other information)

« »« »
« »
« »
« »

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101®–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201®–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[« »] The date of this Agreement.

[« »] A date set forth in a notice to proceed issued by the Owner.

[« »] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

« »

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

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[« »] Not later than « » (« ») calendar days from the date of commencement of the Work.

[« »] By the following date: « »

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be « » ($ « »), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

« »

§ 4.6 Other:
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

« »

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ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

« »

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the « » day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the « » day of the « » month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than « » (« ») days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- **.1** That portion of the Contract Sum properly allocable to completed Work;
- **.2** That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- **.3** That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- **.1** The aggregate of any amounts previously paid by the Owner;
- **.2** The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;
- **.3** Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- **.4** For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and
- **.5** Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:
(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

« »

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§ 5.1.7.1.1 The following items are not subject to retainage:
(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

« »

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:
(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

« »

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:
(Insert any other conditions for release of retainage upon Substantial Completion.)

« »

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

« »

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.
(Insert rate of interest agreed upon, if any.)

« » % « »

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

« »
« »
« »
« »

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§ 6.2 Binding Dispute Resolution
For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:
(Check the appropriate box.)

[« »] Arbitration pursuant to Section 15.4 of AIA Document A201–2017

[« »] Litigation in a court of competent jurisdiction

[« »] Other *(Specify)*

« »

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION
§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:
(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

« »

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

ARTICLE 8 MISCELLANEOUS PROVISIONS
§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:
(Name, address, email address, and other information)

« »
« »
« »
« »
« »
« »

§ 8.3 The Contractor's representative:
(Name, address, email address, and other information)

« »
« »
« »
« »
« »
« »

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

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§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:
(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

« »

§ 8.7 Other provisions:

« »

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor

.2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds

.3 AIA Document A201™–2017, General Conditions of the Contract for Construction

.4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:
(Insert the date of the E203-2013 incorporated into this Agreement.)

« »

.5 Drawings

Number	Title	Date

.6 Specifications

Section	Title	Date	Pages

.7 Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

.8 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

[« »] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

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« »

[« »] The Sustainability Plan:

Title	Date	Pages

[« »] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.9 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

« »

This Agreement entered into as of the day and year first written above.

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
« »« »	« »« »
(Printed name and title)	*(Printed name and title)*

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DRAFT

AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

« »
« »

THE OWNER:
(Name, legal status and address)

« »« »
« »

THE ARCHITECT:
(Name, legal status and address)

« »« »
« »

TABLE OF ARTICLES

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15 CLAIMS AND DISPUTES

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

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§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or

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relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

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§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as

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the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

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§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

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§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- **.1** allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- **.2** Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- **.3** whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and

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similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will

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specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

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§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

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§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in

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number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- **.1** assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- **.2** assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

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When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

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§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- **.1** The change in the Work;
- **.2** The amount of the adjustment, if any, in the Contract Sum; and
- **.3** The extent of the adjustment, if any, in the Contract Time.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- **.1** Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- **.2** Unit prices stated in the Contract Documents or subsequently agreed upon;
- **.3** Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- **.4** As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- **.1** Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;

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.2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
.5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

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§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

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§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- **.1** defective Work not remedied;
- **.2** third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- **.3** failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- **.4** reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- **.5** damage to the Owner or a Separate Contractor;
- **.6** reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or

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.7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

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§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

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§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- **.1** liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- **.2** failure of the Work to comply with the requirements of the Contract Documents;
- **.3** terms of special warranties required by the Contract Documents; or
- **.4** audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- **.1** employees on the Work and other persons who may be affected thereby;

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.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and

.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed

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by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the

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procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

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The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

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§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect

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timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- **.1** Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- **.2** An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- **.3** Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- **.4** The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract

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Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- **.1** repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- **.2** fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- **.3** repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- **.4** otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- **.1** Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- **.2** Accept assignment of subcontracts pursuant to Section 5.4; and
- **.3** Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- **.1** that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- **.2** that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- **.1** cease operations as directed by the Owner in the notice;
- **.2** take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- **.3** except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work

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properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

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.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

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§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party

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provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.

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GENERAL CONDITIONS

The Work of this Contract shall be subject to the American Institute of Architects Document A201, "General Conditions of the Contract for Construction", herein referred to as the General Conditions.

SUPPLEMENTARY CONDITIONS

The supplementary Conditions contain changes and additions to the General Conditions. Where any part of the General Conditions is modified or voided by the Supplementary Conditions, the remaining unaltered provisions shall remain in effect.

ARTICLE 1 **Make the following changes**:

1.2.3 **Add the following:** When applied to materials and equipment required for the Work, the words "furnish", "install" and "provide" shall mean the following:

.1 The word "provide" shall mean to furnish, pay for, deliver, install, adjust, clean, and otherwise make materials and equipment fit and ready for their intended use.
.2 The word "furnish" shall mean to secure, pay for, deliver to site, unload, and uncrate materials and equipment.
.3 The word "install" shall mean to place in position, incorporate in the work, adjust, clean, make fit and ready for use and perform all services except those included under the term "furnish".
.4 The phrase "furnish and install" shall be equivalent to the word "provide". Each shall be interpreted to mean "the Contractor shall furnish all labor, material and equipment and install....".
.5 “As required" shall mean as required to produce a fully completed project or result to the satisfaction of the Architect.
.6 Where discrepancies or conflicts occur:

.1 Amendments and Addenda shall take precedence over the Specifications.
.2 The Specifications shall take precedence over the Drawings.
.3 Stated dimensions shall take precedence over scaled dimensions.
.4 Large-scale detail drawings shall take precedence over small-scale drawings.
.5 Schedules shall take precedence over other data on the drawings.

.7 In case of a difference between Drawings or Specifications or within either document itself in describing the Work, the better quality, greater quantity, or costlier work will be assumed to be and shall be included in the Contract price. The Contractor shall not proceed with such work until the Architect has been contacted for clarification and proper direction.
.8 Instructions or specifications of a particular manufacturer as referred to herein shall be binding as a part of this Specification. Obtain such written instructions and maintain on the job with the Specification.
.9 Schedules of materials in various sections of the Specifications are furnished to assist the Contractor. Contractor shall verify the schedules with the Drawings and shall provide any additional materials indicated on the Drawings but not included in the schedules. The greater quantity or highest quality will govern.

Add the following:

1.2.4 All work shown or referred to in the Contract Documents shall be included in the Contract excepting those items which are specifically noted as being "provided under another contract" or "provided by the Owner", or "not in contract (NIC)".

1.2.5 Parties to the Contract shall not take advantage of obvious error or apparent discrepancy in Contract Documents. Notice of discovered error or discrepancy shall immediately be given in writing to the Architect to make such corrections and interpretations as he may deem necessary for completion of the work in a satisfactory and acceptable manner.

ARTICLE 2 **Make the following changes:**

2.3.6 **Revise to read as follows:** "Contractor shall be furnished up to three (3) sets of Contract Drawings and Specifications, and two (2) copies of each drawing which is issued after the date of the Contract. The Contractor shall pay costs of reproduction for any additional copies of Drawings or Specifications he requires."

ARTICLE 3 **Make the following changes:**

Add the following:

3.4.4 Should the Contractor wish to substitute another product or method for products or methods specified or shown in the Contract Documents, whether specified or shown in Contract Documents, whether or not such phrases as "equal to" or "based on" are used, he shall apply in writing for approval. He shall enclose such data as Architect requires to evaluate products. The Architect's decision shall be final. Contractor is responsible for space requirements of substitutions, he shall execute necessary changes in adjacent and relocated situations, he shall execute necessary changes in adjacent and relocated work which are due to such substitutions, without additional cost and he shall be responsible for delays required for evaluation of proposed substitutions.

3.5.3 Project Warranty: Unless otherwise specified, Contractor shall warrant (guaranty) all work against defects resulting from the use of material, workmanship or equipment which is inferior, defective, or not in accordance with the terms of the Contract. This warranty, unless stated otherwise in a given section of the Specifications, shall be for a period of one (1) year from the date of issuance of the Certificate of Substantial Completion for the Project.

3.5.4 Specified Product Warranty: Issued by a manufacturer or fabricator for compliance with requirements of the Contract Documents. Refer to sections of Specifications for requirements of specified warranties.

3.5.5 Coincidental Product Warranty: Available on a product incorporated into the work, by virtue of manufacturer's publication of warranty without regard for application requirement, a non-specified warranty. Contractor shall identify such warranties as they apply.

3.5.6 Warranty Obligations

.1 Contractor shall restore or remove-and-replace warranted work to its originally specified condition, at such time during warranty as it does not comply with or fulfill terms of warranty.
.2 Contractor shall restore or remove-and-replace other work which has been damaged by failure of warranted work, or which must be removed and replaced to gain access to warranted work.
.3 Cost of restoration or removal-and-replacement is Contractor's obligation, without regard to whether Owner has already benefited from use of failing work.
.4 Except as otherwise indicated or required by governing regulations, warranties do not cover consequential damage to property other than the Work of the Contract.
.5 Upon restoration or removal-and-replacement of warranted work which has failed, Contractor shall reinstate the warranty by issuing newly executed form, for at least the

remaining period of time of the original warranty, but for not less than half of the original warranty period.

.6 Warranties and warranty periods shall not diminish implied warranties, and shall not deprive Owner of actions, rights, and remedies otherwise available if the Contractor fails to fulfill the requirements of the Contract Documents.

.7 Owner reserves the right to reject coincidental product warranties which conflict with or are less than the requirements of the Contract Documents.

3.5.7 Contractor shall furnish fully executed warranties to Owner in accordance with the General Conditions and Section 017700.

3.6 **Add the following:** No amount shall be included in the bid for State Sales Tax or for Federal Excise Tax on materials or supplies purchased for this project. The Owner will supply tax exempt number.

3.7.1 **Add the following:** The Contractor shall pay costs charged by utility companies for service connections, inspections and tests, and related utility company fees normally assessed as part of the construction process.

ARTICLE 4 **Make the following changes:**

4.2.13 Add to the first sentence, after "...relating to aesthetic effect..."

"and except for claims which have been waived by making or acceptance of final payment as provided by Subparagraphs 9.10.3 and 9.10.4,"

Add the following:

4.3 The provisions of Article 15 notwithstanding, the Contractor expressly agrees to joinder in arbitration proceedings between Owner/Architect upon specific written request of the Owner. This agreement shall be valid with the Architect's acceptance of an equal provision in their respective contracts.

ARTICLE 6 **Add the following:**

6.3.1 In a dispute between the Owner and the Contractor concerning rubbish and orderliness on the site, the Owner may have the rubbish removed and charge the cost to the Contractor. Upon written notification from the Architect that the project requires cleaning, the Contractor shall within 24 hours remove all rubbish and hazards from the project and shall arrange his material and equipment in an orderly manner on the site. If this cleaning is not completed within 24 hours, the Owner may engage labor to clean up the projects to his satisfaction and deduct the costs from any monies due the Contractor.

ARTICLE 7 **Add the following:**

7.2.2 The Contractor's proposal for changes in the Work shall be itemized completely and in detail and shall include material costs and quantities, labor wages, time, insurance, pensions, and equipment rental other than small tools, and the number of additional calendar days, if any, which are required to complete the Work.

Where unit prices have been established, the proposal shall state the quantity involved and the applicable unit price.

7.5 Allowance for Overhead and Profit

7.5.1 The allowance for overhead and profit is compensation for administration, superintendence, materials for temporary structures, additional premiums on bonds and the use of small tools.

7.5.2 For additions, deletions or other changes in the Work ordered under method 7.3.3.3, the Contractor may apply an allowance of up to fifteen percent (15%) for profit and overhead to the net cost of the work actually performed by him.

7.5.3 Work to be performed by a subcontractor may include an allowance for the subcontractor's overhead and profit not to exceed ten percent (10%) of the net cost. The Contractor is permitted up to a **five percent (5%)** allowance to be applied against the net cost to a subcontractor. In no case shall the total allowance exceed fifteen percent (15%) of the net cost of work performed by the subcontractor.

7.5.4 The Contractor's allowance of up to five percent (5%) on changes involving more than one (1) subcontractor shall be applied only to the combined net of cost additions and deductions of all subcontractors.

7.5.5 There shall be no allowance for overhead and profit for the Contractor or any subcontractor on changes resulting in a net deduction.

7.5.6 The provisions of this Article shall apply only to subcontractors as defined in Article 5. Allowance for overhead and profit will be accepted only for those who are direct subcontractors.

ARTICLE 8 **Add the following:**

8.3.4 No extension of time will be allowed for adverse weather conditions unless the number of days of inclement weather is substantially greater or conditions substantially more severe than the average for the calendar period as recorded by a recognized weather observation agency.

ARTICLE 9 **Make the following changes:**

9.3.1 **Revise** “ten days” to read “fifteen (15) days”.

Add the following:

9.3.1.3 During progress of the Work, the Owner will pay Contractor ninety-two and one-half percent (92.5%) of the total amount of each monthly payment due. The remaining seven and one-half percent (7.5%) will be retained by the Owner until the Project is substantially completed. There will be no further reduction considered until final acceptance of the Project in accordance with the Contract Documents.

9.3.2 **Add the following:** If the Contractor does not submit evidence of payment to vendor for material and equipment stored, the Architect will recommend deduction of the amount previously allowed for the items stored from the current or subsequent Application for Payment.

Add the following:

9.3.2.1 Contractor may include in Application for Payment the delivered cost of equipment and non-perishable materials delivered and stored at the site but not incorporated in the work, under the following conditions:

.1 Items to be protected from fire, theft, vandalism, weather, and other damage.
.2 Storage procedures and areas to be approved.
.3 Items to be available at all times for inspection by the Owner and Architect.

9.3.4 Contractor shall furnish with Application for Payment an invoice establishing value of material and equipment stored at the site along with a statement of amount to be paid the vendor.

.1 Such stored items are subject to inspection by Architect before payment is recommended.
.2 Contractor shall furnish Owner with Certificate of Insurance in accordance with Contract Documents for the full value of the items stored at the site.

9.6.2.1 Contractor shall furnish Architect with satisfactory evidence of payment to vendors supplying material and equipment for approved storage. This shall be done within thirty (30) days after the date of progress payment. Satisfactory evidence of payment shall be one (1) of the following:

.1 Contractor's canceled check in correct amount with identification of invoices paid.
.2 A letter or telegram from vendor with authorized signature stating amounts and invoices paid.
.3 A receipted invoice.

9.6.7.1 Payment for material and equipment delivered and stored shall not relieve Contractor of responsibility for furnishing equipment and material required for the work in the same manner as if such payment were not made.

9.10.6 A prerequisite to final payment shall be that the Contractor furnish proof that he has completed all specification requirements covering the following item as applicable:

Warranties.

ARTICLE 10 **Add the following:**

10.3.4.1 The Contractor shall not bring hazardous materials onto the site nor use in the Work without compliance with the following conditions.
.2 The Contractor shall be solely responsible for the handling, storage, and use of explosive or other hazardous materials when their use is permitted. For such use, the Contractor shall obtain necessary permits from regulating agencies and submit copies of permits to the Architect for review before proceeding with use.
.3 Contractor shall obtain insurance for use of hazardous material and furnish certificates of insurance in keeping with Conditions of the Contract.

ARTICLE 11 Refer to Instructions to Bidders for insurance requirements.

ARTICLE 15 **Make the following changes:**

15.3.2 **Revise to read as follows:** In addition to and prior to arbitration, the parties shall endeavor to settle disputes by mediation in accordance with the Construction Industry Mediation Rules of the American Arbitration Association currently in effect unless the parties mutually agree otherwise. Demand for mediation shall be filed in writing with the other party to this Agreement and with the American Arbitration Association. A demand for mediation shall be made within a reasonable time after the claim, dispute or other matter in w\question has arisen. In no event shall the demand for mediation be made after the date when institution of legal or equitable proceedings based on such claim, dispute or other matter in question would be barred by the applicable statute of limitations. The provisions of Article 15 notwithstanding, the Contractor expressly agrees to joinder in mediation proceedings between Owner/Architect upon specific written request of the Owner. This agreement shall be valid with the Architect's acceptance of an equal provision in their respective contracts.

END OF SECTION

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AIA® Document G702® – 1992

Application and Certificate for Payment

TO OWNER:		**PROJECT:**		**APPLICATION NO:** 001	**Distribution to:**
					OWNER:
				PERIOD TO:	ARCHITECT:
				CONTRACT FOR: General Construction	CONTRACTOR:
FROM		**VIA**		**CONTRACT DATE:**	FIELD:
CONTRACTOR:		**ARCHITECT:**		**PROJECT NOS:** / /	OTHER:

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract.
AIA Document G703®, Continuation Sheet, is attached.

1. ORIGINAL CONTRACT SUM		$0.00
2. NET CHANGE BY CHANGE ORDERS		$0.00
3. CONTRACT SUM TO DATE (Line 1 ± 2)		$0.00
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703)		$0.00
5. RETAINAGE:		
a. 0 % of Completed Work (Column D + E on G703: $0.00)	$0.00	
b. 0 % of Stored Material (Column F on G703: $0.00)	$0.00	
Total Retainage (Lines 5a + 5b or Total in Column I of G703)		$0.00
6. TOTAL EARNED LESS RETAINAGE (Line 4 Less Line 5 Total)		$0.00
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate)		$0.00
8. CURRENT PAYMENT DUE		$0.00
9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6)	$0.00	

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	$0.00	$0.00
Total approved this Month	$0.00	$0.00
TOTALS	$0.00	$0.00
NET CHANGES by Change Order		$0.00

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By: _____ Date: _____

State of:
County of:
Subscribed and sworn to before me this day of
Notary Public:
My Commission expires:

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED _____ $0.00

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

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AIA® Document G703® – 1992

Continuation Sheet

AIA Document G702®, Application and Certification for Payment, or G732™, Application and Certificate for Payment, Construction Manager as Adviser Edition, containing Contractor's signed certification is attached.
Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO:

A	B	C	D	E	F	G		H	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK COMPLETED FROM PREVIOUS APPLICATION (D + E)	WORK COMPLETED THIS PERIOD	MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D + E + F)	% (G ÷ C)	BALANCE TO FINISH (C - G)	RETAINAGE (IF VARIABLE RATE)
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
	GRAND TOTAL	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**0.00%**	**$0.00**	**$0.00**

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User Notes:

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CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION

CONTRACTORS WAGE CERTIFICATION FORM

Construction Manager at Risk/General Contractor/Prime Contractor

I,_____ of _____
Officer, Owner, Authorized Rep. Company Name

do hereby certify that the _____
Company Name

_____
Street

_____
City

and all of its subcontractors will pay all workers on the

_____
Project Name and Number

_____
Street and City

the wages as listed in the schedule of prevailing rates required for such project (a copy of which is attached hereto).

_____
Signed

Subscribed and sworn to before me this _____ day of _____,_____.

_____
Notary Public

Return to:

Connecticut Department of Labor
Wage & Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

Rate Schedule Issued (Date): _____

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

Connecticut Department of Labor
Wage and Workplace Standards Division
FOOTNOTES

⇨ Please Note: If the "Benefits" listed on the schedule for the following occupations includes a letter(s) (+ a or + a+b for instance), refer to the information below.

Benefits to be paid at the appropriate prevailing wage rate for the listed occupation.

If the "Benefits" section for the occupation lists only a dollar amount, disregard the information below.

Bricklayers, Cement Masons, Cement Finishers, Concrete Finishers, Stone Masons
(Building Construction) and
(Residential- Hartford, Middlesex, New Haven, New London and Tolland Counties)

a. Paid Holiday: Employees shall receive 4 hours for Christmas Eve holiday provided the employee works the regularly scheduled day before and after the holiday. Employers may schedule work on Christmas Eve and employees shall receive pay for actual hours worked in addition to holiday pay.

Elevator Constructors: Mechanics

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.

b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

Glaziers

a. Paid Holidays: Labor Day and Christmas Day.

Power Equipment Operators
(Heavy and Highway Construction & Building Construction)

a. Paid Holidays: New Year's Day, Good Friday, Memorial day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday. Holidays falling on Saturday may be observed on Saturday, or if the employer so elects, on the preceding Friday.

Ironworkers

a. Paid Holiday: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

Laborers (Tunnel Construction)

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

Roofers

a. Paid Holidays: July 4th, Labor Day, and Christmas Day provided the employee is employed 15 days prior to the holiday.

Sprinkler Fitters

a. Paid Holidays: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

Truck Drivers

(Heavy and Highway Construction & Building Construction)

a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas day, and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

STATUTE 31-55a

- SPECIAL NOTICE –

To All State and Political Subdivisions,Their Agents, and Contractors
Connecticut General Statute 31-55a - Annual adjustments to wage rates by contractors doing state work.

Each contractor that is awarded a contract on or after October 1, 2002, for (1) the construction of a state highway or bridge that falls under the provisions of section 31-54 of the general statutes, or (2) the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project that falls under the provisions of section 31-53 of the general statutes shall contact the Labor Commissioner on or before July first of each year, for the duration of such contract, to ascertain the prevailing rate of wages on an hourly basis and the amount of payment or contributions paid or payable on behalf of each mechanic, laborer or worker employed upon the work contracted to be done, and shall make any necessary adjustments to such prevailing rate of wages and such payment or contributions paid or payable on behalf of each such employee, effective each July first.

- The prevailing wage rates applicable to any contract or subcontract awarded on or after October 1, 2002 are subject to annual adjustments each July 1st for the duration of any project which was originally advertised for bids on or after October 1, 2002.
- Each contractor affected by the above requirement shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.
- It is the ***contractor's*** responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's Web Site. The annual adjustments will be posted on the Department of Labor Web page: www.ctdol.state.ct.us. For those without internet access, please contact the division listed below.
- The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project. All subsequent annual adjustments will be posted on our Web Site for contractor access.

Any questions should be directed to the Contract Compliance Unit, Wage and Workplace Standards Division, Connecticut Department of Labor, 200 Folly Brook Blvd., Wethersfield, CT 06109 at (860)263-6790.

Information Bulletin
Occupational Classifications

The Connecticut Department of Labor has the responsibility to properly determine *"job classification"* on prevailing wage projects covered under C.G.S. Section 31-53(d).

Note: This information is intended to provide a sample of some occupational classifications for guidance purposes only. It is not an all-inclusive list of each occupation's duties. This list is being provided only to highlight some areas where a contractor may be unclear regarding the proper classification. If unsure, the employer should seek guidelines for CTDOL.

Below are additional clarifications of specific job duties performed for certain classifications:

- ***ASBESTOS WORKERS***

Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.

- ***ASBESTOS INSULATOR***

Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.

- ***BOILERMAKERS***

Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.

- ***BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS. STONE MASONS, TERRAZZO WORKERS, TILE SETTERS***

Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.

- ***CARPENTERS, MILLWRIGHTS. PILEDRIVERMEN. LATHERS. RESILEINT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS***

Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation of insulated material of all types whether blown, nailed or attached in other ways to walls, ceilings and floors of buildings. Assembly and installation of modular furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.

- **LABORER, CLEANING**

• The clean up of any construction debris and the general (heavy/light) cleaning, including sweeping, wash down, mopping, wiping of the construction facility and its furniture, washing, polishing, and dusting.

- **DELIVERY PERSONNEL**

• If delivery of supplies/building materials is to one common point and stockpiled there, prevailing wages are not required. If the delivery personnel are involved in the distribution of the material to multiple locations within the construction site then they would have to be paid prevailing wages for the type of work performed: laborer, equipment operator, electrician, ironworker, plumber, etc.

• An example of this would be where delivery of drywall is made to a building and the delivery personnel distribute the drywall from one "stockpile" location to further sub-locations on each floor. Distribution of material around a construction site is the job of a laborer or tradesman, and not a delivery personnel.

- ***ELECTRICIANS***

Install, erect, maintenance, alteration or repair of any wire, cable, conduit, etc., which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes, including the Installation or maintenance of telecommunication, LAN wiring or computer equipment, and low voltage wiring. ****License required per Connecticut General Statutes: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9.***

- ***ELEVATOR CONSTRUCTORS***

Install, erect, maintenance and repair of all types of elevators, escalators, dumb waiters and moving walks. ****License required by Connecticut General Statutes: R-1,2,5,6.***

- ***FORK LIFT OPERATOR***

Laborers Group 4) Mason Tenders - operates forklift solely to assist a mason to a maximum height of nine (9) feet only.

Power Equipment Operator Group 9 - operates forklift to assist any trade, and to assist a mason to a height over nine (9) feet.

- ***GLAZIERS***

Glazing wood and metal sash, doors, partitions, and 2 story aluminum storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers, which require equal composite workforce.

- ***IRONWORKERS***

Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which require equal composite workforce.

- ***INSULATOR***

• Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings.

- ***LABORERS***

Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), decorative security fence (non-metal).

installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.

- ***PAINTERS***

Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic art work and drywall hhg for any and all types of building and residential work.

- ***LEAD PAINT REMOVAL***

• Painter's Rate

1. Removal of lead paint from bridges.
2. Removal of lead paint as preparation of any surface to be repainted.
3. Where removal is on a Demolition project prior to reconstruction.

• Laborer's Rate

1. Removal of lead paint from any surface NOT to be repainted.
2. Where removal is on a *TOTAL* Demolition project only.

- ***PLUMBERS AND PIPEFITTERS***

Installation, repair, replacement, alteration or maintenance of all plumbing, heating, cooling and piping. ****License required per Connecticut General Statutes: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2 S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4.***

- ***POWER EQUIPMENT OPERATORS***

Operates several types of power construction equipment such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers or motor graders, etc. Repairs and maintains equipment. ****License required, crane operators only, per Connecticut General Statutes.***

- ***ROOFERS***

Covers roofs with composition shingles or sheets, wood shingles, slate or asphalt and gravel to waterproof roofs, including preparation of surface. (demolition or removal of any type of roofing and or clean-up of any and all areas where a roof is to be relaid.)

- ***SHEETMETAL WORKERS***

Fabricate, assembles, installs and repairs sheetmetal products and equipment in such areas as ventilation, air-conditioning, warm air heating, restaurant equipment, architectural sheet metal work, sheetmetal roofing, and aluminum gutters. Fabrication, handling, assembling, erecting, altering, repairing, etc. of coated metal material panels and composite metal material panels when used on building exteriors and interiors as soffits, facia, louvers, partitions, canopies, cornice, column covers, awnings, beam covers, cladding, sun shades, lighting troughs, spires, ornamental roofing, metal ceilings, mansards, copings, ornamental and ventilation hoods, vertical and horizontal siding panels, trim, etc. The sheet metal classification also applies to the vast variety of coated metal material panels and composite metal material panels that have evolved over the years as an alternative to conventional ferrous and non-ferrous metals like steel, iron, tin, copper, brass, bronze, aluminum, etc. Fabrication, handling, assembling, erecting, altering, repairing, etc. of architectural metal roof, standing seam roof, composite metal roof, metal and composite bathroom/toilet partitions, aluminum gutters, metal and composite lockers and shelving, kitchen equipment, and walk-in coolers. To include testing and air –balancing ancillary to installation and construction.

- ***SPRINKLER FITTERS***

Installation, alteration, maintenance and repair of fire protection sprinkler systems. ****License required per Connecticut General Statutes: F-1,2,3,4.***

- ***TILE MARBLE AND TERRAZZO FINISHERS***

Assists and tends the tile setter, marble mason and terrazzo worker in the performance of their duties.

- **TRUCK DRIVERS**

~How to pay truck drivers delivering asphalt is under REVISION~

Truck Drivers are requires to be paid prevailing wage for time spent "working" directly on the site. These drivers remain covered by the prevailing wage for any time spent transporting between the actual construction location and facilities (such as fabrication, plants, mobile factories, batch plant, borrow pits, job headquarters, tool yards, etc.) dedicated exclusively, or nearly so, to performance of the contract or project, which are so located in proximity to the actual construction location that it is reasonable to include them. ****License required, drivers only, per Connecticut General Statutes.***

For example:

• Material men and deliverymen are not covered under prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.
• Hauling material off site is not covered provided they are not dumping it at a location outlined above.
• Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

➢ *Any questions regarding the proper classification should be directed to:*
Public Contract Compliance Unit
Wage and Workplace Standards Division
Connecticut Department of Labor
200 Folly Brook Blvd, Wethersfield, CT 06109
(860) 263-6543.

Sec. 31-53b. Worker training requirements for public works projects. Enforcement. Regulations. Exceptions. (a) Each contract for a public works project entered into on or after July 1, 2009, by the state or any of its agents, or by any political subdivision of the state or any of its agents, described in subsection (h) of section 31-53, shall contain a provision requiring that each contractor furnish proof with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 46 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268, and on or after July 1, 2012, that any plumber or electrician subject to the continuing education requirements of section 20-334d, who has completed a course of at least ten hours in duration in construction safety and health approved by federal Occupational Safety and Health Administration five or more years prior to the date such electrician or plumber begins work on such public works project, has completed a supplemental refresher training course of at least four hours in duration in construction safety and health taught by a federal Occupational Safety and Health Administration authorized trainer.

(b) Any person required to complete a course or program under subsection (a) of this section who has not completed the course or program shall be subject to removal from the worksite if the person does not provide documentation of having completed such course or program by the fifteenth day after the date the person is found to be in noncompliance. The Labor Commissioner or said commissioner's designee shall enforce this section.

(c) Not later than January 1, 2012, the Labor Commissioner shall adopt regulations, in accordance with the provisions of chapter 54, to implement the provisions of subsections (a) and (b) of this section. Such regulations shall require that the ten-hour construction safety and health courses required under subsection (a) of this section be conducted in accordance with federal Occupational Safety and Health Administration Training Institute standards, or in the case of a supplemental refresher training course, shall include, but not be limited to, an update of revised Occupational Safety and Health Administration standards and a review of required construction hazards training, or in accordance with Federal Mine Safety and Health Administration Standards or in accordance with 29 CFR 1910.268, as appropriate. The Labor Commissioner shall accept as sufficient proof of compliance with the provisions of subsection (a) or (b) of this section a student course completion card issued by the federal Occupational Safety and Health Administration Training Institute, or such other proof of compliance said commissioner deems appropriate, dated no earlier than five years before the commencement date of such public works project or, in the case of supplemental refresher training, a student course completion card issued by said Occupational Safety and Health Administration authorized

trainer dated not earlier than five years prior to the date such electrician or plumber begins work on such public works project.

(d) This section shall not apply to employees of public service companies, as defined in section 16-1, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

(P.A. 06-175, S. 1; P.A. 08-83, S. 1; P.A. 10-47, S. 2; P.A. 11-63, S. 1)

History: P.A. 08-83 amended Subsec. (a) by making provisions applicable to public works project contracts entered into on or after July 1, 2009, replacing provision re total cost of work with reference to Sec. 31-53(g), requiring proof in certified payroll form that new mechanic, laborer or worker has completed a 10-hour or more construction safety course and adding provision re new miner training program, amended Subsec. (b) by substituting "person" for "employee" and adding "or program", amended Subsec. (c) by adding "or in accordance with Federal Mine Safety and Health Administration Standards" and setting new deadline of January 1, 2009, deleted former Subsec. (d) re "public building", added new Subsec. (d) re exemptions for public service company employees and delivery drivers who perform no labor other than delivery and made conforming and technical changes, effective January 1, 2009; P.A. 10-47 made a technical change in Subsec. (a); P.A. 11-63 amended Subsec. (a) by adding provision re supplemental refresher training course for plumbers and electricians subject to Sec. 20-334d, amended Subsec. (c) by adding provisions re regulations and subject matter of refresher training course and refresher train course student completion cards, and made technical changes, effective July 1, 2011.





THIS IS A PUBLIC WORKS PROJECT

Covered by the

PREVAILING WAGE LAW

CT General Statutes Section 31-53

If you have QUESTIONS regarding your wages
CALL (860) 263-6790

Section 31-55 of the CT State Statutes requires every contractor or subcontractor performing work for the state to post in a prominent place the prevailing wages as determined by the Labor Commissioner.

Informational Bulletin

THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE

(applicable to public building contracts entered into *on or after July 1, 2007,* where the total cost of all work to be performed is at least $100,000)

(1) This requirement was created by Public Act No. 06-175, which is codified in Section 31-53b of the Connecticut General Statutes (pertaining to the prevailing wage statutes);

(2) The course is required for public building construction contracts (projects funded in whole or in part by the state or any political subdivision of the state) entered into on or after July 1, 2007;

(3) It is required of private employees (not state or municipal employees) and apprentices who perform manual labor for a general contractor or subcontractor on a public building project where the total cost of all work to be performed is at least $100,000;

(4) The ten-hour construction course pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, and, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;

(5) The internet website for the federal OSHA Training Institute is http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html;

(6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;

(7) Within 30 days of receiving a contract award, a general contractor must furnish proof to the Labor Commissioner that all employees and apprentices performing manual labor on the project will have completed such a course;

(8) Proof of completion may be demonstrated through either: (a) the presentation of a *bona fide* student course completion card issued by the federal OSHA Training Institute; *or* (2) the presentation of documentation provided to an employee by a trainer certified by the Institute pending the actual issuance of the completion card;

(9) Any card with an issuance date more than 5 years prior to the commencement date of the construction project shall not constitute proof of compliance;

(10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;

(11) Any employee found to be in non-compliance shall be subject to removal from the worksite if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in noncompliance;

(12) Any such employee who is determined to be in noncompliance may continue to work on a public building construction project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;

(13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;

(14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and

(15) Regulations clarifying the statute are currently in the regulatory process, and shall be posted on the CTDOL website as soon as they are adopted in final form.

(16) Any questions regarding this statute may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm; or by telephone at (860)263-6790.

THE ABOVE INFORMATION IS PROVIDED EXCLUSIVELY AS AN EDUCATIONAL RESOURCE, AND IS NOT INTENDED AS A SUBSTITUTE FOR LEGAL INTERPRETATIONS WHICH MAY ULTMATELY ARISE CONCERNIG THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.

November 29, 2006

Notice

To All Mason Contractors and Interested Parties Regarding Construction Pursuant to Section 31-53 of the Connecticut General Statutes (Prevailing Wage)

The Connecticut Labor Department Wage and Workplace Standards Division is empowered to enforce the prevailing wage rates on projects covered by the above referenced statute.

Over the past few years the Division has withheld enforcement of the rate in effect for workers who operate a forklift on a prevailing wage rate project due to a potential jurisdictional dispute.

The rate listed in the schedules and in our Occupational Bulletin (see enclosed) has been as follows:

Forklift Operator:

- **Laborers (Group 4) Mason Tenders** - operates forklift solely to assist a mason to a maximum height of nine feet only.

- **Power Equipment Operator (Group 9)** - operates forklift to assist any trade and to assist a mason to a height over nine feet.

The U.S. Labor Department conducted a survey of rates in Connecticut but it has not been published and the rate in effect remains as outlined in the above Occupational Bulletin.

Since this is a classification matter and not one of jurisdiction, effective January 1, 2007 the Connecticut Labor Department will enforce the rate on each schedule in accordance with our statutory authority.

Your cooperation in filing appropriate and accurate certified payrolls is appreciated.

NOTICE

TO ALL CONTRACTING AGENCIES

Please be advised that Connecticut General Statutes Section 31-53, requires the contracting agency to certify to the Department of Labor, the total dollar amount of work to be done in connection with such public works project, regardless of whether such project consists of one or more contracts.

Please find the attached "Contracting Agency Certification Form" to be completed and returned to the Department of Labor, Wage and Workplace Standards Division, Public Contract Compliance Unit.

Inquiries can be directed to 860.263.6790.







CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION

Contracting Agency Certification Form

I,_____, acting in my official capacity as _____,
Authorized Representative Title

for _____, located at _____,
Contracting Agency Address

do hereby certify that the total dollar amount of work to be done in connection with

_____, located at _____,
Project name and number Address

shall be $_____, which includes all work, regardless of whether such project contains of one or more contracts.

Contractor Information

Name: _____

Address: _____

Authorized Representative: _____

Approximate Starting Date: _____

Approximate Completion Date: _____

_____ _____
Signature Date

Return to:

Connecticut Department of Labor
Wage & Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

Rate Schedule Issued (Date): _____

[New] In accordance with Section 31-53b(a) of the C.G.S. each contractor shall provide a copy of the OSHA 10 Hour Construction Safety and Health Card for each employee, to be attached to the first certified payroll on the project.

In accordance with Connecticut General Statutes, 31-53 Certified Payrolls with a statement of compliance shall be submitted monthly to the contracting agency.

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

WEEKLY PAYROLL

Connecticut Department of Labor
Wage and Workplace Standards Division
200 Folly Brook Blvd.
Wethersfield, CT 06109

CONTRACTOR NAME AND ADDRESS:

SUBCONTRACTOR NAME & ADDRESS

WORKER'S COMPENSATION INSURANCE CARRIER

POLICY #

EFFECTIVE DATE:
EXPIRATION DATE:

PAYROLL NUMBER | Week-Ending Date | PROJECT NAME & ADDRESS

PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION Trade License Type & Number - OSHA 10 Certification Number	DAY AND DATE S	M	T	W	TH	F	S HOURS WORKED EACH DAY	Total ST Hours Total O/T Hours	BASE HOURLY RATE TOTAL FRINGE BENEFIT PLAN CASH	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS FICA	FEDERAL WITH-HOLDING	STATE WITH-HOLDING	LIST OTHER	GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY
												$ Base Rate	1. $ 2. $ 3. $							
												$ Cash Fringe	4. $ 5. $ 6. $							
												$ Base Rate	1. $ 2. $ 3. $							
												$ Cash Fringe	4. $ 5. $ 6. $							
												$ Base Rate	1. $ 2. $ 3. $							
												$ Cash Fringe	4. $ 5. $ 6. $							
												$ Base Rate	1. $ 2. $ 3. $							
												$ Cash Fringe	4. $ 5. $ 6. $							

12/9/2013
WWS-CP1

*IF REQUIRED

*SEE REVERSE SIDE

PAGE NUMBER _____OF

OSHA 10 ~ATTACH CARD TO 1ST CERTIFIED PAYROLL

***FRINGE BENEFITS EXPLANATION (P):**

Bona fide benefits paid to approved plans, funds or programs, except those required by Federal or State Law (unemployment tax, worker's compensation, income taxes, etc.).

Please specify the type of benefits provided:

1) Medical or hospital care _____ 4) Disability_____

2) Pension or retirement _____ 5) Vacation, holiday_____

3) Life Insurance _____ 6) Other (please specify) _____

CERTIFIED STATEMENT OF COMPLIANCE

For the week ending date of _____,

I, _____of _____, (hereafter known as

Employer) in my capacity as _____ (title) do hereby certify and state:

Section A:

1. All persons employed on said project have been paid the full weekly wages earned by them during the week in accordance with Connecticut General Statutes, section 31-53, as amended. Further, I hereby certify and state the following:

a) The records submitted are true and accurate;

b) The rate of wages paid to each mechanic, laborer or workman and the amount of payment or contributions paid or payable on behalf of each such employee to any employee welfare fund, as defined in Connecticut General Statutes, section 31-53 (h), are not less than the prevailing rate of wages and the amount of payment or contributions paid or payable on behalf of each such employee to any employee welfare fund, as determined by the Labor Commissioner pursuant to subsection Connecticut General Statutes, section 31-53 (d), and said wages and benefits are not less than those which may also be required by contract;

c) The Employer has complied with all of the provisions in Connecticut General Statutes, section 31-53 (and Section 31-54 if applicable for state highway construction);

d) Each such employee of the Employer is covered by a worker's compensation insurance policy for the duration of his employment which proof of coverage has been provided to the contracting agency;

e) The Employer does not receive kickbacks, which means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided directly or indirectly, to any prime contractor, prime contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a prime contractor in connection with a subcontractor relating to a prime contractor; and

f) The Employer is aware that filing a certified payroll which he knows to be false is a class D felony for which the employer may be fined up to five thousand dollars, imprisoned for up to five years or both.

2. OSHA~The employer shall affix a copy of the construction safety course, program or training completion document to the certified payroll required to be submitted to the contracting agency for this project on which such employee's name first appears.

_____	_____	_____
(Signature)	(Title)	Submitted on (Date)

Section B: Applies to CONNDOT Projects ONLY

That pursuant to CONNDOT contract requirements for reporting purposes only, all employees listed under Section B who performed work on this project are not covered under the prevailing wage requirements defined in Connecticut General Statutes Section 31-53.

_____	_____	_____
(Signature)	(Title)	Submitted on (Date)

Note: CTDOL will assume all hours worked were performed under Section A unless clearly delineated as Section B WWS-CP1 as such. Should an employee perform work under both Section A and Section B, the hours worked and wages paid must be segregated for reporting purposes.

*****THIS IS A PUBLIC DOCUMENT*****

*****DO NOT INCLUDE SOCIAL SECURITY NUMBERS*****

Weekly Payroll Certification For Public Works Projects (Continued)

PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

Week-Ending Date:

Contractor or Subcontractor Business Name:

WEEKLY PAYROLL

PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION Trade License Type & Number - OSHA 10 Certification Number	DAY AND DATE S	M	T	W	TH	F	S HOURS WORKED EACH DAY	Total ST Hours Total O/T Hours	BASE HOURLY RATE TOTAL FRINGE BENEFIT PLAN CASH	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS FICA	FEDERAL WITH-HOLDING	STATE WITH-HOLDING	LIST OTHER	GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY
												$ Base Rate	1. $ 2. $ 3. $							
												$ Cash Fringe	4. $ 5. $ 6. $							
												$ Base Rate	1. $ 2. $ 3. $							
												$ Cash Fringe	4. $ 5. $ 6. $							
												$ Base Rate	1. $ 2. $ 3. $							
												$ Cash Fringe	4. $ 5. $ 6. $							
												$ Base Rate	1. $ 2. $ 3. $							
												$ Cash Fringe	4. $ 5. $ 6. $							
												$ Base Rate	1. $ 2. $ 3. $							
												$ Cash Fringe	4. $ 5. $ 6. $							

*IF REQUIRED

NOTICE: THIS PAGE MUST BE ACCOMPANIED BY A COVER PAGE (FORM # WWS-CP1)

WOODBRIDGE SCHOOL DISTRICT
2023/24 STUDENT CALENDAR

JULY				
Mon	Tue	Wed	Thu	Fri
3	X4	5	6	7
10	11	12	13	14
17	18	19	20	21
24	25	26	27	28
31				

AUGUST (4)				
Mon	Tue	Wed	Thu	Fri
	1	2	3	4
7	8	9	10	11
14	15	16	17	18
21	22*	23*	24*	25
(28)	(29)	30	31	

SEPTEMBER (19)				
Mon	Tue	Wed	Thu	Fri
				1
X4	5	6	7	8
11	12	13	14	15
18	19	20	21	22
X25	26	27	28	29

OCTOBER (21)				
Mon	Tue	Wed	Thu	Fri
2	3	4	5	6
X9	10	11	12	13
16	(17)	18	(19)	20
23	24	25	26	27
30	31			

NOVEMBER (18)				
Mon	Tue	Wed	Thu	Fri
		1	2	3
6	7*	8	9	10
13	14	15	16	17
20	21	22*	X23	X24
27	28	29	30	

DECEMBER (16)				
Mon	Tue	Wed	Thu	Fri
				1
4	5	6	7	8
11	12	13	14	15
18	19	20	21	22
X25	X26	27	28	29

JANUARY (20)				
Mon	Tue	Wed	Thu	Fri
X1	2	3	4	5
8	9	10	11	12
X15	16	17	18	19
22	23	24	25	26
29	30	31		

FEBRUARY (18)				
Mon	Tue	Wed	Thu	Fri
			1	2
5	6	7	8	9
12	13	14	15	16
X19	20	21	22	23
26	27	28	29	

MARCH (19)				
Mon	Tue	Wed	Thu	Fri
				1
4	5	6	7	8
11	12	13	14	15
18	19	20	21	22*
25	26	27	28	X29

APRIL (17)				
Mon	Tue	Wed	Thu	Fri
1	2	3	4	5
(8)	9	(10)	11	12
15	16	17	18	19
22	23	24	25	26
29	30			

MAY (22)				
Mon	Tue	Wed	Thu	Fri
		1	2	3
6	7	8	9	10
13	14	15	16	17
20	21	22	23	24
X27	28	29	30	31

JUNE (7)				
Mon	Tue	Wed	Thu	Fri
3	4	5	6	7
10	(11)	12	13	14
17	18	19	20	21
24	25	26	27	28

NO SCHOOL / BUILDING CLOSED		X
Jul. 4	*Independence Day*	X
Sep. 4	*Labor Day*	X
Sep. 25	*Yom Kippur*	X
Oct. 9	*Columbus/Indigenous Peoples' Day*	X
Nov. 7	*Teacher Workshop*	
Nov. 22	*Teacher Workshop*	
Nov. 23-24	*Thanksgiving Holiday*	X
Dec. 25-26	*Christmas Holiday*	X
Dec. 25-Jan. 1	*Holiday Recess*	
Jan. 1	*New Year's Holiday*	X
Jan. 15	*Martin Luther King Holiday*	X
Feb. 19-20	*Winter Break*	
Feb. 19	*Presidents' Day*	X
Mar. 22	*Teacher Workshop*	
Mar. 29	*Good Friday*	X
Apr. 15-19	*Spring Vacation*	
May 27	*Memorial Day*	X

ABBREVIATED DAYS ( )	
Aug. 28	First Day Students
Aug. 29	Second Day for Students
Oct. 17	Parent/Tchr Conference
Oct. 19	Parent/Tchr Conference
Apr. 8	Parent/Tchr Conference
Apr. 10	Parent/Tchr Conference
Jun. 11	Last Day for Students
	Dismissal Time 1:10 PM

181 Student Days
184 Staff Days
187 Teacher Days

OPEN HOUSES	
Aug. 30	Grades K, 5 & 6
Sep. 5	Grades 3, 4 / MAG
Sep. 6	Grades 1, 2 / PK

Note: No Extended Day Coverage on Parent Conference Days

WORKSHOP DAYS * / NO SCHOOL
Aug. 22-24, Nov. 7
Nov. 22 (Minimum Day)
Mar. 22

WBOE MEETINGS	
July 17	Jan. 16
Aug. 21	Feb. 26
Sep. 18	Mar. 18
Oct. 16	Apr. 23
Nov. 20	May 21
Dec. 18	June 17

SNOW DAYS MAKE-UP
June 10-28
Additional Days Starting April 15

Kdg. Bus Ride/Safety Demo Aug. 21

New Teacher Orientation Aug. 21 & 25

Report Card Distribution Dec. 8, Mar. 15 and June 11

Approved by Woodbridge Board of Education 12/19/2022

WOODBRIDGE SCHOOL DISTRICT
2024/25 STUDENT CALENDAR

JULY				
Mon	Tue	Wed	Thu	Fri
1	2	3	X4	5
8	9	10	11	12
15	16	17	18	19
22	23	24	25	26
29	30	31		

AUGUST (5)				
Mon	Tue	Wed	Thu	Fri
			1	2
5	6	7	8	9
12	13	14	15	16
19	20*	21*	22*	23
(26)	(27)	28	29	30

SEPTEMBER (20)				
Mon	Tue	Wed	Thu	Fri
X2	3	4	5	6
9	10	11	12	13
16	17	18	19	20
23	24	25	26	27
30				

OCTOBER (21)				
Mon	Tue	Wed	Thu	Fri
	1	2	3	4
7	8	9	10	11
X14	(15)	16	(17)	18
21	22	23	24	25
28	29	30	31	

NOVEMBER (17)				
Mon	Tue	Wed	Thu	Fri
				1
4	5*	6	7	8
11	12	13	14	15
18	19	20	21	22
25	26	27*	X28	X29

DECEMBER (15)				
Mon	Tue	Wed	Thu	Fri
2	3	4	5	6
9	10	11	12	13
16	17	18	19	(20)
23	X24	X25	26	27
30	31			

JANUARY (21)				
Mon	Tue	Wed	Thu	Fri
		X1	2	3
6	7	8	9	10
13	14	15	16	17
X20	21	22	23	24
27	28	29	30	31

FEBRUARY (15)				
Mon	Tue	Wed	Thu	Fri
3	4	5	6	7
10	11	12	13	14
X17	18	19	20	21
24	25	26	27	28

MARCH (20)				
Mon	Tue	Wed	Thu	Fri
3	4	5	6	7
10	11	12	13	14
17	18	19	20	21*
24	25	26	27	28
31				

APRIL (17)				
Mon	Tue	Wed	Thu	Fri
	1	2	3	4
(7)	8	(9)	10	11
14	15	16	17	X18
21	22	23	24	25
28	29	30		

MAY (21)				
Mon	Tue	Wed	Thu	Fri
			1	2
5	6	7	8	9
12	13	14	15	16
19	20	21	22	23
X26	27	28	29	30

JUNE (9)				
Mon	Tue	Wed	Thu	Fri
2	3	4	5	6
9	10	11	(12)	13
16	17	18	19	20
23	24	25	26	27
30				

NO SCHOOL/ BUILDING CLOSED		X
Jul. 4	*Independence Day*	X
Sep. 2	*Labor Day*	X
Oct. 3	*Rosh Hashanah*	
Oct. 14	*Columbus/Indigenous Da*	X
Nov. 5	*Teacher Workshop*	
Nov. 27	*Teacher Workshop*	
Nov. 28-29	*Thanksgiving Holiday*	X
Dec. 23-Jan. 1	*Holiday Recess*	
Dec. 24-25	*Christmas Holiday*	X
Jan. 1	*New Year's Day*	X
Jan. 20	*MLK Day*	X
Feb. 17	*Presidents' Day*	X
Feb. 17-21	*Winter Break*	
Mar. 21	*Teacher Workshop*	
Apr. 18	*Good Friday*	X
Apr. 14-18	*Spring Vacation*	
May 26	*Memorial Day*	X

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181 Student Days
184 Staff Days
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Aug. 29	Grades K, 5 & 6
Sep. 4	Grades 3, 4 / MAG
Sep. 5	Grades 1, 2 / PK

Note: No Extended Day Coverage on Parent Conference Days

WORKSHOP DAYS * / NO SCHOOL
Aug. 20-22, Nov. 5
Nov. 27, Mar. 21

WBOE MEETINGS	
July 15	Jan. 21
Aug. 19	Feb. 24
Sep. 16	Mar. 17
Oct. 21	Apr. 22
Nov. 18	May 20
Dec. 16	June 16

SNOW DAYS MAKE-UP
June 13-27
Additional Days Starting April 14

Kdg. Bus Ride/Safety Demo Aug. 19

New Teacher Orientation Aug. 19 and 23

Report Card Distribution Dec. 6, Mar. 14 and June 12

BOE Approved December 18, 2023

PARTIAL ROOF REPLACEMENT

BEECHER ROAD ELEMENTARY SCHOOL
40 BEECHER ROAD
WOODBRIDGE, CT 06525
STATE PROJECT #167-0026 RR
BID #2024-__

S/P+A PROJECT #23.108

Drawing Number	Drawing Name
	COVER SHEET
C1	CODE INFORMATION
A1	OVERALL ROOF PLAN
A2	ROOF PLAN PART “1”
A3	ROOF DETAILS

END OF DRAWING LIST

SECTION 011000 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 PROJECT DESCRIPTION

A. The Work of the Project is defined by the Contract Documents and consists of a partial roof replacement of an existing building.

B. The Work generally includes, but is not necessarily limited to the following major elements:

1. Removal of existing membrane roofing, insulation, cant strips and tapered edges, and metal flashings, gutters, collection boxes and downspouts in areas as shown on Drawings.
2. Removal and replacement of existing roof hatch,, and other roof accessories.
3. Removal and replacement of deteriorated roof decking and wood blocking.
4. Removal and replacement of existing unit skylights.
5. Removal and replacement of existing roof drains and related piping and insulation.
6. Provision and installation of EPDM membrane, underlayment, and flat and tapered insulations.
7. Provision and installation of new flashings, caps, fasciae, and other trim metal work as detailed and specified, including new gutters, collection boxes, downspouts, and scuppers.
8. Provision and installation of new roof stairs.
9. Offsite disposal of all removed materials.

1.3 CONTRACTOR USE OF PREMISES

A. General: Limit use of the premises to construction activities in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

B. Confine operations to as small work areas and accessways as possible. As much as possible and without damage to the finishes, doors, and related building systems, access the project area via the service doors designated by Owner.

C. Keep driveways and entrances serving the premises clear and available to the Owner 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. Maintain existing egress patterns, exit doors, and means of egress during construction, which will include the provision of temporary walkways, sidewalks, or other means necessary to provide adequate life safety for the building occupants, particularly at exitways which must continue to be open and serviceable while adjacent construction activity occurs.

E. Use of the Existing Building: Maintain the existing building in a weathertight 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. Contractor is responsible to secure project area/site from intrusions during unoccupied (after hours) period of time. Any temporary doors and /or window coverings that may be necessary to complete repairs are the Contractors responsibility to furnish and install as part of the project scope.

1.4 OWNER OCCUPANCY

A. Full Owner Occupancy: The Owner's administrative and maintenance staff will occupy the site and existing building during the entire construction period, with children on site during the school year. 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. Pre-schedule construction operations with the Owner for areas that must be evacuated for extended periods, giving the Owner the opportunity to relocate administrative or educational operations to non-affected areas.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

1.5 SPECIAL REQUIREMENTS

A. The Contractor shall insure that all work performed is done so in a safe manner and that all his/her employees shall adhere to all applicable safety procedures and practices at all times. There may be children and staff in the vicinity of the work area during normal working hours. The Contractor shall be aware at all times that additional safety considerations should be taken. Particular care shall be taken by the Contractor, Subcontractors and all those in their employ, that all tools, equipment, ladders, etc. are never left unsupervised.

B. Meaningful Instruction: Meaningful instruction (as determined by the Owner) must be facilitated and possible within the building at all times. This requirement may limit the Contractor's demolition and construction operations as the distraction represented by hammering, material movement, etc. may disrupt classes. No down time or mobilization charges will be permitted should the meaningful instruction requirement suspend the Contractor's operations for any length of time.

C. Testing: During the school year, Smarter Balanced Assessment Consortium may be administered to portions of the student population, which requires absolute concentration on the part of the students. The Owner may prohibit operations during the administration of these assessments. Cooperate with the Owner to determine the schedule, locations of the testing and where operations may proceed with disrupting classroom or roofing operations.

D. Under no circumstances shall the buildings' occupants be subjected to excessive construction noise or vibrations, nor shall they be subject to fumes, odors, or other deleterious effects of the operation. Should material delivery, demolition or construction operations, inclement weather or related schedule conditions produce this situation (as determined by the Owner), the Contractor shall be required to suspend operations that produce the offending effects until such time as the building is not occupied, or as approved by the Owner.

E. Smoking and Controlled Substance Restrictions: Use of tobacco products, alcoholic beverages, and other controlled substances inside the building or on the grounds is not permitted. Strict adherence to the regulations will be enforced for the entire duration of the construction.

F. There will be absolutely **no** fraternizing with the students by construction personnel. Anyone caught doing so will be required to leave the jobsite and will not be permitted to return. Such dismissal shall not give the contractor grounds for default on any other contract requirements, including the construction schedule.

G. Site Security – Identification Badges

1. The Contractor shall provide a list of all contact persons. The list shall include each trade, name of Contractor, contact person(s), phone numbers, fax numbers, Federal Employer Identification Number (FEIN), social security number if FEIN is not available, and Connecticut Tax Registration number.
2. Prior to the start of work all Contractor and Sub-Contactor personnel assigned to perform work shall be required to fill out and submit to a background check at a cost provided by the Contractor. All information shall be submitted to the Town of Woodbridge. Information for background check includes the following:

    a. Identity Verification
    b. Criminal Background
    c. Additional checks as deemed warranted.

3. Security badges will be worn by all project personnel during construction activities. The Contractor will provide badges at no cost to the Owner. The Contractor will be responsible for monitoring the display of badges, including those of the personnel of all subcontractors and visitors to the project site.

H. Public Health Emergency:

1. The Contractor shall anticipate and incorporate in their Bids all potential costs related to a public health emergency such as the COVID-19/Coronavirus Pandemic, including rules, regulations, and recommendations issued by public authorities. The potential costs may include, but are not limited to, costs related to social distancing, manpower levels, project scheduling, construction coordination, material/product supplies and delivery delays, material escalation costs, increased subcontractor/supplier costs, loss of productivity and inefficiency costs, extended general conditions costs, and any other potential costs.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

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.

1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to the Contractor. If necessary, additional requirements will be issued by Change Order.

B. Types of allowances include the following:

1. Quantity allowances.

C. Related Sections:

1. Section 012200 "Unit Prices" for procedures for using unit prices.
2. Divisions 02 through 49 Sections for items of Work covered by allowances.

1.3 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed 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.

1.4 SUBMITTALS

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

B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

C. 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.

D. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.6 QUANTITY/LUMP-SUM 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 taxes, 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 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.

1.7 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 margins claimed.
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: Metal Roof Deck Replacement: Include in the Base Bid an allowance to replace 3,500 square feet of metal decking that may be deteriorated under the existing roofs. Should metal decking be encountered that at the Architect's direction requires removal, the Contractor shall do so, deducting the amount of the affected installation(s) from the allowance amount. Removal and replacement, to match existing, shall include all fasteners, accessories, removal, and disposal (including all manpower, tools, and materials). Refer to Section 053100 “Steel Decking” for additional information.

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 Sections:

1. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as 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, applicable taxes, overhead, and profit.

B. Measurement and Payment: Refer to 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. A list of unit prices is included in the Bid Form.

END OF SECTION 012200

SECTION 012300 - ALTERNATES

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 alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract. No extensions of time shall be granted for accepted alternates.

D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. **DEDUCT ALTERNATE #1: Twenty (20) Year Warranty:** Deduct from the Base Bid the cost associated from reducing the specified warranty by ten (10) years for a total of twenty (20) on the roofing membrane system indicated in Section 075323 “Ethylene-Propylene-Diene-Monomer (EPDM) Roofing”.

END OF SECTION 012300

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. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.
2. Divisions 02 through 49 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 (3) 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 1.5C**, **13.1A**, or comparable form.
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, SIDE-BY-SIDE 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 (7) days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within fifteen (15) days of receipt of request, or seven (7) 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. Procurement Substitution Request: Submit to Architect seven (7) days prior to date of bid opening.

B. Substitutions for Cause: Submit requests for substitution immediately upon discovery of need for change, but not later than fifteen (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 (1) 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.

C. Substitutions for Convenience: Architect will consider requests for substitution if received within sixty (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 (1) 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 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

B. Related Sections:

1. Section 016000 "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, on AIA Document G710, "Architect's Supplemental Instructions."

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 not instructions either to stop work in progress or to execute the proposed change.
2. Within time specified in Proposal Request or twenty (20) days, when not otherwise specified, 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.
    e. Quotation Form: Use forms acceptable to Architect.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to the 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 Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Proposal Request Form: Use form acceptable to Architect.

1.5 ADMINISTRATIVE CHANGE ORDERS

A. Allowance Adjustment: See Section 012100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

B. Unit Price Adjustment: Refer to Section 012200 "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit price work.

1.6 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.

1.7 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT 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. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Sections:

1. Section 012200 "Unit Prices" for administrative requirements governing the use of unit prices.
2. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
3. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.
4. Section 013300 "Submittal Procedures" for administrative requirements governing the preparation and submittal of the submittal schedule.

1.3 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

1. Correlate line items in the schedule of values with other required administrative forms and schedules, including the following:

a. Application for Payment forms with continuation sheets.
b. Submittal schedule.
c. Items required to be indicated as separate activities in Contractor's construction schedule.

2. Submit the schedule of values to Architect at earliest possible date but no later than seven (7) days before the date scheduled for submittal of initial Applications for Payment.

B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one (1) line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:

a. Project name and location.
b. Name of Architect.
c. Architect's project number.
d. Contractor's name and address.
e. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Document G703.

3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent (5%) of Contract Sum.
4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

    a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.

6. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Allowances: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
8. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

    a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

9. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.4 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

    1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

    1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
    2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
    3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
5. Include updated and approved Contractor's construction schedule, potential Change Order Log and Product Submittal Log.

E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
3. Provide summary documentation for stored materials indicating the following:

    a. Materials previously stored and included in previous Applications for Payment.
    b. Work completed for this Application utilizing previously stored materials.
    c. Additional materials stored with this Application.
    d. Total materials remaining stored, including materials with this Application.

F. Transmittal: Submit three (3) signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One (1) copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit conditional final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
5. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.

H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of values.
3. Contractor's construction schedule (preliminary if not final).
4. Products list (preliminary if not final).
5. Schedule of unit prices.
6. Submittal schedule (preliminary if not final).
7. List of Contractor's staff assignments.
8. List of Contractor's principal consultants.
9. Copies of building permits.

10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
11. Initial progress report.
12. Report of preconstruction conference.
13. Certificates of insurance and insurance policies.
14. Performance and payment bonds.
15. Data needed to acquire Owner's insurance.

I. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing one hundred percent (100%) completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

J. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

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 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General project coordination procedures.
2. Administrative and supervisory personnel.
3. Requests for Information (RFIs).
4. Project meetings.

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

C. Related Sections:

1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
3. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

A. RFI: Request from Owner, Architect, or Contractor seeking information from each other during construction.

1.4 COORDINATION

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction 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 (1) part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

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 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. Pre-installation conferences.
7. Project closeout activities.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. Refer to other Sections for disposition of salvaged materials that are designated as Owner's property.

1.5 KEY PERSONNEL

A. Key Personnel Names: Within fifteen (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, office, and cellular telephone numbers and email addresses. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.6 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor 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 information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect.
6. RFI number, numbered sequentially.
7. RFI subject.

8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's solution(s) impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: AIA Document G716 or comparable form.

D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven (7) working days for Architect's response for each RFI. RFIs received by Architect after 1:00 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 inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
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 Section 012600 "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 ten (10) days of receipt of the RFI response.

E. 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 (7) days if Contractor disagrees with response.

F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. 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.

1.7 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: General Contractor or Construction Manager is responsible for recording significant discussions and agreements achieved. General Contractor or Construction Manager is also responsible for distributing the meeting minutes to everyone concerned including Owner and Architect, within three (3) days of the meeting.

B. Preconstruction/Preinstallation Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than fifteen (15) days after execution of the Agreement.

1. Conduct the conference to review responsibilities and personnel assignments.
2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
3. 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. Lines of communications.
f. Procedures for processing field decisions and Change Orders.
g. Procedures for RFIs.
h. Procedures for testing and inspecting.
i. Procedures for processing Applications for Payment.
j. Distribution of the Contract Documents.
k. Submittal procedures.
l. Preparation of record documents.
m. Work restrictions.
n. Working hours.
o. Owner's occupancy requirements.
p. Responsibility for temporary facilities and controls.
q. Procedures for moisture and mold control.
r. Procedures for disruptions and shutdowns.
s. Parking availability.
t. Office, work, and storage areas.
u. Equipment deliveries and priorities.
v. First aid.
w. Security.
x. Progress cleaning.
y. Refer to Section 070150.19 “Preparation for Reroofing” for additional items.

4. Minutes: General Contractor or Construction Manager is responsible for recording and distributing meeting minutes.

C. Progress Meetings: Conduct progress meetings at biweekly intervals.

1. Coordinate dates of meetings with preparation of payment requests.
2. 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 meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. 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) Progress cleaning.
        10) Quality and work standards.
        11) Status of correction of deficient items.
        12) Field observations.
        13) Status of RFIs.
        14) Status of proposal requests.
        15) Pending changes.
        16) Status of Change Orders.
        17) Pending claims and disputes.
        18) Documentation of information for payment requests.

4. Minutes: General Contractor or Construction Manager is responsible for recording and distributing meeting minutes.

    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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

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 documenting the progress of construction during performance of the Work, including the following:

1. Contractor's construction schedule.
2. Daily construction reports.
3. Material location reports.
4. Field condition reports.

B. Related Sections:

1. Section 013300 "Submittal Procedures" for submitting schedules and reports.
2. Section 014000 "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

B. Cost Loading: The allocation of the schedule of values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum, unless otherwise approved by Architect.

C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

D. Event: The starting or ending point of an activity.

E. Float: The measure of leeway in starting and completing an activity.

1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.

3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

F. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. PDF electronic file.

B. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.

C. Daily Construction Reports: Submit at weekly intervals.

D. Material Location Reports: Submit at weekly intervals.

E. Field Condition Reports: Submit at time of discovery of differing conditions.

1.5 QUALITY ASSURANCE

A. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to the Contractor's construction schedule, including, but not limited to, the following:

1. Review software limitations and content and format for reports.
2. Discuss constraints, including phasing, work stages and area separations.
3. Review delivery dates for Owner-furnished products.
4. Review schedule for work of Owner's separate contracts.
5. Review time required for review of submittals and resubmittals.
6. Review requirements for tests and inspections by independent testing and inspecting agencies.
7. Review time required for completion and startup procedures.
8. Review and finalize list of construction activities to be included in schedule.
9. Review submittal requirements and procedures.
10. Review procedures for updating schedule.

1.6 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from entities involved.

2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than twenty (20) days, unless specifically allowed by Architect.
2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than sixty (60) days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
5. Punch List and Final Completion: Include not more than thirty (30) days for punch list and final completion.

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
2. Work Restrictions: Show the effect of the following items on the schedule:

a. Coordination with existing construction.
b. Uninterruptible services.
c. Use of premises restrictions.
d. Provisions for future construction.
e. Seasonal variations.
f. Environmental control.

3. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:

a. Subcontract awards.
b. Submittals.
c. Purchases.
d. Fabrication.
e. Sample testing.
f. Deliveries.
g. Installation.

h. Tests and inspections.
i. Adjusting.

4. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:

a. Substantial Completion.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion**.**

E. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.

1. Refer to Section 012900 "Payment Procedures" for cost reporting and payment procedures.

F. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:

1. Unresolved issues.
2. Unanswered RFIs.
3. Rejected or unreturned submittals.
4. Notations on returned submittals.

G. Recovery Schedule: When periodic update indicates the Work is fourteen (14) or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

H. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's construction schedule within seven (7) days of date established for the Notice to Proceed.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in ten percent (10%) increments within time bar.

2.3 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.

3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
7. Accidents.
8. Meetings and significant decisions.
9. Stoppages, delays, shortages, and losses.
10. Meter readings and similar recordings.
11. Emergency procedures.
12. Orders and requests of authorities having jurisdiction.
13. Change Orders received and implemented.
14. Construction Change Directives received and implemented.
15. Services connected and disconnected.
16. Equipment or system tests and startups.
17. Partial completions and occupancies.
18. Substantial Completions authorized.

B. Material Location Reports: At weekly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.

C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one (1) week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate final completion percentage for each activity.

B. Distribution: Distribute copies of approved schedule to Architect, Construction Administrator, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

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 the following:

1. Periodic construction photographs.

B. Related Sections:

1. Section 013300 "Submittal Procedures" for submitting photographic documentation.
2. Section 017700 "Closeout Procedures" for submitting photographic documentation as project record documents at Project closeout.

PART 2 - PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of eight (8) megapixels, and at an image resolution of not less than 1600 by 1200 pixels and 400 dpi.

PART 3 - EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS

A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.

1. Maintain key plan with each set of construction photographs that identifies each photographic location.

B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

1. Date and Time: Include date and time in file name for each image.
2. Field Office Images: Maintain one (1) set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to Architect.

C. Periodic Construction Photographs: Take eighteen to twenty (18-20) photographs weekly, with timing each month adjusted to coincide with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.

D. Additional Photographs: Architect may request photographs in addition to periodic photographs specified.

1. In emergency situations, take additional photographs within twenty-four (24) hours of request.
2. Circumstances that could require additional photographs include, but are not limited to, the following:

    a. Immediate follow-up when on-site events result in construction damage or losses.
    b. Substantial Completion of a major phase or component of the Work.

END OF SECTION 013233

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. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
2. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
3. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
4. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as action submittals.

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect'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.

C. 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.

D. 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.

1.4 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 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. Submit concurrently with Contractor's construction schedule. Include submittals required during the first sixty (60) 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. 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 final release or approval.
    g. Scheduled dates for purchasing.
    h. Scheduled dates for installation.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Electronic copies of CAD Drawings of the Contract Drawings will **not** be provided by Architect for Contractor's use in preparing submittals unless requested and Architect's user agreement properly completed.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
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 reserves 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 seven (7) 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. Resubmittal Review: Allow five (5) days for review of each resubmittal.
3. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow seven (7) days for initial review of each submittal.

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 on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
3. Include the following information for processing and recording action taken:

    a. Project name.
    b. Date.
    c. Name of Architect.
    d. Name of Contractor.
    e. Name of subcontractor.
    f. Name of supplier.
    g. Name of manufacturer.
    h. 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).

    i. Number and title of appropriate Specification Section.
    j. Drawing number and detail references, as appropriate.
    k. Location(s) where product is to be installed, as appropriate.
    l. 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.
4. Include the following information on an inserted cover sheet:

    a. Project name.
    b. Date.
    c. Name and address of Architect.
    d. Name of Contractor.
    e. Name of firm or entity that prepared submittal.
    f. Name of subcontractor.
    g. Name of supplier.
    h. Name of manufacturer.
    i. Number and title of appropriate Specification Section.
    j. Drawing number and detail references, as appropriate.
    k. Location(s) where product is to be installed, as appropriate.
    l. Related physical samples submitted directly.
    m. 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 observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

I. Transmittal: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return submittals, without review received from sources other than Contractor.

1. 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.

2. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect 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 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 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. Submit electronic submittals via email as PDF electronic files.

a. Architect will return annotated file. Annotate and retain one (1) copy of file as an electronic Project record document file.

2. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures."
3. 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.

4. Test and Inspection Reports Submittals: Comply with requirements specified in Section 014000 "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. Submit Product Data before or concurrent with Samples.

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.

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 8½ by 11 inches but no larger than 30 by 42 inches.

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 (1) 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.

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.

F. Contractor's Construction Schedule: Comply with requirements specified in Section 013200 "Construction Progress Documentation."

G. Application for Payment: Comply with requirements specified in Section 012900 "Payment Procedures."

H. Schedule of Values: Comply with requirements specified in Section 012900 "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**.** Include the following information in tabular form:

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.

J. 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.

K. 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.

L. 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.

M. 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.

N. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

O. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

P. 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.

Q. 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.

R. 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.

S. Schedule of Tests and Inspections: Comply with requirements specified in Section 014000 "Quality Requirements."

T. 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.

U. 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.

V. 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.

W. Maintenance Data: Comply with requirements specified in Section 017823 "Operation and Maintenance Data."

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.

B. Project Closeout and Maintenance/Material Submittals: Refer to requirements in Section 017700 "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 ACTION

A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

C. Informational Submittals: Architect will review each submittal and will not return it or will return it if it does not comply with requirements. Architect 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.

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 013300

SECTION 014000 - QUALITY REQUIREMENTS

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 quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and -control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

C. Related Sections:

1. Divisions 02 through 49 Sections for specific test and inspection requirements.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor’s quality-control services do not include contract enforcement activities performed by Architect.

C. Preconstruction Testing: Tests and inspections performed specifically for the Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

D. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

E. Source Quality-Control Tests: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.

F. Field Quality-Control Tests: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade or trades.

I. Experienced: When used with an entity or individual, "experienced" unless otherwise further described means having successfully completed a minimum of five (5) previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

A. Conflicting Standards and Other Requirements: If compliance with two (2) or more standards or requirements are specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for direction before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 INFORMATIONAL SUBMITTALS

A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems.

1. Seismic-force-resisting system, designated seismic system, or component listed in the Statement of Special Inspections.
2. Main wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.

B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

C. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.

2. Entity responsible for performing tests and inspections.
3. Description of test and inspection.
4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

D. Reports: Prepare and submit certified written reports and documents as specified.

E. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.6 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

1.7 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.8 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
3. Costs for testing that is cancelled will be charged to the Contractor, and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify that the Work complies with requirements.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
2. Engage a qualified testing agency to perform these quality-control services.

    a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."

D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

F. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.

2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

G. Associated Contractor Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.9 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Conducted by a qualified testing agency as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect, Contractor and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Architect.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

1. Submit log at Project closeout as part of Project Record Documents.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

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 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

1. For standards referenced by applicable building codes, comply with dates of standards as listed in building codes.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

1. AABC - Associated Air Balance Council; www.aabc.com.
2. AAMA - American Architectural Manufacturers Association; www.aamanet.org.
3. AAPFCO - Association of American Plant Food Control Officials; www.aapfco.org.
4. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
5. AATCC - American Association of Textile Chemists and Colorists; www.aatcc.org.
6. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
7. ABMA - American Boiler Manufacturers Association; www.abma.com.
8. ACI - American Concrete Institute; (Formerly: ACI International); www.concrete.org.
9. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
10. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
11. AF&PA - American Forest & Paper Association; www.afandpa.org.
12. AGA - American Gas Association; www.aga.org.
13. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
15. AI - Asphalt Institute; www.asphaltinstitute.org.
16. AIA - American Institute of Architects (The); www.aia.org.
17. AISC - American Institute of Steel Construction; www.aisc.org.
18. AISI - American Iron and Steel Institute; www.steel.org.
19. AITC - American Institute of Timber Construction; www.aitc-glulam.org.
20. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
21. ANSI - American National Standards Institute; www.ansi.org.
22. AOSA - Association of Official Seed Analysts, Inc.; www.aosaseed.com.
23. APA - APA - The Engineered Wood Association; www.apawood.org.
24. APA - Architectural Precast Association; www.archprecast.org.
25. API - American Petroleum Institute; www.api.org.
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).
28. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
29. ASCE - American Society of Civil Engineers; www.asce.org.
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
32. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
33. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
34. ASSP - American Society of Safety Professionals (The); www.assp.org.
35. ASTM - ASTM International; www.astm.org.
36. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
37. AVIXA - Audiovisual and Integrated Experience Association; (Formerly: Infocomm International); www.soundandcommunications.com.

38. AWEA - American Wind Energy Association; www.awea.org.
39. AWI - Architectural Woodwork Institute; www.awinet.org.
40. AWMAC - Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
41. AWPA - American Wood Protection Association; www.awpa.com.
42. AWS - American Welding Society; www.aws.org.
43. AWWA - American Water Works Association; www.awwa.org.
44. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
45. BIA - Brick Industry Association (The); www.gobrick.com.
46. BICSI - BICSI, Inc.; www.bicsi.org.
47. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.org.
48. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
49. BWF - Badminton World Federation; (Formerly: International Badminton Federation); www.bissc.org.
50. CDA - Copper Development Association; www.copper.org.
51. CE - Conformite Europeenne; www.ec.europa.eu/growth/single-market/ce-marking.
52. CEA - Canadian Electricity Association; www.electricity.ca.
53. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
54. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
55. CGA - Compressed Gas Association; www.cganet.com.
56. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
57. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
58. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
59. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
60. CPA - Composite Panel Association; www.compositepanel.org.
61. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
62. CRRC - Cool Roof Rating Council; www.coolroofs.org.
63. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
64. CSA - CSA Group; www.csa-group.org.
65. CSI - Construction Specifications Institute (The); www.csiresources.org.
66. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
67. CTA - Consumer Technology Association; www.cta.tech.
68. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.coolingtechnology.org.
69. CWC - Composite Wood Council; (See CPA).
70. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
71. DHA - Decorative Hardwoods Association; (Formerly: Hardwood Plywood & Veneer Association); www.decorativehardwoods.org.
72. DHI - Door and Hardware Institute; www.dhi.org.
73. ECA - Electronic Components Association; (See ECIA).
74. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
75. ECIA - Electronic Components Industry Association; www.ecianow.org.
76. EIA - Electronic Industries Alliance; (See TIA).
77. EIMA - EIFS Industry Members Association; www.eima.com.
78. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
79. EOS/ESD Association; (Electrostatic Discharge Association); www.esda.org.
80. ESTA - Entertainment Services and Technology Association; (See PLASA).
81. ETL - Intertek (See Intertek); www.intertek.com.
82. EVO - Efficiency Valuation Organization; www.evo-world.org.
83. FCI - Fluid Controls Institute; www.fluidcontrolsinstitute.org.
84. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
85. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
86. FM Approvals - FM Approvals LLC; www.fmglobal.com.

87. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
88. FRSA - Florida Roofing, Sheet Metal Contractors Association, Inc.; www.floridaroof.com.
89. FSA - Fluid Sealing Association; www.fluidsealing.com.
90. FSC - Forest Stewardship Council U.S.; www.fscus.org.
91. GA - Gypsum Association; www.gypsum.org.
92. GANA - Glass Association of North America; (See NGA).
93. GS - Green Seal; www.greenseal.org.
94. HI - Hydraulic Institute; www.pumps.org.
95. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
96. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
97. HPVA - Hardwood Plywood & Veneer Association; (See DHA).
98. HPW - H. P. White Laboratory, Inc.; www.hpwhite.com.
99. IAPSC - International Association of Professional Security Consultants; www.iapsc.org.
100. IAS - International Accreditation Service; www.iasonline.org.
101. ICBO - International Conference of Building Officials; (See ICC).
102. ICC - International Code Council; www.iccsafe.org.
103. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
104. ICPA - International Cast Polymer Association; www.theicpa.com.
105. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
106. IEC - International Electrotechnical Commission; www.iec.ch.
107. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
108. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
109. IESNA - Illuminating Engineering Society of North America; (See IES).
110. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
111. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
112. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.org.
113. II - Infocomm International; (See AVIXA).
114. ILI - Indiana Limestone Institute of America, Inc.; www.iliai.com.
115. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
116. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); www.isa.org.
117. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
118. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
119. ISO - International Organization for Standardization; www.iso.org.
120. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
121. ITU - International Telecommunication Union; www.itu.int.
122. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
123. LMA - Laminating Materials Association; (See CPA).
124. LPI - Lightning Protection Institute; www.lightning.org.
125. MBMA - Metal Building Manufacturers Association; www.mbma.com.
126. MCA - Metal Construction Association; www.metalconstruction.org.
127. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
128. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
129. MHI - Material Handling Industry of America; www.mhia.org.
130. MIA - Marble Institute of America; (See NSI).
131. MMPA - Moulding & Millwork Producers Association; www.wmmpa.com.
132. MPI - Master Painters Institute; www.paintinfo.com.
133. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; www.mss-hq.org.
134. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.
135. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
136. NADCA - National Air Duct Cleaners Association; www.nadca.com.

137. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
138. NALP - National Association of Landscape Professionals; www.landscapeprofessionals.org.
139. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
140. NBI - New Buildings Institute; www.newbuildings.org.
141. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
142. NCMA - National Concrete Masonry Association; www.ncma.org.
143. NEBB - National Environmental Balancing Bureau; www.nebb.org.
144. NECA - National Electrical Contractors Association; www.necanet.org.
145. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
146. NEMA - National Electrical Manufacturers Association; www.nema.org.
147. NETA - InterNational Electrical Testing Association; www.netaworld.org.
148. NFHS - National Federation of State High School Associations; www.nfhs.org.
149. NFPA - National Fire Protection Association; www.nfpa.org.
150. NFPA - NFPA International; (See NFPA).
151. NFRC - National Fenestration Rating Council; www.nfrc.org.
152. NGA - National Glass Association (The); (Formerly: Glass Association of North America); www.glass.org.
153. NHLA - National Hardwood Lumber Association; www.nhla.com.
154. NLGA - National Lumber Grades Authority; www.nlga.org.
155. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
156. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
157. NRCA - National Roofing Contractors Association; www.nrca.net.
158. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
159. NSF - NSF International; www.nsf.org.
160. NSI - National Stone Institute; (Formerly: Marble Institute of America); www.naturalstoneinstitute.org.
161. NSPE - National Society of Professional Engineers; www.nspe.org.
162. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
163. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
164. NWFA - National Wood Flooring Association; www.nwfa.org.
165. NWRA - National Waste & Recycling Association; www.wasterecycling.org
166. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
167. PDI - Plumbing & Drainage Institute; www.pdionline.org.
168. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); www.plasa.org.
169. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
170. RFCI - Resilient Floor Covering Institute; www.rfci.com.
171. RIS - Redwood Inspection Service; www.redwoodinspection.com.
172. SAE - SAE International; www.sae.org.
173. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
174. SDI - Steel Deck Institute; www.sdi.org.
175. SDI - Steel Door Institute; www.steeldoor.org.
176. SEFA - Scientific Equipment and Furniture Association (The); www.sefalabs.com.
177. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
178. SIA - Security Industry Association; www.siaonline.org.
179. SJI - Steel Joist Institute; www.steeljoist.org.
180. SMA - Screen Manufacturers Association; www.smainfo.org.
181. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
182. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
183. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
184. SPIB - Southern Pine Inspection Bureau; www.spib.org.
185. SPRI - Single Ply Roofing Industry; www.spri.org.
186. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.

187. SSINA - Specialty Steel Industry of North America; www.ssina.com.
188. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
189. STI - Steel Tank Institute; www.steeltank.com.
190. SWI - Steel Window Institute; www.steelwindows.com.
191. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
192. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
193. TCNA - Tile Council of North America, Inc.; www.tileusa.com.
194. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
195. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
196. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
197. TMS - The Masonry Society; www.masonrysociety.org.
198. TPI - Truss Plate Institute; www.tpinst.org.
199. TPI - Turfgrass Producers International; www.turfgrasssod.org.
200. TRI - Tile Roofing Institute; www.tileroofing.org.
201. UL - Underwriters Laboratories Inc.; www.ul.com.
202. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
203. USAV - USA Volleyball; www.usavolleyball.org.
204. USGBC - U.S. Green Building Council; www.usgbc.org.
205. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
206. WA - Wallcoverings Association; www.wallcoverings.org.
207. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
208. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
209. WDMA - Window & Door Manufacturers Association; www.wdma.com.
210. WI - Woodwork Institute; www.wicnet.org.
211. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
212. WWPA - Western Wood Products Association; http://www.wwpa.org.

B. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.

1. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
2. ICC - International Code Council; www.iccsafe.org.
3. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.

C. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.

1. COE - Army Corps of Engineers; www.usace.army.mil.
2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
4. DOD - Department of Defense; www.quicksearch.dla.mil.
5. DOE - Department of Energy; www.energy.gov.
6. EPA - Environmental Protection Agency; www.epa.gov.
7. FAA - Federal Aviation Administration; www.faa.gov.
8. FG - Federal Government Publications; www.gpo.gov/fdsys.
9. GSA - General Services Administration; www.gsa.gov.
10. HUD - Department of Housing and Urban Development; www.hud.gov.
11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov.

12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
13. SD - Department of State; www.state.gov.
14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
18. USP - U.S. Pharmacopeial Convention; www.usp.org.
19. USPS - United States Postal Service; www.usps.com.

D. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CFR - Code of Federal Regulations; Available from Government Printing Office; www.govinfo.gov.
2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.
3. DSCC - Defense Supply Center Columbus; (See FS).
4. FED-STD - Federal Standard; (See FS).
5. FS - Federal Specification; Available from DLA Document Services; www.quicksearch.dla.mil.

    a. Available from Defense Standardization Program; www.dsp.dla.mil.
    b. Available from General Services Administration; www.gsa.gov.
    c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org.

6. MILSPEC - Military Specification and Standards; (See DOD).
7. USAB - United States Access Board; www.access-board.gov.
8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

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 temporary support, security, and protection facilities.

B. Related Requirements:

1. Section 011000 "Summary of Work" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.

B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 INFORMATIONAL SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

B. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.

1.5 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

PART 2 - PRODUCTS

2.1 TEMPORARY FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading, if required. Unit must be large enough

for regular job meetings, plan review areas, submittal storage and other job file and administrative functions.

B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Sheds to be metal box storage units or have wood floors raised above the ground.
2. Store combustible materials apart from building.

2.2 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

D. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

E. Electronic Communication Service: Regardless of availability of Owner’s service, the Contractor shall maintain at his expense secure and reliable WiFi wireless connection to internet with provisions for access by Architect, the Owner’s staff, Municipal Officials or Inspectors, and all subcontractors.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide construction for temporary sheds located within construction area or within 30 feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

C. Parking: Provide temporary parking areas for construction personnel.

D. Storage and Staging: Use designated areas of Project site for storage and staging needs.

E. Project Signs: Provide Project signs as required by Owner. Unauthorized signs are not permitted.

1. Identification Signs: Provide Project identification signs.
2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.

    a. Provide temporary, directional signs for construction personnel and visitors.

3. Maintain and touch up signs so they are legible at all times.

F. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

G. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

C. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

D. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

E. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

3.5 OPERATION, TERMINATION, AND REMOVAL

A. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

B. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

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 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. 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; and comparable products.

B. Related Sections:

1. Section 012500 "Substitution Procedures" for requests for substitutions.
2. Section 014200 "References" for applicable industry standards for products specified.

1.3 DEFINITIONS

A. Products: Items obtained 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 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. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," 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 additional manufacturers named in the specification.

1.4 ACTION SUBMITTALS

A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.

2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one (1) week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within seven (7) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.

    a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
    b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two (2) or more products for use on Project, select product 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 and vandalism. 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 determine compliance with the Contract Documents and to determine 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. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
5. Protect stored products from damage and liquids from freezing.
6. 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: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for 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 indicated form properly executed.
3. Refer to Divisions 02 through 49. Sections for specific content requirements and particular requirements for submitting special warranties.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, 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. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:

a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one (1) of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered, unless otherwise indicated.
b. Non-Restricted List: Where Specifications include a list of names of both available manufacturers and products, provide one (1) of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

4. Manufacturers:

a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one (1) of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered, unless otherwise indicated.
b. Non-Restricted List: Where Specifications include a list of available manufacturers, provide a product by one (1) of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.

5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one (1) of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one (1) of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require 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, SIDE-BY-SIDE 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

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 general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Installation of the Work.
2. Cutting and patching.
3. Progress cleaning.
4. Starting and adjusting.
5. Protection of installed construction.
6. Correction of the Work.

B. Related Sections:

1. Section 013300 "Submittal Procedures" for submitting surveys.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.4 QUALITY ASSURANCE

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from the Architect before proceeding. Shore, brace, and support structural element during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities.

Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

1.5 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to the Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, 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. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

a. Description of the Work.
b. List of detrimental conditions, including substrates.
c. List of unacceptable installation tolerances.
d. Recommended corrections.

2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
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 caused by differing field conditions outside the control of the Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

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.

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. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

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.

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 CUTTING AND PATCHING

A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Temporary Support: Provide temporary support of work to be cut.

C. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

D. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching.

E. Existing Utility Services: Where existing services are required to be removed, relocated, or abandoned, bypass such systems before cutting to minimize interruption to occupied areas.

F. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Proceed with patching after construction operations requiring cutting are complete.

G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.

3. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
4. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

H. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.5 PROGRESS CLEANING

A. General: Clean Project site and work areas daily at the end of each workday, including common areas. Empty or remove dumpsters at the end of each work week. 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 waste materials more than seven (7) days during normal weather or three (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.

    a. Utilize containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where more than one installer has worked.

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: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."

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 equipment for proper operation. Adjust operating components for proper operation without binding.

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: Comply with qualification requirements in Section 014000 "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.

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 017700 - CLOSEOUT 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 contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.
3. Warranties.

B. Related Sections:

1. Section 017300 "Execution" for progress cleaning of Project site.
2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.
3. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
4. Divisions 02 through 49 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete with request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise Owner of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Prepare and submit Project Record Documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, and similar final record information.
6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
7. Complete startup testing of systems.
8. Submit test/adjust/balance records.
9. Terminate and remove temporary facilities from Project site, along with construction tools and similar elements.
10. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
11. Complete final cleaning requirements, including touchup painting.

12. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

1.4 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
5. Secure and provide both temporary and final Certificate of Occupancy from the Building Official, meeting all local and state permit closeout requirements.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

C. CT DOE OSCG&R Closeout Assistance:

1. The Contractor shall assist the Architect and Owner with the Office of School Construction Grants and Review closeout and any audit of the project by providing supplemental cost or scope information related to their work or change orders that were executed during the course of the project. This assistance may require administrative support from the Contractor’s office but may also require in-person attendance at meetings with the Owner, and any information requested by the Owner must be provided within five (5) calendar days of the request.
2. This closeout service shall be provided at no additional expense to the project and may be required as much as twenty-four (24) months after the final date of substantial completion of the project.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction. Use **CSI Form 14.1A** or comparable form.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:

    a. Project name.
    b. Date.
    c. Name of Architect.
    d. Name of Contractor.
    e. Page number.

4. Submit list of incomplete items in the following format:

    a. PDF electronic file. Architect will return annotated file.

1.6 WARRANTIES

A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.

B. Partial Occupancy: Submit properly executed warranties within fifteen (15) days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8½-by-11-inch paper.
2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
4. Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide table of contents at beginning of document.

D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION (Not Used)

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

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 preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory.
2. Emergency manuals.
3. Product maintenance manuals.

B. Related Sections:

1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
2. Divisions 02 through 49 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.3 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

A. Manual Content: Operations and maintenance manual content is specified in individual specification sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1. Architect will comment on whether content of operation and maintenance submittals is acceptable.
2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

B. Format: Submit operations and maintenance manuals in the following format:

1. Two (2) thumb drives. Enable review comments on draft submittals.
2. Two (2) paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves. Architect will return both copies to be given to the Owner.

C. Initial Manual Submittal: Submit draft copy of each manual at least thirty (30) days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.

D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least fifteen (15) days before commencing demonstration and training. Architect will return copy with comments.

1. Correct or modify each manual to comply with Architect's comments. Submit copies of each corrected manual within fifteen (15) days of receipt of Architect's comments and prior to commencing demonstration and training.

E. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.5 FORMAT OF OPERATION AND MAINTENANCE MANUALS

A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

B. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.

1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8½-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

a. If two (2) or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment. Enclose title pages and directories in clear plastic sleeves.
4. Supplementary Text: Prepared on 8½-by-11-inch white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.

b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

1.6 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name and contact information for Contractor.
6. Name and contact information for Architect.
7. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
8. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one (1) volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one (1) system into a single binder.

1.7 EMERGENCY MANUALS

A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

B. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
2. Emergency instructions.
3. Emergency procedures.

C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

1. Fire.

2. Flood.
3. Gas leak.
4. Water leak.
5. Power failure.
6. Water outage.
7. System, subsystem, or equipment failure.
8. Chemical release or spill.

D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

E. Emergency Procedures: Include the following, as applicable:

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

1.8 PRODUCT MAINTENANCE MANUALS

A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

C. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

D. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

E. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

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 project record documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.
4. Miscellaneous record submittals.

B. Related Sections:

1. Section 017700 "Closeout Procedures" for general closeout procedures.
2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.
3. Divisions 02 through 49 Sections for specific requirements for project record documents of the Work in those Sections.

1.3 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit one (1) set(s) of marked-up record prints.

B. Record Specifications: Submit one (1) paper copy of Project's Specifications, including addenda and contract modifications.

C. Record Product Data: Submit one (1) paper copy of each submittal.

1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one (1) set of marked-up paper copies of the Contract Drawings and Shop Drawings.

1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
b. Accurately record information in an acceptable drawing technique.
c. Record data as soon as possible after obtaining it.
d. Record and check the markup before enclosing concealed installations.
e. Cross-reference record prints to corresponding archive photographic documentation.

2. Content: Types of items requiring marking include, but are not limited to, the following:

a. Dimensional changes to Drawings.
b. Revisions to details shown on Drawings.
c. Revisions to routing of piping and conduits.
d. Revisions to electrical circuitry.
e. Actual equipment locations.
f. Locations of concealed internal utilities.
g. Changes made by Change Order or Construction Change Directive.
h. Changes made following Architect's written orders.
i. Details not on the original Contract Drawings.
j. Field records for variable and concealed conditions.
k. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings and Shop Drawings completely and accurately. Utilize personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Format: Paper copy.
3. Identification: As follows:

a. Project name.
b. Date.
c. Designation "PROJECT RECORD DRAWINGS."
d. Name of Architect.
e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
5. Note related Change Orders, record Product Data, and record Drawings where applicable.

B. Format: Submit record Specifications as paper copy.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, record Specifications, and record Drawings where applicable.

B. Format: Submit record Product Data as paper copy.

1. Include record Product Data directory organized by specification section number and title, electronically linked to each item of record Product Data.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one (1) copy of each submittal during the construction period for project record document purposes. Post changes and modifications to project record documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

END OF SECTION 017839

FUSS & O'NEILL

October 18, 2023

Mr. David J. Stein, AIA
Principal
Silver Petrucelli + Associates
3190 Whitney Avenue
Hamden, CT 06518

RE: **Limited Suspect Asbestos Inspection and Bulk Sampling**
Beecher Road School 40 Beecher Road, Woodbridge, CT – Roof Replacement
Fuss & O'Neill Project No. 20091309.S20

Dear Mr. Stein:

On September 25, 2023, Fuss & O'Neill, Inc. (Fuss & O'Neill) representative, Ms. Julia Grounds, under the supervision of Eduardo Miguel Marques, conducted a visual inspection and sample collection of suspect asbestos-containing materials (ACM) at the Beecher Road School located at 40 Beecher Road, Woodbridge, Connecticut (the "Site"). The work was conducted for Silver Petrucelli + Associates (the "Client"). Per the Client's request, the inspection and sample collection were limited to Roof D and Roof K to support a roof replacement project.

Suspect exterior ACM samples were collected under the supervision of a Fuss & O'Neill Connecticut Department of Public Health (CTDPH)-licensed and United States Environmental Protection Agency (EPA)-accredited Asbestos Inspector. A copy of the Asbestos Inspector state license and accreditation are included in *Attachment A*.

59 Elm Street
Suite 500
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06510
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f 860.533.5143

www.fando.com

Connecticut
Maine
Massachusetts
New Hampshire
New York
Rhode Island
Vermont

The EPA considers a homogeneous material to be non-asbestos upon receipt of 2 to 7 negative sample analysis results by polarized light microscopy (PLM). Fuss & O'Neill collected a set of 2 samples of each suspect material type, and analysis stopped on the set upon receipt of the first positive asbestos analysis.

EMSL Analytical, Inc. (EMSL) analyzed the suspect ACM. EMSL is a State of Connecticut-licensed and American Industrial Hygiene Association (AIHA)-accredited asbestos analytical laboratory. Asbestos sample analysis was conducted using the EPA Interim Method for the Determination of Asbestos in Bulk Building Materials (EPA/600/R-93/116) via PLM with Dispersion Staining (PLM/DS).

Suspect ACM observed included:

- Black flashing adhesive associated with rubber roofing
- Gray foam insulation paper
- Brown/tan foam insulation paper
- Black lap sealant
- Yellow/black adhesive associated with black rubber roofing
- Beige HVAC unit caulking (original)
- White HVAC unit caulking
- White silicone roof sealant

- Black roof cold tar pitch
- Gray fiberboard
- Silver/black alumicoat sealant
- Black roof cement
- Black liquid flashing pitch
- Beige/silver duct caulking
- Black/beige ductwork penetration caulking
- Black pitch box sealant

The suspect ACM sample locations, material types, sample identifications, and asbestos contents are identified in the asbestos laboratory analytical report and chain of custody form included in *Attachment B*.

The laboratory analytical results of the suspect ACM samples collected and analyzed reported none detected for asbestos content. Suspect ACM not identified during this limited inspection should be presumed ACM until sample collection and analysis indicate otherwise.

The EPA and Occupational Safety and Health Administration (OSHA) defines any materials that contain greater than one percent (>1%) of asbestos and the CTDPH defines any materials that contain equal to or greater than one percent (≥1%) asbestos, utilizing PLM, as an ACM. Materials that are identified as "none detected" are specified as not containing asbestos.

Additionally, the EPA has suggested that materials that are non-friable organically bound (NOB) materials (e.g., asphaltic-based materials, adhesives, etc.) are recommended for further confirmatory analysis utilizing Transmission Electron Microscopy (TEM). Twelve (12) of the collected samples were recommended to be analyzed by TEM. The results of TEM analysis are denoted in the asbestos laboratory analytical report.

If you should have any questions regarding the contents of this letter, please contact me at (860) 783-4751. Thank you for this opportunity to have served your environmental needs.

This report was prepared by Environmental Technician, Julia Grounds. Please see *Attachment C* for Site photographs.

Sincerely,

Eduardo Miguel Marques
Senior Environmental Analyst

Attachments

FUSS & O'NEILL

Attachment A

Fuss & O'Neill Asbestos Inspector License and Accreditation

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-INSP/MGMT PLANNER

EDUARDO M. MARQUES

CERTIFICATE NO.
000201

CURRENT THROUGH
02/29/24

VALIDATION NO.
03-015119

SIGNATURE

COMMISSIONER

CERTIFICATE OF ACHIEVEMENT

This certifies that

Eduardo Miguel Marques

has successfully completed the

4 Hour Asbestos Site Inspector Refresher Training
Asbestos Accreditation Under TSCA Title II
40 CFR Part 763



Training held via a Live Webinar

Score: 96%

conducted by:
ATC Group Services LLC dba ATLAS Technical
73 William Franks Drive
West Springfield, MA 01089
(413) 781-0070

Gregory J. Morsch

Principal Instructor: Gregory Morsch

May 25, 2023
Date of Course

May 25, 2024
Expiration Date

Gregory J. Morsch

Regional Training Director: Gregory Morsch

SIAR - 7465
Certificate Number

May 25, 2023
Examination Date

CERT#: PM-100-71

CHEMSCOPE TRAINING DIVISION

ASBESTOS PROJECT MONITOR INITIAL
40HOUR TRAINING CERTIFICATE

Julia Grounds

59 Elm Street, Suite 500, New Haven CT

Has attended a 40hour course on the subject discipline on

05/08, 05/09, 05/12, 05/15 & 05/16/2023 and has passed a written examination.

"The person receiving this certificate has completed the requisite training required for asbestos accreditation as a project monitor under TSCA Title II"

Course topics include all the EPA MAP curriculum items. This training course has been accredited by the State of Connecticut.

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

The course meets the requirements of DPH Regulation 20-440-7 and the EPA Model Accreditation Plan.

Examination Score: 98%
Exam Date: 05/16/2023
Expiration Date: 05/16/2024

Daniel Sullivan
Training Manager

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

© GOES 340

Litho in U.S.A.

FUSS & O'NEILL

Attachment B

Asbestos Laboratory Report and Chain of Custody Form

EMSL Analytical, Inc.

165 Gracey Avenue Meriden, CT 06451

Tel/Fax: (203) 284-5948 / (203) 284-5978

http://www.EMSL.com / meridenlab@emsl.com

EMSL Order:	242305248
Customer ID:	ENVI54
Customer PO:	20091309.S20
Project ID:	

Attention:	Eduardo Marques	**Phone:**	(860) 646-2469
	Fuss & O'Neill, Inc.	**Fax:**	
	146 Hartford Road	**Received Date:**	09/27/2023 10:15 AM
	Manchester, CT 06040	**Analysis Date:**	10/02/2023
		Collected Date:	09/26/2023

Project: Beecher Road Elementary School Roof Upgrade; 40 Beecher Road, Woodbrodge, CT Proj# 20091309.S20; Roofs D & K

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
09262023-JRGEMM-01 A *242305248-0001*	D Roof - Perimeter - High Point - Black flashing adhesive associated with rubber roofing	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-01 B *242305248-0002*	D Roof - Perimeter - High Point - Black flashing adhesive associated with rubber roofing	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-02 A *242305248-0003*	D Roof - Perimeter - High Point - Grey foam insulation paper	Gray Fibrous Homogeneous	65% Cellulose 15% Glass	20% Non-fibrous (Other)	None Detected
09262023-JRGEMM-02 B *242305248-0004*	D Roof - Perimeter - High Point - Grey foam insulation paper	Brown Fibrous Homogeneous	65% Cellulose 10% Glass	25% Non-fibrous (Other)	None Detected
09262023-JRGEMM-03 A *242305248-0005*	D Roof - Perimeter - High Point - Brown/tan foam insulation paper	Brown Fibrous Homogeneous	70% Cellulose	30% Non-fibrous (Other)	None Detected
09262023-JRGEMM-03 B *242305248-0006*	D Roof - Perimeter - High Point - Brown/tan foam insulation paper	Brown/Black Fibrous Homogeneous	75% Cellulose	25% Non-fibrous (Other)	None Detected
09262023-JRGEMM-04 A *242305248-0007*	D Roof - Black lap sealant	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-04 B *242305248-0008*	D Roof - Black lap sealant	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-05 A *242305248-0009*	D Roof - Penetration - Yellow/black adhesive associated with black rubber roofing	Black/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-05 B *242305248-0010*	D Roof - Penetration - Yellow/black adhesive associated with black rubber roofing	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-06 A *242305248-0011*	D Roof - HVAC Air Handling Unit - Beige HVAC Unit caulking (original)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 10/02/2023 10:21:28

EMSL Analytical, Inc.
165 Gracey Avenue Meriden, CT 06451
Tel/Fax: (203) 284-5948 / (203) 284-5978
http://www.EMSL.com / meridenlab@emsl.com

EMSL Order: 242305248
Customer ID: ENVI54
Customer PO: 20091309.S20
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
09262023-JRGEMM-06 B *242305248-0012*	D Roof - HVAC Air Handling Unit - Beige HVAC Unit caulking (original)	Gray/Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-07 A *242305248-0013*	D Roof - HVAC Air Handling Unit - White HVAC unit caulking	Gray/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-07 B *242305248-0014*	D Roof - HVAC Air Handling Unit - White HVAC unit caulking	White/Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-08 A *242305248-0015*	D Roof - White silicone roof sealer	Tan/White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-08 B *242305248-0016*	D Roof - White silicone roof sealer	Gray/White Non-Fibrous Homogeneous		2% Quartz 98% Non-fibrous (Other)	None Detected
09262023-JRGEMM-09 A *242305248-0017*	K Roof - Penetration - Black roof cold tar pitch	Black Non-Fibrous Homogeneous	5% Cellulose 5% Glass	90% Non-fibrous (Other)	None Detected
09262023-JRGEMM-09 B *242305248-0018*	K Roof - Black roof cold tar pitch	Black Fibrous Homogeneous	5% Cellulose 15% Glass	80% Non-fibrous (Other)	None Detected
09262023-JRGEMM-10 A *242305248-0019*	K Roof - Penetration - Grey fiberboard	Gray Fibrous Homogeneous	65% Cellulose	5% Perlite 30% Non-fibrous (Other)	None Detected
09262023-JRGEMM-10 B *242305248-0020*	K Roof - Grey fiberboard	Gray/Black Fibrous Homogeneous	50% Cellulose	15% Perlite 35% Non-fibrous (Other)	None Detected
09262023-JRGEMM-11 A *242305248-0021*	K Roof - Penetration - Silver/black alumicoat sealant	Black/Silver Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
09262023-JRGEMM-11 B *242305248-0022*	K Roof - Penetration - Silver/black alumicoat sealant	Black/Silver Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
09262023-JRGEMM-12 A *242305248-0023*	K Roof - Black roof cement	Black Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
09262023-JRGEMM-12 B *242305248-0024*	K Roof - Black roof cement	Black Fibrous Homogeneous	25% Cellulose	75% Non-fibrous (Other)	None Detected
09262023-JRGEMM-13 A *242305248-0025*	K Roof - Black liquid flashing pitch	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-13 B *242305248-0026*	K Roof - Black liquid flashing pitch	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 10/02/2023 10:21:28

EMSL Analytical, Inc.
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EMSL Order:	242305248
Customer ID:	ENVI54
Customer PO:	20091309.S20
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
09262023-JRGEMM-14 A *242305248-0027*	K Roof - Beige/silver duct caulking	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-14 B *242305248-0028*	K Roof - Beige/silver duct caulking	Black/Silver Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-15 A *242305248-0029*	K Roof - Black /beige ductwork penetration caulking	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-15 B *242305248-0030*	K Roof - Black /beige ductwork penetration caulking	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-16 A *242305248-0031*	K Roof - Black pitch box sealant	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
09262023-JRGEMM-16 B *242305248-0032*	K Roof - Black pitch box sealant	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Hailey Rangel (8)
Leslie Tetrick (16)
Shannon Halloran (8)

Danny Sandhu, Asbestos Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations . The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 “Interim Method”) but augmented with procedures outlined in the 1993 (”final”) version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis . Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Meriden, CT NVLAP Lab Code 200700-0,

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EMSL Analytical, Inc.
165 Gracey Avenue Meriden, CT 06451
Tel/Fax: (203) 284-5948 / (203) 284-5978
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EMSL Order: 242305248
Customer ID: ENVI54
Customer PO: 20091309.S20
Project ID:

Attention: Eduardo Marques
Fuss & O'Neill, Inc.
146 Hartford Road
Manchester, CT 06040

Phone: (860) 646-2469
Fax:
Received Date: 09/27/2023 10:15 AM
Analysis Date: 10/18/2023
Collected Date: 09/26/2023

Project: Beecher Road Elementary School Roof Upgrade; 40 Beecher Road, Woodbrodge, CT Proj# 20091309.S20; Roofs D & K

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
09262023-JRGEMM-01A *242305248-0001*	D Roof - Perimeter - High Point - Black flashing adhesive associated with rubber roofing	Black Non-Fibrous Homogeneous	100.0 Other Result Contains inseperable material	None	No Asbestos Detected
09262023-JRGEMM-04A *242305248-0007*	D Roof - Black lap sealant	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
09262023-JRGEMM-05A *242305248-0009*	D Roof - Penetration - Yellow/black adhesive associated with black rubber roofing	Black/Yellow Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
09262023-JRGEMM-06A *242305248-0011*	D Roof - HVAC Air Handling Unit - Beige HVAC Unit caulking (original)	Gray Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
09262023-JRGEMM-07A *242305248-0013*	D Roof - HVAC Air Handling Unit - White HVAC unit caulking	Gray/White Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
09262023-JRGEMM-08A *242305248-0015*	D Roof - White silicone roof sealer	Tan/White Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
09262023-JRGEMM-09A *242305248-0017*	K Roof - Penetration - Black roof cold tar pitch	Black Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
09262023-JRGEMM-11A *242305248-0021*	K Roof - Penetration - Silver/black alumicoat sealant	Black/Silver Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
09262023-JRGEMM-13A *242305248-0025*	K Roof - Black liquid flashing pitch	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
09262023-JRGEMM-14A *242305248-0027*	K Roof - Beige/silver duct caulking	Gray Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected
09262023-JRGEMM-15A *242305248-0029*	K Roof - Black /beige ductwork penetration caulking	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected

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Samples analyzed by EMSL Analytical, Inc. Meriden, CT

Initial report from: 10/18/2023 09:58:19

EMSL Analytical, Inc.
165 Gracey Avenue Meriden, CT 06451
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EMSL Order: 242305248
Customer ID: ENVI54
Customer PO: 20091309.S20
Project ID:

Attention: Eduardo Marques
Fuss & O'Neill, Inc.
146 Hartford Road
Manchester, CT 06040

Phone: (860) 646-2469
Fax:
Received Date: 09/27/2023 10:15 AM
Analysis Date: 10/18/2023
Collected Date: 09/26/2023

Project: Beecher Road Elementary School Roof Upgrade; 40 Beecher Road, Woodbrodge, CT Proj# 20091309.S20; Roofs D & K

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
09262023-JRGEMM -16A *242305248-0031*	K Roof - Black pitch box sealant	Black Non-Fibrous Homogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Danny Sandhu (12)

Danny Sandhu, Asbestos Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. EMSL recommends that samples reported as none detected or < 1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Meriden, CT

Initial report from: 10/18/2023 09:58:19

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242305248

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ASBESTOS BULK SAMPLE CHAIN OF CUSTODY FORM

Sheet _1_ of _2_

Date: 09/26/23

Project Name: Beecher Road Elementary School Roof Upgrade Project No. 20091309.S20 Task No.:

Site Address: 40 Beecher Road, Woodbridge, CT Location: Roofs D & K Project Manager: Eduardo Miguel Marques

Sample ID	Sample Location	Type of Material
09262023-JRGEMM-01A	D Roof – Perimeter – High Point	Black flashing adhesive associated with rubber roofing
09262023-JRGEMM-01B	D Roof – Perimeter – High Point	Black flashing adhesive associated with rubber roofing
09262023-JRGEMM-02A	D Roof – Perimeter – High Point	Grey foam insulation paper
09262023-JRGEMM-02B	D Roof – Perimeter – High Point	Grey foam insulation paper
09262023-JRGEMM-03A	D Roof – Perimeter – High Point	Brown/tan foam insulation paper
09262023-JRGEMM-03B	D Roof – Perimeter – High Point	Brown/tan foam insulation paper
09262023-JRGEMM-04A	D Roof	Black lap sealant
09262023-JRGEMM-04B	D Roof	Black lap sealant
09262023-JRGEMM-05A	D Roof – Penetration	Yellow/black adhesive associated with black rubber roofing
09262023-JRGEMM-05B	D Roof – Penetration	Yellow/black adhesive associated with black rubber roofing
09262023-JRGEMM-06A	D Roof – HVAC Air Handling Unit	Beige HVAC unit caulking (original)
09262023-JRGEMM-06B	D Roof – HVAC Air Handling Unit	Beige HVAC unit caulking (original)
09262023-JRGEMM-07A	D Roof – HVAC Air Handling Unit	White HVAC unit caulking
09262023-JRGEMM-07B	D Roof – HVAC Air Handling Unit	White HVAC unit caulking
09262023-JRGEMM-08A	D Roof	White silicone roof sealer
09262023-JRGEMM-08B	D Roof	White silicone roof sealer
09262023-JRGEMM-09A	K Roof – Penetration	Black roof cold tar pitch
09262023-JRGEMM-09B	K Roof	Black roof cold tar pitch
09262023-JRGEMM-10A	K Roof – Penetration	Grey fiberboard
09262023-JRGEMM-10B	K Roof	Grey fiberboard
09262023-JRGEMM-11A	K Roof – Penetration	Silver/black alumicoat sealant
09262023-JRGEMM-11B	K Roof – Penetration	Silver/black alumicoat sealant
09262023-JRGEMM-12A	K Roof	Black roof cement
09262023-JRGEMM-12B	K Roof	Black roof cement
09262023-JRGEMM-13A	K Roof	Black liquid flashing pitch
09262023-JRGEMM-13B	K Roof	Black liquid flashing pitch

OrderID: 242305248

242305248

Fuss & O'Neill EMSL Customer No. ENVI54

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59 Elm Street, Suite 500, New Haven, CT 06510-2047 Phone (203) 374-3748; Fax (860) 533-5143

Sample ID	Sample Location	Type of Material
09262023-JRGEMM-14A	K Roof	Beige/silver duct caulking
09262023-JRGEMM-14B	K Roof	Beige/silver duct caulking
09262023-JRGEMM-15A	K Roof	Black/beige ductwork penetration caulking
09262023-JRGEMM-15B	K Roof	Black/beige ductwork penetration caulking
09262023-JRGEMM-16A	K Roof	Black pitch box sealant
09262023-JRGEMM-16B	K Roof	Black pitch box sealant

Analysis Method: ☒ PLM ☐ TEM ☐ **Other** _____ Turnaround Time: 72 hours
Based on the turnaround time indicated above, analyses are due to Fuss & O'Neill on or before this date: 9/29/23 Please call Fuss & O'Neill if analyses will not be completed for requested TAT at (203) 374 - 3748.

Email Results to: LabResults@fando.com **and** emarques @fando.com **Do Not Mail Hard Copy Report**
Total # of Samples: 32

Special Instructions: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. Do Not Point Count. If NOB group sample results are 0% - < 1% by PLM, analyze only "A" group sample above by TEM NOB, per group, unless you are told otherwise.

Samples collected by: Julia Grounds & Eduardo Miguel Marques **Date:** 9/26/23 **Time:** 8:30-10:30 am

Samples Sent by: Julia Grounds **Date:** 9/26/23 **Time:** 4:00 pm

Samples Received by: _____ **Date:** _____ **Time:** _____

Shipped To: ☒ EMSL State ___ ☐ Other _____

Method of Shipment: ☒ FedEx ☐ Lab Drop Off ☐ Other _____

RECEIVED
SEP 27 2023
By

FUSS & O'NEILL

Attachment C

Site Photographs



Roof K – Perimeter



Roof K – Field



Roof K – Penetration



Roof D – Penetration



Roof D – Field



Roof D – Field



Roof D – Perimeter

SECTION 053100 - STEEL DECKING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The General Documents, as listed on the Table of Contents, and applicable parts of Division 01 General Requirements shall be included in and made a part of this Section.

1.2 SUMMARY

A. Section Includes:

1. Steel decking includes roof deck types. Provide all edge and end closures, deck support angles at columns, butt strips, ridge, and valley plates, reinforcing angles, recessed sump pans, cell closures, composite finish strips and pour stops.

B. Related Sections:

1. Section 012100 “Allowances” for work of this Section included in allowances.
2. Section 012200 “Unit Prices” for work of this Section included in unit prices.

1.3 QUALITY ASSURANCE

A. Codes and Standards: Comply with provisions of the following codes and standards, except as otherwise shown or specified:

1. AISI "Specification for the Design of Cold-Formed Steel Structural Members".
2. AWS "Structural Welding Code".
3. SDI "Design Manual for Floor Decks and Roof Decks".

B. Qualification of Field Welding: Qualify welding processes and welding operators in accordance with AWS "Standard Qualification Procedure".

C. Completed decking in place is subject to inspection and testing. Expense of removing and replacing portions of decking for testing purposes will be borne by Owner if welds are found to be satisfactory. Remove work found to be defective and replace with new acceptable work.

1.4 SUBMITTALS

A. Product Data: Submit manufacturer's specifications showing physical properties and installation instructions for each type of decking and accessories. Include manufacturer's certification as may be required to show compliance with these specifications.

B. Shop Drawings:

1. Submit shop drawings of all members to be furnished. Detail drawings of the members and their connections shall follow standard practice as set forth in the AISC "Manual of Structural Steel Detailing" (Second Edition). In particular, welding shall be shown, using standard AWS welding symbols. Show on detail drawings the paint to be used.
2. Shop drawings will not be reviewed unless accompanied by erection drawings which locates and identifies the members. Copies or reproductions of contract drawings will not be accepted or reviewed as shop drawings.

PART 2 - PRODUCTS

2.1 MATERIALS: Steel for Galvanized Metal Deck Units: ASTM A 653 coating class G-60, Minimum yield point, Fy = 33ksi.

A. Roof Decking: To match existing but as a minimum:

1. 1½-inch-wide rib, galvanized steel deck with nesting flat side laps, formed from hot dipped galvanized steel sheets. Minimum section properties as follows:

Gage	Ip (in4)	In (in4)	Sp (in3)	Sn (in3)
20	0.22	0.24	0.25	0.26

B. Miscellaneous Steel Shapes: ASTM A 36.

C. Sheet Metal Accessories: ASTM A 526, commercial quality galvanized.

D. Galvanizing Repair Paint: High zinc-dust content paint for repair of damaged galvanized surfaces complying with Military Specifications MIL-P-21035 (Ships).

E. Galvanizing: ASTM A 653, G60.

PART 3 - EXECUTION

3.1 INSPECTION

A. Installer must examine areas and conditions under which metal decking is to be installed and notify Contractor 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 installer.

3.2 INSTALLATION

A. General: Install deck units and accessories in accordance with manufacturer's recommendations and final shop drawings, and as specified herein.

B. Do not use roof deck units for storage or working platforms until permanently secured.

C. Shop drawings shall fully address all edge conditions and pour stops, including overhangs, as described in structural and architectural details.

D. Fastening Deck Units: Welding of roof deck shall not be permitted.

1. Roof decks (1½-inch-depth) shall be pneumatically fastened in place 12 inches o.c. using Hilti pneumatic fasteners, (or equal), with a 36/4 fastening pattern (unless otherwise indicated on the Drawings). Mechanically fasten side laps of adjacent deck units between supports, at intervals not exceeding 18 inches o.c., using plated self-tapping No. 10-14 screws, with a minimum of four (4) #10 plated self-tapping screws per span.

E. Cutting and Fitting: Cut neatly and fit deck units and accessories around other work projecting through or adjacent to the decking, as shown.

F. Reinforcement at Openings: Provide additional metal reinforcement and closure pieces as required for strength, continuity of decking, and to provide support for concrete and other work shown.

G. Roof Sump Pans: Place over openings provided in roof decking and weld to top decking surface. Space welds not more than 12 inches o.c. with at least one (1) weld at each corner. Cut opening in roof sump bottom to accommodate drain size indicated.

H. Touch-up Painting: After decking installation, wire brush, clean and paint scarred areas, rust spots on top and bottom surfaces of roof decking units and supporting steel members.

1. Touch-up galvanized surfaces with galvanized repair paint applied in accordance with manufacturer's instructions.

END OF SECTION 053100

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Rooftop equipment bases and support curbs.
2. Wood blocking and nailers.

1.3 DEFINITIONS

A. Boards or Strips: Lumber of less than 2 inches nominal size in least dimension.

B. Lumber grading agencies, and the abbreviations used to reference them, include the following:

1. NeLMA: Northeastern Lumber Manufacturers' Association.
2. NLGA: National Lumber Grades Authority.
3. WCLIB: West Coast Lumber Inspection Bureau.
4. WWPA: Western Wood Products Association.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
2. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.5 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For the following, from ICC-ES:

1. Wood-preservative-treated wood.
2. Power-driven fasteners.
3. Post-installed anchors.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.

B. Maximum Moisture Content of Lumber: Fifteen percent (15%) unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Kiln-dry lumber after treatment to a maximum moisture content of fifteen percent (15%). Do not use material that is warped or that does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat items indicated on Drawings, and the following:

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, sleepers, blocking, furring, stripping and similar concealed members in contact with masonry or concrete.

2.3 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.

B. Dimension Lumber Items: Standard, Stud, or No. 3 grade lumber of any of the following species:

1. Hem-fir (north); NLGA.
2. Hem-fir; WCLIB or WWPA.
3. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.4 FASTENERS

A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.

1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless-steel.

B. Nails, Brads, and Staples: ASTM F 1667.

C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

D. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01 or ICC-ES AC193 as appropriate for the substrate.

1. Material: Stainless-steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.

2.5 MISCELLANEOUS MATERIALS

A. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025-inch.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

B. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.

C. Do not splice structural members between supports unless otherwise indicated.

D. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

E. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

F. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

1. Use copper naphthenate for items not continuously protected from liquid water.

G. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

H. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
2. ICC-ES evaluation report for fastener.

I. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 WOOD BLOCKING AND NAILER INSTALLATION

A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

END OF SECTION 061000

SECTION 070150.19 - PREPARATION FOR REROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Full tear-off of areas of roof system as indicated on Drawings.
2. Removal of flashings and counterflashings.

B. Related Requirements:

1. Section 011000 "Summary of Work" for use of the premises and phasing requirements.
2. Section 015000 "Temporary Facilities and Controls" for temporary construction and environmental-protection measures for reroofing preparation.

1.3 DEFINITIONS

A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

B. Full Roof Tear-Off: Removal of existing roofing system down to existing roof deck.

1.4 PREINSTALLATION MEETINGS

A. Preliminary Roofing Conference: Before starting removal work, conduct conference at Project site.

1. Meet with Owner; Architect; Owner's insurer if applicable; testing and inspecting agency representative; roofing system manufacturer's representative; roofing Installer, including project manager, superintendent, and foreman; and installers whose work interfaces with or affects reroofing, including installers of roof deck, roof accessories, and roof-mounted equipment.
2. Review methods and procedures related to roofing tear-off, including, but not limited to, the following:

a. Reroofing preparation, including roofing system manufacturer's written instructions.
b. Temporary protection requirements for existing roofing system components that are to remain.
c. Existing roof drains and roof drainage during each stage of reroofing, and roof-drain plugging and plug removal.
d. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to avoid delays.
e. Existing roof deck conditions requiring notification of Architect.
f. Existing roof deck removal procedures and Owner notifications.
g. Condition and acceptance of existing roof deck and base flashing substrate for reuse.

h. Structural loading limitations of roof deck during reroofing.
i. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that affect reroofing.
j. HVAC shutdown and sealing of air intakes.
k. Shutdown of fire-suppression, -protection, and -alarm and -detection systems.
l. Governing regulations and requirements for insurance and certificates if applicable.
m. Existing conditions that may require notification of Architect before proceeding.

B. Comply with additional requirements in Section 013100 “Project Management and Coordination”.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.6 INFORMATIONAL SUBMITTALS

A. Field Test Reports:

1. Fastener pull-out test report.

B. Photographs: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, that might be misconstrued as having been damaged by reroofing operations.

1. Submit before Work begins.

C. Landfill Records: Indicate receipt and acceptance of demolished roofing materials by a landfill facility licensed to accept them.

1.7 CLOSEOUT SUBMITTALS

A. Certified statement from manufacturer for existing warranted roof system stating that existing roof warranty has not been affected by Work performed under this Section.

1.8 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Comply with governing EPA notification regulations before beginning roofing removal.
2. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.9 FIELD CONDITIONS

A. Existing Roofing System: Modified bitumen roofing and EPDM.

B. Owner will occupy portions of building adjacent to reroofing area.

1. Conduct reroofing so Owner's operations are not disrupted.
2. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.
3. Coordinate work activities daily with Owner so Owner has adequate advance notice to place protective dust and water-leakage covers over sensitive equipment and furnishings,

shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below work area.

4. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below affected area.

    a. Verify that occupants below work area have been evacuated before proceeding with work over impaired deck area.

C. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.

D. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

E. Conditions existing at time of inspection for bidding are maintained by Owner as far as practical.

F. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.

1. Remove only as much roofing in one (1) day as can be made watertight in the same day.

G. Hazardous Materials: It is not expected that hazardous materials, such as asbestos-containing materials, will be encountered in the Work.

1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.

    a. Hazardous materials will be removed by Owner under a separate contract.

1.10 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during reroofing, by methods and with materials so as not to void existing roofing system warranty.

1. Notify warrantor before proceeding with the Work.
2. Notify warrantor of existing roofing system on completion of reroofing, and obtain documentation verifying that existing roofing system has been inspected and warranty remains in effect.

    a. Submit documentation at Project closeout.

PART 2 - PRODUCTS

2.1 REPLACEMENT MATERIALS

A. Steel deck is specified in Section 053100 "Steel Decking."

B. Wood blocking, curbs, and nailers are specified in Section 061000 "Rough Carpentry."

2.2 AUXILIARY REROOFING MATERIALS

A. General: Use auxiliary reroofing preparation materials recommended by roofing system manufacturer for intended use and compatible with components of existing and new roofing system.

PART 3 - EXECUTION

3.1 PREPARATION

A. Seal or isolate windows that may be exposed to airborne substances created in removal of existing materials.

B. Shut off rooftop utilities and service piping before beginning the Work.

C. Test existing roof drains to verify that they are not blocked or restricted.

1. Immediately notify Architect of any blockages or restrictions.

D. Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work.

1. Cover air-intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.

E. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.

F. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday.

1. Prevent debris from entering or blocking roof drains and conductors.

a. Use roof-drain plugs specifically designed for this purpose.
b. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.

2. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new roofing system, provide alternative drainage method to remove water and eliminate ponding.

a. Do not permit water to enter into or under existing roofing system components that are to remain.

3.2 ROOF TEAR-OFF

A. Notify Owner each day of extent of roof tear-off proposed for that day and obtain authorization to proceed.

B. Lower removed roofing materials to ground and onto lower roof levels, using dust-tight chutes or other acceptable means of removing materials from roof areas.

C. Remove loose aggregate from aggregate-surfaced, built-up bituminous roofing using a power broom.

D. Full Roof Tear-Off: Where indicated on Drawings, remove existing roofing and other roofing system components down to the existing roof deck.

1. Remove substrate board, vapor retarder, underlayment, roof insulation and cover board.
2. Remove base flashings and counter flashings.
3. Remove perimeter edge flashing and gravel stops.
4. Remove copings.
5. Remove flashings at pipes, curbs, mechanical equipment, and other penetrations.
6. Remove roof drains indicated on Drawings to be removed.
7. Remove wood blocking, curbs, and nailers.

8. Remove fasteners from deck.

3.3 DECK PREPARATION

A. Inspect deck after tear-off of roofing system.

B. If broken or loose fasteners that secure deck panels to one another or to structure are observed, or if deck appears or feels inadequately attached, immediately notify Architect.

1. Do not proceed with installation until directed by Architect.

C. If deck surface is unsuitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Architect.

1. Do not proceed with installation until directed by Architect.

D. Provide additional deck securement as recommended by manufacturer.

E. Replace decking as directed by Architect. Deck replacement will be paid for by adjusting the Contract Sum according to unit prices included in the Contract Documents.

F. Prepare and paint steel deck surface. Painting and preparation for painting is specified in Section 099113 "Exterior Painting."

3.4 BASE FLASHING REMOVAL

A. Remove existing base flashings.

1. Clean substrates of contaminants, such as asphalt, sheet materials, dirt, and debris.

B. Do not damage metal counterflashings that are to remain.

1. Replace metal counterflashings damaged during removal with counterflashings specified in Section 076200 "Sheet Metal Flashing and Trim."

C. When directed by Architect, replace wood blocking, curbs, and nailers to comply with Section 061000 "Rough Carpentry."

3.5 FASTENER PULL-OUT TESTING

A. Retain independent testing and inspecting agency to conduct fastener pull-out tests according to Chapter 16 of the International Building Code and submit test report to Architect and roofing manufacturer before installing new roofing system.

1. Obtain Architect's and roofing manufacturer's approval to proceed with specified fastening pattern.

    a. Architect and roofing manufacturer may furnish revised fastening pattern commensurate with pull-out test results.

3.6 DISPOSAL

A. Collect demolished materials and place in containers.

1. Promptly dispose of demolished materials.
2. Do not allow demolished materials to accumulate on-site.
3. Storage or sale of demolished items or materials on-site is not permitted.

B. Transport and legally dispose of demolished materials off Owner's property.

END OF SECTION 070150.19

SECTION 075323 - ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Adhered ethylene-propylene-diene-monomer (EPDM) roofing system.
2. Roof insulation.
3. Walkways.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood nailers, curbs, and blocking.
2. Section 076200 "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.
3. Section 077100 "Roof Specialties" for manufactured copings and roof edge flashings.
4. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.
5. Section 221423 "Storm Drainage Piping Specialties" for roof drains.

1.3 DEFINITIONS

A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.4 PREINSTALLATION MEETINGS

A. Preliminary Roofing Conference: Conduct conference at Project site. **Refer to Section 070150.19 "Preparation for Reroofing" for additional items.**

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:

1. Layout and thickness of insulation.
2. Base flashings and membrane terminations.
3. Flashing details at penetrations.
4. Roof plan showing orientation of steel roof deck and orientation of roof membrane and fastening spacings and patterns for mechanically fastened roofing system.
5. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.

C. Samples: For the following products:

1. Roof membrane and flashings of color required.

2. Walkway pads or rolls, of color required.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturer.

B. Manufacturer Certificates:

1. Performance Requirement Certificate: Signed by roof membrane manufacturer, certifying that roofing system complies with requirements specified in "Performance Requirements" Article.

a. Submit evidence of complying with performance requirements.

2. Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.

C. Product Test Reports: For components of roofing membrane and insulation, for tests performed by a qualified testing agency, indicating compliance with specified requirements.

D. Evaluation Reports: For components of roofing system, from ICC-ES.

1. Field Test Reports:
2. Fastener-pullout test results and manufacturer's revised requirements for fastener patterns.

E. Field quality-control reports.

F. Sample Warranties: For manufacturer's special warranties.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roofing system to include in maintenance manuals.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer that is UL listed for roofing system identical to that used for this Project.

B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.10 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.11 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.

1. Special warranty includes membrane roofing, base flashings, roof insulation, fasteners, cover boards, metal flashing, roofing accessories, and other components of roofing system, which shall be no-dollar-limit, non-prorated.
2. Warranty Period: Thirty (30) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain components including roof insulation, metal flashing and fasteners for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. General Performance: Installed roofing system and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and flashings shall remain watertight.

1. Accelerated Weathering: Roof membrane shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
2. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D 3746, ASTM D 4272, or the Resistance to Foot Traffic Test in FM Approvals 4470.

B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.

C. Roofing System Design: Tested by a qualified testing agency to resist the uplift requirements as indicated on the Drawings.

D. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

E. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

2.3 ETHYLENE-PROPYLENE-DIENE-TERPOLYMER (EPDM) ROOFING

A. EPDM: ASTM D 4637, Type I, non-reinforced, EPDM sheet.

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

a. Carlisle Syntec Incorporated
b. Elevate Building Products, a Holcim company
c. Johns Manville
d. Substitutions: Under provisions of Section 012500 “Substitution Procedures”.

2. Thickness: 90 mils, nominal.
3. Exposed Face Color: Black.

2.4 AUXILIARY ROOFING MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.

1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.
2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the following limits for VOC content:

a. Plastic Foam Adhesives: 50 g/L.
b. Multipurpose Construction Adhesives: 70 g/L.
c. Fiberglass Adhesives: 80 g/L.
d. Single-Ply Roof Membrane Adhesives: 250 g/L.
e. Single-Ply Roof Membrane Sealants: 450 g/L.
f. Nonmembrane Roof Sealants: 300 g/L.
g. Sealant Primers for Nonporous Substrates: 250 g/L.
h. Sealant Primers for Porous Substrates: 775 g/L.
i. Other Adhesives and Sealants: 250 g/L.

B. Sheet Flashing: 90-mil-thick EPDM, partially cured or cured according to application.

C. Base Sheet: ASTM D 4601, Type II; fiber glass-reinforced asphalt-coated lightweight base sheet.

D. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.

E. Bonding Adhesive: Manufacturer's standard, water-based or low-VOC solvent based.

F. Seaming Material: Manufacturer's standard, synthetic-rubber polymer primer and 6-inch-wide minimum, butyl splice tape with release film.

G. Lap Sealant: Manufacturer's standard, single-component sealant, colored to match membrane roofing.

H. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.

I. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1-by-1/8-inch-thick; with anchors.

J. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening components to substrate, and acceptable to roofing system manufacturer.

K. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, molded pipe boot flashings, preformed inside and outside corner sheet flashings, reinforced EPDM securement strips, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

L. Penetration Flashing: Two-part, liquid-applied flashing material that cures to a durable, elastomeric film. Flashing system consists of primer, flashing cement, and polyester scrim.

1. Basis of Design:

a. Johns Manville; **PermaFlash System**

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

a. Elevate Building Products, a Holcim company
b. Substitutions: Under provisions of Section 012500 “Substitution Procedures”.

3. System must be compatible with roofing membrane system and be part of the warranty.

2.5 ROOF INSULATION

A. General: Preformed roof insulation boards manufactured or approved by EPDM roof membrane manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.

B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 3, glass-fiber mat facer on both major surfaces.

1. Compressive Strength: 25 psi.

C. Tapered Insulation: Provide factory-tapered insulation boards.

1. Material: Match roof insulation
2. Minimum Thickness: ¼-inch.
3. Slope: As indicated on the Drawings.

D. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.6 INSULATION ACCESSORIES

A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with roofing.

B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roof insulation and cover boards to substrate, and acceptable to roofing system manufacturer.

C. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:

1. Full-spread, spray-applied, low-rise, two-component urethane adhesive.

D. Cover Board: ASTM C 1289, Type II, Class 4, Grade 2, polyisocyanurate board substrate with glass-fiber mat facer on both major surfaces, with minimum compressive strength of 80 psi.

2.7 WALKWAYS

A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads, approximately 3/16-inch-thick and acceptable to roofing system manufacturer.

1. Size: Approximately 36 by 60 inches.
2. Color: Contrasting with membrane.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work:

1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
3. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Section 053100 "Steel Decking."

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing system installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

C. Perform fastener-pullout tests according to roof system manufacturer's written instructions.

1. Submit test result within 24 hours of performing tests.

a. Include manufacturer's requirements for any revision to previously submitted fastener patterns required to achieve specified wind uplift requirements.

3.3 ROOFING INSTALLATION, GENERAL

A. Install roofing system according to roofing system manufacturer's written instructions.

B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

C. Install roof membrane and auxiliary materials to tie in to existing roofing to maintain weathertightness of transition **and to not void warranty for existing roofing system**.

3.4 INSULATION INSTALLATION-

A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.

B. Comply with roofing system and insulation manufacturer's written instructions for installing roof insulation.

C. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches or greater, install two (2) or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.

D. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches.

1. Trim insulation so that water flow is unrestricted.

E. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding ¼-inch with insulation.

1. Cut and fit insulation within ¼-inch of nailers, projections, and penetrations.

F. Mechanically Fastened and Adhered Insulation: Install first layer of insulation and cover board to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.

1. Fasten first layer of insulation to resist uplift pressure at corners, perimeter, and field of roof.
2. Set each subsequent layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.
3. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches in each direction. Loosely butt cover boards together and adhere to insulation.

3.5 ADHERED MEMBRANE ROOFING INSTALLATION

A. Adhere roof membrane over area to receive roofing according to roofing system manufacturer's written instructions.

B. Unroll membrane roofing and allow to relax before installing.

C. Start installation of roofing in presence of roofing system manufacturer's technical personnel.

D. Accurately align roof membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

E. Bonding Adhesive: Apply to substrate and underside of roof membrane at rate required by manufacturer and allow to partially dry before installing roof membrane. Do not apply to splice area of roof membrane.

F. In addition to adhering, mechanically fasten roof membrane securely at terminations, penetrations, and perimeters.

G. Apply roof membrane with side laps shingled with slope of roof deck where possible.

H. Adhesive Seam Installation: Clean both faces of splice areas, apply splicing cement.

1. Firmly roll side and end laps of overlapping roof membrane to ensure a watertight seam installation.
2. Apply lap sealant and seal exposed edges of roofing terminations.
3. After completion of seams, strip in with 6-inch composite EPDM seam tape centered over seam. Clean seam with splice primer prior to installing stripping.

I. Tape Seam Installation: Clean and prime both faces of splice areas, apply splice tape.

1. Firmly roll side and end laps of overlapping roof membrane to ensure a watertight seam installation.
2. Apply lap sealant and seal exposed edges of roofing terminations.
3. After completion of seams, strip in with 6-inch composite EPDM seam tape centered over seam. Clean seam with splice primer prior to installing stripping.

J. Repair tears, voids, and lapped seams in roofing that do not comply with requirements.

K. Spread sealant or mastic bed over deck-drain flange at roof drains, and securely seal roof membrane roofing in place with clamping ring.

3.6 FLASHING INSTALLATION

A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to roofing system manufacturer's written instructions.

1. All flashing to be 8 inches minimum including all penetrations.

B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.

C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.

D. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.

E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars, where indicated.

3.7 WALKWAY INSTALLATION

A. Flexible Walkways: Install walkway products in locations indicated. Provide 6-inch clearance between adjoining pads. Adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.8 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to inspect substrate conditions, surface preparation, membrane application, flashings, protection, and drainage components, and to furnish reports to Architect.

B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.

C. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.

D. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.9 PROTECTING AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing system, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 075323

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Formed roof-drainage sheet metal fabrications.
2. Formed low-slope roof sheet metal fabrications.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood nailers, curbs, and blocking.
2. Section 077200 "Roof Accessories" for equipment supports, roof hatches, vents, and other manufactured roof accessory units.

1.3 COORDINATION

A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.

B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leak-proof, secure, and noncorrosive installation.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.

B. Shop Drawings: For sheet metal flashing and trim.

1. Include plans, elevations, sections, and attachment details.
2. Detail fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work.
3. Include identification of material, thickness, weight, and finish for each item and location in Project.
4. Include details for forming, including profiles, shapes, seams, and dimensions.
5. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
6. Include details of termination points and assemblies.
7. Include details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction from fixed points.
8. Include details of roof-penetration flashing.
9. Include details of special conditions.
10. Include details of connections to adjoining work.

11. Detail formed flashing and trim at scale of not less than 3 inches per 12 inches (1:5).

C. Samples: For each type of sheet metal and accessory indicated with factory-applied finishes.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For fabricator.

B. Product Test Reports: For each product, for tests performed by a qualified testing agency.

C. Sample Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For sheet metal flashing and trim, and its accessories, to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.

B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

1.9 WARRANTY

A. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.

1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:

a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: Twenty (20) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to

defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.

C. Wind Design Standard: Manufacture and install roof edge flashings tested according to Chapter 16 of the International Building Code and capable of resisting the following design pressure:

1. Design Pressure: As indicated on Drawings.

D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 SHEET METALS

A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.

B. Aluminum Sheet: ASTM B 209, alloy as standard with manufacturer for finish required, with temper as required to suit forming operations and performance required; with smooth, flat surface.

1. Exposed Coil-Coated Finish:

a. Two-Coat Fluoropolymer: AAMA 620. Fluoropolymer finish containing not less than seventy percent (70%) PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

2. Color: As selected by Architect and Owner from manufacturer's full range, to match existing.

2.3 UNDERLAYMENT MATERIALS

A. Felt: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt; nonperforated.

B. Slip Sheet: Rosin-sized building paper, 3 lb./100 sq. ft. minimum.

2.4 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal unless otherwise indicated.

B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal.

1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.

    a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
    b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.

2. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless-steel.

C. Sealant Tape: Pressure-sensitive, one hundred percent (100%) solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, non-sag, nontoxic, non-staining tape ½-inch-wide and 1/8-inch-thick.

D. Elastomeric Sealant: ASTM C 920, elastomeric polysulfide polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

E. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.

F. Bituminous Coating: Cold-applied asphalt emulsion according to ASTM D 1187.

G. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

H. Downspout Boots: Of material and profile to align with and connect to storm water pipe riser.

2.5 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.

1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
2. Obtain field measurements for accurate fit before shop fabrication.
3. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
4. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.

B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of ¼-inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.

1. Form expansion joints of intermeshing hooked flanges, not less than 1-inch-deep, filled with butyl sealant concealed within joints.
2. Use lapped expansion joints only where indicated on Drawings.

D. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.

E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

F. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard for application, but not less than thickness of metal being secured.

G. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use.

H. Do not use graphite pencils to mark metal surfaces.

2.6 ROOF-DRAINAGE SHEET METAL FABRICATIONS

A. Hanging Gutters: Fabricate to cross section required, complete with end pieces, outlet tubes, and other accessories as required. Fabricate in minimum 96-inchlong sections. Furnish flat-stock gutter brackets and twisted gutter spacers and straps fabricated from same metal as gutters, of size recommended by cited sheet metal standard but with thickness not less than twice the gutter thickness. Fabricate expansion joints, expansion-joint covers, and gutter accessories from same metal as gutters.

1. Gutter Profile: As indicated on Drawings.
2. Expansion Joints: Lap type.
3. Fabricate from the following materials:

    a. Aluminum: 0.050-inch-thick.

B. Downspouts: Fabricate downspouts in rectangular profile and dimensions as indicated on Drawings to match existing, complete with mitered elbows. Furnish with metal hangers from same material as downspouts and anchors. Shop fabricate elbows.

1. Fabricate from the following materials:

    a. Aluminum: 0.040-inch-thick.

C. Collection Boxes: Fabricate conductor heads with flanged back and stiffened top edge and of dimensions and shape required, complete with outlet tubes, exterior flange trim, and built-in overflows. Fabricate from the following materials:

1. Aluminum: 0.032-inch-thick.

D. Parapet Scuppers: Fabricate scuppers to dimensions required, with closure flange trim to exterior, 4-inch-wide wall flanges to interior, and base extending 4 inches beyond cant or tapered strip into field of roof. Fabricate from the following materials:

1. Aluminum: 0.032-inch-thick.

2.7 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

A. Roof Caps, Fasciae and Other Exposed Flashings: Fabricate in minimum 96-inch-long, but not exceeding 12-foot-long sections. Furnish with 6-inch-wide, joint cover plates.

1. Joint Style: Overlapped, 4 inches wide.
2. Fabricate from the following materials:

    a. Aluminum: 0.050-inch-thick.

B. Base Flashing: Fabricate from the following materials:

1. Aluminum: 0.040-inch-thick.

C. Counterflashing: Shop fabricate interior and exterior corners. Fabricate from the following materials:

1. Aluminum: 0.032-inch-thick.

D. Reglets: Units of type, material, and profile required, formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashing indicated with factory-mitered and -welded corners and junctions.

1. Aluminum: 0.024-inch-thick.
2. Masonry Type: Provide with offset top flange for embedment in masonry mortar joint.
3. Accessories:

    a. Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of counterflashing's lower edge.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, substrate, and other conditions affecting performance of the Work.

1. Verify compliance with requirements for installation tolerances of substrates.
2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 UNDERLAYMENT INSTALLATION

A. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.

B. Apply slip sheet, wrinkle free, directly on substrate before installing sheet metal flashing and trim.

3.3 INSTALLATION, GENERAL

A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
3. Space cleats not more than 12 inches apart. Attach each cleat with at least two (2) fasteners. Bend tabs over fasteners.
4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
5. Torch cutting of sheet metal flashing and trim is not permitted.
6. Do not use graphite pencils to mark metal surfaces.

B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.

1. Coat concealed side of sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.

C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.

1. Form expansion joints of intermeshing hooked flanges, not less than 1-inch-deep, filled with sealant concealed within joints.
2. Use lapped expansion joints only where indicated on Drawings.

D. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1¼ inches for nails and not less than ¾ inch for wood screws.

E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.

F. Seal joints as required for watertight construction.

1. Use sealant-filled joints unless otherwise indicated. Embed hooked flanges of joint members not less than 1-inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for fifty percent (50%) movement each way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F (4 deg C).
2. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."

G. Rivets: Rivet joints in uncoated aluminum and zinc where indicated and where necessary for strength.

3.4 ROOF-DRAINAGE SYSTEM INSTALLATION

A. General: Install sheet metal roof-drainage items to produce complete roof-drainage system according to cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.

B. Hanging Gutters: Join sections with soldered joints. Provide for thermal expansion. Attach gutters at eave or fascia to firmly anchor them in position. Provide end closures and seal watertight with sealant. Slope to downspouts.

1. Fasten gutter spacers to front and back of gutter.
2. Anchor and loosely lock back edge of gutter to continuous eave or apron flashing.
3. Anchor gutter with gutter brackets spaced not more than 24 inches apart to roof deck, unless otherwise indicated, and loosely lock to front gutter bead.
4. Install gutter with expansion joints at locations not exceeding 50 feet apart. Install expansion-joint caps.

C. Downspouts: Join sections with 1½ inch telescoping joints.

1. Provide hangers with fasteners designed to hold downspouts securely to walls. Locate hangers at existing locations minimum, but at top and bottom and at approximately 60 inches o.c.
2. Provide elbows at base of exposed downspout onto concrete splash blocks to direct water away from building.
3. Connect downspouts to underground drainage system where available.

D. Collection Boxes: Anchor securely to wall, with elevation of conductor head rim at minimum of 1-inch below scupper discharge.

E. Parapet Scuppers: Continuously support scupper, set to correct elevation, and seal flanges to interior wall face, over cants or tapered edge strips, and under roofing membrane.

1. Anchor scupper closure trim flange to exterior wall and seal with elastomeric sealant to scupper.

F. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated. Lap joints minimum of 4 inches in direction of water flow.

3.5 ROOF FLASHING INSTALLATION

A. General: Install sheet metal flashing and trim to comply with performance requirements and cited sheet metal standard. Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.

B. Cap, Fasciae, and Other Exposed Flashings: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate at staggered 3-inch centers.

C. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending minimum of 4 inches over base flashing. Install stainless-steel draw band and tighten.

D. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints minimum of 4 inches and bed in sealant. Secure in waterproof manner by means of interlocking folded seam or blind rivets and sealant unless otherwise indicated.Counterflashing: End counterflashing at termination bars as indicated on Drawings. Seal termination bar with sealant as specified in Section 079200 “Sealants”.

F. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric sealant and clamp flashing to pipes that penetrate roof.

3.6 ERECTION TOLERANCES

A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of ¼-inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.7 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean off excess sealants.

C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended by sheet metal flashing and trim manufacturer. Maintain sheet metal flashing and trim in clean condition during construction.

D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 076200

SECTION 077100 - ROOF SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Roof-edge specialties.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood nailers, curbs, and blocking.
2. Section 076200 "Sheet Metal Flashing and Trim" for custom- and site-fabricated sheet metal flashing and trim.
3. Section 077200 "Roof Accessories" for equipment supports, vents, and other manufactured roof accessory units.
4. Section 079200 "Joint Sealants" for field-applied sealants between roof specialties and adjacent materials.

C. Preinstallation Conference: Conduct conference at Project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, roofing-system testing and inspecting agency representative, roofing Installer, roofing-system manufacturer's representative, Installer, structural-support Installer, and installers whose work interfaces with or affects roof specialties, including installers of roofing materials and accessories.
2. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
3. Review special roof details, roof drainage, and condition of other construction that will affect roof specialties.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: For roof specialties.

1. Include plans, elevations, expansion-joint locations, keyed details, and attachments to other work. Distinguish between plant- and field-assembled work.
2. Include details for expansion and contraction; locations of expansion joints, including direction of expansion and contraction.
3. Indicate profile and pattern of seams and layout of fasteners, cleats, clips, and other attachments.
4. Detail termination points and assemblies, including fixed points.
5. Include details of special conditions.

C. Samples: For each type of roof specialty and for each color and texture specified.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer.

B. Product Test Reports: For roof-edge flashings, for tests performed by a qualified testing agency.

C. Sample Warranty: For manufacturer's special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roofing specialties to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer offering products meeting requirements that are tested to specified design pressure.

B. Source Limitations: Obtain roof specialties approved by manufacturer providing roofing-system warranty specified in Section 075323 “Ethylene-Propylene-Diene-Monomer (EPDM) Roofing”.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Do not store roof specialties in contact with other materials that might cause staining, denting, or other surface damage. Store roof specialties away from uncured concrete and masonry.

B. Protect strippable protective covering on roof specialties from exposure to sunlight and high humidity, except to extent necessary for the period of roof-specialty installation.

1.8 FIELD CONDITIONS

A. Field Measurements: Verify profiles and tolerances of roof-specialty substrates by field measurements before fabrication and indicate measurements on Shop Drawings.

B. Coordination: Coordinate roof specialties with flashing, trim, and construction of parapets, roof deck, roof and wall panels, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.9 WARRANTY

A. Roofing-System Warranty: Roof specialties are included in warranty provisions in Section 075323 “Ethylene-Propylene-Diene-Monomer (EPDM) Roofing”.

B. Special Warranty on Painted Finishes: Manufacturer agrees to repair finish or replace roof specialties that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:

a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: Twenty (20) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Roof specialties shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

B. Wind Design Standard: Manufacture and install copings and roof-edge specialties tested according to Chapter 16 of the International Building Code and capable of resisting the following design pressures:

1. Design Pressure: As indicated on Drawings.

C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 ROOF-EDGE SPECIALTIES

A. Roof-Edge Fascia: Manufactured, two-piece, roof-edge fascia consisting of snap-on metal fascia cover in section lengths not exceeding 12 feet and a continuous metal receiver with integral drip-edge cleat to engage fascia cover and secure single-ply roof membrane. Provide matching corner units.

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

a. Elevate Building Products, a Holcim company
b. Johns Manville
c. Perimeter Systems; a division of Southern Aluminum Finishing Company, Inc.
d. Substitutions: Under provisions of Section 012500 “Substitution Procedures”.

2. Formed Aluminum Sheet Fascia Covers: Aluminum sheet, minimum 0.063-inch-thick but thickness as required to meet performance requirements.

a. Surface: Smooth, flat finish.
b. Finish: Two-coat fluoropolymer.
c. Color: As selected by Architect and Owner from manufacturer's entire range, to match existing.

3. Corners: Factory mitered and continuously welded.
4. Splice Plates: Concealed, of same material, finish, and shape as fascia cover.
5. Receiver: Manufacturer's standard material and thickness.

2.3 MATERIALS

A. Aluminum Sheet: ASTM B 209 alloy as standard with manufacturer for finish required, with temper to suit forming operations and performance required.

2.4 UNDERLAYMENT MATERIALS

A. Felt: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, non-perforated.

B. Slip Sheet: Rosin-sized building paper, 3-lb./100 sq. ft. minimum.

2.5 MISCELLANEOUS MATERIALS

A. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to meet performance requirements. Furnish the following unless otherwise indicated:

1. Exposed Penetrating Fasteners: Gasketed screws with hex washer heads matching color of sheet metal.
2. Fasteners for Aluminum: Aluminum or Series 300 stainless-steel.

B. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant of type, grade, class, and use classifications required by roofing-specialty manufacturer for each application.

C. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type joints with limited movement.

D. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

E. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

2.6 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

D. Coil-Coated Aluminum Sheet Finishes:

1. High-Performance Organic Finish: Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

a. Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than seventy percent (70%) PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
b. Concealed Surface Finish: Apply pretreatment and manufacturer's standard acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.

B. Examine walls, roof edges, and parapets for suitable conditions for roof specialties.

C. Verify that substrate is sound, dry, smooth, clean, sloped for drainage where applicable, and securely anchored.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 UNDERLAYMENT INSTALLATION

A. Felt Underlayment: Install with adhesive for temporary anchorage to minimize use of mechanical fasteners under roof specialties. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.

B. Slip Sheet: Install with tape or adhesive for temporary anchorage to minimize use of mechanical fasteners under roof specialties. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.

3.3 INSTALLATION, GENERAL

A. General: Install roof specialties according to manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement. Use fasteners, protective coatings, separators, underlayments, sealants, and other miscellaneous items as required to complete roof-specialty systems.

1. Install roof specialties level, plumb, true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
2. Provide uniform, neat seams with minimum exposure of sealant.
3. Install roof specialties to fit substrates and to result in weathertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
4. Torch cutting of roof specialties is not permitted.
5. Do not use graphite pencils to mark metal surfaces.

B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

1. Coat concealed side of uncoated aluminum roof specialties with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
2. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof specialties for waterproof performance.

C. Expansion Provisions: Allow for thermal expansion of exposed roof specialties.

1. Space movement joints at a maximum of 12 feet with no joints within 18 inches of corners or intersections unless otherwise indicated on Drawings.
2. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for fifty percent (50%) movement each way. Adjust setting proportionately for installation at higher ambient temperatures.

D. Fastener Sizes: Use fasteners of sizes that penetrate wood blocking or sheathing not less than 1¼ inches for nails and not less than ¾ inch for wood screws.

E. Seal concealed joints with butyl sealant as required by roofing-specialty manufacturer.

F. Seal joints as required for weathertight construction. Place sealant to be completely concealed in joint. Do not install sealants at temperatures below 40 deg F (4 deg C).

3.4 ROOF-EDGE SPECIALTIES INSTALLATION

A. Install cleats, cants, and other anchoring and attachment accessories and devices with concealed fasteners.

B. Anchor roof edgings with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.

3.5 CLEANING AND PROTECTION

A. Clean off excess sealants.

B. Remove temporary protective coverings and strippable films as roof specialties are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain roof specialties in a clean condition during construction.

C. Replace roof specialties that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077100

SECTION 077129 - MANUFACTURED ROOF EXPANSION JOINTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Compressible tube type roof expansion joints.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wooden curbs or cants for mounting roof expansion joints.
2. Section 076200 "Sheet Metal Flashing and Trim" for shop- and field-fabricated sheet metal expansion-joint systems, flashing, and other sheet metal items.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For roof expansion joints.

1. Include plans, elevations, sections, and attachment details.
2. Include details of splices, intersections, transitions, fittings, method of field assembly, and location and size of each field splice.
3. Provide isometric drawings of intersections, terminations, and changes in joint direction or planes, depicting how components interconnect with each other and adjacent construction to allow movement and achieve waterproof continuity.

C. Samples: For each exposed product and for each color specified, 6 inches in size.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Test Reports: For each fire-barrier provided as part of a roof-expansion-joint assembly, for tests performed by a qualified testing agency.

C. Sample Warranties: For special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Installer of roofing membrane.

1.6 WARRANTY

A. Special Warranty: Manufacturer and Installer agree to repair or replace roof expansion joints and components that leak, deteriorate beyond normal weathering, or otherwise fail in materials or workmanship within specified warranty period.

1. Warranty Period: Two (2) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General: Roof expansion joints shall withstand exposure to weather, remain watertight, and resist the movements indicated without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint seals, failure of connections, and other detrimental effects.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

C. Fire-Test-Response Characteristics: Provide fire-barrier assemblies with fire-test-response characteristics as determined by testing identical products, per test method indicated, by UL or another testing agency acceptable to authorities having jurisdiction. Assemblies shall be capable of anticipated movement while maintaining fire rating. Fire-barrier products shall bear classification marking of qualified testing agency.

2.2 COMPRESSIBLE TUBE-TYPE ROOF EXPANSION JOINTS

A. Source Limitations: Obtain roof expansion joints approved by roofing manufacturer and that are part of roofing membrane warranty.

B. Compressible Tube Roof Expansion Joint: Preformed, compressible, resilient, non-staining, non-waxing, non-extruding strips of closed-cell polyethylene foam, nonabsorbent to liquid water and gas, non-outgassing in unruptured state and of size, shape, and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

1. Fire Barrier: Manufacturer's standard fire-resistive joint system with ratings determined per ASTM E 119 to resist spread of fire and to accommodate building thermal movements without impairing its ability to resist the passage of fire and hot gases.

a. Fire-Resistance Rating: Not less than 2-hour.

2.3 MATERIALS

A. Aluminum: ASTM B 209 for sheet and plate, ASTM B 221 for extrusions; alloy as standard with manufacturer for finish required, with temper to suit forming operations and performance required.

1. Apply manufacturer's standard protective coating on aluminum surfaces to be placed in contact with cementitious or preservative-treated wood materials.

2. Mill Finish: As manufactured.

B. Neoprene Membrane: Neoprene sheet recommended by EPDM manufacturer for resistance to hydrocarbons, non-aromatic solvents, grease, and oil; and as standard with roof-expansion-joint manufacturer for application.

C. Adhesives: As recommended by roof-expansion-joint manufacturer and with a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

D. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to withstand design loads.

1. Exposed Fasteners: Gasketed. Use screws with hex washer heads matching color of material being fastened.

E. Mineral-Fiber Blanket: ASTM C 665.

F. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.

B. Examine roof-joint openings, inside surfaces of parapets, and expansion-control joint systems that interface with roof expansion joints, for suitable conditions where roof expansion joints will be installed.

C. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Comply with manufacturer's written instructions for handling and installing roof expansion joints.

1. Anchor roof expansion joints securely in place, with provisions for required movement. Use fasteners, protective coatings, sealants, and miscellaneous items as required to complete roof expansion joints.
2. Install roof expansion joints true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
3. Provide for linear thermal expansion of roof expansion joint materials.
4. Provide uniform profile of roof expansion joint throughout its length; do not stretch or squeeze membranes.
5. Provide uniform, neat seams.
6. Install roof expansion joints to fit substrates and to result in watertight performance.
7. Torch cutting of roof expansion joints is not permitted.
8. Do not use graphite pencils to mark aluminum surfaces.

B. Splices: Splice roof expansion joints with materials provided by roof-expansion-joint manufacturer for this purpose, to provide continuous, uninterrupted, and waterproof joints.

C. Fire Barrier: Install fire barrier where indicated to provide continuous, uninterrupted fire resistance throughout length of roof expansion joint, including transitions and end joints.

D. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

3.3 PROTECTION

A. Protect roof expansion joints from foot traffic, displacement, or other damage.

B. Remove and replace roof expansion joints and components that become damaged by moisture or otherwise.

END OF SECTION 077129

SECTION 077200 - ROOF ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Roof hatches.
2. Pipe and duct supports.
3. Preformed flashing sleeves.
4. Roof stairways.
5. Concrete splash blocks.

B. Related Sections:

1. Section 076200 "Sheet Metal Flashing and Trim" for shop- and field-formed metal flashing, roof-drainage systems, roof expansion-joint covers, and miscellaneous sheet metal trim and accessories.
2. Section 077100 "Roof Specialties" for manufactured fasciae and roof edge flashings.
3. Section 077129 "Manufactured Roof Expansion Joints" for manufactured roof expansion-joint covers.

1.3 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.

B. Coordinate dimensions with rough-in information or Shop Drawings of equipment to be supported.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of roof accessory.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: For roof accessories.

1. Include plans, elevations, keyed details, and attachments to other work. Indicate dimensions, loadings, and special conditions. Distinguish between plant- and field-assembled work.

C. Samples: For each exposed product and for each color and texture specified, prepared on Samples of size to adequately show color.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Roof plans, drawn to scale, and coordinating penetrations and roof-mounted items. Show the following:

1. Size and location of roof accessories specified in this Section.
2. Method of attaching roof accessories to roof or building structure.
3. Other roof-mounted items including mechanical and electrical equipment, ductwork, piping, and conduit.
4. Required clearances.

B. Sample Warranties: For manufacturer's special warranties.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For roof accessories to include in operation and maintenance manuals.

1.7 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace roof hatch that fails in materials or workmanship within specified warranty period.

1. Warranty Period: Five (5) years from date of Substantial Completion.

B. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finishes or replace roof accessories that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Finish Warranty Period: Five (5) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Roof accessories shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

2.2 ROOF HATCHES

A. Roof Hatches: Metal roof-hatch units with thermally broken lids and insulated single-walled curbs, welded or mechanically fastened and sealed corner joints, continuous lid-to-curb counterflashing and weathertight perimeter gasketing, and integrally formed deck-mounting flange at perimeter bottom.

1. Basis-of-Design:

a. Bilco Company (The); **Type F-50**

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

a. Milcor Inc.; Commercial Products Group of Hart & Cooley, Inc.
b. Precision Ladders, LLC
c. Substitutions: Under provisions of Section 012500 “Substitution Procedures”.

B. Type and Size: Single- leaf lid, sized to match existing.

C. Loads: Minimum 40-lbf/sq. ft. external live load and 20-lbf/sq. ft. internal uplift load.

D. Hatch Material: Aluminum sheet.

1. Thickness: 0.090-inch.
2. Finish: Mill.

E. Construction:

1. Insulation: Glass-fiber board.
2. Hatch Lid: Opaque, insulated, and double walled, with manufacturer's standard metal liner of same material and finish as outer metal lid.
   On ribbed or fluted metal roofs, form flange at perimeter bottom to conform to roof profile.
3. Fabricate curbs to minimum height of 12 inches above roofing surface unless otherwise indicated.

F. Hardware: Spring operators, hold-open arm, galvanized steel spring latch with turn handles, stainless-steel butt- or pintle-type hinge system, and padlock hasps inside and outside.

G. Safety Railing System: Roof-hatch manufacturer's standard system including rails, clamps, fasteners, safety barrier at railing opening, and accessories required for a complete installation; attached to roof hatch and complying with 29 CFR 1910.23 requirements and authorities having jurisdiction.

1. Height: 42 inches above finished roof deck.
2. Posts and Rails: Galvanized-steel pipe, 1¼ inches in diameter or galvanized-steel tube, 1-5/8 inches in diameter.
3. Flat Bar: Galvanized steel, 2 inches high by 3/8-inch-thick.
4. Maximum Opening Size: System constructed to prevent passage of a sphere 21 inches in diameter.
5. Self-Latching Gate: Fabricated of same materials and rail spacing as safety railing system. Provide manufacturer's standard hinges and self-latching mechanism.
6. Post and Rail Tops and Ends: Weather resistant, closed or plugged with prefabricated end fittings.
7. Provide weep holes or another means to drain entrapped water in hollow sections of handrail and railing members.
8. Fabricate joints exposed to weather to be watertight.
9. Fasteners: Manufacturer's standard, finished to match railing system.
10. Finish: Manufacturer's standard baked enamel or powder coat.

    a. Color: As selected by Architect and Owner from manufacturer's full range.

H. Ladder-Assist Post: Roof-hatch manufacturer's standard device for attachment to roof-access ladder.

1. Operation: Post locks in place on full extension; release mechanism returns post to closed position.
2. Height: 42 inches above finished roof deck.
3. Material: Hot-dip galvanized steel tube.

4. Post: 1-5/8-inch-diameter pipe.
5. Finish: Manufacturer's standard baked enamel or powder coat.

    a. Color: As selected by Architect and Owner from manufacturer's full range.

2.3 PIPE AND DUCT SUPPORTS

A. Rubber Pipe Support Curbs: Provide manufacturer's standard low-profile rubber pipe support curbs.

1. Basis-of-Design Product:

    a. Advanced Support Products; **EcoCurb REC 9S**

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

    a. MIFAB, Inc.
    b. Rugger Triangle Co. (The)
    c. Substitutions: Under provisions of Section 012500 “Substitution Procedures”.

B. Duct Supports: Internally reinforced metal duct supports capable of supporting superimposed live and dead loads, including equipment loads and other construction indicated on Drawings; with welded or mechanically fastened and sealed corner joints, and integrally formed deck-mounting flange at perimeter bottom.

1. Basis-of-Design Product:

    a. Miro Industries, Inc.; **6-DS**

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

    a. Custom Solution Roof and Metal Products
    b. Roof Products, Inc.
    c. Substitutions: Under provisions of Section 012500 “Substitution Procedures”.

3. Size:

    a. Bases: 9 inches x 15¼ inches.
    b. Strut Assembly: Minimum 16-inch-wide support bar, Width as required, with height adjustable from a minimum of 12 inches to a maximum of 36 inches in elevation above roof membrane.

4. Loads: Maximum load weight not to exceed 325 lbs. on each base.
5. Material: Polycarbonate plastic bases with zinc-coated (galvanized) steel struts and support bar. Finish and color per manufacturer’s standard.

2.4 PREFORMED FLASHING SLEEVES

A. Vent Stack Flashing: Metal flashing sleeve, uninsulated, with integral deck flange.

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

    a. Custom Solution Roof and Metal Products
    b. Milcor Inc.; Commercial Products Group of Hart & Cooley, Inc.
    c. Thaler Metal USA Inc.
    d. Substitutions: Under provisions of Section 012500 “Substitution Procedures”.

2. Metal: Aluminum sheet, 0.063-inch-thick.
3. Height: 19 inches.
4. Diameter: As required.
5. Finish: Manufacturer's standard.

2.5 METAL MATERIALS

A. Aluminum Sheet: ASTM B 209, manufacturer's standard alloy for finish required, with temper to suit forming operations and performance required.

1. Mill Finish: As manufactured.
2. Exposed Coil-Coated Finish: Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

    a. Two-Coat Fluoropolymer Finish: AAMA 2605. System consisting of primer and fluoropolymer color topcoat containing not less than seventy percent (70%) polyvinylidene fluoride (PVDF) resin by weight.

B. Aluminum Extrusions and Tubes: ASTM B 221, manufacturer's standard alloy and temper for type of use, finished to match assembly where used; otherwise mill finished.

C. Galvanized-Steel Tube: ASTM A 500, round tube, hot-dip galvanized according to ASTM A 123.

D. Steel Pipe: ASTM A 53, galvanized.

2.6 ROOF STAIRWAYS

A. Roof Stairway: Fixed aluminum industrial stair designed to be permanently attached at top and bottom. Pitch of 30° to 50° as measured from the horizontal as required by code. Treads shall be flat and slip-resistant, with serrated diamond or rectangular shapes and drainage holes, and have a minimum of 22 inches of clear space. Handrails required on both exposed sides of stair.

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

    a. Erectastep.
    b. Precision Ladders, LLC.
    c. FS Industries, Inc.
    d. Substitutions: Under provisions of Section 012500 “Substitution Procedures”.

2. Stringers shall be aluminum structural channel minimum 8-inch by 2.29-inch by ¼-inch (6000 series).

3. Treads shall be formed aluminum (6005-T5) Anti-Slip plate (standard) or aluminum bar grating treads to be both welded and bolted to stringer to withstand minimum 1000 pound loading. Bolts to be 3/8-inch round stainless steel hex bolts.
4. Mounting Brackets: As required by manufacturer.
5. Handrail:

    a. 1¼-inch Schedule 40 aluminum pipe (6005-T5) providing a 1½-inch-O.D.
    b. Internal aluminum fittings. Welds will be raised but smooth.

6. Finish: Mill Finish.

B. Fabrication: Stair may require some field assembly prior to installation.

2.7 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items required by manufacturer for a complete installation.

B. Glass-Fiber Board Insulation: ASTM C 726, nominal density of 3 lb./cu. ft., thermal resistivity of 4.3 deg F x h x sq. ft./Btu x in. at 75 deg F (29.8 K x m/W at 24 deg C), thickness as indicated.

C. Wood Nailers: Softwood lumber, pressure treated with waterborne preservatives for aboveground use, acceptable to authorities having jurisdiction, containing no arsenic or chromium, and complying with AWPA C2; not less than 1½ inches thick.

D. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

E. Underlayment:

1. Felt: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, non-perforated.
2. Polyethylene Sheet: 6-mil-thick polyethylene sheet complying with ASTM D 4397.
3. Slip Sheet: Building paper, 3-lb/100 sq. ft. minimum, rosin sized.

F. Fasteners: Roof accessory manufacturer's recommended fasteners suitable for application and metals being fastened. Match finish of exposed fasteners with finish of material being fastened. Provide non-removable fastener heads to exterior exposed fasteners. Furnish the following unless otherwise indicated:

1. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless-steel.

G. Gaskets: Manufacturer's standard tubular or fingered design of neoprene, EPDM, PVC, or silicone or a flat design of foam rubber, sponge neoprene, or cork.

H. Elastomeric Sealant: ASTM C 920, elastomeric polymer sealant as recommended by roof accessory manufacturer for installation indicated; low modulus; of type, grade, class, and use classifications required to seal joints and remain watertight.

I. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for expansion joints with limited movement.

J. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

K. Concrete Splash Blocks: 2-foot-long x 1-foot-wide flared concrete splash block pitched to drain away from the building, with side walls and textured finish.

2.8 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Baked-Enamel or Powder-Coat Finish: After cleaning and pretreating, apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat to a minimum dry film thickness of 2 mils.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.

B. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

C. Verify dimensions of roof openings for roof accessories.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Install roof accessories according to manufacturer's written instructions.

1. Install roof accessories level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil canning, buckling, or tool marks.
2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.

B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

1. Coat concealed side of uncoated aluminum roof accessories with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
2. Underlayment: Where installing roof accessories directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet, or install a course of polyethylene sheet.
3. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof accessories for waterproof performance.

C. Roof-Hatch Accessories Installation:

1. Install roof hatch so top surface of hatch curb is level.

2. Verify that roof hatch operates properly. Clean, lubricate, and adjust operating mechanism and hardware.
3. Attach safety railing system to roof-hatch curb.
4. Attach ladder-assist post according to manufacturer's written instructions.

D. Duct Support Installation: Install supports so top surfaces are level with each other. All loose aggregate from an area of 2 inches larger than each base should be removed from the area directly beneath the duct support. Care should be taken to install each duct support so it supports a proportional and equal amount of weight at each duct support.

E. Pipe Support Installation: Comply with MSS SP-58 and MSS SP-89. Install supports and attachments as required to properly support piping. Arrange for grouping of parallel runs of horizontal piping, and support together.

1. Pipes of Various Sizes: Space supports for smallest pipe size or install intermediate supports for smaller diameter pipes as specified for individual pipe hangers.

F. Preformed Flashing-Sleeve Installation: Secure flashing sleeve to roof membrane according to flashing-sleeve manufacturer's written instructions.

G. Seal joints with elastomeric or butyl sealant as required by roof accessory manufacturer.

H. Roof Stairway: Install per manufacturer’s written instructions. Contractor to provide support framing, brackets, connectors, nosings, and other accessories and components needed for complete installation.

3.3 REPAIR AND CLEANING

A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780.

B. Clean exposed surfaces according to manufacturer's written instructions.

C. Clean off excess sealants.

D. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077200

SECTION 078413 - PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Fireproof firestopping and firesafing materials and accessories.

1.3 PERFORMANCE REQUIREMENTS

A. Fireproofing Materials: ASTM E 119 and ASTM E 814 to achieve a fire rating as noted on Drawings.

B. Surface Burning: ASTM E 84 with a flame spread/fuel contributed/smoke developed rating of 5/0/0.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated provide characteristics, performance and limitation criteria.

B. Manufacturer's Installation Instructions: Indicate preparation and installation instructions.

C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing the products specified in this Section with minimum three (3) years documented experience.

B. Applicator: Company specializing in performing the work of this Section with minimum five (5) years documented experience.

1.6 REGULATORY REQUIREMENTS

A. Conform to applicable State Building code for fire resistance ratings and surface burning characteristics.

B. UL Classifications for these systems shall be (all two (2) hours or more):

1. Duct Penetrations: C-AJ-7027
2. Pipe Penetrations: C-AJ-1079
3. Cable Penetrations: C-AJ-1079
4. Conduit Penetrations: C-AJ-1079

1.7 MOCK-UP

A. Provide mock-up of applied firestopping material.

B. Apply 1 lineal ft to a representative substrate surface.

C. If accepted, mock-up will demonstrate minimum standard for the Work.

1.8 ENVIRONMENTAL REQUIREMENTS

A. Do not apply materials when temperature of substrate material and ambient air is below 60 degrees F.

B. Maintain this minimum temperature before, during and for three (3) days after installation of materials.

C. Provide ventilation in areas to receive solvent cured materials.

1.9 SEQUENCING

A. Sequence Work to permit firestopping materials to be installed after adjacent and surrounding work is complete.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Thermal Ceramics; **Firemaster Putty, Bulk and Blankets**

B. Tremco Incorporated; **Fyre-shield and Cerablanket FS Hilti, Inc.**

C. United States Gypsum; **Thermafiber Safing Insulation and FIRECODE compound**

D. Substitutions: Under provisions of Section 016310 “Equals and Substitutions”.

2.2 MATERIALS

A. Firestopping Material: Single component silicone elastomeric compounds; conforming to the following:

1. Elongation & Shrinkage: Five percent (5%).
2. Tensile Strength: 300 psi.
3. Density: 8 lb/cu ft.
4. Surface Durability: 35 (Shore Hardness).
5. Durability and Longevity: Permanent.
6. Side Effects during Installation: Non-toxic.
7. Long Term Side Effects: None.

B. Primer: Type recommended by firestopping manufacturer for specific substrate surfaces.

C. Firesafing Blankets: ASTM C 665; 4 psf nominal density firesafing insulation.

D. Putty Pads: UL CLIV; acoustic, intumescent pad; 3.2mm thickness.

2.3 ACCESSORIES

A. Dam Material: Mineral fiber matting, permanent.

B. Retainers: Stainless clips to support mineral fiber matting

2.4 FINISHES

A. Color: Dark gray or manufacturer’s standard color.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning: Clean out openings immediately before installing penetration firestopping to comply with manufacturer's written instructions and with the following requirements:

1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of penetration firestopping.
2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with penetration firestopping. Remove loose particles remaining from cleaning operation.
3. Remove laitance and form-release agents from concrete.

B. Install backing materials to arrest liquid material leakage.

3.3 INSTALLATION

A. General: Install penetration firestopping to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.

B. Apply firestopping material to all wall and floor penetrations through rated assemblies. These penetrations include electrical conduit and raceways, plumbing and heating system penetrations, ducts and other system chases.

C. Apply primer and materials in accordance with manufacturer's instructions.

D. Apply firestopping material in sufficient thickness to achieve rating to a density of fifty percent (50%) to uniform density and texture.

E. Install material at walls or partition openings which contain penetrating sleeves, piping, ductwork, conduit and other items requiring firestopping.

F. Remove dam material after firestopping material has cured.

3.4 CLEANING AND PROTECTION

A. Clean off excess materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping manufacturers and that do not damage materials in which openings occur.

B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping is without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, immediately cut out and remove damaged or deteriorated penetration firestopping and install new materials to produce systems complying with specified requirements.

3.5 SCHEDULE

A. See Construction Documents for rating information and construction details and conditions.

B. Firesafe all penetrations through new and existing masonry and gypsum board construction in the project work areas, equal to the one (1) or two (2) hour rating of the appropriate spaces.

END OF SECTION 078413

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Silicone joint sealants.

1.3 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

C. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.

C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.

D. Warranties: Sample of special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

C. Product Testing: Test joint sealants using a qualified testing agency.

1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

1.6 PROJECT CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 WARRANTY

A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Five (5) years from date of Substantial Completion.

B. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:

1. Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
2. Disintegration of joint substrates from natural causes exceeding design specifications.
3. Mechanical damage caused by individuals, tools, or other outside agents.
4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. VOC Content of Sealants: Sealants and sealant primers used as part of the weatherproofing system shall comply with the following:

1. Exterior: VOC content of 100 g/L or less.

C. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

D. Stain-Test-Response Characteristics: Where sealants are specified to be non-staining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

E. Colors of Exposed Joint Sealants: As selected by Architect and Owner from manufacturer's full range, to match adjacent where required.

2.2 SILICONE JOINT SEALANTS

A. Silicone, Non-Staining: Non-Staining, single-component, non-sag, plus fifty percent (+50%) and minus fifty percent (-50%) movement capability, non-traffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Use NT.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Dow Corning Corporation
b. Master Bond, Inc.
c. Pecora Corporation
d. Tremco Incorporated
e. Substitutions: Under provisions of Section 012500 “Substitution Procedures”.

2.3 JOINT SEALANT BACKING

A. General: Provide sealant backings of material that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, Type B (bi-cellular material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:

    a. Concrete.
    b. Masonry.

3. Remove laitance and form-release agents from concrete.
4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:

    a. Metal.
    b. Glass.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Non-Sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193.

    a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.4 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal non-traffic surfaces.

1. Joint Locations:

    a. Control and expansion joints in unit masonry.
    b. Joints between different materials.
    c. Perimeter joints between materials listed above and frames of exterior openings and skylights.
    d. Other joints as indicated.

2. Joint Sealant: Silicone, non-staining, S, NS, 50, NT.

END OF SECTION 079200

SECTION 086200 - UNIT SKYLIGHTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Self-flashing unit skylights with integral curbs.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of unit skylight.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for unit skylights.

B. Shop Drawings: For unit skylight work.

1. Include plans, elevations, sections, details, and connections to supporting structure and other adjoining work.

C. Aluminum Finish Samples: For each type of exposed finish required, in a representative section of each unit skylight in manufacturer's standard size.

D. Glazing Samples: For each color and finish of glazing indicated, 12 inches square and of same thickness indicated for the final Work.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer and manufacturer.

B. Product Test Reports: For each type and size of unit skylight, for tests performed within the last four (4) years by a qualified testing agency. Test results based on testing of smaller unit skylights than specified will not be accepted.

C. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For unit skylights to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: A manufacturer capable of fabricating unit skylights that meet or exceed performance requirements indicated and of documenting this performance by inclusion in lists and by labels, test reports, and calculations.

B. Installer Qualifications: An installer acceptable to unit skylight manufacturer for installation of units required for this Project.

1.7 DELIVERY, HANDLING, STORAGE

A. Deliver products in manufacturer's original containers dry, undamaged, seals and labels intact.

B. Store and protect products in accordance with manufacturer's recommendations.

1.8 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of unit skylights that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Uncontrolled water leakage.
b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
c. Breakage of polycarbonate glazing.

2. Warranty Period: Fifteen (15) years on skylight assembly and ten (10) years on acrylic coloring from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product:

1. Wasco Products, Inc., a VELUX Group company; **Model CWC2.**

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

1. Kingspan Light + Air LLC
2. Plasteco, Inc.
3. Substitutions: Under provisions of Section 012500 "Substitution Procedures".

2.2 PERFORMANCE REQUIREMENTS

A. Unit Skylight Standard: Comply with AAMA 101/I.S.2/NAFS for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.

B. General: Provide unit skylights capable of withstanding loads indicated without failure. Failure includes the following:

1. Thermal stresses transferred to the building structure.
2. Framing members transferring stresses, including those caused by thermal and structural movement, to glazing.
3. Noise or vibration created by thermal and structural movement and wind.
4. Loosening or weakening of fasteners, attachments, and other components.
5. Sealant failure.

C. System to provide for expansion and contraction within system components caused by a cycling temperature range of 170 degrees F without causing detrimental effects to system or components.

D. Design and size members to withstand dead loads and live loads caused by snow, hail and pressure or suction of wind acting vertically as calculated in accordance with Chapter 16 of the State of Connecticut Building Code. The domes shall be designed to withstand loads required by OSHA 1910.23(a)(4). Plastic skylights must meet the requirements of AAMA 101/I.S.2/NAFS, which requires glazing thickness adequate to withstand a positive and negative test pressure as calculated in accordance with Section 2405.5.1 of the State of Connecticut Building Code.

E. Skylight glazing shall be of such construction and mounting that they are capable of withstanding a load of at least 200 pounds applied perpendicularly at any single area on the skylight as required by OSHA 1910.23(e)(8).

F. Thermal transmittance (U-factor) shall be 1.30 and solar heat gain coefficient (SHGC) shall be 0.62 in accordance with Table 502.3 of the 2006 International Energy Conservation Code.

2.3 UNIT SKYLIGHTS

A. General: Provide factory-assembled unit skylights that include glazing, extruded-aluminum glazing retainers, gaskets, and inner frames and that are capable of withstanding performance requirements indicated.

B. Unit Shape and Size: To match existing.

C. Extruded aluminum alloy 6063-T5 with minimum effective thickness of 0.090-inch. Mitered and welded corner assembly in mill finish.

D. Polycarbonate Glazing: Thermoformable, extruded monolithic sheets, UV resistant, burglar-resistance rated according to UL 972, and with average impact strength of 12 to 16 ft-lb/in. of width when tested according to ASTM D 256, Test Method A (Izod).

1. Double-Glazing Profile:

   a. Inner/Outer Glazing: Colorless, transparent polycarbonate.

2. Self-Ignition Temperature: 650 deg F (343 deg C) or more for plastic sheets in thickness indicated when tested according to ASTM D 1929.
3. Smoke-Production Characteristics: Smoke-developed index of 450 or less when tested according to ASTM E 84, and smoke density of 75 or less when tested according to ASTM D 2843
4. Burning Characteristics: Tested according to ASTM D 635. Class CC1, burning extent of 1-inch or less for nominal thickness of 0.060-inch or thickness indicated for use.

E. Glazing Gaskets: Manufacturer's standard.

F. Integral Curb: Extruded-aluminum, self-flashing type.

1. Extruded-Aluminum Shapes: ASTM B 221, alloy and temper to suit structural and finish requirements but with not less than the strength and durability of Alloy 6063-T52.
2. Height: 8 inches or as required to meet minimum heights on Drawings.
3. Construction: Double wall.
4. Insulation: Manufacturer's standard rigid or semi-rigid type.

G. Condensation Control: Fabricate unit skylights with integral internal gutters and non-clogging weeps to collect and drain condensation to the exterior.

H. Thermal Break: Fabricate unit skylights with glass fiber reinforced polymer thermal barrier separating exterior and interior metal framing.

2.4 FALL PROTECTION SAFETY SCREENS

A. Interior Protective Screen: Welded steel wire mesh, 4-inch-by-4-inch spacing minimum, wire diameter 0.188-inch minimum hot dipped galvanized finish on carbon steel, or unfinished stainless-steel in integral frame.

B. Frame: Extruded aluminum alloy 6063-T5 (minimum); ASTM B 221 with minimum effective thickness of 0.090-inch.

1. Frame includes a pocket for the edges of the screen material, and a downward leg for attachment to any vertical surface of a skylight retainer or frame.

C. Adjustment Bar: Extruded aluminum bar stock, ¼-inch by 1-inch, alloy 6063-T5 (minimum); ASTM B 221.

1. Adjustment bar is slotted for width adjustment in the field.

2.5 ACCESSORY MATERIALS

A. Fasteners: Same metal as metal being fastened, nonmagnetic stainless steel, or other noncorrosive metal as recommended by manufacturer. Finish exposed fasteners to match material being fastened.

1. Where removal of exterior exposed fasteners might allow access to building, provide non-removable fastener heads.

B. Bituminous Coating: Cold-applied asphalt mastic, asbestos-free, compounded for 15-mil dry film thickness per coat.

2.6 ALUMINUM FINISHES

A. Mill Finish: Manufacturer's standard.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Where aluminum surfaces of unit skylights will contact another metal or corrosive substrates, such as preservative-treated wood, apply bituminous coating on concealed metal surfaces or

provide other approved permanent separation recommended in writing by unit skylight manufacturer.

3.3 INSTALLATION

A. Coordinate installation of unit skylight with installation of substrates, vapor retarders, roof insulation, roofing membrane, and flashing as required to ensure that each element of the Work performs properly and that combined elements are waterproof and weathertight.

B. Comply with recommendations in AAMA 1607 and with manufacturer's written instructions for installing unit skylights.

C. Install unit skylights level, plumb, and true to line, without distortion.

D. Anchor unit skylights securely to supporting substrates.

3.4 CLEANING

A. Clean exposed unit skylight surfaces according to manufacturer's written instructions. Touch up damaged metal coatings and finishes.

B. Remove excess sealants, glazing materials, dirt, and other substances.

C. Remove and replace glazing that has been broken, chipped, cracked, abraded, or damaged during construction period.

D. Protect unit skylight surfaces from contact with contaminating substances resulting from construction operations.

END OF SECTION 086200

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes surface preparation and the application of paint systems on the following exterior substrates:

1. Steel and iron.
2. Galvanized metal.

1.3 DEFINITIONS

A. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

B. Samples: For each type of paint system and each color and gloss of topcoat.

1. Submit Samples on rigid backing, 8 inches square.
2. Step coats on Samples to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.

C. Product List: For each product indicated, include the following:

1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
2. Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
3. VOC content.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint: Five percent, (5%) but not less than 1 gal. of each material and color applied.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).

B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds eighty-five percent (85%); at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

1. Behr Process Corporation
2. Benjamin Moore & Co.
3. Duron, Inc.
4. ICI Paints
5. PPG Architectural Finishes, Inc.
6. Sherwin-Williams Company (The)
7. Substitutions: Under provisions of Section 012500 “Substitution Procedures”.

2.2 PAINT, GENERAL

A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."

B. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

C. VOC Content: Provide materials that comply with VOC limits of authorities having jurisdiction.

D. Colors: As selected by Architect and Owner from manufacturer’s entire range, to match existing where required.

2.3 SOURCE QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:

1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
2. Testing agency will perform tests for compliance with product requirements.

3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two (2) paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

C. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

D. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:

1. SSPC-SP 3.

E. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."

1. Use applicators and techniques suited for paint and substrate indicated.

2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
3. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. Tint undercoats same color as topcoat but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

1. Paint the following work where exposed to view, unless factory-finished:

a. Uninsulated metal piping.
b. Pipe hangers and supports.
c. Metal conduit.

3.4 FIELD QUALITY CONTROL

A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.

1. Contractor shall touch up and restore painted surfaces damaged by testing.
2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 EXTERIOR PAINTING SCHEDULE

A. Steel and Iron Substrates:

1. Water-Based Light Industrial Coating System:

    a. Prime Coat: Primer, zinc rich, inorganic, **MPI #19**.
    b. Intermediate Coat: Light industrial coating, exterior, water based, matching topcoat.
    c. Topcoat: Light industrial coating, exterior, water based, semi-gloss (Gloss Level 5), **MPI #163**.

B. Galvanized-Metal Substrates:

1. Water-Based Light Industrial Coating System:

    a. Prime Coat: Primer, galvanized, water based**, MPI #134**.
    b. Intermediate Coat: Light industrial coating, exterior, water based, matching topcoat.
    c. Topcoat: Light industrial coating, exterior, water based, semi-gloss (Gloss Level 5), **MPI #163**.

END OF SECTION 099113

SECTION 220719 - PLUMBING PIPING INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes insulating the following plumbing piping services:

1. Stormwater piping exposed to freezing conditions.
2. Roof drains and rainwater leaders.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include thermal conductivity, water-vapor permeance thickness, and jackets (both factory- and field-applied, if any).

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

1. Detail application of protective shields, saddles, and inserts at hangers for each type of insulation and hanger.
2. Detail insulation application at pipe expansion joints for each type of insulation.
3. Detail insulation application at elbows, fittings, flanges, valves, and specialties for each type of insulation.
4. Detail removable insulation at piping specialties, equipment connections, and access panels.
5. Detail application of field-applied jackets.
6. Detail application at linkages of control devices.

C. Samples: For each type of insulation and jacket indicated. Identify each Sample, describing product and intended use. Sample sizes are as follows:

1. Preformed Pipe Insulation Materials: 12 inches long by NPS 2.
2. Jacket Materials for Pipe: 12 inches long by NPS 2.
3. Sheet Jacket Materials: 12 inches square.
4. Manufacturer's Color Charts: For products where color is specified, show the full range of colors available for each type of finish material.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Material Test Reports: From a qualified testing agency acceptable to authorities having jurisdiction indicating, interpreting, and certifying test results for compliance of insulation materials, sealers, attachments, cements, and jackets, with requirements indicated. Include dates of tests and test methods employed.

C. Field quality-control reports.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Skilled mechanics who have successfully completed an apprenticeship program or another craft training program certified by the Department of Labor, Bureau of Apprenticeship and Training.

B. Surface-Burning Characteristics: For insulation and related materials, as determined by testing identical products according to ASTM E 84 by a testing agency acceptable to authorities having jurisdiction. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing agency.

1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.
2. Insulation Installed Outdoors: Flame-spread index of 75 or less, and smoke-developed index of 150 or less.

C. Comply with the following applicable standards and other requirements specified for miscellaneous components:

1. Supply and Drain Protective Shielding Guards: ICC A117.1.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Packaging: Insulation material containers shall be marked by manufacturer with appropriate ASTM standard designation, type and grade, and maximum use temperature.

1.7 COORDINATION

A. Coordinate clearance requirements with piping Installer for piping insulation application. Before preparing piping Shop Drawings, establish and maintain clearance requirements for installation of insulation and field-applied jackets and finishes and for space required for maintenance.

1.8 SCHEDULING

A. Schedule insulation application after pressure testing systems. Insulation application may begin on segments that have satisfactory test results.

B. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 - PRODUCTS

2.1 INSULATION MATERIALS

A. Pipe insulation thickness shall conform to ASHRAE 90.1 2007, Table 6.8.3.

B. Comply with requirements in "Piping Insulation Schedule, General" and "Indoor Piping Insulation Schedule" articles for where insulating materials shall be applied.

C. Products shall not contain asbestos, lead, mercury, or mercury compounds.

D. Products that come in contact with stainless-steel shall have a leachable chloride content of less than 50 ppm when tested according to ASTM C 871.

E. Insulation materials for use on austenitic stainless-steel shall be qualified as acceptable according to ASTM C 795.

F. Foam insulation materials shall not use CFC or HCFC blowing agents in the manufacturing process.

G. Mineral-Fiber, Preformed Pipe Insulation:

1. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:

a. Johns Manville; a Berkshire Hathaway company; **Micro-Lok**
b. Knauf Insulation; **Earthwool 1000 Degree Pipe Insulation with ECOSE Technology**
c. Owens Corning; **Fiberglas Pipe Insulation**

2. Type I, 850 Deg F Materials: Mineral or glass fibers bonded with a thermosetting resin. Comply with ASTM C 547, Type I, Grade A, with factory-applied ASJ-SSL. Factory-applied jacket requirements are specified in "Factory-Applied Jackets" Article.

2.2 INSULATING CEMENTS

A. Mineral-Fiber Insulating Cement: Comply with ASTM C 195.

1. Manufacturers: Subject to compliance with requirements, provide the following:

a. Ramco Insulation, Inc; **Super-Stik**

B. Expanded or Exfoliated Vermiculite Insulating Cement: Comply with ASTM C 196.

1. Manufacturers: Subject to compliance with requirements, provide the following:

a. Ramco Insulation, Inc; **Thermokote V**

C. Mineral-Fiber, Hydraulic-Setting Insulating and Finishing Cement: Comply with ASTM C 449.

1. Manufacturers: Subject to compliance with requirements, provide the following:

a. Ramco Insulation, Inc; **Ramcote 1200** and **Quik-Cote**

2.3 ADHESIVES

A. Materials shall be compatible with insulation materials, jackets, and substrates and for bonding insulation to itself and to surfaces to be insulated, unless otherwise indicated.

B. Cellular-Glass Adhesive: Two-component, thermosetting urethane adhesive containing no flammable solvents, with a service temperature range of minus 100 to plus 200 deg F.

1. Manufacturers: Subject to compliance with requirements, provide the following:

a. Foster Brand; H. B. Fuller Construction Products; **81-84**

2. For indoor applications, adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

C. Mineral-Fiber Adhesive: Comply with MIL-A-3316C, Class 2, Grade A.

1. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:

a. Childers Brand; H. B. Fuller Construction Products; **CP-127**
b. Eagle Bridges - Marathon Industries
c. Foster Brand; H. B. Fuller Construction Products; **85-60/85-70**
d. Mon-Eco Industries, Inc; **22-25**

2. For indoor applications, adhesive shall have a VOC content of 80 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

D. ASJ Adhesive, and FSK Jacket Adhesive: Comply with MIL-A-3316C, Class 2, Grade A for bonding insulation jacket lap seams and joints.

1. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:

a. Childers Brand; H. B. Fuller Construction Products; **CP-82**
b. Eagle Bridges - Marathon Industries
c. Foster Brand; H. B. Fuller Construction Products; **85-20**
d. Mon-Eco Industries, Inc; **22-25**

2. For indoor applications, adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.4 MASTICS

A. Materials shall be compatible with insulation materials, jackets, and substrates; comply with MIL-PRF-19565C, Type II.

1. For indoor applications, use mastics that have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

B. Breather Mastic: Water based; suitable for indoor and outdoor use on above-ambient services.

1. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:

a. Childers Brand; H. B. Fuller Construction Products; **CP-10**
b. Eagle Bridges - Marathon Industries
c. Foster Brand; H. B. Fuller Construction Products; 4**6-50**
d. Knauf Insulation; EXPERT Mastics - **KI-705 ASJ+**
e. Mon-Eco Industries, Inc; **55-50**
f. Vimasco Corporation; **WC-1/WC-5**

2. Water-Vapor Permeance: ASTM F 1249, 1.8 perms at 0.0625-inch dry film thickness.
3. Service Temperature Range: Minus 20 to plus 180 deg F.
4. Solids Content: Sixty percent (60%) by volume and sixty-six percent (66%) by weight.
5. Color: White.

2.5 LAGGING ADHESIVES

A. Description: Comply with MIL-A-3316C, Class I, Grade A, and shall be compatible with insulation materials, jackets, and substrates.

1. For indoor applications, use lagging adhesives that have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:

a. Childers Brand; H. B. Fuller Construction Products; **CP-50 AHV2**
b. Foster Brand; H. B. Fuller Construction Products; **30-36**
c. Vimasco Corporation; **713** and **714**

3. Fire-resistant, water-based lagging adhesive and coating for use indoors to adhere fire-resistant lagging cloths over pipe insulation.
4. Service Temperature Range: 0 to plus 180 deg F.
5. Color: White.

2.6 SEALANTS

A. Joint Sealants:

1. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:

a. Childers Brand; H. B. Fuller Construction Products; **CP-76**
b. Eagle Bridges - Marathon Industries
c. Foster Brand; H. B. Fuller Construction Products; **30-45**
d. Mon-Eco Industries, Inc; **44-05**
e. Pittsburgh Corning Corporation; **Pittseal 444**

2. Materials shall be compatible with insulation materials, jackets, and substrates.
3. Permanently flexible, elastomeric sealant.
4. Service Temperature Range: Minus 100 to plus 300 deg F.
5. Color: White or gray.
6. For indoor applications, sealants shall have a VOC content of 420 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

B. FSK and Metal Jacket Flashing Sealants:

1. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:

a. Childers Brand; H. B. Fuller Construction Products; **CP-76**
b. Eagle Bridges - Marathon Industries
c. Foster Brand; H. B. Fuller Construction Products; **95-44**
d. Mon-Eco Industries, Inc; **44-05**

2. Materials shall be compatible with insulation materials, jackets, and substrates.
3. Fire- and water-resistant, flexible, elastomeric sealant.
4. Service Temperature Range: Minus 40 to plus 250 deg F.
5. Color: Aluminum.
6. For indoor applications, sealants shall have a VOC content of 420 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

C. ASJ Flashing Sealants, and Vinyl, PVDC, and PVC Jacket Flashing Sealants:

1. Manufacturers: Subject to compliance with requirements, provide the following:

a. Childers Brand; H. B. Fuller Construction Products; **CP-76**

2. Materials shall be compatible with insulation materials, jackets, and substrates.
3. Fire- and water-resistant, flexible, elastomeric sealant.
4. Service Temperature Range: Minus 40 to plus 250 deg F.
5. Color: White.
6. For indoor applications, sealants shall have a VOC content of 420 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.7 FACTORY-APPLIED JACKETS

A. Insulation system schedules indicate factory-applied jackets on various applications. When factory-applied jackets are indicated, comply with the following:

1. ASJ: White, Kraft-paper, fiberglass-reinforced scrim with aluminum-foil backing; complying with ASTM C 1136, Type I.
2. ASJ-SSL: ASJ with self-sealing, pressure-sensitive, acrylic-based adhesive covered by a removable protective strip; complying with ASTM C 1136, Type I.
3. FSK Jacket: Aluminum-foil, fiberglass-reinforced scrim with Kraft-paper backing; complying with ASTM C 1136, Type II.

2.8 FIELD-APPLIED JACKETS

A. Field-applied jackets shall comply with ASTM C 921, Type I, unless otherwise indicated.

B. PVC Jacket: High-impact-resistant, UV-resistant PVC complying with ASTM D 1784, Class 16354-C; thickness as scheduled; roll stock ready for shop or field cutting and forming. Thickness is indicated in field-applied jacket schedules.

1. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:

a. Johns Manville; a Berkshire Hathaway company; **Zeston**
b. P.I.C. Plastics, Inc; **FG Series**
c. Proto Corporation; **LoSmoke**
d. Speedline Corporation; **SmokeSafe**

2. Adhesive: As recommended by jacket material manufacturer.
3. Color: Color-code jackets based on system. Color as selected by Architect.
4. Factory-fabricated fitting covers to match jacket if available; otherwise, field fabricate.

a. Shapes: 45- and 90-degree, short- and long-radius elbows, tees, valves, flanges, unions, reducers, end caps, soil-pipe hubs, traps, mechanical joints, and P-trap and supply covers for lavatories.

2.9 TAPES

A. ASJ Tape: White vapor-retarder tape matching factory-applied jacket with acrylic adhesive, complying with ASTM C 1136.

1. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:

    a. Avery Dennison Corporation, Specialty Tapes Division; **Fasson 0836**
    b. Compac Corporation; **104** and **105**
    c. Ideal Tape Co., Inc,; an American Biltrite company; **428 AWF ASJ**
    d. Knauf Insulation; EXPERT Tapes - **ASJ+ Tape**
    e. Venture Tape; **1540 CW Plus**, **1542 CW Plus**, and **1542 CW Plus/SQ**

2. Width: 3 inches.
3. Thickness: 11.5 mils.
4. Adhesion: 90 ounces force/inch in width.
5. Elongation: Two percent (2%).
6. Tensile Strength: 40 lbf/inch in width.
7. ASJ Tape Disks and Squares: Precut disks or squares of ASJ tape.

B. FSK Tape: Foil-face, vapor-retarder tape matching factory-applied jacket with acrylic adhesive; complying with ASTM C 1136.

1. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:

    a. Avery Dennison Corporation, Specialty Tapes Division; **Fasson 0827**
    b. Compac Corporation; **110** and **111**
    c. Ideal Tape Co., Inc,; an American Biltrite company; **491 AWF FSK**
    d. Knauf Insulation; EXPERT Tapes - **FSK Tape**
    e. Venture Tape; **1525 CW NT**, **1528 CW**, and **1528 CW/SQ**

2. Width: 3 inches.
3. Thickness: 6.5 mils.
4. Adhesion: 90 ounces force/inch in width.
5. Elongation: Two percent (2%).
6. Tensile Strength: 40 lbf/inch in width.
7. FSK Tape Disks and Squares: Precut disks or squares of FSK tape.

C. PVC Tape: White vapor-retarder tape matching field-applied PVC jacket with acrylic adhesive; suitable for indoor and outdoor applications.

1. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:

    a. Compac Corporation
    b. Ideal Tape Co., Inc,; an American Biltrite company; **370 White PVC tape**
    c. Venture Tape; **1506 CW NS**

2. Width: 2 inches.
3. Thickness: 6 mils.
4. Adhesion: 64 ounces force/inch in width.
5. Elongation: Five hundred percent (500%).
6. Tensile Strength: 18 lbf/inch in width.

D. Aluminum-Foil Tape: Vapor-retarder tape with acrylic adhesive.

1. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:

a. Avery Dennison Corporation, Specialty Tapes Division; **Fasson 0800**
b. Compac Corporation
c. Ideal Tape Co., Inc,; an American Biltrite company; **488 AWF**
d. Knauf Insulation; EXPERT Tapes - **2 Mil Foil Tape**
e. Venture Tape; **3520 CW**

2. Width: 2 inches.
3. Thickness: 3.7 mils.
4. Adhesion: 100 ounces force/inch in width.
5. Elongation: Five percent (5%).
6. Tensile Strength: 34 lbf/inch in width.

2.10 SECUREMENTS

A. Bands:

1. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:

a. ITW Insulation Systems; Illinois Tool Works, Inc; **Gerrard Strapping and Seals**
b. RPR Products, Inc; **Insul-Mate Strapping and Seals**

2. Stainless-Steel: ASTM A 167 or ASTM A 240, Type 316; 0.015-inch-thick, ¾-inch-wide with wing seal or closed seal.
3. Aluminum: ASTM B 209, Alloy 3003, 3005, 3105, or 5005; Temper H-14, 0.020-inch-thick, ¾-inch-wide with wing seal or closed seal.

B. Staples: Outward-clinching insulation staples, nominal ¾-inch-wide, stainless-steel or Monel.

C. Wire: 0.062-inch soft-annealed, stainless-steel.

1. Manufacturers: Subject to compliance with requirements, provide products by one (1) of the following:

a. C & F Wire

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting performance of insulation application.

1. Verify that systems to be insulated have been tested and are free of defects.
2. Verify that surfaces to be insulated are clean and dry.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Preparation: Clean and dry surfaces to receive insulation. Remove materials that will adversely affect insulation application.

B. Mix insulating cements with clean potable water; if insulating cements are to be in contact with stainless-steel surfaces, use demineralized water.

3.3 GENERAL INSTALLATION REQUIREMENTS

A. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of piping including fittings, valves, and specialties.

B. Install insulation materials, forms, vapor barriers or retarders, jackets, and thicknesses required for each item of pipe system as specified in insulation system schedules.

C. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.

D. Install insulation with longitudinal seams at top and bottom of horizontal runs.

E. Install multiple layers of insulation with longitudinal and end seams staggered.

F. Do not weld brackets, clips, or other attachment devices to piping, fittings, and specialties.

G. Keep insulation materials dry during application and finishing.

H. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer.

I. Install insulation with least number of joints practical.

J. Where vapor barrier is indicated, seal joints, seams, and penetrations in insulation at hangers, supports, anchors, and other projections with vapor-barrier mastic.

1. Install insulation continuously through hangers and around anchor attachments.
2. For insulation application where vapor barriers are indicated, extend insulation on anchor legs from point of attachment to supported item to point of attachment to structure. Taper and seal ends at attachment to structure with vapor-barrier mastic.
3. Install insert materials and install insulation to tightly join the insert. Seal insulation to insulation inserts with adhesive or sealing compound recommended by insulation material manufacturer.
4. Cover inserts with jacket material matching adjacent pipe insulation. Install shields over jacket, arranged to protect jacket from tear or puncture by hanger, support, and shield.

K. Apply adhesives, mastics, and sealants at manufacturer's recommended coverage rate and wet and dry film thicknesses.

L. Install insulation with factory-applied jackets as follows:

1. Draw jacket tight and smooth.
2. Cover circumferential joints with 3-inch-wide strips of same material as insulation jacket. Secure strips with adhesive and outward clinching staples along both edges of strip, spaced 4 inches o.c.
3. Overlap jacket longitudinal seams at least 1½ inches. Install insulation with longitudinal seams at bottom of pipe. Clean and dry surface to receive self-sealing lap. Staple laps with outward clinching staples along edge at 2 inches o.c.

    a. For below-ambient services, apply vapor-barrier mastic over staples.

4. Cover joints and seams with tape, according to insulation material manufacturer's written instructions, to maintain vapor seal.
5. Where vapor barriers are indicated, apply vapor-barrier mastic on seams and joints and at ends adjacent to pipe flanges and fittings.

M. Cut insulation in a manner to avoid compressing insulation more than seventy-five percent (75%) of its nominal thickness.

N. Finish installation with systems at operating conditions. Repair joint separations and cracking due to thermal movement.

O. Repair damaged insulation facings by applying same facing material over damaged areas. Extend patches at least 4 inches beyond damaged areas. Adhere, staple, and seal patches similar to butt joints.

P. For above-ambient services, do not install insulation to the following:

1. Vibration-control devices.
2. Testing agency labels and stamps.
3. Nameplates and data plates.
4. Cleanouts.

3.4 PENETRATIONS

A. Insulation Installation at Roof Penetrations: Install insulation continuously through roof penetrations.

1. Seal penetrations with flashing sealant.
2. For applications requiring only indoor insulation, terminate insulation above roof surface and seal with joint sealant. For applications requiring indoor and outdoor insulation, install insulation for outdoor applications tightly joined to indoor insulation ends. Seal joint with joint sealant.
3. Extend jacket of outdoor insulation outside roof flashing at least 2 inches below top of roof flashing.
4. Seal jacket to roof flashing with flashing sealant.

B. Insulation Installation at Aboveground Exterior Wall Penetrations: Install insulation continuously through wall penetrations.

1. Seal penetrations with flashing sealant.
2. For applications requiring only indoor insulation, terminate insulation inside wall surface and seal with joint sealant. For applications requiring indoor and outdoor insulation, install insulation for outdoor applications tightly joined to indoor insulation ends. Seal joint with joint sealant.
3. Extend jacket of outdoor insulation outside wall flashing and overlap wall flashing at least 2 inches.
4. Seal jacket to wall flashing with flashing sealant.

C. Insulation Installation at Interior Wall and Partition Penetrations (That Are Not Fire Rated): Install insulation continuously through walls and partitions.

D. Insulation Installation at Fire-Rated Wall and Partition Penetrations: Install insulation continuously through penetrations of fire-rated walls and partitions.

1. Comply with requirements in Section 078413 "Penetration Firestopping" for firestopping and fire-resistive joint sealers.

E. Insulation Installation at Floor Penetrations:

1. Pipe: Install insulation continuously through floor penetrations.
2. Seal penetrations through fire-rated assemblies. Comply with requirements in Section 078413 "Penetration Firestopping."

3.5 GENERAL PIPE INSULATION INSTALLATION

A. Requirements in this article generally apply to all insulation materials except where more specific requirements are specified in various pipe insulation material installation articles.

B. Insulation Installation on Fittings, Valves, Strainers, Flanges, and Unions:

1. Install insulation over fittings, valves, strainers, flanges, unions, and other specialties with continuous thermal and vapor-retarder integrity unless otherwise indicated.
2. Insulate pipe elbows using preformed fitting insulation, mitered fittings made from same material and density as adjacent pipe insulation or PVC fitting cover manufacturer recommended flexible fiberglass inserts. Each piece shall be butted tightly against adjoining piece and bonded with adhesive. Fill joints, seams, voids, and irregular surfaces with insulating cement finished to a smooth, hard, and uniform contour that is uniform with adjoining pipe insulation.
3. Insulate tee fittings with preformed fitting insulation or sectional pipe insulation of same material and thickness as used for adjacent pipe. Cut sectional pipe insulation to fit. Butt each section closely to the next and hold in place with tie wire. Bond pieces with adhesive.
4. Insulate valves using preformed fitting insulation or sectional pipe insulation of same material, density, and thickness as used for adjacent pipe. Overlap adjoining pipe insulation by not less than two (2) times the thickness of pipe insulation, or one (1) pipe diameter, whichever is thicker. For valves, insulate up to and including the bonnets, valve stuffing-box studs, bolts, and nuts. Fill joints, seams, and irregular surfaces with insulating cement.
5. Insulate strainers using preformed fitting insulation or sectional pipe insulation of same material, density, and thickness as used for adjacent pipe. Overlap adjoining pipe insulation by not less than two (2) times the thickness of pipe insulation, or one (1) pipe diameter, whichever is thicker. Fill joints, seams, and irregular surfaces with insulating cement. Insulate strainers so strainer basket flange or plug can be easily removed and replaced without damaging the insulation and jacket. Provide a removable reusable insulation cover. For below-ambient services, provide a design that maintains vapor barrier.
6. Insulate flanges and unions using a section of oversized preformed pipe insulation. Overlap adjoining pipe insulation by not less than two (2) times the thickness of pipe insulation, or one (1) pipe diameter, whichever is thicker.
7. Cover segmented insulated surfaces with a layer of finishing cement and coat with a mastic. Install vapor-barrier mastic for below-ambient services and a breather mastic for above-ambient services. Reinforce the mastic with fabric-reinforcing mesh. Trowel the mastic to a smooth and well-shaped contour.
8. For services not specified to receive a field-applied jacket except for flexible elastomeric and polyolefin, install fitted PVC cover over elbows, tees, strainers, valves, flanges, and unions. Terminate ends with PVC end caps. Tape PVC covers to adjoining insulation facing using PVC tape.
9. Stencil or label the outside insulation jacket of each union with the word "union." Match size and color of pipe labels.

C. Insulate instrument connections for thermometers, pressure gages, pressure temperature taps, test connections, flow meters, sensors, switches, and transmitters on insulated pipes. Shape insulation at these connections by tapering it to and around the connection with insulating cement and finish with finishing cement, mastic, and flashing sealant.

D. Install removable insulation covers at locations indicated. Installation shall conform to the following:

1. Make removable flange and union insulation from sectional pipe insulation of same thickness as that on adjoining pipe. Install same insulation jacket as adjoining pipe insulation.
2. When flange and union covers are made from sectional pipe insulation, extend insulation from flanges or union long at least two (2) times the insulation thickness over adjacent pipe insulation on each side of flange or union. Secure flange cover in place with stainless-steel or aluminum bands. Select band material compatible with insulation and jacket.
3. Construct removable valve insulation covers in same manner as for flanges, except divide the two-part section on the vertical center line of valve body.
4. When covers are made from block insulation, make two (2) halves, each consisting of mitered blocks wired to stainless-steel fabric. Secure this wire frame, with its attached insulation, to flanges with tie wire. Extend insulation at least 2 inches over adjacent pipe insulation on each side of valve. Fill space between flange or union cover and pipe insulation with insulating cement. Finish cover assembly with insulating cement applied in two coats. After first coat is dry, apply and trowel second coat to a smooth finish.
5. Unless a PVC jacket is indicated in field-applied jacket schedules, finish exposed surfaces with a metal jacket.

3.6 INSTALLATION OF MINERAL-FIBER INSULATION

A. Insulation Installation on Straight Pipes and Tubes:

1. Secure each layer of preformed pipe insulation to pipe with wire or bands and tighten bands without deforming insulation materials.
2. Where vapor barriers are indicated, seal longitudinal seams, end joints, and protrusions with vapor-barrier mastic and joint sealant.
3. For insulation with factory-applied jackets on above-ambient surfaces, secure laps with outward clinched staples at 6 inches o.c.
4. For insulation with factory-applied jackets on below-ambient surfaces, do not staple longitudinal tabs. Instead, secure tabs with additional adhesive as recommended by insulation material manufacturer and seal with vapor-barrier mastic and flashing sealant.

B. Insulation Installation on Pipe Flanges:

1. Install preformed pipe insulation to outer diameter of pipe flange.
2. Make width of insulation section same as overall width of flange and bolts, plus twice the thickness of pipe insulation.
3. Fill voids between inner circumference of flange insulation and outer circumference of adjacent straight pipe segments with mineral-fiber blanket insulation.
4. Install jacket material with manufacturer's recommended adhesive, overlap seams at least 1 inch, and seal joints with flashing sealant.

C. Insulation Installation on Pipe Fittings and Elbows:

1. Install preformed sections of same material as straight segments of pipe insulation when available.

2. When preformed insulation elbows and fittings are not available, install mitered sections of pipe insulation, to a thickness equal to adjoining pipe insulation. Secure insulation materials with wire or bands.

D. Insulation Installation on Valves and Pipe Specialties:

1. Install preformed sections of same material as straight segments of pipe insulation when available.
2. When preformed sections are not available, install mitered sections of pipe insulation to valve body.
3. Arrange insulation to permit access to packing and to allow valve operation without disturbing insulation.
4. Install insulation to flanges as specified for flange insulation application.

3.7 FIELD-APPLIED JACKET INSTALLATION

A. Where glass-cloth jackets are indicated, install directly over bare insulation or insulation with factory-applied jackets.

1. Draw jacket smooth and tight to surface with 2-inch overlap at seams and joints.
2. Embed glass cloth between two (2) 0.062-inch-thick coats of lagging adhesive.
3. Completely encapsulate insulation with coating, leaving no exposed insulation.

B. Where FSK jackets are indicated, install as follows:

1. Draw jacket material smooth and tight.
2. Install lap or joint strips with same material as jacket.
3. Secure jacket to insulation with manufacturer's recommended adhesive.
4. Install jacket with 1½-inch laps at longitudinal seams and 3-inch-wide joint strips at end joints.
5. Seal openings, punctures, and breaks in vapor-retarder jackets and exposed insulation with vapor-barrier mastic.

C. Where PVC jackets are indicated, install with 1-inch overlap at longitudinal seams and end joints. Seal with manufacturer's recommended adhesive.

1. Apply two (2) continuous beads of adhesive to seams and joints, one bead under lap and the finish bead along seam and joint edge.

D. Where metal jackets are indicated, install with 2-inch overlap at longitudinal seams and end joints. Overlap longitudinal seams arranged to shed water. Seal end joints with weatherproof sealant recommended by insulation manufacturer. Secure jacket with stainless-steel bands 12 inches o.c. and at end joints.

3.8 FINISHES

A. Insulation with ASJ, Glass-Cloth, or Other Paintable Jacket Material: Paint jacket with paint system identified below.

1. Flat Acrylic Finish: Two (2) finish coats over a primer that is compatible with jacket material and finish coat paint. Add fungicidal agent to render fabric mildew proof.

a. Finish Coat Material: Interior, flat, latex-emulsion size.

B. Flexible Elastomeric Thermal Insulation: After adhesive has fully cured, apply two (2) coats of insulation manufacturer's recommended protective coating.

C. Color: As selected by Architect and Owner from manufacturer’s entire range. Vary first and second coats to allow visual inspection of the completed Work.

D. Do not field paint aluminum or stainless-steel jackets.

3.9 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. Inspect pipe, fittings, strainers, and valves, randomly selected by Architect, by removing field-applied jacket and insulation in layers in reverse order of their installation. Extent of inspection shall be limited to three (3) locations of straight pipe, three (3) locations of threaded fittings, three (3) locations of welded fittings, two (2) locations of threaded strainers, two (2) locations of welded strainers, three (3) locations of threaded valves, and three (3) locations of flanged valves for each pipe service defined in the "Piping Insulation Schedule, General" Article.

C. All insulation applications will be considered defective Work if sample inspection reveals noncompliance with requirements.

3.10 PIPING INSULATION SCHEDULE, GENERAL

A. Acceptable preformed pipe and tubular insulation materials and thicknesses are identified for each piping system and pipe size range. If more than one material is listed for a piping system, selection from materials listed is Contractor's option.

B. Items Not Insulated: Unless otherwise indicated, do not install insulation on the following:

1. Drainage piping located in crawl spaces.
2. Underground piping.
3. Chrome-plated pipes and fittings unless there is a potential for personnel injury.

3.11 INDOOR PIPING INSULATION SCHEDULE

A. Stormwater and Overflow:

1. All Pipe Sizes: Insulation shall be the following:

a. Mineral-Fiber, Preformed Pipe Insulation, Type I: 1-inch-thick.

B. Roof Drain and Overflow Drain Bodies:

1. All Pipe Sizes: Insulation shall be the following:

a. Mineral-Fiber, Preformed Pipe Insulation, Type I: 1-inch-thick.

3.12 INDOOR, FIELD-APPLIED JACKET SCHEDULE

A. Install jacket over insulation material. For insulation with factory-applied jacket, install the field-applied jacket over the factory-applied jacket. If more than one material is listed, selection from materials listed is Contractor's option.

B. Piping, Concealed:

1. None.

C. Piping, Exposed:

1. PVC: 20 mils thick.

END OF SECTION 220719

SECTION 221423 - STORM DRAINAGE PIPING SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Pipe, tube, and fittings.
2. Roof drains.

1.3 ACTION SUBMITTALS

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

1.4 QUALITY ASSURANCE

A. Drainage piping specialties shall bear label, stamp, or other markings of specified testing agency.

PART 2 - PRODUCTS

2.1 CAST-IRON PIPE AND FITTINGS

A. Pipe and Fittings: ASTM A 74, Service classes.

B. Gaskets: ASTM C 564, rubber.

C. Caulking Materials: ASTM B 29, pure lead and oakum or hemp fiber.

2.2 METAL ROOF DRAINS

A. Cast-Iron, Large-Sump, General-Purpose Roof Drains:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Josam Company; **Series 21500** or comparable product by one (1) of the following:

   a. Smith, Jay R. Mfg. Co.
   b. Watts; a Watts Water Technologies company
   c. Zurn Industries, LLC

2. Standard: ASME A112.6.4, for general-purpose roof drains.
3. Body Material: Cast iron.
4. Dimension of Body: Nominal 15-inch diameter.
5. Combination Flashing Ring and Gravel Stop: Required.
6. Outlet: Bottom.
7. Extension Collars: Required.

8. Underdeck Clamp: Required.
9. Sump Receiver Plate: Required.
10. Dome Material: Cast iron.
11. Perforated Gravel Guard: Not required.
12. Vandal-Proof Dome: Required.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install piping at indicated slopes.

B. Install piping free of sags and bends.

C. Install fittings for changes in direction and branch connections.

D. Make changes in direction for storm drainage piping using appropriate branches, bends, and long-sweep bends. Do not change direction of flow more than 90 degrees. Use proper size of standard increasers and reducers if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.

E. Install roof drains at low points of roof areas according to roof membrane manufacturer's written installation instructions.

1. Install flashing collar or flange of roof drain to prevent leakage between drain and adjoining roofing. Maintain integrity of waterproof membranes where penetrated.
2. Install expansion joints, if indicated, in roof drain outlets.
3. Position roof drains for easy access and maintenance.

3.2 PROTECTION

A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.

B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION 221423

Woodbridge Board of Education Curriculum Committee
South Assembly Room
February 1, 2024

https://woodbridgeps.webex.com/woodbridgeps/j.php?MTID=m109af29d0c82682ca6e859032887c788
Meeting Number: (access code): 2481 248 8455 **Meeting Password:** NySJRqir225

CALL TO ORDER: Dr. Strambler, Chair called the meeting to order at 4:03 PM.

IN ATTENDANCE: Dr. Michael Strambler, Chair (remote); Lynn Piascyk (in person); Sarah Beth Del Prete (in person); Dr. Lauren Francese (remote) Board Members; Vonda Tencza, Superintendent; Analisa Sherman, Principal; Monique MacDonald, WEA Liaison; and Marsha DeGennaro, Clerk of the Board.

Public Comment - None

Math Update – Superintendent Tencza outlined the research process administration has conducted over the last several months in exploring math resources, "best" practices, standardized curriculum-based measures / assessments and assorted articles. In addition, meetings have been held with the Middle School math specialists to ensure vertical alignment with the Amity curriculum.

The two Math Specialists serve Grades 5 and 6 respectively, approximately 2-3 times a cycle. Currently, we are utilizing both compacting flexible group instruction to ensure a strong student growth mindset and differentiation in Math skills. We continue to explore specific mathematical content strand resources that support compacting for Grade 5 and/or flexible grouping for Grade 6. Compacting allows students to apply mastered skills attained in a specific unit to assorted independent projects and problem solving tasks. Flexible grouping changes with each unit and skill set. If a student is compacting out of a unit they will be working on subject matter that is one-two grade levels above where they currently are. This creates opportunities for creative thinking and problem solving that is inquiry based with a solid curriculum standards based trajectory. Based on current assessment data, it is possible there could be a small group of students that will qualify for Pre-Algebra next year.

It was noted that there is a concern that should students qualify for PreAlgebra, they would be in essence "skipping" Grade 6 math, and if students are able to "test" into it they really do not need Grade 6 math. Research is currently indicating that sometimes the foundational skills are missing when a student enters higher level math courses. Research is recommending that at the elementary levels students delve into standards deeper to develop a stronger foundation of concepts. It was noted that parents should be informed of the pros and cons of their child qualifying for PreAlgebra. Parents should also receive clear communication on how their child would be supported should they choose not to enter PreAlgebra. There is no rush to acceleration and what is developmentally and socially appropriate for students is important as well.

While there has been limited focus on the math standards continuum in recent years, it is anticipated there will be greater emphasis in the coming year to ascertain what structures and processes we have in place that are working and where improvement is needed. It is likely increased professional learning will occur as well. It is also possible that we may be able to pilot different resources this spring to determine program viability.

Meeting Adjourned 5:07 PM

MINUTES OF THE WBOE POLICY COMMITTEE

Superintendent's Conference Room

February 5, 2024

WebEx https:// woodbridgeps.webex.com/woodbridgeps/j.php?MTID=m08f8b3de98d0ab0966f32b30bb416ebf
Meeting Number (access code): 2488 175 7116 **Meeting Password:** RubuY9jmp43

CALL TO ORDER: Ms. Williamson called the meeting to order at 4:32 PM.

IN ATTENDANCE: Erin Williamson, Chair (remote), Lynn Piascyk (in person), Steven Lawrence (remote); Brooke Hopkins (remote), Board of Education Members; Vonda Tencza, Superintendent; and Teresa Ramia, WEA Liaison.

PUBLIC COMMENT: None

The Committee reviewed Policy 5111 – Admission / Placement to reflect recent legislative changes with additional language added pertaining to the new Kindergarten Age modification. This policy was modified previously at the December meeting with language modifications made to include recent legislative changes, updating timelines for compliance and modification of forms for submitted documentation.

The Committee made additional minor language modifications including designating *"the principal*" in the first paragraph and indicating "*the decision of the principal is final*". Language was added in the 2nd paragraph indicating responsibility for proving residency. The addition of "*cable bill*" in the 5th sentence and "*verified and*" in the last sentence were added on Page 2 under Documents to Establish Residency. On Page 3 the 7th paragraph was stricken in its entirety, and in the 8th paragraph the sentence beginning with "*The BOE may*…" was stricken and replaced with a sentence at the end indicating when immediate withdrawal would occur.

It was noted that as part of the comprehensive policy review by CABE, the 9000 series is ready for review by the Policy Committee with several policies slated for review at the next meeting on April 1.

PUBLIC COMMENT: None

Meeting Adjourned: 5:01 PM