

Southington Board of Education Meeting

Thursday, August 21, 2025 7:00 PM
John Weichsel Municipal Center Public Assembly Room
200 North Main Street
Southington, CT 06489



COMMITTEE OF THE WHOLE

1. CALL TO ORDER
2. Regular Session 7:00 p.m.
3. Pledge of Allegiance - Moment of Silence
4. Approval of Minutes - June 26, 2025
5. Public Communications
 - a. Communications from Board of Education
 - b. Communications from Administration
 - c. Communications from Public - Agenda Items Only
6. Committee Reports
7. Superintendent's Report
 - a. Personnel Report
8. Old Business
 - a. Town Government Communications
9. New Business
 - a. Approval of Out of State / Overnight Field Trip
 1. SHS - FFA/Agriscience - Indianapolis, IN
 - b. Approval of Disposal of Additional Obsolete Textbooks
 - c. SHS International Relations - Revised - Second Reading
 - d. SHS Algebraic Concepts- Revised - Second Reading
 - e. SHS Equipment and Power Systems - Unit 1: Equipment Use - Personal Safety - Revised - Second Reading
 - f. SHS Equipment and Power Systems - Unit 2: Equipment Use - Machine and Shop Safety - Revised - Second Reading
 - g. SHS Equipment and Power Systems - Unit 3: Equipment Use - Tractor and Loader Safety - Revised - Second Reading
 - h. SHS Equipment and Power Systems - Unit 4: Equipment Use - Tractor Attachment and Mower Safety - Revised - Second Reading
 - i. Class Size Report
 - j. Approval of SHS Rooftop Solar Photovoltaic Project Manual and Professional Cost Estimate
10. Public Communications
 - a. Public
11. Adjournment

The minutes presented within the document provide a summary of the discussion that took place at the Board of Education Meeting. For the complete discussion of the agenda items, please view the video of the Board meeting on our website at <https://www.southingtonschools.org>. These minutes are considered a draft until approved at the following Regular Board of Education Meeting.

SOUTHINGTON BOARD OF EDUCATION, SOUTHINGTON, CT

Regular Meeting

Committee of the Whole – Operations

June 26, 2025, at 6:30 p.m.

John Weichsel Municipal Center Public Assembly Room

200 North Main Street Southington, CT 06489

1. CALL TO ORDER

Mrs. Clark, Board Chairperson, called the meeting to order at 6:32 p.m.

Board Members Present: Mr. Robert Brown, Mr. David Derynoski, Mrs. Terri Carmody, Mrs. Colleen Clark, Mr. Jasper Williams

Board Members Absent: Mr. Joseph Baczewski, Mr. Sean Carson, Mr. Zaya Oshana, Mr. Cecil Whitehead

2. Executive Session

MOTION made by Mr. Derynoski and seconded by Mr. Brown, “Move to go into Executive Session, excluding the public and the press, for the purpose of discussing: (1) Student Matters, (2) Superintendent of Schools Evaluation, (3) SAA Contract Negotiations, (4) Review and Discussion of Superintendent's Contract and Assistant Superintendent's Contract; upon conclusion reconvene to public session.” Motion carried 5-0.

a. Student Matters

b. Superintendent of Schools Evaluation

c. SAA Contract Negotiations

d. Review and Discussion of Superintendent's Contract and Assistant Superintendent's Contract

Mr. Madancy and Mr. Pepe were invited to join the meeting.

Mr. Whitehead arrived at 6:45 p.m.

3. Reconvene Meeting - Regular Session

Mrs. Clark called the regular meeting to order at 7:14 p.m.

Board Members Present: Mr. Robert Brown, Mr. David Derynoski, Mrs. Terri Carmody, Mrs. Colleen Clark, Mr. Jasper Williams, Mr. Cecil Whitehead

Board Members Absent: Mr. Joseph Baczewski, Mr. Sean Carson, Mr. Zaya Oshana

Cabinet Members Present: Mr. Madancy, Superintendent; Mr. Frank Pepe, Assistant Superintendent; Mrs. Jennifer Mellitt, Director of Business & Finance

4. **Pledge of Allegiance - Moment of Silence**

Teresa Ciotti Giammatteo passed away on May 26, 2025. She was a Special Education Educator; she was employed with Southington Public Schools starting in 1965 and retired in 1995.

MOTION made by Mr. Williams and seconded by Mr. Brown, “Move item 10.c. to item 6.d.” Motion carried 6-0.

MOTION made by Mr. Derynoski and seconded by Mr. Brown, “Move to add suspension of Policy 5133 in relationship to Policy 9314 – Suspension of Policies, Bylaws, and Regulations to agenda item 10.j.” Motion carried 6-0.

MOTION made by Mr. Derynoski and seconded by Mr. Williams, “Move to add agenda item 10.k. Student Matter – expulsion, number 24-25 (4).” Motion carried 6-0.

5. **Approval of Minutes - May 22, 2025**

MOTION made by Mr. Williams and seconded by Mr. Derynoski, “Move to approve the Regular BOE Minutes from May 22, 2025.” Motion Carried 6-0.

Attachments: (1)

6. **Public Communications**

a. Communications from Board of Education

Mr. Brown announced a ceremony will be held on October 22, 2025, to induct two new people into the Wall of Honor at the High School. This ceremony will be free and open to the public. The inductees will be Bill Pesce and Chris Palmieri.

Mr. Derynoski commented on the High School Graduation; it was a wonderful evening and a very nice ceremony. He was impressed with the way it was organized.

Mrs. Clark indicated it was remarkable to graduate that many students in less than two hours. They did an amazing job.

b. Communications from Administration

Mr. Madancy spoke about the following:

1. **Main Street Community Foundation**

Thank you for the \$500 donation from the Warner Family Fund to be applied towards the tuition for two credit recovery courses for one of our students.

2. **Roof Referendum**

Mr. Madancy will be sending out a calendar of Board of Finance Meetings, Planning and Zoning Meetings, and Council Meetings for everything leading up to the referendum in November.

- July 14 and 15, 2025 will be Council and Planning and Zoning Meetings to set the public hearing dates.
- Board of Finance Meeting will be held July 23, 2025.
- The public hearing will be held July 30, 2025.
- Town Council Notice of Hearing will be held August 6, 2025, and then the Public Hearing on August 11, 2025.

Mr. Madancy will be attending hearings and council meetings to make sure the timeline stays on track for the three elementary schools.

3. **Legislative session, ECS, SEED and DRIP**

- There was a Harmless Provision in the Education Cost Share (ECS) Grant, meaning there is an additional \$256,195 the town will receive but did not anticipate; this money legally has to go to the Board of Education.
- The Special Education Expansion and Development (SEED) Grant is new. The district will receive \$231,664 which will need to go towards expanding or developing a program that does not already exist. If it is not used correctly to supplement a new program, the district will be fined the following year for twice the amount received.
- The District Repair and Improvement Project (DRIP) Grant will help districts who have large costs that are hard to put into an operating budget. Examples: a boiler replacement, a classroom renovation, etc.

4. **Future PCB testing**

- Thank you to Town Manager, Alex Ricciardone and Director of Operations, Peter Romano for getting the United States EPA to modify the requirement for testing DePaolo and Kennedy Middle Schools every year for PCBs. It will now be allowed to be done every 2 years. Depending on next year's test, it will not need to be done again until every three years thereafter.
- Per Mr. Derynoski's request, Mr. Madancy will obtain a report in terms of if there is still any PCB's existing or if they have all since been removed.

Attachments: (1)

c. Communications from Public - Agenda Items Only

No comment made.

d. Approval of Out of State / Overnight Field Trip

1. SHS Southington 4-H - Louisville, Kentucky

Margaret Groht, AG-SI teacher at SHS, thanked the Board for all of their support and presented information about the 4-H Club along with some of their achievements. This is going to be an academic field trip with different contests:

- The Hippology Contest is the study of a horse.

- The Horse Judging Contest will judge different classes of horses.
- The Quiz Bowl is all about horse knowledge.
- The Communications Contest consists of public speaking, an individual demo, and a team demo.

MOTION made by Mr. Derynoski and seconded by Mr. Williams, “Move to approve the field trip as requested.” Motion Carried 6-0.

Attachments: (1)

2. SHS - Girls Varsity Volleyball Team - Saratoga, NY

MOTION made by Mr. Derynoski and seconded by Mr. Brown, “Move that the Board approve the field trip request as submitted.” Motion Carried 6-0.

Attachments: (1)

7. Committee Reports

- a. Curriculum & Instruction Committee Meeting - May 30, 2025

Mr. Brown reviewed the C&I Committee Meeting. A brief description of each new course was given. Mr. Brown noted how everyone was very impressed with how the teachers made the courses relevant to the real world.

1. **SHS Technology Education - Revised Course Structure for Transportation:**

The revision restructures the transportation pathway into a multi-course sequence: Transportation Technologies, Automotive Technologies I, and Automotive Technologies II.

2. **Revised International Relations Curriculum:**

The course examines “grand strategy” and challenges students to analyze how nations develop, implement, and evaluate strategic options internationally.

3. **Revised - Algebraic Concepts Curriculum:**

This course is intended for students who have completed Algebra I and Geometry but require further skill development before progressing to more advanced algebra courses.

4. **Equipment and Power Systems Course:**

Four revised units. The course provides students with the knowledge, skills, and applications around the following topics: Personal Safety, Machine and Shop Safety, Tractor and Loader Safety, and Tractor Attachment and Mower Safety.

5. **Middle School Language Arts – Curriculum Pilot:**

Beginning in Fall 2025, the middle school language arts department will fully pilot CommonLit 360, an open-source curriculum aligned with state standards. The program supports the science of reading through an integrated approach that

combines reading, writing, vocabulary, listening, and speaking.

6. Dual Enrollment Course Offerings:

Dual-enroll the current Marketing I and II courses with Central Connecticut State University's "Fundamentals of Marketing" course. This partnership would allow Southington students to earn three college credits and one full SHS credit upon successful completion. A second opportunity involves articulating the SHS course, Management and Entrepreneurship, with CCSU's Main Street Business Ownership and Management course. Students who complete the high school course would receive 0.5 SHS credit and three college credits. Lastly, the department plans to dual-enroll Business Communications with CCSU's Managerial Communications, which would grant students three college credits and 0.5 SHS credit.

Mrs. Carmody commented on the first course, SHS Technology Education. The students taking this class will learn how to operate machinery and will ultimately get jobs when they leave high school. It is wonderful what the department is doing.

Attachments: (1)

b. Finance Committee Meeting - June 23, 2025

Mrs. Mellitt reviewed the Finance Committee Meeting Minutes and spoke about the following:

1. Approval of BID 2026-02 Rubbish Removal and Recycling Services Award

Mr. Fickel provided an update; there were four bidders, but the administration recommendation is to award the BID to CWPM for a period of three years. The pricing was much higher than in the past therefore, a reallocation of funds is going to be necessary and will be presented to the Board in the Fall of 2025.

MOTION made by Mr. Derynoski and seconded by Mr. Williams, "Move to award BID 2026-02 Rubbish Removal and Recycling Removal to CWPM, LLC of Plainville, CT for three years." Motion carried 6-0.

Attachments: (1)

2. STELLAR Update:

An award was made to Acorn Builders in the amount of \$99,500 by the Superintendent's approval. This is due to the timing in which the work needs to be done to get the students into the location in the fall and because the June 12, 2025, Board Meeting was canceled due to the High School Graduation.

3. Miscellaneous:

Mrs. Mellitt noted that the new STELLAR lease will be signed this week and includes a five-year term with the option to renew the lease.

Attachments: (1)

8. **Superintendent's Report**

a. Personnel Report

MOTION made by Mrs. Carmody and seconded by Mr. Derynoski, "Recommend that the Board of Education approve the Personnel Report as submitted by the Human Resource Department." Motion carried 6-0.

Attachments: (1)

9. **Old Business**

a. Town Government Communications

No comment made.

10. **New Business**

a. Approval of Non-Lapsing Account

MOTION made by Mr. Williams and seconded by Mr. Derynoski, "Move to approve a non-lapsing account to allow unexpended funds from the BOE 2024-2025 Operating Budget to be deposited into a non-lapsing account up to the amount authorized by statute, to be maintained for use authorized by the Board of Education." Motion carried 6-0.

Attachments: (1)

b. Approval of Disposal of Obsolete Textbooks

MOTION made by Mr. Williams and seconded by Mr. Brown, "Move to approve the disposal of outdated textbooks that are no longer useful to the educational program." Motion carried 6-0.

Mrs. Carmody asked if the books were still given to other schools. Mr. Madancy indicated they always try to find a purpose for the books, but they also try to sell them back to the vendors who will try to resell them. The district does receive the funds if they are resold.

Attachments: (1)

c. 10.c. was moved to 6.d.

d. SHS International Relations - Revised - First Reading

Attachments: (1)

e. SHS Algebraic Concepts - Revised - First Reading

Attachments: (1)

f. SHS Equipment and Power Systems - Unit 1: Equipment Use - Personal Safety - Revised - First Reading

Attachments: (1)

g. SHS Equipment and Power Systems - Unit 2: Equipment Use - Machine and Shop Safety - Revised - First Reading

Attachments: (1)

- h. SHS Equipment and Power Systems - Unit 3: Equipment Use - Tractor and Loader Safety - Revised - First Reading

Attachments: (1)

- i. SHS Equipment and Power Systems - Unit 4: Equipment Use - Tractor Attachment and Mower Safety - Revised - First Reading

Attachments: (1)

- j. **MOTION made by Mr. Derynoski and seconded by Mr. Williams, “Move to suspend Policy 5133 in relationship to the agreement as presented by the administration for student matter 2024-2025 (3), for the 2025-2026 school year.” Motion carried 5-1.**
- k. **MOTION made by Mr. Derynoski and seconded by Mr. Brown, “Move to expel student 2024-2025 (4).” Motion carried 5-1.**

11. Public Communications

- a. Public
No public comment.

Mrs. Clark called to resume Executive Session at 7:44 p.m.
Executive session ended at 8:40 p.m.

12. Approval of Superintendent's Contract

MOTION made by Mr. Brown and seconded by Mr. Derynoski, “Move to approve the Superintendents Contract.” Motion carried 6-0.

13. Approval of Assistant Superintendent's Contract

MOTION made by Mr. Derynoski and seconded by Mr. Brown, “Move to approve the Superintendents Contract.” Motion carried 6-0.

14. Adjournment

MOTION made by Mr. Derynoski and seconded by Mr. Williams, “Move to Adjourn.” Motion carried 6-0.
Meeting adjourned at 8:43 p.m.

Respectfully submitted,



Recording Secretary

Jasper Williams
Vice Chair, Southington Board of Education
August 21, 2025

Southington Board of Education
200 N Main Street
Southington, CT 06489

Dear Members of the Board,

Please accept this letter as my formal resignation from the Southington Board of Education, effective August 22, 2025.

It has been a true honor to serve our community in this role. Over the course of my tenure, I have been humbled by the trust placed in me and proud of the work we have accomplished together on behalf of the students, families, and staff of Southington Public Schools. Every decision I made was guided by a commitment to integrity, accountability, and the belief that our students deserve the very best opportunities to succeed.

I am grateful for the collaboration of my fellow Board members, district leadership, teachers, and staff. The challenges we faced were many, but the dedication of this community to its children never wavered.

While I am stepping down at this time due to professional commitments, I look forward to continuing to support Southington and to returning to public service in the future. Thank you again for the opportunity to serve. God bless Southington.

Respectfully,

Jasper Williams
Vice Chair
Southington Board of Education

A handwritten signature in black ink, appearing to read 'Jasper Williams', with a stylized flourish at the end.

cc: Kath Larkin – Southington Town Clerk

Board of Education

Administrative Report

August 21, 2025



1. Krzysztof Kolodziejczyk – Donation of computer monitors, portable drives, PDU's and server equipment (see attached memo)
2. Back to school update
3. Referendum related dates of note
4. Summer Lunch Program
5. Tools for Schools Air Quality Documents are posted



Steven G. Madancy
Superintendent of Schools

Frank M. Pepe
*Assistant Superintendent
of Schools*

Jennifer S. Mellitt
Director of Business &
Finance

Peter J. Romano, Jr.
Director of Operations

Rebecca J. Cavallaro, EdD
Director of Pupil Services

Michelle Passamano
Human Resource Manager

Kyle R. Fickel
Accounting Manager

200 North Main St.
Southington, CT 06489

www.southingtonschools.org

OFFICE TELEPHONE
(860) 628-3200

HUMAN RESOURCE FAX
(860) 628-3211

GENERAL FAX
(860) 628-8056

July 7, 2025

Krzysztof Kolodziejczyk
501 Flanders Road
Southington, CT 06489

Dear Krzysztof Kolodziejczyk:

On behalf of Southington Public Schools, I would like to thank you for the donation of computer monitors, portable drives, PDU's and server equipment.

We appreciate your support and interest in our students in the Southington Public Schools.

Sincerely,

Jennifer Mellitt
Director of Business and Finance
Southington Public Schools

**BOARD OF EDUCATION
SOUTHINGTON, CONNECTICUT**

Informational Only _____ Board Meeting Date August 2025
Decision Requested X Agenda Code 7 a

AGENDA REPORTING FORM

Agenda Topic: Personnel Report

Summary of Issue: This Personnel Report includes appointments, resignations, retirements, and transfers for certified and classified personnel for the 2025-2026 school year. This report includes activity for the dates of July 1, 2025 – August 8, 2025.

Background: The human resource department provides the Board of Education with a monthly update of personnel additions/reductions/changes.

Alternative Strategies: _____

Cost (if applicable): N/A **Funding Source:** Board of Education

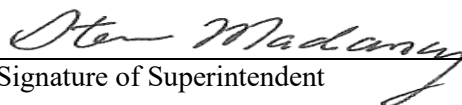
Beginning Date of Program or Project: N/A

Ending Date of Program or Project: N/A

Recommendation or Comment: Recommend that the Board of Education approve the Personnel Report as submitted by the human resource department.



Signature of Staff Member Submitting Report



Signature of Superintendent

Included:
Personnel Report
Agenda – August 2025

Personnel Report
July 1, 2025 - August 8, 2025

APPOINTMENTS

	NAME	POSITION	SCHOOL	FTE	EFFECTIVE	DEGREE	SALARY
CLASS	Ballantoni, Kimberly	Paraeducator	SES	1.0	8-25-2025	N/A	\$19.43
CLASS	Blancato, John	Custodian, PT	SHS	0.49	8-25-2025	N/A	\$17.33
CLASS	Carmody, Ella	Paraeducator	JAD	1.0	8-25-2025	N/A	\$19.43
CLASS	Castico, Jocelyn	Paraeducator	SES	1.0	8-25-2025	N/A	\$19.43
CLASS	Clynes, Kathryn	Paraeducator	TES	1.0	8-25-2025	N/A	\$19.43
CLASS	Deegan, Karissa	Paraeducator, TLC	DES	1.0	8-25-2025	N/A	\$21.07
CLASS	Downey, Brenda	Paraeducator	HES	1.0	8-25-2025	N/A	\$19.43
CERT	Green, Lindsay	Special Education Teacher	JFK	1.0	8-25-2025	MA	\$69,961
CLASS	Gorski, Danielle	Paraeducator	SES	1.0	8-25-2025	N/A	\$19.43
CERT	Guida, Breanna	Special Education Teacher	SES	1.0	8-25-2025	7 th	\$84,520
CERT	Hardy, Kathryn	Grade 1 Teacher	TES	1.0	8-25-2025	MA	\$56,616
CLASS	Harrison, Krystal	Administrative Assistant	FES	1.0	8-11-2025	N/A	\$27.43
CLASS	Hubeny, Jeffe	Custodian, PT	DES	0.49	8-28-2025	N/A	\$17.33
CLASS	Kern, Jennifer	Paraeducator	JAD	1.0	8-25-2025	N/A	\$19.43
CLASS	Kopka, Lisa	Paraeducator	HES	0.38	8-25-2025	N/A	\$20.06
CERT	Korp, Avery	Grade 2 Teacher	TES	1.0	8-25-2025	BA	\$55,504
CERT	McDonald, Haley	Social Worker	SHS	1.0	8-25-2025	6 th	\$71,276
CLASS	Mukai, Rachele	Paraeducator, TLC	DES	1.0	8-25-2025	N/A	\$21.07
CLASS	Olaniba, Remilekun	Paraeducator	FES	1.0	8-25-2025	N/A	\$19.43
CERT	Pompei, Alison	Grade 5 Teacher	DES	1.0	8-25-2025	MA	\$63,289
CLASS	Portnoy, Ilana	Paraeducator	SHS	1.0	8-25-2025	N/A	\$19.43
CLASS	Theriault, Heather	Paraeducator, CLC	HES	1.0	8-25-2025	N/A	\$21.07
CLASS	Villar, Leah	Paraeducator, TLC	DES	1.0	8-25-2025	N/A	\$21.07
CLASS	Walsh, Melody	Paraeducator	DES	1.00	8-25-2025	N/A	\$19.43
CLASS	Wisniewski, Dejah	Paraeducator	DES	0.88	8-25-2025	N/A	\$19.43

RESIGNATIONS/RETIREMENTS

	NAME	POSITION	SCHOOL	EFFECTIVE	YRS	RET/RES
CERT	Angell, Jessica	Library Media Instruct. Tech.	SHS	7-19-2025	1	RESIGN
CERT	Carrin, Emily	Special Education Teacher	HES	8-1-2025	1 mo.	RESIGN
CERT	Ciarcia, Daphne	Special Education Teacher	TES	8-5-2025	1	RESIGN
CERT	Effend, Caitlin	Grade 5 Teacher	DES	7-2-2025	1	RESIGN
CLASS	Margadonna, Megan	Multilingual Tutor	JFK/KES	8-5-2025	1	RESIGN
CLASS	Martins, Rachel	ABA Therapist, CLC	HES	8-6-2025	1	RESIGN
CLASS	Olsen, Lisa	Administrative Assistant	KSA	8-26-2025	13	RETIRE
CLASS	Roberts, Tia Marie	Paraeducator, FT	JFK	6-26-2025	11	RESIGN
CLASS	Rossignol, Donna	Administrative Assistant	FES	6-21-2025	11	RETIRE
CLASS	St John, Teresa	Paraeducator, Pre-K	SES	7-12-2025	2	RESIGN
CLASS	Sycz, Tamatha	Technology Analyst	District	8-16-2025	24	RETIRE
CLASS	White, Charles	Custodian, PT	SHS	6-30-2025	3 mo.	RESIGN
CLASS	Worrell, Kimberly	Numeracy Tutor	HES	6-30-2025	3	RESIGN

ASSIGNMENT CHANGE

	FROM (PREVIOUS ASSIGN)		TO (NEW ASSIGN)		
NAME	POSITION/SCHOOL	FTE	POSITION/SCHOOL	FTE	EFFECTIVE
Annunziato, Sophia	Paraeducator/DES	0.88	Paraeducator/DES	1.0	8-25-2025
Buzzell, Jacob	Custodian/District Float, DES	1.0	Evening Custodian/FES	1.0	7-1-2025
D'Agostino, Nina	Paraeducator/HES	0.88	Paraeducator/JAD	1.0	8-25-2025
Dellaria, Jessica	ABA Therapist/SEES	1.0	ABA Therapist/HES, SLC	1.0	8-25-2025
Garcia, Leticia	Paraeducator/HES, Pre-K	0.88	Paraeducator/SES, Pre-K	0.88	8-25-2025

Personnel Report
July 1, 2025 - August 8, 2025

ASSIGNMENT CHANGE CONT.

NAME	FROM (PREVIOUS ASSIGN)		TO (NEW ASSIGN)		
	POSITION/SCHOOL	FTE	POSITION/SCHOOL	FTE	EFFECTIVE
Hall, Saige	Paraeducator/DES, TLC	1.0	Paraeducator/SHS	1.0	8-25-2025
Healey, Caitlin	Paraeducator/JFK, CLC	1.0	Paraeducator/HES, CLC	1.0	8-25-2025
Hinckley, Leah	Paraeducator/DES	0.88	Paraeducator/DES	1.0	8-25-2025
Jackson, Nina	ABA Therapist/KES, TLC	1.0	ABA Therapist/HES, SLC	1.0	8-25-2025
Kelly, Amy	ABA Therapist/KES, TLC	1.0	ABA Therapist/HES, SLC	1.0	8-25-2025
Lorusso, Briana	Paraeducator/HES, CLC	1.0	Paraeducator/SHS, CLC	1.0	8-25-2025
Mitchell, Stephanie	Paraeducator/KES, TLC	1.0	Paraeducator/HES, CLC	1.0	8-25-2025
Piantek, Alison	Paraeducator/DES, TLC	1.0	Paraeducator/HES, CLC	1.0	8-25-2025
Rabel, Samantha	Paraeducator/JFK, CLC	1.0	Paraeducator/JAD, TLC	1.0	8-25-2025
Roosa, Paige	Paraeducator/DES	1.0	Paraeducator/DES, TLC	1.0	8-25-2025
Somers, Tracy	Paraeducator/HES, CLC	1.0	Paraeducator/HES	1.0	8-25-2025
Tufts, Christine	Paraeducator/SES	1.0	Paraeducator/HES	1.0	8-25-2025
White, Adam	Paraeducator/SEES	1.0	Paraeducator/DES	1.0	8-25-2025

TRANSFERS

CERT NAME	FROM (PREVIOUS ASSIGN)		TO (NEW ASSIGN)		
	POSITION/SCHOOL	FTE	POSITION/SCHOOL	FTE	EFFECTIVE
<i>None to report</i>					

STIPENDS

COACHING

Resignations/Non-Renewals

Cheney, Jillian	Assistant Field Hockey Coach	SHS	RESIGN
Horvath, Lindsey	Freshman Girls Field Hockey Coach	SHS	RESIGN
Ritondo, Kyle	Assistant Softball Coach	SHS	RESIGN
Wallace, Megan	Girls Lacrosse Head Coach	SHS	RESIGN

Appointments

Benitez, Gabriella	Girls Soccer Assistant Coach	SHS	STIPEND
Contois, Katie	Assistant Cheerleading Coach	SHS	STIPEND
Crowder, Francesca	Girls Swimming & Diving Assistant Coach	SHS	STIPEND
Farr, Peter	Freshman Boys Soccer Coach	SHS	STIPEND
Lynch, Brooke	Assistant Field Hockey Coach	SHS	STIPEND
McAloon, James	Girls Golf Head Coach	SHS	STIPEND
Reilly, Ben	Cross Country Head Coach	JFK	STIPEND
Wittneben, Meghan	Girls Swimming & Diving Head Coach	SHS	STIPEND

OTHER

Resignations/Non-Renewals

None to report

Appointments

Adams, Sarah	Freshman Class Advisor	SHS	STIPEND
Cooney, Joy	Freshman Class Advisor	SHS	STIPEND
Daigle, Lisa	Science Assistant Department Leader	SHS	STIPEND
Wilcox, Nicole	Agricultural Science Department Leader	SHS	STIPEND

**BOARD OF EDUCATION
SOUTHINGTON, CONNECTICUT**

Informational Only _____

Board Meeting Date August 21, 2025

Decision Requested X

Agenda Code 9 a.1.

AGENDA REPORTING FORM

Agenda Topic: Out of State: Approval of Out of State/Overnight Field Trip

Summary of Issue: The Board of Education must give approval for field trips that are over 200 miles in distance from Southington, trips to foreign countries, or overnight field trips. Presented here is the following trip:

- SHS – FFA/Agriscience – Indianapolis, IN
 - October 28- November 1, 2025

Background: N/A

Alternative Strategies: N/A

Cost (if applicable): N/A **Funding Source:** _____

Beginning Date of Program or Project: N/A

Ending Date of Program or Project: N/A

Recommendation or Comment: Move that the Board of Education approve the field trip request as presented by the administration.

Titles of Attachments:

1. Field Trip Application



Signature of Staff Member Submitting Report



Signature of Superintendent of Schools

**Southington High School
FFA/Agriscience**

Indianapolis, IN

(October 28- November 1, 2025)

Application for Out-of-State/In-State/Overnight Field Trip

Submit to Director of Teaching and Learning

Date: 7/3/2025

Out of State: Yes ☒ No ☐
Overnight: Yes ☒ No ☐

Miles Round Trip: 1,640

Southington High
School

FFA / Agriscience
Class/Group

10/28 - 11/1 2025
Date of Trip

Name and Address of Destination FFA National Convention - Indianapolis, Indiana

Reasons for Field Trip FFA Leadership Workshops, FFA Competitions, Career & College Fair

Itinerary (attach if needed)

Departure Date/Time 10/25/2025 6:00am

Return Date/Time 11/1/2025 8:00pm

Type: ☒ Academic (15:1) ☐ Non-Academic (10:1) ☐ Abroad (8:1) Required Ratio (Student: Teacher/Chaperone)

of Students: 16 # of Teachers/Chaperones: 3 # of Buses: 0

Have definite arrangements been made at the field trip destination? Yes ☐ No ☐

☐ Have met with nurse to address student health needs.
Nurse's Signature _____ Date _____

☒ TRIPS REQUIRING BOE APPROVAL ONLY: Have NOT met with the nurse. Will meet with the nurse to address student health needs when the student roster is complete. This meeting will take place approximately one-month prior to the scheduled trip.

Destination is handicap accessible: Yes ☒ No ☐

Lift Van Needed? Yes ☐ No ☒

COST AND FINANCING

Source of Funds

TOTAL Anticipated Cost of Trip

Board of Education Contribution

Other

Fundraising Activity

BALANCE

Student Contribution

Transportation

Entrance Fees, Room & Board

TOTAL Cost of Trip to Each Student

Totals

Additional Notes

\$

\$

\$

(\$)

\$

\$ 8000

\$ 3200

\$ 11,200

Will have Lyman Pie fundraiser in the fall.

16 Students @ \$ 500

16 Students @ \$ 200

700

SIGNATURES

Teacher Nicole Wilcox

Dept. Head Nicole Wilcox

Principal [Signature]

Comments

Date 7/3/2025

Date 7/3/2025

Date 7/9/25

Director of Teaching & Learning: [Signature]

Date 7/10/25

Approved ☒

Not Approved ☐

Board of Education Approval*** YES ☐ NO ☐

Date _____

**BOARD OF EDUCATION
SOUTHINGTON, CONNECTICUT**

Informational Only _____ **Board Meeting Date** August 21, 2025

Decision Requested X **Agenda Code** 9 b.

AGENDA REPORTING FORM

Agenda Topic: Approval of Disposal of Additional Obsolete Textbooks

Summary of Issue: With the adoption of more current textbooks, it is necessary to dispose of miscellaneous, outdated textbooks from Southington Schools. The district is working with Books United. A listing of all obsolete books is provided to Books United and the vendor determines which books can be used/purchased or donated as part of their buyback program. Following their review, vendor will send us a list of the books and, if applicable, a check for those that they are able to buyback. Books they cannot sell or donate will be recycled.

Background: N/A

Alternative Strategies: N/A

Cost (if applicable): N/A **Funding Source:** _____

Beginning Date of Program or Project: June 2025

Ending Date of Program or Project: N/A

Recommendation or Comment: According to Board of Education policy #3260, the Board may authorize the disbursement or disposal of outdated textbooks that are no longer useful to the educational program.

Titles of Attachments:

1. Obsolete Textbook Listings



Signature of Staff Member Submitting Report



Signature of Superintendent of Schools

Obsolete Textbook Listings

Obsolete Textbooks 2024 - 2025

NAME OF SCHOOL: Southington High School

Select a code to identify why the book is obsolete

Condition	CON	Books in poor condition; unable to use
Obsolete	OBS	No longer used due to technology
Other	OTH	Description will be provided
Outdated	OUT	Books are outdated and no longer used
Overstock	OVR	Overstock of series; classroom teaching doesn't require all students to have a book
Replaced	REP	Books were outdated and replaced with BOE approved texts
Sample	SAM	

Subject	Grade	Title	ISBN#	Publisher	Year	#	Code
Tech & Engineering Education	9,10,11,12	Basic Electricity	87002-288-1	Chas. A. Bennett Co. Inc.	1978	78	OUT
Technology & Engineering Education	9,10,11,12	Adobe Photoshop	1-56830-120-0	Adobe Press	1994	5	OUT
Technology & Engineering Education	9,10,11,12	All About CB Two-Way Radio	N/A	Radio Shack	1976	37	OUT
Technology & Engineering Education	9,10,11,12	Housewiring Simplified	0-87006-161-5	The Goodheart-Willcox Co, Inc.	1973	18	OUT
Technology & Engineering Education	9,10,11,12	Suggested Unit Course in Concrete Form Construction	N/A	Delmar Publishers	1973	13	OUT
Technology & Engineering Education	9,10,11,12	Practical Problems in Mathematics for Carpenters	N/A	Delmar Publishers	1973	10	OUT
Technology & Engineering Education	9,10,11,12	Metalwork: Technolgoy and Practice	0-02-671690-9	Bennett & McKnight Publishing Co.	1982	7 (plus 14 workbooks)	OUT
Technology & Engineering Education	9,10,11,12	A to Zero of Refrigeration	N/A	GM	1964	51	OUT
Technology & Engineering Education	9,10,11,12	Communication Technology Today and Tomorrow	0-02-677110-1	Glencoe/McGraw Hill	1991		OUT

Obsolete Textbooks 2024 - 2025

NAME OF SCHOOL: Southington High School

Select a code to identify why the book is obsolete

Condition	CON	Books in poor condition; unable to use
Obsolete	OBS	No longer used due to technology
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Outdated	OUT	Books are outdated and no longer used
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Replaced	REP	Books were outdated and replaced with BOE approved texts
Sample	SAM	

Subject	Grade	Title	ISBN#	Publisher	Year	#	Code
Technology & Engineering Education	9,10,11,12	Power: Mechanics of Energy Control	0-02-672460-X	Glencoe Publishing Co.	1983	34	OUT
Technology & Engineering Education	9,10,11,12	Electronics - Principles and Applications	0-07-055587-7	McGraw-Hill	1984	10	OUT
Technology & Engineering Education	9,10,11,12	Graphic Communications: The Printed Image	0-87006-688-9	The Goodheart-Willcox Co, Inc.	1989	22 (plus 14 workbooks)	OUT
Technology & Engineering Education	9,10,11,12	Construction Technology	0-8723-2962-8	Delmar Publishers	1989	15	OUT
Technology & Engineering Education	9,10,11,12	Basic Occupational Mathematics	N/A	J. Weston Walch Publisher	1990	27	OUT
Technology & Engineering Education	9,10,11,12	Electricity - Principles and Applications	0-07-021707-6	McGraw-Hill	1984	22	OUT

**BOARD OF EDUCATION
SOUTHINGTON, CONNECTICUT**

Informational Only _____ Board Meeting Date August 21, 2025

Decision Requested X Agenda Code 9 c.

AGENDA REPORTING FORM

Agenda Topic: SHS – International Relations– Revised Curriculum - Second Reading.

Summary of Issue: The Curriculum & Instruction Committee has reviewed the SHS – International Relations– Revised Curriculum.

Background: _____

Alternative Strategies: N/A

Cost (if applicable): N/A **Funding Source:** N/A

Beginning Date of Program or Project: N/A

Ending Date of Program or Project: N/A

Recommendation or Comment: Move that the Board of Education approve the International Relations– Revised Curriculum – as presented by the Curriculum & Instruction Committee.

Titles of Attachments:

1. Course Proposal



Signature of Staff Member Submitting Report



Signature of Superintendent of Schools

Unit Overview	
Unit Title:	Unit 1: What is International Relations?
Teacher:	David Garfinkel
Grade Level/Course:	10-12th Grade
Length/Dates:	1 Week (2-3 Blocks)
Unit Summary: 2-4 sentences describing the main ideas, content, and skills of the unit.	This unit introduces students to the field of international relations and explores the concept of grand strategy (both in international relations and US foreign policy). The main purpose is to analyze the ways in which nations formulate, implement, and assess strategic options to advance their perceived interests in the international arena. Questions students will explore are: • How do states allocate their resources to achieve their goals? • What is “grand strategy” and what is it for? ◦ What are the sources of grand strategy and how are grand strategies formulated? ◦ What are the main tools to implement a grand strategy? • For thinking: Should the US engage in an active internationalist strategy or retreat from its international commitments?

Stage 1: Desired Results

Grade Level/Subject Standard(s)
List the Content Standards, Guiding Principles, or Cross-Curricular Skills this unit will address
CG.Inq.1.c. Explain points of agreement and disagreement experts have about interpretations and applications of civic concepts and ideas associated with both compelling and supporting questions.
CG.Inq.4.f. Evaluate and implement strategies for individual and collective action to address local, regional, and global problems in classrooms, schools, and out-of-school civic contexts.

Other Goal(s)
List the Disciplinary Transfer Goals that this unit will address
INQ 9-12.17 Apply a range of deliberative & democratic strategies and procedures to make decisions and take action in their classroom, schools, and out-of-school civic contexts.

Transfer Goals (Vision of the Graduate)
List the long-term and/or school-wide independent student behaviors that this unit will address.

Critical Thinking Transdisciplinary Goal:

Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s).

Enduring Understanding(s):

What are the big picture understandings that are transferable across contexts, places, and times?

1. International Relations is the study of how nations interact with each other and their reasons for doing so.
2. The theories of International Relations are on a 3 part spectrum:
 - a. Traditional theories (Realism vs. Liberalism)
 - b. Middle-ground theories (Constructivism)
 - c. Critical theories (Marxism, Feminism, etc).
3. States use various tools, such as diplomatic, economic, informational, military, and other sources of power, to advance and protect their interests both in peacetime and during times of war.

Essential Question(s):

These questions are related to the enduring understandings and provide relevance for the learning in the unit.

1. How do countries interact with each other?
2. How should a nation achieve its international goals?
3. How do countries solve global and domestic problems?

What will students know...

Factual information, vocabulary and basic concepts related to each indicator

What will students be able to do...

Skills, processes and/or knowledge that are related to each indicator and which students will be able to use in new contexts/with new material

Content Vocabulary: 1. International Relations (IR) 2. Grand Strategy 3. Realism 4. Liberalism 5. Constructivism 6. State/Nation 7. P.A.L.S. a. Power b. Authority c. Legitimacy d. Sovereignty 8. Prestige 9. Domestic 10. Diplomacy 11. Economics 12. Globalization 13. Government Know: 1. Importance of studying International Relations. 2. The traditional and middle ground theories of International Relations: 3. Tools of Grand Strategy a. Diplomatic b. Economic c. Military d. Informational e. Political	Students will 1. define key vocabulary that will be used throughout the unit. 2. be able to analyze and assess the importance of International Relations. 3. analyze what makes grand strategies fail; what makes them effective. 4. critically read a source for structure and context.
---	--

Stage 2: Evidence of Student Learning

Performance Tasks

Assessment Evidence

What will the student produce? Use the GRASPS model below to design your performance task.

- **Goal:** Use multiple sources to create a “grand strategy” that solves a hypothetical crisis.
- **Role:** Students act as strategists to find information to use as the basis for their proposed strategies.
- **Audience:** The target audience for this task will be the students' group members and the rest of the class.
- **Situation:** Students are given a “crisis situation”. As a group, students must collaborate to devise a “grand strategy” and present it to the US State Department for review.
- **Product/Performance/Purpose:** Identifying the US national goal related to the period/context; Organizing information into a “grand strategy” to solve a problem; Analyzing strengths and weaknesses of grand strategies; Individual written reflection on the process
- **Standards and Criteria for Success:** A successful result will be a group-made Google slide that will feature proof of research from multiple sources, with accurate content and evidence of analysis on what makes grand strategies fail and succeed. (See Rubric: [Here](#))

Resources

Any materials and resources related to the performance task that the teacher or student would need to be successful.

Performance Task [Link](#)

- Research Guide
- Grand Strategy Guide
- Reflection
- Hypothetical Crisis

Evaluative Criteria

How will you evaluate this task? How will you provide feedback to students?

- Informal observations and feedback during the planning process
- Rubric ([Linked Here](#)):
 - Critical Thinking: Information and Discovery
 - Critical Thinking: Problem Solving/Solution Finding
 - Critical Thinking: Reasoning
 - Required Work

Comments

Frame this as any information that would be helpful for a new teacher or a teacher teaching this course for the first time.

This Performance Task will require students to complete this assignment with a research guide/ Grand Strategy Guide and previous information. On the first day, students should first be made aware of the hypothetical situation, the parameters, and the rubric for the assignment. After this, students should begin their research by working with their peers and filling in their guides. This may be something to start in class and assign for work outside of the classroom. In the next lesson, students can take time to work with their peers on the Grand Strategy guide using the information that they researched the night before. This may also be a good time to guide them through the presentation section. On the final day, students should work on presenting their information to their peers and discussing the pros and cons of their approach with both their groups and the entire class. Students may then begin to work on the reflection or finish it for homework if they are not yet done.

Other Evidence

Assessment Evidence

Include other assessment strategies such as tests, quizzes, exit tickets, and any other strategies you may use as information-recall.

- Exit tickets
- Vocab Checks
- Recall
- Small and large group discussion
- Poster Creation
- Close Reads

(These will also be embedded below in the daily learning plan.)

Stage 3: Instructional Design

Design EACH activity for the unit. Copy and paste the tables below to outline all lessons within the unit.

May, 2025

Lesson 1.1: What is International Relations?

Learning Target:

- I will define several key terms related to International Relations and identify why they are related to International Relations.
- I will describe the acronym P.A.L.S. and differentiate each of the terms from the other.

Success Criteria:

- I can define all 11 vocabulary words and use the official definitions to answer the question: "How do the words above connect to International Relations?"
- I can read an article and use the contents to create descriptions for each term.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

1. While working on a handout ([LINKED HERE](#)), students will work either alone or with a partner to come up with their own definitions for 11 key vocabulary words. They will then compare these to the official course definitions I will provide them.
2. Students will proceed by answering 4 discussion questions regarding the vocabulary terms and will discuss them both with their peers and with the whole class.
3. Students will then read an article discussing the acronym P.A.L.S. (Power, Authority, Legitimacy, Authority) and how it relates to International Relations. After reading the article, the students will answer several analytical questions that ask them to make connections between the different terms.

Assessment

List any formative or summative assessments that should be administered within this learning sequence.

(They can be listed/linked below)

- P.A.L.S. Handout
- Lesson 1.1 Handout
- Informal Observations during group and whole-class discussions.

Lesson 1.2: Theories

Learning Target:

- I will define the three major theories of International Relations.
- I will analyze how these theories would impact how a nation would interact with the rest of the world.

Success Criteria:

- I can read 3 excerpts and use them to create a definition for each theory.
- I can answer all 6 discussion questions using information from the stations and my interpretations.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

1. Students will work with pre-assigned groups to create personal descriptions of the 3 major theories of International Relations based on readings posted around the room. They will record these definitions in a handout ([LINKED HERE](#)).
2. Once they are done, the students will answer six discussion questions which ask students to analyze, compare, and contrast the different theories.
3. Students will then be asked to categorize 9 politicians from American History by which theory of International Relations most closely aligns with the politician's beliefs. They will be provided with several quotes to help them with this task.

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

- Lesson 1.2 Handout
- Informal Observations during group and whole-class discussions.

Lesson 1.3: Grand Strategy

Learning Target:

- I will define grand strategy and analyze examples to understand its role in international relations.

Success Criteria:

I will define “grand strategy.”
I will read and annotate a primary source (the Melian Dialogue) to show evidence of government goals
I will use their knowledge of “grand strategy” to assess foreign policy scenarios with descriptive explanations
I will make a poster about their scenario that clearly explains the tools countries use to engage on the world stage

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

[Link](#) to Handout

- 1) Intro/brainstorm of definition
- 2) Close Read/Why-Lighting on the Melian Dialogue
 - a) Teacher-led discussion
- 3) Group work: Scenario analysis + poster creation
 - a) Handout/chart
- 4) Informal Gallery Walk for poster presentations

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

[Link](#) to Classwork Rubric

- Close read/why-lighting corrections
- Chart completion + poster creation

Additionally, students will be given informal feedback on their ability to collaborate and work effectively in a group.

Resources

Any materials and resources related to Stage 3 learning activities.

- Handout (see link above)
- Highlighters
- Poster paper
- Markers
- Access to technology

Unit Overview	
Unit Title:	Unit 2: International Security and Conflict Resolution
Teacher:	David Garfinkel
Grade Level/Course:	10-12
Length/Dates:	4 weeks (8-9 Blocks)
Unit Summary: 2-4 sentences describing the main ideas, content and skills of the unit.	Conflict takes many forms – not just direct violence – and we are all affected by it. Understanding the processes and driving forces at work is essential in our ever-changing world. This unit aims at (1) familiarizing students with the main notions and approaches to the study of international security and conflict, (2) analyzing the challenges to global security, and (3) exploring some conflicts and security challenges seen in international relations. Questions students will explore: • What are the approaches to international security? • What is diplomacy? • Why do countries go to war and is war ever justified? • What is an alliance and why do countries form them? • How do groups overcome their differences? For thinking: Some say the world is more peaceful and war is in decline→do you agree?

Stage 1: Desired Results

Grade Level/Subject Standard(s)
List the Content Standards, Guiding Principles, or Cross-Curricular Skills this unit will address
• MW.Inq.4.e. Analyze the characteristics and causation of ongoing global problems, both past and present, using a multidisciplinary lens. • MW.Inq.4.f. Evaluate and implement strategies for individual and collective action to address global problems in classrooms, schools, and out-of-school civic contexts. • US.Inq.3.b. Organize and prioritize evidence directly and substantially from multiple sources in order to develop or strengthen claims (e.g., detect inconsistencies). • CCSS.RH2 Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationship and the key details and ideas. • CCSS.RH3 Evaluate various explanations for actions or events and determining which explanations best accords with textual evidence, acknowledging where the text leaves matters uncertain • CCSS.WH4 Produce clear and coherent writing in which the development, organization, and style are appropriate to the task, purpose, and audience. • CCSS.WH Use technology including the internet, to produce, publish, or update individual or shared writing products in response to ongoing feedback, including new arguments or feedback.

Other Goal(s)

List the Disciplinary Transfer Goals that this unit will address

-

Transfer Goals (Vision of the Graduate)

List the long-term and/or school-wide independent student behaviors that this unit will address.

- **Critical Thinking Transdisciplinary Goal:** Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s).
- **Creativity/Innovation Transdisciplinary Goal:** Students work creatively to design and refine implementation of ideas by taking risks, persevering, and exploring possibilities.
- **Collaboration Transdisciplinary Goal:** Students flexibly and cooperatively work with others in physical and virtual environments and assume shared responsibility for completing a project or achieving a goal.
- **Communication Transdisciplinary Goal:** Students effectively communicate and use interpersonal skills in a range of formal and informal contexts.

Enduring

Understanding(s):

What are the big picture understandings that are transferable across contexts, places, and times?

1. International security is a subfield of international relations (IR) that focuses on questions of war and peace.
 - a. Security relates to **the measures taken by states and international organizations, such as the United Nations, European Union, and others, to ensure mutual survival and safety.** These measures include military action and diplomatic agreements, such as treaties and conventions. International Security also covers a variety of interconnected issues in the world that affect survival: traditional or conventional modes of military power, the causes and consequences of war between states, economic strength, to ethnic, religious and ideological conflicts, trade and economic conflicts, energy supplies, science and technology, food, as well as threats to human security and the stability of states from environmental degradation, infectious diseases, climate change and the activities of non-state actors. International security is national security or state security in the global arena.
 - b. Important individuals in this field are Edward Hallet, Kenneth Waltz, Immanuel Kant, Machievelli, and Hilary Clinton.
2. Diplomacy is **a process between actors (diplomats, usually representing a state) who exist within a system (international relations) and engage in private and public dialogue (diplomacy) to pursue their objectives in a peaceful manner.** Diplomacy is an essential tool required to operate successfully in today's international system.
3. When conflict becomes violent, countries go to war. There are many reasons why this can occur: individual, domestic, and systemic. (Ch 5)

	- An alliance is a coalition of states that coordinate their actions to accomplish some end. Most alliances are formalized in written treaties, concern a common threat and related issues of international security, and endure across a range of issues and a period of time. States form alliances to increase their effective power relative to that of another state or alliance. Alliances can shift rapidly, with major effects on power relations.(Ch 2) - Public opinion, social issues, economic issues (such as wealth disparity), climate change, and technology impact the success of international security measures. As states seek security, their own norms, rules, and values are sometimes at odds with each other.
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Essential Question(s): These questions are related to the enduring understandings and provide relevance for the learning in the unit.	- What is security and how is it theorized? Who are the important voices in this field? - What is diplomacy and how is it seen on the world stage? - Why do countries go to war? - Is war ever justified? - What are alliances and why do countries form them? How do they impact international security and conflict resolution? (Do they cause more problems?) - What are the challenges to international security? - How does the quest for international security and peacekeeping impact us today?
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What will students know... Factual information, vocabulary and basic concepts related to each indicator	What will students be able to do... Skills, processes and/or knowledge that are related to each indicator and which students will be able to use in new contexts/with new material
Content Vocabulary: - US State Department/Secretary of State - Foreign Policy - sanctions - Security/International Security - Human Security - Theoretical Approaches to International Security - Realism - Liberalism - constructivism - War - Balance of Power - Collective Security - Conflict Resolution - War/Causes - Diplomacy "13 Days" - Alliance/forming an alliance - Genocide - Drug trafficking - nuclearization	Students will - define key vocabulary that will be used throughout the unit. - analyze and assess primary and secondary sources. - be able to analyze and assess why countries go to war. - analyze the challenges to international security. - critically read a source for structure and context. - collaborate with classmates to create and implement strategies to solve a problem.

To Know: • Conflict takes many forms – not just direct violence – and we are all affected by it. • Understanding the processes and driving forces at work in international security and conflict resolution is essential in our ever-changing world. • The current and past examples of challenges to security and conflict resolution	
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Stage 2: Evidence of Student Learning

Performance Tasks

Assessment Evidence

What will the student produce? Use the GRASPS model below to design your performance task.

Students will play the game Diplomacy and write a reflection essay (test grade).

- **Goal:** Students will collaborate, strategize, and negotiate their way through the game of Diplomacy, with the ultimate goal of experiencing conflict resolution at a national level.
- **Role:** Students take on the role of early 20th century Great Power countries and scheme to tilt the course of history in their favor..
- **Audience:** Classmates who are from other Great Power countries.
- **Situation:** “At the beginning of the 20th Century, Europe was a complicated cauldron of political intrigue. Diplomacy is a game of negotiations, alliances, promises kept, and promises broken. In order to survive, each team needs help from the others. In order to win the game, a team must eventually stand alone. Knowing whom to trust, when to trust them, what promise to keep, and when to promise it is the heart of the game.”
- **Product/Performance/Purpose:** Participation in game and debrief; individual reflective essay
- **Standards and Criteria for Success:** Students will be observed during game play and be expected to provide insight and ideas. Students must also be flexible and accommodating during group work. Students must also participate in the game debrief with one or two comments. Lastly, students will write an essay that is reflective and analytical, effectively communicating their ideas in no more than two pages.

Resources

Any materials and resources related to the performance task that the teacher or student would need to be successful.

[Play Diplomacy Online](#)

[Diplomacy | Board Game | BoardGameGeek](#)

[Diplomacy \(game\) - Wikipedia](#)

Handout: Click this [LINK](#)

Evaluative Criteria

How will you evaluate this task? How will you provide feedback to students?

[Link](#) to Performance Task Rubric

Teacher informal observations and feedback.

Critical Thinking Transdisciplinary Goal: Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s).

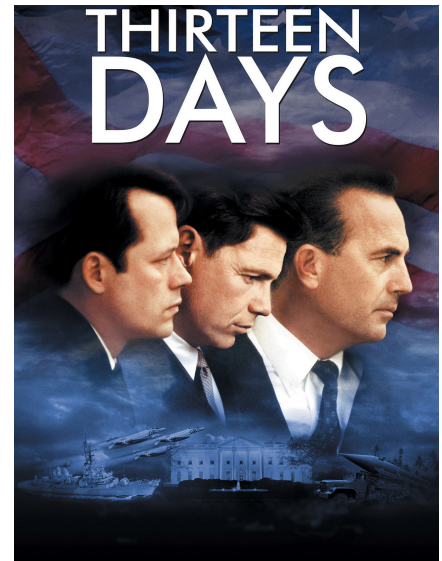
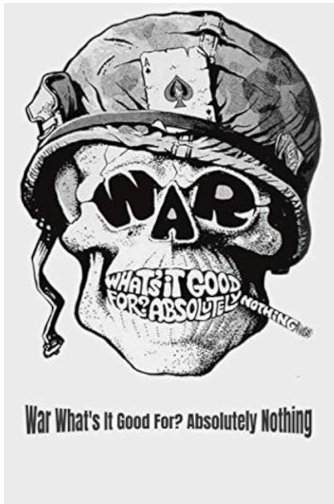
Creativity/Innovation Transdisciplinary Goal: Students work creatively to design and refine implementation of ideas by taking risks, persevering, and exploring possibilities.

Collaboration Transdisciplinary Goal: Students flexibly and cooperatively work with others in physical and virtual environments and assume shared responsibility for completing a project or achieving a goal.

Communication Transdisciplinary Goal: Students effectively communicate and use interpersonal skills in a range of formal and informal contexts.

Comments

Frame this as any information that would be helpful for a new teacher or a teacher teaching this course for the first time.



Other Evidence

Assessment Evidence

Include other assessment strategies such as tests, quizzes, exit tickets, and any other strategies you may use as information-recall.

- Map Quiz
- Exit tickets
- Vocab Checks
- Recall
- Small and large group discussion
- Internet and source search
- Close Reads
- Movie analysis

- Small group research/presentation

Stage 3: Instructional Design

Design EACH activity for the unit. Copy and paste the tables below to outline all lessons within the unit.

Lesson 2.1: Definitions and Theoretical Approaches	
Learning Target:	Success Criteria:
- I will identify what we will be learning about next in the course. - I will analyze International Security.	- I have defined 12 terms for this next unit. - I have determined how international security relates to International Relations by reading several articles and answering an exit ticket question.
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
Lesson 2.0 Handout: Linked Here 1) Reading for Information→ early definitions a) Students will read a teacher provided text; annotate; answer Qs b) Class discussion 2) Theoretical Approaches +research on International Security (2 examples) a) Students will apply knowledge 3) Exit Ticket Wrap Up	
Assessment List any formative or summative assessments that should be administered within this learning sequence. <i>(They can be listed/linked below)</i>	
RFI Research Collaboration Exit ticket	

Lesson 2.2: What is Diplomacy?	
Learning Target:	Success Criteria:
- I can distinguish between internationalism and isolationism. - I can explain the relationship between national interest and foreign policy. - I can make judgments about the effectiveness of strategies. - I will evaluate several strategies and tools of diplomacy.	- I have analyzed 3 scenarios and used them to fill out an exit ticket.
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
Link to lesson	

- Icivics Handout: [Linked Here](#)
 - Icivics Teacher Copy: [Linked Here](#)
- 1) Warm up: anticipation activity
 - 2) Scenario activities (from iCivics)
 - a) Using their knowledge, students have to apply their definitions of diplomacy to scenarios.
 - i) Start out reading as a class; then allow individual work and application
 - 3) As a wrap up, students will go back to the warm up and reflect on what they learned/compare it to what they thought about diplomacy at the start of the lesson.

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

- Icivics Handout: [Linked Here](#)
- Icivics Teacher Copy: [Linked Here](#)

Lesson 2.3: War, What is it Good For?

Learning Target:	Success Criteria:
- I will distinguish between two different theories of causes of war at two different levels of analysis. - I can identify at least four different international conflicts where religion plays a role in creating or exacerbating the conflict. - I can summarize two different international territorial disputes and evaluate the prospects for their peaceful settlement.	- I have used a text reading to describe 2 different theories of the cause of war and applied it to current international issues.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?
Tasks can be linked in here. Include technology integration as applicable to support learning.

[Link](#) to Lesson Day 1

- 1) Warm up: Why do countries go to war?
- 2) Map analysis questions
- 3) Reading for Information on Types of wars
- 4) Theories on the Causes of War reading and application
- 5) Exit Slip (two current international situations→apply knowledge)

[Link](#) to Lesson Day 2

- 1) Warm up: what is nationalism?
- 2) Identifying types of International Conflict
 - a) You will be split into groups (either “Conflicts Over Ideas” or “Conflicts Over Interests”). Read and research your topics, completing the chart below. You will then share your information with the other group.
- 3) Wrap up Qs

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

- Lesson 2.2: [Linked Here](#)
- Lesson 2.2 Part 2: [Linked Here](#)

Lesson 2.4: Global Conflict Tracker Analysis

Learning Target:

- I will evaluate a current conflict that is going on around the world.

Success Criteria:

- I have used a website to find information about a conflict and create a One-Pager that showcases my research.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

[Link](#) to lesson here

- 1) Students will Explore the Global Conflict Tracker: [Global Conflict Tracker](#)
- 2) Then, review their notes on the Types of Conflict:

	Religious	Ideological	Territorial	Governmental	Economic
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- 3) Third, students will pick a conflict from the tracker, review all the information. Do extra research if necessary. Fill in the organizer/take notes. (Completion of the organizer is optional.)
- 4) Lastly, students will make a One-Pager about a conflict.

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

(rubric is on the lesson worksheet)

- One pager
- Research
- Using time in class effectively

Lesson 2.5: "13 Days" Analysis

Learning Target:

- I can use my knowledge of international conflicts to assess the Cuban Missile Crisis and what it reveals about managing international conflict.
- I can explain how diplomacy, military strategy, and political leadership interact during a global crisis.

Success Criteria:

- I have summarized what I know about the Cuban Missile Crisis.
- I have compared the actual events to the way the events were portrayed in the movie.

I can evaluate the portrayal of the Cuban Missile Crisis in “13 Days” based upon my knowledge of the actual event.	I have evaluated how diplomacy, military strategy, and political leadership interact in a global crisis.
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Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

Lesson 2.5: [Linked Here](#)

- 1) Teacher background on movie and Cuban Missile crisis.
- 2) Students will watch “13 Days” and answer analysis questions related to the concepts learned in the unit.

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

Reading for Information

Well crafted written responses to wrap up Qs

Map Quiz Prep

Learning Target:

- I will evaluate my knowledge of world geography.

Success Criteria:

- I scored 85% or higher on the Map Quiz.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

Map Quiz

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

- Map Quiz: [Linked Here](#)

Resources

Any materials and resources related to Stage 3 learning activities.

Internet Access

13 Days

Textbook

Global Conflict Tracker

Unit Overview	
Unit Title:	Unit 3: Global Political Economy
Teacher:	David Garfinkel
Grade Level/Course:	10-12th Grade
Length/Dates:	3 weeks (7-8 blocks)
Unit Summary: 2-4 sentences describing the main ideas, content, and skills of the unit.	This unit will guide students through the process of identifying and evaluating the ways in which nations of the world interact on an economic level. They will begin by identifying historical examples of globalization and international economics. Furthermore, they will look at how a nation's chosen economic systems impact its relationships with other countries. Lastly, they will look at who impacts the global political economy and the different economic tools that nations use to further their goals on the world stage.

Stage 1: Desired Results

Grade Level/Subject Standard(s)

List the Content Standards, Guiding Principles, or Cross-Curricular Skills this unit will address

CG.Inq.1.c. Explain points of agreement and disagreement experts have about interpretations and applications of civic concepts and ideas associated with both compelling and supporting questions.

CG.Inq.4.f. Evaluate and implement strategies for individual and collective action to address local, regional, and global problems in classrooms, schools, and out-of-school civic contexts.

Other Goal(s)

List the Disciplinary Transfer Goals that this unit will address

MW.Eco.14.a. Analyze the role of comparative advantage in international trade in the late 20th century and early 21st century (e.g., natural resources, labor availability, infrastructure, capital goods, climate).

MW.Eco.15.a. Explain how free-trade alliances and agreements have affected economic growth in different nations in the late 20th century and 21st century (e.g., standard of living, e-commerce, intellectual property, outsourcing, multinational organizations).

MW.Eco.14.a. Evaluate the effectiveness of the international organizations in sustaining or undermining global cooperation (League of Nations, United Nations, Organization of the Petroleum Exporting Countries, North Atlantic Treaty Organization, European Union, Asia-Pacific Economic Cooperation, International Court of Justice, Community of Latin American and Caribbean States).

MW.Eco.8.a. Describe an international economic policy in terms of intended and unintended market outcomes (e.g., sanctions, free trade agreements, tariffs).

Transfer Goals (Vision of the Graduate)

List the long-term and/or school-wide independent student behaviors that this unit will address.

Critical Thinking Transdisciplinary Goal:

Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s).

Collaboration Transdisciplinary Goal:

Students flexibly and cooperatively work with others in physical and virtual environments and assume shared responsibility for completing a project or achieving a goal.

Enduring Understanding(s):

What are the big-picture understandings that are transferable across contexts, places, and times?

1. Nations of the world choose a mixture of Capitalism, Socialism, and Communism. This impacts how nations view each other and how they can cooperate.
2. Nations have been interacting with each other economically from the dawn of time.
3. Sovereign nations are not the only actors in the global political economy. Multinational Corporations, NGOs, International Organizations, and Independent entities impact the Global economy as well.

Essential Question(s):

These questions are related to the enduring understandings and provide relevance for the learning in the unit.

1. What are the different economic theories, and how do they interact?
2. How did the nations of the world interact with each other throughout history?
3. What impacts the global political economy?

What will students know...

Factual information, vocabulary, and basic concepts related to each indicator

Content Vocabulary:

1. Capitalism
2. Socialism
3. Communism
4. International Trade
5. Global Political Economy
6. Tariffs
7. Embargos
8. Sanctions
9. Trade Deficits
10. Trade Surplus
11. Imports vs. Exports
12. Poverty
13. Extreme Poverty
14. World Trade Organization
15. World Bank

Know:

1. The world has been globalizing since the creation of civilizations.

What will students be able to do...

Skills, processes, and/or knowledge that are related to each indicator and which students will be able to use in new contexts/with new material

Students will:

1. Define key vocabulary that will be used throughout the unit
2. Be able to identify which policies are capitalist, socialist, or communist.
3. Analyze charts and graphs to come to conclusions about economic data.
4. Evaluate the impacts of different actors on the global economy.
5. Create a claim and back it up with strong evidence.

2. Globalization can promote positive interactions and general economic efficiency, yet also lead to worldwide depressions and income inequality. 3. Nations choose their economic system based on a combination of the three most prominent economic theories: a. Capitalism b. Socialism c. Communism 4. There are multiple actors in the global political economy: a. Sovereign Nations b. NGO's c. Multinational Corporations d. International Organizations e. Private Individuals. 5. There are several economic tools that nations use to get what they want. a. Embargos b. Sanctions c. Trade Agreements d. Tariffs	
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Stage 2: Evidence of Student Learning

Performance Tasks

Assessment Evidence

What will the student produce? Use the GRASPS model below to design your performance task.

- **Goal:** Students will use multiple sources of information to write an essay that answers the question "Should the nations of the world continue to engage in globalization?"
- **Role:** Students will act as financial advisors to the leaders of their nation.
- **Audience:** The student's audience will be the leader of the nation (the teacher), a partner for peer review, and the rest of the class.
- **Situation:** Students are given a graphic organizer and access to databases to research the pros and cons of globalization. They will have to use this information along with the lessons discussed in class to answer the question in an argumentative essay format
- **Product/Performance/Purpose:** Analyzing key information using a multitude of sources in a variety of formats. Creating a claim that answers the compelling question. Backing up their claim with strong, relevant evidence and well-thought-out reasoning.
- **Standards and Criteria for Success:** A successful result will be an essay that features 3 pieces of strong well well-cited evidence, a concise and compelling claim, sound reasoning, and a counterclaim.

Resources

Any materials and resources related to the performance task that the teacher or student would need to be successful.

Performance Task: (To be linked)

- Research Guide

- Essay Guide
- Peer-Review Guide

Evaluative Criteria

How will you evaluate this task? How will you provide feedback to students?

- Rubric (Linked Here):
 - Critical Thinking: Information and Discovery
 - Critical Thinking: Constructing Arguments
 - Critical Thinking: Reasoning
 - Required Work

Other Evidence

Assessment Evidence

Include other assessment strategies such as tests, quizzes, exit tickets, and any other strategies you may use as information.

- Exit tickets
- Vocab Checks
- Recall
- Small and large group discussion
- Poster Creation
- Close Reads
- Graph/chart interpretations

(These will also be embedded below in the daily learning plan.)

Stage 3: Instructional Design

Learning Target:	Success Criteria:
- I can identify how international trade was conducted during the early periods of human history. - I can define economics.	- I will use two pieces of evidence from a simulation in my prediction of what early international trade was like. - I will use the official dictionary definition and my own experiences to create my definition of economics.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked here. Include technology integration as applicable to support learning.

Lesson 3.0: Intro to Econ

- Do Now: Students will be asked to answer the following questions without using other resources:
 - What does the word economics mean?
 - What 5 words come to mind when you hear this word?
 - How do you think this relates to international relations?
- Students will then be asked to play out a simulation.
 - Each student will have a resource and will be given a goal. This goal will be to craft as many products as possible by trading with others. Whoever had the most products by the end of the game wins.

- This product could be anything from Bronze Tools, Ships, Houses, or Population.
- Resources will be anything from fish, wheat, tin, copper, coal, wood, fabric, stone, etc.
- After the end of the simulation, students will be asked to answer the following questions:
 - How did you acquire resources? How did you set your "Price"?
 - What resource did you find hardest to acquire? Which did you ignore entirely? What was the most valuable to you?
 - What would you do differently? If you could do it again?
 - How does this simulate trade in the Bronze Age? What was missing from this simulation that you might have expected to see?
- Students will then discuss these answers with each other and then with the whole class.
- We will then define economics together and compare it to a dictionary definition.
- Exit Ticket: Students will be asked to answer the following questions:
 - How does economics impact international relations?
 - How was Bronze Age economics different from modern economics? Is it better or worse?

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

- Do Now
- Simulation Materials: [Linked Here](#)
- Simulation Reflection: [Linked Here](#)
- Exit Ticket

Learning Target:	Success Criteria:
- I can analyze several key economic events throughout human history. - I can evaluate how international economics has evolved.	- I will research an economic event with my peers and create a poster that displays my research. - I will use my research and my peers' research to answer an exit ticket question.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked here. Include technology integration as applicable to support learning.

Lesson 3.1: History of International Economics

- Do Now: Students will begin by thinking about which events from past and present history relate to international economics without looking it up.
- Students will choose a topic from the following list:
 - The Silk Road
 - Religious Artifacts
 - The Spice Trade
 - The Slave Trade (Colonization)
 - The Industrial Revolution
 - The Great Depression
 - Post WWII
 - The 2005 Recession
 - Neo-imperialism
- Along with their peers, they will research this topic to find the following information:
 - What was the context of this event?

- Which nations/groups were involved?
- What happened during the event?
- What was the outcome?
- What impacts did it have on the international community?
- Students will then place this information on posters, with the exception of the impacts section. (This will be written on the back.) The poster will then be placed along the walls of the room.
- Students will then conduct a gallery walk. Once they are done, they will write down what three events had the most impact on modern international economics from their perspectives and support their arguments with information from their peers.
- Exit Ticket: We will then go over these events together and then answer the following two questions in the form of quick writes.
 - Is Globalization New?
 - How has international economics evolved?

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

- Do Now
- Lesson 3.1: [Linked Here](#)
- Exit Tickets

Learning Target:	Success Criteria:
- I can identify and define key economic vocabulary with my peers. - I can evaluate whether Globalization is a good thing or a bad thing.	- I will work with my peers to define a given vocabulary word using online resources. - I will use two pieces of information from a video and an article to answer an exit ticket question.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?
Tasks can be linked here. Include technology integration as applicable to support learning.

Lesson 3.2: Economic Terms

- Do Now: Students will be asked to answer the following questions:
 - Take a look at the list of words on the board and try to define as many of them as possible in the time allotted. (Vocabulary words listed below)
- Students will then seek to define the following terms:
 - Globalization
 - International Trade
 - Trade Deficits
 - Trade Surplus
 - Imports vs. Exports
 - Poverty
 - Extreme Poverty
 - World Trade Organization
 - World Bank
- To do this, two or three students will be given a word and will be asked to use a dictionary to come up with their definitions. When they are done, they will bring their definitions to the teacher to have them checked.
- Students will then share their definitions with their peers.

- Students will then use a handout to gather important information from an Economics Crash Course video regarding globalization, its benefits, and downsides.
- Exit Ticket: Students will answer the following questions using information from the lesson:
 - Is Globalization a good thing or a bad thing?

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

- Do Now
- Definition activity: [Linked Here](#)
- Crash Course Video Activity: [Linked Here](#)
- Exit Ticket

Learning Target:

- I can differentiate between the three major economic systems.
- I can evaluate how a nation's economic systems impact its international relations.

Success Criteria:

- I will work with my peers to read several articles and use them to fill out a Venn diagram.
- I will use several readings and my Venn diagram to answer an exit ticket question.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?
Tasks can be linked here. Include technology integration as applicable to support learning.

Lesson 3.3: Economic Systems

- Do Now: Students will answer the questions:
 - What are economic systems?
 - What economic systems can you identify?
- Students will then read small sections discussing Capitalism, Communism, and Socialism. While doing so, they will fill out a Venn diagram to identify the aspects of each.
- Students will then work together with a partner to further identify and categorize the different aspects. They will do the same in larger groups, moving all the way up to a whole class Venn diagram. We will then go over this together.
- Students will be given several real-world examples of economic aspects and will be asked to identify which economic system applies to each.
- Students will then be given readings and will be asked to take notes regarding the following topics:
 - The Industrial Revolution
 - The Cold War
 - Modern Economics
- Exit Ticket: Students will then answer the following question using examples from the text:
 - How do economic systems impact how nations interact with each other?

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

- Do Now
- Venn Diagram
- Example Classification Game
- Exit Ticket

Learning Target:	Success Criteria:
- I can define the term Global Political Economy. - I can evaluate which economic tools work best for promoting a nation's economic interest.	- I will use an article to create my definition of the term Global Political Economy. - I will use my research and my peers' research to answer an exit ticket question.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked here. Include technology integration as applicable to support learning.

Lesson 3.4: Global Political Economy

- Do Now: Students will answer the following questions:
 - How does a national government impact the international economy? How do nations get what they want?
 - Can other groups/people impact the international economy? How so, and who?
- Students will then read an article on Global Political Economy to figure out what it is, and how international politics is impacted by economics. (Linked [HERE](#))
- Students will research the various tools that nations use to get what they want and will share them with the class.
- Students will then research examples of each economic tool in American history.
- Exit Ticket: Students will answer the following questions:
 - What is the Global Political Economy? Who impacts it? Who is impacted by it?
 - Which economic tools do you think work the best for assisting a nation in achieving its goals?

Assessment

List any formative or summative assessments that should be administered within this learning sequence. *(They can be listed/linked below)*

- Do Now
- Tool Search Activity
- Exit Ticket

Learning Target:	Success Criteria:
- I can evaluate which style of international economics is best, Free Trade or Protectionism. - I can evaluate who has the largest impact on the global economy.	- I will use a textbook chapter, a video, and my independent research to create an argument for both sides of the international trade debate. - I will use 2 pieces of evidence from the lesson to answer the question: "Who do you think has the largest impact on the global economy?"

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked here. Include technology integration as applicable to support learning.

Lesson 3.5: Free Trade vs. Protectionism

- Do Now: Students will answer the following questions:
 - What do you think the theories of international relations would say about how nations should trade with each other?
 - Can other groups/people impact the international economy? How so, and who?
- Students will read the chapter on Free Trade agreements.
- Students will analyze several international economic agreements using online resources:
 - NAFTA
 - European Union
 - Marshall Plan/Dawes Plan
 - OPEC
 - APEC
- Students will then watch a video on Free Trade vs. Protectionism: [CLICK HERE!](#)
- Students will use the information from the chapter, the video, and independent research to create an argument for each side of the debate. Once they are done, they will debate their neighbors and decide collectively which side won, and which point made the difference.
- Students will then share their findings with the class.
- Students will then read an article discussing who else can have an impact on the global economy and will then research examples of these organizations/individuals.
- Exit Ticket: Students will answer the following questions:
 - Should trade be free or restricted? Explain your answer using 2 pieces of evidence from the lesson.
 - Who do you think has the largest impact on the global economy?

Assessment

List any formative or summative assessments that should be administered within this learning sequence. *(They can be listed/linked below)*

- Do Now
- Free Trade vs. Protectionism debate activity.
- NGO activity
- Exit Ticket

Resources

Any materials and resources related to Stage 3 learning activities.

- Youtube Videos
- Textbook: "International Relations: Twelfth Edition" Chapters 8, 9, 10

Unit Overview	
Unit Title:	Unit 4: Global Governance
Teacher:	David Garfinkel
Grade Level/Course:	10th-12th Grade
Length/Dates:	4 weeks (10 blocks)
Unit Summary: 2-4 sentences describing the main ideas, content, and skills of the unit.	This unit outlines, analyzes, and evaluates the ways in which governmental and non-governmental international organizations work towards the goal of the betterment of the planet. Students will use research, critical thinking, and collaborative skills to analyze the events surrounding the creation of organizations such as the United Nations and the ICJ along with initiatives regarding Human Rights and international cultural events.

Stage 1: Desired Results

Grade Level/Subject Standard(s)
List the Content Standards, Guiding Principles, or Cross-Curricular Skills this unit will address
CG.Inq.1.c. Explain points of agreement and disagreement experts have about interpretations and applications of civic concepts and ideas associated with both compelling and supporting questions.
CG.Inq.4.f. Evaluate and implement strategies for individual and collective action to address local, regional, and global problems in classrooms, schools, and out-of-school civic contexts.

Other Goal(s)
List the Disciplinary Transfer Goals that this unit will address
MW.His.4.b. Analyze complex and interacting factors that influenced the perspectives about international laws and treaties in the Cold War era (e.g., United Nations, Geneva Conventions, North Atlantic Treaty Organization, Warsaw Pact, Nuclear Non-Proliferation Treaty).
MW.Civ.3.a. Analyze the impact of treaties and laws on the maintenance of national and international order in the 20th century (e.g., Apartheid, European Economic Community, Camp David Accords, Sino-American Mutual Defense Treaty, Strategic Arms Reduction Treaty, Latin American Integration Association).
MW.Civ.12.a. Analyze how individuals and groups advocate for economic, political, and social change in international contexts (e.g., legislation, courts, resistance, protest, boycott, conscious consumerism).
MW.Civ.14.a. Analyze means of protecting or limiting human rights in the 20th century (e.g., Universal Declaration of Human Rights, United Nations Resolution 181, Partition of India, Dirty War in Argentina, Cultural Revolution in China, Khmer Rouge, Stolen Generations in Australia).

Transfer Goals (Vision of the Graduate)
List the long-term and/or school-wide independent student behaviors that this unit will address.

Critical Thinking Transdisciplinary Goal:

Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s).

Communication Transdisciplinary Goal:

Students effectively communicate and use interpersonal skills in a range of formal and informal contexts.

Citizenship Transdisciplinary Goal

Students demonstrate an empathetic understanding of social issues and value different perspectives so that they can contribute to local and global communities.

Enduring Understanding(s):

What are the big-picture understandings that are transferable across contexts, places, and times?

1. Global Governance is the act of creating, maintaining, and enforcing rules to promote collective goals.
2. Global Governance is conducted via both non-governmental and governmental organizations.
3. The United Nations is not the first international organization to seek world peace and international diplomacy, it was created based on the successes and failures of previous organizations such as the League of Nations and the Congress of Vienna.
4. The United Nations is made up of 6 “organs” all of which have different functions and work towards achieving the larger goal of Global Communication and a world without war.
5. Human Rights are the human needs that have been deemed as universal meaning that all humans deserve to have these needs protected. Human Rights are protected and enforced by individual nations, NGO’s and IGOs.

Essential Question(s):

These questions are related to the enduring understandings and provide relevance for the learning in the unit.

1. How does the international community operate on the world stage?
2. How do different non-governmental and government organizations impact global governance?
3. How did their successes and failures of previous international organizations impact the creation of the United Nations?
4. How effective is the United Nations at achieving its goals?
5. Are Human Rights enforceable?

What will students know...

Factual information, vocabulary, and basic concepts related to each indicator

What will students be able to do...

Skills, processes, and/or knowledge that are related to each indicator and which students will be able to use in new contexts/with new material

Content Vocabulary: 1. Global Governance. 2. United Nations (UN) 3. IGO vs NGO 4. 6 Organs of the UN: a. General Assembly b. Security Council c. Economic and Social Council d. Trusteeship Council, e. International Court of Justice (ICJ) f. Secretariat. 5. Diplomacy 6. Imperialism 7. Human Rights Know: 1. The concept of Global Governance and its importance in the modern day. 2. The difference between NGOs and IGOs. 3. Before the UN, there had been several attempts to set up an international organization to promote peace and international security. While each has been a step up from the last, these organizations were not ultimately able to achieve their goals. 4. The United Nations was set up after WWII with 6 organs to handle different issues, 5. The United Nations has several goals, including world peace, global diplomacy, global justice, human rights, economic prosperity, and an end to imperialism. 6. The ICJ's history and functions. 7. Other IGOs and their functions, such as the International Olympic Committee. 8. NGO's and their role in Global Governance. 9. The trials and tribulations of the international pursuit of global human rights.	Students will: 1. Define key vocabulary that will be used throughout the unit 2. Analyze several articles, textbook chapters, and videos for key information regarding aspects of global governance. 3. Create posters, infographics, and slideshows to display research on various topics. 4. Collect sources and select evidence.
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Stage 2: Evidence of Student Learning

Performance Tasks

Assessment Evidence

What will the student produce? Use the GRASPS model below to design your performance task.

- **Goal:** Students will work with their team to create a profile of a nation of their choosing and act from its perspective to solve a global issue in the United Nations-inspired committee. Students will be asked to create a country profile with basic information about their nation, along with their nation's stance on

Child Labor. Students will then be asked to contribute to a global forum held in the classroom with their peers. Lastly, students will have to write a short paper reflecting on their experience in the simulation and answering the question: "Can global governance successfully solve world issues?"

- **Role:** Students will play the role of a diplomat from a sovereign nation who has been tasked to represent their nation in an international committee.
- **Audience:** Their peers, all of whom have chosen a different nation to represent.
- **Situation:** The committee has been formed to discuss international solutions to the continuing child labor crisis.
- **Product/Performance/Purpose:** Analyzing key information from a variety of sources regarding a nation of their choice. Creating an infographic that displays their findings. Implementing their findings in a United Nations simulation. Concluding their findings in a write-up.
- **Standards and Criteria for Success:** Student success will be measured by the creation of an infographic displaying basic information regarding their nation and an explanation of their stance on child labor. Furthermore, students will be measured based on their participation in the conference and the critical thinking they display within their write-up.

Resources

Any materials and resources related to the performance task that the teacher or student would need to be successful.

- A topic briefing on the crisis (Child Labor)
- Online articles, databases, and other resources.
- Canva
- Committee Guide

Evaluative Criteria

How will you evaluate this task? How will you provide feedback to students?

- Informal observations and feedback during the planning process
- Rubric ([Linked Here](#)):
 - Critical Thinking: Information and Discovery
 - Critical Thinking: Problem Solving/Solution Finding
 - Critical Thinking: Reasoning
 - Required Work

Comments

Frame this as any information that would be helpful for a new teacher or a teacher teaching this course for the first time.

Second Option:

Assessment Evidence

What will the student produce? Use the GRASPS model below to design your performance task.

- **Goal:** Students will answer the question: (see below) by conducting research and writing a short paper that presents their conclusions.
 - "Can IGOs/NGOs successfully and effectively solve world issues?"

- “Should there be official Intergovernmental Organizations or should global governance be placed solely in the hands of Non-Governmental Organizations?”
- “Is the United Nations effective at solving world issues?”
- “Should there be a global community or should nations resolve issues on a one-on-one basis?”
- **Role:** Students will play the role of an expert in International Relations who is presenting their findings to a UN committee.
- **Audience:** Their peers, both as peer editors and as fellow experts. The teacher is the UN committee chair.
- **Situation:** The committee has been formed to discuss whether global governance is worth the effort
- **Product/Performance/Purpose:** Analyzing key information from a variety of sources regarding the question and creating a 2-3 page historical paper that presents their findings.
- **Standards and Criteria for Success:** Student success will be measured by their claim, evidence, reasoning, and the sources they found.

Resources

Any materials and resources related to the performance task that the teacher or student would need to be successful.

- Online articles, databases, and other resources.
- Graphic Organizers: [CLICK HERE!](#)
- Peer review guides

Evaluative Criteria

How will you evaluate this task? How will you provide feedback to students?

- Informal observations and feedback during the planning process
- Rubric ([Linked Here](#)):
 - Critical Thinking: Information and Discovery
 - Critical Thinking: Claims
 - Critical Thinking: Reasoning
 - Required Work

Other Evidence

Assessment Evidence

Include other assessment strategies such as tests, quizzes, exit tickets, and any other strategies you may use as information-recall.

- Do Nows
- Exit tickets
- Vocab Checks
- Recall
- Small and large group discussion
- Poster Creation
- Close Reads

(These will also be embedded below in the daily learning plan)

Stage 3: Instructional Design

Learning Target:	Success Criteria:
- I can define Global Governance - I can differentiate between an IGO and an NGO - I can evaluate why Global Governance is important	- I will create a definition for Global Governance that utilizes the three elements of Global Governance. - I will read a textbook section and fill in a VENN diagram that displays at least 3 differences and 2 similarities. - I will use 2 pieces of evidence from the lesson to answer an exit ticket question.
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked here. Include technology integration as applicable to support learning.	
Lesson 4.0: Intro to Global Governance - Do Now: - Global Governance Definition Activity: - Chapter 7.1 Reading Analysis (VENN Diagram): - Class Discussion: - Exit Ticket:	
Assessment List any formative or summative assessments that should be administered within this learning sequence. (They can be listed/linked below)	
- Do Now - Reading Analysis - Class Discussion - Exit Ticket	

Learning Target:	Success Criteria:
- I can identify previous examples of IGOs - I can evaluate the successes and failures of several IGOs.	- I will research several examples of IGOs and use this research to fill out an evaluation form for each. - I will use 2 pieces of evidence from the lesson to answer an exit ticket question.
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked here. Include technology integration as applicable to support learning.	
Lesson 4.0: History of Global Governance - Do Now: - Article Activity: Congress of Vienna to League of Nations. - Evaluation: Circumstance, Success, Failures, Impacts.	

- Exit Ticket
Assessment List any formative or summative assessments that should be administered within this learning sequence. <i>(They can be listed/linked below)</i>
- Do Now - Article Analysis - Evaluation Activity/Discussion Post - Exit Ticket

Learning Target:	Success Criteria:
- I can analyze how/why the Unit Nations was formed. - I can identify the different “organs” of the United Nations - I can create a poster that informs my peers on a specific “organ” of the UN.	- I will use information from 2 videos, a class discussion, and a chapter reading to answer the question: Why was the UN formed? - I will read a textbook section and use the information to answer several questions in a close-read activity. - I will use evidence from my research and the lesson to create a poster that displays key information regarding an “organ” of my choice.

Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked here. Include technology integration as applicable to support learning.

Lesson 4.2: United Nations - Do Now: - The Numbers: Video Analysis: - Primary Source Video Analysis: San Francisco Conference - Class Discussion: - Chapter 7.2 Reading Analysis: - UN “Organ” Poster Activity: - Gallery Walk: - Exit Ticket:
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Assessment List any formative or summative assessments that should be administered within this learning sequence. <i>(They can be listed/linked below)</i>
- Do Now - Class Discussion - UN “Organ” Poster Activity - Exit Ticket

Learning Target:	Success Criteria:
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- I can identify the goals of the UN. - I can analyze the successes and failures of the United Nations - I can evaluate whether the United Nations can be effective at achieving its goals.	- I will use information from an article activity to create a list of goals. - I will research an event from the UN's history and compare it to events researched by 2 of my peers. - I will answer the question: "Is the UN capable of achieving its goals?" Use at least 2 pieces of evidence from the lesson.
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked here. Include technology integration as applicable to support learning.	
Lesson 4.3: Role of the UN - Do Now: - Article Analysis: Goals of the United Nations: - Event Research Jigsaw Activity: - UN Security Council Controversy: - Exit Ticket:	
Assessment List any formative or summative assessments that should be administered within this learning sequence. <i>(They can be listed/linked below)</i>	
- Do Now - Event Research Jigsaw Activity - Exit Ticket	

Learning Target:	Success Criteria:
- I can identify the creation of the ICJ - I can analyze the role of the ICJ - I can evaluate the effectiveness of the ICJ	- I will use a textbook and an article to create a timeline showing the creation of the ICJ. - I will use a textbook chapter and an article to define the role of the ICJ in my own words. - I will use 2 pieces of evidence from the lesson to answer the question, "How effective is the ICJ?"
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked here. Include technology integration as applicable to support learning.	
Lesson 4.4: ICJ - Do Now: - Article Analysis: History of International Justice - Nuremberg Trials - Arrest Warrant on World Leaders - Chapter 7.3 Reading Analysis: - Court Case Poster Project: - Exit Ticket:	

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

- Do Now
- Reading Analysis
- Court Case Poster Project
- Exit Ticket

Learning Target:

- I can analyze the role of NGOs
- I can evaluate the effectiveness of NGOs

Success Criteria:

I will use my research and the research conducted by my peers to identify the role of NGOs in international global governance.
I will use evidence from the lesson to help me create 2 points to use within a debate about the effectiveness of NGOs.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked here. Include technology integration as applicable to support learning.

Lesson 4.5: NGOs

- Do Now:
- NGO research activity.
- NGO debate activity.
- Exit Ticket:

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

- Do Now
- Class Discussion
- NGO Debate Reflection
- Exit Ticket

Learning Target:

- I can identify other international organizations.
- I can evaluate the purpose of other international organizations and their impacts on the world.

Success Criteria:

- I will identify an international organization and find 2 reliable sources about its purpose and impacts.
- I will create a poster which creatively shows both the purpose and overall impact of an international organization of my choice.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked here. Include technology integration as applicable to support learning.

Lesson 4.6: International Organization Project

- Do Now:
- International Organization Project:
- Exit Ticket:

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

- Do Now
- International Organization Project
- Exit Ticket

Learning Target:	Success Criteria:
- I can define the term Human Rights - I can analyze how Human Rights has been dealt with over the years. - I can evaluate the pursuit of international human rights around the world.	- I will define human rights by engaging in an activity and creating a definition in my own words. - I will use a chapter reading and an article to answer the question, "What are two times in which efforts to protect human rights were attempted? Were they effective?" - I will answer the question, "Is protecting human rights throughout the world plausible or impossible?" using 2 pieces of evidence from the lesson.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked here. Include technology integration as applicable to support learning.

Lesson 4.7: Human Rights

- Do Now:
- Human rights definition activity
- Chapter 7.5: Reading Activity
- History of Human Rights activity
- United Nations Declaration of Human Rights analysis activity:
- Human Rights event gallery walk:
- Exit Ticket:

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

- Do Now
- Reading Analysis
- Class Discussion
- Human Rights Gallery Walk
- Exit Ticket

Resources

Any materials and resources related to Stage 3 learning activities.

- Youtube Videos
- Textbook: "International Relations: Twelfth Edition" Chapter 7
- OER Project "Globalization"

Unit Overview	
Unit Title:	Unit 5: US Foreign Policy
Teacher:	Garfinkel
Grade Level/Course:	10-12
Length/Dates:	3-4 weeks (7-9 Blocks)
Unit Summary: 2-4 sentences describing the main ideas, content and skills of the unit.	Foreign policy, the strategy governments use in dealing with other nations, matters to all of us. This unit introduces students to fundamental concepts in foreign policy, and also explores themes related to power, protection, national interests, and sovereignty. Students will delve into case studies, looking at major issues in foreign policy today and analyzing US presence around the globe.

Stage 1: Desired Results

Grade Level/Subject Standard(s) List the Content Standards, Guiding Principles, or Cross-Curricular Skills this unit will address
● MW.Inq.4.e. Analyze the characteristics and causation of ongoing global problems, both past and present, using a multidisciplinary lens. ● CCSS.RH2 Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationship and the key details and ideas. ● CCSS.RH3 Evaluate various explanations for actions or events and determining which explanations best accords with textual evidence, acknowledging where the text leaves matters uncertain ● CCSS.WH4 Produce clear and coherent writing in which the development, organization, and style are appropriate to the task, purpose, and audience. ● CCSS.WH Use technology including the internet, to produce, publish, or update individual or shared writing products in response to ongoing feedback, including new arguments or feedback. ● MW.His.14.c. Analyze the multiple and complex causes and effects of national and global public health issues (e.g., HIV/AIDS, Ebola, reproductive health, addiction, climate change, nutrition, potable water, COVID pandemic).

Other Goal(s) List the Disciplinary Transfer Goals that this unit will address
● US.Inq.3.b. Organize and prioritize evidence directly and substantively from multiple sources in order to develop or strengthen claims (e.g., detect inconsistencies).

Transfer Goals (Vision of the Graduate) List the long-term and/or school-wide independent student behaviors that this unit will address.

- **Critical Thinking Transdisciplinary Goal:** Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s).
- **Collaboration Transdisciplinary Goal:** Students flexibly and cooperatively work with others in physical and virtual environments and assume shared responsibility for completing a project or achieving a goal.
- **Communication Transdisciplinary Goal:** Students effectively communicate and use interpersonal skills in a range of formal and informal contexts.

Enduring

Understanding(s):

What are the big picture understandings that are transferable across contexts, places, and times?

1. By definition, foreign policy is a government's strategy in dealing with other nations. How nations approach foreign policy is influenced by several factors.
2. First, foreign policy decisions are significantly influenced by national interest; second, policy decisions are also significantly influenced by the distribution and exercise of power; finally, a nation's desire to protect its sovereignty will guide foreign policy decisions.
3. Disagreements that arise in international politics often involve conflicting concepts of national interest. A nation will choose a policy based on the assurance of protecting the national interest.
4. The idea of the US as the "World's Gatekeeper" is an age-old issue, stemming all the way back to George Washington. Ideally, the US strives to make "the world safe for democracy" and the present world order is greatly influenced by US dominance. In a post WWII world, some argue this is still necessary for the preservation of democracy and capitalism; others say there is now room to share the responsibility.

Essential Question(s):

These questions are related to the enduring understandings and provide relevance for the learning in the unit.

1. What is foreign policy?
2. What factors affect foreign policy?
3. How do disagreements in foreign policy affect International Relations?
4. Should the US lead the world?

What will students know...

Factual information, vocabulary and basic concepts related to each indicator

What will students be able to do...

Skills, processes and/or knowledge that are related to each indicator and which students will be able to use in new contexts/with new material

• Foreign Policy • Grand strategy • National interest • Nuclear proliferation • War on terror • IAEA • Nine Nuclear Nations • Deterrence • Vladimir Putin • Olympics • Terrorism • Drone warfare • Guantanamo Bay • Al-Qaeda • ISIS • USA PATRIOT Act • AUMK • NSA • Cold War • NATO • Sanctions • Ukraine • USSR/Russia • Proxy war • NATO v Warsaw Pact • Containment • Arms race • annexation	• QFT (Question Formulation Technique) • critically read a source, evaluating information • be able to select sources that address research • locate relevant sources • analyze charts, graphs • define key vocabulary that will be used throughout the unit. • collaborate with classmates to assess and analyze information • interpret information and transfer it onto a timeline in an organized, critically relevant fashion
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Stage 2: Evidence of Student Learning

Performance Tasks

Assessment Evidence

What will the student produce? Use the GRASPS model below to design your performance task.

Olympics: Interplay of Sports, Foreign Policy, Diplomacy, and Geopolitics

Click [here](#) for handout.

- **Goal:** Students will research and read about important moments in the Olympic games. Ultimately, students must work together to pick (and justify) the Olympic event that best exemplifies how the Olympics connects to International Relations and Foreign Policy.
- **Role:** Students are researchers and collaborators.
- **Audience:** Students will produce a timeline for their classmates; a written justification for their teacher; a recorded Flip for their classmates.
- **Situation:** “The Olympic Games are the epitome of international sporting events, representing not only the pinnacle of athletic achievement but also a complex interaction of sportsmanship, national pride,

geopolitical maneuvering, and diplomatic engagement. How have these elements historically intertwined and continue to shape the Games? How does foreign policy play out in the Olympics?”

- **Product/Performance/Purpose:** After some teacher-guided introduction activities on the origins and evolution of the Olympics; global impact of the Olympics; and major moments of the Olympics, students will be tasked to create an Annotated Timeline of International Relations and Important Moments in the Olympics. After the timeline’s completion, students must work together as a group and pick the event that BEST exemplifies how the Olympics connects to International Relations and US Foreign Policy. Students should focus their explanations and the intersection of sports and politics. Then, individually, students must produce a written justification explaining their choice AND record the justification on Flip to receive credit.
- **Standards and Criteria for Success:** Students will be observed during research and timeline completion. Each student is expected to provide insight and ideas. Students must also be flexible and accommodating during group work. See below for Unit 5 Performance Task Rubric.

Resources

Any materials and resources related to the performance task that the teacher or student would need to be successful.

- [Handout](#)
- Electronic devices
- Long paper/big paper/paper taped together
- markers/colored pencils/sharpies
- rulers

Evaluative Criteria

How will you evaluate this task? How will you provide feedback to students?

- [Link](#) to rubric
- Teacher informal observations and feedback.
- **Critical Thinking Transdisciplinary Goal:** Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s).
- **Creativity/Innovation Transdisciplinary Goal:** Students work creatively to design and refine implementation of ideas by taking risks, persevering, and exploring possibilities.
- **Collaboration Transdisciplinary Goal:** Students flexibly and cooperatively work with others in physical and virtual environments and assume shared responsibility for completing a project or achieving a goal.
- **Communication Transdisciplinary Goal:** Students effectively communicate and use interpersonal skills in a range of formal and informal contexts.

Comments

Frame this as any information that would be helpful for a new teacher or a teacher teaching this course for the first time.

- As prep for the lesson, remind students to look at their notes from Unit 4.
- You can also show the students “Munich” or “One Day in September” as a lead in if there is time.

Other Evidence

Assessment Evidence

Include other assessment strategies such as tests, quizzes, exit tickets, and any other strategies you may use as information-recall.

- Quiz
- Exit tickets
- Think, pair, share
- QFT
- Close reads/why-lighting
- Small group discussion
- Large group discussion
- Stimulations
- Data analysis
- Quick writes
- Short answers
- Document analysis

Stage 3: Instructional Design

Lesson 5.1: The Global Context of US Foreign Policy (Ch 4)

Learning Target:

- I can define foreign policy, including the models of foreign policy
- I can explain the factors that hamper/influence foreign policy decisions.

Success Criteria:

- I have examined a current event from IR and created a One-pager that displays my understanding of “foreign policy”.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

- 1) Students will be introduced to vocabulary and concepts (Ch 4 reading; pages 112-131; teacher can provide excerpts and vocab)
- 2) One Pager: Students will consider an event in IR (from the past or present). They will be asked to research and review the people/actors involved in making a decision concerning that event. Students will summarize the event and the decisions, keeping in mind the models of decision making. How would the rational-actor model explain that event? Might it be better explained by considering standard operating procedures or bureaucratic politics? Why/why not? What factors influence or hamper the foreign policy decisions being made? Information should be concise, clear, and show you know the definitions of foreign policy, rational model, organizational process model, and governing bargaining model.
- 3) As a wrap up (exit slip/class discussion), students will consider the current situation between India and Pakistan. (There is a summary in the chapter textbook but the teacher should also review the recent Kashmir bombing). India and Pakistan are neighbors and enemies. Given the problems of misperception and bias in foreign policy decision making, what steps could you propose that each government adopt to keep these problems from interfering in the rational pursuit of national interests?

(A great extension is the debate on 134 if teacher prefers.)

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

Reading/annotating
Vocab review
One-pager creation
Class discussion
Exit slip

Lesson 5.2: Nuclear Aggression and Foreign Policy (Deterrence, Diplomacy, and Danger)

Learning Target:	Success Criteria:
- I can define nuclear aggression and its role in international relations. - I can analyze historical examples of nuclear threats and deterrence. - I can debate the ethics and effectiveness of nuclear policy.	- I have defined nuclear aggression and can explain it in my own words. - I have analyzed historical examples of nuclear aggression and deterrence with my group. - I have justified my position on the ethics and effectiveness of nuclear policy.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

- Quick Write (followed by a brief discussion): *"If one country uses a nuclear weapon, what should the world do?"*
- Mini-Lecture: Define: nuclear aggression, nuclear deterrence, first strike, second strike, MAD. Discuss how nuclear weapons reshape foreign policy through threat posturing, alliances, and proxy conflict. Show a world map highlighting current nuclear states and emerging threats.
- Case Study Jigsaw: Divide students into 3 groups. Each group reads a 1-page case study → Group A: *The Cuban Missile Crisis (1962)* Group B: *North Korea's nuclear threats (2017)* Group C: *Russia's nuclear signaling in the Ukraine War (2022–2023)*
 - Groups answer: What was the threat? What was the response? Did the threat succeed in shaping foreign policy? What are the ethical dilemmas? Each group shares out to the class.
- "National Security Council Crisis" stimulation (optional; see handout)
- Wrap up: Debrief and Reflection +Exit Slip→What should be the top priority when responding to nuclear aggression: avoiding war, defending allies, showing strength, or protecting civilians? Why?

Assessment

- Quick write
- Jigsaw analysis
- Group collaboration
- Reflection Qs

Lesson 5.3: US v China (From Ping-Pong Diplomacy to Strategic Rivalry: The U.S.-China Relationship in 2025)

Learning Target:	Success Criteria:
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• I can trace the historical trajectory of U.S.-China relations from 1949 to 2025. • I can analyze the multifaceted nature of current U.S.-China relations, including trade, technology, military, and diplomacy. • I can evaluate the implications of recent developments in 2025 on global politics and economics.	• I have taken notes on the history of US/China relations from 1949-2025. • I have worked in small groups to analyze the current relationship between the US and China. • I have reflected and evaluated recent developments between the US and China, keeping in mind things that hamper and help foreign policy decisions.
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
1) Warm-Up Question: "How have U.S.-China relations evolved over the past century?" (Brief Discussion: Elicit prior knowledge and set the stage for the lesson.) 2) Historical Overview/Timeline analysis (1949-2025) 3) US/China relationship Small Group Work, teacher provides information for analyzing Trade Relations, Technological Competition, Military Posturing, Diplomatic Engagements (see worksheet) 4) National Security Council Stimulation Activity: The U.S. must respond to China's recent AI-generated propaganda video and escalating tariffs and develop a cohesive policy response balancing economic, military, and diplomatic considerations. (see worksheet) 5) Individual Reflection: Students complete worksheets analyzing→The complexity of U.S.-China relations, the impact of recent events on global dynamics, and the personal perspectives on effective foreign policy strategies.	
Assessment List any formative or summative assessments that should be administered within this learning sequence. <i>(They can be listed/linked below)</i>	
• Role-play • Policy analysis • Participation in discussions and simulation • Group presentation • Reflection worksheet	

Lesson 5.4: Terrorism and The War on Terror	
Learning Target:	Success Criteria:
• I can define terrorism and understand its impact on global foreign policy. • I can analyze the U.S. response to terrorism through counterterrorism measures and military interventions.	• I have analyzed the impact of terrorism on US foreign policy. • I have compared and contrasted two major US terror attacks.

• I can compare the U.S. response to two major terrorism-related incidents. • I can evaluate the consequences of the War on Terror domestically and internationally.	• I have reflected in my journal about the War on Terror and have taken a stand on the effectiveness of counterterrorism efforts.
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Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

[Link to lesson](#)

- 1) **Warm up/intro:** students will think about the word terrorism and what comes to mind when they hear it. After a brief share out, students will watch footage from 9/11 and the Bush 9/20 speech. Then they will answer questions about how that clip helps them formulate a definition of terrorism and how governments respond to it.
- 2) You can then hand out a reading from Ch 6 (pgs 185-189), which they should annotate and take notes on important vocab. Teacher can provide a list of vocab words and/or a graphic organizer.
- 3) **Teacher direct instruction**
 - a) What is terrorism? (state vs. non-state actors; asymmetrical warfare; etc)
 - b) Major attacks: 9/11, ISIS attacks in Europe, Al-Qaeda in Africa, etc.
 - c) U.S. responses: Bush Doctrine, Afghanistan & Iraq wars, Homeland Security Act
 - d) Legal framework: AUMF (2001), Patriot Act, Guantanamo Bay, drone warfare
 - e) Shift from boots-on-the-ground to intelligence-led operations
- 4) **Case set comparison:**
 - a) 9/11 Attacks (2001) and U.S. Embassy Bombings in Kenya/Tanzania (1998)
 - b) Killing of Qassem Soleimani (2020) vs. Drone strike on al-Zawahiri (2022)
 - c) Boston Marathon Bombing (2013) vs. Pulse Nightclub Shooting (2016)
- 5) **Hmwk: Situation analysis**
 - a) **The Afghanistan War:** Was nation-building a counterterrorism success?
 - b) **Drone Strikes:** Precision vs. collateral damage
 - c) **NSA Surveillance & Patriot Act:** Security vs. privacy
 - d) **Guantanamo Bay:** Ethics of indefinite detention
- 6) **Debrief, discuss, reflection (in journals or in an exit slip)**
 - a) How has terrorism reshaped foreign policy?
 - b) Are counterterrorism tactics justifiable if they violate certain rights or borders?
 - c) How should foreign policy balance security, ethics, and international law?
 - d) How specifically has the US policy of the "War on Terror" impacted the US domestically and internationally?
 - e) In your opinion, what is the most effective counterterrorism strategy and why?
 - f) Reflect on one case study and whether the U.S. made the right foreign policy choice.

Assessment

Journal reflections
 Compare and Contrast assignment
 Research on a terror situation
 Analysis and taking a stand on US foreign policy decisions related to terrorism

Lesson 5.5: The Current State of Affairs in Ukraine (US v Russia)

Learning Target:	Success Criteria:
- I can trace key shifts in U.S.–Russia foreign relations from the Cold War to 2025. - I can analyze the causes and global consequences of Russia's invasion of Ukraine. - I can evaluate U.S. foreign policy responses: sanctions, military aid, and NATO strategy. - I can consider the challenges of engaging autocratic regimes diplomatically.	- I have outlined and analyzed with my small group US foreign policy responses when dealing with Russia. - I have weighed the appropriate foreign policy choices when dealing with Putin and responded with my opinion in an exit slip.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

[Link to lesson plan](#)

- 1) Warm up/Bell Ringer** (teacher option based on current events in Ukraine)
- 2) Review Vocabulary**→ do the student recognize any from other social studies classes? What vocab is new to you?
- 3) Teacher Direct Instruction→ students complete organizer
- 4) Small group analysis of foreign policy tools
- 5) Class wrap up and exit slip: *Given the history and current situation, what policy should the U.S. pursue toward Russia in the next year? Justify your position using at least one example from today's class.*

Teacher should also review Unit EQs with students, think about US global leadership and they go into their PT.

Assessment

List any formative or summative assessments that should be administered within this learning sequence. (They can be listed/linked below)

- Collaboration observations
- Group analysis and presentation
- Bell Ringer
- Exit Slip
- Graphic Organizer completion

Resources

Any materials and resources related to Stage 3 learning activities.

- Textbook
- Internet
- Youtube
- Journals
- Poster paper (optional)
- Map of the world
- markers/colored pencils/rulers

Unit Overview	
Unit Title:	Unit 6: FINAL PROJECT/Exam: International Relations Evaluation
Teacher:	David Garfinkel
Grade Level/Course:	10-12
Length/Dates:	Continuous throughout Semester; be sure to block off two weeks at the end of the quarter for research days.
Unit Summary: 2-4 sentences describing the main ideas, content and skills of the unit.	This unit will be done throughout the semester, helping kids prepare for their final exam. The unit culminates with the final exam.

Stage 1: Desired Results

Grade Level/Subject Standard(s)

List the Content Standards, Guiding Principles, or Cross-Curricular Skills this unit will address

CG.Inq.1.c. Explain points of agreement and disagreement experts have about interpretations and applications of civic concepts and ideas associated with both compelling and supporting questions.

CG.Inq.4.f. Evaluate and implement strategies for individual and collective action to address local, regional, and global problems in classrooms, schools, and out-of school civic contexts

Other Goal(s)

List the Disciplinary Transfer Goals that this unit will address

INQ 9-12.17 Apply a range of deliberative & democratic strategies and procedures to make decisions and take action in their classroom, schools, and out-of-school civic contexts.

Transfer Goals (Vision of the Graduate)

List the long-term and/or school-wide independent student behaviors that this unit will address.

Critical Thinking Transdisciplinary Goal:

Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s).

Creativity/Innovation Transdisciplinary Goal:

Students work creatively to design and refine implementation of ideas by taking risks, persevering, and exploring possibilities.

Enduring Understanding(s):
What are the big picture understandings that are transferable across contexts, places, and times?

1. States use various tools, such as diplomatic, economic, informational, military, and other sources of power, to advance and protect their interests both in peacetime and during times of war.
2. When conflict becomes violent, countries go to war. There are many reasons why this can occur: individual, domestic, and systemic
3. Sovereign nations are not the only actors in the global political economy. Multinational Corporations, NGOs, International Organizations, and Independent entities impact the Global economy as well.
4. Global Governance is the act of creating, maintaining, and enforcing rules to promote collective goals.
5. The idea of the US as the “World’s Gatekeeper” is an age-old issue, stemming all the way back to George Washington. Ideally, the US strives to make “the world safe for democracy” and the present world order is greatly influenced by US dominance. In a post WWII world, some argue this is still necessary for the preservation of democracy and capitalism; others say there is now room to share the responsibility.

Essential Question(s):
These questions are related to the enduring understandings and provide relevance for the learning in the unit.

1. How do countries solve global and domestic problems?
2. Why do countries go to war?
3. What impacts the global political economy?
4. How does the international community operate on the world stage?
5. Should the US lead the world?

What will students know...
Factual information, vocabulary and basic concepts related to each indicator

What will students be able to do...
Skills, processes and/or knowledge that are related to each indicator and which students will be able to use in new contexts/with new material

Content Vocabulary:

1. International Relations (IR)
2. Grand Strategy
3. Realism
4. Liberalism
5. Constructivism
6. State/Nation
7. P.A.L.S.
 - a. Power
 - b. Authority
 - c. Legitimacy
 - d. Sovereignty
8. Prestige
9. Domestic
10. Diplomacy
11. Economics
12. Globalization
13. Government
14. Importance of studying International Relations.
15. The traditional and middle ground theories of International Relations:
16. Tools of Grand Strategy
 - a. Diplomatic
 - b. Economic
 - c. Military
 - d. Informational
 - e. Political
17. Importance of studying International Relations.
18. The traditional and middle ground theories of International Relations:
19. Tools of Grand Strategy
 - a. Diplomatic
 - b. Economic
 - c. Military
 - d. Informational
 - e. Political
20. Foreign Policy
21. Security/International Security
22. Human Security
23. Theoretical Approaches to International Security
 - a. Realism
 - b. Liberalism
 - c. constructivism
24. War
25. Balance of Power
26. Collective Security

1. define key vocabulary that will be used throughout the unit.
2. analyze what makes grand strategies fail; what makes them effective.
3. critically read a source for structure and context.
4. analyze and assess primary and secondary sources.
5. be able to analyze and assess why countries go to war.
6. Be able to identify which policies are capitalist, socialist, or communist.
7. Analyze charts and graphs to come to conclusions about economic data.
8. Evaluate the impacts of different actors on the global economy.
9. Collect sources and select evidence.

27. Conflict Resolution 28. War/Causes 29. Capitalism 30. Socialism 31. Communism 32. International Trade 33. Global Political Economy 34. Tariffs 35. Embargos 36. Sanctions 37. Trade Deficits 38. Trade Surplus 39. Imports vs. Exports 40. Poverty 41. Extreme Poverty 42. World Trade Organization 43. World Bank 44. Global Governance. 45. United Nations (UN) 46. IGO vs NGO 47. 6 Organs of the UN: a. General Assembly b. Security Council c. Economic and Social Council d. Trusteeship Council, e. International Court of Justice (ICJ) f. Secretariat. 48. Diplomacy 49. Imperialism 50. Human Rights 51. National interest 52. Nuclear proliferation 53. War on terror 54. IAEA 55. Nine Nuclear Nations 56. Deterrence 57. Vladimir Putin 58. Olympics 59. Terrorism 60. Drone warfare 61. Guantanamo Bay 62. Al-Qaeda 63. ISIS 64. USA PATRIOT Act 65. AUMK 66. NSA 67. Cold War 68. NATO 69. Sanctions	
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- 70. Ukraine
- 71. USSR/Russia
- 72. Proxy war
- 73. NATO v Warsaw Pact
- 74. Containment
- 75. Arms race
- 76. annexation

Know:

1. Importance of studying International Relations.
2. The traditional and middle ground theories of International Relations:
3. Tools of Grand Strategy
 - a. Diplomatic
 - b. Economic
 - c. Military
 - d. Informational
4. Conflict takes many forms – not just direct violence – and we are all affected by it.
5. Understanding the processes and driving forces at work in international security and conflict resolution is essential in our ever-changing world.
6. Globalization can promote positive interactions and general economic efficiency, yet also lead to worldwide depressions and income inequality.
7. Nations choose their economic system based on a combination of the three most prominent economic theories:
 - a. Capitalism
 - b. Socialism
 - c. Communism
8. There are multiple actors in the global political economy:
 - a. Sovereign Nations
 - b. NGO's
 - c. Multinational Corporations
 - d. International Organizations
 - e. Private Individuals.
9. There are several economic tools that nations use to get what they want.
 - a. Embargos
 - b. Sanctions
 - c. Trade Agreements
 - d. Tariffs
10. The concept of Global Governance and its importance in the modern day.

11. The difference between NGOs and IGOs. 12. The trials and tribulations of the international pursuit of global human rights.	
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Stage 2: Evidence of Student Learning

Performance Tasks

Assessment Evidence

What will the student produce? Use the GRASPS model below to design your performance task.

- **Goal:** Create an essay and a slideshow that answers the question “How do nations solve problems?” while referencing one of the theories of International Relations. Prove the claim by researching three international issues using multiple online resources.
- **Role:** Students will act as doctoral students defending their dissertation to a board of academics.
- **Audience:** The target audience for this task will be the rest of the class.
- **Situation:** Students will use the information they have collected throughout the year to come up with an answer to the question: “How do nations solve problems?”
- **Product/Performance/Purpose:** An essay that explains their views on the question and lists their evidence. A slideshow that showcases a condensed version of their research. A work cited page that displays their sources for the project.
- **Standards and Criteria for Success:** A successful result will be an essay that will feature proof of research from multiple sources, accurate content, a specific claim, a reference to a theory of International Relations, and a slideshow that creatively displays their research. (See Rubric: [Here](#))

Resources

Any materials and resources related to the performance task that the teacher or student would need to be successful.

- Graphic Organizer (Linked [HERE](#))
- Database Resources

Evaluative Criteria

How will you evaluate this task? How will you provide feedback to students?

- Informal observations and feedback during planning process
- Rubric ([Linked Here](#)):
 - Critical Thinking: Constructing Arguments
 - Critical Thinking: Problem Solving/Solution Finding
 - Critical Thinking: Reasoning
 - Creativity: Creative Production

Comments

Frame this as any information that would be helpful for a new teacher or a teacher teaching this course for the first time.

This unit should be occasionally embedded into the semester, introducing the kids to the final early on so they are able to gather evidence and stay organized. As you will see in the first lesson, having students create a Google folder early on for this unit will be very helpful for them.

Other Evidence

Assessment Evidence

Include other assessment strategies such as tests, quizzes, exit tickets, and any other strategies you may use as information-recall.

- Annotating
- Read for Information
- Current Event Analysis
- Note taking
- Research methods
- Peer Review

Stage 3: Instructional Design

Design EACH activity for the unit. Copy and paste the tables below to outline all lessons within the unit.

Lesson #1: Breaking Down the Question

Learning Target:	Success Criteria:
• I can annotate the final exam essay question and understand what it is asking me to do.	• I have broken down the final exam essay question and understand what it is asking me to do, as evidenced by discussion and questions.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

[Worksheet](#)

***this should not take an entire block**

- 1) Students will make Unit folders in their Google Drives and copies of appropriate worksheets.
- 2) In a teacher-led lesson, students will learn about the final exam essay section; read and annotate the final exam prompt; and brainstorm ideas that will help them be successful in answering the question.
 - a) Define terms
 - b) Circle and discuss action verbs
 - c) Identify categories and task
 - d) Ask questions.

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

- 1) Informal teacher observations
- 2) Peer discussion
- 3) Completion of worksheet (can be graded or simply checked for completion)
- 4) Notecard with questions

Lesson #2: Running Notes (introduced during the first Unit but done throughout the Semester)

Learning Target:	Success Criteria:
I can reflect on the day's lesson and take notes on topics related to my final exam essay.	I have written AT LEAST 3 problems and solutions in the graphic organizer related to the day's lesson.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

Organizer

this should not take an entire block

- 1) After the first lesson in Unit 1, students will open the organizer and add information into the problem/solution columns.
 - a) Teacher should remind students about the essay question and prompt them to review their class notes and activities.
- 2) Students should write AT LEAST 3 problems and solutions.
- 3) Students can work individually to start but then share with their peers after.
- 4) Teacher should be walking around the room, monitoring for completion; can prompt individual students who are stuck.

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

- 1) Informal teacher observations
- 2) Peer discussion
- 3) Completion of Organizer
 - a) Use Go-guardian if necessary
- 4) Teacher should check the ideas the first few times this is done (even for a small grade) but give more independence as the semester goes on. Teacher also can give a holistic grade at the end of the semester.
 - a) Rubric
 - b) At random?

Lesson # 3: Examining Current Events (introduced during the first Unit but done throughout the Semester)

Learning Target:	Success Criteria:
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I can find reliable sources and apply basic analysis to current international events using the lens of international relations.	- I have explored news sites for international news. - I have found and analyzed an international news story, using the template provided by my teacher..
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
Link to Lesson (20-30min) 1) Warm up--. Discussion on where student get their international news, how they know it's reliable 2) Direct Instruction→ important vocabulary, teacher modeling of how to find a source and evaluate an article 3) Student practice and Share out Be sure to tell students to put all info into their folders!	
Assessment List any formative or summative assessments that should be administered within this learning sequence. <i>(They can be listed/linked below)</i>	
Discussion Current Event analysis Partner Collaboration	

Lesson # 4: Gathering Resources	
Learning Target:	Success Criteria:
I can evaluate online sources for credibility and practice finding strong sources for international research.	- I have learned what the SIFT method is. - I have found a source to evaluate, and practiced using the SIFT method.
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
Link to Worksheet This lesson can also be done with the Library Media Specialist; be sure to contact her 1) Teacher intro/hook (can show two different headlines/sources and have the kids evaluate them) 2) Teach the SIFT Method 3) In small groups or pairs, have the students find articles and apply the SIFT method. 4) If time, share out and get a few examples	
Assessment List any formative or summative assessments that should be administered within this learning sequence. <i>(They can be listed/linked below)</i>	
Website/article evaluation Collaboration with a partner	

Lesson # 5: What is an “issue”?

Learning Target:

- I can define what constitutes an issue in international relations.
- I can identify examples of current global issues.

Success Criteria:

- I have identified the difference between an issue and topic.
- I have worked collaboratively to find examples of topics that can be turned into researchable global issues.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

[Link](#) to lesson

- 1) Warm: present two pairs/have the students evaluate
- 2) Teacher Notes/definitions
- 3) Guided practice (topic v issue)
- 4) Application: brainstorm own issue
- 5) Share out

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

This or that
Issues Analysis
Group Collaboration

Resources

Any materials and resources related to Stage 3 learning activities.

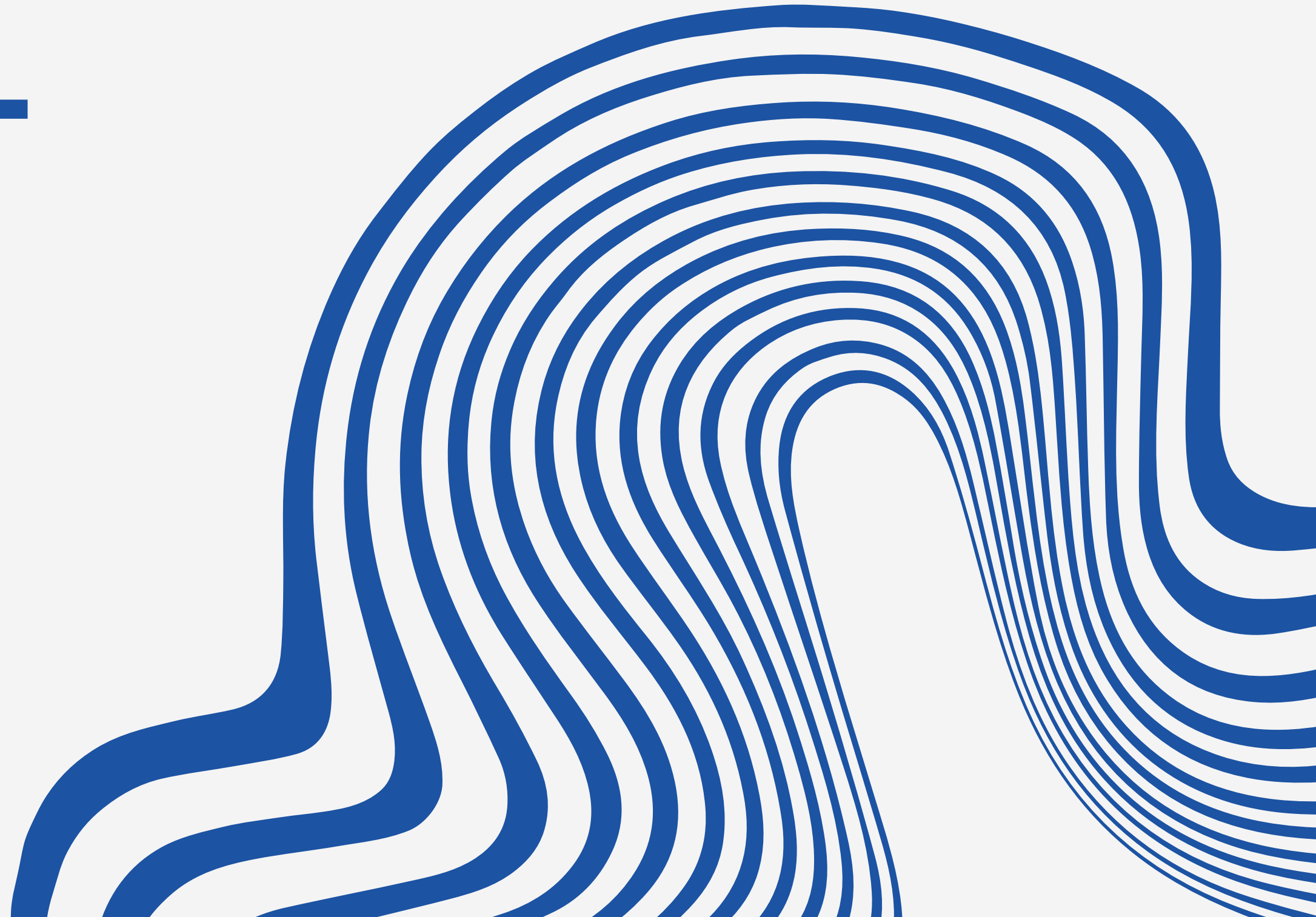
Library Media Specialist

Internet Access



INTERNATIONAL RELATIONS

at Southington High School



UNITS

01.

What is International Relations?

02.

International Security and Conflict Resolution

03.

International Political Economy

04.

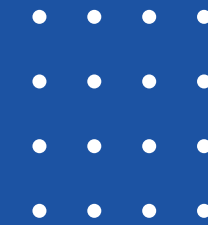
Global Governance

05.

US Foreign Policy

06.

Final Project





01.

WHAT IS INTERNATIONAL RELATIONS?

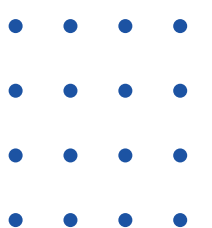
This unit introduces students to the field of international relations and explores the concept of grand strategy (both in international relations and US foreign policy). The main purpose is to analyze the ways in which nations formulate, implement, and assess strategic options to advance their perceived interests in the international arena.



PERFORMANCE TASK

Students will use multiple sources to create a “grand strategy” that solves a hypothetical crisis.

- Students are given a “crisis situation.” As a group, students must collaborate to devise a “grand strategy” and present it to the US State Department for review.**
- A successful result will be a group-made Google slide that will feature proof of research from multiple sources, with accurate content and evidence of analysis on what makes grand strategies fail and succeed.**





02.

INTERNATIONAL SECURITY AND CONFLICT RESOLUTION



Conflict takes many forms – not just direct violence – and we are all affected by it. Understanding the processes and driving forces at work is essential in our ever-changing world. This unit aims at (1) familiarizing students with the main notions and approaches to the study of international security and conflict, (2) analyzing the challenges to global security, and (3) exploring some conflicts and security challenges seen in international relations.

Questions students will explore:

- What are the approaches to international security?
- What is Diplomacy?
- Why do countries go to war and is war ever justified?
- What is an alliance and why do countries form them?
- How do groups overcome their differences?



CE TASK

Students will collaborate, strategize, and negotiate their way through the game of “Diplomacy”, with the ultimate goal of experiencing conflict resolution at a national level.

- **Situation: “At the beginning of the 20th Century, Europe was a complicated cauldron of political intrigue. Diplomacy is a game of negotiations, alliances, promises kept, and promises broken. In order to survive, each team needs help from the others. In order to win the game, a team must eventually stand alone. Knowing whom to trust, when to trust them, what promise to keep, and when to promise it is the heart of the game.”**



03.

GLOBAL POLITICAL ECONOMY

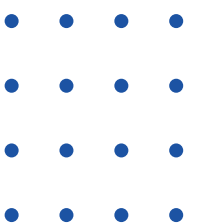
This unit will guide students through the process of identifying and evaluating the ways in which nations of the world interact on an economic level. They will begin by identifying historical examples of globalization and international economics. Furthermore, they will look at how a nation's chosen economic systems impact its relationships with other countries. Lastly, they will look at who impacts the global political economy and the different economic tools that nations use to further their goals on the world stage.



PERFORMANCE TASK

Students will use multiple sources to create an essay

- **Students are given a “crisis situation.” As a group, students must collaborate to devise a “grand strategy” and present it to the US State Department for review.**
- **A successful result will be a group-made Google slide that will feature proof of research from multiple sources, with accurate content and evidence of analysis on what makes grand strategies fail and succeed.**





04. GLOBAL GOVERNANCE

This unit outlines, analyzes, and evaluates the ways in which governmental and non-governmental international organizations work towards the goal of the betterment of the planet. Students will use research, critical thinking, and collaborative skills to analyze the events surrounding the creation of organizations such as the United Nations and the ICJ along with initiatives regarding Human Rights and international cultural events.



PERFORMANCE TASK

Students will work with their team to create a profile of a nation of their choosing and act from its perspective to solve a global issue in the United Nations-inspired committee.

- **Students will be asked to create a country profile with basic information about their nation, along with their nation's stance on Child Labor.**
- **Students will then be asked to contribute to a global forum held in the classroom with their peers.**
- **Lastly, students will have to write a short paper reflecting on their experience in the simulation and answering the question: “Can global governance successfully solve world issues?”**

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05

US FOREIGN POLICY

Foreign policy, the strategy governments use in dealing with other nations, matters to all of us. This unit introduces students to fundamental concepts in foreign policy, and also explores themes related to power, protection, national interests, and sovereignty. Students will delve into case studies, looking at major issues in foreign policy today and analyzing US presence around the globe.



PERFORMANCE TASK

Students are tasked with researching and studying the Olympics. After some teacher-guided introduction activities on the origins and evolution of the Olympics; global impact of the Olympics; and major moments of the Olympics, students will be tasked to create an Annotated Timeline of International Relations and Important Moments in the Olympics. After its completion, students must work together as a group and pick the event that BEST exemplifies how the Olympics connects to International Relations and US Foreign Policy. Students should focus their explanations and the intersection of sports and politics. Then, individually, students must write a written justification explaining their choice AND record it on Flip to receive credit.

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06. **FINAL PROJECT:**

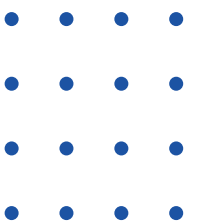
Throughout the semester, students will be preparing for their final project/essay by doing short lessons on the question, learning how to gather research and assess sources, questioning, examining current events, and how to make a slides presentation.

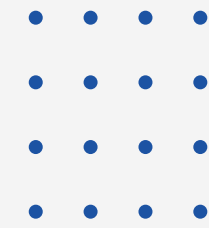


PERFORMANCE TASK

Students

- **Essay: How do nations solve problems?**
- **40 question Multiple Choice**
- **presentation of essay**





Thank You

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**BOARD OF EDUCATION
SOUTHINGTON, CONNECTICUT**

Informational Only _____ Board Meeting Date August 21, 2025

Decision Requested X Agenda Code 9 d.

AGENDA REPORTING FORM

Agenda Topic: SHS – Algebraic Concepts – Revised Curriculum - Second Reading.

Summary of Issue: The Curriculum & Instruction Committee has reviewed the SHS – Algebraic Concepts – Revised Curriculum.

Background: _____

Alternative Strategies: N/A

Cost (if applicable): N/A **Funding Source:** N/A

Beginning Date of Program or Project: N/A

Ending Date of Program or Project: N/A

Recommendation or Comment: Move that the Board of Education approve the Algebraic Concepts – Revised Curriculum – as presented by the Curriculum & Instruction Committee.

Titles of Attachments:

1. Course Proposal



Signature of Staff Member Submitting Report



Signature of Superintendent of Schools

Unit Overview	
Unit Title:	Unit 1 - Transformations of Functions
Teacher(s):	Megan Kavanaugh, Colleen Lasky, Tom Hinman
Grade Level/Course:	11 th & 12 th Grade - Academic Level
Length/Dates:	4 Weeks August 29 th - September 30 th
Unit Summary: 2-4 sentences describing the main ideas, content and skills of the unit.	In this unit, students will consider functions as a whole and understand how they can be transformed to fit the needs of a situation. Students will make connections between representations (tables, graphs, parent functions) as they translate, reflect, and apply scale factors to different types of functions (linear, absolute value, quadratic, cubic, square root, and cube root). As the unit progresses as will the language students use to describe transformations with precision.

Stage 1: Desired Results

Grade Level/Subject Standard(s)
List the Content Standards, Guiding Principles, or Cross-Curricular Skills this unit will address
- CCSS.MATH.CONTENT.HSF.BF.B.3 - Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them. - CCSS.MATH.CONTENT.HSF.IF.A.1 - Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$. - CCSS.MATH.CONTENT.HSF.IF.A.2 - Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

Other Goal(s)
List the Disciplinary Transfer Goals that this unit will address
- Make sense of problems and persevere in solving them. - Model with mathematics. - Attend to precision. - Look for and make use of structure.

Transfer Goals (Vision of the Graduate)
List the long-term and/or school-wide independent student behaviors that this unit will address.

Critical Thinking Transdisciplinary Goal:

Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s).

Creativity/Innovation Transdisciplinary Goal:

Students work creatively to design and refine implementation of ideas by taking risks, persevering, and exploring possibilities.

Communication Transdisciplinary Goal:

Students effectively communicate and use interpersonal skills in a range of formal and informal contexts.

Enduring Understanding(s):

What are the big picture understandings that are transferable across contexts, places, and times?

Each EU listed should correspond to at least 1 or more EQ below.

1. Transform parent functions in a variety of ways.
2. Describe key components of a graph including: domain, range, end behavior, or specific input/output values.

Essential Question(s):

These questions are related to the enduring understandings and provide relevance for the learning in the unit.

Each EQ listed should correspond to at least 1 or more EU above.

1. What are the potential transformations that could occur and how do they impact the graph of a parent function?
2. How can you accurately describe aspects of a graph using appropriate notations when applicable?

What will students know...

Factual information, vocabulary and basic concepts related to each indicator

What will students be able to do...

Skills, processes and/or knowledge that are related to each indicator and which students will be able to use in new contexts/with new material

• Shapes of Parent Functions ○ Linear ○ Absolute Value ○ Quadratic ○ Cubic ○ Square Root ○ Cube Root • Transformations (reflection, vertical shift, horizontal shift, stretch/shrink) • Domain • Range • Function Notation	• Produce a sketch of the graph of a parent function including one or more transformations without the aid of technology • Write the equation of a graph, in function notation, that includes one or more transformations • Determine the domain and range of a completed graph (in interval notation) • Use function notation algebraically and graphically
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Stage 2: Evidence of Student Learning

Performance Tasks

Assessment Evidence

What will the student produce? Use the GRASPS model below to design your performance task.

Goal

- The goal is for students to demonstrate their ability to transform functions through the creation of an identifiable image and then to analyze their images for mathematical precision.

Role

- You need to use multiple functions to model an image or create your own image.

Audience

- The target audience is the students within the course as their images will be anonymously shared.

Situation

- Students are encouraged to be creative in demonstrating their knowledge in a method that is differentiated for individual learners. They are creating a product that will be presented to others based on their new learning and then will analyze their results using specific content knowledge that is individual to their image.

Product/Performance/Purpose

- Students will need to complete this performance task in two parts. They will need to create an image in Desmos that uses functions and transformations that students learned within the unit. They will then use their individual image to analyze the graph for specific characteristics.

Standards and Criteria for Success

- Accurate functions to represent an image as well as restricted domains.
- Analyze graphs for specific information.

Resources

Any materials and resources related to the performance task that the teacher or student would need to be successful.

[Performance Task](#)

www.desmos.com

Evaluative Criteria

How will you evaluate this task? How will you provide feedback to students?

Students will be evaluated using a rubric. Feedback will be given throughout the task.

Comments

Frame this as any information that would be helpful for a new teacher or a teacher teaching this course for the first time.

Practice with shifting graphs on desmos prior to assigning task.

Students should create a sketch on paper first before going to desmos. Students were more successful when they created an original picture rather than “tracing” a picture.

Stage 3: Instructional Design

Design EACH activity for the unit. Copy and paste the tables below to outline all lessons within the unit.

Learning Target:	Success Criteria:
I can identify and graph parent functions.	I can produce an accurate graph of the parent function for linear, absolute value, quadratic, cubic, square root, and cube root functions.
Learning Activities	
What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
• Task Cards • Unit 1 Reference Sheet • Explore graphing on Desmos.com	
Assessment	
List any formative or summative assessments that should be administered within this learning sequence. (They can be listed/linked below)	
Successful completion of Unit 1 Reference Sheet	

Learning Target:	Success Criteria:
I can explain transformations of parent functions.	I can produce the graph of a function that has been transformed and describe the transformations.
Learning Activities	
What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
• Exploration of Transformation Rules - WipeBoards • Graphing Practice • Describe Transformation from Graph • Explore graphing on Desmos.com	

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

Exit slip
Mini Quiz 1
Performance Task

Learning Target:

I can recognize and use function notation.

Success Criteria:

I can find specific points using function notation algebraically and graphically.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?
Tasks can be linked in here. Include technology integration as applicable to support learning.

- Evaluating functions notes and practice
- Function notation stations (coded message, maze, tables/graphs, deltamath)
- Deltamath review

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

Mini Quiz 2
Performance Task

Learning Target:

I can identify the domain and range of a function.

Success Criteria:

I can use interval notation to give the domain and range of a function from its graph.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?
Tasks can be linked in here. Include technology integration as applicable to support learning.

- [Card Sort](#)
 - [Interval Notation Cards](#)
- Practice
- Exit Slip
- Review Stations (solving equations, plotting points, domain and range, function notation, matching: graphs to functions)

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

Mini Quiz 3
Performance Task

Resources

Any materials and resources related to Stage 3 learning activities.

Desmos.com

[Unit 1 Reference Sheet](#)

Unit Overview	
Unit Title:	Unit 2 - Linear Functions
Teacher(s):	Megan Kavanaugh, Colleen Lasky, Tom Hinman
Grade Level/Course:	11 th & 12 th Grade - Academic Level
Length/Dates:	4 Weeks
Unit Summary: 2-4 sentences describing the main ideas, content and skills of the unit.	Students have learned that a solution to an equation is a value or values that make the equation true. In this unit, they will revisit what they learned about solutions to equations in one variable and two variables. They will also continue to practice modeling relationships with equations and to make sense of equations and their solutions in context. Students will consider how parts of two-variable linear equations—the parameters and variables—relate to features of the graphs of those equations. Students will connect the ideas of slope, parallel lines, and perpendicular lines to prove the relationships between slope and the parallel or perpendicular line.

Stage 1: Desired Results

Grade Level/Subject Standard(s)
List the Content Standards, Guiding Principles, or Cross-Curricular Skills this unit will address
• CCSS.MATH.CONTENT.HSA.CED.A.2 - Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. • CCSS.MATH.CONTENT.HSA.CED.A.4 - Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. • CCSS.MATH.CONTENT.HSA.REI.B.3 - Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters. • CCSS.MATH.CONTENT.HSA.REI.D.10 - Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). • CCSS.MATH.CONTENT.HSG.GPE.B.5 - Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point). • CCSS.MATH.CONTENT.8.EE.C.7 - Solve linear equations in one variable. • CCSS.MATH.CONTENT.8.EE.C.7.A - Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). • CCSS.MATH.CONTENT.8.EE.C.7.B - Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the

distributive property and collecting like terms.

Other Goal(s)

List the Disciplinary Transfer Goals that this unit will address

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively
- Attend to precision.
- Look for and make use of structure.

Transfer Goals (Vision of the Graduate)

List the long-term and/or school-wide independent student behaviors that this unit will address.

Critical Thinking Transdisciplinary Goal:

Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s).

Creativity/Innovation Transdisciplinary Goal:

Students work creatively to design and refine implementation of ideas by taking risks, persevering, and exploring possibilities.

Collaboration Transdisciplinary Goal:

Students flexibly and cooperatively work with others in physical and virtual environments and assume shared responsibility for completing a project or achieving a goal.

Communication Transdisciplinary Goal:

Students effectively communicate and use interpersonal skills in a range of formal and informal contexts.

Enduring Understanding(s):

What are the big picture understandings that are transferable across contexts, places, and times?

Each EU listed should correspond to at least 1 or more EQ below.

1. Represent the relationship between two variables using slope-intercept form, point slope form, a table, and a graph.
2. Inverse operations can be used in a specific order to isolate a variable and determine its value, if one exists.
3. Write equations of parallel and perpendicular lines from a given line.

Essential Question(s):

These questions are related to the enduring understandings and provide relevance for the learning in the unit.

Each EQ listed should correspond to at least 1 or more EU above.

1. How can we represent the relationship between two variables using an equation and graph?
2. Can an unknown variable be identified using properties of equality?
3. How can parallel and perpendicular lines be written in relation to another line?

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What will students <u>know...</u> Factual information, vocabulary and basic concepts related to each indicator	What will students <u>be able to do...</u> Skills, processes and/or knowledge that are related to each indicator and which students will be able to use in new contexts/with new material
• Solving equations ○ One solution ○ No solution ○ Infinitely Many Solutions • Slope • Slope-intercept form • Point-slope form • Parallel and Perpendicular Lines	• Solve a linear equation in one variable. • Determine slope from a graph and from 2 points. • Graph a linear function given slope-intercept form and point-slope form. • Write the equation of a linear function given a slope and y-intercept, slope and a point, or two points. • Rewrite a function algebraically in order to aid in graphing the function. • Write equations of lines that are parallel or perpendicular to a given line.

Stage 2: Evidence of Student Learning

Performance Tasks

Assessment Evidence
What will the student produce? Use the GRASPS model below to design your performance task.
Goal • The goal is for students to demonstrate their ability to graph and write linear functions through the creation of a city map. Role • You need to use multiple linear functions to create the city map. Audience • The target audience is the students within the course as their maps will be displayed. Situation • Students are encouraged to be creative in demonstrating their knowledge in a method that is differentiated for individual learners. They are creating a product that will be presented to others based on their new learning and then will analyze their results using specific content knowledge that is individual to their map. Product/Performance/Purpose • Students will complete this in four stages. Each stage has students add roads to their map and analyze information about the relationships between pairs of roads. Standards and Criteria for Success • Accurate graphical representations of linear functions • Analyze graphs for specific information. • Accurate functions for given characteristics.

Resources

Any materials and resources related to the performance task that the teacher or student would need to be successful.

[Performance Task](#)

[Graph Page](#)

Evaluative Criteria

How will you evaluate this task? How will you provide feedback to students?

Students will be evaluated using a [rubric](#). Feedback will be given throughout the task.

Comments

Frame this as any information that would be helpful for a new teacher or a teacher teaching this course for the first time.

Give each part in sections rather than all at once.

Stage 3: Instructional Design

Design EACH activity for the unit. Copy and paste the tables below to outline all lessons within the unit.

Learning Target:	Success Criteria:
I can solve a linear equation in one variable.	I can solve a linear equation in one variable and identify if it has one solution, no solutions, or infinitely many solutions.
Learning Activities	
What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
Review of Algebra 1 concepts of solving linear equations that are: 1-step, 2-step, multi-step, and variables on both sides. Solving equations notes/practice Error analysis for solving equations	
Assessment	
List any formative or summative assessments that should be administered within this learning sequence. (They can be listed/linked below)	
Successful completion of Solving Equations part of Unit 2 Reference sheet Mini Quiz	

Learning Target:	Success Criteria:
I can determine the slope of a line from 2 points and a graph. I can graph a line in slope-intercept form.	I can apply the definition/formula for slope to find the slope of a linear function. I can graph a linear function when given in slope-intercept form.
Learning Activities	

What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning. Slope-Intercept form notes/practice Group Work - review and extension Manipulating equations into slope-intercept form Notes: Exploring multiple representations to write equations: Point and a y-intercept Graph Table of values with a y-intercept Real world situation Boardwork - small group to practice/review
Assessment List any formative or summative assessments that should be administered within this learning sequence. (They can be listed/linked below)
Successful completion of Slope-Intercept form part of the Unit 2 Reference sheet Entrance Ticket - Graphing in slope-intercept form Unit 2 Performance Task Mini Quiz

Learning Target:	Success Criteria:
I can use point-slope form to graph a line and to write the equation of a line.	I can graph a linear function given in point-slope form. I can write an equation of a linear function in point-slope form given a graph or characteristics.
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning. Notes/practice Point-Slope form Stations: writing equations in point-slope form from graphs, graphing from point slope form, transforming point-slope form to slope-intercept form, solving equations review	
Assessment List any formative or summative assessments that should be administered within this learning sequence. (They can be listed/linked below)	
Unit 2 Performance Task Part I Successful completion of Point-Slope form part of the Unit 2 Reference Sheet Mini Quiz	

Learning Target:	Success Criteria:
I can determine if lines are parallel or perpendicular. I can write the equations of lines that are parallel or perpendicular to a line.	I can use the slopes of linear functions to determine if they are parallel or perpendicular. I can write equations of linear functions that are either parallel or perpendicular to linear functions represented by graphs, equations, or characteristics.
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning. Notes/practice	

Stations activity with extension and remediation

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

Successful completion of Unit 2 Reference Sheet
Unit 2 Performance Task
Mini Quiz

Resources

Any materials and resources related to Stage 3 learning activities.

Colored pencils/markers
Graph paper
[Unit 2 Reference Sheet](#)

Unit Overview	
Unit Title:	Unit 3 - Quadratic Functions
Teacher(s):	Megan Kavanaugh, Colleen Lasky, Tom Hinman
Grade Level/Course:	11 th & 12 th Grade - Academic Level
Length/Dates:	10 Weeks (Quarter 2)
Unit Summary: 2-4 sentences describing the main ideas, content and skills of the unit.	In this unit, students will continue to expand on their knowledge of quadratic functions from Algebra 1. Students will become more fluent in their ability to factor quadratic expressions and then grow to be able to solve equations using factoring, graphing, and the quadratic formula. They will examine critical points of quadratic functions and use them to graph functions and apply them to real world situations. Students will increase their comfort with the factored, standard, and vertex forms of a quadratic function and use these forms to solve problems.

Stage 1: Desired Results

Grade Level/Subject Standard(s)
List the Content Standards, Guiding Principles, or Cross-Curricular Skills this unit will address
• CCSS.MATH.CONTENT.HSF.IF.C.7.A - Graph linear and quadratic functions and show intercepts, maxima, and minima. • CCSS.MATH.CONTENT.HSF.IF.C.8.A - Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. • CCSS.MATH.CONTENT.HSA.SSE.B.3.A - Factor a quadratic expression to reveal the zeros of the function it defines. • CCSS.MATH.CONTENT.HSA.SSE.B.3.B - Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. • CCSS.MATH.CONTENT.HSA.REI.B.4 - Solve quadratic equations in one variable. • CCSS.MATH.CONTENT.HSA.REI.D.10 - Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

Other Goal(s)
List the Disciplinary Transfer Goals that this unit will address
• Make sense of problems and persevere in solving them. • Reason abstractly and quantitatively • Model with mathematics. • Attend to precision. • Look for and make use of structure.

Transfer Goals (Vision of the Graduate)
List the long-term and/or school-wide independent student behaviors that this unit will address.

Critical Thinking Transdisciplinary Goal:

Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s).

Creativity/Innovation Transdisciplinary Goal:

Students work creatively to design and refine implementation of ideas by taking risks, persevering, and exploring possibilities.

Communication Transdisciplinary Goal:

Students effectively communicate and use interpersonal skills in a range of formal and informal contexts.

Enduring Understanding(s):

What are the big picture understandings that are transferable across contexts, places, and times?

Each EU listed should correspond to at least 1 or more EQ below.

1. Critical values of a quadratic function can be used to analyze and sketch graphs of quadratic functions.
2. Many real world situations can be modeled with a quadratic function. Each of the critical points can define a specific event of the scenario.

Essential Question(s):

These questions are related to the enduring understandings and provide relevance for the learning in the unit.

Each EQ listed should correspond to at least 1 or more EU above.

1. How do we determine critical values of quadratic equations and use these to construct the sketch of a function?
2. How can quadratic functions be used to represent real world situations? What do the critical points represent in context of the problem?

What will students know...

Factual information, vocabulary and basic concepts related to each indicator

What will students be able to do...

Skills, processes and/or knowledge that are related to each indicator and which students will be able to use in new contexts/with new material

● Factoring ○ GCF ○ $a = 1$ ○ $a \neq 1$ (extension) ○ Difference of Perfect Squares ● Solve Quadratics ○ Zero Product Property ○ Quadratic Formula ● Identifying critical points ○ Vertex ○ X-intercepts ○ Y-intercept ○ Axis of symmetry ● Graphing ○ Intercept Form ○ Vertex Form ○ Standard Form ● Applications ○ Vertical Motion Model	● Factor a quadratic expression ● Find the x-intercepts of a quadratic function ● Utilize the most efficient method of solving a given function ● Identify critical points to produce the graph of a quadratic function given in either standard or vertex form ● Manipulate between equivalent forms of quadratic expressions ● Apply knowledge of critical points and quadratic functions to real world models
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Stage 2: Evidence of Student Learning

Performance Tasks

Assessment Evidence

What will the student produce? Use the GRASPS model below to design your performance task.

Goal

- The goal is for students to demonstrate their ability to apply their knowledge of quadratics to real world situations.

Role

- You need to analyze two situations modeled by quadratic functions and describe specific characteristics.

Audience

- The target audience is the students within the course as they will share their situations and characteristics with their peers.

Situation

- Students demonstrate their knowledge in a method that is differentiated for individual learners. They are analyzing quadratic situations and applying their new learning to identify critical values.

Product/Performance/Purpose

- Students will complete two parts. Part one has students create a graph using a table of values and part two has students graph using their knowledge of vertex form or intercept form. They are then asked to identify key values and analyze their meaning in the situation.

Standards and Criteria for Success

- Accurate graphical representations of quadratic functions
- Analyze graphs for specific information.

Resources

Any materials and resources related to the performance task that the teacher or student would need to be successful.

[Performance Task](#)

Evaluative Criteria

How will you evaluate this task? How will you provide feedback to students?

Students will be evaluated based on accuracy of each part. Feedback will be provided after completion.

Comments

Frame this as any information that would be helpful for a new teacher or a teacher teaching this course for the first time.

Differentiate which students have each task. Versions A to D get progressively more challenging.

Stage 3: Instructional Design

Design EACH activity for the unit. Copy and paste the tables below to outline all lessons within the unit.

Learning Target:	Success Criteria:
I can multiply polynomials.	I can use the table method to multiply two polynomials together and combine like terms.
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
Operations with Polynomials Notes: Multiplying Polynomials (monomial by binomial and binomial by binomial) Box method and distribution method (FOIL) Desmos exploration activity Scavenger Hunt (matching) Maze activity	
Assessment List any formative or summative assessments that should be administered within this learning sequence. (They can be listed/linked below)	
Successful completion of multiplication part of Unit 3 Reference Sheet Mini Quiz	

Learning Target:	Success Criteria:
I can factor polynomials using: GCF and $a = 1$.	I can factor a GCF out of an expression.

	I can factor a trinomial into a product of two binomials.
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
Desmos exploration GCF Notes and practice Thin slicing factoring activity (GCF and $a = 1$) Factoring notes: $a = 1$ Delta math practice/reinforcement Boardwork - practice/reinforcement Matching activity: polynomials to factors Activity - Clue: Who Killed Mr. Factor? Factoring Activity: Traffic Light (green = easy, yellow = medium, red = hard)	
Assessment List any formative or summative assessments that should be administered within this learning sequence. <i>(They can be listed/linked below)</i>	
Successful completion of multiplication part of Unit 3 Reference Sheet Mini Quiz: GCF Mini Quiz: GCF and $a = 1$	

Learning Target:	Success Criteria:
I can graph a quadratic function in: intercept form, vertex form, and standard form.	I can find/identify the vertex, axis of symmetry, y-intercept, mirror point, and x-intercepts of quadratic functions. I can plot critical values to create the graph of a quadratic function. I can use the quadratic formula or solve using the square root method to find x-intercepts.
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
Notes/practice: Intercept form (graphing and identifying critical points) Boardwork: Practice Puzzles: Connect standard form $\rightarrow$ intercept form $\rightarrow$ graph $\rightarrow$ solutions Solving for x using the square root method Notes/practice: Vertex form (graphing and identifying critical points) Boardwork: Practice Delta Math: reinforcement Unit 3 concepts Exploration: role a, b, and c play in standard form Notes/practice: Standard form (without x-intercepts) Boardwork: Practice Notes/practice: Quadratic formula Practice: Standard form with x-intercepts Delta Math practice	
Assessment List any formative or summative assessments that should be administered within this learning sequence.	

(They can be listed/linked below)

Mini Quiz: Intercept form
Mini Quiz: Vertex form
Successful completion of Unit 3 Reference Sheet (vertex form)
Unit 3 Performance Task
Mini Quiz: Standard Form

Resources

Any materials and resources related to Stage 3 learning activities.

Factor chart

[Unit 3 Reference Sheet](#) (need to be updated to include intercept form)

Unit Overview	
Unit Title:	Extension Unit 4 - Exponential Functions (if time available)
Teacher(s):	Megan Kavanaugh, Colleen Lasky, Tom Hinman
Grade Level/Course:	11 th & 12 th Grade - Academic Level
Length/Dates:	4 Weeks
Unit Summary: 2-4 sentences describing the main ideas, content and skills of the unit.	In this unit, students learn that exponential relationships are characterized by a constant quotient over equal intervals, and compare them to linear relationships which are characterized by a constant difference over equal intervals. They encounter contexts with quantities that change exponentially. These contexts are presented verbally and with tables and graphs. They construct equations and use them to model situations and solve problems.

Stage 1: Desired Results

Grade Level/Subject Standard(s)
List the Content Standards, Guiding Principles, or Cross-Curricular Skills this unit will address
• CCSS.MATH.CONTENT.HSF.LE.A.1 - Distinguish between situations that can be modeled with linear functions and with exponential functions. • CCSS.MATH.CONTENT.HSF.LE.A.1.a - Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals. • CCSS.MATH.CONTENT.HSF.LE.A.1.c - Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. • CCSS.MATH.CONTENT.HSF.LE.A.3 - Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. • CCSS.MATH.CONTENT.HSF.LE.B.5 - Interpret the parameters in a linear or exponential function in terms of a context. • CCSS.MATH.CONTENT.HSF.IF.C.8.B - Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)12^t$, $y = (1.2)^t/10$, and classify them as representing exponential growth or decay. • CCSS.MATH.CONTENT.HSA.SSE.B.3.C - Use the properties of exponents to transform expressions for exponential functions.

Other Goal(s)
List the Disciplinary Transfer Goals that this unit will address
• Make sense of problems and persevere in solving them. • Reason abstractly and quantitatively • Model with mathematics. • Attend to precision. • Look for and make use of structure.

- Look for and express regularity in repeated reasoning.

Transfer Goals (Vision of the Graduate)

List the long-term and/or school-wide independent student behaviors that this unit will address.

Critical Thinking Transdisciplinary Goal:

Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s).

Creativity/Innovation Transdisciplinary Goal:

Students work creatively to design and refine implementation of ideas by taking risks, persevering, and exploring possibilities.

Collaboration Transdisciplinary Goal:

Students flexibly and cooperatively work with others in physical and virtual environments and assume shared responsibility for completing a project or achieving a goal.

Communication Transdisciplinary Goal:

Students effectively communicate and use interpersonal skills in a range of formal and informal contexts.

Enduring Understanding(s):

What are the big picture understandings that are transferable across contexts, places, and times?

Each EU listed should correspond to at least 1 or more EQ below.

1. Many real world situations can be modeled with an exponential function. The y-intercept and growth/decay factor can define a specific event of the scenario.
2. The y-intercept and growth/decay factor of an exponential function can be used to analyze and sketch graphs of exponential functions.
3. Properties of exponents are used when working with polynomial and exponential functions.

Essential Question(s):

These questions are related to the enduring understandings and provide relevance for the learning in the unit.

Each EQ listed should correspond to at least 1 or more EU above.

1. How can exponential functions be used to represent real world situations? What does the y-intercept and growth/decay factor represent in context of the problem?
2. How do we use known information of exponential equations to construct the sketch of a function?
3. How can we use exponent rules to simplify expressions?

What will students know...

Factual information, vocabulary and basic concepts related to each indicator

What will students be able to do...

Skills, processes and/or knowledge that are related to each indicator and which students will be able to use in new contexts/with new material

• Power of a Power Property • Power of a Product Property • Power of a Quotient Property • Quotient of a Power Property • Product of a Power Property • Zero Exponent Property • Negative Power Property • Standard Form of an Exponential Function ($y = ab^x$) • Growth/Decay Factor • Initial Value • Horizontal Asymptote • Compound Interest • Periodic Compound Interest	• Simplify expressions containing positive, negative, and zero exponents • Identify exponentials and determine whether they represent growth or decay • Determine the amount of growth or decay represented by an exponential function • Sketch reasonable graphs of exponential functions using their initial value and a point • Apply exponential models to real world situations
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Stage 2: Evidence of Student Learning

Performance Tasks

Assessment Evidence

What will the student produce? Use the GRASPS model below to design your performance task.

- **Goal**
- **Role**
- **Audience**
- **Situation**
- **Product/Performance/Purpose**
- **Standards and Criteria for Success**

Resources

Any materials and resources related to the performance task that the teacher or student would need to be successful.

Evaluative Criteria

How will you evaluate this task? How will you provide feedback to students?

Comments

Frame this as any information that would be helpful for a new teacher or a teacher teaching this course for the first time.

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Stage 3: Instructional Design

Design EACH activity for the unit. Copy and paste the tables below to outline all lessons within the unit.

Learning Target:	Success Criteria:
- Describes what the students will learn in the lesson. - Comes from STAGE 1 standards, and EU's - Targets map out the progression of learning over the course of the unit. - I can...I will....student facing language.	- Describes what students need to do to be successful in the lesson (meet the target). - Provides students the answers to, "How will I know when I have met the learning target." - Connects to the assessment(s) for the lesson/unit.
Learning Target:	Success Criteria:
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
Assessment List any formative or summative assessments that should be administered within this learning sequence. (They can be listed/linked below)	

Learning Target:	Success Criteria:
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
Assessment List any formative or summative assessments that should be administered within this learning sequence. (They can be listed/linked below)	

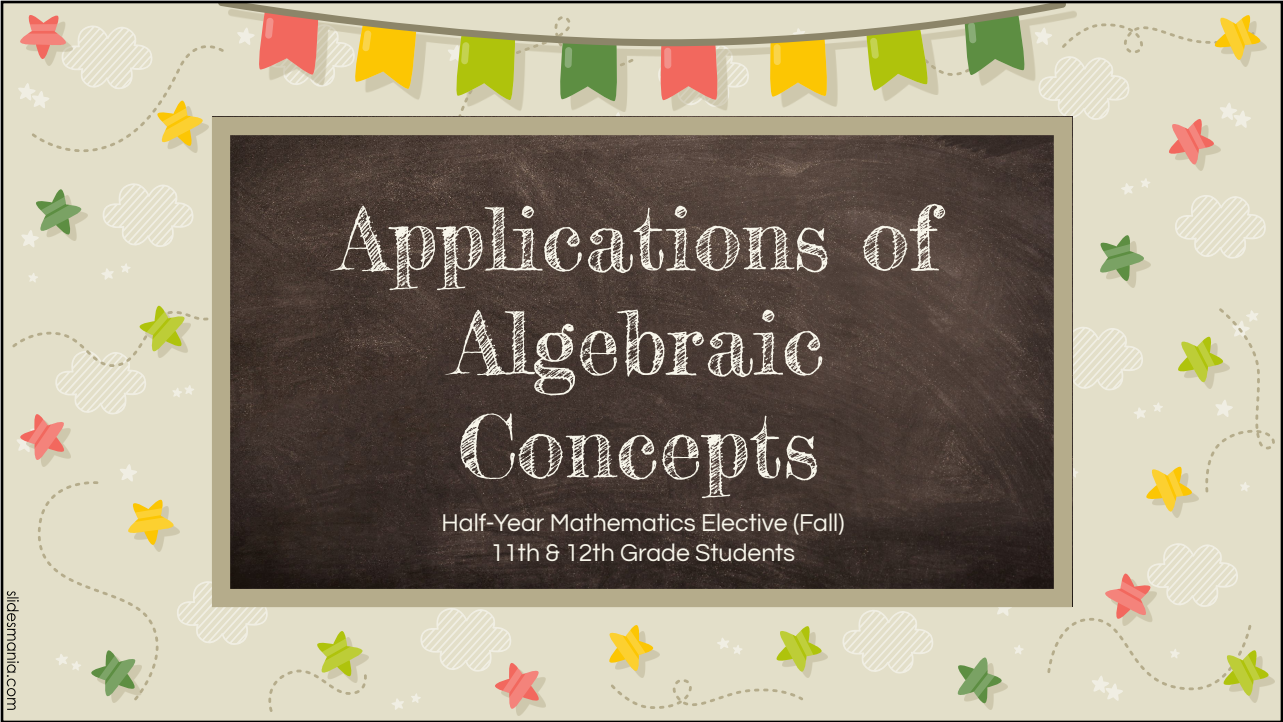
Learning Target:	Success Criteria:
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
Assessment List any formative or summative assessments that should be administered within this learning sequence. <i>(They can be listed/linked below)</i>	

Learning Target:	Success Criteria:
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
Assessment List any formative or summative assessments that should be administered within this learning sequence. <i>(They can be listed/linked below)</i>	

Learning Target:	Success Criteria:
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	
Assessment List any formative or summative assessments that should be administered within this learning sequence. <i>(They can be listed/linked below)</i>	

Resources

Any materials and resources related to Stage 3 learning activities.



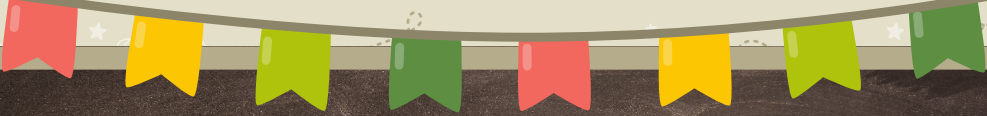
Applications of Algebraic Concepts

Half-Year Mathematics Elective (Fall)
11th & 12th Grade Students



Overview of Course

This course is designed to provide students who successfully completed Algebra 1 and Geometry and would benefit from the reinforcement of those skills before embarking on a comprehensive study of higher-level algebraic concepts. This course focuses on an introduction to key Algebra 2 concepts (main function families, application of linear and quadratic functions) while revisiting Algebra 1 skills that are assessed on the SAT. This course is strongly recommended for every student that does not enroll in a full-year Algebra II.



Units of Study

Unit 1

Transformations of Functions (4-5 Weeks)

Unit 2

Linear Functions (4-5 Weeks)

Unit 3

Quadratic Functions (8-10 Weeks)



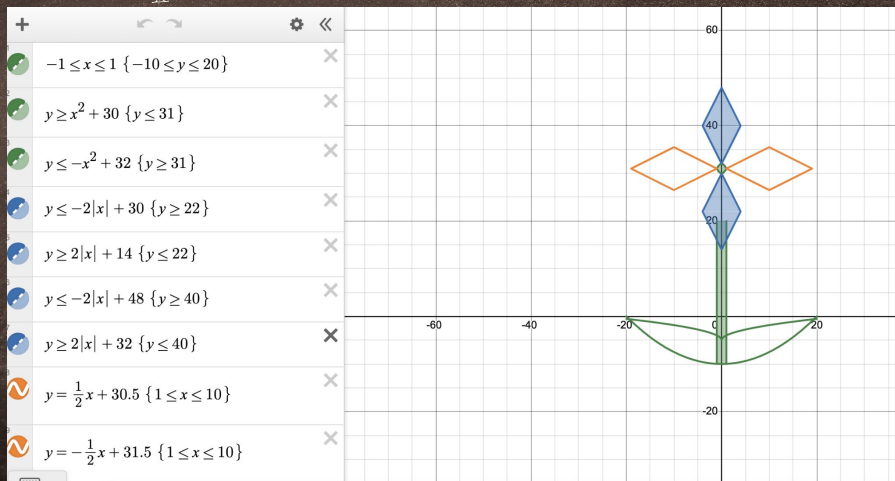
Unit 1 - Transformations of Functions

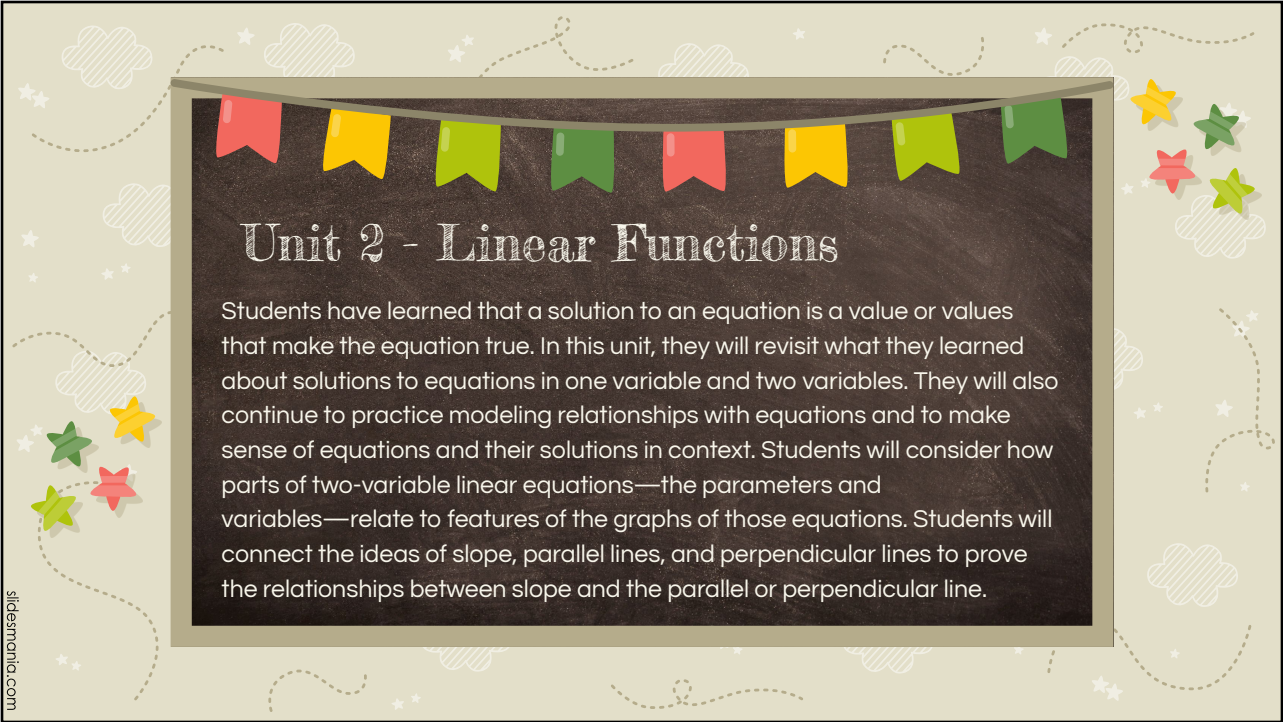
In this unit, students will consider functions as a whole and understand how they can be transformed to fit the needs of a situation. Students will make connections between representations (tables, graphs, parent functions) as they translate, reflect, and apply scale factors to different types of functions (linear, absolute value, quadratic, and square root). As the unit progresses as will the language students use to describe transformations with precision.

Unit 1 - Transformations of Functions

The goal of the Performance Task is for students to demonstrate their ability to transform functions through the creation of an identifiable image and then to analyze their images for mathematical precision. Students will need to complete this performance task in two parts. They will first create an image in Desmos that uses functions and transformations that students learned within the unit. They will then use their individual image to analyze the graph for specific characteristics.

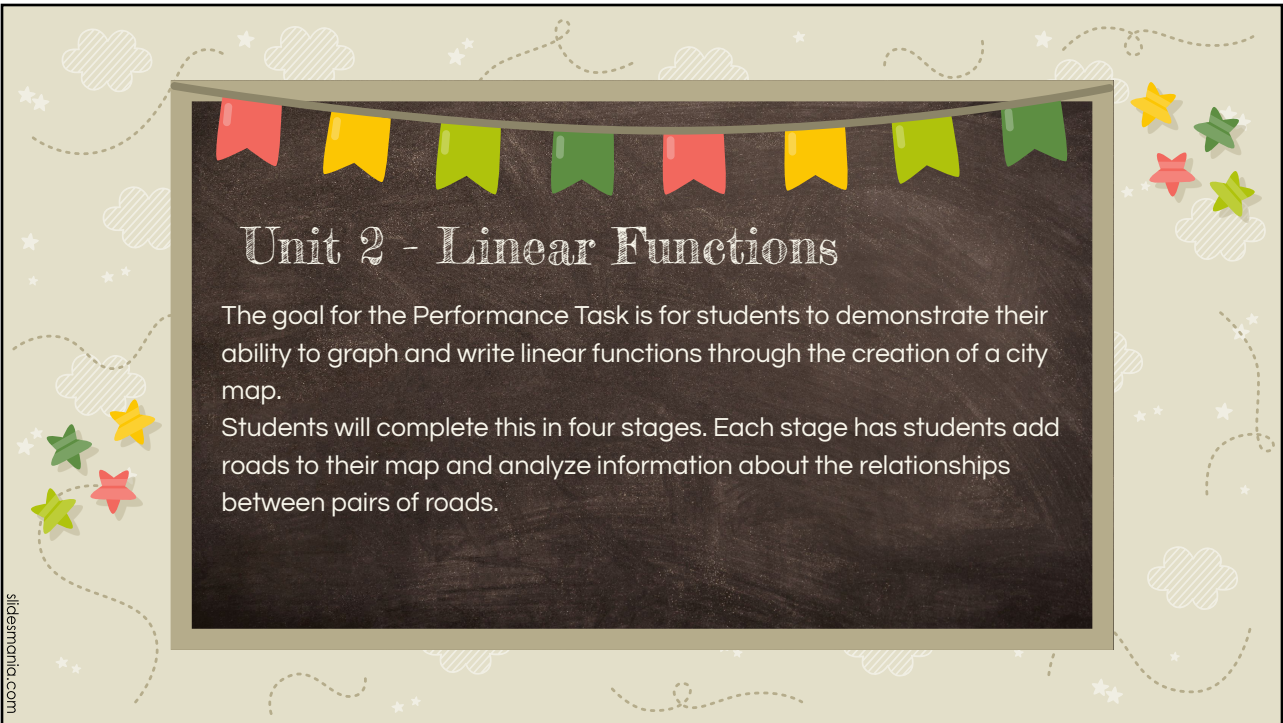
Sample Unit 1 Performance Task





Unit 2 - Linear Functions

Students have learned that a solution to an equation is a value or values that make the equation true. In this unit, they will revisit what they learned about solutions to equations in one variable and two variables. They will also continue to practice modeling relationships with equations and to make sense of equations and their solutions in context. Students will consider how parts of two-variable linear equations—the parameters and variables—relate to features of the graphs of those equations. Students will connect the ideas of slope, parallel lines, and perpendicular lines to prove the relationships between slope and the parallel or perpendicular line.

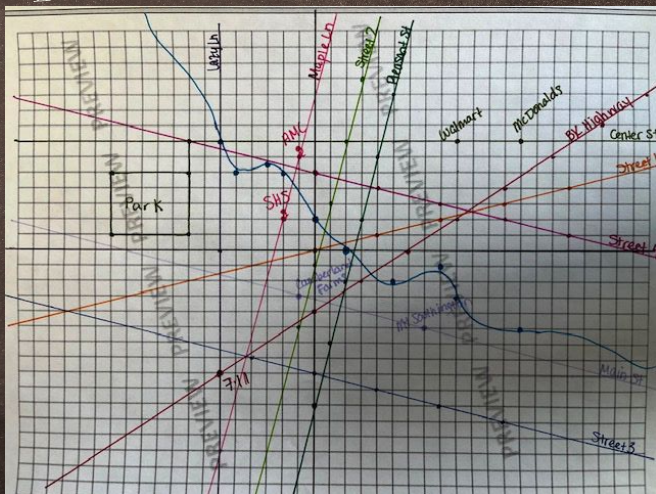


Unit 2 - Linear Functions

The goal for the Performance Task is for students to demonstrate their ability to graph and write linear functions through the creation of a city map.

Students will complete this in four stages. Each stage has students add roads to their map and analyze information about the relationships between pairs of roads.

Sample Unit 2 Performance Task



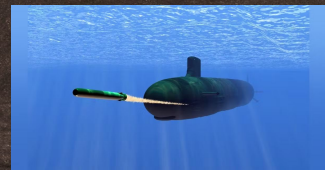
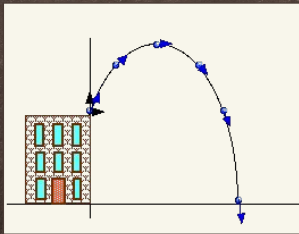
Unit 3 - Quadratic Functions

In this unit, students will continue to expand on their knowledge of quadratic functions from Algebra 1. Students will become more fluent in their ability to factor quadratic expressions and then grow to be able to solve equations using factoring, graphing, and the quadratic formula. They will examine critical points of quadratic functions and use them to graph functions and apply them to real world situations. Students will increase their comfort with the factored, standard, and vertex forms of a quadratic function and use these forms to solve problems.

Unit 3 - Quadratic Functions

The goal for the Performance Task is for students to demonstrate their ability to apply their knowledge of quadratics to real world situations. Students will complete two parts. Part one has students create a graph using a table of values and part two has students graph using their knowledge of vertex form or intercept form. They are then asked to identify key values and analyze their meaning in the situation.

Sample Unit 3 Performance Task



**BOARD OF EDUCATION
SOUTHINGTON, CONNECTICUT**

Informational Only _____ Board Meeting Date August 21, 2025

Decision Requested X Agenda Code 9 e.

AGENDA REPORTING FORM

Agenda Topic: SHS – Equipment and Power Systems - Unit 1 - Equipment Use - Personal Safety–
Revised Curriculum - Second Reading.

Summary of Issue: The Curriculum & Instruction Committee has reviewed the SHS – Equipment
and Power Systems - Unit 1 - Equipment Use - Personal Safety– Revised Curriculum.

Background: _____

Alternative Strategies: N/A

Cost (if applicable): N/A **Funding Source:** N/A

Beginning Date of Program or Project: N/A

Ending Date of Program or Project: N/A

Recommendation or Comment: Move that the Board of Education approve the Equipment and
Power Systems - Unit 1 - Equipment Use - Personal Safety – Revised Curriculum – as presented by
the Curriculum & Instruction Committee.

Titles of Attachments:

1. Course Proposal



Signature of Staff Member Submitting Report



Signature of Superintendent of Schools

Unit Overview	
Unit Title:	Unit 1: Equipment Use-Personal Safety
Teacher:	O'Keefe
Grade Level/Course:	Grade 10 Ag Sci
Length/Dates:	2 Weeks
Unit Summary: 2-4 sentences describing the main ideas, content and skills of the unit.	This unit introduces students to the foundational concepts of workplace safety within the landscaping, grounds care, and golf course industries. Drawing from <i>Safety Management for Landscapers, Grounds-Care Businesses, and Golf Courses</i> by John Deere and Company, the unit emphasizes the importance of proactive safety practices and understanding how human behavior influences risk on the job.

Stage 1: Desired Results

Grade Level/Subject Standard(s)
List the Content Standards, Guiding Principles, or Cross-Curricular Skills this unit will address
 Sophomore Equipment Use Unit 1- State Standards

Transfer Goals (Vision of the Graduate)
List the long-term and/or school-wide independent student behaviors that this unit will address.
Critical Thinking Transdisciplinary Goal: Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s). Creativity/Innovation Transdisciplinary Goal: Students work creatively to design and refine implementation of ideas by taking risks, persevering, and exploring possibilities. Collaboration Transdisciplinary Goal: Students flexibly and cooperatively work with others in physical and virtual environments and assume shared responsibility for completing a project or achieving a goal. Communication Transdisciplinary Goal: Students effectively communicate and use interpersonal skills in a range of formal and informal contexts.

Enduring Understanding(s):	
What are the big picture understandings that are transferable across contexts, places, and times?	 Sophomore Equipment Use Unit 1 -Endur...

Essential Question(s):	
These questions are related to the enduring understandings and provide relevance for the learning in the unit.	 Sophomore Equipment Use Unit 1 - Esse...

What will students <u>know...</u> Factual information, vocabulary and basic concepts related to each indicator	What will students <u>be able to do...</u> Skills, processes and/or knowledge that are related to each indicator and which students will be able to use in new contexts/with new material
 Sophomore Equipment Use Unit 1 -Vocab	 Sophomore Equipment Use Unit 1- Skills

Stage 2: Evidence of Student Learning

Performance Assessment(s)

-  Two-Level Rubric for Safely Operating a Compact Tractor with a Bucket
-  Two-Level Rubric for Safely Operating a Track Loader

Stage 3: Instructional Design

Chapter 1, Why Study Safety?

Learning Target:	Success Criteria:
Chapter 1 - I can explain why safety is essential in the landscaping and grounds-care industry. - I can identify and differentiate between direct and indirect costs of workplace accidents. - I can describe OSHA's role in workplace safety. - I can interpret and apply the meanings of caution, warning, and danger signs. - I can explain the importance of reading and following an operator's manual.	Chapter 1 - I can provide examples of direct and indirect costs associated with workplace accidents. - I can identify safety labels and their meanings on equipment and hazard signs. - I can demonstrate knowledge of OSHA regulations and their impact on workplace safety. - I can explain the consequences of ignoring the operator's manual and proper operating procedures.
Time: 1.5 Days	
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	

Students will be given time to look over the chapter and work on the assigned assessment related to that chapter. Students will then break into groups to complete the think, pair, share assignment. Students then will come back together as a class to review the chapter assessment. This section will end by the students presenting their elevator speech topic (the essential questions from the chapter) to the class.

 Elevator Speech Topics Equipment Use

 2023apr.pdf  Sports Turf Magazine Think, Pair, Share

Assessment

List any formative or summative assessments that should be administered within this learning sequence.

 Chapter 1 Assessment

Chapter 2, Human Factors

Time: 1.5 Days

Learning Target:	Success Criteria:
Chapter 2 - I can explain how fatigue and reaction time impact workplace safety. - I can describe the importance of dressing safely and layering in outdoor work environments. - I can identify risks associated with noise intensity, noise duration, and vibration. - I can explain the purpose of PPE and ANSI standards in workplace safety. - I can demonstrate safe lifting techniques and recognize second-party mishap risks.	Chapter 2 - I can recognize signs of fatigue and understand its impact on workplace accidents. - I can choose appropriate clothing and PPE for different environmental conditions. - I can describe the effects of noise and vibration exposure on worker health. - I can explain the role of respiratory protection and PPE in reducing workplace hazards. - I can demonstrate proper lifting techniques to prevent injury.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

Students will be given time to look over the chapter and work on the assigned assessment related to that chapter. Students will then watch the Youtube safety video and complete the related assessment. Students then will come back together as a class to review the chapter assessment. This section will end by the students presenting their assigned elevator speech topic (the essential questions from the chapter) to the class.

 Youtube Safety Video Assessment: John Deere G Series Track Loader Safety

 Elevator Speech Topics Equipment Use

Assessment

List any formative or summative assessments that should be administered within this learning sequence.
(They can be listed/linked below)

 Chapter 2 Assessment

Shop Skill of the Week- Checking Fluids

Time: 1 Day

Learning Target:	Success Criteria:
• Understanding Fluid Types and Functions: ○ Students will identify the different types of fluids used in equipment (e.g., engine oil, hydraulic fluid, coolant) and explain their specific functions and importance in maintaining equipment performance. • Checking Fluid Levels: ○ Students will demonstrate the correct procedure for checking fluid levels in various types of equipment, including locating dipsticks or reservoirs and interpreting fluid level indicators. • Identifying Fluid Condition: ○ Students will assess the condition of fluids by checking for signs of contamination, degradation, or incorrect fluid levels, understanding the implications of each for equipment operation. • Performing Routine Fluid Maintenance: ○ Students will perform routine fluid maintenance tasks, such as topping off fluids, replacing filters, and documenting maintenance activities according to best practices.	1. Understanding Fluid Types and Functions: ○ Students can accurately name the types of fluids (e.g., oil, coolant, hydraulic fluid) and describe their roles in equipment maintenance, such as lubrication, cooling, and power transmission. 2. Checking Fluid Levels: ○ Students demonstrate the ability to check fluid levels independently, correctly identifying and using dipsticks, sight glasses, or other indicators. They can interpret whether fluid levels are within the recommended range. 3. Identifying Fluid Condition: ○ Students identify and describe signs of fluid issues, such as oil discoloration, coolant cloudiness, or hydraulic fluid leaks. They understand the impact of these issues on equipment performance and safety. 4. Performing Routine Fluid Maintenance: ○ Students complete fluid checks and maintenance tasks correctly and efficiently, including topping off fluids and changing filters, and can explain the reasons behind each step in the process.

5. **Adhering to Safety Protocols:**

- Students consistently follow safety protocols during fluid maintenance, including wearing appropriate PPE, ensuring proper ventilation, and correctly disposing of used fluids and filters according to environmental regulations.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

Students will go into the shop with the assigned shop skill worksheet. The students will go over the worksheet with the aid of the instructor in an interactive way that involves working with the actual machinery and performing the appropriate skills. The students will apply their newly acquired shop skills when they are involved in the hands-on machine use sections.

Assessment

List any formative or summative assessments that should be administered within this learning sequence.

 **Compact Tractor Checking Fluids/ Maintenance Worksheet**

Resources

Any materials and resources related to Stage 3 learning activities.

 **Torque Talk Machinery Research Worksheet– Safe Machinery Operation**

Hands On Activity of the Week- Tractor/ Track Loader Operation

Time: 7 Days

Learning Target:

- **Understand Safety Practices:** Students will identify and apply key safety practices when operating a tractor.
- **Recognize Tractor Parts:** Students will learn and explain the functions of major tractor components.
- **Develop Driving Skills:** Students will demonstrate the ability to drive a tractor safely, including maneuvering and operating basic controls.

Success Criteria:

- **Safety Application:** Students consistently follow safety protocols during tractor operation.
- **Parts Identification:** Students accurately identify and describe the function of key tractor parts.
- **Driving Proficiency:** Students effectively control the tractor, using the throttle, clutch, and steering wheel with confidence.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

Students will be introduced to new pieces of equipment in every unit. The class will meet and go over together the safety concerns and standard operating procedures of that piece of equipment while filling out the corresponding worksheet. Pieces of equipment that are more complicated or are used more extensively will have an individual written assessment. All equipment has a hands-on use assessment that is delivered after the students have had multiple opportunities to use that piece of equipment. During this part of the unit students will use multiple pieces of equipment not just the one that is being spotlighted. At the end of every class students will post a comment detailing their work for the day on a shared google slide which lays out the itinerary for the day. The timing of outdoor equipment use is dependent on numerous factors such as weather, sports scheduling and equipment breakdowns.

Assessment

List any formative or summative assessments that should be administered within this learning sequence.

(They can be listed/linked below)

-  Two-Level Rubric for Safely Operating a Compact Tractor with a Bucket
-  Two-Level Rubric for Safely Operating a Track Loader
-  Tractor Safety Quiz

Resources

Any materials and resources related to Stage 3 learning activities.

-  Youtube Safety Video Assessment: John Deere G Series Track Loader Safety
-  Safe Tractor Operation Worksheet John Deere 3000 Series with PowerShift Transmission
-  Safe Machinery Operation Worksheet-John Deere 317G Track Loader
-  Safe Machinery Operation Worksheet-Toro Dingo TX 1000
-  Out of the Gate in Eight- Blank

SHS- Agricultural Science Department

Course: Equipment & Power Systems

Grade: 10

Credits: 1.0

Length: Half Year (meets daily)



Unit 1- Personal Safety

This unit introduces students to the foundational concepts of workplace safety within the landscaping, grounds care, and golf course industries. Drawing from *Safety Management for Landscapers, Grounds-Care Businesses, and Golf Courses* by John Deere and Company, the unit emphasizes the importance of proactive safety practices and understanding how human behavior influences risk on the job.

Skills Learned:

- **Students will understand safety practices used in operating tractors and loaders**
- **Students will recognize tractor and loader parts**
- **Students will develop driving and operating skills**
- **Students will perform routine fluid maintenance on machinery**

Unit 1 Activities

Students drive tractors and learn to operate the track loader.



Students learn to check fluids and perform basic maintenance tasks.

Unit 2- Machine and Shop Safety

This unit explores two key areas in workplace safety: understanding the machines used in the landscaping industry and creating a safe environment in the maintenance shop. Students will learn how machine design, condition, and operation practices impact safety, and how proper shop protocols help prevent accidents and injuries. The unit emphasizes awareness, personal responsibility, and proactive behavior when working with or around equipment and tools.

Skills Learned:

- **Students will understand safety practices used in mowing equipment**
- **Students will demonstrate the ability to properly set up the mower in preparation of field maintenance**
- **Students will correctly mow a section of turfgrass using the appropriate techniques and equipment.**
- **Students will understand the importance of greasing, location of grease points and how to apply grease correctly**

Unit 2 Activities

Students learn the importance of keeping the equipment greased.



We supplement the contract mowers weekly mowing with additional cuts to keep the ballfields at a shorter length.

Unit 3- Tractor and Loader Safety

This unit explores the foundational principles of operating **compact tractors, loaders, backhoes, and skid steer loaders**—equipment commonly used in landscaping, grounds maintenance, and golf course management. These powerful machines increase productivity but also pose significant safety risks if not handled properly. Students will examine the design, capabilities, and safety requirements of each machine and learn the importance of training, vigilance, and preventive maintenance in minimizing hazards.

Skills Learned:

- Students will understand the importance of calibrating a fertilizer spreader to ensure accurate application rates.
- Students will correctly operate a fertilizer spreader, ensuring even coverage across the designated turf area.
- Students will understand the safety protocols required when handling and sharpening mower blades.
- Students will demonstrate the correct procedure for safely removing and reinstalling mower blades from the mower.
- Students will accurately sharpen a mower blade using the appropriate tools and techniques.

Unit 3 Activities

Students fertilize the ball fields at SHS twice a year. Students learn to use the walk behind and the ride-on spreader.



Students learn to safely remove and sharpen mower blades.



Unit 4- Tractor Attachment and Mower Safety

This unit focuses on two critical areas of equipment operation in landscaping and grounds maintenance: the safe use of **compact tractor attachments** and the operation of **rotary mowers and cutters**. Students will explore how these tools expand the functionality of tractors and equipment, as well as the unique safety concerns that come with their use. Through this unit, students will gain the knowledge and habits needed to use these machines efficiently while minimizing risk.

Skills Learned:

- Students will demonstrate the correct procedure for applying an infield conditioner, including preparation, distribution, and incorporation into the soil.
- Students will correctly adjust the amount of infield conditioner used based on field conditions, weather patterns, and usage requirements.
- Students will apply an infield conditioner to a section of the field, ensuring even coverage and proper integration into the playing surface.
- Students will describe and demonstrate safe fueling procedures for outdoor power equipment.
- Students will differentiate between diesel, gasoline, and mixed gas and explain their uses.
- Students will properly measure and mix fuel for a 2-stroke engine using the correct gas-to-oil ratio.

Unit 4 Activities

Students help keep the baseball and softball infields groomed and remove the build of materials on the edge of the field.



Students learn the different fuel types and how to safely fill the machines.

**BOARD OF EDUCATION
SOUTHINGTON, CONNECTICUT**

Informational Only _____ Board Meeting Date August 21, 2025

Decision Requested X Agenda Code 9 f.

AGENDA REPORTING FORM

Agenda Topic: SHS–Equipment and Power Systems -Unit 2-Equipment Use-Machine and Shop Safety–Revised Curriculum - Second Reading.

Summary of Issue: The Curriculum & Instruction Committee has reviewed the SHS – Equipment and Power Systems - Unit 2 - Equipment Use - Machine and Shop Safety– Revised Curriculum.

Background: _____

Alternative Strategies: N/A

Cost (if applicable): N/A **Funding Source:** N/A

Beginning Date of Program or Project: N/A

Ending Date of Program or Project: N/A

Recommendation or Comment: Move that the Board of Education approve the Equipment and Power Systems - Unit 2 - Equipment Use - Machine and Shop Safety– Revised Curriculum – as presented by the Curriculum & Instruction Committee.

Titles of Attachments:

1. Course Proposal



Signature of Staff Member Submitting Report



Signature of Superintendent of Schools

Unit Overview	
Unit Title:	Unit 2: Equipment Use-Machine and Shop Safety
Teacher:	Patrick O'Keefe
Grade Level/Course:	Grade 10 Ag Sci
Length/Dates:	2 Weeks
Unit Summary: 2-4 sentences describing the main ideas, content and skills of the unit.	This unit explores two key areas in workplace safety: understanding the machines used in the landscaping industry and creating a safe environment in the maintenance shop. Students will learn how machine design, condition, and operation practices impact safety, and how proper shop protocols help prevent accidents and injuries. The unit emphasizes awareness, personal responsibility, and proactive behavior when working with or around equipment and tools.

Stage 1: Desired Results

Grade Level/Subject Standard(s)
List the Content Standards, Guiding Principles, or Cross-Curricular Skills this unit will address
 Sophomore Equipment Use Unit 2- State Standards

Transfer Goals (Vision of the Graduate)
List the long-term and/or school-wide independent student behaviors that this unit will address.
Critical Thinking Transdisciplinary Goal: Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s).
Creativity/Innovation Transdisciplinary Goal: Students work creatively to design and refine implementation of ideas by taking risks, persevering, and exploring possibilities.
Collaboration Transdisciplinary Goal: Students flexibly and cooperatively work with others in physical and virtual environments and assume shared responsibility for completing a project or achieving a goal.
Communication Transdisciplinary Goal: Students effectively communicate and use interpersonal skills in a range of formal and informal contexts.

Enduring Understanding(s):	
What are the big picture understandings that are transferable across contexts, places, and times?	 Sophomore Equipment Use Unit 2- Enduri...

Essential Question(s):	
These questions are related to the enduring understandings and provide relevance for the learning in the unit.	 Sophomore Equipment Use Unit 2-Essenti...

What will students <u>know</u>... Factual information, vocabulary and basic concepts related to each indicator	What will students <u>be able to do</u>... Skills, processes and/or knowledge that are related to each indicator and which students will be able to use in new contexts/with new material
 Sophomore Equipment Use Unit 2- Vocab	 Sophomore Equipment Use Unit 2- Skills

Stage 2: Evidence of Student Learning

Performance Assessment(s)

 Two-Level Rubric for Safely Operating a Zero-Turn Mower

Stage 3: Instructional Design

Machine Factors	
Time: 1.5 Days	
Learning Target:	Success Criteria:
• I can explain the dangers of PTO shafts and how to operate machinery safely. • I can describe how ROPS structures prevent serious injuries in rollovers. • I can identify and avoid pinch points and crush points when working with machinery. • I can recognize hazards associated with free-wheeling parts, thrown objects, and hot surfaces. • I can explain the risks of stored energy, hydraulic pressure, compressed air, and direct current and describe how to handle them safely.	• I can demonstrate proper PTO safety procedures. • I can explain why ROPS is essential and how to use seat belts in rollover-protective equipment. • I can identify and avoid machine pinch points and crush points. • I can describe safety precautions for dealing with free-wheeling parts, thrown objects, and hot surfaces. • I can safely handle equipment with stored energy, compressed air, and hydraulic pressure.
Learning Activities	
Students will be given time to look over the chapter and work on the assigned assessment related to that chapter. Students will then break into groups to complete the think, pair , share assignment. Students then will come back together as a class to review the chapter assessment. This section will end by the students presenting their elevator speech topic (the essential questions from the chapter) to the class.  Elevator Speech Topics Equipment Use  Sports Turf Magazine Think, Pair, Share  2022jun.pdf	
Assessment	
 Chapter 3 Assessment	

Chapter 16 Safety in the Shop

Time: 1.5 Days

Learning Target:

- I can identify common hazards in a maintenance shop and explain how to prevent injuries.
- I can describe the importance of wearing personal protective equipment, including face shields, when using grinders and power tools.
- I can explain how electrical safety measures, including the use of GFIs and three-prong plugs, prevent electric shock.
- I can describe the dangers of carbon monoxide and explain how to ensure proper ventilation in the shop.
- I can explain the proper handling and storage of batteries to prevent explosions and chemical burns.

Success Criteria:

- I can demonstrate proper safety procedures when using grinders and power tools.
- I can describe how to prevent eye injuries, crushing injuries, and falls in a maintenance shop.
- I can explain how to use GFIs, three-prong plugs, and double-insulated tools to prevent electric shock.
- I can identify the symptoms of carbon monoxide poisoning and explain how to prevent exposure.
- I can demonstrate safe handling of batteries and understand the risks of battery acid explosions.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

Students will be given time to look over the chapter and work on the assigned assessment related to that chapter. Students will then watch the Youtube safety video and complete the related assessment. Students then will come back together as a class to review the chapter assessment. This section will end by the students presenting their assigned elevator speech topic (the essential questions from the chapter) to the class.

 Elevator Speech Topics Equipment Use

 Worksheet: Hand and Power Tools for Outdoor Power Equipment

Assessment

 Chapter 16 Assessment

Shop Skill of the Week- Greasing Equipment

Time: 1 Day

Learning Target:

Success Criteria:

- **Understanding the Importance of Greasing:**
 - Students will explain the role of greasing in maintaining equipment, including reducing friction, preventing wear and tear, and extending the lifespan of moving parts.
- **Identifying Grease Points:**
 - Students will locate and identify all grease points on a given piece of equipment, understanding the specific parts that require regular lubrication.
- **Selecting the Appropriate Grease:**
 - Students will demonstrate knowledge of different types of grease and select the appropriate type based on equipment specifications and operating conditions.
- **Applying Grease Correctly:**
 - Students will perform the greasing process, including preparing the grease gun, applying the correct amount of grease, and ensuring even distribution to all necessary parts.
- **Maintaining and Storing Greasing Equipment:**
 - Students will properly maintain and store greasing tools and materials, ensuring they are in good working condition for future use.

- **Understanding the Importance of Greasing:**
 - Students can articulate why regular greasing is essential, including its effects on reducing friction, preventing equipment failure, and ensuring smooth operation of moving parts.
- **Identifying Grease Points:**
 - Students accurately locate and identify all necessary grease points on the equipment, demonstrating a clear understanding of which parts require lubrication and why.
- **Selecting the Appropriate Grease:**
 - Students choose the correct type of grease for the equipment, considering factors like temperature, load, and manufacturer recommendations. They can explain the rationale behind their selection.
- **Applying Grease Correctly:**
 - Students use the grease gun effectively, applying the right amount of grease without over-lubricating. They ensure all grease points are serviced and can demonstrate proper technique to ensure even distribution.
- **Maintaining and Storing Greasing Equipment:**
 - Students clean and store greasing tools correctly, checking for wear or damage, and ensuring the equipment is ready for future use. They demonstrate awareness of how to avoid contamination of grease and tools.

Learning Activities

Students will go into the shop with the assigned shop skill worksheet. The students will go over the worksheet with the aid of the instructor in an interactive way that involves working with the actual machinery and performing the appropriate skills. The students will apply their newly acquired shop skills when they are involved in the hands-on machine use sections.

Assessment

List any formative or summative assessments that should be administered within this learning sequence.

 Safe Machinery Operation Worksheet Using a Grease Gun and Checking Grease Fittings

Resources

Any materials and resources related to Stage 3 learning activities.

 Torque Talk Machinery Research Worksheet– Safe Machinery Operation

Hands On Activity of the Week- Mower Operation

Time: 6 Days

Learning Target:

Success Criteria:

● Learning Target 1: ○ Students will understand the importance of proper mowing techniques for maintaining healthy turfgrass. ● Learning Target 2: ○ Students will identify the appropriate mowing height for different species of turfgrass. ● Learning Target 3: ○ Students will recognize the impact of mowing frequency on turfgrass health and growth. ● Learning Target 4: ○ Students will demonstrate the ability to properly set the mowing height according to turfgrass species requirements. ● Learning Target 5: ○ Students will correctly mow a section of turfgrass using the appropriate techniques and equipment. ● Learning Target 6: ○ Students will perform routine mower maintenance, including blade sharpening, to ensure effective mowing.	● Students will accurately describe the relationship between mowing height, frequency, and turfgrass health. ○ Success Criteria: Students can explain the optimal mowing heights for different turfgrass species and the consequences of improper mowing practices. ● Students will demonstrate proficiency in adjusting mower settings and executing precise mowing techniques. ○ Success Criteria: Students consistently set the correct mowing height and achieve an even, clean cut across the entire turfgrass area. ● Students will evaluate the effectiveness of their mowing practices and make data-driven adjustments. ○ Success Criteria: Students assess the turfgrass condition after mowing and propose adjustments to improve future mowing outcomes. ● Students will effectively collaborate to achieve mowing and maintenance tasks. ○ Success Criteria: Students successfully coordinate with peers to complete mowing tasks and equipment maintenance, demonstrating effective communication and teamwork. ● Students will reflect on their learning and set goals for improving their mowing techniques. ○ Success Criteria: Students identify specific areas for improvement in their mowing practices and outline actionable steps to enhance their skills.
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Learning Activities

- 📄 Safe Machinery Operation Worksheet-John Deere Z900 Series Zero-Turn Mower
- 📄 Out of the Gate in Eight- Blank

Assessment

- 📄 Two-Level Rubric for Safely Operating a Zero-Turn Mower

SHS- Agricultural Science Department

Course: Equipment & Power Systems

Grade: 10

Credits: 1.0

Length: Half Year (meets daily)



Unit 1- Personal Safety

This unit introduces students to the foundational concepts of workplace safety within the landscaping, grounds care, and golf course industries. Drawing from *Safety Management for Landscapers, Grounds-Care Businesses, and Golf Courses* by John Deere and Company, the unit emphasizes the importance of proactive safety practices and understanding how human behavior influences risk on the job.

Skills Learned:

- Students will understand safety practices used in operating tractors and loaders
- Students will recognize tractor and loader parts
- Students will develop driving and operating skills
- Students will perform routine fluid maintenance on machinery

Unit 1 Activities

Students drive tractors and learn to operate the track loader.



Students learn to check fluids and perform basic maintenance tasks.

Unit 2- Machine and Shop Safety

This unit explores two key areas in workplace safety: understanding the machines used in the landscaping industry and creating a safe environment in the maintenance shop. Students will learn how machine design, condition, and operation practices impact safety, and how proper shop protocols help prevent accidents and injuries. The unit emphasizes awareness, personal responsibility, and proactive behavior when working with or around equipment and tools.

Skills Learned:

- **Students will understand safety practices used in mowing equipment**
- **Students will demonstrate the ability to properly set up the mower in preparation of field maintenance**
- **Students will correctly mow a section of turfgrass using the appropriate techniques and equipment.**
- **Students will understand the importance of greasing, location of grease points and how to apply grease correctly**

Unit 2 Activities

Students learn the importance of keeping the equipment greased.



We supplement the contract mowers weekly mowing with additional cuts to keep the ballfields at a shorter length.

Unit 3- Tractor and Loader Safety

This unit explores the foundational principles of operating **compact tractors**, **loaders**, **backhoes**, and **skid steer loaders**—equipment commonly used in landscaping, grounds maintenance, and golf course management. These powerful machines increase productivity but also pose significant safety risks if not handled properly. Students will examine the design, capabilities, and safety requirements of each machine and learn the importance of training, vigilance, and preventive maintenance in minimizing hazards.

Skills Learned:

- Students will understand the importance of calibrating a fertilizer spreader to ensure accurate application rates.
- Students will correctly operate a fertilizer spreader, ensuring even coverage across the designated turf area.
- Students will understand the safety protocols required when handling and sharpening mower blades.
- Students will demonstrate the correct procedure for safely removing and reinstalling mower blades from the mower.
- Students will accurately sharpen a mower blade using the appropriate tools and techniques.

Unit 3 Activities

Students fertilize the ball fields at SHS twice a year. Students learn to use the walk behind and the ride-on spreader.



Students learn to safely remove and sharpen mower blades.



Unit 4- Tractor Attachment and Mower Safety

This unit focuses on two critical areas of equipment operation in landscaping and grounds maintenance: the safe use of **compact tractor attachments** and the operation of **rotary mowers and cutters**. Students will explore how these tools expand the functionality of tractors and equipment, as well as the unique safety concerns that come with their use. Through this unit, students will gain the knowledge and habits needed to use these machines efficiently while minimizing risk.

Skills Learned:

- Students will demonstrate the correct procedure for applying an infield conditioner, including preparation, distribution, and incorporation into the soil.
- Students will correctly adjust the amount of infield conditioner used based on field conditions, weather patterns, and usage requirements.
- Students will apply an infield conditioner to a section of the field, ensuring even coverage and proper integration into the playing surface.
- Students will describe and demonstrate safe fueling procedures for outdoor power equipment.
- Students will differentiate between diesel, gasoline, and mixed gas and explain their uses.
- Students will properly measure and mix fuel for a 2-stroke engine using the correct gas-to-oil ratio.

Unit 4 Activities

Students help keep the baseball and softball infields groomed and remove the build of materials on the edge of the field.



Students learn the different fuel types and how to safely fill the machines.

**BOARD OF EDUCATION
SOUTHINGTON, CONNECTICUT**

Informational Only _____ Board Meeting Date August 21, 2025

Decision Requested X Agenda Code 9 g.

AGENDA REPORTING FORM

Agenda Topic: SHS–Equipment and Power Systems -Unit 3-Equipment Use-Tractor and Loader Safety –Revised Curriculum - Second Reading.

Summary of Issue: The Curriculum & Instruction Committee has reviewed the SHS – Equipment and Power Systems - Unit 3-Equipment Use-Tractor and Loader Safety – Revised Curriculum.

Background: _____

Alternative Strategies: N/A

Cost (if applicable): N/A **Funding Source:** N/A

Beginning Date of Program or Project: N/A

Ending Date of Program or Project: N/A

Recommendation or Comment: Move that the Board of Education approve the Equipment and Power Systems - Unit 3-Equipment Use-Tractor and Loader Safety – Revised Curriculum – as presented by the Curriculum & Instruction Committee.

Titles of Attachments:

1. Course Proposal



Signature of Staff Member Submitting Report



Signature of Superintendent of Schools

Unit Overview	
Unit Title:	Unit 3: Equipment Use- Tractor and Loader Safety
Teacher:	O'Keefe
Grade Level/Course:	Grade 10 Ag Sci
Length/Dates:	2 Weeks
Unit Summary: 2-4 sentences describing the main ideas, content and skills of the unit.	This unit explores the foundational principles of operating compact tractors, loaders, backhoes, and skid steer loaders —equipment commonly used in landscaping, grounds maintenance, and golf course management. These powerful machines increase productivity but also pose significant safety risks if not handled properly. Students will examine the design, capabilities, and safety requirements of each machine and learn the importance of training, vigilance, and preventive maintenance in minimizing hazards.

Stage 1: Desired Results

Grade Level/Subject Standard(s)
List the Content Standards, Guiding Principles, or Cross-Curricular Skills this unit will address
 Sophomore Equipment Use Unit 3 - State Standards

Transfer Goals (Vision of the Graduate)
List the long-term and/or school-wide independent student behaviors that this unit will address.
Delete the transfer goals that do not apply to your unit: Critical Thinking Transdisciplinary Goal: Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s). Creativity/Innovation Transdisciplinary Goal: Students work creatively to design and refine implementation of ideas by taking risks, persevering, and exploring possibilities. Collaboration Transdisciplinary Goal: Students flexibly and cooperatively work with others in physical and virtual environments and assume shared responsibility for completing a project or achieving a goal. Communication Transdisciplinary Goal: Students effectively communicate and use interpersonal skills in a range of formal and informal contexts.

Enduring Understanding(s): What are the big picture understandings that are transferable across contexts, places, and times?	Each EU listed should correspond to at least 1 or more EQ below.  Sophomore Equipment Use Unit 3- Enduring Und...
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Essential Question(s): These questions are related to the enduring understandings and provide relevance for the learning in the unit.	Each EQ listed should correspond to at least 1 or more EU above. Sophomore Equipment Use Unit 3- Essential Que...
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What will students <u>know...</u> Factual information, vocabulary and basic concepts related to each indicator	What will students <u>be able to do...</u> Skills, processes and/or knowledge that are related to each indicator and which students will be able to use in new contexts/with new material
Sophomore Equipment Use Unit 3- Vocab	Sophomore Equipment Use Unit 3- Skills

Stage 2: Evidence of Student Learning

Performance Assessment(s)

[Two-Level Rubric for Safely Operating a Lesco PermaGreen Fertilizer](#)

Stage 3: Instructional Design

Chapter 5 Compact Tractors

Learning Target:	Success Criteria:
- I can identify the common causes of tractor rollovers and explain how to prevent them. - I can describe the importance of using ROPS and a seatbelt when operating a compact tractor. - I can explain how a tractor's center of gravity, base of stability, and centrifugal force affect its safety. - I can describe the dangers of bypass starting and explain why it must be avoided. - I can demonstrate the proper technique for hitching and securing implements using telescoping links and the drawbar.	- I can list the main causes of tractor rollovers and how to prevent them. - I can demonstrate how to check and properly use ROPS and a seatbelt. - I can explain how ballast improves a tractor's stability. - I can identify the risks of improper hitching and demonstrate correct techniques. - I can describe the function of the SMV emblem and PTO shielding in tractor safety.
Time: 1.5 Days	
Learning Activities What is the actual instructional task that supports student learning in this lesson? Tasks can be linked in here. Include technology integration as applicable to support learning.	

Students will be given time to look over the chapter and work on the assigned assessment related to that chapter. Students will then break into groups to complete the think, pair, share assignment. Students then will come back together as a class to review the chapter assessment. This section will end by the students presenting their assigned elevator speech topic (the essential questions from the chapter) to the class.

 Elevator Speech Topics Equipment Use

 Sports Turf Magazine Think, Pair, Share  2022may.pdf

Assessment

List any formative or summative assessments that should be administered within this learning sequence.

 Chapter 5 Assessment

Chapter 6 Skid Steers and Loaders

Time: 1.5 Days

Learning Target:	Success Criteria:
• I can explain how raising a loader's bucket affects its center of gravity and stability. • I can describe why front or rear ballast is necessary when using loaders and backhoes. • I can explain the dangers of allowing riders on equipment. • I can identify the purpose of CBYD and explain its importance. • I can describe what load rollback is and how to prevent it. • I can demonstrate how stabilizers improve the safety and performance of backhoes and loaders.	• I can explain how an elevated bucket shifts the center of gravity and increases tipping risk. • I can describe how ballast improves machine stability. • I can explain why riders on equipment are a serious safety hazard. • I can outline the steps for contacting CBYD before excavation. • I can identify safety measures to prevent load rollback. • I can demonstrate the proper use of stabilizers for loaders and backhoes.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

Students will be given time to look over the chapter and work on the assigned assessment related to that chapter. Students will then watch the Youtube safety video and complete the related assessment. Students then will come back together as a class to review the chapter assessment. This section will end by the students presenting their assigned elevator speech topic (the essential questions from the chapter) to the class.

 Youtube Safety Video Assessment: Permagreen Triumph Ride-On Spreader Sprayer

 Elevator Speech Topics Equipment Use

Assessment

List any formative or summative assessments that should be administered within this learning sequence.

 Chapter 6 Assessment

Shop Skill of the Week- Sharpening Blades

Time: 1 Day

Learning Target:	Success Criteria:
Knowledge and Understanding: - Students will explain the importance of maintaining sharp mower blades for turf health and equipment efficiency. - Students will identify the signs that indicate a mower blade needs sharpening. - Students will understand the safety protocols required when handling and sharpening mower blades. Skills and Application: - Students will demonstrate the correct procedure for safely removing mower blades from the mower. - Students will accurately sharpen a mower blade using the appropriate tools and techniques. - Students will reinstall and balance the sharpened blade on the mower, ensuring proper alignment and function.	Knowledge and Understanding: - Students can clearly articulate why sharp mower blades are crucial for turf maintenance and mower longevity. - Students can identify dull blades and explain the potential consequences of using them on turfgrass. - Students demonstrate an understanding of all safety measures required during the sharpening process. Skills and Application: - Students successfully and safely remove mower blades, following all safety protocols. - Students sharpen the mower blades to a precise edge, using correct sharpening tools and techniques. - Students reinstall the blade, ensuring it is properly balanced and functions effectively when reattached to the mower.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

Students will go into the shop with the assigned shop skill worksheet. The students will go over the worksheet with the aid of the instructor in an interactive way that involves working with the actual machinery and performing the appropriate skills. The students will apply their newly acquired shop skills when they are involved in the hands-on machine use sections.

Assessment

List any formative or summative assessments that should be administered within this learning sequence.

Resources

Any materials and resources related to Stage 3 learning activities.

Torque Talk Machinery Research Worksheet– Safe Machinery Operation

Hands On Activity of the Week- Fertilizing

Time: 6 Days

Learning Target:

Knowledge and Understanding:

- Students will explain the purpose and benefits of using a fertilizer spreader in turfgrass management.
- Students will identify the different types of fertilizer spreaders (e.g., broadcast, drop, handheld) and their specific uses.
- Students will understand the importance of calibrating a fertilizer spreader to ensure accurate application rates.

Skills and Application:

- Students will demonstrate the correct procedure for calibrating a fertilizer spreader based on specific application requirements.
- Students will correctly operate a fertilizer spreader, ensuring even coverage across the designated turf area.
- Students will safely and effectively clean and maintain the fertilizer spreader after use.

Success Criteria:

Knowledge and Understanding:

- Students can clearly describe why using a fertilizer spreader is crucial for consistent turfgrass nutrition.
- Students can identify the appropriate type of spreader for different turfgrass areas and fertilizer types.
- Students demonstrate an understanding of the importance of spreader calibration and its impact on fertilizer application.

Skills and Application:

- Students accurately calibrate a fertilizer spreader according to specific instructions or guidelines, ensuring the correct application rate.
- Students operate the spreader efficiently, covering the designated turf area evenly without missing sections or overlapping too much.
- Students clean and maintain the fertilizer spreader after use, ensuring it is ready for future applications.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

Safe Machinery Operation Worksheet Lesco Permagreen

Out of the Gate in Eight- Blank

Assessment

Two-Level Rubric for Safely Operating a Lesco PermaGreen Fertilizer

SHS- Agricultural Science Department

Course: Equipment & Power Systems

Grade: 10

Credits: 1.0

Length: Half Year (meets daily)



Unit 1- Personal Safety

This unit introduces students to the foundational concepts of workplace safety within the landscaping, grounds care, and golf course industries. Drawing from *Safety Management for Landscapers, Grounds-Care Businesses, and Golf Courses* by John Deere and Company, the unit emphasizes the importance of proactive safety practices and understanding how human behavior influences risk on the job.

Skills Learned:

- **Students will understand safety practices used in operating tractors and loaders**
- **Students will recognize tractor and loader parts**
- **Students will develop driving and operating skills**
- **Students will perform routine fluid maintenance on machinery**

Unit 1 Activities

Students drive tractors and learn to operate the track loader.



Students learn to check fluids and perform basic maintenance tasks.

Unit 2- Machine and Shop Safety

This unit explores two key areas in workplace safety: understanding the machines used in the landscaping industry and creating a safe environment in the maintenance shop. Students will learn how machine design, condition, and operation practices impact safety, and how proper shop protocols help prevent accidents and injuries. The unit emphasizes awareness, personal responsibility, and proactive behavior when working with or around equipment and tools.

Skills Learned:

- **Students will understand safety practices used in mowing equipment**
- **Students will demonstrate the ability to properly set up the mower in preparation of field maintenance**
- **Students will correctly mow a section of turfgrass using the appropriate techniques and equipment.**
- **Students will understand the importance of greasing, location of grease points and how to apply grease correctly**

Unit 2 Activities

Students learn the importance of keeping the equipment greased.



We supplement the contract mowers weekly mowing with additional cuts to keep the ballfields at a shorter length.

Unit 3- Tractor and Loader Safety

This unit explores the foundational principles of operating **compact tractors, loaders, backhoes, and skid steer loaders**—equipment commonly used in landscaping, grounds maintenance, and golf course management. These powerful machines increase productivity but also pose significant safety risks if not handled properly. Students will examine the design, capabilities, and safety requirements of each machine and learn the importance of training, vigilance, and preventive maintenance in minimizing hazards.

Skills Learned:

- Students will understand the importance of calibrating a fertilizer spreader to ensure accurate application rates.
- Students will correctly operate a fertilizer spreader, ensuring even coverage across the designated turf area.
- Students will understand the safety protocols required when handling and sharpening mower blades.
- Students will demonstrate the correct procedure for safely removing and reinstalling mower blades from the mower.
- Students will accurately sharpen a mower blade using the appropriate tools and techniques.

Unit 3 Activities

Students fertilize the ball fields at SHS twice a year. Students learn to use the walk behind and the ride-on spreader.



Students learn to safely remove and sharpen mower blades.



Unit 4- Tractor Attachment and Mower Safety

This unit focuses on two critical areas of equipment operation in landscaping and grounds maintenance: the safe use of **compact tractor attachments** and the operation of **rotary mowers and cutters**. Students will explore how these tools expand the functionality of tractors and equipment, as well as the unique safety concerns that come with their use. Through this unit, students will gain the knowledge and habits needed to use these machines efficiently while minimizing risk.

Skills Learned:

- Students will demonstrate the correct procedure for applying an infield conditioner, including preparation, distribution, and incorporation into the soil.
- Students will correctly adjust the amount of infield conditioner used based on field conditions, weather patterns, and usage requirements.
- Students will apply an infield conditioner to a section of the field, ensuring even coverage and proper integration into the playing surface.
- Students will describe and demonstrate safe fueling procedures for outdoor power equipment.
- Students will differentiate between diesel, gasoline, and mixed gas and explain their uses.
- Students will properly measure and mix fuel for a 2-stroke engine using the correct gas-to-oil ratio.

Unit 4 Activities

Students help keep the baseball and softball infields groomed and remove the build of materials on the edge of the field.



Students learn the different fuel types and how to safely fill the machines.

**BOARD OF EDUCATION
SOUTHINGTON, CONNECTICUT**

Informational Only _____ Board Meeting Date August 21, 2025

Decision Requested X Agenda Code 9 h.

AGENDA REPORTING FORM

Agenda Topic: SHS–Equipment and Power Systems -Unit 4-Equipment Use-Tractor Attachment and Mower Safety –Revised Curriculum - Second Reading.

Summary of Issue: The Curriculum & Instruction Committee has reviewed the SHS – Equipment and Power Systems - Unit 4-Equipment Use-Tractor Attachment and Mower Safety – Revised Curriculum.

Background: _____

Alternative Strategies: N/A

Cost (if applicable): N/A **Funding Source:** N/A

Beginning Date of Program or Project: N/A

Ending Date of Program or Project: N/A

Recommendation or Comment: Move that the Board of Education approve the Equipment and Power Systems - Unit 4-Equipment Use-Tractor Attachment and Mower Safety – Revised Curriculum – as presented by the Curriculum & Instruction Committee.

Titles of Attachments:

1. Course Proposal



Signature of Staff Member Submitting Report



Signature of Superintendent of Schools

Unit Overview	
Unit Title:	Unit 4: Equipment Use-Tractor Attachment and Mower Safety
Teacher:	O'Keefe
Grade Level/Course:	Grade 10 Ag Sci
Length/Dates:	2 Weeks
Unit Summary: 2-4 sentences describing the main ideas, content and skills of the unit.	This unit focuses on two critical areas of equipment operation in landscaping and grounds maintenance: the safe use of compact tractor attachments and the operation of rotary mowers and cutters . Students will explore how these tools expand the functionality of tractors and equipment, as well as the unique safety concerns that come with their use. Through this unit, students will gain the knowledge and habits needed to use these machines efficiently while minimizing risk.

Stage 1: Desired Results

Grade Level/Subject Standard(s)
List the Content Standards, Guiding Principles, or Cross-Curricular Skills this unit will address
 Sophomore Equipment Use Unit 4- State Standards

Transfer Goals (Vision of the Graduate)
List the long-term and/or school-wide independent student behaviors that this unit will address.
Critical Thinking Transdisciplinary Goal: Students inquire, identify, and ethically solve real-world problems through reasoning and a reflection on the challenges and benefits of the process and/or solution(s). Creativity/Innovation Transdisciplinary Goal: Students work creatively to design and refine implementation of ideas by taking risks, persevering, and exploring possibilities. Collaboration Transdisciplinary Goal: Students flexibly and cooperatively work with others in physical and virtual environments and assume shared responsibility for completing a project or achieving a goal. Communication Transdisciplinary Goal: Students effectively communicate and use interpersonal skills in a range of formal and informal contexts.

Enduring Understanding(s): What are the big picture understandings that are transferable across contexts, places, and times?	Each EU listed should correspond to at least 1 or more EQ below.
	 Sophomore Equipment Use Unit 4- Enduring Understandings

Essential Question(s): These questions are related to the enduring understandings and provide relevance for the learning in the unit.	Each EQ listed should correspond to at least 1 or more EU above. ☰ Sophomore Equipment Use Unit 4- Essential Questions
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What will students <u>know...</u> Factual information, vocabulary and basic concepts related to each indicator	What will students <u>be able to do...</u> Skills, processes and/or knowledge that are related to each indicator and which students will be able to use in new contexts/with new material
☰ Sophomore Equipment Use Unit 4- Vocab	☰ Sophomore Equipment Use Unit 4- Skills

Stage 2: Evidence of Student Learning

Performance Tasks

☰ Two-Level Rubric for Safely Operating an Infield Conditioner

Stage 3: Instructional Design

Chapter 7 Common Attachments for Tractors

Learning Target:	Success Criteria:
- I can identify potential hazards related to compact tractor attachments. - I can explain how to safely hitch and operate attachments. - I can describe the role of a selective control valve in managing hydraulic attachments. - I can demonstrate proper three-point hitch procedures. - I can explain how slopes affect tractor stability and how to operate safely on inclines. - I can describe how a shear pin functions and why it is important. - I can list ways to prevent injuries from thrown objects.	- I can explain the risks of crushing incidents, collisions, and hitching mishaps. - I can describe how to use a selective control valve safely. - I can demonstrate correct three-point hitch attachment and detachment procedures. - I can identify the risks of operating attachments on slopes and how to mitigate them. - I can explain how a shear pin prevents equipment damage and operator injury. - I can outline safety measures to reduce the risk of thrown objects from attachments.
Time: 1.5 Days	
Learning Activities	

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

Students will be given time to look over the chapter and work on the assigned assessment related to that chapter. Students will then break into groups to complete the think, pair, share assignment. Students then will come back together as a class to review the chapter assessment. This section will end by the students presenting their elevator speech topic (the essential questions from the chapter) to the class.

 Elevator Speech Topics Equipment Use

 Sports Turf Magazine Think, Pair, Share  2019jul.pdf

Assessment

List any formative or summative assessments that should be administered within this learning sequence.

 Chapter 7 Assessment

Chapter 8 Rotary Mowers

Time: 1.5 Days

Learning Target:

- I can identify different types of rotary mowers and their specific safety concerns.
- I can explain how safety interlock systems and operator presence systems prevent injuries.
- I can describe the function and importance of the discharge chute.
- I can identify best practices to prevent loss of control injuries.
- I can explain why refueling a hot engine is dangerous and how to do it safely.

Success Criteria:

- I can describe the differences between walk-behind, riding, and commercial front-mounted mowers.
- I can explain the role of safety interlock and operator presence systems in mower operation.
- I can demonstrate proper safety procedures when operating a rotary mower.
- I can list precautions to avoid loss of control injuries.
- I can explain the correct procedure for refueling a mower safely.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

Students will be given time to look over the chapter and work on the assigned assessment related to that chapter. Students will then watch the Youtube safety video and complete the related assessment. Students then will come back together as a class to review the chapter assessment. This section will end by the students presenting their assigned elevator speech topic (the essential questions from the chapter) to the class.

 Youtube Safety Video Assessment Golf Equipment Safety Assessment

 Elevator Speech Topics Equipment Use

Assessment

List any formative or summative assessments that should be administered within this learning sequence.

Chapter 8 Assessment

Shop Skill of the Week- Refueling

Time: 1 Day

Learning Target:

- I can describe and demonstrate safe fueling procedures for outdoor power equipment.
- I can differentiate between diesel, gasoline, and mixed gas and explain their uses.
- I can properly measure and mix fuel for a 2-stroke engine using the correct gas-to-oil ratio.

Success Criteria:

- I can identify fuel storage containers by color and label.
- I can explain the dangers of improper fueling and refueling practices.
- I can correctly mix fuel for a 2-stroke engine at common ratios such as 50:1.
- I can perform a supervised refueling procedure while following safety guidelines.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

Students will go into the shop with the assigned shop skill worksheet. The students will go over the worksheet with the aid of the instructor in an interactive way that involves working with the actual machinery and performing the appropriate skills. The students will apply their newly acquired shop skills when they are involved in the hands-on machine use sections.

Assessment

List any formative or summative assessments that should be administered within this learning sequence.

(They can be listed/linked below)

Safe Machinery Operation Worksheet Safe Refueling

Resources

Any materials and resources related to Stage 3 learning activities.

Torque Talk Machinery Research Worksheet- Safe Machinery Operation

Hands On Activity of the Week- Infield Conditioner

Time: 6 Days

Learning Target:

Success Criteria:

Knowledge and Understanding:

- Students will explain the purpose and benefits of using an infield conditioner in maintaining baseball and softball field surfaces.
- Students will identify the different types of infield conditioners and their specific properties (e.g., moisture retention, dust control, firmness).
- Students will understand the proper conditions under which to apply an infield conditioner to achieve optimal field performance and safety.

Skills and Application:

- Students will demonstrate the correct procedure for applying an infield conditioner, including preparation, distribution, and incorporation into the soil.
- Students will correctly adjust the amount of infield conditioner used based on field conditions, weather patterns, and usage requirements.
- Students will apply an infield conditioner to a section of the field, ensuring even coverage and proper integration into the playing surface.

Knowledge and Understanding:

- Students can articulate why infield conditioners are essential for maintaining safe and playable field surfaces.
- Students can differentiate between various types of infield conditioners and select the appropriate one based on specific field needs.
- Students understand the timing and conditions necessary for effective application of an infield conditioner.

Skills and Application:

- Students apply an infield conditioner using the correct techniques, ensuring even distribution across the field.
- Students adjust the quantity of conditioner based on field assessments, ensuring that the application meets the needs of the playing surface.
- Students effectively incorporate the infield conditioner into the soil, ensuring it is well integrated and enhances field performance.

Learning Activities

What is the actual instructional task that supports student learning in this lesson?

Tasks can be linked in here. Include technology integration as applicable to support learning.

 Out of the Gate in Eight- Blank**Assessment**

List any formative or summative assessments that should be administered within this learning sequence.

(They can be listed/linked below)

 Two-Level Rubric for Safely Operating an Infield Conditioner

SHS- Agricultural Science Department

Course: Equipment & Power Systems

Grade: 10

Credits: 1.0

Length: Half Year (meets daily)



Unit 1- Personal Safety

This unit introduces students to the foundational concepts of workplace safety within the landscaping, grounds care, and golf course industries. Drawing from *Safety Management for Landscapers, Grounds-Care Businesses, and Golf Courses* by John Deere and Company, the unit emphasizes the importance of proactive safety practices and understanding how human behavior influences risk on the job.

Skills Learned:

- **Students will understand safety practices used in operating tractors and loaders**
- **Students will recognize tractor and loader parts**
- **Students will develop driving and operating skills**
- **Students will perform routine fluid maintenance on machinery**

Unit 1 Activities

Students drive tractors and learn to operate the track loader.



Students learn to check fluids and perform basic maintenance tasks.

Unit 2- Machine and Shop Safety

This unit explores two key areas in workplace safety: understanding the machines used in the landscaping industry and creating a safe environment in the maintenance shop. Students will learn how machine design, condition, and operation practices impact safety, and how proper shop protocols help prevent accidents and injuries. The unit emphasizes awareness, personal responsibility, and proactive behavior when working with or around equipment and tools.

Skills Learned:

- **Students will understand safety practices used in mowing equipment**
- **Students will demonstrate the ability to properly set up the mower in preparation of field maintenance**
- **Students will correctly mow a section of turfgrass using the appropriate techniques and equipment.**
- **Students will understand the importance of greasing, location of grease points and how to apply grease correctly**

Unit 2 Activities

Students learn the importance of keeping the equipment greased.



We supplement the contract mowers weekly mowing with additional cuts to keep the ballfields at a shorter length.

Unit 3- Tractor and Loader Safety

This unit explores the foundational principles of operating **compact tractors**, **loaders**, **backhoes**, and **skid steer loaders**—equipment commonly used in landscaping, grounds maintenance, and golf course management. These powerful machines increase productivity but also pose significant safety risks if not handled properly. Students will examine the design, capabilities, and safety requirements of each machine and learn the importance of training, vigilance, and preventive maintenance in minimizing hazards.

Skills Learned:

- Students will understand the importance of calibrating a fertilizer spreader to ensure accurate application rates.
- Students will correctly operate a fertilizer spreader, ensuring even coverage across the designated turf area.
- Students will understand the safety protocols required when handling and sharpening mower blades.
- Students will demonstrate the correct procedure for safely removing and reinstalling mower blades from the mower.
- Students will accurately sharpen a mower blade using the appropriate tools and techniques.

Unit 3 Activities

Students fertilize the ball fields at SHS twice a year. Students learn to use the walk behind and the ride-on spreader.



Students learn to safely remove and sharpen mower blades.



Unit 4- Tractor Attachment and Mower Safety

This unit focuses on two critical areas of equipment operation in landscaping and grounds maintenance: the safe use of **compact tractor attachments** and the operation of **rotary mowers and cutters**. Students will explore how these tools expand the functionality of tractors and equipment, as well as the unique safety concerns that come with their use. Through this unit, students will gain the knowledge and habits needed to use these machines efficiently while minimizing risk.

Skills Learned:

- Students will demonstrate the correct procedure for applying an infield conditioner, including preparation, distribution, and incorporation into the soil.
- Students will correctly adjust the amount of infield conditioner used based on field conditions, weather patterns, and usage requirements.
- Students will apply an infield conditioner to a section of the field, ensuring even coverage and proper integration into the playing surface.
- Students will describe and demonstrate safe fueling procedures for outdoor power equipment.
- Students will differentiate between diesel, gasoline, and mixed gas and explain their uses.
- Students will properly measure and mix fuel for a 2-stroke engine using the correct gas-to-oil ratio.

Unit 4 Activities

Students help keep the baseball and softball infields groomed and remove the build of materials on the edge of the field.



Students learn the different fuel types and how to safely fill the machines.

**BOARD OF EDUCATION
SOUTHINGTON, CONNECTICUT**

Informational Only _____ Board Meeting Date August 21, 2025

Decision Requested X Agenda Code 9 i.

AGENDA REPORTING FORM

Agenda Topic: Out of State: Class Size Report

Summary of Issue: Projected enrollment through August 21, 2025 and staffing requirements are reflected in the attached chart.

Background: The Board of Education reviews elementary class size projections and staff requirements at the August Board of Education Meeting.

Alternative Strategies: Board to recommend staff allocation adjustments.

Cost (if applicable): N/A **Funding Source:** Budget

Beginning Date of Program or Project: August, 2025

Ending Date of Program or Project: N/A

Recommendation or Comment: N/A

Titles of Attachments:

1. 2025-2026 Elementary Enrollment Chart



Signature of Staff Member Submitting Report



Signature of Superintendent of Schools

DRAFT
Class Averages 2025-2026
as of August 20, 2025

SCHOOL	GRADE K		GRADE 1		GRADE 2		GRADE 3		GRADE 4		GRADE 5		TOTALS	
	24-25	25-26	24-25	25-26	24-25	25-26	24-25	25-26	24-25	25-26	24-25	25-26	24-25	25-26
DERYNOSKI														
TOTAL	76	80	89	77	90	91	116	90	101	120	96	100	568	558
Class Avgs	15.20	16.00	14.83	15.40	18.00	15.17	19.33	18.00	20.20	20.00	19.20	20.00		
FTEs	5	5	6	5	5	6	6	5	5	6	5	5	32	32
FLANDERS														
TOTAL	41	45	39	42	50	40	34	51	44	36	54	44	262	258
Class Avgs	13.67	15.00	13.00	14.00	16.67	13.33	17.00	17.00	14.67	18.00	18.00	22.00		
FTEs	3	3	3	3	3	3	2	3	3	2	3	2	17	16
HATTON														
TOTAL	50	59	63	51	56	66	59	58	58	60	75	58	361	352
Class Avgs	16.67	14.75	15.75	17.00	18.67	16.50	19.67	19.33	19.33	20.00	18.75	19.33		
FTEs	3	4	4	3	3	4	3	3	3	3	4	3	20	20
KELLEY														
TOTAL	49	48	60	48	43	61	45	41	48	45	61	48	306	291
Class Avgs	16.33	16.00	20.00	16.00	14.33	20.33	15.00	13.67	16.00	15.00	20.33	24.00		
FTEs	3	3	3	3	3	3	3	3	3	3	3	2	18	17
OSHANA														
TOTAL	30	37	32	31	43	33	46	44	46	46	37	47	234	238
Class Avgs	15.00	12.33	16.00	15.50	14.33	16.50	15.33	14.67	15.33	23.00	18.50	23.50		
FTEs	2	3	2	2	3	2	3	3	3	2	2	2	15	14
SOUTH END														
TOTAL	33	37	38	32	44	40	35	49	42	34	47	41	239	233
Class Avgs	11.0	12.3	12.7	16.0	14.7	20.0	17.5	16.3	21.00	17.00	23.50	20.50		
FTEs	3	3	3	2	3	2	2	3	2	2	2	2	15	14
STRONG														
TOTAL	41	43	38	42	51	42	56	54	49	58	47	50	282	289
Class Avgs	13.67	14.33	12.67	14.00	17.00	14.00	18.67	18.00	16.33	19.33	23.50	25.00		
FTEs	3	3	3	3	3	3	3	3	3	3	2	2	17	17
THALBERG														
TOTAL	75	57	63	73	70	61	73	72	83	74	81	84	445	421
Class Avgs	15.00	14.25	15.75	14.60	17.50	15.25	18.25	18.00	20.75	18.50	20.25	21.00		
FTEs	5	4	4	5	4	4	4	4	4	4	4	4	25	25
ENROLLMENT														
Class Avgs.	14.63	14.50	15.07	15.23	16.56	16.07	17.85	17.00	18.12	18.92	19.92	21.45	16.96	17.03
FTE TOTALS	27	28	28	26	27	27	26	27	26	25	25	22	159	155

**BOARD OF EDUCATION
SOUTHINGTON, CONNECTICUT**

Informational Only _____

Board Meeting Date August 21, 2025

Decision Requested X

Agenda Code 9 j.

AGENDA REPORTING FORM

Agenda Topic: Approval of SHS Rooftop Solar Photovoltaic Project Manual and Professional Cost Estimate.

Summary of Issue: _____

Background: _____

Alternative Strategies: N/A

Cost (if applicable): _____

Funding Source: _____

Beginning Date of Program or Project: _____

Ending Date of Program or Project: _____

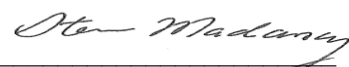
Recommendation or Comment: Move that the Board of Education approve the Project Manual as prepared for bidding and dated 06/05/2025, and associated Professional Cost Estimate, for CT DAS Office of School Construction Grants & Review Project Number 131-0131 PV, for the rooftop solar photovoltaic project at Southington High School, and authorize the Chair of the Southington Board of Education and the Superintendent of Southington Public Schools to sign State Form SCG-042-REQUEST FOR REVIEW OF FINAL PLANS, and submit these documents to the CT DAS Office of School Construction Grants & Review for their approval prior to release of the Project Manual to the market.

Titles of Attachments:

- SHS Rooftop Solar Project Manual (dated 06/05/2025)
- Professional cost estimate for SHS Rooftop Solar Project



Signature of Staff Member Submitting Report



Signature of Superintendent of Schools



Project Manual for **Southington High School**
Rooftop Solar Photovoltaic Project

DESIGN/BUILD DOCUMENTS

Volume 1 of 1

Project Type – Bid/Design/Build Rooftop Solar Photovoltaic

Project Location:

Southington High School
 720 Pleasant Street
 Southington, CT 06489

Project Owner:

Town of Southington
 75 Main Street
 Southington, CT 06489

DAS State Project Number: 131-0131 PV
Southington Public Schools Bid Number: 2026-001

Project Team**Project Manager:**

CSW Energy
 1 Prestige Drive, Suite 103
 Meriden, CT 06450

Legal Liaison:

Klee Sustainability Advisors
 33 North Racebrook Road
 Woodbridge, CT 06525

Building Inspector	Dave Riccio	_____	___/___/2025
Fire Marshal	Eric Heath	_____	___/___/2025
Health Inspector	Susan Bencivenga Lonczak	_____	___/___/2025
ADA 504 Coord.	Dave Riccio	_____	___/___/2025

Date: 06/05/2025

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DOCUMENT 00 0103 - PROJECT DIRECTORY

PROJECT: Southington High School Rooftop
Rooftop Solar Photovoltaic Project
720 Pleasant Street
Southington, CT 06489

OWNER: Town of Southington
75 Main Street
Southington, CT 06489

PROJECT TEAM:

Project Manager:

CSW Energy
1 Prestige Drive, Suite 103
Meriden, CT 06450

Legal Liaison:

Klee Sustainability Advisors
33 North Racebrook Road
Woodbridge, CT 06525

END OF DOCUMENT 00 0103

DOCUMENT 00 0110 – TABLE OF CONTENTS**INTRODUCTORY INFORMATION**

Document 00 0101	Project Manual Title Page
Document 00 0103	Project Directory
Document 00 0110	Table of Contents

BIDDING AND CONTRACT REQUIREMENTS

Document 00 1113	Advertisement for Bids
Document 00 1116	Invitation to Bid
Document 00 3116	Project Budget Information
Document 00 4153	Bid Form – Design/Build (Single Prime Contract)
Document 00 4343	Wage Rates Form
Document 00 4513	Proposer Qualifications
Document 00 4519	Non-Collusion Affidavit
Document 00 5253	Agreement Form – Owner/Design-Builder for a Stipulated Sum
Document 00 6357	Change Order Request Form
Document 00 6363	Change Order Form

END OF DOCUMENT 00 0110

DOCUMENT 00 0113 – ADVERTISEMENT FOR BIDS**LEGAL NOTICE****SOUTHINGTON PUBLIC SCHOOLS REQUEST FOR PROPOSALS (RFP) FOR
SOUTHINGTON HIGH SCHOOL ROOFTOP SOLAR PHOTOVOLTAIC PROJECT****Bid No. 2026 - 001****State Project No. 131-0131 PV****[Month] [Day], 2025**

Southington Public Schools (“District”) and the Southington Board of Education (“BOE”) seeks bids from solar development companies (each a “Proposer”) to design and build a rooftop solar photovoltaic system (“System” or “Project”) at the Southington High School (“Site” or “Facility”). Each Proposer **MUST** be a Connecticut Department of Administrative Services (“CT DAS”) Prequalified Construction Contractor in the SOLAR ELECTRIC classification in order to be eligible to bid on this RFP.

CSW Energy (“CSW”) and Klee Sustainability Advisors (“KSA”) comprise the Project Team (“Project Team”) and are supporting the District and the BOE on this Request for Proposals (“RFP”).

The RFP is available electronically at the following sites:

District Purchasing Department:

<https://www.southingtonschools.org/district-departments/purchasing-department/bids-rfp-invitations>;

Town: <https://vendors.planetbids.com/portal/61724/portal-home>

CT DAS Contracting Portal https://biznet.ct.gov/SCP_Search/default.aspx?Src=CISplash;

CSW <https://solar-rfp.com/southingtonhs>.

It is the Proposer’s responsibility to be aware of any updates or addendums to the RFP. If the Proposer has received a copy of the RFP indirectly, an email request to be added to the RFP distribution list should be sent to CSW at Projects@solar-rfp.com.

Proposers must submit three (3) printed, signed original copy of their entire Proposal, and one (1) electronic copy of their entire Proposal in “read only” format, on a USB flash drive or memory stick. Proposers shall submit their proposals in a sealed envelope and clearly marked on the outside “BID #2026-001 / State Project No. 131-0131 PV” including all outer packaging

such as DHL, FedEx, UPS, etc. All prices and notations must be printed in ink or typewritten. No erasures are permitted.

Bid proposals are to be in the District Central Office, Purchasing Department, 200 N. Main Street, Southington, CT 06489, no later than **4:00 PM on [Month] [Day], 2025**, at which time they will be publicly opened. Proposals received after the submission date will not be considered. Please note that U.S. mail delivery to the District Central Office occurs late in the day and delivery by 4:00 p.m. on the day of the bid opening cannot be relied upon.

The District reserves the right to amend or terminate this RFP, accept or reject any proposals, waive any informalities or non-material deficiencies in a proposal, and select the proposal from a Proposer that, in the District's sole discretion and judgment, will be in the District's best interests. The District's decision shall be final, shall not be subject to review or appeal, and may be based on any criteria in the District's sole discretion, including but not limited to price, contract terms, and the experience of the Proposer.

Any contracts shall be preceded by a preliminary Notice of Selection and thereafter be contingent and non-binding until all approvals are received from applicable regulatory agencies and town authorities, and successful execution of the Construction Contract.

END OF LEGAL NOTICE

END OF DOCUMENT 00 1113

DOCUMENT 00 0116 – INVITATION TO BID**PART 1 – GENERAL****1.1 PROJECT INFORMATION**

- A. Notice to Proposers: Qualified Proposers are invited to submit bids for the Project as described in this Document according to the Instructions to Proposers.
- B. Project Identification: Southington High School Rooftop Solar Photovoltaic Project (State Project No. 131-0131 PV)
 - 1. Project Location: Southington High School, 720 Pleasant Street, Southington, CT 06489
- C. Owner: Town of Southington, 75 Main Street, Southington, CT 06489.
 - 1. Purchasing Agent: Kyle Fickel, Accounting Manager, Southington Public Schools (the “District”), 200 N. Main Street, Southington, CT 06489, KFICKEL@southingtonschools.org, (860) 628-3200 ext. 10216
- D. Project Manager: CSW Energy, 1 Prestige Drive, Suite 103, Meriden, CT 06450
 - 1. Project Manager’s Representative: Sam Dziekan, sam@cswenergy.com
- E. Brief Project Description
 - 1. The Project involves the design and construction of a turnkey, front-of-meter rooftop solar photovoltaic system on recently replaced roof sections at Southington High School. The system will include a data acquisition system and a lobby-mounted kiosk to display real-time energy production for educational and public engagement purposes.
 - 2. Preliminary Work Summary and High-Level Findings

Prior to the release of this Project Manual (the “RFP”), the following key preliminary activities have been completed to advance project readiness:

 - a. Interconnection Approval: An interconnection design has been developed and submitted to the Utility Co., resulting in a Contingent Approval to interconnect a 600 kWac solar system on the secondary side of the existing utility transformer serving the

freshman electrical service. This point of interconnection has been physically inspected and approved by the Utility Co.

- b. **Structural Feasibility:** A structural analysis conducted by Cianci Engineering, LLC determined that the roof has an excess structural capacity of up to 8 PSF, adequate for the proposed solar installation. This information will guide the design of the solar racking system. Cianci will review the racking layout for structural compliance (excluding uplift), and will issue a letter of findings to the local building authority as needed for permitting.

F. Construction Contract:

1. Bids will be received for the following work (“Work”): Bids will be received for a Design/Build Contract with a qualified solar electric contractor. The Work includes providing a fully operational front-of-meter rooftop solar photovoltaic system on designated roof sections at Southington High School, as well as integration of a data acquisition system and public-facing display kiosk.

G. Funding Sources: The Project is paid for in part by state funds provided by the Connecticut Department of Administrative Services, Office of Grant Administration.

H. Tax Exempt: The District and the Town of Southington are exempt from State Sales Tax under Connecticut General Statutes Chapter 219, Section 12-412(1)(A).

I. Key Dates:

- | | | |
|----|---|--|
| 1. | RFP Release | [Month] [Day], 2025 |
| 2. | Non-mandatory site visit | [+ 7 days], 2025 |
| 3. | Request for Information (RFI) Due | [+ 7 days], 2025 |
| 4. | RFI Responses | [+ 7 days], 2025 |
| 5. | Bids due | [+ 14 days], 2025 |
| 6. | Preliminary Notice of Selection | [+ 14 days], 2025 |
| 7. | Submission of Selection to Town and BOE | Within 45 days of Preliminary Notice of Selection |

- | | | |
|----|-------------------------------------|---|
| 8. | Contracts executed | Ten days after Town and BOE Approval of Selection |
| 8. | Presentation of final design to DAS | Sixty (60) days after Contract execution |
| 9. | Project completion on or before | August 1, 2026 |

1.2 COST FOR PREPARING AND OWNERSHIP OF PROPOSALS

- A. The costs incurred by Proposers in developing their proposals are their sole responsibility, and the District, the BOE, and CSW & KSA shall have no liability for such cost.
- B. All proposals submitted shall become the District and the BOE's property and will not be returned to the Proposers.

1.3 DOCUMENTS

- A. Online Procurement and Contracting Documents: Obtain access on [Month] [Day], 2025 on the following websites:

District Central Office:

<https://www.southingtonschools.org/district-departments/purchasing-department/bids-rfp-invitations>;

Town: <https://vendors.planetbids.com/portal/61724/portal-home>

CT DAS Contracting Portal: https://biznet.ct.gov/SCP_Search/default.aspx?Src=CISplash;

CSW's website: <https://solar-rfp.com/southingtonhs>

- B. Any addenda will be posted to the District's website along with the CT DAS contracting portal, and the CSW website. All Proposers are responsible for checking for new addenda.

1.4 NON-MANDATORY SITE VISIT

- A. A non-mandatory site visit for prospective Proposers to view the conditions at the Site will commence at [TIME] on [Month] [Day], 2025 at Southington High

School, 720 Pleasant Street, Southington, CT 06489. Prospective Proposers should come to the school's front entrance.

- B. Prospective Proposers will be required to sign-in at commencement of the site visit. The sign-in sheet will be posted on the District Purchasing Department website. Copies will not be made available at the site visit, nor will they be faxed out.
- C. All requests for information will be answered in writing as specified below in Section 1.5 on Requests for Information / Addenda.

1.5 REQUESTS FOR INFORMATION / ADDENDA

- A. If any Proposer contemplating submitting a bid for the construction of the work is in doubt as to the true meaning of any part of the Project Manual or proposed contract documents, or finds discrepancies in or omissions from any part of the Project Manual or proposed contract documents, the Proposer may submit a written Request for Information (RFI) in the time and manner indicated below.
- B. RFIs must reference the date of bid opening, Bid Number, and/or State Project Number. Any RFIs must be submitted in writing to:

Southington Public Schools, Purchasing Department
Attention: Kyle Fickel, Kyle Fickel, Accounting Manager
200 N. Main Street, Southington, CT 06489
E-mail: KFICKEL@southingtonschools.org,
cc: Projects@solar-rfp.com

- C. Written **RFIs will not be accepted after 4:00 PM on [Month] [Day], 2025**. The Proposer submitting the request shall be responsible for its prompt delivery.
- D. Responses to RFIs will be in the form of **an addendum that will be posted approximately [Month] [Day], 2025** at the close of business to the District website:
<https://www.southingtonschools.org/district-departments/purchasing-department/bids-rfp-invitations>;
Town's Website: <https://vendors.planetbids.com/portal/61724/portal-home>;

CT DAS Contracting Portal:

https://biznet.ct.gov/SCP_Search/default.aspx?Src=CISplash; and

CSW's website: <https://solar-rfp.com/southingtonhs>.

The District will not be responsible for any other explanations or interpretations of the proposed Contract Documents.

- E. It is the responsibility of each Proposer to retrieve addenda from the website.
- F. Any contact about this bid between a Proposer and any other District official and/or department manager and/or District employee, other than as set forth above, may be grounds for disqualification of that Proposer.
- G. No questions or clarifications shall be answered by phone, in person or in any other manner than specified above. Addenda will not be mailed, e-mailed or faxed out.

1.6 BID SUBMITTAL AND OPENING

- A. Proposers must submit three (3) printed, signed original copies of their entire Proposal, and one (1) electronic copy of their entire Proposal in "read only" format, on a USB flash drive or memory stick.
- B. Proposers shall submit their proposals in a sealed envelope and clearly marked on the outside "BID #2026-001 / State Project No. 131-0131 PV" including all outer packaging such as DHL, FedEx, UPS, etc. All prices and notations must be printed in ink or typewritten. No erasures are permitted.
- C. Bid proposals are to be in the District Central Office, Purchasing Department, 200 N. Main Street, Southington, CT 06489, **no later than 4:00 PM on [Month] [Day], 2025**, at which time they will be publicly opened. Proposals received after the submission date will not be considered. Please note that U.S. mail delivery to the District Central Office occurs late in the day and delivery by 4:00 p.m. on the day of the bid opening cannot be relied upon.
- D. All Bids will be received and analyzed by the District and the Project Team. The Project Team will provide a recommendation and ranking of the proposals to the

District. The District will ultimately select the winning Bid and execute a Design/Build contract with the awarded Proposer.

1.7 PROPOSER QUALIFICATIONS

- A. Proposers must be properly licensed under the laws governing their respective trades and be able to obtain insurance required for the Work. Insurance in a form acceptable to the Owner, described herein, will be required of the successful Proposer.
- B. Proposers must meet all current State of Connecticut Department of Administrative Services requirements under Connecticut General Statutes Sections 4a-100 and 4b-91, including but not limited to the requirement that Proposers shall be Pre-Qualified and registered with the State of Connecticut Department of Administrative Services as a Solar Electric Contractor.
 1. Each Proposer **MUST** be a Connecticut Department of Administrative Services ("CT DAS") Prequalified Construction Contractor in the Solar Electric classification in order to be eligible to bid on this RFP. Information on how to apply to the CT DAS Construction Contractor Prequalification Program can be found at:
<https://portal.ct.gov/DAS/Procurement/PreQual/DAS-Construction-Contractor-Prequalification-Program>. **Note that it may take 60 or more days to receive a final determination on your Construction Contractor Prequalification application.** Proposers interested in this RFP should obtain their CT DAS Construction Contractor Prequalification as soon as possible.
 2. The Pre-Qualification must be in place at the time of bid submission and remain active and in good standing throughout the project.
 3. Proof of Pre-Qualification as a Solar Electric Contractor, and the related "DAS Update (Bid) Statement" **must be submitted with the bid**, as required by Conn. Gen. Stat. Sections 4a-100 and 4b-91.
 4. If a solar developer has partnered with a registered Solar Electrical Contractor with the State of Connecticut Department of Administrative Services then this must be reflected in the Proposal. In this scenario, the registered Solar Electric Contractor will serve as the prime contract counterparty in the agreement with the District.

- C. Proposers shall submit with the bid a list of three (3) successfully completed rooftop solar photovoltaic projects, with references and contact information, for projects of a similar scope and size completed within the last three (3) calendar years to be considered for award of the contract.
- D. This Proposer Qualifications section shall include a company overview and relevant experience.
 - 1. Highlight key personnel and subcontractors who will be assigned to this project.
 - 2. Describe their respective experiences and skills with the development, engineering and installation of commercial and municipal projects.
 - 3. Describe how this experience is relevant to the projects outlined in the RFP.
 - 4. Highlight the relevant licenses and certifications held by these key personnel.

1.8 BID BOND / BID SECURITY

- A. A ten (10) percent Bid Bond or equal approved security must be submitted with the proposal. Any bid submitted without such security will be excluded from the bidding process. No exceptions.
- B. The Bid Bond furnished, as bid security, must be duly executed by the Bidder as principal. It must be in the amount equal to ten percent (10%) of the total estimated bid, as guarantee that, in case the contract is awarded to the Bidder, the Bidder will, within ten days thereafter, execute such contract and furnish a Performance Bond and Payment Bond.
- C. Small businesses may elect to obtain an irrevocable letter of credit or cashier's check in lieu of the Bid Bond. Such surety must also be in an amount equal to at least ten percent (10%) of the total estimated bid.
- D. All Bid Bonds shall be written by a surety company or companies licensed in the State of Connecticut, and shall have at least an A-VII policyholders rating, as reported by A.M. Best Rating Services, or otherwise deemed acceptable by the Town. The Town always reserves the right to reject surety companies, if an approved surety bond cannot be provided, the Bidder shall be deemed

non-responsive. A complete list of certified surety companies can be accessed on the U.S. Government Department of Treasury website:

https://www.fiscal.treasury.gov/fsreports/ref/suretyBnd/c570_a-z.htm

- E. Failure to provide a Bid Bond or equivalent security is not cause for a waiver defect. Any bid not accompanied by such security will be excluded from consideration.

1.9 PERFORMANCE AND LABOR AND MATERIAL BOND

- A. The successful Bidder, within seven (7) business days after notification of award, will be required to furnish Performance and Labor and Material Bond provided by a company authorized to issue such bonds in the State of Connecticut, or Certified Check or properly executed Irrevocable Letter of Credit equal to a hundred per cent (100%) of the award.
- B. In the event that the successful Bidder, where required to provide evidence of insurance and a performance bond does not do so before beginning work, the District reserves the right to withhold payment from such supplier until the evidence of insurance and performance bond has been received by the District.
- C. All payment and performance bonds shall be written by a surety company or companies licensed to issue bonds in the State of Connecticut, and shall have at least an A-VIII policyholders rating, as reported by A.M. Best Rating Services, or otherwise deemed acceptable by the Town. The Town always reserves the right to reject surety companies, if approved surety bonds cannot be provided the contract shall be terminated. A complete list of certified surety companies can be accessed on the U.S. Government Department of Treasury website:
https://www.fiscal.treasury.gov/fsreports/ref/suretyBnd/c570_a-z.htm

1.10 RESERVED

1.11 COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES (CHRO)

- A. The District is an Affirmative Action, Equal Opportunity Employer. Minority and/or Women's Business Enterprises are encouraged to apply.
- B. All Proposers must not discriminate, nor permit discrimination, against any person on the grounds of race, color, national origin, religion, sex, handicap, or veteran status, in their employment practices, in any of their contractual arrangements, in all service and accommodations they offer to the public, and in any of their other business operations.
- C. All Proposers must complete, sign, and return the "CHRO Contract Compliance Regulations Notification to Bidders" form to the District at the time of bid opening. Bids not including this form will be considered incomplete and rejected. This form is attached at **Exhibit 1**, and can also be found at <https://portal.ct.gov/-/media/chro/cc-documents/notificationtobidderspdf.pdf>
- D. The successful Proposer shall set a goal of twenty-five per cent (25%) of the state-funded portion of the contract for award to eligible subcontractors holding current small business enterprise (SBE) certification from the DAS under the provisions of C.G.S. 4a-60g. Of the portion of contracts set aside for SBE's, a goal of twenty-five percent (25%) (or 6.25% of the value of the entire contract funded by the state) must be set aside for awards to eligible contractors holding current minority business enterprise certification (i.e.: DAS certified Minority ("MBE"), Women ("WBE") and/or Disabled ("DisBE") owned businesses). The contractor, general contractor, construction manager at risk must make good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials on such projects.
- D. The successful Proposer shall file within 30 days following the intent to award notice, an Affirmative Action Plan or Set Aside plan. This plan must be approved by the CHRO prior to the award of the construction contract.

1.12 GENERAL SCOPE OF THE WORK

- A. Proposers shall include in their bid all labor, materials, equipment, and services necessary for the performance and completion of all Work. This includes but is not limited to designing and building a turnkey and fully operational front-of-meter rooftop solar photovoltaic systems on the recently renovated and

newly constructed roofs of the Southington High School. Refer to “Section 2.9 Roof Warranties” for additional information regarding safeguarding the existing roof warranties on the new roof at Southington high School.

1.13 SUBCONTRACTORS

- A. The use of subcontractors by the awarded Proposer is acceptable. However, the awarded Proposer is responsible for the entirety of the contract performance. The District, BOE and DAS reserves the right to approve all subcontractors. All personnel of the awarded Proposer including those of their subcontractors may be subject to a background check at the expense of the Proposer.

1.14 FUNDING AND EMPLOYMENT CONDITIONS – PREVAILING WAGES

- A. Due to funding sources for this Project, the Contract requires compliance with certain Federal State, and/or local requirements for wages paid by the Contractor, and conditions of employment.
- B. Wages paid to a mechanic, laborer or workman employed for the Work of this Project shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation. These customary or prevailing rates for wages have been determined by the State of Connecticut, and specifically identified for this Project.
- C. The Connecticut State Department of Labor has determined that this Project is subject to the prevailing wage requirements stipulated by Connecticut General Statute Section 31-53. The Contractor shall submit weekly, to the Owner, a payroll certification and a certified statement of compliance, in accordance with Public Act 93-392.
- D. Prior to receiving Final Payment, the Contractor shall certify to the Owner, that the wage paid to each mechanic, laborer, and workman for this Project was equal to or greater than the applicable prevailing rate.
- E. In addition to local ordinances, on which the above requirements are established, the Contractor shall comply with the applicable provisions of the Labor Laws enacted by the State of Connecticut, administered by the State Department of Labor.

- F. The following excerpt from 1963 Public Act 240, Section 1, is included for reference: "The wages paid on an hourly basis to any mechanic, laborer, or workman employed upon the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such employee to any employee welfare fund, as defined in Section 31-78 of the General Statutes, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the town in which such public works projects is being constructed. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such employees to any such employee welfare fund shall pay to each employee as part of his wages the amount of payment or contribution for classification on each pay day."
- G. In the event that there is no prevailing wage rate set for the specific occupation or trade of a mechanic, laborer, or workman who is employed for the Work of this Project, the Contractor shall notify the Commissioner of the Connecticut State Department of Labor for a determination of the applicable wage rate.
- H. The prevailing wage rates set by the State for this Project shall be the minimum paid to mechanics, laborers, and workmen employed by the Contractor for these occupations on this Project. The Owner will not consider claims by the Contractor for additional compensation because of payment of wages in excess of these rates.
- I. The Contractor shall post copies of the State's schedule of rates at conspicuous points at the Project site, showing the prevailing minimum wages rates and the authorized deductions to be made from each wage category.
- J. The documents listed below [will be/have been] issued by the Connecticut State Department of Labor, and they designate prevailing wage rates and required compliance forms pursuant to the Connecticut General Statutes. Documents listed are included in the Project Manual as Exhibit 2. Original documents of the compliance statements and payroll certification form may be obtained from the State of Connecticut, Department of Labor, Regulation of Wages Division, 200 Folly Brook Boulevard, Wethersfield, Connecticut 06109-1114.
1. Prevailing Wage Poster
 2. Prevailing Wage Rates, dated [Month] [Day], 2025.
 3. Prevailing Wage Footnotes
 4. Information Bulletin on Occupational Classifications

5. Special Notice on Statute 31-55a
6. Copy of Statute 31-53b
7. Informational Bulletin on 10-Hour OSHA Construction Safety & Health Course
8. Contracting Agency Certification Form
9. Contractor's Wage Certification Form.
10. Payroll Certification Forms ROW-CP 1 and CP 2.

PART 2 – SCOPE OF DESIGN AND CONSTRUCTION WORK FOR THE PROJECT

2.1 PRELIMINARY WORK COMPLETED PRIOR TO RELEASE OF PROJECT MANUAL

- A. As part of the pre-development phase, the following critical analyses and approvals have been completed to facilitate final design, permitting, and construction:
 1. Interconnection Design & Utility Approval. An Interconnection Electrical Drawing Set has been developed and submitted to the Utility Co. for approval (see Exhibit 3). The proposed system size is 600 kWac, and the interconnection will occur on the secondary side of the existing utility transformer that supplies the freshman electrical service at the project site. This design was reviewed through the Utility Co.'s formal application process, during which:
 - a. A Contingent Approval for interconnection was issued by the Utility Co. (see Exhibit 4).
 - b. The Utility Co. conducted a site inspection of the proposed interconnection point, confirming its suitability for the planned installation.

- c. This contingent approval confirms that the project can proceed with interconnection at the specified point, subject to final system compliance and Utility construction requirements. The awarded Contractor is expected to coordinate with the Utility Co. as needed during implementation, particularly for scheduling any utility-side work and meter installations.
- 2. Structural Analysis and Capacity Verification: A structural assessment of the project site's rooftop was completed by Cianci Engineering, LLC (see Exhibit 5). This analysis confirmed that the existing roof structure has an available load capacity of up to 8 pounds per square foot (PSF), suitable for supporting a standard ballasted and/or attached photovoltaic (PV) racking system. Key outcomes and responsibilities related to this finding include:
 - a. The Contractor is responsible for using this 8 PSF threshold to develop a fully engineered racking design for the solar modules.
 - b. The racking system must be designed to secure the modules and withstand wind uplift, in accordance with applicable codes and industry standards.
 - c. Cianci Engineering, LLC will review the Contractor's final racking design solely to confirm that imposed loads remain within the allowable structural limits.
 - d. Uplift analysis and verification are explicitly the responsibility of the Contractor and their racking system vendor; Cianci will not perform this review.
 - e. As required for permitting, Cianci will provide a letter for submission to the local building department summarizing their analysis and confirming compliance with structural load criteria.
- B. This completed work is intended to streamline the permitting and design coordination process and to clarify the baseline parameters for engineering decisions that will be carried out by the Contractor.

2.2 SYSTEM CONFIGURATION, INCENTIVE PROGRAM & DESIGN PARAMETERS

- A. The project is a front-of-the-meter, Buy-All-Sell-All installation and will interconnect to an existing utility-owned transformer at the Site (see Exhibit 6).
- B. The Proposers shall reference Exhibit 7; which is a site plan depicting usable roof areas. These areas were analyzed for structural capacity, and deemed as acceptable locations. Refer to Section 2.7 for more information regarding the completed structural analysis. The Proposers are not required to match the exact footprint of the module layout depicted in these site plans, but modules cannot be placed in locations outside of the footprint shown.
- C. The Town submitted a Year 4 NRES School Solar Project Application to the Utility Co. ("Utility"), under the school solar carveout program authorized by Public Act No. 24-151 § 173. Relevant information for the NRES School Program is located in Table 1 below.

Table 1 - NRES Information

NRES School Program Size (kWac)	600.00
Compensation Structure	Buy-All

- D. In order to develop a system size, the Proposers shall consider the NRES size, available roof space, contingent approval, production modeling and structural capacity.

2.3 SYSTEM DESIGN & PERMITS

- A. After the preliminary Notice of Selection, and successful execution of the Construction Contract, the selected Proposer shall become a "Contractor." The Contractor shall develop a fully engineered System that is in compliance with all applicable building and electrical codes, zoning regulations, industry best practices and utility interconnection requirements. All construction documents must be signed and sealed by professional engineers registered with the State of Connecticut.

- B. The Contractor shall review the electrical specifications in **Exhibit 8**. The Contractor's final system designs and installation must comply with these specifications.
- C. The Contractor is responsible for acquiring all necessary permits from governing agencies, and for the payment of associated fees.
 - 1. The Town has waived fees for municipal permits. However, the Contractor is responsible for payment of the State of CT Education Fee associated with permitting.
- D. The Contractor is responsible for all tasks and fees associated with Utility interconnection, which includes but is not limited to meter fees and new work order requests.
- E. The Project must have a minimum anticipated useful life of 20 years. The Project shall generate electrical power for the entirety of the minimum lifetime. Equipment shall be selected and installed in a manner to meet this life expectancy.

2.4 MAJOR SYSTEM COMPONENT REQUIREMENTS

- A. All Proposal submissions shall only use the major system components listed in Table 2.

Table 2 - Approved Vendor List

Major System Component	Approved Vendors
Modules	Bloomberg New Energy Finance (BNEF) Tier 1 photovoltaic module manufacturers
Inverters	Chint Power Systems SMA America SolarEdge Technologies Yaskawa Solectria
Racking	DCE AeroCompact KB Racking PanelClaw

	Sollega UNIRAC (includes Ecolibrium)
Data Acquisition System	Also Energy Green Mountain Power Dash

- B. The major system components selected by the Contractor shall have the following minimum product warranty terms listed in Table 3.

Table 3 - Minimum Product Warranty Information

Component Type	Warranty Term Minimum
Module	20 years
Inverter	10 years*
Racking	20 years

*The District (or third-party System maintenance provider) shall be responsible for inverter replacement if needed after the inverter warranty expires.

- C. Rapid Shutdown Devices shall be provided and installed where required to meet NEC requirements. Alternatively, the awarded Proposer may utilize a UL 3741-listed PV Hazard Control System in conjunction with compatible racking and inverter equipment to achieve compliance, provided it meets all applicable code requirements and is clearly documented in the design submittal.

2.5 ELECTRICAL INTERCONNECTION

- A. The electrical plans must utilize the point of interconnection as defined in the Interconnection Design Set (see Exhibit 3), which has been approved by the Utility Company under the Contingent Approval (see Exhibit 4). Contractors shall not modify the point of interconnection and must design their electrical plans to connect the System accordingly.

The plans must include the method for connecting the System into the existing electrical service equipment of the Site, along with details and specifications on modules, inverters, rapid shutdown devices, monitoring, balance of system electrical components, labeling, and wire management protocols.

- B. The Contractor may route conduits along the building exterior under the following conditions:
 - 1. Exact routing of conduit is field coordinated and approved by a facility representative.
 - 2. Conduits must be painted to match the building exterior.

2.6 PRODUCTION MONITORING

- A. The monitoring system shall be connected to the building's existing server for internet access. At a minimum the monitoring system must allow for remote performance monitoring of each System's Real Power (kW), Energy (kWh), Voltage (V), Amperage (A) and Power Factor. It must also include a weather station that monitors irradiance, ambient and cell temperatures. The monitoring system must come with a minimum five year subscription to the manufacturer's platform.
- B. If DC Optimizers are installed, the inverter shall also communicate to a fully mapped monitoring platform (e.g. SolarEdge's inverter monitoring platform) that is capable of identifying the physical location of failed optimizers.
- C. A flat panel (minimum size of 42") display connected to the production monitoring system shall be mounted on a lobby wall of the Facility to show real-time energy production values. The Contractor is responsible for providing the display, mounting devices suitable for the available wall space and a school setting, power and internet feeds. Exact location for mounting shall be identified by facility personnel. Access to historical and live production data must be granted to the Town.

2.7 ENGINEERED RACKING SYSTEM DESIGN

- A. Based on the structural analysis previously performed (see Section 2.1 and **Exhibit 5**), the Contractor shall develop a fully engineered racking design for mounting the solar modules. The racking system must be designed to secure the modules to the roof and resist wind uplift forces in accordance with applicable building codes and site-specific wind speeds.
- B. The selected lead-in racking product shall be a ballasted system designed for low-slope roofing applications. Where necessary, supplemental attachments may be used to ensure compliance with local wind requirements and roof warranties.

The final design must also:

- 1. Maintain all existing roof drainage pathways, including ensuring no roof drains are blocked or impeded by racking.
 - 2. Comply with the wind exposure and loading conditions specific to the Town of Southington.
 - 3. Integrate with the existing roofing system without compromising its integrity or warranty (refer to Section 2.9 “Roof Warranties” for additional guidance).
- C. The Contractor is responsible for conducting an uplift analysis and coordinating with their racking vendor to ensure compliance with both structural and wind resistance requirements. This analysis is separate from the structural capacity verification previously completed.

2.8 ROOF STAGING

- A. If the Contractor chooses to load and stage materials on the roof during construction they must engage with a structural engineer to prepare a loading plan. The Contractor may choose to engage with Cianci Engineering, LLC to perform this work at an additional cost.
 - 1. Such a plan must identify acceptable locations for staging materials, the allowable weight and setback requirements between staging areas.
 - 2. All materials must remain properly secured at all times.

3. Staging areas should be field coordinated to insure materials will not interfere with work of other tradespeople

2.9 ROOF WARRANTY

- A. The System will be installed on the roof sections identified in **Exhibit 7**. The Roof Membrane is Carlisle EPDM with a 30 year warranty.

1. This roof's warranty is in full effect under Carlisle's Golden Seal Total Roofing System Warranty. A copy of the roof warranty is included in **Exhibit 9**. Therefore, roof work such as penetrations and attachments shall be performed by a roofer certified to work on Carlisle products.

2. Contact information for roofing contractor:

Silktown Roofing, Inc.
Ryea Arnold
27 Pleasant Street
Manchester, CT 06040
T: (860) 647-0198
C: (860) 462-3299
ryean@silktownroofing.com

3. Silktown Roofing, Inc. have provided the following unit cost for installation of a positive attachment. This unit cost assumes installation of a U-anchor or OMG Powergrip product provided by others. Silktown Roofing can provide the materials for an additional fee, but the Contractor is not required to source the products through Silktown Roofing.

a. Unit Cost: \$410.00

- B. Slip sheets or a sacrificial layer of roof membrane must be installed under any and all points of contact with the existing roof and the solar equipment. This includes but is not limited to racking components, conduit support blocks, inverter and panelboard mounting structures. The slip sheet must meet the specification of the roofing membrane – i.e., manufacturer, membrane type, thickness.
- C. It is the responsibility of the Contractor to perform work in such a manner to insure the roof warranty and/or the roofing contractor's workmanship warranties

are not impacted. In addition, the Contractor is responsible for securing an overburden waiver from the roofing manufacturer. This includes any required inspections, fees, documentation, and coordination with the roofing manufacturer, and the roofing contractor.

2.10 SITE PLAN

- A. The site plan must identify the location of all new equipment as well as the location of any existing electrical equipment where work will be performed as part of the Project.
- B. Where necessary to protect equipment from vehicular traffic the Contractor shall provide and install bollards. These too shall be included on the site plan.
- C. Provide housekeeping pads for all exterior electrical equipment that is not wall-mounted. Pads shall be appropriately sized, constructed of durable materials, and installed in accordance with applicable codes and manufacturer requirements.

2.11 GENERAL CONDITIONS

- A. All General Conditions necessary for the execution of the Work shall be the sole responsibility of the Contractor. This includes, but is not limited to, project management, supervision, scheduling, safety compliance, temporary facilities (e.g., power, water, sanitation), site security, traffic control (if applicable), material handling and storage, debris removal, and daily site clean-up.
- B. The Contractor shall also be responsible for coordination with all relevant stakeholders, attendance at required meetings, documentation and reporting, and adherence to all local, state, and federal regulations.
- C. Costs associated with General Conditions shall be included in the Contractor's pricing and not listed as separate or additional items.

2.12 CONSTRUCTION

- A. The Contractor shall supply all equipment, materials, and labor necessary to install a turnkey operational System.
- B. The Contractor is responsible for establishing a staging area, coordinating material delivery, storage and Site security. The final staging area must be approved by the District prior to Site mobilization.
- C. All work shall be performed by tradespeople holding adequate licensing.
- D. The Contractor is responsible for mechanical installation and assembly of racking components, ballasting, mechanical attachments, and mounting of modules.
 - 1. Refer to Section 2.9 for more information regarding installation of any roof penetrations.
- E. The Contractor must furnish a complete and operational electrical system. This includes but is not limited to:
 - 1. Mounting and wiring equipment such as modules, inverters, combiner boxes, panelboards, disconnect switches, transformers, housekeeping pads and meters.
 - 2. Reviewing the location of any equipment to be mounted inside or on the building exterior with the District prior to start of work.
 - 3. Interconnecting the System.

2.13 SITE CLEANUP AND RESTORATION WORK:

- A. The Contractor shall include the restoration of all existing work, including but not limited to sidewalks, structures, driveways, streets, parking areas, lawns, plants, shrubs, and all other existing buildings and Site improvements, which are damaged or destroyed by encroaching upon areas within or beyond the Project.
- B. All restoration work shall be done in a manner so as to restore all work to its original condition, using similar materials and construction and all such work shall be performed to the complete satisfaction of the Owner.
- C. A dumpster must remain on Site during the duration of the project, and shall be emptied weekly. Upon completion of the Project the dumpster and all other remnants of construction shall be removed from the Site. At the end of each

workday the Site must be left clean, tidy and secure. Materials shall be stored in such a manner that they are protected from damage.

- D. The roof shall be cleaned of debris at the end of each workday. Special attention should be paid to removing items such as screws, nails and other hardware which could damage the roof membrane.

2.14 UTILITY COORDINATION, APPROVAL TO ENERGIZE, NRES REGISTRATION

- A. The Contractor shall submit a new Work Order Request with the Utility Co. and coordinate all required utility site visits. This includes securing approval for final equipment locations, performing necessary field verifications, coordinating utility shutdowns, and completing the interconnection to the secondary side of the existing utility-owned transformer.
- B. The Contractor is responsible for all Utility coordination, testing requirements and associated fees necessary to achieve approval to energize and an executed interconnection agreement for each System.
- C. The Contractor is responsible for registering the NRES with all agencies as needed to ensure the Town of Southington and/or the Board of Education receives the NRES revenue.
- D. The District has posted the required Performance Assurance as part of the NRES application. It is the responsibility of the Contractor to ensure the Performance Assurance is returned to the District following registration of the NRES with all relevant agencies.

2.15 COMMISSIONING AND PROJECT CLOSEOUT

- A. The Contractor shall be responsible for full commissioning of the project to confirm that the installation is in accordance with the construction documents and compliant with all applicable codes and standards. The Proposer shall coordinate and review the commissioning procedures and schedule with the Town in advance of testing activities.

As part of the commissioning process, the Contractor shall perform all necessary system testing to verify proper installation, functionality, and safety of all photovoltaic system components. The following tests and inspections shall be completed, and results submitted as part of the project closeout documentation:

1. Visual Inspection: Inspect all system components for physical damage, correct installation, wire management, proper labeling, equipment clearances, and adherence to design plans and code requirements.
2. Continuity Checks: Verify continuity of all grounding and bonding conductors to confirm proper electrical connections for system safety.
3. Polarity Verification: Check string and circuit wiring to confirm correct polarity of DC conductors prior to energizing the system.
4. Insulation Resistance Testing: Measure insulation resistance between conductors and ground to confirm electrical isolation and detect possible faults or moisture intrusion.
5. String Testing: Contractor shall perform comprehensive string-level testing to validate the electrical performance and integrity of all PV strings. Required tests include:
 - a. Open-Circuit Voltage (Voc) Verification: Measure and record Voc for each string. Values must align with design tolerances and be consistent across similar strings.
 - b. Short-Circuit Current (Isc) Verification: Measure and record Isc for each string under similar irradiance conditions to identify underperformance or electrical issues.
 - c. I-V Curve Testing: Perform I-V curve tracing on all strings under stable irradiance. Compare actual performance curves to expected values to verify system health and detect mismatches or degradation.
- C. Upon completion of commissioning the Contractor shall submit a commissioning report that includes testing results, As-Built PDFs, product data sheets, access to the data acquisition system platform, manuals and product warranties.
- D. The Project is not considered commissioned until the Owner and Project Team have collectively agreed and signed off.

PART 3 – PROPOSAL SUBMISSION CRITERIA

3.1 ORGANIZATION AND REQUIRED ELEMENTS OF PROPOSALS

- A. General: The proposals shall include full, accurate, and complete information. The Proposer may include any additional information other than outlined below if it further demonstrates qualifications.

Proposals submitted in response to this RFP shall include the following information and documents, be clear and unambiguous, and be formatted into the following sections:

- B. Cover Sheet and Bid Summary: The Proposer's submission should begin with the Bid Form found in DOCUMENT 00 4153 of this Project Manual (**Exhibit 10**). This Document contains the Cover Sheet of general firm information (to be completed and signed), Checklist, Acknowledgement of Addenda, and Bid Summary.
- C. Non-collusion Affidavit: The Bidder's submission must contain the Non-Collusion Affidavit found in DOCUMENT 00 4519 of this Project Manual.
- D. Production Information:
1. Proposers shall provide details about the estimated kWh-AC to be generated by the System, including all necessary assumptions, for example: Insolation (or sunlight availability), maintenance down time, soiling losses, shading losses, efficiency losses, AC losses, etc. Copies of PVSyst or Helioscope reports used to estimate production for each proposed solar system design should be included with the proposal.
 2. Proposers must submit a table showing 20-year production estimates for the System based on the submitted final Project size and design. This production estimate shall assume an annual loss of 0.5%.
- E. Project Scope and Schedule: The scope narrative shall outline all major tasks and milestones necessary to design, permit, coordinate with the Utility company, mobilize, construct and commission the System. Proposers must submit a project schedule that presents all major design, construction, Site work, electrical

interconnection, commissioning, utility coordination, permitting and approval, and other key project milestones in a gantt chart format.

- F. System Design and Equipment: Proposals shall provide a design layout for the System, including the make/model, wattage and quantity for both inverters and modules, racking product, azimuth, tilt and system size kW-AC and kW-DC. Proposal submissions shall include specified equipment manufacturer data sheets and warranties, pricing, etc. All solar modules, racking systems, inverters, monitoring and other equipment shall be new with acceptable warranties that meet industry standards for Tier 1 equipment and are UL Listed.
- G. Bidder Qualifications: This section shall include a company overview and relevant experience, and highlight key personnel and subcontractors who will be assigned to this project. Describe their respective experiences and skills with the development, engineering and installation of commercial and municipal projects. Describe how this experience is relevant to the projects outlined in the RFP. Highlight the relevant licenses and certifications held by these key personnel and subcontractors.
- H. Project Portfolio and References: Proposals should include a list and description of at least three (3) similar projects that the Proposer has completed within the last three (3) calendar years. These projects will act as the Proposer's references. Include the client name, contact person, telephone number and email address along with project specific details (system size, major system components installed and pertinent project milestone dates).
- I. Firm Price & Life-cycle Costing:
1. Proposals must provide a firm fixed design/build price shown as the total project cost and dollars per watt-direct current (\$/Wdc). The Proposer understands and agrees that all price proposals are firm and cannot be changed.
 2. Proposals must provide an estimate of the total life-cycle cost of ownership of the System over the life of the System, which may include

operation and maintenance expenses, transportation, salvage value, and/or disposal costs.

3. Any attempt by the Contractor to increase a price proposal after selection will result in disqualification of the Contractor and revocation of the Contractor selection under this RFP.
- J. Bid Bond / Security: As described in Section 1.8, a ten (10) percent Bid Bond, or equal approved security, must be submitted with the proposal. Any bid submitted without such security will be excluded from the bidding process. No exceptions.
- K. CHRO Compliance Forms: As described in Section 1.11, all Bidders must complete, sign, and return the “CHRO Contract Compliance Regulations Notification to Bidders” form to the Town at the time of bid opening. Bids not including this form will be considered incomplete and rejected. This form is attached at **Exhibit 1**, and can also be found at <https://portal.ct.gov/-/media/chro/cc-documents/notificationtobidderspdf.pdf>
- L. CT DAS Prequalification & CT DAS Update Bid Statement: As described in Section 1.7.B, bidders must submit proof of Pre-Qualification as a Solar Electric Contractor, and the related “DAS Update (Bid) Statement” must be submitted with the bid, as required by Conn. Gen. Stat. Sections 4a-100 and 4b-91.

PART 4 – SELECTION PROCESS & PHASES OF WORK

4.1 PROPOSAL SELECTION CRITERIA

- A. AFTER REVIEW OF ALL FACTORS, TERMS AND CONDITIONS, INCLUDING PRICE, THE DISTRICT RESERVES THE RIGHT TO REJECT ANY AND ALL BIDS, OR ANY PART THEREOF, OR WAIVE DEFECTS IN SAME, OR ACCEPT ANY PROPOSAL DEEMED TO BE IN THE BEST INTEREST OF THE DISTRICT.
- B. The District will select a proposal that, all things considered, the District determines in its complete and sole discretion, is in their best interest. This list of

criteria below is not intended to be exhaustive, and the District may assess Proposers based on unlisted items. The District may reject any proposal despite compliance with these criteria if it is determined to be in the best interest of the Town.

- C. Due to the complexity of the System and contemplated agreements, the District is not and shall not be bound to select a winning proposal based upon lowest contract price alone.
- D. The District will use the following criteria, among others, in evaluating proposals:
 - 1. Submission of a complete proposal consistent with RFP criteria
 - 2. Contract price
 - 3. 20-year annual production estimates (kWh)
 - 4. Proposers qualifications, relevant experience with municipalities
 - 5. Equipment proposed for the Systems
 - 6. Proposer's familiarity with the Connecticut NRES program
 - 7. Proposed project approach and schedule
 - 8. Experience of team including subcontractors
 - 9. Proposers commitment and ability to ensure timely success
 - 10. References

4.2 PROPOSAL DISQUALIFICATION

- A. The District will not select any proposal from a Proposer that is in arrears or in default to the Town of Southington regarding any tax, debt, contract, security or any other obligation, nor shall it select any Proposer if a majority owner thereof is in such arrears or default.

4.3 PRELIMINARY SELECTION

- A. The District will issue a Preliminary Notice of Selection to a single Proposer who will be selected to perform work at the Site, **on or about fourteen (14) days after**

the bid due date. The selection may be subject to further discussions with the Proposer.

- B. The making of a preliminary selection to a Proposer does not provide the Proposer with any rights and does not impose upon the District any obligations. The District is free to withdraw a preliminary selection at any time and for any reason.
- C. A Proposer has rights, and the District has obligations, only if agreements, if any, are executed by the District and a Proposer, and only to the extent of the obligations set out in such related agreements.
- D. Neither this RFP nor any actions taken by the District or CSW & KSA shall create any obligation toward any Proposer.

4.4 CONTRACT EXECUTION DEADLINE AND DISTRICT NOTICE TO PROCEED

- A. The selected Proposer and the District will work cooperatively to submit the Construction Contract documents for approval by the BOE and the Town of Southington within forty-five (45) days of the selected Proposer's preliminary selection by the District.
- B. The selected Proposer shall execute the Construction Contract within ten (10) days of the approval by the BOE and the Town, and thereby become a Contractor.
- C. At or prior to delivery of the signed Construction Contract, the awarded Bidder shall deliver to the Town those Certificates of Insurance required by the Contract Documents and such Labor and Materials Payment Bonds and Performance Bonds as required by the Town.
- D. Within five (5) days of the execution of the Construction Contract, the Contractor shall receive a written Notice to Proceed from the District, which will begin the Work.
- E. If the selected Proposer and the District do not successfully execute the Construction Contract documents within the time periods above, the selected Proposer acknowledges and agrees that, unless time for execution of the Construction Contract documents is extended by the District in its sole discretion, the District may enter contract discussions with another Proposer under this RFP.

4.5 OVERVIEW OF PROJECT PHASES

The work for the rooftop solar photovoltaic system at Southington High School will be executed in three primary phases, as outlined below. These phases reflect a revised project development structure designed to align with CT DAS requirements and ensure streamlined project delivery from design through closeout.

A. Phase 1.1 – Project Manual Development (Completed Prior to RFP Release):

Phase 1.1 represents the preparatory phase completed prior to the issuance of this RFP. It included all necessary documentation and coordination to advance the project to contractor selection. Work completed in this phase includes:

1. Preparation of the Project Manual, outlining project scope, general and technical specifications, and associated documentation.
2. Review and approval of the Project Manual by the Town of Southington and the Connecticut Department of Administrative Services (CT DAS), Office of Grant Administration.
3. Issuance of the Request for Proposals (RFP) for qualified contractors to bid on the solar PV installation.
4. Internal review and readiness to proceed with contractor selection and contracting.

This phase concluded with DAS approval to publicly issue this RFP and proceed to the design and engineering phases.

B. Phase 1.2 – Engineering and CT DAS Final Design Review:

Phase 1.2 will begin upon contract award and issuance of a Notice to Proceed by the Town. This phase includes all engineering, permitting, and formal design review by CT DAS.

1. The selected Contractor shall complete the final engineering design of the rooftop solar PV system within 30 days of receiving the Notice to Proceed from the District. All design drawings shall be signed and sealed by a Connecticut-licensed professional engineer.
2. Upon completion of the final design, the Project Manager will schedule and attend the Project Completion Review (PCR) meeting with the Contractor. This meeting, held with CT DAS Office of Grant Administration, will review the Contractor's full design submission. The meeting will take place within 15 days of design completion and may be conducted either at CT DAS headquarters (450 Columbus Boulevard, Hartford, CT 06103) or virtually. The Project Manager will oversee coordination throughout this review process.
3. The Contractor shall prepare and submit all forms and documentation required for CT DAS final design review, including:
 - a. Form SCG-3022 – Photovoltaic Installation Project (see Exhibit 11).
 - b. Form SCG-3034 – Seismic Design Verification (see Exhibit 12).
 - c. Form SCG-042 – Fully executed, with approvals from the Local Fire Marshal, Local Building Official, Local Health Official, and Local Federal 504 Official (see Exhibit 13).
 - d. Complete sets of stamped electrical plans, site plans, racking layouts, and structural documentation with a coversheet signed by above mentioned Local officials.
 - e. Any other supporting documents requested by CT DAS.

This phase concludes upon issuance of CT DAS approval to proceed to construction.

C. Phase 1.3 – Construction, Utility Approvals, and Project Closeout

Upon receiving DAS authorization, the Contractor will mobilize to begin construction, interconnection, and commissioning of the solar PV system.

1. Construction Mobilization:
 - a. Construction activities will commence following receipt of CT DAS's Notice to Proceed
 - b. The Contractor shall schedule and conduct a Pre-Construction Meeting within ten (10) days of the Notice to Proceed. This meeting will be held on-site and will include the Owner, Project Manager, building staff, and other key stakeholders. Topics to be covered include:
 - i. Scope of work and construction schedule.
 - ii. Site access, material staging, debris removal, and logistics.
 - iii. Work hours and access control for interior areas.
 - iv. Identification of project contacts and communication procedures.
 - c. Mobilization shall begin within twenty (20) days following the Pre-Construction Meeting.

2. Commissioning and Closeout:

After substantial completion of construction, the Contractor shall:

- a. Request AHJ inspection within ten (10) days.
- b. Perform new service tie-in within ten (10) days of AHJ sign-off.
- c. Secure meter installation approvals within five (5) days of new service tie-in.
- d. Perform witness test within five (5) days of meter installation.
- e. Obtain Permission to Operate (PTO) from Utility.
- f. Complete NRES project registration within ten (10) days of PTO.
- g. Ensure the system is operational and producing, with functional monitoring systems reporting data to the District within five (5) days of PTO.
- h. Submit final invoices and all project closeout documentation within twenty (20) days of PTO.

3. Any remaining closeout requirements—including as-built drawings, training sessions, warranty deliverables, or final certifications—shall be completed in accordance with the contract.

4.6 TIME OF COMPLETION

- A. The Contractor shall complete **all phases of the Work no later than August 1, 2026**, unless otherwise modified by approved change orders or extensions granted by the District and CT DAS.

PART 5 – MISCELLANEOUS PROVISIONS

5.1 WORKMANSHIP WARRANTY AND PERFORMANCE GUARANTEE

- A. The Contractor will provide a workmanship warranty to the District to which the materials and installation shall be free from defects for a period of two (2) years from the date of commissioning for the System.
- B. The Contractor shall provide a performance guarantee to the District for the System during the workmanship warranty term and submit quarterly production reports comparing actual output to weather-adjusted expectations. During the workmanship warranty term the Contractor shall submit quarterly production reports to the District in order to monitor actual vs. expected production. If actual production is more than 15% below the weather-adjusted expectation at the end of year one or year two of the workmanship warranty term, the Contractor must perform a field inspection and propose corrective actions.

5.2 FREEDOM OF INFORMATION ACT

- A. The Proposer acknowledged by submitting a proposal that all documents shall become public record upon delivery to the Town. All information submitted in a Bid or in response to a request for additional information is subject to disclosure under the Connecticut Freedom of Information Act as amended and judicially interpreted.

- B. A Proposer's responses may contain financial, proprietary, trade secret or other data that it claims should not be public (the "Confidential Information"). A Proposer must identify specifically the pages and portions of its Proposal or additional information that contain the claimed Confidential Information by visibly marking all such pages and portions.
- C. Provided that the Proposer cooperates with the Town as described in this section, the Town shall, to the extent permitted by law, protect from unauthorized disclosure of such Confidential Information.
- D. If the Town receives a request for a Proposer's Confidential Information, it will promptly notify the Proposer in writing of such requests and provide the Proposer with a copy of any written disclosure request. The Proposer may provide written consent to the disclosure or may object to the disclosure by notifying the Town in writing to withhold disclosure of the information, identifying in the notice the basis for its objection, including the statutory exemption(s) from disclosure.
- E. The Proposer shall be responsible for defending any complaint brought in connection with the nondisclosure, including, without limitation, appearing before the Freedom of Information Commission.

5.3 INSURANCE

- A. Insurance coverage is a mandatory requirement for all work outlined in this RFP. The Contractor shall, at its own expense, secure and maintain the required insurance throughout the duration of the project. Insurance must cover the Contractor and all of its agents, employees, consultants, and any other parties associated with the scope of services described in this RFP.

A Certificate of Insurance must be provided to the District **at least five (5) days** prior to the execution of the Construction Contract. The Town must be named as an Additional Insured on a primary and non-contributory basis under the Contractor's Commercial General Liability policy. All insurance carriers must be licensed to conduct business in the State of Connecticut and must have an A.M. Best Rating of A- (VII) or higher.

The following minimum insurance coverages are required:

1. Workers' Compensation:
 - a. Workers' Compensation coverage as required by Connecticut law.
 - b. Employer's Liability insurance with limits of:
 - \$1,000,000 per accident
 - \$1,000,000 per disease policy limit
 - \$1,000,000 per disease per employee
2. Contractor's Liability:
 - a. General Aggregate: \$3,000,000
(Except products-completed operations)
 - b. Products-Completed Operations: \$1,500,000
(Aggregate)
 - c. Personal and Advertising Injury: \$1,500,000
(Per person/organization)
 - d. Each Occurrence: \$1,500,000
(Bodily injury and property damage)
 - e. Property Damage Liability: \$1,500,000
(Including collapse and underground coverages. If blasting is to be used, also include explosion coverage.)
3. Automobile Liability (for owned, hired, borrowed, and non-owned vehicles):
 - a. Bodily Injury:
 - Each Person \$1,000,000
 - Each Accident \$1,000,000
 - b. Property Damage:
 - Each Accident \$1,000,000

Or
 - c. Combined Single Limit:
Bodily injury and property damage:

- | | | |
|--|---------------|-------------|
| | Each Accident | \$2,000,000 |
|--|---------------|-------------|
4. Contractual Liability:
- | | | |
|----|--|-------------|
| a. | General Aggregate | \$3,000,000 |
| b. | Each Occurrence
(Bodily injury and property damage) | \$1,500,000 |
5. Umbrella/Excess Liability: Contractor shall, as a minimum, purchase and maintain excess liability insurance in the umbrella form with a combined single limit of not less than \$5,000,000 per claim and in the aggregate. Evidence of such excess liability shall be delivered to OWNER in the form of a certificate indicating the policy numbers and limits of liability of all underlying insurance.
6. Owner's Protective Liability Policy: The Contractor shall purchase and maintain a separate Owner's Protective Liability Policy naming the Town and the Engineer as "additional insureds," with the following minimum limits:
- | | | |
|----|-----------------------------------|-------------|
| a. | Bodily injury (each occurrence) | \$1,000,000 |
| b. | Property damage (each occurrence) | \$1,000,000 |
| c. | Annual Aggregate | \$3,000,000 |
7. Property Insurance: The Contractor shall purchase and maintain property insurance upon the Work at the site in the amount of the total insurable value of all structures, materials, and equipment to be built and installed. This insurance shall:
- | | |
|----|--|
| a. | Include the interests of Owner, Contractor, Subcontractors, Engineer, and Engineer's Consultants, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured. |
| b. | Be written as Builder's Risk Insurance with an "All Risk" Installation Floater that shall at least include insurance for physical loss and damage to the Work, temporary buildings, false work and Work in transit and shall insure against at least the following perils: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition |

occasioned by enforcement of Laws and Regulations, and water damage and be written in the completed value form.

- c. Include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).
- d. Cover materials and equipment in transit for incorporation in the Work or stored at the site or at another location that was agreed to in writing by the Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for payment recommended by Engineer.
- e. Be maintained in effect until final payment is made unless otherwise agreed to in writing by the Owner, Contractor, and Engineer with thirty days written notice to each other additional insured to whom a certificate of insurance has been issued.

8. Additional Insurance Requirements:

- a. If the aggregate limits of liability are not sufficient to cover all claims arising under this project, the Contractor shall amend the policies to ensure that the necessary limits are available.

5.4 COMPLIANCE WITH IMMIGRATION LAWS

- A. By submitting a bid, each Proposer confirms that it has complied, and during the term of the Construction Contract will comply with the Immigration Reform and Control Act ("IRCA") and that each person such Proposer employs and/or provides services through or under the Construction Contract will always be authorized for employment in the United States of America. Each Proposer confirms that it has or will have properly completed Employment Eligibility Verification, Form I-9, for each person who will be assigned to work on the Project or perform services under the Construction Contract and that it will require each subcontractor of the Proposer, if any, to confirm that it has a properly completed Form I-9 for each person who works on the Project or performs services under the Construction Contract.

5.5 WORKERS COMPENSATION

- A. Prior to Contract execution, the Town will require the tentative awarded Proposer to provide:
 - 1. Evidence of compliance with the workers' compensation insurance and self-insurance requirements of subsection (b) of the Connecticut General Statutes section 31-284, and
 - 2. A current statement from the State Treasurer that, to the best of her knowledge and belief, as of the date of the statement, the tentative awarded Proposer was not liable to the State for any workers' compensation payments made pursuant to Conn. Gen. Stat. § 31-355.

5.6 OSHA

- A. The Bidder will certify all equipment complies with all regulations and conditions stipulated under the Williams-Steiger Occupational Safety and Health Act of 1971, as amended. The successful Bidder will further certify that all items furnished under this project will conform and comply with Federal and State of Connecticut OSHA standards. The successful Bidder will agree to indemnify and hold harmless the District and Town of Southington for any and all damages that may be assessed against the District and Town of Southington regarding OSHA compliance.

5.7 METHOD OF DOING WORK

- A. The Contractor shall conduct the work in such a manner so as not to interfere with or willfully annoy District or Town employees and officials, including employees of public utilities, residents adjacent to the work, and the general public.
- B. The Contractor shall employ only competent employees to do work and whenever the District or Town shall notify the Contractor, in writing, that any employee on the work is, in the District's or Town's opinion, incompetent,

unfaithful, disorderly and otherwise unsatisfactory, such employee shall be discharged from the work and shall not again be employed on it, except with the consent of the District or Town. At the site of the work, the Contractor shall employ at all times while work is in progress, a construction superintendent or foreman who shall have full authority to act for the Contractor and who shall be acceptable by the District or Town.

- C. The District or Town reserves the right to require the Contractor to enter into such security arrangements and/or written contracts as deemed necessary to protect its property and goods and interests.

5.8 LIABILITY OF CONTRACTOR

- A. The Contractor shall at all times safely guard the District's and Town's property from injury or loss in connection with this contract. The Contractor shall at all times safely guard and protect the work and that of adjacent property (as provided by law and the contract documents) from damage. The Contractor shall take all responsibility for the work and take precautions for preventing injuries to persons and property in or about the work. The Contractor shall assume the defense of and indemnify and save harmless the District and the Town and its officers, agents, and employees from all claims relating to labor and materials furnished for the work, to inventions, patents and patent rights used in doing the work, or in consequence of any improper materials, implements or labor used therein and to any act, omission or neglect of the Contractor and his/her employees therein.
- B. The Contractor shall provide railing or suitable barricades as good safe practice requires as outlined in the latest revised edition of the Manual of Accident Prevention in Construction published by the Associated General Contractors of America and as required by the District or Town to prevent accidents or injury to persons, vehicles or animals. Signs warning the public of construction in the near vicinity shall be maintained at a reasonable distance from either end of the location of active construction or hazardous condition arising therefrom.

5.9 HOLD HARMLESS

- A. The Contractor shall defend, indemnify, and hold harmless the District and the Town of Southington, its officers, employees, agents or volunteers, from and against any and all claims and demands of any nature for any loss, damage or injury which any person may suffer by reason of, or in any way arising out of, this Agreement, unless caused by the sole negligence of the District or Town.

5.10 FEDERAL, STATE, AND LOCAL LAWS

- A. All applicable Federal, State and local laws, rules and regulations of all authorities having jurisdiction over the locality of the project shall apply to the contract and are deemed to be included herein. If the total amount of the project, including any current or future change orders, exceeds \$100,000.00 all work is to be done in accordance with Connecticut Department of Labor (CT-DOL) rules and regulations. More information may be obtained from: www.ctdol.state.ct.us.
- B. The Davis-Bacon and Related Acts, shall apply to contractors and subcontractors performing on federally funded or assisted contracts in excess of \$2,000.00 for the construction, alteration, or repair (including painting and decorating) of public buildings or public works. More information may be obtained from: <https://www.dol.gov/whd/govcontracts/dbra.htm>
- C. The District shall apply the most current wage decision applicable at the time of contract award.

5.11 PAYMENT PROCEDURES & PAYMENT PERIOD

- A. All payment requisitions submitted by the Contractor must clearly reference the State Project ID.
- B. The Contractor shall submit monthly payment requisitions using standard AIA format documents (e.g., AIA G702/G703) to the Project Manager for initial review. Upon verifying the completeness and accuracy of the requisition, the Project Manager will sign it as a mark of approval and forward the approved requisition to the Town for further processing.

- C. No payment, voucher, claim, or financial obligation shall be honored by the Town District without review and approval by the Director of Finance, who will determine the correctness and legality of the request.
- D. The Town District will use its best efforts to process and issue payment within thirty (30) calendar days of the latest of the following events:
 - 1. Delivery of materials or equipment,
 - 2. Acceptance of completed work, or
 - 3. Receipt of a properly completed and approved invoice.

Unless otherwise agreed upon in writing, payment terms shall be net thirty (30) days.

5.12 ASSIGNMENT OF CONTRACT

- A. The Contractor shall not sublet, sell, transfer, assign or otherwise dispose of the contract or any portion thereof or of the work provided for therein, or of his/her right, title, interest therein, to any person, firm, partnership or corporation without the written consent of the District. If any part of the work is sublet, sold, transferred, assigned or otherwise disposed of, the Contractor will not be relieved of any responsibility in connection therewith.

5.13 CONFLICT OF INTEREST

- A. No officer or employee or member of any elective or appointive board, commission, committee or council of the District or Town, whether temporary or permanent, shall have or acquire any financial interest gained from a successful bid, direct or indirect, in any project, matter, contract or business within his/her jurisdiction or the jurisdiction of the board, commission, committee or council of which he/she is a member. Nor shall the officer / employee / member have any financial interest, direct or indirect, in any contract or proposed contract for materials or services to be furnished or used in connection with any project, matter or thing which comes under his/her jurisdiction or the jurisdiction of the board, commission, committee or council of which he/she is a member.

5.14 CHANGE ORDER PROVISIONS

- A. This section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Minor changes in the work
 - 1. CSW will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or Contract Time, on the "Supplemental Instructions" form included in Project Manual.
- C. Owner-initiated proposal requests
 - 1. CSW will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 2. Work Change Proposal Requests issued by CSW are not instructions either to stop work in progress or to execute the proposed change.
 - 3. Within time specified in Proposal Request or 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.
- D. 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 CSW.

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.
 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 project schedule that indicates the effect of the change.
 6. Proposal Request Form: Use form included in Project Manual.
- B. Change order procedures and approvals
1. On Owner's approval of a Work Change Proposal Request, CSW will issue a Change Order for signatures of Owner and Contractor on the form included in Project Manual.
- C. Stipulated % of Overhead and Profit (OH&P) on Change Orders
1. The OH&P for the Contractor on a Change Order shall not exceed 10%.
 2. The OH&P for a subcontractor on a Change Order shall not exceed 10%, and the OH&P for the Contractor utilizing a subcontractor on a Change Order shall not exceed 5%.
 3. The total OH&P for all subcontractors and the Contractor on a Change Order shall not exceed 20%.

5.15 OCCUPANCY OF BUILDING, TIMING OF ACCESS AND WORK SCHEDULE

- A. Attention is directed to the fact that the existing building will be occupied by students and staff. Normal business hours are 7:00 am to 3:00 pm Monday to Friday. The students arrive and depart at 7:30 am and 2:15 pm, respectively. The school is occupied by facility personnel before and after school hours, and the Contractor will have access to the Site during the hours of the facility personnel.

- B. The Contractor shall perform all required work in a manner, form, schedule, and sequence, so that the normal occupancy of the building shall be maintained without causing any undue inconvenience or interruptions to the safety, use, and function of the buildings and occupants. The Contractor shall coordinate the work schedule with school staff.
- C. Electrical service shutdowns required for interconnection of the Projects shall be scheduled to have minimal impact on the facility's operation. A proposed shutdown schedule must be provided to the District for approval prior to start of work. Shutdowns may be required outside of normal business hours, and the Contractor may schedule work on the second shift to limit any conflict with the building occupants.
- D. Loading and staging of materials on the roof shall occur prior to the student's arrival unless previous written authorization is provided to the contractor.

5.16 EXISTING OCCUPANCY OF NEIGHBORING BUILDINGS

- A. Attention is directed to the fact that the existing Buildings surrounding the site are occupied and shall continue to be continuously occupied throughout the period required for the Contractor to perform the work.
- B. The Contractor shall perform all required work in a manner, form, schedule, and sequence, so that the normal occupancy of the surrounding buildings shall be maintained without causing any undue inconvenience or interruptions to the safety, use, and function of the Buildings and Tenants.

5.17 RIGHT OF DISTRICT TO TERMINATE CONTRACT

- A. If the work to be done under this Project Manual and Contract between the Contractor and the District shall be abandoned, or if at any time the District is of the opinion that the Contractor is willfully violating any of the conditions of this Project Manual and Contract or is not executing said Project Manual and Contract in good faith or that the work is unnecessarily delayed and will not be finished within the prescribed time, the District may notify the Contractor and Surety, in writing to that effect. If the Contractor does not, within five (5) business days thereafter, take such measures as will, in the judgment of the District, insure the satisfactory completion of the work aforesaid, the District shall have the power to notify the Contractor to discontinue all work or any

portion thereof, under this Project Manual and Contract. A copy of this Project Manual and Contract shall go to the surety.

- B. Thereupon the Contractor shall cease to continue said work, on such part thereof as the District shall designate. The District shall thereupon have the power to place such and so many persons as deemed proper, by contract or otherwise, to work at and complete the work herein described and to use such materials, tools, and appliances found upon the work or to procure other materials, tools, and appliances for the completion of the same and charge the expenses of said labor, materials, tools, and appliances to the Contractor; and the expense so charged shall be deducted and paid by the District out of such money as may be then due, or may at any time thereafter grow due to the Contractor under and by virtue of this agreement, or any part thereof; and in case the expense so charged is less than the sum which would have been payable under this contract if the same had been completed by the Contractor, the Contractor shall be entitled to receive the difference; and in case greater, the Contractor shall pay amount of such excess so due.

5.18 DRAWING CONFLICT

- A. In the event of conflict between the drawings (where provided) and specifications, the more stringent shall apply and be included in the contract.

5.19 EXAMINATION OF DOCUMENTS AND SITE OF WORK

- A. Before submitting a bid, each Proposer shall examine the drawings (where provided) carefully; shall read the specifications, drawings, and Exhibits to this Project Manual; shall read the proposed contract documents, and shall have the opportunity to visit the Project site. Each Proposer shall be fully informed prior to bidding as to existing conditions and limitations under which the Work is to be performed, and shall include in the bid a sum to cover the cost of items necessary to perform the Work set forth in the proposed contract documents. No allowance will be made to a Proposer because of lack of such examination or knowledge. The submission of a bid will be considered conclusive evidence that the Proposer has made such examination.

- B. Bidders must examine for themselves the plans, profiles, detail drawings, specifications, etc., and the location of the proposed work, and must exercise their judgment as to the nature and difficulty of the whole proposed undertaking. The Bidder must assume all risk or variance in any computation or statement by the contract, by whomsoever made and must agree to furnish all tools, machinery, material and labor to clean up, all debris and to complete fully the said work in accordance with the plans and contained either in the specifications or in any of the drawings but omitted from the other will be considered an essential part of the work. The Contractor whose bid is accepted will be responsible for every loss or error arising from ignorance concerning the requirements of the work or the difficulties to be encountered.

5.20 NON-CIRCUMVENT

- A. By submitting a proposal in response to this RFP, Proposer expressly agrees not to seek to develop any solar PV projects with the District outside of this RFP proposal or future RFPs with the District.

5.21 DEFINITIONS

- A. Whenever the words defined occur in this Project Manual and in the specifications hereto attached, they shall have the meanings here given:
1. Owner: The Owner shall mean the Town of Southington (Town) or any duly authorized official thereof acting in an official capacity.
 2. Contractor: Whenever the word "Contractor" is used in these specifications, it shall be understood to mean the person or persons, co-partnership or corporation, who has entered into this contract as the party of the second part, or his/her or their legal representative.
 3. Sub-Contractor: Any individual, firm, partnership, or corporation to whom the Contractor sublets or assigns any part or parts of the project covered by the contract with the approval of the Owner.

5.22 GENERAL TERMS AND CONDITIONS

- A. The General Terms and Conditions for all bids with the District and Town are found in Exhibit 14.

END OF DOCUMENT 00 1116

DOCUMENT 00 3116 PROJECT BUDGET INFORMATION**PART 1 - GENERAL****1.1 CT DAS GRANT FOR STATE PROJECT NO. 131-0131 PV**

- A. The Project is paid for in part by state funds provided by the Connecticut Department of Administrative Services, Office of Grant Administration, under State Project No. 131-0131 PV.

1.2 INELIGIBLE COSTS

- A. **Exhibit 15** includes FORM SCG-4000 (Ineligible Costs and Limited Eligible Costs Worksheet (ICW)) for the Project, and provides details on the ineligible costs for these projects. Specifically, the State of CT Education Fee on Permits (\$0.26c/\$1,000), is an ineligible cost.

END OF DOCUMENT 00 3116

DOCUMENT 00 4153 BID FORM – DESIGN/BUILD



SOUTHINGTON HIGH SCHOOL ROOFTOP SOLAR PHOTOVOLTAIC PROJECT

Bid No. 2026 - 001

State Project No. 131-0131 PV

Legal Name of Business	
Business Address	
Street	
City	
State	
Zip	
Phone	
Fax	
E-mail address	
Person Authorized to Sign (print)	
Title	
Signature of Authorized Person	

BID CHECK-LIST

- ☐ General firm information page (completed and signed)
- ☐ Addenda acknowledged (where issued)
- ☐ Bid Summary on Excel Bid Form in **Exhibit 10**
- ☐ Non-collusion Affidavit
- ☐ Production Information (estimated kWh-AC w/assumptions; 20-year production)
- ☐ Project Scope and Schedule (narrative and Gantt Chart)
- ☐ System Design and Equipment (design layout and details)
- ☐ Bidder Qualifications (narrative)
- ☐ Project Portfolio and References
- ☐ Firm Price & Life-cycle Costing (narrative)
- ☐ Bid Bond / Security (no exceptions)
- ☐ CHRO Compliance Forms
- ☐ CT DAS Pre-Qualification
- ☐ CT DAS Update Bid Statement

ACKNOWLEDGEMENT OF ADDENDUM(S)

The undersigned acknowledges receipt of the following Addenda to the Project Manual, listed by number and date:

Number ____, Dated: _____

Number ____, Dated: _____

Number ____, Dated: _____

Number ____, Dated: _____

Number ____, Dated: _____

Number ____, Dated: _____

Number ____, Dated: _____

Number ____, Dated: _____

Number ____, Dated: _____

Number ____, Dated: _____

Number ____, Dated: _____

Number ____, Dated: _____

Number ____, Dated: _____

Number ____, Dated: _____

Number ____, Dated: _____

Number ____, Dated: _____

(Signed): _____

(Title): _____

(Company): _____

(Date): _____

BID SUMMARY -- Sample Bid Form

Refer to **Exhibit 10** for Project Specific Bid Form in Excel Format that shall be submitted as part of the bid submission. Decisions will be made on the strength of the Proposer's overall bid.

Bidder Name	_____
Project Information	
Project Location	Southington High School
DAS State Project Number:	131-0131 PV
System Specifications	
System Size (kW-ac)	_____
System Size (kW-dc)	_____
Production (kWh-ac)	_____
Line Item Cost (\$)	
Module	\$ -
Inverter	\$ -
Rapid Shutdown Devices	\$ -
Racking Product	\$ -
Racking Subcomponents - Slipsheets	\$ -
Racking Subcomponents - Ballast Blocks	\$ -
Racking Subcomponents - Mechanical Attachments	\$ -
Monitoring	\$ -
Balance of System Components	\$ -
Engineering	\$ -
Permitting	\$ -
Interconnection	\$ -
General Conditions	\$ -
Overhead & Profit (OH&P)	\$ -
Construction - Electrical	\$ -
Construction - Site/Mechanical	\$ -
Total Project Cost	\$ -
Equipment Specifications	
Module - Manufacturer	_____
Module - Model & Wattage-DC	_____
Inverter - Manufacturer	_____
Inverter - Model & Wattage-AC	_____
Rapid Shutdown Device / DC Optimizer - Manufacturer/Model	_____
Racking - Manufacturer	_____
Racking - Model	_____
Data Acquisition System - Manufacturer/Model	_____

DOCUMENT 00 4519 NON-COLLUSION AFFIDAVIT**AFFIDAVIT**

(Prime Proposer)

State of _____)

ss

County of _____)

_____, being first duly sworn,
deposes and says:

1. That he/she is a () Partner; () Officer; () Owner of the firm of:
_____, the
party making the foregoing proposal or bid;
2. He/she is fully informed respecting the preparation and contents of the attached proposal or bid and all circumstances regarding the same;
3. Said proposal or bid is genuine and is not a collusive or sham proposal or bid;
4. Neither the said Proposer nor any of its officers, partners, owners, agents, representatives, employees, or parties-in-interest, including this affiant has in any way colluded, conspired, connived or agreed, directly or indirectly, with any Proposer, or person, to put in a sham bid or to refrain from bidding, and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person, to fix the bid price or affiance or of any other Proposer, or to fix any overhead, profit or cost element of said bid price, or of that of any other Proposer, or to secure any advantage against the Town or any person interested in the proposed contract;
5. The price or prices quoted in the attached proposal or bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of this Proposer or any of its agents, representatives, owners, employees, or parties-in-interest, including this affiant; and
6. All statements in said proposal or bid are true.

(Signed): _____

(Title): _____

Subscribed and sworn to before me

This ____ day of _____, 20 ____.

Notary Public

My Commission expires _____, 20 ____.

END OF DOCUMENT 00 4519

DOCUMENT 00 5253 AGREEMENT FORM – OWNER-DESIGN/BUILDER – STIPULATED SUM**1.1 AGREEMENT FORM – OWNER-DESIGN/BUILDER – STIPULATED SUM**

- A. After the District issues a Preliminary Notice of Selection to the Proposer, the District and the selected Proposer will enter into a Construction Contract that
 - 1. Reflects, acknowledges, and encompasses all of the provisions, conditions, statements, attachments, and materials in and associated with this Project Manual;
 - 2. Reflects, acknowledges, and encompasses all of the provisions, conditions, statements, attachments, and materials in and associated with the awarded Proposer's Bid Form submitted in response to this RFP; and
 - 3. Is based in whole or in part on AIA Document A141, "Standard Form of Agreement Between Owner and Design-Builder – 2014 edition," or similar mutually agreeable industry standard construction contract suitable for use between an Owner and Design/Builder for a stipulated sum.
- B. A Sample AIA Form A141 – 2014 Edition is attached hereto as **Exhibit 16** for general information. It is also available at <https://shop.aiacontracts.com/contract-documents/20736-owner-design-builder-agreement>
- C. The selected Proposer and the District will work collaboratively to submit the Construction Contract documents for approval by the BOE and the Town of Southington **within forty-five (45) days** of the selected Proposer's preliminary selection by the District.
- D. The selected Proposer shall execute the Construction Contract **within ten (10) days** of the approval by the BOE and the Town, and thereby become a Contractor.

END OF DOCUMENT 00 5253

DOCUMENT 00 6333 SUPPLEMENTAL INSTRUCTION FORM

Supplemental Instructions No. _____

To: _____

Date: _____

From: CSW Energy

Project No. _____

Project: _____

The Work shall be carried out in accordance with the following supplemental instructions issued in accordance with the Contract Documents without change in Contract Sum or Contract Time. Prior to proceeding in accordance with these instructions, indicate your acceptance of these instructions for minor change to the Work as consistent with the Contract Documents and return a copy to the Project Manager, CSW Energy.

Item:	Description of Revisions:
-------	---------------------------

Issued:

Accepted:

By:

By:

END OF DOCUMENT 00 633

DOCUMENT 00 6357 CHANGE ORDER REQUEST FORM

Change Order Request No. _____

To: CSW Energy

Date: _____

From: _____

Project No. _____

Project: _____

Please submit an itemized quotation for changes in the Contract Sum and/or Time incidental to proposed modifications to the Contract Documents described herein.

This is not a Change Order or a directive to proceed with the following work.

Item:	Description of Revisions:
-------	---------------------------

End of Change Order Request

END OF DOCUMENT 00 6357

DOCUMENT 00 6363 CHANGE ORDER FORM

Change Order No. _____

To: CSW Energy

Date: _____

From: _____

Project No. _____

Project: _____

The Construction Contract is changed as follows: [brief narrative]

The original Contract Sum was \$ _____

The net change by previously authorized Change Orders \$ _____

The Contract Sum prior to this Change Order was \$ _____

The new Contract Sum will be increased/decreased/unchanged by this
Change order in the amount of \$ _____

The new Contract Sum, including this Change Order, will be \$ _____

The Contract Time will be increased/decreased/unchanged by (_____) days

When executing this Change Order, the Design-Builder represents that all changes to Project design implemented by this Change Order have been reviewed and approved in writing by the Project Manager of record for the Project.

NOT VALID UNTIL SIGNED BY THE DESIGN-BUILDER AND OWNER

DESIGN-BUILDER (*Firm Name*)

OWNER

ADDRESS

ADDRESS

BY (*Signature*)

BY (*Signature*)

(*Typed name*)

(*Typed name*)

DATE

DATE

End of Change Order

END OF DOCUMENT 00 6363

EXHIBIT LIST

Exhibit 1: CHRO Contract Compliance Regulations Notification to Bidders

Exhibit 2: Current Prevailing Wages, Guidance and Forms

Exhibit 3: Interconnection Design Set

Exhibit 4: Contingent Approval for Interconnection

Exhibit 5: Structural Assessment

Exhibit 6: Photos of the existing utility transformer

Exhibit 7: Overall Roof Plan

Exhibit 8: Electrical Specifications

Exhibit 9: Roof Warranty

Exhibit 10: Bid Form

Exhibit 11: Form SCG-3022

Exhibit 12: Form SCG-3034

Exhibit 13: Form SCG-042

Exhibit 14: General Terms and Conditions

Exhibit 15: FORM SCG-4000

Exhibit 16: AIA Form A141

END OF PROJECT MANUAL

EXHIBIT 1

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.

2) Description of Job Categories (as used in Part IV Bidder Employment Information) (Page 2)

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.

3) Definition of Racial and Ethnic Terms (as used in Part IV Bidder Employment Information) (Page 3)

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 1 – 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 is certified as above by State of CT? Yes ☐ No ☐
Bidder Parent Company: (If any)	
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 ☐ N/A ☐
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 ☐ N/A ☐
6. Does your company have a collective bargaining agreement with workers? Yes ☐ No ☐ 6a. If yes, do the collective bargaining agreements contain non-discrimination 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:

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 (X)		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			
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)
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**STATE OF CONNECTICUT
COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES**

NOTICE CONCERNING CONTRACT COMPLIANCE RESPONSIBILITIES

TO ALL LABOR UNIONS, WORKERS REPRESENTATIVES AND VENDORS:

Any contract this contractor has with the State of Connecticut or political subdivisions of the state, other than municipalities, shall be performed in accordance with CONN. GEN. STAT. Section 4a-60 and Section 4a-60a.

This means that this contractor:

1. Agrees to provide the Commission on Human Rights and Opportunities (CHRO) with any information concerning this contractor's employment practices and procedures which relates to the Commission's responsibilities under CONN. GEN. STAT. Sections 4a-60 or 46a-56 or Section 4a-60a.; and
2. Agrees to include the provisions of CONN. GEN. STAT. Section 46a-60(a) and Section 4a-60a in each and every subcontract and purchase order and to take whatever action the CHRO deems necessary to enforce these provisions.

WITH REGARD TO RACE, COLOR, RELIGIOUS CREED, AGE, MARITAL STATUS, NATIONAL ORIGIN, ANCESTRY, SEX, MENTAL RETARDATION OR PHYSICAL DISABILITY, this means that this contractor:

1. Shall not discriminate or permit discrimination against anyone;
2. Shall take affirmative action so that persons applying for employment are hired on the basis of job-related qualifications and that employees once hired are treated without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, mental retardation or physical disability, unless the contractor can show that the disability prevents performance of the work involved;
3. Shall state in all advertisements for employees that it is an affirmative action-equal opportunity employer;
4. Shall comply with CONN. GEN. STAT. Sections 4a-60, 46a-68e and 46a-68f and with each regulation or relevant order issued by the CHRO under CONN. GEN. STAT. Sections 46a-56, 46a-68e and 46a-68f; and
5. Shall make, if the contract is a public works contract, good faith efforts to employ minority business enterprises as subcontractors and suppliers of materials.

WITH REGARD TO SEXUAL ORIENTATION, GENDER IDENTITY OR EXPRESSION:

1. The contractor will not discriminate or permit discrimination against anyone, and employees will be treated without regard to their sexual orientation, gender identity or expression once employed; and
2. The contractor agrees to fully comply with Section 4a-60a and each regulation or relevant order issued by the CHRO under CONN. GEN. STAT. Section 46a-56.

Persons having questions about this notice or their rights under the law are urged to contact the:

COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES
AFFIRMATIVE ACTION AND CONTRACT COMPLIANCE
UNIT

450 Columbus Boulevard, Suite 2
Hartford, CT 06103
(860) 541-4709

COPIES OF THIS NOTICE SHALL BE POSTED IN CONSPICUOUS PLACES
AVAILABLE TO ALL EMPLOYEES AND APPLICANTS FOR EMPLOYMENT

BID LANGUAGE (for DAS Contracting Portal Bid Notice)

This contract is subject to state contract compliance requirements, including non-discrimination statutes and set-aside requirements. 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. The contractor must demonstrate good faith effort to meet the 25% set-aside goals.

BID NOTICE LANGUAGE (for print media)

This contract is subject to state set-aside and contract compliance requirements.

BID LANGUAGE (for bid documents)

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 for award to subcontractors holding current certification from the Connecticut Department of Administrative Services (“DAS”) under the provisions of CONN. GEN. STAT. § 4a-60g. (25% of the work with DAS certified Small and Minority owned businesses and 25% of that work with DAS certified Minority, Women and/or Disabled owned businesses.) The contractor must demonstrate good faith effort to meet the 25% set-aside goals.

For municipal public works contracts and quasi-public agency projects, the contractor must file a written or electronic non-discrimination certification with the Commission on Human Rights and Opportunities. Forms can be found at:

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



State of Connecticut COMMISSION ON HUMAN RIGHTS AND OPPORTUNITIES

Central Office ~ 25 Sigourney Street, Hartford, CT 06106

Promoting Equality and Justice for all People

Effective January 1, 2015 a new temporary policy was put in to place to address the 2% retainage on Public Works projects. All requests must be made via email by the Requestor (Awarding Agency/Construction Manager at Risk) and sent to Kristen Daniels at kristen.daniels@ct.gov. Due to the volume of requests, emails received from anyone other than the Requestor will not receive a response. Please be patient as we undoubtedly will receive numerous requests at one time. Thank you in advance for your patience and cooperation.

Dear Awarding Agency/CMR:

A temporary policy and practice related to the 2% retainage on Public Works' projects has been put into place while the Commission on Human Rights and Opportunities (CHRO) works diligently to eliminate its backlog. If an Affirmative Action/Set-Aside Plan has been timely submitted and the CHRO has not had an opportunity to fully review and approve, disapprove or conditionally approve an Affirmative Action Plan (AAP) or Set-Aside Plan (SAP) within 120 days, the following procedures will be utilized until further notice by CHRO:

1. Requestor should send an email to CHRO indicating the Requestor's Prime has a Plan that was submitted 120 days ago which has not been reviewed by the Commission. Further, the requestor should request a release of the 2% retainage.
 - a. For Projects considered a "\$20 Million Project", the Construction Manager at Risk (CMR) is the Requestor (a copy of the request should also be sent to the Awarding Agency)
 - b. For Projects over \$50,000 but not considered a "\$20 Million Project", the Awarding Agency is the Requestor
2. CHRO may issue written notification to the Awarding agency to release the 2% based on the Requestor's Prime agreeing to comply with all CHRO requests for documentation (including close-out documents, reporting, etc.) through the close-out of the project file at CHRO.
3. Once the written agreement by the Requestor's Prime has been received, CHRO will then notify the Awarding Agency to release the 2%.
4. The Awarding Agency may then release the 2%.

NOTE 1: It is expected that once released of the 2% retainage, the Requestor's Prime will also release the 2% retainage on all subcontractors who have completed their portion of the project (100%).

NOTE 2: There will be no file close-out at CHRO until all close-out documents, reporting, etc. have been received by CHRO.

Effective: January 1, 2015

A Set-Aside Plan (SAP) is used when:

- A company employs less than 50 people and the state-funded contract value is \$50,000.00 - \$499,999.99
- Any Prime on a CMR project, regardless of company size or contract value (CMR = Construction Manager at Risk)

An Affirmative Action Plan (AAP) is used when:

- A company employs less than 50 people and the state-funded contract value is \$500,000.00 or more
- A company employs 50 or more people, regardless of contract value
- A CMR on a CMR project, regardless of company size or contract value (CMR = Construction Manager at Risk)

If you have any questions, please contact the Contract Compliance Unit at (860) 541-3449.

**Checklist for Municipalities
For Contracting
Effective October 1st, 2015**

- ☐ Post the bid notice with [CHRO language](#) included
- * You do not have to have your bid documents pre-approved by CHRO prior to going out to bid
- ☐ Provide bid documents to bidders with CHRO language included ([Notification to Bidders/Contract Compliance Monitoring Report](#))
- ☐ Check CHRO website for [contractor non-discrimination affidavit list](#)
- * Non-Discrimination Affidavit must be current prior to contract award
- ☐ Check with [CT Law Journal](#) and the [Department of Labor](#) to ensure contractor is not debarred
- ☐ Send either Notification of Contract Award or Intent to Award Contract Notice to selected bidder and copy to CHRO (email Alvin.Bingham@ct.gov)
 - ☐ \$50,000.00 to \$499,999.99 [Notification of Contract Award](#)
 - ☐ \$500,000.00 equal to or greater than [Intent to Award Contract Notice](#)
- ☐ Execute contract with [non-discrimination and set-aside language](#)
 - ☐ \$50,000.00 to \$499,999.99 when awarded
 - ☐ \$500,000.00 equal to or greater than only when:
 - ☐ Contractor has submitted an approved Affirmative Action Plan to CHRO **OR**
 - ☐ Request [authorization from CHRO to execute contract](#) and retain 2% per month of the total contract value until contractor has submitted an approved Affirmative Action Plan to CHRO and CHRO has granted approval
- * Please seek confirmation from your contractor that they have submitted their plan to CHRO; if a contractor's plan is not received the contractor's failure to submit may be reported to our Legal Department

For Contracts Equal to or Greater than \$500,000.00

The contract cannot be awarded without an approved Affirmative Action Plan OR authorization from CHRO to award and retain 2%

- ☐ Contact CHRO AA/CC Unit to request authorization to execute the contract prior to the contractor's Affirmative Action Plan being approved (email Alvin.Bingham@ct.gov)
- ☐ Execute Contract when CHRO gives approval to do so, within two (2) business days
- ☐ Retain 2% of the total state-funded portion of the contract per month until CHRO approves the contractor's Affirmative Action Plan
- ☐ The municipality receives written notice from CHRO to release the 2% retainage
- ☐ Release the 2% retainage to the contractor

EXHIBIT 2



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.



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.

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. RESILIENT 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, fascia, 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) 263-6790.

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.

Sec. 31-53b. Construction safety and health course. New miner training program. Proof of completion required for mechanics, laborers and workers on 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 (g) 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 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

(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, 2009, 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 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.

(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.)

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.

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 ULTIMATELY ARISE CONCERNING THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.

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): _____

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): _____

[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										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		DAY AND DATE						Total ST Hours	BASE HOURLY RATE	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS				GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY								
						S	M	T	W	TH	F	S				Total O/T Hours	FICA	FEDERAL WITH- HOLDING	STATE WITH- HOLDING			LIST OTHER							
				Trade License Type & Number - OSHA 10 Certification Number		HOURS WORKED EACH DAY						TOTAL FRINGE BENEFIT PLAN CASH																	
												\$ 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												*IF REQUIRED																	
WWS-CP1												*SEE REVERSE SIDE												PAGE NUMBER ____OF					

***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 person 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 person 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 person 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 persons name first appears.

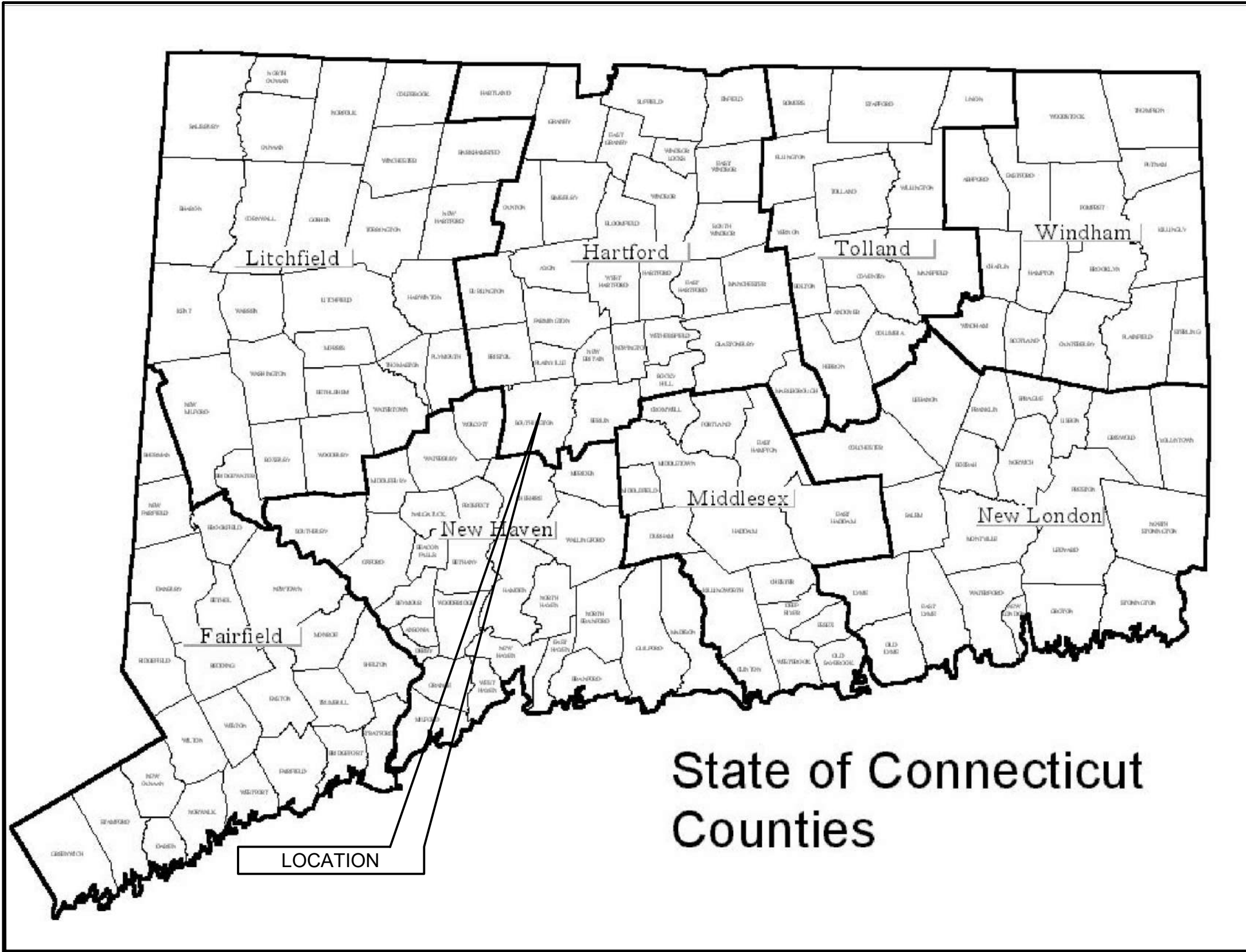
(Signature)

(Title)

Submitted on (Date)

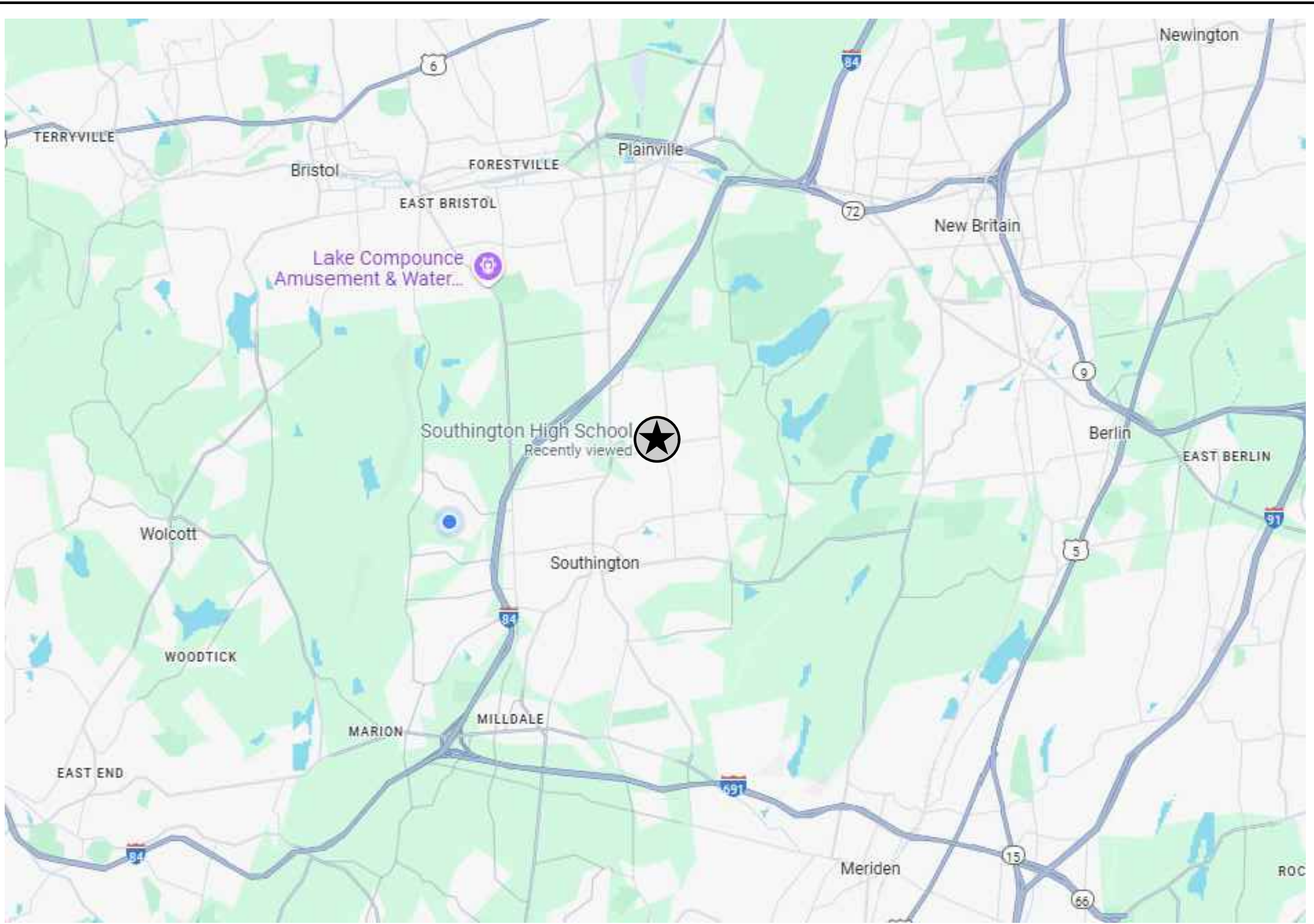
Weekly Payroll Certification For Public Works Projects (Continued)				PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS										Week-Ending Date: Contractor or Subcontractor Business Name:					
WEEKLY PAYROLL																			
PERSON/WORKER, ADDRESS and SECTION	APPR RATE %	MALE/ FEMALE AND RACE*	WORK CLASSIFICATION	DAY AND DATE						Total ST Hours	BASE HOURLY RATE	TYPE OF FRINGE BENEFITS Per Hour 1 through 6 (see back)	GROSS PAY FOR ALL WORK PERFORMED THIS WEEK	TOTAL DEDUCTIONS				GROSS PAY FOR THIS PREVAILING RATE JOB	CHECK # AND NET PAY
				S	M	T	W	TH	F	S									
			Trade License Type & Number - OSHA 10 Certification Number								Total O/T Hours			TOTAL FRINGE BENEFIT PLAN CASH					
				HOURS WORKED EACH DAY															
											\$ Base Rate	1. \$ 2. \$ 3. \$							
											\$ Cash Fringe	4. \$ 5. \$ 6. \$							
											\$ Base Rate	1. \$ 2. \$ 3. \$							
											\$ Cash Fringe	4. \$ 5. \$ 6. \$							
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											\$ Cash Fringe	4. \$ 5. \$ 6. \$							
											\$ Base Rate	1. \$ 2. \$ 3. \$							
											\$ Cash Fringe	4. \$ 5. \$ 6. \$							
*IF REQUIRED																			
12/9/2013 WWS-CP2																			
NOTICE: THIS PAGE MUST BE ACCOMPANIED BY A COVER PAGE (FORM # WWS-CP1)																			
PAGE NUMBER ____ OF																			

EXHIBIT 3



LOCATION MAP
SCALE: N.T.S.

ROOFTOP PV ARRAY INSTALLATION AT:



VICINITY MAP
SCALE: N.T.S.

SOUTHINGTON HIGH SCHOOL 720 PLEASANT STREET SOUTHINGTON, CT 06489

APPLICABLE CODES

NATIONAL ELECTRIC CODE - 2020
ARTICLE 230 - SERVICES
ARTICLE 240 - OVERCURRENT PROTECTION
ARTICLE 250 - GROUNDING AND BONDING
ARTICLE 300 - WIRING METHODS
ARTICLE 310 - CONDUCTORS
ARTICLE 690 - SOLAR PHOTOVOLTAIC SYSTEMS
ARTICLE 705 - INTERCONNECTED ELECTRIC POWER PRODUCTION SOURCES

PV SYSTEM INFORMATION

SYSTEM SIZE (DC): 709.020 kW STC + BIFACIAL GAIN
SYSTEM SIZE (AC): 600.000 kW / 600.000 kVA

INVERTER QUANTITY: 10
INVERTER TYPE: CPS SCA60KTL-DO/US-480 (60 KWAC)
MODULE QUANTITY: 1,313
MODULE TYPE: LONGI LR5-72HBD-540M (540W STC + BIFACIAL GAIN)
RACKING TYPE: TBD BY CSW
RAPID SHUTDOWN DEVICES: APSMART RSD

UTILITY INFORMATION

COMPANY: EVERSOURCE
ACCOUNT NUMBERS: 5135-165-3076 (MAIN BUILDING)
5173-089-3047 (FRESHMAN BUILDING)
METER NUMBERS: 890669052 (MAIN BUILDING)
890669042 (FRESHMAN BUILDING)

PROJECT DESCRIPTION

THIS INSTALLATION CONSISTS OF A UTILITY INTERACTIVE SOLAR PHOTOVOLTAIC SYSTEM AT A SCHOOL BUILDING IN SOUTHINGTON, CONNECTICUT. THE PV SYSTEM IS COMPRISED OF MODULES MOUNTED ON THE ROOF OF BUILDING. THE PV SYSTEM ALSO INCLUDES INVERTERS LOCATED ON THE ROOF OF THE BUILDING. THE AC INVERTER OUTPUT POWER IS FED THROUGH AN AC COMBINER PANEL, DISCONNECT SWITCHES AND UTILITY METER TO THE POINT OF CONNECTION AT AN EXISTING UTILITY TRANSFORMER.

DRAWING LIST

N/A	COVER SHEET
PV-1	THREE-LINE DIAGRAM
PV-2	OVERALL SITE PLAN
PV-3	OVERALL ROOF PLAN
PV-9	EQUIPMENT DATA SHEETS

DOCUMENTS BY OTHERS

RACKING MANUFACTURER DRAWINGS
STRUCTURAL ENGINEERING CALCULATIONS

REVISIONS:

01-15-2025:	INTERCONNECTION APPLICATION
02-13-2025:	INTERCONNECTION APPLICATION REVISION #1
02-24-2025:	INTERCONNECTION APPLICATION REVISION #2



cswenergy.com



sgedesign.com



Shall Trip Function	Required Settings	
	Voltage (p.u. of nominal voltage)	Clearing Time(s)
OV2	1.20	0.16
OV1	1.10	2.0
UV1	0.88	2.0
UV2	0.90	1.1

Shall Trip Function	Required Settings	
	Frequency (Hz)	Clearing Time(s)
OF2	62.0	0.16
OF1	61.2	300.0
UF1	58.5	300.0
UP2	56.5	0.16

Voltage Range (Φ_{-V})	Operating Mode/ Response	Minimum Hold-through Time(t_{H}) (design criteria)	Maximum Response Time(t_{R}) (design criteria)
$V > 1.20$	Cease to Energize	N/A	0.16
$1.175 < V \leq 1.20$	Permissive Operation	0.2	N/A
$1.15 < V \leq 1.175$	Permissive Operation	0.5	N/A
$1.10 < V \leq 1.15$	Permissive Operation	1	N/A
$0.88 < V \leq 1.10$	Continuous Operation	infinite	N/A
$0.65 < V \leq 0.88$	Mandatory Operation	Linear slope of 6.7 $\mu\text{V/s}$ voltage starting at $t_{\text{H}} = 0.05 \mu\text{s}$; $T_{\text{TR}} = 3 \text{ s}$, $\frac{0.7}{0.65} (V - 0.65 \mu\text{V})$	N/A
$0.45 < V \leq 0.65$	Permissive Operation*	0.32	N/A
$0.30 < V \leq 0.45$	Permissive Operation*	0.16	N/A
$V < 0.30$	Cease to Energize	N/A	0.16

Frequency Range (Hz)	Operating Mode	Minimum Time(s) (design criteria)
$f > 62.0$	No ride-through requirements apply to this range	
$61.2 < f \leq 61.8$	Mandatory Operation	299
$58.8 \leq f \leq 61.2$	Continuous Operation	Infinite
$57.0 \leq f < 58.8$	Mandatory Operation	299
$f < 57.0$	No ride-through requirements apply to this range	

Function	Default Activation State
SPF, Specified Power Factor	OFF ²
Q(V), Volt-Var Function with Watt or Var Priority	OFF
SS, Soft-Start Ramp Rate	ON
	Default value: 2% of maximum current output per second
FW, Freq-Watt Function OFF	OFF

NOTE - INVERTERS TO BE SET TO ISO NE COUNTRY CODE TO COMPLY WITH GRID PROTECTION SETTINGS

1. INSTALL A COMPLETE AND OPERATIONAL SOLAR PHOTOVOLTAIC SYSTEM INCLUDING THE RECONNECTION OF ANY EXISTING ELECTRICAL EQUIPMENT DISTURBED DURING SOLAR PHOTOVOLTAIC ARRAY INSTALLATION.
2. THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL LOCATION AND ARRANGEMENT OF THE SOLAR PV SYSTEM. THEY DO NOT SHOW ALL MATERIALS NEEDED. CONTRACTOR IS REQUIRED TO PROVIDE ANY AND ALL CONDUITS, CONNECTORS, SWEEDS, SUPPORTS, BENDS, FITTINGS, HANGERS, COVERS AND ALL ADDITIONAL SUPPLIES AND MATERIALS WHICH THE CONTRACTOR MUST PROVIDE TO COMPLETE THE SOLAR PV SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC).
3. THE DEFINITION OF ELECTRICAL TERMS USED SHALL BE AS DEFINED STATES' ADOPTED EDITION OF THE NEC.
4. THE TERM "SIZE" SHALL MEAN ONE OR MORE OF THE FOLLOWING: "LENGTH, CURRENT AND VOLTAGE RATING, NUMBER OF POLES, NEMA SIZE, AND OTHER SIMILAR ELECTRICAL CHARACTERISTICS".
5. CONTRACTOR IS REQUIRED TO SURVEY AND INSPECT ALL AREAS PRIOR TO PERFORMING SERVICES TO ENSURE CLEARANCES CAN BE MET AND NO INTERFERENCES EXIST. NO CUTTING OR DRILLING IS TO BE PERFORMED WITHOUT EQUIVALENT TO LOCATING EXISTING STRUCTURAL MEMBERS AND UTILITIES.
6. SERVICE ENTRANCE RATED EQUIPMENT, C/T CABINETS, AND METER SOCKETS ARE TO BE APPROVED FOR USE BY THE LOCAL UTILITY COMPANY.
7. ELECTRICAL EQUIPMENT INSTALLED MUST BE LABELED, UL LISTED, AND INSTALLED ACCORDINGLY.
8. REQUIRED PERMITS AND INSPECTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE COORDINATED WITH THE AUTHORITY HAVING JURISDICTION (AHJ).
9. ALL WORK IS TO BE PERFORMED BY LICENSED & QUALIFIED WORKMEN AND COMPLETED IN ACCORDANCE WITH THE STATES' ADOPTED NEC.
10. ALL PENETRATIONS THROUGH FIRE AND SMOKE RATED PARTITIONS MUST BE SEALED WITH A FIRE RATED PENETRATION EQUIVALENT TO THE PARTITION RATED FOR PENETRATIONS.
11. THE SOLAR PV SYSTEM EQUIPMENT ON THE DC SIDE IS RATED FOR 1000V AND IS IN COMPLIANCE WITH THE NEC. THE INVERTERS, MODULOS, STRING FEEDERS, AND RELATED COMPONENTS ARE ALL RATED AND LABELED AS 1000V.
12. CONTRACTOR SHALL SUBMIT A FORMAL RFI (REQUEST FOR INFORMATION) FOR ANY CONFSION OR DISCREPANCY BETWEEN THE DRAWINGS AND THE SPECIFICATIONS PRIOR TO ANY INSTALLATION. DEVIATIONS WITHOUT APPROVAL FROM SOLAR DEVELOPER OR THE ENGINEER OF RECORD.
13. EMT CONDUIT IS ALLOWED IN EXTERIOR LOCATIONS WHEN RAIN-TIGHT CONNECTORS AND FITTINGS ARE USED, AND THE CONDUIT IS NOT EXPOSED TO ANY POTENTIAL PHYSICAL DAMAGE. ALL STRAPS, BOLTS, STRAPS, AND SCREWS SHALL BE CORROSION RESISTANT.
14. ALL RACEWAYS ARE TO BE METALLIC UNLESS OTHERWISE NOTED. APPLY AN ADHESIVE LABEL ON RACEWAYS ACCORDING TO THE DETAIL SHEET.
15. ALL METALLIC CONDUITS SHALL HAVE BOND BUSHINGS ON BOTH ENDS AND EQUIPMENT GROUNDING CONDUCTORS (EGC) ROUNDED THROUGH CONDUIT.
16. BARE COPPER GROUNDING CONDUCTORS SHALL BE SIZED PER NEC. EQUIPMENT GROUNDING CONDUCTORS (EGC) SHALL BE INSTALLED IN CONDUIT PER NEC 690.4(C3).
17. ALL CONDUCTORS SHALL BE LISTED FOR USE IN APPROPRIATE RACEWAY.
18. ALL BREAKERS INSTALLED AS PART OF THE NEW SOLAR PV SYSTEM MUST BE RATED FOR REVERSE FEED.
19. COMMUNICATION CABLES INSTALLED BETWEEN MONITORING EQUIPMENT AND CLIENT NETWORK EQUIPMENT (SERVERS, SWITCHES, ETC.) SHALL HAVE A GREEN OUTER JACKET. CABLES SHALL HAVE CABLE TAGS INSTALLED AT BOTH ENDS OF CABLE TO SHOW PROPER IDENTIFICATION.
20. CONTRACTOR SHALL TORQUE TEST ALL FIELD TERMINATED WIRES PER MANUFACTURERS' SPECS AND PROVIDE PERMANENT MARKINGS ACROSS THE BOLT AND WASHER INDICATING ACHIEVED TORQUE.
21. POLARIS SPECS SHALL NOT BE USED ON THIS PROJECT.
22. PROVIDE EQUIPMENT WITH MINIMUM 75° C TERMINATION RATINGS. 60° C TERMINATION RATINGS ARE NOT ACCEPTABLE.
23. CONNECTORS FOR RAPID SHUTDOWN DEVICES & MODULES MUST BE STAUBLI MCA CONNECTORS.
24. COPPER CONDUCTORS ON AC OUTPUT CIRCUITS ARE REQUIRED.
25. AC OUTPUT CIRCUITS MUST USE COMPRESSION LUGS. NO MECHANICAL LUGS ARE ALLOWED.
26. SLIP SHEETS SHALL BE INSTALLED BETWEEN THE ROOF MEMBRANE AND ANY POINTS OF CONTACT WITH THE SOLAR EQUIPMENT (E.G. RACKING, CONDUIT SUPPORTS, ETC.)

1. EVERSOURCE PRIMARY FEED TO EXISTING TRANSFORMER IS TO REMAIN.
2. EXISTING EVERSOURCE PAD MOUNTED TRANSFORMER TO REMAIN.
3. CONNECT PV SYSTEM TO EXISTING TRANSFORMER SECONDARY LUGS. EVERSOURCE TO CONFIRM ADEQUATE LUG CAPACITY.
4. PROVIDE AN NRES METER SOCKET (FORM 95, 13 TERMINAL, WITH BYPASS TEST SWITCH) IN LOCATION INDICATED ON PV-2. PURCHASE METER FROM EVERSOURCE.
5. INSTALL GROUNDING CONDUCTOR ON AC SIDE OF INVERTER AND CONNECT TO GROUND BAR IN UPSTREAM EQUIPMENT. REFER TO DETAIL 2 ON PV-8.
6. INSTALL AC DISCONNECT SWITCH AS INDICATED IN PV EQUIPMENT SCHEDULE. AC DISCONNECT SWITCH SHALL BE LOCATED IN THE CLOSEST LOCATION TO THE LUGS LOCABLE IN THE OPEN POSITION AND HAVE PROVISIONS FOR BOTH COMPANY AND CUSTOMER PADLOCKS. MOUNT DISCONNECT SWITCH TO THE WALL WITHIN ON DRAWING PV-2. PROVIDE SPARE SET OF FUSES INSIDE DISCONNECT D-1 ENCLOSURE.
7. PROVIDE AN NRES INSTRUMENT RACKING CABINET. INCLUDING ASSOCIATED CTS AND PT'S AS INDICATED IN EQUIPMENT SCHEDULE ON THIS DRAWING, PER EVERSOURCE STANDARDS. DISCONNECT SWITCH SHALL FACE AWAY FROM THE PV ARRAY, POINTING TOWARDS DISCONNECT SWITCH D-1.
8. MOUNT WEATHER STATION IN LOCATION INDICATED ON PV-3A. PROVIDE AND CONNECT ALL SENSORS, INCLUDING SOLAR IRRADIANCE & MODULE TEMPERATURE.
9. INSTALL CABLE 6 CTS AND CONDUIT TO A CELLULAR MODULE.
10. INSTALL THREE (3) CTS FOR SYSTEM OWNER'S METERING. CTS WILL BE PROVIDED AS PART OF THE SYSTEM OWNER'S METERING PACKAGING. PROVIDE WIRING TO SYSTEM OWNER'S METER PER MANUFACTURER'S INSTRUCTIONS. (SEE DETAIL CHART DOWNSIDE INVERTER).
11. STRING 18 CONDUIT, REFERRED TO PV-3 FOR STRING WIRE CONFIGURATION & ROUTING. NOTE TWO MODULAR INVERTERS TO BE INSTALLED PER STRING. PROVIDE TWO (2) INVERTERS PER STRING. NOTE ON DRAWING PV-3. RSD'S SHALL BE INSTALLED UNDER MODULES ON ROOF.
12. INSTALL INVERTER AS INDICATED IN THE EQUIPMENT SCHEDULE ON THIS DRAWING. REFER TO THE "INVERTER INFORMATION" ON THIS DRAWING FOR ADDITIONAL INFORMATION.
13. INSTALL BE EQUIPMENT GROUNDING CONDUCTOR AND BOND TO ALL PV ARRAY FRAMES. RACKING AND MODULE MOUNTING CONDUCTOR BACK TO DC GROUNDING BAR INSIDE INVERTER. REFER TO DETAIL 2 ON PV-8.
14. INSTALL PANELBOARD 7P-1 AS INDICATED IN EQUIPMENT SCHEDULE ON THIS DRAWING.
15. REMOVE EXISTING UTILITY REVENUE METER SOCKET LOCATED INDOORS. PROVIDE A NEW REVENUE METER SOCKET ON THE EXTERIOR WALL, AND A 1-1/2"X20 CONDUIT (WITH PULLSTRING) TO THE EXTERIOR SOCKET. PROVIDE A NEW REVENUE METER SOCKET IN THE BUILDING. SEE DRAWING PV-2 FOR NEW SOCKET LOCATION. TO BE GROUPED WITH NRES METER.

	INVERTER
MANUFACTURER	CHINT POWER SYSTEMS
MODEL #	SCA605KTL-DOUS-480
STRINGS PER INVERTER	TBD
MODULES / STRING	TBD
MODULE QUANTITY	TBD
MODULE WATTS (W STC)	540
PANEL SC CURRENT (A STC)	13.85
STRING FUSE SIZE	N/A
COMBINER BOX STC WATTS	#####
INTEGRAL AFCI?	YES
INTEGRAL GFCI?	YES
MAX DC VOLTAGE (V)	1000
MAX DC CURRENT (A)	163.2
AC OUTPUT POWER (KW)	60
AC OUTPUT VOLTAGE (V)	480
AC OUTPUT CURRENT (A)	72.2
WYE OR DELTA?	WYE
UL 1741 SA & SB COMPLIANT?	YES

DESIGNATION	ITEM	MAKE & MODEL #	NOTES	FURNISHED BY UTILITY CO.?
A	PV SYSTEM UTILITY AC DISCONNECT D-1"	SQUARE D OR EQUAL	480V, 3-POL, 1000A RATED, 1000A FUSES, NEMA 3R, UTILITY LOCKABLE, UTILITY ACCESSIBLE, VISIBLE BREAKS	NO
B	PV SYSTEM UTILITY AC DISCONNECT D-2"	SQUARE D OR EQUAL	480V, 3-POL, 1000A RATED, NON-FUSED, NEMA 3R, UTILITY LOCKABLE, UTILITY ACCESSIBLE, VISIBLE BREAKS	NO
C	PV SYSTEM AC COMBINER PANEL P-1"	SQUARE D OR EQUAL	480V/277V, 3PH, 4W, 1000A MLO, NEMA 3R, AIC RATING TBD, BREAKER QUANTITIES AND SIZES AS INDICATED	NO
D	SYSTEM OWNER'S METER	ALSO ENERGY DAS	PROVIDE WITH CELLULAR DATA KIT	NO
E	WEATHER STATION	PROVIDED BY ALSO ENERGY	PROVIDE WITH MODULE TEMP SENSOR & CABLE	NO
F	INVERTER	CPS SCA60KTL-DIUS-480 (60 KWAC)	SEE INVERTER INFO ON THIS SHEET	NO
G	PV MODULE	LONGI LRS-72HBD-540M (540W BIFACIAL)	SEE DATA SHEETS ON DRAWING PV-9	NO
H	CELL TEMPERATURE SENSOR	PROVIDED BY ALSO ENERGY	N/A	NO
I	NRES CT CABINET	MILBANK U1856-0-NE	1200A RATED, 5 CONNECTORS PER PHASE, 48"W X 48"H X 12"D	NO
K	RAPID SHUTDOWN DEVICE	APSMART RSD-D-20	MOUNT UNDER MODULES, CONNECT ONE OPTIMIZER TO EVERY TWO MODULES UNLESS OTHERWISE NOTED	NO
L	NRES METER SOCKET	MILBANK UC7445-Q-311-NOE	FORM 9S, SOCKET TYPE, 13 TERMINALS, 8YPASS TEST SWITCH	NO
M	NRES METER INSTRUMENT TRANSFORMERS	GEC DURHAM OR EQUAL	BAR TYPE CTS, 2:1 RATIO PTS, 0.3% ACCURACY @ 0.5A	NO
N	NRES METER	TBD BY EVERSOURCE	PURCHASE METER FROM EVERSOURCE	YES
P	UTILITY REVENUE METER SOCKET	MILBANK UC7445-Q-311-NOE OR EQUAL	13 TERMINAL, TEST SWITCH, 600VAC RATED	NO

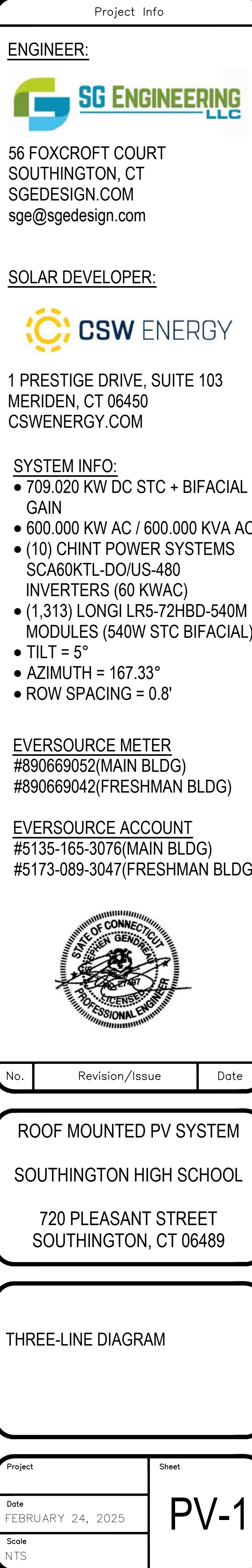


EXHIBIT 4

Contingent Approval

Date: 2/26/2025

Attention: **Peter Romano**

RE: Solar Interconnection for INT-104514 - SOUTHINGTON BOARD OF ED HIGH SCHOOL - 600kW

Site Address: 720 PLEASANT ST RM BOILER SOUTHINGTON, CT, 06489.

Equipment: PROJECT NUMBER: INT-104514, BUY ALL, 600kW
NEW SERVICE INFORMATION: MAXIMO WORK ORDER NUMBER: #20209610
PROJECT NAME: SOUTHINGTON BOARD OF ED HIGH SCHOOL
ADDRESS: 720 PLEASANT ST SOUTHINGTON CT 06489
KW, VOLTS, AMPS: 600kW & 480 VOLT = 721.709 amps
METER SOCKET TYPE: 13 Terminal Socket with test switch, PLEASE REFERENCE EVERSOURCE (I & R book)
METER FORM TYPE: 9S, THREE PHASE, 4 WIRE WYE, CLASS 20, PLEASE REFERENCE EVERSOURCE (I & R BOOK) FOR APPROVED METERING TRANSFORMER ENCLOSURE
3 CURRENT TRANSFORMERS: 600: 5
3 VOLTAGE TRANSFORMERS: 277: 120 OR 2.4: 1
BILLING CONSTANT: 288
TRANSFORMER NUMBER: # 750KVA TRANSFORMER, PAD NUMBER #952
SERVICE VOLTAGE: Secondary 277 / 480 Volts
INTERCONNECTION: SEPARATE SERVICE WIRE FROM TRANSFORMER TO NEW 1000 AMP MAIN SWITCH
EXISTING METER: #890669042, EXISTING METER IS REQUIRED TO BE RECOATED OUTSIDE, PLEASE CONTACT THE EVERSOURCE SUPPORT CENTER AND OBTAIN A SEPARATE WORK ORDER FOR THE RELOCATION. PLEASE NOTE THAT YOU WILL NEED TO PURCHASE A NEW 13 TERMINAL SOCKET WITH TEST SWITCH, PLEASE REFERENCE THE EVERSOURCE (I & R BOOK) FOR APPROVED SOCKETS.
EVERSOURCE SENIOR ACCOUNT EXECUTIVE: Gregory M. Pivin, e-mail: greg.pivin@eversource.com
CONTRACTOR: ERIC OBERG, E-MAIL: eric@csweeneyenergy.com, PHONE NUMBER: 203 392 1033

Dear **Peter Romano**,

Eversource has completed the Application Review in compliance with the Fast Track and Study process for the above stated project and has determined this project is approved for interconnection as a **Buy-All Non-Residential (NRES)** configuration, subject to final field review of the installation including conformance to all applicable standards and requirements. **This Contingent Approval is not an approval to order equipment or start work. It is highly recommended to meet with an Eversource Field Engineering**

INT-104514 - SOUTHINGTON BOARD OF ED HIGH SCHOOL - Buy-All Non-Residential (NRES) - 600kW

Designer on-site before starting work. Additional charges for service upgrades or design changes may be required following field engineering review.

Please review and sign & return via email the (Schedule of Milestones) & Interconnection Agreement to the project manager listed below. Refer to Attachment II for assumptions and notes. After completion of construction, please conduct a successful self-administered commissioning test, consistent with the requirements outlined in Attachment II. Please then complete, sign and return Attachment III (Certificate of Compliance), preferably via email.

Refer to Eversource CT, (I&R) book for approved meter equipment. Note: A production meter will be required, along with the revenue meter which will be determined by the incentive program, i.e., NRES, etc., that the customer has been approved for and metering requirements for that program. Additional NRES metering guidance can be found here; https://www.eversource.com/content/docs/default-source/save-money-energy/nres-metering-diagrams.pdf?sfvrsn=a1c8af62_2.

Should you have any questions or concerns please feel free to contact me.
Sincerely,

Gregory Pivin

Distributed Energy Resources

107 Selden Street, Berlin, CT 06037

E-mail : greg.pivin@eversource.com

cc: Carl Nowiszewski, Manager - Distributed Energy Resources

INT-104514 - SOUTHLINGTON BOARD OF ED HIGH SCHOOL - Buy-All Non-Residential (NRES) - 600kW

Attachment I
Schedule of Milestones

Item	Milestones for Interconnection	Due by Date	Responsible Party	Comments
1	Sign and return Schedule of Milestones	30 Business days from Effective date	Generator	
2	Signed Interconnection Agreement	30 Business days from Effective date	Generator	
3	Submit Certificate of Insurance.	Completed	Generator	Insurance: 07 / 01 / 24 - 07 / 01 / 25
4	Submit proof of Municipal Approval (WR# 20209610)	TBD	Generator	Min 10 business days prior to the desired In-Service Date
5	Provide completed & signed Certificate of Compliance	Within 10 business day of municipal approval	Generator	See Attachment III
6	In-Service Date	TBD	Generator	
7	Final Approval	Within 10 days of COC approval	Eversource	See Note 3, Attachment II

Agreed to by:

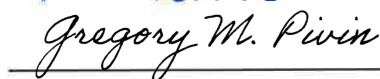
For Generator:


PETER ROMANO

Date:

5/15/25

For Eversource:


Gregory M. Pivin

Date:

05 / 16 / 25

INT-104514 - SOUTHTON BOARD OF ED HIGH SCHOOL - Buy-All Non-Residential (NRES) - 600kW

Attachment II

Assumptions:

PROJECT NUMBER: INT-104514, BUY ALL, 600kW
NEW SERVICE INFORMATION: MAXIMO WORK ORDER NUMBER: #20209610
PROJECT NAME: SOUTHLINGTON BOARD OF ED HIGH SCHOOL
ADDRESS: 720 PLEASANT ST SOUTHLINGTON CT 06489
KW, VOLTS, AMPS: 600kW & 480 VOLT = 721.709 amps
METER SOCKET TYPE: 13 Terminal Socket with test switch, PLEASE
REFERENCE EVERSOURCE (I & R book)
METER FORM TYPE: 9S, THREE PHASE, 4 WIRE WYE, CLASS 20, PLEASE
REFERENCE EVERSOURCE (I & R BOOK) FOR APPROVED METERING
TRANSFORMER ENCLOSURE
3 CURRENT TRANSFORMERS: 600: 5
3 VOLTAGE TRANSFORMERS: 277: 120 OR 2.4: 1
BILLING CONSTANT: 288
TRANSFORMER NUMBER: # 750KVA TRANSFORMER, PAD NUMBER #952
SERVICE VOLTAGE: Secondary 277 / 480 Volts
INTERCONNECTION: SEPARATE SERVICE WIRE FROM TRANSFORMER TO
NEW 1000 AMP MAIN SWITCH
EXISTING METER: #890669042, EXISTING METER IS REQUIRED TO BE
RECOATED OUTSIDE, PLEASE CONTACT THE EVERSOURCE SUPPORT
CENTER AND OBTAIN A SEPARATE WORK ORDER FOR THE RELOCATION.
PLEASE NOTE THAT YOU WILL NEED TO PURCHASE A NEW 13 TERMINAL
SOCKET WITH TEST SWITCH, PLEASE REFERENCE THE EVERSOURCE (I &
R BOOK) FOR APPROVED SOCKETS.
EVERSOURCE SENIOR ACCOUNT EXECUTIVE: Gregory M. Pivin, e-mail:
greg.pivin@eversource.com
CONTRACTOR: ERIC OBERG, E-MAIL: eric@cswenergy.com, PHONE
NUMBER: 203 392 1033

Metering Requirements-

Based on the information submitted through the interconnection application for this project, the Eversource Meter Engineering group has determined that the following meter type is required for your project and the associated cost for such meter type is indicated below:

Meter Type: Form 9S Recording

Meter Cost: \$2,354.00

Project: INT-104514

INT-104514 - SOUTHLINGTON BOARD OF ED HIGH SCHOOL - Buy-All Non-Residential (NRES) - 600kW

CT's & VT's will be provided by Eversource for the IT-rated production meter

Please inform the customer to contact Electrical Service Support Center and obtain Maximo work request number and work with a Eversource Field Engineering designer to get approval of the Point of Interconnection (POI), before the start of installation.

Please send the Meter Cost amount indicated above via check, payable to Eversource to the following address, and include the INT number and NRES contract number in the memo line on the check itself. Metering equipment will be procured after a payment is received.

**Eversource Energy Attn. Distributed Generation
107 Selden Street
Berlin, CT 06037**

Metering Review:

Yes

Existing utility revenue meter requires replacement?

☐ Yes, exchange for Bi-Directional

☐ No, existing meter is Bi-Directional

☒ Not applicable

INT-104514 - SOUTHLINGTON BOARD OF ED HIGH SCHOOL - Buy-All Non-Residential (NRES) - 600kW

Meter and Equipment Procurement Responsibility:

- Eversource:
 - Production meter.
 - Bi-directional utility revenue meter in services with a netting option.
 - *IT Rated Service only*: Instrument transformers.
- Installer/Contractor:
 - Approved meter socket (as listed in CT Eversource Information and Requirements book).
 - *IT Rated Service only*:
 - Switch gear
 - Instrument transformer enclosure cabinet (as listed in the CT Eversource Information and Requirements book).
 - All other necessary system equipment.

Meter and Equipment Installation Responsibility:

- Eversource:
 - Installs the production meter.
 - Exchanges existing utility revenue meter with bi-directional meter.
 - *IT Rated Service only*: Installs instrument transformers and wires it to the meter socket already installed by customer's installer/contractor.
- Installer/Contractor:
 - Approved meter socket (as listed in the CT Eversource Information and Requirements book).
 - *IT Rated Service only*:
 - *All Switch gear cut sheets must be submitted for approval by the metering team in advance of purchasing any equipment.*
 - Eversource approved switch gear.
 - Eversource approved enclosure cabinet (as listed in the CT Eversource Information and Requirements book).
 - Responsible for mounting and torquing the instrument transformers with all polarity marks facing the utility, with proper line/load markings within the cabinet.
 - All other necessary system equipment.

Installer/Contractor Requirements:

- All DG designs and interconnections require Eversource approval.
- All revenue and production metering equipment purchased (i.e. meter socket, switch gear, etc.) must meet specifications outlined within the CT Eversource Energy Information and Requirements book.
- All new electrical services, upgrades, and Buy-All services are required to contact the Eversource Electrical Service Support Center and obtain a work request number through the Eversource work management system.
- All Buy-All services are required to be in compliance with the Eversource Information and Requirements book. The Installer/Contractor will work with the Eversource Field Engineering department to develop a compliant new service design. The Meter Engineering approval does

INT-104514 - SOUTHLINGTON BOARD OF ED HIGH SCHOOL - Buy-All Non-Residential (NRES) - 600kW

not constitute approval of the Point of Interconnection (POI).

- Obsolete services may require a service upgrade to be compliant with the CT Eversource Information and Requirements book.
- As per the CT Eversource Information and Requirements book, the contractor/installer should not commence work until the design has been completed and approved by the Eversource Field Engineering and Design, as well as Metering.
- IT Rated Service only:
 - Installer/Contractor is required to provide cut sheets to Eversource for approval of switch gear and instrument transformer enclosure, prior to installation.
 - Must always be cold sequenced.
 - Separate disconnects must be located after the instrument transformer compartment for isolation purposes.
- No interconnections are to be made within the utility revenue meter socket or utility instrument transformer compartment.
- All utility and production metering are required to be located on the outside of the building, grouped together, on ground level where the utility will have 24 / 7 access. Existing services that are located inside, must be relocated to the outside.
- The utility AC emergency disconnect:
 - Buy-All –as described within the CT Eversource Information and Requirements book regarding hot and cold sequencing of the meter.
 - Netting - switch is required to be located ahead of all production meters where utility personnel will be able to isolate the production meter circuit.
- All self-contained meter sockets are required to be wired top side utility, bottom side inverter.
- In netting service, all interconnection points are required to be located behind both the utility revenue meter and/or the instrument transformer enclosures.
- All revenue and production meter sockets are required to be clearly labeled.

Notes for Attachment I-Schedule of Milestones:

1. Please provide the following:
 - A completed & signed Certificate of Compliance, after construction is complete
2. Below are the settings we will accept per Appendix C of Exhibit B – Generator Interconnection Technical Requirements (April 5th, 2019) If the customer has already taken delivery of the inverter, they will need to have someone set the IEEE1547-2018, UL1741 SB & NPCC A-03 settings indicated here.

INT-104514 - SOUTHTON BOARD OF ED HIGH SCHOOL - Buy-All Non-Residential (NRES) - 600kW

C.2. Inverter frequency trip settings

Shall Trip Function	Required Settings	
	Frequency (Hz)	Clearing Time(s)
OF2	62.0	0.16
OF1	61.2	300.0
UF1	58.5	300.0
UF2	56.5	0.16

C.3. Inverter Voltage Ride-through Capability and Operational Requirements

Voltage Range (p.u.)	Operating Mode/Response	Minimum Ride-through Time(s) (design criteria)	Maximum Response Time(s) (design criteria)
$V > 1.20$	Cease to Energize	N/A	0.16
$1.175 < V \leq 1.20$	Permissive Operation	0.2	N/A
$1.15 < V \leq 1.175$	Permissive Operation	0.5	N/A
$1.10 < V \leq 1.15$	Permissive Operation	1	N/A
$0.88 \leq V \leq 1.10$	Continuous Operation	infinite	N/A
$0.65 \leq V < 0.88$	Mandatory Operation	Linear slope of 8.7 s/1 p.u. voltage starting at 3 s @ 0.65 p.u.: $T_{VRT} = 3\text{ s} + \frac{8.7}{1\text{ p.u.}} (V - 0.65\text{ p.u.})$	N/A

$0.45 \leq V < 0.65$	Permissive Operation ¹²	0.32	N/A
$0.30 \leq V < 0.45$	Permissive Operation	0.16	N/A
$V < 0.30$	Cease to Energize	N/A	0.16

C.4. Inverter frequency ride-thru capability

Frequency Range (Hz)	Operating Mode	Minimum Time(s) (Design Criteria)
$f > 62.0$	No ride-through requirements apply to this range	
$61.2 < f \leq 61.8$	Mandatory Operation	299
$58.8 \leq f \leq 61.2$	Continuous Operation	Infinite
$57.0 \leq f \leq 58.8$	Mandatory Operation	299
$f < 57.0$	No ride-through requirements apply to this range	

C.5. Grid support utility interactive inverter function status

Function	Default Activation State
SPF, Specified Power Factor	Off
Q(V), Volt-Var Function with Watt or Var Priority	Off Default value: 2% of maximum current output per second
SS, Soft-Start Ramp Rate	On
FW, Freq-Watt Function OFF	Off

- Once items 1-5 in Attachment II (Schedule of Milestones) are completed, Eversource will send you (via email) an Authorization to Interconnect Letter.

Attachment III

Appendix A



Self-Certification Form

For UL 1741 SB Certified Inverters $\leq$ 500 kW

CERTIFICATE OF COMPLIANCE

Date of Test	_____
Project ID:	_____
Customer Name:	_____
Generator Address:	_____
kW -AC	_____
Inverter Voltage	_____
Inverter Serial Number	_____
Inverter Firmware Version	_____

<Electrical Contractor Name>, hereby certify that, the facility stated above was installed commissioned and tested successfully as required by the Eversource interconnection requirements and applicable codes and standards, and the following was performed:

- ☐ The photovoltaic system has been inspected and approved by the local wiring inspector with jurisdiction and is safe to operate.
- ☐ All required documents have been submitted and approved by Eversource.
- ☐ Verification of proper AC voltage and phasing at inverters.
- ☐ Verification of proper DC voltage(s) from strings and combiners at inverters.
- ☐ Inverter manufacturer's start up procedures have been followed.
- ☐ System has been installed as approved by Eversource in the Approval to Install agreement and as shown on attached "As-Built" or final drawing.
- ☐ System meets IEEE 1547 two (2) second shut down upon opening of utility disconnect switch.
- ☐ System meets IEEE 1547 five (5) minute re-start upon closing of utility PV system disconnect switch.
- ☐ Inverter settings are programmed to the Inverter Source Requirement Document as published by ISO-New England (ISO-NE) in February 2018 (Refer to Appendix G)

Name and Company _____ Date _____

Signature

INT-104514 - SOUTHLINGTON BOARD OF ED HIGH SCHOOL - Buy-All Non-Residential (NRES) - 600kW

ISO NE Ride Through Requirements

Certificate of Completion

Effective June 1, 2018, all inverter-based projects are subject to ISO-NE Ride through Requirements.

To comply with the ISO-NE Ride-through requirements, all inverters in distributed energy resource (DER) installations shall be certified per the requirements of UL 1741 SB as a grid support utility interactive inverter and have the voltage and frequency trip settings and ride-through capability described in the ISO-NE Inverter Source Requirements Document (SRD).

Link to the ISO-NE SRD:

https://www.eversource.com/content/docs/default-source/builders-contractors/iso-new-england-source-requirement-document-2018-02-02.pdf?sfvrsn=a4f1c362_2

Link to an ISO-NE presentation for more information:

https://www.eversource.com/content/docs/default-source/builders-contractors/a2-implementation-of-revised-ieee-standard-1547-presentation.pdf?sfvrsn=83f1c362_2

Please refer to this linked webpage for a list of UL 1741 SB inverters:

https://www.gosolarcalifornia.ca.gov/equipment/documents/Grid_Support_Inverter_List_Simplified_Data.xlsx

Requirement 1: Inverter is certified per UL 1741 SB as a “grid support utility interactive inverter” and has been verified by a Nationally Recognized Testing Laboratory to meet the ISO-NE SRD requirements.

*Nameplate Shows UL 1741 SB “Grid Support Interactive Inverter” or “Grid Support Utility Interactive Inverter” (Yes/No):*_____.

Requirement 2: Inverter settings adhere to ISO-NE SRD Voltage and Frequency trip settings requirements. This information shall be documented in the trip settings table below.

DEVICE	PICKUP SETTING (DEFAULTS)	DEFAULT CLEARING TIME (seconds)	Pickup and Clearing Times Adhere to Required Defaults (Yes/No):
Under Frequency (81U)	56.5 Hz	0.16	
Under Frequency (81U)	58.5 Hz	300	
Over Frequency (81O)	61.2 Hz	300	

INT-104514 - SOUTHLINGTON BOARD OF ED HIGH SCHOOL - Buy-All Non-Residential (NRES) - 600kW

Over Frequency (81O)	62.0 Hz	0.16	
Under Voltage (27)	50% of Nominal	1.1	
Under Voltage (27)	88% of Nominal	2	
Over Voltage (59)	110% of Nominal	2	
Over Voltage (59)	120% of Nominal	0.16	

Requirement 3: Inverter Grid Support Functions are set according to the Advanced Functions Activation Table below per ISO-NE SRD:

Verify that ISO-NE SRD group settings have been confirmed by the manufacturer AND that ISO-NE SRD group setting is ENABLED (if available), OR manually check the following states are applied in the inverter:

Function	Default Activation State	Set to Required Default State? Yes/No
SPF, Specified Power Factor	OFF ¹	
Q(V), Volt-Var Function with Watt or Var Priority	OFF Default value: 2% of maximum current output per second	
SS, Soft-Start Ramp Rate	ON	
FW, Freq-Watt Function	OFF	

Requirement 4: The Inverter Enters “Momentary Cessation” for high voltage range:

In the Permissive Operation region above 1.1 p. u. voltage, the inverter(s) will ride-through in Momentary Cessation mode as defined in the NE ISO SRD.

(Yes/No)_____

Note: Inverters that have passed UL 1741 SB testing using the “Example Operating Parameters that Correspond to Rule 21 L/HVRT” given in UL 1741 SB Table SA9.1 are acceptable for meeting this requirement.

¹ OFF and operating at unity PF, Or set to ON with unity PF.

EXHIBIT 5

LIMITED STRUCTURAL INVESTIGATION

at

**720 PLEASANT ST.
SOUTHINGTON, CT**

SOUTHINGTON HIGH SCHOOL

Prepared by:

**Paul A. Cianci, P.E., Vice President
Chris Zmuda, P.E., Project Engineer**



53 Hurlbut Street
West Hartford, CT 06110-1912
(860) 527-6415
FAX (860) 249-1918



SealPact 2025-01-09 12:27:42 EST
Click seal or scan QR Code for
verification; otherwise not valid.

Prepared for:
**Mr. Thomas Hibbard
Hibbard & Rosa
100 Riverview Center – Suite 272
292 Main St.
Middletown, CT 06457
tom@hra.bz**

INTRODUCTION

It is our understanding that as part of a proposed new installation of solar panels on the roof of the Southington High School, located at 720 Pleasant Street in Southington, CT, some concern was expressed regarding the adequacy of the existing roof structure for the proposed new loading. Cianci Engineering, LLC was retained by Mr. Thomas Hibbard, with Hibbard and Rosa Architects to perform a limited structural investigation at the existing building in order to provide an opinion on whether the existing roof framing system will be structurally adequate to support the weight of the proposed array, verbally reported by Mr. Hibbard to us to be system with a weight of approximately 6 pounds per square foot (psf). It is our understanding that a detailed design of the proposed array, including the required ballast weights and locations of the array(s), has not been prepared, as of the issuance of this report.

OBSERVATIONS

On November 20, 2024, Mr. Chris Zmuda, P.E. Project Engineer with Cianci Engineering, LLC, made a site visit and met with Mr. Thomas Hibbard, as well as Skip, with Southington High School who aided with access to areas within the school. Figure 1, below, provides an overall, aerial rendering of the subject structure. It is our understanding that two separate roof areas; the freshman wing and a portion of the original school and a portion of the original structure above a library (indicated in red and yellow, respectively, in the figure) are areas where solar panels are proposed to be installed.

We were provided with two sets of drawings, including a partial set of 1971 drawings for the original construction of the school, dated November 15, 1971. A list of drawings on the cover sheet states that the provided sheets do not include "Large Sheets", such as sheets A-1 through A-26 and S-1 through S-11. The provided "Small Sheets" do not provide framing or architectural plans, which are likely in the not provided sets of "Large Sheets". A 1984 set of drawings for Additions and Alterations were also provided, which is not related to the areas where the proposed array(s) are to be located. It is noted that the "Freshman Wing" portion shown in Figure 1 is not shown as part of the existing building on the 1984 set of drawings, therefore, the Freshman Wing was constructed subsequent to 1984. According to Google Earth Pro history images, the freshman wing was not constructed as of the image date of March 30, 1991, but is shown on the UConn Air Photo Archive Image Date April 18, 1995 (reference Enclosure (1) for the images). Therefore, the freshman wing was constructed at some point between 1991 and 1995. According to the website for Southington

Schools¹, the Freshman Wing was completed in 1994. It is our understanding that inquiries were made to the Town of Southington building department and drawings for the Freshman Wing section of the school are not available. More information on the drawings that were provided to us is discussed in the *Documents Reviewed* section of this report.

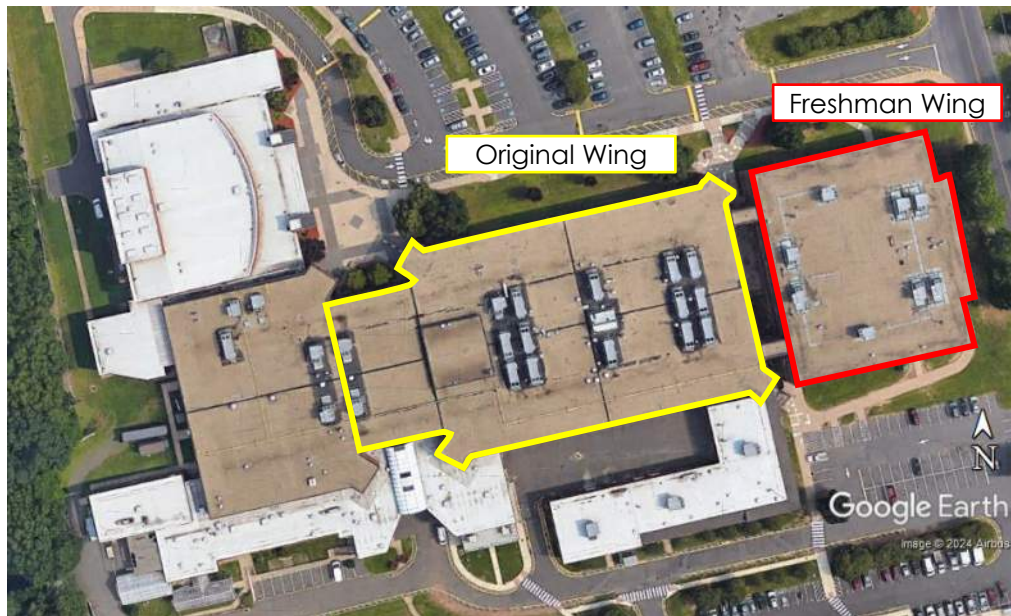


Figure 1 – Overall Aerial View, courtesy Google Earth

Photograph 1 provides an overall, exterior view of the subject structure, as seen during our visit. We gained access to the interior of the structure, where we were able to observe limited areas of the roof framing, where accessible and not concealed by interior finishes and/or mechanical systems. Within the Freshman Wing, seen in photographs 2, 3, and 4 in representative views, we noted that the roof framing consists of Type B metal roof deck, and roof framing consisting of a combination of wide-flange steel beams and metal open web bar joists. Due to the relatively limited access to the plenum and presence of mechanical units, we were unable to determine a detailed framing plan for the space. Where accessible, however, the framing appeared to be in generally good visual condition.

In the original wing, seen in photographs 5 and 6 in representative views, we were able to gain access to a representative sample of the roof framing, which was noted to consist of metal roof deck and wide flange steel beams. The steel, as seen in the photographs, was noted to be concealed with a fireproofing material, preventing us from directly

¹ <https://shs.southingtonschools.org/about-us>

measuring the true size of the framing, although the wide flange steel beams appeared to be approximately 12" deep, where accessible. As seen in the photographs, the framing was noted to be in generally good condition, and relatively accessible, allowing us to note that the steel members were generally spaced at 6'-3" on center, and span approximately 27', running in the approximate north-south direction in the structure.

We gained access to the library space, seen in photograph 7 in an overall view, which was noted to have a central section of recessed ceiling framing, with a flat ceiling along the perimeter. At a section of ceiling tiles along the perimeter, seen in photograph 8, we were able to gain limited access to the plenum, seen in photographs 9 and 10 in representative views along the perimeter. As seen in the photographs, we noted that the roof is framed with steel beams, concealed with fireproofing, and metal roof decking. We also noted that a 21" deep wide-flange steel beam, spanning approximately 48', framed into and is supported by a shallower 16" deep steel beam (photograph 9). The accessed sections of the roof framing appeared to be in relatively good condition during our visit.

We gained access to the roof, seen in overall views in photographs 11 and 12, where we noted it to be in relatively good condition, with no areas of apparent deterioration or sagging noted during our visit.

DOCUMENTS REVIEWED

Russel Gibson vonDohlen Architects AIA

A review of the provided "*Small Sheets*" produced as part of the 1971 set of drawings for the construction of the subject structure, including Sheet S-12, which notes a roof live load of 30 psf for the entirety of the structure. Sheet S-13 notes that the typical roof construction consists of a 20ga, Type "B" metal roof deck, with an acoustical version used at the gymnasium roof. Sheet A-38 notes that the roofing system consists of a typical tar and gravel built up roof over 4" of rigid fiber glass insulation on the metal roof deck.

The building code in effect at the time of the 1971 project was the 1971 State of Connecticut Building Code (effective from September 1, 1971 to August 31, 1981), which adopted the 1970 BOCA Basic Building Code, as amended. The 1971 Code required a minimum snow load of 30 psf, and did not have snow drift provisions in the code at that time. The indicated roof design load of 30 psf complied with the code in effect at the time.

Hibbard and Rosa Architects, LLC

We obtained copies of both a March 30, 2023 set of drawings and a Project Manual prepared by Hibbard and Rosa Architects, LLC as part of a partial roof replacement project that had previously occurred in 2024. The drawings require the following, in part:

- Remove the existing built-up roofing system and insulation down to the existing metal deck in the two areas noted in Figure 1 consisting of the freshman wing and the original portion of the building.
- The new roof is specified to consist of a 0.090" EPDM roof membrane adhered to a ½" reinforced gypsum board which is adhered to either a sloping or 2 ½" thick polyisocyanurate insulation, with an additional 2½" thick polyisocyanurate board below. Various crickets and mechanical supports are also noted on the provided drawings.

The project manual also includes, in part, a September 6, 2022 report, prepared by Hygenix, Inc. which was prepared as part of an asbestos investigation for the roofing materials to be removed. Within the report, several photographs showing test cuts into the existing roofing are provided, which appear to be generally consistent with the type of roofing materials indicated in the Russel Gibson vonDohlen drawings.

BUILDING CODE REVIEW

The currently adopted building code is the 2021 International Building Code (IBC) portion of the 2022 CT State Building Code. The following sections pertain to Photovoltaic Panels²:

1607.14.4.1 Roof Live Load

Roof structures that support photovoltaic panel systems shall be designed to resist each of the following conditions:

1. Applicable uniform and concentrated roof loads with the photovoltaic panel system dead loads.

Exception: Roof live loads need not be applied to the area covered by photovoltaic panels where the clear space between the panels and the roof surface is 24 inches (610 mm) or less.

2. Applicable uniform and concentrated roof loads without the photovoltaic panel system present.

² <https://up.codes/viewer/connecticut/ibc-2021/chapter/16/structural-design#1607.14.4>

1607.14.4.2 Photovoltaic Panels or Modules

The structure of a roof that supports solar photovoltaic panels or modules shall be designed to accommodate the full solar photovoltaic panels or modules and ballast dead load, including concentrated loads from support frames in combination with the loads from Section 1607.14.4.1 and other applicable loads. Where applicable, snow drift loads created by the photovoltaic panels or modules shall be included.

1607.14.4.5 Ballasted Photovoltaic Panel Systems

Roof structures that provide support for ballasted photovoltaic panel systems shall be designed, or analyzed, in accordance with Section 1604.4; checked in accordance with Section 1604.3.6 for deflections; and checked in accordance with Section 1611 for ponding.

Appendix P Municipality – Specific Structural Design Parameters of the currently adopted building code requires a Ground Snow Load (P_g) of 30 psf for Southington, CT, which is equal to the design snow load indicated on the previously referenced Russel Gibson vonDohlen Architects AIA 1971 plans.

The applicable Building Code for the “*Freshman Wing*”, completed in 1994, would have been the 1989 State Building Code (effective from 10/16/89 to 6/14/94), which adopted the 1987 BOCA with the 1988 BOCA Supplement and the October 16, 1989 Connecticut supplement.

- Section 1111.2 Ground Snow Loads were determined by Figures 1111.2a, 1111.2b and 1111.2c with applicable slope and importance factors. Figure 1111.2a shows snow loads in CT to be 40 psf in the northwest corner, 25 psf in the southeast corner and 30 psf everywhere else, including the Southington area.
- For flat roofs, the flat snow loads were computed incorporating the applicable snow exposure factor (typically 0.7) and importance factor (typically 1.0, unless a 1.1 factor was used by the original designer for buildings where more than 300 people congregate in one area). If an importance factor of 1.0 was used, the original snow load could have been reduced to 21 psf ($0.7 \times 1.0 \times 30$ psf). If an importance factor of 1.1 was used, the original snow load could have been reduced to 23.1 psf, ($0.7 \times 1.1 \times 30$ psf). There was no minimum snow loading criteria in the 1989 Code. In either case, both reductions, if utilized by the original designer, are less than the required

minimum snow loading in the currently adopted building code. Although the building is structurally grandfathered, any potential increase in loading must be considered.

ANALYSIS/DISCUSSION

In lieu of a detailed analysis of the existing structure (without the original or as-built structural plans), a comparative analysis of the dead load demand on the existing roof framing was performed, comparing the original roofing materials to the recently replaced roofing materials. As seen in Table 1, below, there is an approximate 8 psf difference in the original total weight of the roof assembly compared to the new total weight, which is in excess of the approximate 6 psf preliminarily estimated weight of the proposed future solar panel array. It should be noted that the comparison between the roofing materials does not include the weight of any rooftop equipment or any review of any localized areas where the original roofing may be different than typical.

1971 Roofing	Weight (psf/in. / psf)	2024 Roofing	Weight (psf/in. / psf)
Tar & Gravel BUR	5.5	0.090" EPDM	0.6
4" Rigid Fiberglass Ins.	1.1 / 4.4	5" Polyiso Ins.	0.25 / 1.25
Metal Deck	2.5	Metal Deck	2.5
TOTAL	12.4	TOTAL	4.35

Table 1

When total loads, including the full dead load (weight of all materials and finishes) and snow loading are considered, there will be less of a comparative (percentage) increase if the total anticipated weight of the solar array exceeds the 8 psf in the reduction of the roofing system, as compared to the comparative increase in just the dead load.

CONCLUSIONS

Based on the above, we have the following opinions:

Original Building

- The design snow loads for the original portion of the building (30 psf) comply with the currently adopted building snow loading requirements.
- The preliminary estimate of the array uniform weight of 6 psf is lower than the reserve 8 psf dead load of the roof, based on the removal

and replacement of the built-up roof with a single ply EPDM roofing system.

- Once the array design is complete, any concentrated or ballasted weights that exceed 8 psf must be structurally analyzed for compliance with the currently adopted building code.

Freshman Wing

- The design snow loads for the freshman wing portion of the building, based on the 1989 State Building Code previously referenced, is likely less than the currently required minimum snow loading of 30 psf.
- The preliminary estimate of the array uniform weight of 6 psf is lower than the reserve 8 psf dead load of the roof, based on the removal and replacement of the built-up roof with a single ply EPDM roofing system.
- Once the array design is complete, a structural analysis will be required to determine if the existing roof framing can support the proposed weight of the array system.

If localized areas of the solar array system are later determined to exceed the 6-8 psf limits previously reported, we recommend either obtaining copies of the original "Large Sheets", if possible, or performing a more detailed investigation of the existing roof framing in the area(s) of interest for the new solar panel array(s), in order to determine the effects of these local forces on the existing roof framing.

The opinions expressed are based on our education, training and experience and all documentation available to us as of the issuance of this report. We reserve the right to amend these findings should additional information become available.

This report is intended for the sole use of the client's name on the cover. The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or re-use of this document or the findings, conclusions, or recommendations is at the risk of said user.

We trust that this meets your needs at this time and will be available to discuss our findings in further detail, if required.

Enclosures: Photographs 1-12

(1) Images dated March 30, 1991 and April 18, 1995



Photograph 1 – Overall View of School



Photograph 2 – Overall View of Roof Framing in Freshman Wing



Photograph 3 – Overall View of Roof Framing in Freshman Wing



Photograph 4 – Overall View of Roof Framing in Freshman Wing



Photograph 5 – Overall View of Roof Framing in Original Wing



Photograph 6 – Overall View of Roof Framing in Original Wing



Photograph 7 – Overall View of Library



Photograph 8 – Overall View of Library



Photograph 9 – Overall View of Library Roof Framing



Photograph 10 – Overall View of Library Roof Framing



Photograph 11 – Overall View of Roofing



Photograph 12 – Overall View of Roofing



Google Image March 30, 1991



UConn Air Photo Archive Image Date April 18, 1995

Enclosure (1) - Images dated March 30, 1991 and April 18, 1995

EXHIBIT 6

Exhibit 6: Photos of the existing utility transformer









0171732 0

TRANSFORMER, DB 3PH PADMOUNT, DIST, 13800, 480Y/27

PO/Rel/Ln 00385881

093008

UI EA

MFR N/A

PART *UNKNOWN*

EXHIBIT 7

EXISTING UTILITY TRANSFORMER (1000KVA)
POINT OF INTERCONNECTION FOR NEW ELECTRICAL
SERVICE DEDICATED TO SOLAR PROJECT

MAIN BLDG.
ELECTRIC ROOM
SERVICE RATING:
3000A, 480Y/277V

6' SETBACK AREA

6' SETBACK AREA

PARCEL
BOUNDARY

PARCEL
BOUNDARY

NEW SOLAR
ELECTRIC SERVICE
EQUIPMENT

PV MODULES

EXISTING UTILITY
TRANSFORMER

FRESHMEN BLDG.
ELECTRIC ROOM
SERVICE RATING:
1600A, 480Y/277V

Project Info

OWNER'S REPRESENTATIVE



1 PRESTIGE DRIVE, SUITE
103, MERIDEN, CT 06450
CSWENERGY.COM

PV SYSTEM 1 INFO:
• 709.020 KW DC STC
• 600.00 KW AC
• 840.40 MWH ANNUAL
PRODUCTION
• (6) CPS
SCA100KTL-DO/US-480
(100 KW AC)
• (1313) LONGI SOLAR
LR5-72HBD-540M (540W
STC)
• TILT = 5°
• AZIMUTH = 167.33°
• ROW SPACING = 0.8'

EVERSOURCE INFO:

MAIN BLDG:
METER: 890669052
ACCOUNT: 5135-165-3076

FRESHMAN BLDG:
METER: 890669042
ACCOUNT: 5173-089-3047



NOT FOR CONSTRUCTION

*EQUIPMENT SPECIFICATION
SUBJECT TO CHANGE

	Version 1	
	Version 2	
Date	Revision/Issue	D.B.

SOUTHINGTON HS

ROOF MOUNTED PV
SYSTEM

720 PLEASANT ST.
SOUTHINGTON CT 06489

OVERALL ROOF PLAN

Project SOUTHINGTON HS DAS	Sheet PV-1
Date 01/07/2025	
Scale AS NOTED	

EXHIBIT 8

ELECTRICAL SPECIFICATIONS

PART 1 - GENERAL PROVISIONS FOR ELECTRICAL WORK

REFERENCES

THIS SECTION COVERS THE GENERAL REQUIREMENTS FOR ELECTRICAL WORK; EXAMINE ALL CONTRACT DRAWINGS AND ALL OTHER SECTIONS OF THE SPECIFICATIONS FOR ADDITIONAL WORK RELATED TO THE WORK OF THIS DIVISION.

DEFINITIONS

'PROVIDE' - TO FURNISH, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION OF PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.

'INSTALL' - TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.

'WORK' - LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.

'WIRING' - RACEWAY, FITTINGS, WIRE, BOXES, MOUNTING HARDWARE AND RELATED ITEMS.

'CONCEALED' - EMBEDDED IN MASONRY OR OTHER CONSTRUCTION CAVITY, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS.

'SIMILAR OR EQUAL' - EQUAL MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.

'CONTRACTOR' - THE ELECTRICAL CONTRACTOR.

'NOTED' - AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.

SCOPE

THIS WORK SHALL CONSIST OF THE FURNISHINGS OF ALL LABOR, MATERIALS AND SERVICES REQUIRED TO COMPLETE A FULLY OPERATIONAL PHOTOVOLTAIC SOLAR SYSTEM. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, STATE AND LOCAL CODES AND INDUSTRY BEST PRACTICES.

BEFORE SUBMITTING A BID, THE CONTRACTOR SHALL REVIEW THE REQUEST FOR PROPOSAL, VISIT THE SITE AND BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING CONDITIONS UNDER WHICH THE WORK WILL BE INSTALLED. THIS CONTRACT INCLUDES ALL NECESSARY OFFSETS, TRANSITIONS, MODIFICATIONS AND RELOCATION REQUIRED TO INSTALL ALL NEW EQUIPMENT IN NEW OR EXISTING SPACES. CONTRACTOR SHALL INCLUDE ANY MODIFICATIONS REQUIRED IN EXISTING ELECTRICAL EQUIPMENT FOR INSTALLATION OF NEW ELECTRICAL EQUIPMENT. (FIXTURES, DEVICES, CONDUIT WIRING, ETC.) ALL NEW AND EXISTING EQUIPMENT AND SYSTEMS SHALL BE FULLY OPERATIONAL UNDER THIS CONTRACT BEFORE THE PROJECT IS CONSIDERED COMPLETE. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY ASSUMPTIONS THAT ARE MADE, ANY OMISSIONS OR ERRORS MADE AS A RESULT OF FAILURE TO VISIT THE SITE AND BECOME THOROUGHLY FAMILIAR WITH THE EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS.

CODES, REGULATIONS AND STANDARDS

ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING APPROVED CODES:

- STATE DEMOLITION CODE
- STATE BUILDING CODE
- STATE FIRE SAFETY CODE
- LOCAL BUILDING CODE
- IBC - INTERNATIONAL BUILDING CODE
- NFPA - NATIONAL FIRE PROTECTION CODE
- ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE
- ASTM - AMERICAN SOCIETY FOR TESTING AND MATERIALS
- OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
- U.I. - UNDERWRITERS LABORATORIES
- NFPA 101 - LIFE SAFETY CODE
- NFPA 99 - HEALTH FACILITIES CODE
- CPA 70 - NATIONAL ELECTRICAL CODE
- NFPA 72 - NATIONAL FIRE ALARM CODE
- EPA - ENVIRONMENTAL PROTECTION AGENCY
- IEEE - INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
- NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
- IECC - INTERNATIONAL ENERGY CONSERVATION CODE
- ICC/ANSI A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

PERMITS, FEES AND INSPECTIONS

THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS, PAY FOR ALL GOVERNMENT, STATE SALES TAXES AND APPLICABLE FEES, UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL FILE ALL DRAWINGS, COMPLETE ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS FROM THE PROPER AUTHORITY OR AGENCY HAVING JURISDICTION. OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION COVERING WORK. THE CONTRACTOR SHALL SEE THAT ALL REQUIRED INSPECTIONS AND TESTS ARE MADE AND SHALL COOPERATE TO MAKE THESE TESTS AS THOROUGH AND AS READILY MADE AS POSSIBLE.

MATERIALS AND WORKMANSHIP

ALL MATERIALS AND APPARATUS REQUIRED FOR THE WORK SHALL BE NEW AND OF FIRST-CLASS QUALITY. IT SHALL BE FURNISHED, DELIVERED, ERECTED, CONNECTED, FINISHED IN EVERY DETAIL, AND SO SELECTED AND ARRANGED AS TO FIT PROPERLY INTO THE BUILDING SPACES, WHERE NO SPECIFIC KIND OR QUALITY MATERIAL IS GIVEN, A FIRST-CLASS STANDARD ARTICLE AS ACCEPTED BY THE OWNER SHALL BE FURNISHED.

ALL EQUIPMENT AND MATERIALS SHALL BE SPECIFICATION GRADE AND BEAR THE UNDERWRITER'S LABEL. NO SUBSTITUTE OR ALTERNATE EQUIPMENT, MATERIAL, ETC. WILL BE CONSIDERED FOR THIS PROJECT.

ALL WORK SHALL BE OF A QUALITY CONSISTENT WITH GOOD TRADE PRACTICE AND SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER. THE OWNER RESERVES THE RIGHT TO REJECT ANY WORK WHICH, IN HIS OPINION, HAS BEEN INSTALLED IN A SUBSTANDARD, DANGEROUS OR IN A UNSERVICEABLE MANNER. THE CONTRACTOR SHALL REPLACE REJECTED WORK IN A SATISFACTORY MANNER AT NO EXTRA COST TO THE OWNER.

GUARANTEES

ALL WORKMANSHIP AND MATERIALS SHALL BE FULLY GUARANTEED FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE ENTIRE INSTALLATION COVERED BY THIS CONTRACT. SHOULD ANY DEFECTS OCCUR DURING THE GUARANTEED PERIOD, THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ALL DEFECTIVE EQUIPMENT, MATERIAL AND/OR WORK AT NO EXTRA CHARGE TO THE OWNER.

RECORD DRAWINGS

MAINTAIN, AT THE JOB SITE, A SET OF CONSTRUCTION DRAWINGS INDICATING ALL CHANGES IN LOCATION OF THE EQUIPMENT, PANELS, DEVICES, ETC. FROM THE ORIGINAL LAYOUT. CLEARLY MARK IN RED ALL CHANGES ON THE DRAWINGS. AT THE COMPLETION OF THE PROJECT THE CONTRACTOR SHALL TURN OVER THE RECORD DRAWINGS TO THE OWNER.

COORDINATION

ALL WORK SHALL BE CARRIED OUT IN CONJUNCTION WITH THE OWNER AND FULL COOPERATION SHALL BE GIVEN IN ORDER THAT ALL WORK MAY PROCEED WITH A MINIMUM OF DELAY AND INTERFERENCE.

SHOP DRAWINGS

SUBMIT ELECTRONIC COPIES FOR REVIEW, DETAILED SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIAL SPECIFIED. THE CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMISSION TO THE ENGINEER FOR REVIEW. NO MATERIAL OR EQUIPMENT MAY BE DELIVERED TO THE JOB SITE OR INSTALLED UNTIL CONTRACTOR HAS IN THEIR POSSESSION, APPROVED SHOP DRAWINGS FOR THE PARTICULAR MATERIAL OR EQUIPMENT. SHOP DRAWINGS SHALL BE SPECIFIC WITH ITEMS SUBMITTED FOR APPROVAL CLEARLY IDENTIFIED.

THE FOLLOWING IS A LIST OF ELECTRICAL ITEMS THAT MUST BE SUBMITTED FOR REVIEW:

- a. MODULES
- b. INVERTERS
- c. RACKING
- d. PANELBOARDS
- e. SAFETY/DISCONNECT SWITCHES
- f. CIRCUIT BREAKERS
- g. FUSES
- h. CONDUIT, WIRE AND CABLE
- i. TRANSFORMERS

OPERATING INSTRUCTIONS

THE CONTRACTOR SHALL FURNISH TO THE OWNER ELECTRONIC SETS OF INSTRUCTIONS FOR OPERATING AND MAINTAINING ALL SYSTEMS AND EQUIPMENT INCLUDED IN THIS DIVISION.

EQUIPMENT PROTECTION

PROPERLY AND COMPLETELY PROTECT AGAINST ALL DAMAGE, ALL APPARATUS, EQUIPMENT, ETC., INCLUDED IN THIS CONTRACT. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO FURNISHED APPARATUS, EQUIPMENT, ETC., UNTIL FINAL ACCEPTANCE.

PROPERTY PROTECTION

THE CONTRACTOR SHALL TAKE WHATEVER MEANS NECESSARY AND/OR REQUIRED TO COMPLETION OF ALL WORK, REPAIR ANY EQUIPMENT WHOSE FINISH IS DAMAGED OR RUSTED, MATCH MANUFACTURER'S ORIGINAL FINISH, CONDUITS MOUNTED ON OTHER MATTER GENERATED BY THE WORK. NO WORK SHALL COMMENCE IN AREAS WHERE PROTECTION IS REQUIRED UNTIL APPROVAL HAS BEEN GIVEN TO THE CONTRACTOR BY THE OWNER.

MANUFACTURER'S INSTRUCTION

INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS OR REQUIREMENTS FOR PROPER OPERATION AND MAINTENANCE.

EQUIPMENT PAINTING AND CLEANING

THOROUGHLY CLEAN ALL ELECTRICAL EQUIPMENT DEVICES AND ENCLOSURES UPON COMPLETION OF ALL WORK. REPAIR ANY EQUIPMENT WHOSE FINISH IS DAMAGED OR RUSTED. MATCH MANUFACTURER'S ORIGINAL FINISH. CONDUITS MOUNTED ON EXTERIOR WALLS SHALL BE PAINTED TO MATCH SAID WALL.

PENETRATION SEALANT

ALL PENETRATIONS SHALL BE SEALED WITH 3M INTUMESCENT FIRE BARRIER PENETRATION SEALANT, APPLIED PER MANUFACTURER'S AND U.I. GUIDELINES.

CUTTING, PATCHING, REPAIRING AND PAINTING

THE CONTRACTOR SHALL PERFORM ALL CUTTING, PATCHING, REPAIRING AND PAINTING FOR ALL ELECTRICAL ITEMS AND EQUIPMENT CALLED FOR UNDER THIS CONTRACT. THIS INCLUDES CUTTING OF ASPHALT, CONCRETE AND CURBS, AS NEEDED FOR TRENCHING.

FIRE STOPS AND SEALS

PENETRATIONS THROUGH FIRE-RATED WALLS, CEILING OR FLOORS IN WHICH CABLES OR CONDUITS PASS SHALL BE FILLED SOLIDLY BY U.I. APPROVED FIRE-STOP MATERIALS, CLASSIFIED FOR AN HOUR RATING EQUAL TO THE FIRE RATING OF THE WALL, CEILING OR FLOOR. PROVIDE TO 3M BRAND FIRE BARRIER CP23WB CAULK OR APPROVED EQUIVALENT.

SEALING BUSHINGS SHALL BE USED ON CONDUIT AND CABLE ENDS TO EFFECTIVELY PREVENT THE INTRUSION OF WATER, A DAMP OR CORROSIVE ATMOSPHERE, DRAFT OR DUST.

ACCESS PANELS

THE CONTRACTOR SHALL FURNISH AND INSTALL ACCESS PANELS AND DOORS AS REQUIRED FOR ACCESS TO INACCESSIBLE PULLBOXES, JUNCTION BOXES AND OTHER SPECIALTIES.

THE CONTRACTOR SHALL COORDINATE THE LOCATIONS OF ACCESS PANELS AND DOORS WITH THE OWNER.

PART 2 - PRODUCTS

DESCRIPTION

ALL MATERIALS AND EQUIPMENT PROVIDED UNDER THIS SECTION SHALL BE NEW, FIRST GRADE, BEST OF THEIR RESPECTIVE KINDS AND IN NO WAY SHALL THEY BE LESS THAN THE QUALITY AND INTENT SET FORTH UNDER THIS SECTION. THEY SHALL MEET THE REQUIREMENTS OF ALL STANDARDS SET UP TO GOVERN THE MANUFACTURER OF ELECTRICAL MATERIALS AND COMPLY WITH ALL APPLICABLE CODES AND STANDARDS.

WIRE

CONDUCTORS SHALL BE U.I. LISTED, 600 VOLTS, 90 DEG. C., SINGLE CONDUCTOR TYPE THWN/THHN. 98% CONDUCTIVITY, ANNEALED UNCOATED COPPER WITH PVC INSULATION COVERED WITH NYLON SHEATH JACKET. TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF UNDERWRITERS LABORATORIES STANDARD 83. WIRE SHALL BE IDENTIFIED BY SURFACE MARKING INDICATING MANUFACTURER'S IDENTIFICATION CONDUCTOR SIZE AND METAL, VOLTAGE RATING, U.I. SYMBOL AND TYPE DESIGNATION. CONDUCTORS SHALL BE STRANDED. MINIMUM SIZE SHALL BE #12 AWG.

PHOTOVOLTAIC WIRE

CONDUCTOR SHALL BE UL LISTED, 1KV/2KV, USE-2RHH/RHW-2 COPPER CONDUCTOR, INSULATION COMPOUNDS SHALL BE RATED FOR FLAME AND SUN-LIGHT RESISTANCE. CONDUCTOR SHALL BE SUITABLE FOR OUTDOOR ROOFTOP APPLICATIONS WITHOUT RACEWAYS AND PERMITTED IN CABLE TRAYS. WIRE SHALL BE IDENTIFIED BY SURFACE MARKINGS, INDICATING MANUFACTURER'S IDENTIFICATION, CONDUCTOR SIZE AND METAL, VOLTAGE RATING, U.I. SYMBOL AND TYPE DESIGNATION.

RIGID POLYVINYL CHLORIDE CONDUIT (PVC)

RIGID POLYVINYL CHLORIDE CONDUIT SHALL BE TYPE DB, SCHEDULE 40, EXCEPT IN LOCATIONS WHERE CODE PERMITS SCHEDULE 80, SUN-LIGHT RESISTANT, RATED OR USE WITH 90 DEGREES C. CONDUCTORS, U.I. RATED, ALL PVC CONDUIT AND FITTINGS SHALL BE SOLVENT WELDED.

ELECTRIC METALLIC TUBING (EMT)

ELECTRICAL METALLIC TUBING SHALL BE GALVANIZED THIN WALL STEEL CONDUIT. THE CONNECTORS AND COUPLINGS SHALL BE HEAVY DUTY, STEEL-ZINC PLATED, SET SCREW TYPE FOR INDOOR APPLICATIONS, WHERE INSTALLED IN OUTDOOR APPLICATIONS WEATHER RATED COMPRESSION FITTINGS MUST BE USED.

FLEXIBLE METALLIC CONDUIT (FMC)

FLEXIBLE METALLIC CONDUIT SHALL BE OF HEAVY GALVANIZED SHEET METAL STRIP IN INTERLOCKED CONSTRUCTION. THE CONNECTORS SHALL BE SQUEEZE TYPE MALLEABLE IRON, CADMIUM PLATED.

LIQUID-TIGHT FLEXIBLE METAL CONDUIT (LFMC)

LIQUID-TIGHT FLEXIBLE CONDUIT SHALL BE CONSTRUCTED OF HEAVY GALVANIZED SHEET METAL STRIP, SPIRALLY-WOUND INTERLOCK CONSTRUCTION WITH AN ENCLOSED POLYVINYL GRAY JACKET. CONDUIT SHALL BE U.I. LABELED AND CONFORMED TO THE APPLICATION AND ENVIRONMENT IN WHICH IT WILL BE USED. ALL CONNECTIONS, COUPLINGS AND FITTINGS SHALL BE OF HIGH QUALITY STEEL-ZINC RATED TYPE SPECIFICALLY DESIGNED FOR THIS PURPOSE.

METAL CLAD CABLE (MC)

METAL CLAD CABLE SHALL BE INTERLOCKING GALVANIZED STEEL ARMOR CONSTRUCTION, COLOR CODED THERMOPLASTIC/NYLON INSULATION THHN, 90 DEGREE C., 600 VOLTS. COPPER CONDUCTORS AND INSULATION INSULATED EQUIPMENT COPPER GROUND CONDUCTOR, MARKER TAPE AND CABLE TAPE OVER MINIMUM SIZE #12 AWG UNLESS OTHERWISE INDICATED.

FITTINGS

CONDUIT BODIES FOR ELECTRICAL METALLIC TUBING (EMT) SHALL BE CAST ALUMINUM-ALUMINUM ENAMEL FINISH WITH SET SCREW HUBS AND ALUMINUM COVER.

INSULATION BUSHINGS SHALL BE HIGH IMPACT THERMOPLASTIC PHENOLIC WITH 150 DEG. C. UL TEMPERATURE RATING.

INSULATED GROUNDING BUSHINGS SHALL BE MALLEABLE IRON ZINC PLATED WITH MOLDED ON PHENOLIC INSULATION AND LAY-IN GROUNDING LUG.

CONDUIT LOCKNUTS SHALL BE HEAVY NUT STOCK STEEL-ZINC PLATED.

OFFSET NIPPLES SHALL BE MALLEABLE IRON ZINC PLATED WITH RIGID CONDUIT THREADING AND 3/4" OFFSET.

CONNECTORS AND COUPLINGS FOR ELECTRICAL METALLIC TUBING (EMT) SHALL BE HEAVY STEEL-ZINC PLATED WITH PRE-SET PRE-SHAKED SET SCREWS OR COMPRESSION TYPE WEATHER RATED FOR OUTDOOR APPLICATIONS.

CONDUIT STRAPS SHALL BE SNAP-TYPE, DOUBLE RIBBED STEEL-ZINC PLATED.

METAL CLAD CABLE AND FLEXIBLE METALLIC CONDUIT CONNECTORS SHALL BE MALLEABLE IRON-ZINC PLATED, MALE HUB THREADS WITH LOCKNUT.

SUPPORT FITTINGS

SUPPORT CHANNEL SHALL BE ROLL-FORMED #12 GAUGE STEEL, SOLID BASE OR BOLT HOLE BASE - HOT DIP GALVANIZED FINISH, COMPLETE WITH ANGLE FITTINGS, SPRING NUTS, CONDUIT SUPPORTS, 3/8" OR 1/2" THREADED RODS (SIZE REQUIRED FOR LOAD), ETC.

FUSES

FUSES SHALL NOT BE INSTALLED UNTIL EQUIPMENT IS READY TO BE EMERGIIZED. THIS MEASURE PREVENTS FUSE DAMAGE DURING SHIPMENT OF THE EQUIPMENT FROM THE MANUFACTURER TO THE JOB SITE.

ALL FUSES SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. FUSES SHALL BE OF THE SAME MANUFACTURER. FUSE TYPES DESCRIBE BELOW SHALL BE U.I. LISTED DUAL ELEMENT TIME DELAY TYPE.

CIRCUIT 0 TO 600 AMPERE SHALL BE PROTECTED BY DUAL ELEMENT, TIME DELAY, CURRENT LIMITING FUSES WITH AN INTERRUPTING RATING OF 200,000 A.I.C. U.I. LISTED CLASS RK1.

FUSES SHALL HAVE VOLTAGE RATING BASED ON DISTRIBUTION REQUIREMENT SYSTEMS.

OUTLET BOXES

OUTLET BOXES SHALL BE GALVANIZED STEEL, FLUSH OR SURFACE MOUNTED AND OF PROPER TYPE AND SIZE AS REQUIRED FOR THE PARTICULAR APPLICATION. SIZE AND TYPE DICTATED BY THE NUMBER OF DEVICES (2 GANG MINIMUM WITH SINGLE GANG PLASTER RING FOR SINGLE DEVICE LOCATIONS), NUMBER OF CONDUCTORS AND WIRING METHOD UTILIZED. BOXES SHALL BE ADEQUATE SIZE FOR THE INSTALLATION OF CONDUCTORS WITHOUT EXCESSIVE BENDING OR CRIMPING OF THE CONDUCTORS AND DAMAGING OF CONDUCTOR INSULATION.

OUTLET BOXES SHALL BE SECURED FIRMLY IN PLACE TO THE BUILDING STRUCTURE AND SET TRUE AND SQUARE. PROVIDE SUITABLE MEANS TO SUPPORT OUTLET BOX TO TAKE THE WEIGHT OF THE DEVICE.

PANELBOARDS

PANELBOARDS SHALL BE THE COMBINATION THERMAL/MAGNETIC CIRCUIT BREAKER TYPE. 3 PHASE, 4 WIRE WITH THE NUMBER OF BRANCH CIRCUITS AS REQUIRED. PROVIDE WITH FULLY RATED HARD-DRAWN COPPER, 98 PERCENT CONDUCTIVE PHASE AND GROUND BUS. LUGS SIZED TO ACCOMMODATE WIRE QUALITY AND SIZES. PANELS SHALL BE U.I. LISTED. DOOR-IN-DOOR DESIGN. BOXES SHALL BE CORROSION RESISTANT, ZINC FINISH GALVANIZED. FRONTS SHALL BE REINFORCED STEEL POWDER FINISH PAINTED LIGHT GRAY (ANSI-61) AND SHALL BE EQUIPPED WITH CONCEALED HINGED CONCEALED TRIM ADJUSTING SCREWS. DIRECTORY CARD HOLDERS SHALL BE CORROSION-PROOF VALOX WITH RETRACTABLE LATCH, KEYED ALIKE, PHASE BUS SHALL BE SEQUENCED AND FULLY INSULATED RATINGS SHALL BE DISPLAYED ON THE DEAD FRONT SHIELD AND TOTALLY VISIBLE WITH THE DOOR OPEN. NEMA RATING OF THE PANEL BOARD MUST BE SUITABLE FOR ITS LOCATION.

CIRCUIT BREAKERS

BRANCH CIRCUIT BREAKERS SHALL BE QUICK-MAKE, QUICK-BREAK, BOLT-IN THERMALMAGNETIC TYPE WITH VISIBLE CURRENT RATING AND TRIP POSITION AND BE SUITABLE FOR BACKFEED WHERE REQUIRED.

ALL MULTI-POLE BREAKERS SHALL BE EQUIPPED WITH HANDLE TIES FOR MULTI-POLE USE.

PHASE SEQUENCE AND BALANCING

MAINTAIN CORRECT PHASE SEQUENCE OF ALL FEEDERS AND CIRCUITS WITH PHASE IDENTIFICATION THROUGHOUT THE ENTIRE SYSTEM.

DRY TYPE TRANSFORMER

DRY TYPE TRANSFORMER SHALL BE U.I. LISTED IN ACCORDANCE WITH ANSI #C89.2 AND NEMA ST-20 STANDARDS. TEMPERATURE RISE OF 150 DEG. C., PAINT COLOR ANSI #61 GRAY, 6-2-1/2" TAPS (2 ABOVE/4 BELOW) WITH COPPER WINDINGS. SOUND RATING 42 TO 45 DECIBELS. THE ENCLOSURE SHALL BE SUITABLE FOR THE INSTALLED LOCATION.

SAFETY/DISCONNECT SWITCHES

DISCONNECT/SAFETY SWITCHES SHALL BE MOTOR RATED, METAL ENCLOSED, INTERLOCKING, FUSIBLE OR NONFUSED AS REQUIRED. HEAVY DUTY TYPE, WITH APPROPRIATE VOLTAGE RATINGS, QUICK-MAKE, QUICK-BREAK MECHANISMS, SOLID NEUTRAL AND U.I. LISTED. SWITCHES SHALL HAVE PROPER TYPE METAL ENCLOSURES, STANDARD, WEATHERPROOF, DUSTPROOF, ETC., TO SUIT THEIR SPECIFIC LOCATIONS.

JUNCTION BOXES, PULLBOXES AND WIREWAYS

JUNCTION BOXES, PULLBOXES AND WIREWAYS SHALL BE OF PROPER TYPE AND SIZES AS REQUIRED. CODE GAUGE, GALVANIZED STEEL WITH KNOCKOUTS AND FLANGES TO RECEIVE THE COVERS. COVERS SHALL BE FLAT, OF THE SAME MATERIAL AS THE BOX AND FASTENED TO THE BOX WITH MACHINE SCREWS.

GROUND RODS

GROUND RODS SHALL BE HIGH STRENGTH STEEL CORE WITH ELECTROLYTIC ALLY BONDED COPPER JACKET. GROUND RODS SHALL CONFORM TO THE REQUIREMENTS OF THE U.I. SPEC. NO. 467 (ANSI C-33.8-1972). MINIMUM SIZE SHALL BE 5/8 INCH DIAMETER BY EIGHT (8) FT LENGTH.

WIRING DEVICES

ALL DEVICES SHALL BE COMMERCIAL SPECIFICATION GRADE, U.I. LISTED, SELF-GROUNDING, GROUND LUG, SIDE/BACK WIRED.

WALL PLATES FOR SWITCHES AND RECEPTACLES SHALL BE STAMPED STEEL FOR UNFINISHED AREAS.

RECEPTACLES LOCATED IN WET LOCATIONS SHALL BE INSTALLED WITH AN OUTLET ENCLOSED POLYVINYL GRAY JACKET. CONDUIT SHALL BE U.I. LABELED AND CONFORMED TO THE APPLICATION AND ENVIRONMENT IN WHICH IT WILL BE USED. THE ENCLOSURE MUST EMPLOY STAINLESS STEEL MOUNTING HARDWARE AND BE CONSTRUCTED OF IMPACT RESISTANT POLYCARBONATE. THE OUTLET ENCLOSURE SHALL BE U.I. LISTED.

POWER AND CONTROL WIRING

FURNISH AND INSTALL ALL POWER WIRING, CONTROL WIRING (120VAC), CONDUIT AND FITTINGS FOR ALL EQUIPMENT AND FINAL CONNECTIONS. UPON COMPLETION OF WORK, CHECK OUT EACH ITEM.

PART 3 - EXECUTION

INSTALLATION

ALL WORK, MATERIALS AND MANNER OF INSTALLING SAME SHALL BE IN STRICT ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRIC CODE.

RACEWAYS

RACEWAYS, ENCLOSURES AND BOXES SHALL BE MECHANICALLY JOINED TO FORM A CONTINUOUS ELECTRICAL PATH.

THE CONTRACTOR SHALL PROVIDE APPROVED TYPE PULL BOXES AS REQUIRED.

MINIMUM SIZE CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED.

FURNISH NYLON PULL STRINGS IN ALL EMPTY CONDUIT RUNS.

FURNISH LOCKNUTS AND BUSHINGS FOR ALL CONDUIT TERMINATIONS IN ALL OUTLET BOXES, PANELS, PULL BOXES, CONDUIT STUBS, ETC.

ELECTRICAL METALLIC TUBING (EMT) SHALL BE USED FOR CONCEALED AND EXPOSED WIRING IN LOCATIONS AS FOLLOWS (FITTINGS MUST BE SUITABLE FOR LOCATION):

- 1. INTERIOR PANEL FEEDERS
- 2. INTERIOR RECEPTACLE AND POWER BRANCH CIRCUIT WIRING
- 3. THROUGH EXTERIOR WALLS
- 4. THROUGH INSTALLATIONS

RIGID POLYVINYL CHLORIDE (PVC) SHALL BE USED FOR WIRING IN THE FOLLOWING LOCATIONS:

- 1. BURIED UNDER GRADE
- 2. POWER BRANCH CIRCUIT WIRING BURIED UNDER GRADE
- 3. BELOW CONCRETE SLABS OR ASPHALT
- 4. EXPOSURE TO MOISTURE

ALL CONDUIT SHALL BE INSTALLED IN PARALLEL AND PERPENDICULAR TO THE BUILDING LINES.

ALL CONDUIT SHALL BE SUPPORTED USING CADMIUM PLATED CONDUIT STRAPS AND HANGERS.

SEPARATE CONDUIT SYSTEMS SHALL BE INSTALLED FOR ALTERNATING CURRENT AND DIRECT CURRENT POWER.

WIRING

PROVIDE WIRING TO ALL OUTLETS, EQUIPMENT, APPARATUS AND OTHER SPECIALTIES.

THE TERM 'WIRING' SHALL BE CONSIDERED TO BE COMPRISED OF THE CONDUIT, CONDUCTORS, CONNECTIONS, ETC.

ALL WIRING MUST BE SIZED FOR TYPE THWN/THHN COPPER CONDUCTORS.

MINIMUM SIZE WIRE SHALL BE #12 UNLESS OTHERWISE INDICATED. ALL WIRING SHALL BE COLOR CODED.

EXERCISE CAUTION IN PULLING CONDUCTORS INTO RACEWAYS SO AS NOT TO DAMAGE THE INSULATION. CABLE PULLING LUBRICANT SHALL BE USED TO ASSIST IN PULLING.

CONDUCTOR WITHIN PANELBOARDS, JUNCTION BOXES, TROUGHS AND OTHER EQUIPMENT WHERE CONCENTRATIONS OF CONDUCTORS ARE ENCLOSED, SHALL BE NEATLY ARRANGED.

CIRCUITS SHALL BE SO CONNECTED TO THE PANELBOARDS THAT THE TOTAL LOAD IS DISTRIBUTED AS NEATLY AS POSSIBLE, EQUALLY BETWEEN EACH LINE AND NEUTRAL.

BRANCH CIRCUIT WIRING FOR DEVICES IN DRYWALL CONSTRUCTION AND ACCESSIBLE HUNG CEILING SPACE, MAY BE INSTALLED IN A METAL SHEATHED 'MC' TYPE CABLE WHERE APPROVED BY THE NEC AND THE AUTHORITY HAVING JURISDICTION. CABLE SHALL BE SPACED FROM STRUCTURE 4" O.C. WITH APPROVED CABLE SUPPORTS. PROVIDE APPROPRIATE GROMMETS FOR HORIZONTAL RUNS IN METAL STUD PARTITIONS. CABLE SHALL NOT LAY ON CEILING STRUCTURE OR TILES. PROVIDE ANTI-SHORT BUSHINGS (RED HEAD) UNDER ARMOR JACKET AT TERMINATIONS.

COMMON NEUTRAL FOR MULTIPLE BRANCH CIRCUITS IS NOT ACCEPTABLE. PROVIDE SEPARATE NEUTRAL FOR EACH BRANCH CIRCUIT.

WIRING IN OUTLET BOXES, JUNCTION BOXES, CABINET PANELBOARDS OR EQUIPMENT SHALL HAVE A MINIMUM OF EIGHT (8) INCHES LENGTH LEADS FOR CONNECTING WIRING DEVICES TO MAKE UP CIRCUIT SPLICES.

PROVIDE FLEXIBLE METAL CONDUIT FOR DRY TYPE TRANSFORMER. LENGTH OF FLEXIBLE METAL CONDUIT DO NOT EXCEED THREE FEET (3').

INSTALL COPPER GREEN INSULATED GROUNDING CONDUCTOR IN ALL CONDUITS AND RACEWAYS.

SPLICING

SPLICING SHALL BE DONE WITH INSULATED OR NON-INSULATED CONNECTORS OF APPROPRIATE TYPES AND CURRENT-CARRYING CAPACITY. NON-INSULATED CONNECTORS SHALL BE WRAPPED WITH INSULATING TAPE TO THE THICKNESS OF THE INSULATION OF THE CONDUCTORS BEING SPLICED. ELECTRICAL TAPE SHALL BE 3M OR SUPER 88 SCOTCH VINYL FLAME-RETARDANT, COLD AND WEATHER RESISTANT.

SPLICES FOR CONDUCTORS, SIZES #10 AWG OR SMALLER SHALL BE MADE WITH U.I. LISTED SPRING-TYPE CONNECTORS OR APPROPRIATE CURRENT CARRYING CAPACITY.

SPLICES, TAPS AND TERMINALS FOR CONDUCTORS #6 AWG OR LARGER SHALL BE MADE WITH U.I. LISTED BOLTED PRESSURE CONNECTORS OF BRONZE OR COPPER CONSTRUCTION, OF APPROPRIATE CURRENT CARRYING CAPACITY.

CONDUCTOR IDENTIFICATION

CONDUCTORS #6 AWG AND SMALLER SHALL HAVE A COLOR-CODED INSULATION.

CONDUCTORS #6 AWG AND LARGER SHALL BE IDENTIFIED WITH TAPES APPLIED NEAR THE ENDS OF THE CONDUCTORS.

FEEDERS AND BRANCH CIRCUIT CONDUCTORS SHALL BE IDENTIFIED FOR PHASE ROTATION.

208/120V/3PH 480/277V/3PH

PHASE A	BLACK	BROWN
PHASE B	RED	ORANGE
PHASE C	BLUE	YELLOW
NEUTRAL	WHITE	WHITE
GROUND	GREEN	GREEN

ALL FEEDERS, MAINS AND BRANCH CIRCUIT CONDUCTORS SHALL BE TAGGED AT BOTH ENDS WITH WIRE MARKERS IN ALL PANELS, MOTOR CONTROLS, JUNCTION BOXES, OUTLET BOXES AND DEVICE BOXES.

IDENTIFICATION

FURNISH AND INSTALL NAMEPLATES FOR ALL ELECTRICAL EQUIPMENT, IDENTIFYING ITEMS BY NAME, FUNCTION AND/OR CONTROL.

IDENTIFYING NAMEPLATES SHALL BE LAMINATED, PLASTIC TYPE, CONSISTING OF TWO BLACK PLASTIC SHEETS WITH ONE WHITE PLASTIC SHEET BONDED TO AND BETWEEN THE TWO OUTER BLACK SHEETS AND HAVING THE LETTERS ENGRAVED IN ONE BLACK TO THE DEPTH OF THE WHITE PLASTIC. FASTEN NAMEPLATES TO EQUIPMENT WITH SUITABLE ADHESIVES OR STAINLESS STEEL SCREWS.

ALL PANELS SHALL HAVE TYPEWRITTEN CIRCUIT DIRECTORIES IDENTIFYING ALL BRANCH CIRCUITS.

USE PLASTIC-COATED WIRE MARKERS OF THE SELF-ADHESIVE, WRAPAROUND TYPE WITH PERMANENT FACTORY-PRINTED NUMBER, LETTERS AND SYMBOLS.

WIRE MARKERS SHALL BE SECURELY ATTACHED AT BOTH ENDS, IDENTIFYING PANEL AND CIRCUIT BREAKER NUMBERS.

ALL CONDUCTORS SHALL BE PERMANENTLY TAGGED AT TIME OF INSTALLATION. LABELS SHALL BE EQUAL TO T&B, PANDUIT OR IDEAL.

GROUNDING

ALL ELECTRICAL WORK SHALL BE GROUNDED AND BONDED IN FULL CONFORMANCE WITH THE LATEST APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE AND LOCAL REQUIREMENTS.

ALL ELECTRICAL EQUIPMENT, TRANSFORMERS, PANELBOARD ENCLOSURES, SAFETY SWITCHES, METAL ENCLOSURES, ELECTRICAL DEVICE CLOSURES AND ALL OTHER EQUIPMENT SHALL BE MADE TO FORM A CONTINUOUS CONDUCTING, GROUND PATH OF LOW IMPEDANCE FOR GROUND FAULT CIRCUITS AND OPERATION OF THE CIRCUIT PROTECTIVE DEVICES WITHIN EACH CIRCUIT.

PROVIDE GROUNDING CONDUCTOR IN ALL RACEWAYS.

GROUND CONNECTIONS WITH THE GROUNDING CONDUCTORS SHALL BE MADE AT EACH OUTLET BOX, FIXTURE AND OTHER EQUIPMENT COMPONENTS BY MEANS OF A POSITIVELY SECURED GROUNDING CLAMP, SCREW OR CLIP. CONNECTIONS TO GROUNDING RODS, OTHER GROUNDING ELECTRODE CONDUCTORS AND CONNECTIONS TO PIPES SHALL BE MADE WITH BRONZE OR BRASS CLAMPS.

BONDING SHALL BE PROVIDED TO ASSURE ELECTRICAL CONTINUITY AND THE CAPACITY TO SAFELY CONDUCT ANY FAULT CURRENT LIKELY TO BE IMPOSED.

EXHIBIT 9

WARRANTY NO.: 1652832

BUILDING OWNER: TOWN OF SOUTHLINGTON

NAME OF BUILDING: SOUTHLINGTON HIGH SCHOOL

BUILDING ADDRESS: 720 PLEASANT STREET SOUTHLINGTON, CT

DATE OF COMPLETION OF THE CARLISLE TOTAL ROOFING SYSTEM: 9/16/2024

DATE OF ISSUE: 10/11/2024

Carlisle Roofing Systems, Inc., (Carlisle) warrants to the Building Owner (Owner) of the above described building, that; subject to the terms, conditions, and limitations stated in this warranty, Carlisle will repair any leak in the Carlisle Roofing System (Carlisle Total Roofing System) installed by a Carlisle Authorized Roofing Applicator for a period of 30 years, commencing with the date of Carlisle's acceptance of the Carlisle Total Roofing System installation. However, in no event shall Carlisle's obligations extend beyond 30.5 years, subsequent to the date of substantial completion of the Carlisle Total Roofing System. See below for exact date of warranty expiration.

The Carlisle Total Roofing System is defined as the following newly installed Carlisle brand materials: Membrane, Flashings, Adhesives and Sealants, Insulation, Cover Boards, Fasteners, Fastener Plates, Fastening Bars, Insulation Adhesives and any other newly installed Carlisle brand products utilized in this installation.

TERMS, CONDITIONS, LIMITATIONS

1. Owner shall provide Carlisle with written notice via letter, fax or email within thirty (30) days of any leak in the Carlisle Total Roofing System. Owner should send written notice of a leak to Carlisle's Warranty Services Department at the address set forth at the bottom of this warranty. By so notifying Carlisle, the Owner authorizes Carlisle or its designee to investigate the cause of the leak. Should the investigation reveal the cause of the leak to be outside the scope of this Warranty, investigation and repair costs for this service shall be paid by the Owner.
2. If, upon inspection, Carlisle determines that the leak is caused by a defect in the Carlisle Total Roofing System's materials, or workmanship of the Carlisle Authorized Roofing Applicator in installing the same, Owner's remedies and Carlisle's liability shall be limited to Carlisle's repair of the leak. Carlisle shall have sole responsibility in determining the method of repair of the area.
3. This warranty shall not be applicable if, upon Carlisle's inspection, Carlisle determines that any of the following has occurred:
 - (a) The Carlisle Total Roofing System is damaged by: natural disasters, lightning, fire, insects, animals, windblown debris or objects, earthquakes, tornados, hail, hurricanes, and winds of (3 second) peak gust speeds of 72 mph or higher measured at 10 meters above ground; or
 - (b) Loss of integrity of the building envelope and/or structure, including, but not limited to, partial or complete loss of roof decking, wall siding, windows, roof top units, doors or other envelope components; or
 - (c) All associated building components, including but not limited to the deck substrate, joists, columns and foundation, must also meet wind speed design requirements.
 - (d) The Carlisle Total Roofing System is damaged by any acts, accidents, misuse, abuse, vandalism, civil disobedience or the like; or
 - (e) Deterioration or failure of building components, including, but not limited to, the roof substrate, walls, mortar, HVAC units, non Carlisle brand metal work, etc., occurs and causes a leak, or otherwise damages the Carlisle Total Roofing System; or
 - (f) Deterioration of metal materials and accessories caused by marine salt water, atmosphere, or by regular spray of either salt or fresh water; or

- (g) Acids, oils, harmful chemicals and the like come in contact with the Carlisle Total Roofing System and cause a leak, or otherwise damage the Carlisle Total Roofing System; or
- (h) The Carlisle Total Roofing System encounters leaks or is otherwise damaged by condensation resulting from any condition within the building that may generate moisture; or
- (i) The Carlisle Authorized Applicator or any additional contractor or subcontractor failed to follow Carlisle's published specifications and details for the approved system assembly or failure to correct all installation deficiencies listed in any Carlisle inspection report.

4. This Warranty shall be null and void if any of the following shall occur:

- (a) If, after installation of the Carlisle Total Roofing System by a Carlisle Authorized Roofing Applicator, there are any alterations or repairs made on or through the roof or objects such as, but not limited to, structures, fixtures, solar arrays, wind turbines, roof gardens or utilities are placed upon or attached to the roof without first obtaining written authorization from Carlisle; or
- (b) Failure by the Owner to use reasonable care in maintaining the roof, said maintenance to include, but not be limited to, those items listed on Carlisle's Care & Maintenance Guide which accompanies this Warranty.

5. In addition, it shall be Owner's sole responsibility to remove and re-install at Owner's expense, all obstructions, including, but not limited to, structures, fixtures, solar arrays, wind turbines, roof gardens, utilities or other overburden from the affected area as determined by Carlisle that would hinder or impede repairs being made in the most expedient and least expensive manner possible. Owner shall be responsible for all costs associated with any loss of power generation in the event that removal of a solar array is required to repair the roofing system.

6. During the term of this Warranty, Carlisle shall have free access to the roof during regular business hours.

7. Carlisle shall have no obligation under this Warranty while any bills for installation, supplies, service, and/or warranty charges have not been paid in full to the Carlisle Authorized Roofing Applicator, Carlisle, or material suppliers.

8. Carlisle's failure at any time to enforce any of the terms or conditions stated herein shall not be construed to be a waiver of such provision.

9. Carlisle shall not be responsible for the cleanliness or discoloration of the Carlisle Total Roofing System caused by environmental conditions including, but not limited to, dirt, pollutants or biological agents.

10. Carlisle shall have no liability under any theory of law for any claims, repairs, restoration, or other damages including, but not limited to, consequential or incidental damages relating, directly or indirectly, to the presence of any irritants, contaminants, vapors, fumes, molds, fungi, bacteria, spores, mycotoxins, or the like in the building or in the air, land, or water serving the building.

11. This warranty shall be transferable upon a change in ownership of the building when the Owner has completed certain procedures, including a transfer fee and an inspection of the Roofing System by a Carlisle representative.

12. Any dispute, controversy or claim between the Owner and Carlisle concerning this Limited Warranty shall be settled by mediation. In the event that the Owner and Carlisle do not resolve the dispute, controversy or claim in mediation, the Owner and Carlisle agree that any and all suits, proceedings, or claims shall be filed in either the state courts of Cumberland County, Pennsylvania or in the United States District Court for the Middle District of Pennsylvania. Each party irrevocably consents to the jurisdiction and venue of the above-identified courts.

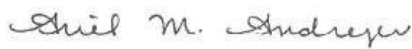
13. Roof System Design Assembly: Carlisle, as manufacturer of commercial roofing products with the sole purpose of offering products for an Owner, design professional, architect, consultant, or engineer when designing/choosing a roof system assembly, assumes no liability nor implies to the suitability of the products for any particular assembly or specific building operation or structure. The Owner, design professional, architect, consultant, or engineer is solely responsible for the assembly chosen for a particular building structure to include the responsibility to properly calculate wind uplift values, design dead loads and live loads, and suitability and condition of building envelope substrate, decking, parapets, drainage, slope, and other attributes pertaining to the performance of the roof system assembly.

14. The Carlisle Authorized Applicator or any additional contractor or subcontractor are not agents of Carlisle.

CARLISLE DOES NOT WARRANT PRODUCTS UTILIZED IN THIS INSTALLATION WHICH IT HAS NOT FURNISHED AND SPECIFICALLY DISCLAIMS LIABILITY, UNDER ANY THEORY OF LAW, ARISING OUT OF THE INSTALLATION AND PERFORMANCE OF, OR DAMAGES SUSTAINED BY OR CAUSED BY, PRODUCTS NOT FURNISHED BY CARLISLE OR THE PRIOR EXISTING ROOFING MATERIAL OVER WHICH THE CARLISLE ROOFING SYSTEM HAS BEEN INSTALLED.

THE REMEDIES STATED HEREIN ARE THE SOLE AND EXCLUSIVE REMEDIES FOR FAILURE OF THE CARLISLE TOTAL ROOFING SYSTEM OR ITS COMPONENTS. THERE ARE NO WARRANTIES EITHER EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY, WHICH EXTEND BEYOND THE FACE HEREOF. CARLISLE SHALL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR DAMAGE TO THE BUILDING OR ITS CONTENTS UNDER ANY THEORY OF LAW.

BY: Ariel M. Andrejev



AUTHORIZED SIGNATURE

TITLE: Sr. Manager, Technical and Warranty Services

This Warranty Expires: 10/10/2054

Carlisle Care and Maintenance Guide

In order to ensure the long-term performance of your Roofing System and continued warranty service and coverage, regular rooftop maintenance inspections are necessary. While normal aging will occur on all roofs, if not detected early, problems stemming from abuse, contamination, accidents and severe weather can result in extensive and costly repairs or premature failure of the roofing system. Single-ply Roofing Systems are typically low-slope and easy to inspect, but caution must be taken to ensure safety. Carlisle disclaims and assumes no liability for any rooftop activity.

- Owner must retain records related to the Roofing System. Such records include, but are not limited to: the warranty document and serial number, maintenance inspection logs, rooftop traffic logs, service logs, and invoices for work performed on the roofing system.
- Inspect the roof at least every six months (preferably spring and fall) and immediately following any weather event that includes excessive rainfall, high winds and/or hail warnings. Increased number of rooftop maintenance inspections may be required on some roofs as the location may dictate, such as higher trees near the building which will accumulate leaves and debris on the roof and have adverse effects on drainage. In addition, rooftop maintenance inspections should occur after regular maintenance of any rooftop unit.

When inspecting the Roofing System, pay special attention to the following:

- Walls/Parapets/Roof Edge – Wind damage often begins at the perimeter of the roof. Ensure all membrane terminations and edge metal and copings are secure.
- Roof Deck Membrane – Inspect the field of the roof, scanning for damage caused by wind-blown debris or traffic.
- Penetrations/Rooftop Units – Inspect the membrane, flashings and terminations around penetrations and roof top units for possible damage from service work. Ensure the units and terminations are secure.
- Remove debris (leaves, dirt, trash, etc.) – Good roofing practice dictates that water should drain from the roof and that ponded water should evaporate within 48 to 72 hours after a rainfall. Debris can inhibit drainage.

Additional Maintenance Items:

- Foot Traffic – Walkways must be provided if regular traffic is required or if rooftop equipment has a regular thirty (30) day or less maintenance schedule.
- Petroleum Products & Chemicals - Keep all liquids containing petroleum products or chemicals off the membrane to avoid product degradation.
- Animal Fats/Vegetable Oils: EPDM Membranes - Do not exhaust animal fats/vegetable oils directly onto EPDM roof surfaces. TPO & PVC Membranes – Animal fats/vegetable oils must be regularly removed and the rooftop surface cleaned with a mixture of soap and water.

What to do if a leak occurs:

- After verifying the leak is through the roofing system, contact Carlisle at 1-800-233-0551 or at www.carlislesyntec.com.
- If minor, emergency temporary repairs are made to a suspected leak area, use Carlisle's Lap Sealant or a good-grade rubber caulk to address the repair area (do not use asphaltic roof cement). Please note, Carlisle is not responsible for the cost associated with any emergency temporary repairs.

Alterations to the Roofing System:

- Alterations to the Roofing System must be completed by a Carlisle Authorized Applicator. The Carlisle Authorized Applicator must notify Carlisle when the revision work is complete. The necessary form can be found on the Carlisle website via the Authorized Applicators login.

Warranty Transfer:

- Warranties shall be transferable upon a change in ownership of the building when the Owner has completed certain procedures. This form can be found on the Carlisle website for additional guidelines.

EXHIBIT 11

Local Education Agency Southington Public Schools	State Project No. 131-0131 PV	Phase 1
School Southington High School	Architect	Date 5/13/2025

DAS - OFFICE OF SCHOOL CONSTRUCTION GRANTS & REVIEW (OSCG&R) PLAN REVIEW CHECKLIST

PHOTOVOLTAIC INSTALLATION PROJECT

FORM SCG-3022

- Do not use Not Applicable (N/A). Use "None", "NPS" (Not in Project Scope), or explain condition.
- Submit completed **Pre-Bid Conformance Review (PCR) Checklist** with this completed form.
- Roof replacement (RR) and Photovoltaic (PV) projects can be combined into a single, non-priority list project.
- Status column (by SCG staff): ☒ Accepted ☐ Open Item

				Status	
		Drawings	Specifications	Remarks	
01.	Indication of PV system in original Ed Specs				
02.	FORM SCG-9010 Superintendent's letter acknowledging responsibility for vandalism				
03.	Roof-mounted PV system:				
	a. Age of roof (existing or new)				
	b. Copy of warranty on existing roof				
	c. Warranty holder certification: Installation of PV system has no negative impact on existing roof warranty				
	d. Structural analysis of roof (existing or new):				
	1. PV system dead load				
	2. Snow drift load – calculated with PV system installed				
	3. Wind uplift on PV system				
	e. Dunnage:				
	1. Details of structure and roof				
	2. Walkway pads				
	f. Ballasted system:				
	1. Drainage pattern design compatibility				
	2. Walkway pads				
04.	Ground-mounted PV system:				
	a. Property must be owned by school no town-owned or leased property				
	b. Site plan				
	c. Extent of site disturbance / site activities				
	d. Fencing shown – fencing is required for ground-mounted PV installations				
	e. Contractor staging area				
05.	Specifications:				
	a. Location of inverter				
	b. Rapid shut-down requirement				
	c. Warning labels				
	1.				

	d. Power connection identification				
06.	Code Compliance Certification required				
07.	Utility company agreements/rebates/payments				

EXHIBIT 12



DEPARTMENT OF ADMINISTRATIVE SERVICES (DAS)
OFFICE OF SCHOOL CONSTRUCTION GRANTS & REVIEW (OSCG&R)

SEISMIC DESIGN CERTIFICATION

FORM SCG-3034

LEA Southington Public Schools	State Project No. 131-0131 PV	Facility Southington High School
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I, the undersigned, certify for the above noted project, the current Connecticut State Building Code requirements for seismic loads, when required, have been incorporated in the design of the new or altered **ceilings systems**.

Architect/Engineer: _____ Date: _____
Signature

(Print name): _____ Professional Seal:

I, the undersigned, certify for the above noted project, the current Connecticut State Building Code requirements for structural and seismic loads, when required, have been incorporated in the design of the new or altered **structural systems** or existing structural systems affected by new loads.

Architect/Engineer: _____ Date: _____
Signature

(Print name): _____ Professional Seal:

I, the undersigned, certify for the above noted project, the current Connecticut State Building Code requirements for seismic loads, when required, have been incorporated in the design of the new or altered **mechanical systems**.

Architect/Engineer: _____ Date: _____
Signature

(Print name): _____ Professional Seal:

I, the undersigned, certify for the above noted project, the current Connecticut State Building Code requirements for seismic loads, when required, have been incorporated in the design of the new or altered **plumbing and fire protection systems**.

Architect/Engineer: _____ Date: _____
Signature

(Print name): _____ Professional Seal:

I, the undersigned, certify for the above noted project, the current Connecticut State Building Code requirements for seismic loads, when required, have been incorporated in the design of the new or altered **electrical systems** and **data network infrastructure systems**.

Architect/Engineer: _____ Date: _____
Signature

(Print name): _____ Professional Seal:

EXHIBIT 13



DEPARTMENT OF ADMINISTRATIVE SERVICES (DAS)

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

REQUEST FOR REVIEW OF FINAL PLANS FORM SCG-042

STATUTORY REF.: C.G.S. Sections 10-282, 10-283, 10-291, 10-294, 10-292

DISTRICT NAME: Southington Public Schools	FACILITY NAME AND ADDRESS: Southington High School 720 Pleasant St, Southington, CT 06489	STATE PROJECT NUMBER: 131-0131 PV
		PHASE NUMBER: 1

Estimated date* to begin construction _____ Estimated date to complete construction _____

* NOTE: Construction must begin within 2 years of grant commitment date to maintain grant eligibility.

Certification of Approval dates:

	Final Plans & Prof. Cost Estimate	Site Approval (if applicable)
Local Board of Education	____/____/____	____/____/____
School Building Committee	____/____/____	____/____/____

We hereby certify that these **final plans and project manual(s)** as prepared for bidding and dated _____, and the **professional cost estimate**, completed in accordance with Level 3 of ASTM International Standard E1557, Standard Classification of Building Elements and Related Sitework-UNIFORMAT II for this project, dated _____, have been reviewed and approved for this project on the dates shown above.

For the Town or Regional Board of Education:

_____ Chairperson's Name (Type or print)	_____ Signature	_____ Date
---	--------------------	---------------

For the School Building Committee:

_____ Chairperson's Name (Type or print)	_____ Signature	_____ Date
---	--------------------	---------------

** Signature dates cannot precede the date on the submitted plans.

For the Project Architect/Engineering Firm:

CSW Energy Firm Name (Type or print)	_____ Signature	(845) 551-7881 Telephone No.
--	--------------------	--

We hereby request a review of the final Project Plans, Project Manual, Ineligible and Limited Eligible Costs Worksheet (ICW) FORM SCG-4000, and professional cost estimate as noted above. Copies of all the above referenced documents are either attached, or available.

_____ Superintendent's Name (Type or print)	_____ Signature	_____ Date
--	--------------------	---------------

NOTE: NO PHASE OF THIS SCHOOL CONSTRUCTION PROJECT SHALL GO OUT TO BID, AND NO PURCHASE ORDER OVER \$10,000.00 SHALL BE ISSUED, UNTIL YOU HAVE RECEIVED WRITTEN NOTIFICATION FROM THE STATE DEPARTMENT OF ADMINISTRATIVE SERVICES (DAS) INDICATING APPROVAL OF FINAL PLANS, PROJECT MANUAL, AND COST ESTIMATE.

FORM SCG-042 Request for Review of Final Plans

State Project No. 131-0131 PV

Project Name: Southington High School

Name of Contact Person: Chris Palmer, CSW Energy	Telephone: (845) 551-7881	Date: 3/31/2025
--	-------------------------------------	---------------------------

Certifications of Local Approval:

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

Local Building Official's Name

Signature

Date

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

Local Fire Marshal's Name

Signature

Date

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

Local Health Official's Name

Signature

Date

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

Local Federal 504 Official's Name

Signature

Date

- NOTES:**
- 1.) THE CERTIFICATIONS OF LOCAL APPROVAL NOTED ABOVE MUST BE OBTAINED, AND ARE REQUIRED TO BE PROVIDED, PRIOR TO RECEIVING APPROVAL-TO-BID BY THE STATE DEPARTMENT OF ADMINISTRATIVE SERVICES (DAS) FOR THIS PROJECT. IF THESE CERTIFICATIONS CANNOT BE OBTAINED LOCALLY, PLEASE CONTACT THE DAS, OFFICE OF SCHOOL CONSTRUCTION GRANTS & REVIEW (OSCG&R) FOR ASSISTANCE.
 - 2.) THE OFFICE OF SCHOOL CONSTRUCTION GRANTS & REVIEW (OSCG&R) APPROVED PROJECT PLANS, PROJECT MANUAL AND COST ESTIMATE MUST BE KEPT ON FILE AT THE LOCAL BOARD OF EDUCATION OFFICE UNTIL THE FINAL GRANT PAYMENT HAS BEEN MADE AND THE DAS AUDIT IS COMPLETE ON THIS PROJECT.
 - 3.) ORIGINAL SIGNATURES ARE REQUIRED ON THIS FORM. IF ORIGINAL SIGNATURES ARE NOT AVAILABLE AT THE PLAN REVIEW MEETING, MAIL OR OVERNIGHT DELIVER THIS COMPLETED FORM TO:
The Office of School Construction Grants & Review
450 Columbus Blvd., Suite 1503
Hartford, CT 06103

EXHIBIT 15



DEPARTMENT OF ADMINISTRATIVE SERVICES (DAS)

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

FORM SCG-4000

Ineligible Costs and Limited Eligible Costs Worksheet (ICW)

LEA or RESC: Southington Public Schools					
Facility Name: Southington High School					
Temporary State Project Number:					
Permanent State Project Number: 131-0131 PV					
Item	Initial Estimate	1st Revised Estimate	2nd Revised Estimate	3rd Revised Estimate	Final Costs (actual)
Date: 2/5/2025	4/4/2025				
SECTION A COSTS: OFF-SITE WORK DONE BEYOND SCHOOL PROPERTY LINE - work beyond property line is ineligible					
01 Road Construction & Driveway Connections to Roadway	\$0	\$0	\$0	\$0	\$0
02 Water or Sewer Line Connections (including manholes)	\$0	\$0	\$0	\$0	\$0
03 Other Utilities & Connections	\$0	\$0	\$0	\$0	\$0
SECTION B COSTS: ASSOCIATED WITH REPAIR, REPLACEMENT and MAINTENANCE WORK - (Not integral to the project scope)					
04 Site Regrading	\$0	\$0	\$0	\$0	\$0
05 Resurfacing Drives, Walks, & Parking Areas	\$0	\$0	\$0	\$0	\$0
06 Reseeding and Lawn Repairs	\$0	\$0	\$0	\$0	\$0
07 Site Repairs	\$0	\$0	\$0	\$0	\$0
08 Site Improvements	\$0	\$0	\$0	\$0	\$0
09 Shrubs, Trees, Landscaping	\$0	\$0	\$0	\$0	\$0
10. Fencing - Decorative, Ornamental or Fencing other than required at hazardous areas	\$0	\$0	\$0	\$0	\$0
11. Toilet Fixtures & Partitions - unless required by code compliance	\$0	\$0	\$0	\$0	\$0
12. Concrete Steps, Walks, and Curbs	\$0	\$0	\$0	\$0	\$0
13. Masonry or Concrete (also including repoint, clean or waterproof)	\$0	\$0	\$0	\$0	\$0
14. Caulking and/or Control Joints	\$0	\$0	\$0	\$0	\$0
15. Windows, Glass or Glazing	\$0	\$0	\$0	\$0	\$0
16. Louvers	\$0	\$0	\$0	\$0	\$0
17. Exterior Doors - include frames and hardware	\$0	\$0	\$0	\$0	\$0
18. Repainting of Existing Areas	\$0	\$0	\$0	\$0	\$0
19. Carpet Replacement and Floor Refinishing	\$0	\$0	\$0	\$0	\$0
20. Finishes	\$0	\$0	\$0	\$0	\$0
21. Ceilings	\$0	\$0	\$0	\$0	\$0
22. Furniture (also see line 72)	\$0	\$0	\$0	\$0	\$0
23. Equipment	\$0	\$0	\$0	\$0	\$0
24. Lockers	\$0	\$0	\$0	\$0	\$0
25. Moveable Chalkboards/Tackboards/Smartboards	\$0	\$0	\$0	\$0	\$0
26. Water Heaters - Repair or Replacement not integral to Project Scope	\$0	\$0	\$0	\$0	\$0
27. Boilers, HVAC Systems or Equipment, or Fuel Storage Equipment - Repair, Replacement, or Conversion	\$0	\$0	\$0	\$0	\$0
28. Plumbing Fixtures - except for ADA required	\$0	\$0	\$0	\$0	\$0
29. Light Fixture Replacement	\$0	\$0	\$0	\$0	\$0

30.	Security Systems and Sound and Clock Systems	\$0	\$0	\$0	\$0	\$0
31.	All other Repair, Replacement or Maintenance items not required by code or project scope	\$0	\$0	\$0	\$0	\$0
Facility Name: Southington High School Permanent State Project Number: 131-0131 PV						
SECTION C COSTS: ASSOCIATED WITH ROOF REPLACEMENT WORK						
32.	General Roof Repairs	\$0	\$0	\$0	\$0	\$0
33.	Repair of Gutters and Leaders - not integral to new roof	\$0	\$0	\$0	\$0	\$0
34.	Repair of damaged interior materials or surfaces from roof leak	\$0	\$0	\$0	\$0	\$0
35.	Flashing - not integral to the new roof	\$0	\$0	\$0	\$0	\$0
36.	Fascia & Soffit Work - not integral to new roof	\$0	\$0	\$0	\$0	\$0
37.	Coping on Parapets - not integral to new roof	\$0	\$0	\$0	\$0	\$0
38.	Roof Drains, Hatches, Fans - repair or replacement of existing, not integral to new roof	\$0	\$0	\$0	\$0	\$0
39.	Maintenance and/or Cleaning of Roof Drains	\$0	\$0	\$0	\$0	\$0
40.	Skylights - refer to statutory requirements	\$0	\$0	\$0	\$0	\$0
41.	Ladders - unless fixed to structure	\$0	\$0	\$0	\$0	\$0
42.	Antenna, Canopies, and Cupolas	\$0	\$0	\$0	\$0	\$0
SECTION D COSTS: ASSOCIATED WITH WINDOW REPLACEMENT WORK						
43.	Blinds and Shades - regardless of project type	\$0	\$0	\$0	\$0	\$0
SECTION E COSTS: OTHER INELIGIBLE PROJECT WORK						
44.	Relocation of facilities on site	\$0	\$0	\$0	\$0	\$0
45.	Athletic Facility Lighting	\$0	\$0	\$0	\$0	\$0
46.	Parking lots and/or parking spaces - in excess of minimum zoning requirements	\$0	\$0	\$0	\$0	\$0
47.	Artificial Turf	\$0	\$0	\$0	\$0	\$0
48.	Movable Site Furnishings & Equipment	\$0	\$0	\$0	\$0	\$0
49.	Computers, Software, Textbooks, Library Books	\$0	\$0	\$0	\$0	\$0
50.	General Supplies, Media or Other Consumables	\$0	\$0	\$0	\$0	\$0
51.	Lease of Facilities (except per CGS Section 10-286(a)(8))	\$0	\$0	\$0	\$0	\$0
52.	Extended Warranties, Maintenance or Service contracts	\$0	\$0	\$0	\$0	\$0
53.	School District and Town Administrative Salaries	\$0	\$0	\$0	\$0	\$0
54.	State of CT Education Fee on Permits (.26c/\$1000)	\$649	\$649	\$0	\$0	\$0
55.	Permits & Fees	\$0	\$0	\$0	\$0	\$0
56.	Replacement of stolen, vandalized, or broken items	\$0	\$0	\$0	\$0	\$0
57.	Work Outside the Authorized Project Scope (including Town or BOE shared space)	\$0	\$0	\$0	\$0	\$0
	SUB-TOTAL LINES 1-57	\$649	\$649	\$0	\$0	\$0
58.	Allowances - total value of all allowances: costs may be eligible when expended by change order	\$0	\$0	\$0	\$0	\$0
59.	Construction Contingencies - may become eligible when reconciled by change order	\$0	\$0	\$0	\$0	\$0
60.	Prorated Overhead and Profit for CM and A/E Fees based upon % of ineligible hardcosts	\$0	\$0	\$0	\$0	\$0
61.	Owner Contingencies	\$0	\$0	\$0	\$0	\$0
62.	CM and A/E Fees: Percentage-based increase in professional fees due to Change Orders	\$0	\$0	\$0	\$0	\$0
63.	Interest on Bonds or Bond Anticipation Notes.	\$0	\$0	\$0	\$0	\$0
64.	Ineligible Costs from CHANGE ORDERS					\$0
65.	All costs in excess of Grant Commitment	\$0	\$0	\$0	\$0	\$0

66.	Legal fees except for site acquisition	\$0	\$0	\$0	\$0	\$0
SUB-TOTAL LINES 58-66		\$0	\$0	\$0	\$0	\$0
INELIGIBLE COSTS TOTALS (Lines 1-66)		\$649	\$649	\$0	\$0	\$0
DISTRICT SIGN-OFF (initial or signature)						
Date						
Facility Name: Southington High School Permanent State Project Number: 131-0131 PV						
SECTION F COSTS: LIMITED ELIGIBILITY - the following items are subject to reduced reimbursement. Note: DO NOT include these costs in the ineligible cost total above.						
67.	Feasibility Study - except for one (1) initial study	\$0	\$0	\$0	\$0	\$0
68.	Outdoor Athletic Facilities (All OAF construction, including tennis courts, storage sheds, and spectator facilities)	\$0	\$0	\$0	\$0	\$0
69.	Swimming Pools & Natatoriums	\$0	\$0	\$0	\$0	\$0
70.	Retractable Gym Seating (includes movable bleachers)	\$0	\$0	\$0	\$0	\$0
71.	Spectator Seating in a Gymnasium - PERMANENT FIXED (not retractable) Complete lines a) through d) below.					
a)	Square Footage of Area Occupied by Seating					
b)	Total Square Footage of Gymnasium					
c)	Total Cost (\$) of Gym Construction - Excluding Seating	\$0	\$0	\$0	\$0	\$0
d)	Total Cost (\$) of Seats (Including Installation)	\$0	\$0	\$0	\$0	\$0
72.	Seating Area in an Auditorium - Complete lines a) through e) below only if NEW AUDITORIUM SPACE will be created as a result of the project. Replacement seating costs in an existing auditorium are either ineligible (report costs on line 22) or are prorated between ineligible and eligible construction costs if the work involves creating seating areas for persons with disabilities.					
a)	Square Footage of Area Occupied by Seating					
b)	Total Square Footage of Auditorium					
c)	Total Cost (\$) of Auditorium Construction Excluding Seating	\$0	\$0	\$0	\$0	\$0
d)	Total Cost (\$) of Seats (Including Installation)	\$0	\$0	\$0	\$0	\$0
e)	Capacity of Auditorium (Report Maximum Number of Potential Seats)*					
*Note that Capacity of Auditorium does not mean the actual number of seats, but the number which the auditorium has the capacity to hold.						

EXHIBIT 16



AIA[®] Document A141[™] – 2014

Standard Form of Agreement Between Owner and Design-Builder

AGREEMENT made as of the ____ day of _____ in the year 2025
(In words, indicate day, month and year.)

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

Town of Southington
75 Main Street
Southington, CT 06489

and the Design-Builder:
(Name, legal status, address and other information)

ABC Corporation
123 Commercial Drive
Anywhere, CT 12345

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

Rooftop solar photovoltaic project at:
Southington High School, 720 Pleasant St., Southington, CT 06489

(DAS ID# 131-0131 PV; Southington Public Schools Bid Number 2026-001)

The Owner and Design-Builder agree as follows.

TABLE OF ARTICLES

1	GENERAL PROVISIONS
2	COMPENSATION AND PROGRESS PAYMENTS
3	GENERAL REQUIREMENTS OF THE WORK OF THE DESIGN-BUILD CONTRACT
4	WORK PRIOR TO EXECUTION OF THE DESIGN-BUILD AMENDMENT
5	WORK FOLLOWING EXECUTION OF THE DESIGN-BUILD AMENDMENT
6	CHANGES IN THE WORK
7	OWNER'S RESPONSIBILITIES
8	TIME
9	PAYMENT APPLICATIONS AND PROJECT COMPLETION
10	PROTECTION OF PERSONS AND PROPERTY
11	UNCOVERING AND CORRECTION OF WORK
12	COPYRIGHTS AND LICENSES
13	TERMINATION OR SUSPENSION
14	CLAIMS AND DISPUTE RESOLUTION
15	MISCELLANEOUS PROVISIONS
16	SCOPE OF THE AGREEMENT

TABLE OF EXHIBITS

A	DESIGN-BUILD AMENDMENT
B	PROJECT MANUAL VERSION 06-05-2025 ("PROJECT MANUAL")*

* Project Manual is attached for reference purposes only and is not and is not intended to be incorporated herein by reference except for portions that are specifically referenced in the body of this Agreement, as they pertain to the rooftop solar photovoltaic project at Southington High School.

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Owner's Criteria

This Agreement is based on the Owner's Criteria set forth in this Section 1.1.

(Note the disposition for the following items by inserting the requested information or a statement such as "not applicable" or "unknown at time of execution." If the Owner intends to provide a set of design documents, and the requested information is contained in the design documents, identify the design documents and insert "see Owner's design documents" where appropriate.)

§ 1.1.1 The Owner's program for the Project:

(Set forth the program, identify documentation in which the program is set forth, or state the manner in which the program will be developed.)

Not applicable.

§ 1.1.2 The Owner's design requirements for the Project and related documentation:
(Identify below, or in an attached exhibit, the documentation that contains the Owner's design requirements, including any performance specifications for the Project.)

Design requirements and performance specifications found in Section 2 -- Scope of Design and Construction Work for the Project, found in Sections 2.1 through and including Section 2.15 of the Project Manual and the associated tables, exhibits, and attachments referenced therein.

§ 1.1.3 The Project's physical characteristics:
(Identify or describe, if appropriate, size, location, dimensions, or other pertinent information, such as geotechnical reports; site, boundary and topographic surveys; traffic and utility studies; availability of public and private utilities and services; legal description of the site; etc.)

Southington High School, 720 Pleasant Street, Southington, CT 06489 (DAS ID# 131-0131 PV); with a proposed system size of 600 kW-AC.

§ 1.1.4 The Owner's anticipated Sustainable Objective for the Project, if any:
(Identify the Owner's Sustainable Objective for the Project such as Sustainability Certification, benefit to the environment, enhancement to the health and well-being of building occupants, or improvement of energy efficiency. If the Owner identifies a Sustainable Objective, incorporate AIA Document A141™-2014, Exhibit C, Sustainable Projects, into this Agreement to define the terms, conditions and Work related to the Owner's Sustainable Objective.)

Not applicable

§ 1.1.5 Incentive programs the Owner intends to pursue for the Project, including those related to the Sustainable Objective, and any deadlines for receiving the incentives that are dependent on, or related to, the Design-Builder's services, are as follows:
(Identify incentive programs the Owner intends to pursue for the Project and deadlines for submitting or applying for the incentive programs.)

Design-Builder will work with Owner to register the NRES School Program incentive and ensure that the Town is receiving its NRES School Program credits after the system is energized.

§ 1.1.6 The Owner's budget for the Work to be provided by the Design-Builder is set forth below:
(Provide total for Owner's budget, and if known, a line item breakdown of costs.)

As approved by the Southington Town Council on _____, 2025, based on the winning bid submitted by [ABC Corporation] in response to the Bid Documents & Project Manual, the Town is authorized to enter into a contract with [ABC Corporation] for \$_____ for Southington High School (DAS ID# 131-0131 PV).

§ 1.1.7 The Owner's design and construction milestone dates:

.1 Design phase milestone dates:

Complete final engineering design of the rooftop solar PV system within 30 days of receiving the Notice to Proceed from the Owner.

.2 Submission of Design-Builder Final Design:

Presentation of final design to CT DAS at a Project Completion Review (PCR) meeting on or before 15 days after date of final engineering design completion.

.3 Phased completion dates:

Construction Mobilization dates are provided in Section 4.5.C.1 of the Project Manual.
Commissioning and closeout dates are according to Section 4.5.C.2 of the Project Manual.

.4 Substantial Completion date:

On or before 30 working days from utility permission to operate.

.5 Other milestone dates:

All phases of the Work must be completed no later than August 1, 2026.

§ 1.1.8 The Owner requires the Design-Builder to retain the following Architect, Consultants and Contractors at the Design-Builder's cost:

(List name, legal status, address and other information.)

.1 Architect

Not applicable.

.2 Consultants

Not applicable.

.3 Contractors

Not applicable.

§ 1.1.9 Additional Owner's Criteria upon which the Agreement is based:

(Identify special characteristics or needs of the Project not identified elsewhere, such as historic preservation requirements.) The Design-Builder must meet all of the qualifications in Section 1.7 of the Project Manual throughout the duration of the Agreement, including but not limited to all of the CT DAS requirements. The Design-Builder must meet all of the CHRO requirements of Section 1.11 of the Project Manual throughout the duration of the Agreement. The Design-Builder must meet all of the Prevailing Wages requirements of Section 1.14 of the Project Manual (with associated exhibits) throughout the duration of the Agreement. The Design-Builder must meet all of the Roof Warranty requirements of Section 2.9 of the Project Manual (with associated exhibits) throughout the duration of the Agreement, and among other things, must ensure that they do not impact any existing

roof warranties, and must coordinate with the roofing contractor regarding any penetrations or attachments which must be done by the roofing contractor, because the roof membranes will be under the roofing contractor's workmanship warranty during the installation of these solar projects. The Design-Builder must meet all of the Immigration Law compliance requirements of Section 5.4 of the Project Manual. The Design-Builder must meet all of the Workers Compensation requirements of Section 5.5 of the Project Manual throughout the duration of the Agreement. The Design-Builder must comply with the OSHA requirements of Section 5.6 of the Project Manual throughout the duration of the Agreement. The Design-Builder must comply with the Building Occupancy, Timing of Access, and Work Schedule requirements of Section 5.15 of the Project Manual throughout the duration of the Agreement.

§ 1.1.10 The Design-Builder shall confirm that the information included in Section 1.1.2 of the Owner's Criteria complies with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities.

§ 1.1.10.1 If Section 1.1.2 of the Owner's Criteria conflicts with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Design-Builder shall notify the Owner of the conflict.

§ 1.1.11 If there is a change in the Owner's Criteria, the Owner and the Design-Builder shall execute a Modification in accordance with Article 6.

§ 1.1.12 If the Owner and Design-Builder intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions. Unless otherwise agreed, the parties will use AIA Document E203™-2013 to establish the protocols for the development, use, transmission, and exchange of digital data and building information modeling.

§ 1.2 Project Team

§ 1.2.1 The Owner identifies the following representative in accordance with Section 7.1.1:
(List name, address and other information.)

Owner's Representative: Peter Romano, Director of Operations, Southington Public Schools,
promano@southingtonschools.org, (860) 628-3200 x10206
Project Manager's Representative, Sam Dziekan, CSW Energy, sam@cswenergy.com, 914-484-6615

§ 1.2.2 The persons or entities, in addition to the Owner's representative, who are required to review the Design-Builder's Submittals are as follows:
(List name, address and other information.)

Project Manager's Representative, Sam Dziekan, CSW Energy, sam@cswenergy.com, 914-484-6615

§ 1.2.3 The Owner will retain the following consultants and separate contractors:
(List discipline, scope of work, and, if known, identify by name and address.)

Project Manager: Sam Dziekan, CSW Energy, sam@cswenergy.com, 914-484-6615
Legal Liaison: Robert Klee, Klee Sustainability Advisors LLC, rob@kleesustainability.com, 203-376-5687

§ 1.2.4 The Design-Builder identifies the following representative in accordance with Section 3.1.2:
(List name, address and other information.)

John Doe
Title
123 Commercial Drive
Anytown, CT 12345
(203) 123-4567
JDoe@abccorp.com

§ 1.2.5 Neither the Owner's nor the Design-Builder's representative shall be changed without ten days' written notice to the other party.

§ 1.3 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Section 14.3, the method of binding dispute resolution shall be the following:

(Check the appropriate box. If the Owner and Design-Builder do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.)

- ☐ Arbitration pursuant to Section 14.4
- ☒ Litigation in a court of competent jurisdiction
- ☐ Other: *(Specify)*

§ 1.4 Definitions

§ 1.4.1 **Design-Build Documents.** The Design-Build Documents consist of this Agreement between Owner and Design-Builder and its attached Exhibits (hereinafter, the "Agreement"); other documents listed in this Agreement; and Modifications issued after execution of this Agreement. A Modification is (1) a written amendment to the Contract signed by both parties, including the Design-Build Amendment, (2) a Change Order, or (3) a Change Directive.

§ 1.4.2 **The Contract.** The Design-Build Documents form the Contract. The Contract represents the entire and integrated agreement between the parties and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Design-Build Documents shall not be construed to create a contractual relationship of any kind between any persons or entities other than the Owner and the Design-Builder.

§ 1.4.3 **The Work.** The term "Work" means the design, construction and related services required to fulfill the Design-Builder's obligations under the Design-Build Documents, whether completed or partially completed, and includes all labor, materials, equipment and services provided or to be provided by the Design-Builder. The Work may constitute the whole or a part of the Project.

§ 1.4.4 **The Project.** The Project is the total design and construction of which the Work performed under the Design-Build Documents may be the whole or a part, and may include design and construction by the Owner and by separate contractors.

§ 1.4.5 **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 Design-Builder, Contractor(s), Architect, and Consultant(s) under their respective agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, digital models and other similar materials.

§ 1.4.6 **Submittal.** A Submittal is any submission to the Owner for review and approval demonstrating how the Design-Builder proposes to conform to the Design-Build Documents for those portions of the Work for which the Design-Build Documents require Submittals. Submittals include, but are not limited to, shop drawings, product data, and samples. Submittals are not Design-Build Documents unless incorporated into a Modification.

§ 1.4.7 **Owner.** The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Design-Build Documents as if singular in number. The term "Owner" means the Owner or the Owner's authorized representative.

§ 1.4.8 **Design-Builder.** The Design-Builder is the person or entity identified as such in the Agreement and is referred to throughout the Design-Build Documents as if singular in number. The term "Design-Builder" means the Design-Builder or the Design-Builder's authorized representative.

§ 1.4.9 Consultant. A Consultant is a person or entity providing professional services for the Design-Builder for all or a portion of the Work, and is referred to throughout the Design-Build Documents as if singular in number. To the extent required by the relevant jurisdiction, the Consultant shall be lawfully licensed to provide the required professional services.

§ 1.4.10 Architect. The Architect is a person or entity providing design services for the Design-Builder for all or a portion of the Work, and is lawfully licensed to practice architecture in the applicable jurisdiction. The Architect is referred to throughout the Design-Build Documents as if singular in number.

§ 1.4.11 Contractor. A Contractor is a person or entity performing all or a portion of the construction, required in connection with the Work, for the Design-Builder. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor is referred to throughout the Design-Build Documents as if singular in number and means a Contractor or an authorized representative of the Contractor.

§ 1.4.12 Confidential Information. Confidential Information is information containing confidential or business proprietary information that is clearly marked as "confidential."

§ 1.4.13 Contract Time. Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, as set forth in the Design-Build Amendment for Substantial Completion of the Work.

§ 1.4.14 Day. The term "day" as used in the Design-Build Documents shall mean calendar day unless otherwise specifically defined.

§ 1.4.15 Contract Sum. The Contract Sum is the amount to be paid to the Design-Builder for performance of the Work after execution of the Design-Build Amendment, as identified in Article A.1 of the Design-Build Amendment.

ARTICLE 2 COMPENSATION AND PROGRESS PAYMENTS

§ 2.1 Compensation for Work Performed Prior To Execution of Design-Build Amendment

Section 2.1 is hereby deleted because it is not applicable in this situation where the Design-Builder has submitted its preliminary design in response to the Bid Documents & Project Manual, and was selected in that competitive bid process to enter into this Agreement with the Owner, and proceed to final design based on the Design-Builder's preliminary design and overall submission in response to the Bid Documents & Project Manual.

(Paragraphs deleted)

(Table deleted)

(Paragraphs deleted)

§ 2.2 Contract Sum and Payment for Work Performed After Execution of Design-Build Amendment

For the Design-Builder's performance of the Work after execution of the Design-Build Amendment, the Owner shall pay to the Design-Builder the Contract Sum in current funds as agreed in the Design-Build Amendment.

ARTICLE 3 GENERAL REQUIREMENTS OF THE WORK OF THE DESIGN-BUILD CONTRACT

§ 3.1 General

§ 3.1.1 The Design-Builder shall comply with any applicable licensing requirements in the jurisdiction where the Project is located.

§ 3.1.2 The Design-Builder shall designate in writing a representative who is authorized to act on the Design-Builder's behalf with respect to the Project.

§ 3.1.3 The Design-Builder shall perform the Work in accordance with the Design-Build Documents. The Design-Builder shall not be relieved of the obligation to perform the Work in accordance with the Design-Build Documents by the activities, tests, inspections or approvals of the Owner.

§ 3.1.3.1 The Design-Builder shall perform the Work in compliance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities. If the Design-Builder performs Work contrary to

applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, the Design-Builder shall assume responsibility for such Work and shall bear the costs attributable to correction.

§ 3.1.3.2 Neither the Design-Builder nor any Contractor, Consultant, or Architect shall be obligated to perform any act which they believe will violate any applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities. If the Design-Builder determines that implementation of any instruction received from the Owner, including those in the Owner's Criteria, would cause a violation of any applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Design-Builder shall notify the Owner in writing. Upon verification by the Owner that a change to the Owner's Criteria is required to remedy the violation, the Owner and the Design-Builder shall execute a Modification in accordance with Article 6.

§ 3.1.4 The Design-Builder shall be responsible to the Owner for acts and omissions of the Design-Builder's employees, Architect, Consultants, Contractors, and their agents and employees, and other persons or entities performing portions of the Work.

§ 3.1.5 **General Consultation.** The Design-Builder shall schedule and conduct periodic meetings with the Owner to review matters such as procedures, progress, coordination, and scheduling of the Work.

§ 3.1.6 When applicable law requires that services be performed by licensed professionals, the Design-Builder shall provide those services through qualified, licensed professionals. The Owner understands and agrees that the services of the Design-Builder's Architect and the Design-Builder's other Consultants are performed in the sole interest of, and for the exclusive benefit of, the Design-Builder.

§ 3.1.7 The Design-Builder, with the assistance of the Owner, shall prepare and file documents required to obtain necessary approvals of governmental authorities having jurisdiction over the Project.

§ 3.1.8 **Progress Reports**

§ 3.1.8.1 The Design-Builder shall keep the Owner informed of the progress and quality of the Work. On a monthly basis, or otherwise as agreed to by the Owner and Design-Builder, the Design-Builder shall submit written progress reports to the Owner, showing estimated percentages of completion and other information identified below:

- .1 Work completed for the period;
- .2 Project schedule status;
- .3 Submittal schedule and status report, including a summary of outstanding Submittals;
- .4 Responses to requests for information to be provided by the Owner;
- .5 Approved Change Orders and Change Directives;
- .6 Pending Change Order and Change Directive status reports;
- .7 Tests and inspection reports;
- .8 Status report of Work rejected by the Owner;
- .9 Status of Claims previously submitted in accordance with Article 14;
- .10 Cumulative total of the Cost of the Work to date including the Design-Builder's compensation and Reimbursable Expenses, if any;
- .11 Current Project cash-flow and forecast reports; and
- .12 Additional information as agreed to by the Owner and Design-Builder.

§ 3.1.8.2 In addition, where the Contract Sum is the Cost of the Work with or without a Guaranteed Maximum Price, the Design-Builder shall include the following additional information in its progress reports:

- .1 Design-Builder's work force report;
- .2 Equipment utilization report; and
- .3 Cost summary, comparing actual costs to updated cost estimates.

§ 3.1.9 **Design-Builder's Schedules**

§ 3.1.9.1 The Design-Builder, promptly after execution of this Agreement, shall prepare and submit for the Owner's information a schedule for the Work. The schedule, including the time required for design and construction, shall not exceed time limits current under the Design-Build Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Design-Build Documents, shall provide for expeditious and practicable execution of the Work, and shall include allowances for periods of time required for the Owner's review and for approval of submissions by authorities having jurisdiction

over the Project. In addition, the Design-Builder shall schedule a Pre-Construction meeting according to Section 4.5.C.1 of the Project Manual.

§ 3.1.9.2 The Design-Builder shall perform the Work in general accordance with the most recent schedules submitted to the Owner.

§ 3.1.10 Certifications. Upon the Owner's written request, the Design-Builder shall obtain from the Architect, Consultants, and Contractors, and furnish to the Owner, certifications with respect to the documents and services provided by the Architect, Consultants, and Contractors (a) that, to the best of their knowledge, information and belief, the documents or services to which the certifications relate (i) are consistent with the Design-Build Documents, except to the extent specifically identified in the certificate, and (ii) comply with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities governing the design of the Project; and (b) that the Owner and its consultants shall be entitled to rely upon the accuracy of the representations and statements contained in the certifications. The Design-Builder's Architect, Consultants, and Contractors shall not be required to execute certificates or consents that would require knowledge, services or responsibilities beyond the scope of their services.

§ 3.1.11 Design-Builder's Submittals

§ 3.1.11.1 Prior to submission of any Submittals, the Design-Builder shall prepare a Submittal schedule, and shall submit the schedule for the Owner's approval. The Owner's approval shall not unreasonably be delayed or withheld. The Submittal schedule shall (1) be coordinated with the Design-Builder's schedule provided in Section 3.1.9.1, (2) allow the Owner reasonable time to review Submittals, and (3) be periodically updated to reflect the progress of the Work. If the Design-Builder fails to submit a Submittal schedule, the Design-Builder shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of Submittals.

§ 3.1.11.2 By providing Submittals the Design-Builder represents to the Owner that it 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 Design-Build Documents.

§ 3.1.11.3 The Design-Builder shall perform no portion of the Work for which the Design-Build Documents require Submittals until the Owner has approved the respective Submittal.

§ 3.1.11.4 The Work shall be in accordance with approved Submittals except that the Design-Builder shall not be relieved of its responsibility to perform the Work consistent with the requirements of the Design-Build Documents. The Work may deviate from the Design-Build Documents only if the Design-Builder has notified the Owner in writing of a deviation from the Design-Build Documents at the time of the Submittal and a Modification is executed authorizing the identified deviation. The Design-Builder shall not be relieved of responsibility for errors or omissions in Submittals by the Owner's approval of the Submittals.

§ 3.1.11.5 All final professional design services or certifications to be provided by the Design-Builder, including all drawings, calculations, specifications, certifications, shop drawings and other Submittals, shall contain the signature and seal of the licensed design professional reviewing them. Submittals related to the Work designed or certified by the licensed design professionals, if prepared by others, shall bear the licensed design professional's written approval. The Owner and its consultants shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals.

§ 3.1.12 Warranty.

Design-Builder warrants to Owner that the Work shall be free from defects for a period of two (2) years from the date of commissioning of the Solar PV System, and the Design-Builder shall provide a performance guarantee to the Owner for the System during the workmanship warranty term, both according to the terms of Section 5.1 of the Project Manual. This warranty and performance guarantee is extended to Owner and to any succeeding owner of the property.

This warranty will not apply:

1. To defects or malfunctions resulting from failure by Owner to properly operate the Solar PV System in accordance with the manufacturer's recommendations.

2. To the Solar PV System as originally installed that has been subject to accidents, alterations, misuse or abuse, fire, flood, lightning or the like, repairs made or attempted by others without the express written permission of Design-Builder.
3. To indirect, incidental or consequential damages to property or persons.

This warranty is conditioned by the following:

1. Design-Builder is notified in writing within ten (10) days of the first knowledge of defect by Owner or his representative.
2. Design-Builder is given the first opportunity to make any repairs, replacements or corrections to the Solar PV System defects at no cost to Owner within sixty (60) days of Design-Builder's receipt of such written notification.

THIS WARRANTY IS THE ONLY WARRANTY MADE BY DESIGN-BUILDER AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, WHETHER WRITTEN OR ORAL, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

(Paragraphs deleted)

§ 3.1.13 Reserved

§ 3.1.14 Indemnification

§ 3.1.14.1 To the fullest extent permitted by law, the Design-Builder shall indemnify and hold harmless the Owner, including the Owner's agents and employees, 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, but only to the extent caused by the negligent acts or omissions of the Design-Builder, Architect, a Consultant, a Contractor, or anyone directly or indirectly employed by them or anyone for whose acts they may be liable. 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 3.1.14.

§ 3.1.14.2 The indemnification obligation under this Section 3.1.14 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for Design-Builder, Architect, a Consultant, a Contractor, or anyone directly or indirectly employed by them, under workers' compensation acts, disability benefit acts or other employee benefit acts.

(Paragraphs deleted)

§ 3.1.15 Assignment Neither party may assign its rights under this Agreement without the consent of the other party; provided, however, that Design-Builder shall have the right, without the prior written consent of Owner, to sell, transfer or reorganize Design-Builder and to assign its rights and obligations under this Agreement to: (i) any affiliate, subsidiary, or parent entity or (ii) a successor in the operation of Design-Builder's assets and/or business by reason of a reorganization, merger, consolidation, or sale, where substantially all of such assets are acquired by such successor.

§ 3.1.16 Design-Builder's Insurance and Bonds. The Design-Builder shall purchase and maintain insurance and provide bonds as set forth in Section 5.3 of the Project Manual with regards to Insurance; and Section 1.9 of the Project Manual with regards to Performance and Labor and Material Bonds.

The Design-Builder must comply with the requirements of Section 4.4 of the Project Manual regarding submission to the Town of Certificates of Insurance, and Labor and Materials Payment Bonds and Performance Bonds, at or prior to the time of execution of this Agreement.

ARTICLE 4 WORK PRIOR TO EXECUTION OF THE DESIGN-BUILD AMENDMENT

ARTICLE 4 is hereby deleted because it is not applicable in this situation where the Design-Builder has submitted its preliminary design in response to the Bid Documents & Project Manual, and was selected in that competitive bid process to enter into this Agreement with the Owner, and proceed to final design based on the Design-Builder's preliminary design and overall submission in response to the Bid Documents & Project Manual. The Design-Build Amendment will be executed simultaneously with this Agreement; hence there is no work prior to execution of the Design-Build Amendment.

(Paragraphs deleted)

ARTICLE 5 WORK FOLLOWING EXECUTION OF THE DESIGN-BUILD AMENDMENT

§ 5.1 Construction Documents

§ 5.1.1 Upon the execution of the Design-Build Amendment, the Design-Builder shall prepare Construction Documents. The Construction Documents shall establish the quality levels of materials and systems required. The Construction Documents shall be consistent with the Design-Build Documents.

§ 5.1.2 The Design-Builder shall provide the Construction Documents to the Owner for the Owner's information. If the Owner discovers any deviations between the Construction Documents and the Design-Build Documents, the Owner shall promptly notify the Design-Builder of such deviations in writing. The Construction Documents shall not modify the Design-Build Documents unless the Owner and Design-Builder execute a Modification. The failure of the Owner to discover any such deviations shall not relieve the Design-Builder of the obligation to perform the Work in accordance with the Design-Build Documents.

§ 5.2 Construction

§ 5.2.1 **Commencement.** Except as permitted in Section 5.2.2, construction shall not commence prior to execution of the Design-Build Amendment.

§ 5.2.2 Reserved.

§ 5.2.3 The Design-Builder shall supervise and direct the Work, using the Design-Builder's best skill and attention. The Design-Builder 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, unless the Design-Build Documents give other specific instructions concerning these matters.

§ 5.2.4 The Design-Builder shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 5.3 Labor and Materials

§ 5.3.1 Unless otherwise provided in the Design-Build Documents, the Design-Builder 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.

§ 5.3.2 When a material or system is specified in the Design-Build Documents, the Design-Builder may make substitutions only in accordance with Article 6.

§ 5.3.3 The Design-Builder shall enforce strict discipline and good order among the Design-Builder's employees and other persons carrying out the Work. The Design-Builder shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them. In addition, the Design-Builder shall comply with the method of doing work requirements in Section 5.7 of the Project Manual, provided, however, Section 5.7.C of the Project Manual shall be subject to a standard of commercial reasonableness.

§ 5.4 Taxes

The Design-Builder shall pay sales, consumer, use and similar taxes, for the Work provided by the Design-Builder, that are legally enacted when the Design-Build Amendment is executed, whether or not yet effective or merely scheduled to go into effect.

§ 5.5 Permits, Fees, Notices and Compliance with Laws

§ 5.5.1 Unless otherwise provided in the Design-Build Documents, including but not limited to the waiver of fees for municipal permits in Section 2.3 of the Project Manual, the Design-Builder shall secure and pay for the building permit as well as any other permits, fees, licenses, and inspections by government agencies, necessary for proper execution of the Work and Substantial Completion of the Project.

§ 5.5.2 The Design-Builder 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. In addition, the Design-Builder shall comply with the Federal, State, and Local Laws requirements in Section 5.10 of the Project Manual.

§ 5.5.3 Concealed or Unknown Conditions. If the Design-Builder encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Design-Build 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 Design-Build Documents, the Design-Builder shall promptly provide notice to the Owner before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Owner shall promptly investigate such conditions and, if the Owner determines that they differ materially and cause an increase or decrease in the Design-Builder's cost of, or time required for, performance of any part of the Work, shall recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Owner determines that the conditions at the site are not materially different from those indicated in the Design-Build Documents and that no change in the terms of the Contract is justified, the Owner shall promptly notify the Design-Builder in writing, stating the reasons. If the Design-Builder disputes the Owner's determination or recommendation, the Design-Builder may proceed as provided in Article 14.

§ 5.5.4 If, in the course of the Work, the Design-Builder encounters human remains, or recognizes the existence of burial markers, archaeological sites, or wetlands, not indicated in the Design-Build Documents, the Design-Builder shall immediately suspend any operations that would affect them and shall notify the Owner. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Design-Builder 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 14.

§ 5.6 Allowances

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

§ 5.6.2 Unless otherwise provided in the Design-Build Documents,

- .1 allowances shall cover the cost to the Design-Builder of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 the Design-Builder'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 5.6.2.1 and (2) changes in Design-Builder's costs under Section 5.6.2.2.

§ 5.6.3 The Owner shall make selections of materials and equipment with reasonable promptness for allowances requiring Owner selection.

§ 5.7 Key Personnel, Contractors and Suppliers

§ 5.7.1 The Design-Builder shall not employ personnel, or contract with Contractors or suppliers to whom the Owner has made reasonable and timely objection. The Design-Builder shall not be required to contract with anyone to whom the Design-Builder has made reasonable and timely objection.

§ 5.7.2 If the Design-Builder changes any of the personnel, Contractors or suppliers identified in the Design-Build Amendment, the Design-Builder shall notify the Owner and provide the name and qualifications of the new personnel, Contractor or supplier. The Owner may reply within 14 days to the Design-Builder in writing, stating (1) whether the Owner has reasonable objection to the proposed personnel, Contractor or supplier or (2) that the Owner requires additional time to review. Failure of the Owner to reply within the 14-day period shall constitute notice of no reasonable objection.

§ 5.7.3 Except for those persons or entities already identified or required in the Design-Build Amendment, the Design-Builder, as soon as practicable after execution of the Design-Build Amendment, shall furnish in writing to the Owner the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Owner may reply within 14 days to the Design-Builder in writing stating (1) whether the Owner has reasonable objection to any such proposed person or entity or (2) that the Owner requires additional time for review. Failure of the Owner to reply within the 14-day period shall constitute notice of no reasonable objection.

§ 5.7.3.1 If the Owner has reasonable objection to a person or entity proposed by the Design-Builder, the Design-Builder shall propose another to whom the Owner has no reasonable objection. If the rejected person or entity 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 person or entity's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Design-Builder has acted promptly and responsively in submitting names as required.

§ 5.8 Documents and Submittals at the Site

The Design-Builder shall maintain at the site for the Owner one copy of the Design-Build Documents and a current set of the Construction Documents, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Submittals. The Design-Builder shall deliver these items to the Owner in accordance with Section 9.10.2 as a record of the Work as constructed.

§ 5.9 Use of Site

The Design-Builder 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 Design-Build Documents, and shall not unreasonably encumber the site with materials or equipment. In addition, the Design-Builder shall comply with the Occupancy of Building, Timing of Access and Work Schedule requirements, and the Existing Occupancy of Neighboring Buildings requirements in Section 5.15 and Section 5.16 of the Project Manual. The Design-Builder shall conduct the Work in such a manner as to not unreasonably interfere with Owner's operations, public utility operations, residents or businesses adjacent to the work, or the general public.

§ 5.10 Cutting and Patching

The Design-Builder shall not cut, patch or otherwise alter fully or partially completed construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Design-Builder shall not unreasonably withhold from the Owner or a separate contractor the Design-Builder's consent to cutting or otherwise altering the Work.

§ 5.11 Cleaning Up

§ 5.11.1 The Design-Builder shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Design-Builder shall remove waste materials, rubbish, the Design-Builder's tools, construction equipment, machinery and surplus materials from

and about the Project. In addition, the Design-Builder shall comply with the Site Cleanup and Restoration Work requirements in Section 2.13 of the Project Manual.

§ 5.11.2 If the Design-Builder fails to clean up as provided in the Design-Build Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Design-Builder.

§ 5.12 Access to Work

The Design-Builder shall provide the Owner and its separate contractors and consultants access to the Work in preparation and progress wherever located. The Design-Builder shall notify the Owner regarding Project safety criteria and programs, which the Owner, and its contractors and consultants, shall comply with while at the site. Owner shall provide access to the site to allow Design-Builder to complete the Work required hereunder.

(Paragraphs deleted)

§ 5.13 Reserved

§ 5.14 Mutual Responsibility

§ 5.14.1 The Design-Builder 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 Design-Builder's construction and operations with theirs as required by the Design-Build Documents.

§ 5.14.2 If part of the Design-Builder's Work depends upon construction or operations by the Owner or a separate contractor, the Design-Builder shall, prior to proceeding with that portion of the Work, prepare a written report to the Owner, identifying 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 Design-Builder's Work. Failure of the Design-Builder to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Design-Builder's Work, except as to defects not then reasonably discoverable.

§ 5.14.3 The Design-Builder shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Design-Builder's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Design-Builder for costs the Design-Builder incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 5.14.4 The Design-Builder shall promptly remedy damage the Design-Builder wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 5.14.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching the Work as the Design-Builder has with respect to the construction of the Owner or separate contractors in Section 5.10.

§ 5.15 Owner's Right to Clean Up

If a dispute arises among the Design-Builder, 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 will allocate the cost among those responsible.

ARTICLE 6 CHANGES IN THE WORK

§ 6.1 General

§ 6.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, subject to the limitations stated in this Article 6 and elsewhere in the Design-Build Documents.

§ 6.1.2 A Change Order shall be based upon agreement between the Owner and Design-Builder, according to the administrative and procedural requirements in the Change Order Provisions in Section 5.14 of the Project Manual.

§ 6.1.3 Changes in the Work shall be performed under applicable provisions of the Design-Build Documents, and the Design-Builder shall proceed promptly, unless otherwise provided in the Change Order.

§ 6.2 Change Orders

A Change Order is a written instrument signed by the Owner and Design-Builder stating their agreement upon all of the following, in accordance the administrative and procedural requirements in the Change Order Provisions in Section 5.14 of the Project Manual:

- .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.

(Paragraphs deleted)

§ 6.3 Reserved.

ARTICLE 7 OWNER'S RESPONSIBILITIES

§ 7.1 General

§ 7.1.1 The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all Project matters requiring the Owner's approval or authorization.

§ 7.1.2 The Owner shall render decisions in a timely manner and in accordance with the Design-Builder's schedule agreed to by the Owner. The Owner shall furnish to the Design-Builder, within 15 days after receipt of a written request, information necessary and relevant for the Design-Builder 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.

§ 7.2 Information and Services Required of the Owner

§ 7.2.1 The Owner shall furnish information or services required of the Owner by the Design-Build Documents with reasonable promptness.

§ 7.2.2 The Owner shall provide, to the extent under the Owner's control and if not required by the Design-Build Documents to be provided by the Design-Builder, the results and reports of prior tests, inspections or investigations conducted for the Project involving structural or mechanical systems; chemical, air and water pollution; hazardous materials; or environmental and subsurface conditions and information regarding the presence of pollutants at the Project site. Upon receipt of a written request from the Design-Builder, the Owner shall also provide surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site under the Owner's control.

§ 7.2.3 The Owner shall promptly obtain easements, zoning variances, and legal authorizations or entitlements regarding site utilization where essential to the execution of the Project.

§ 7.2.4 The Owner shall cooperate with the Design-Builder in securing building and other permits, licenses and inspections.

§ 7.2.5 The services, information, surveys and reports required to be provided by the Owner under this Agreement, shall be furnished at the Owner's expense, and except as otherwise specifically provided in this Agreement or elsewhere in the Design-Build Documents or to the extent the Owner advises the Design-Builder to the contrary in writing, the Design-Builder shall be entitled to rely upon the accuracy and completeness thereof. In no event shall the Design-Builder be relieved of its responsibility to exercise proper precautions relating to the safe performance of the Work.

§ 7.2.6 If the Owner observes or otherwise becomes aware of a fault or defect in the Work or non-conformity with the Design-Build Documents, the Owner shall give prompt written notice thereof to the Design-Builder.

§ 7.2.7 Prior to the execution of the Design-Build Amendment, the Design-Builder may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Design-Build Documents and the Design-Builder's Proposal. Thereafter, the Design-Builder may only request such evidence if (1) the Owner fails to make payments to the Design-Builder as the Design-Build Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Design-Builder identifies in writing

a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Design-Builder.

§ 7.2.8 Except as otherwise provided in the Design-Build Documents or when direct communications have been specially authorized, the Owner shall communicate through the Design-Builder with persons or entities employed or retained by the Design-Builder.

§ 7.2.9 Unless required by the Design-Build Documents to be provided by the Design-Builder, the Owner shall, upon request from the Design-Builder, furnish the services of geotechnical engineers or other consultants for investigation of subsurface, air and water conditions when such services are reasonably necessary to properly carry out the design services furnished by the Design-Builder. In such event, the Design-Builder shall specify the services required. Such services may include, but are not limited to, test borings, test pits, determinations of soil bearing values, percolation tests, evaluations of hazardous materials, ground corrosion and resistivity tests, and necessary operations for anticipating subsoil conditions. The services of geotechnical engineer(s) or other consultants shall include preparation and submission of all appropriate reports and professional recommendations.

§ 7.2.10 Reserved.

§ 7.3 Submittals

§ 7.3.1 The Owner shall review and approve or take other appropriate action on Submittals. Review of 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; or for determining that the Submittals are in conformance with the Design-Build Documents, all of which remain the responsibility of the Design-Builder as required by the Design-Build Documents. The Owner's action will be taken in accordance with the submittal schedule approved by the Owner or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Owner's judgment to permit adequate review. The Owner's review of Submittals shall not relieve the Design-Builder of the obligations under Sections 3.1.11, 3.1.12, and 5.2.3. The Owner's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Owner, of any construction means, methods, techniques, sequences or procedures. The Owner's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 7.3.2 Upon review of the Submittals required by the Design-Build Documents, the Owner shall notify the Design-Builder of any non-conformance with the Design-Build Documents the Owner discovers.

§ 7.4 Visits to the site by the Owner shall not be construed to create an obligation on the part of the Owner to make on-site inspections to check the quality or quantity of the Work. The Owner shall neither have control over or charge of, nor be responsible for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, because these are solely the Design-Builder's rights and responsibilities under the Design-Build Documents.

§ 7.5 The Owner shall not be responsible for the Design-Builder's failure to perform the Work in accordance with the requirements of the Design-Build Documents. The Owner shall not have control over or charge of, and will not be responsible for acts or omissions of the Design-Builder, Architect, Consultants, Contractors, or their agents or employees, or any other persons or entities performing portions of the Work for the Design-Builder.

§ 7.6 The Owner has the authority to reject Work that does not conform to the Design-Build Documents. The Owner shall have authority to require inspection or testing of the Work in accordance with Section 15.5.2, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Owner 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 Owner to the Design-Builder, the Architect, Consultants, Contractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 7.7 The Owner shall determine the date or dates of Substantial Completion in accordance with Section 9.8 and the date of final completion in accordance with Section 9.10.

§ 7.8 Owner's Right to Stop Work

If the Design-Builder fails to correct Work which is not in accordance with the requirements of the Design-Build Documents as required by Section 11.2 or persistently fails to carry out Work in accordance with the Design-Build Documents, the Owner may issue a written order to the Design-Builder 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 Design-Builder or any other person or entity, except to the extent required by Section 5.13.1.3.

§ 7.9 Owner's Right to Carry Out the Work

If the Design-Builder defaults or neglects to carry out the Work in accordance with the Design-Build Documents and fails within a ten-day period after receipt of written 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 deficiencies. In such case, an appropriate Change Order shall be issued deducting from payments then or thereafter due the Design-Builder the reasonable cost of correcting such deficiencies. If payments then or thereafter due the Design-Builder are not sufficient to cover such amounts, the Design-Builder shall pay the difference to the Owner.

ARTICLE 8 TIME

§ 8.1 Progress and Completion

§ 8.1.1 Time limits stated in the Design-Build Documents are of the essence of the Contract. By executing the Design-Build Amendment the Design-Builder confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.1.2 The Design-Builder shall not, except by agreement of the Owner in writing, commence the Work prior to the effective date of insurance, other than property insurance, required by this Contract. The Contract Time shall not be adjusted as a result of the Design-Builder's failure to obtain insurance required under this Contract.

§ 8.1.3 The Design-Builder shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.2 Delays and Extensions of Time

§ 8.2.1 If the Design-Builder is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or of a consultant or separate contractor employed by the Owner, including, without limitation, by the roofing contractor or lightning protection vendor; or by changes ordered in the Work by the Owner; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Design-Builder's control; or by delay authorized by the Owner pending mediation and binding dispute resolution or by other causes that the Owner determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Owner may determine.

§ 8.2.2 Claims relating to time shall be made in accordance with applicable provisions of Article 14.

§ 8.2.3 This Section 8.2 does not preclude recovery of damages for delay by either party under other provisions of the Design-Build Documents.

ARTICLE 9 PAYMENT APPLICATIONS AND PROJECT COMPLETION

§ 9.1 Contract Sum

The Contract Sum is stated in the Design-Build Amendment.

§ 9.2 Schedule of Values

Where the Contract Sum is based on a stipulated sum or Guaranteed Maximum Price, the Design-Builder, prior to the first Application for Payment after execution of the Design-Build Amendment shall submit to the Owner a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Owner may require. This schedule, unless objected to by the Owner, shall be used as a basis for reviewing the Design-Builder's Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Design-Builder shall submit to the Owner an itemized Application for Payment for completed portions of the Work. The application shall be notarized, if required, and supported by data substantiating the Design-Builder's right to payment as the Owner may require, such as copies of requisitions from the Architect, Consultants, Contractors, and material suppliers, and shall reflect retainage if provided for in the Design-Build Documents.

§ 9.3.1.1 As provided in Section 6.3.9, Applications for Payment may include requests for payment on account of changes in the Work that have been properly authorized by Change Directives, or by interim determinations of the Owner, 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 Design-Builder does not intend to pay the Architect, Consultant, Contractor, material supplier, or other persons or entities providing services or work for the Design-Builder, unless such Work has been performed by others whom the Design-Builder intends to pay.

§ 9.3.2 Unless otherwise provided in the Design-Build Documents, payments shall be made for services provided as well as 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 Design-Builder 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 Design-Builder warrants that title to all Work, other than Instruments of Service, covered by an Application for Payment will pass to the Owner no later than the time of payment. The Design-Builder 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 Design-Builder's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Design-Builder, Architect, Consultants, Contractors, material suppliers, or other persons or entities entitled to make a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 Certificates for Payment

The Owner shall, within seven days after receipt of the Design-Builder's Application for Payment, issue to the Design-Builder a Certificate for Payment indicating the amount the Owner determines is properly due, and notify the Design-Builder in writing of the Owner's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Owner may withhold a Certificate for Payment in whole or in part to the extent reasonably necessary to protect the Owner due to the Owner's determination that the Work has not progressed to the point indicated in the Design-Builder's Application for Payment, or the quality of the Work is not in accordance with the Design-Build Documents. If the Owner is unable to certify payment in the amount of the Application, the Owner will notify the Design-Builder as provided in Section 9.4. If the Design-Builder and Owner cannot agree on a revised amount, the Owner will promptly issue a Certificate for Payment for the amount that the Owner deems to be due and owing. The Owner 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 to protect the Owner from loss for which the Design-Builder is responsible because of

- .1 defective Work, including design and construction, 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 Design-Builder;
- .3 failure of the Design-Builder to make payments properly to the Architect, Consultants, Contractors or others, for services, 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
- .7 repeated failure to carry out the Work in accordance with the Design-Build Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Owner withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Design-Builder and to the Architect or any Consultants, Contractor, material or equipment suppliers, or other persons or entities providing services or work for the Design-Builder to whom the Design-Builder failed to make payment for Work properly performed or material or equipment suitably delivered.

§ 9.6 Progress Payments

§ 9.6.1 After the Owner has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Design-Build Documents, including the Payment Procedures & Payment Period in Section 5.11 of the Project Manual.

§ 9.6.2 The Design-Builder shall pay each Architect, Consultant, Contractor, and other person or entity providing services or work for the Design-Builder no later than the time period required by applicable law, but in no event more than seven days after receipt of payment from the Owner the amount to which the Architect, Consultant, Contractor, and other person or entity providing services or work for the Design-Builder is entitled, reflecting percentages actually retained from payments to the Design-Builder on account of the portion of the Work performed by the Architect, Consultant, Contractor, or other person or entity. The Design-Builder shall, by appropriate agreement with each Architect, Consultant, Contractor, and other person or entity providing services or work for the Design-Builder, require each Architect, Consultant, Contractor, and other person or entity providing services or work for the Design-Builder to make payments to subconsultants and subcontractors in a similar manner.

§ 9.6.3 The Owner will, on request and if practicable, furnish to the Architect, a Consultant, Contractor, or other person or entity providing services or work for the Design-Builder, information regarding percentages of completion or amounts applied for by the Design-Builder and action taken thereon by the Owner on account of portions of the Work done by such Architect, Consultant, Contractor or other person or entity providing services or work for the Design-Builder.

§ 9.6.4 The Owner has the right to request written evidence from the Design-Builder that the Design-Builder has properly paid the Architect, Consultants, Contractors, or other person or entity providing services or work for the Design-Builder, amounts paid by the Owner to the Design-Builder for the Work. If the Design-Builder fails to furnish such evidence within seven days, the Owner shall have the right to contact the Architect, Consultants, and Contractors to ascertain whether they have been properly paid. The Owner shall have no obligation to pay or to see to the payment of money to a Consultant or Contractor, except as may otherwise be required by law.

§ 9.6.5 Design-Builder payments to material and equipment 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 Design-Build Documents.

§ 9.6.7 Unless the Design-Builder provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Design-Builder for Work properly performed by the Architect, Consultants, Contractors and other person or entity providing services or work for the Design-Builder, shall be held by the Design-Builder for the Architect and those Consultants, Contractors, or other person or entity providing services or work for the Design-Builder, 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 Design-Builder, shall create any fiduciary liability or tort liability on the part of the Design-Builder for breach of trust or shall entitle any person or entity to an award of punitive damages against the Design-Builder for breach of the requirements of this provision.

§ 9.7 Failure of Payment

If the Owner does not issue a Certificate for Payment, through no fault of the Design-Builder, within the time required by the Design-Build Documents, then the Design-Builder may, upon seven additional days' written notice to the Owner, 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 Design-Builder's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Design-Build 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 Design-Build Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion is the date certified by the Owner in accordance with this Section 9.8.

§ 9.8.2 When the Design-Builder considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Design-Builder shall prepare and submit to the Owner 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 Design-Builder to complete all Work in accordance with the Design-Build Documents.

§ 9.8.3 Upon receipt of the Design-Builder's list, the Owner shall make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Owner's inspection discloses any item, whether or not included on the Design-Builder's list, which is not sufficiently complete in accordance with the Design-Build Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Design-Builder shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Owner. In such case, the Design-Builder shall then submit a request for another inspection by the Owner to determine Substantial Completion.

§ 9.8.4 Prior to issuance of the Certificate of Substantial Completion under Section 9.8.5, the Owner and Design-Builder shall discuss and then determine the parties' obligations to obtain and maintain property insurance following issuance of the Certificate of Substantial Completion.

§ 9.8.5 When the Work or designated portion thereof is substantially complete, the Design-Builder will prepare for the Owner's signature a Certificate of Substantial Completion that shall, upon the Owner's signature, establish the date of Substantial Completion; establish responsibilities of the Owner and Design-Builder for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Design-Builder shall finish all items on the list accompanying the Certificate. Warranties required by the Design-Build Documents, including Section 3.1.12 of this Agreement, shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.6 The Certificate of Substantial Completion shall be submitted by the Design-Builder to the Owner for written acceptance of responsibilities assigned to it in the Certificate. Upon the Owner's acceptance, and consent of surety, if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Design-Build 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 Design-Builder, provided such occupancy or use is consented to, by endorsement or otherwise, by the insurer providing property insurance 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 Design-Builder 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 Design-Build Documents. When the Design-Builder considers a portion substantially complete, the Design-Builder shall prepare and submit a list to the Owner as provided under Section 9.8.2. Consent of the Design-Builder 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 Design-Builder.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner and Design-Builder 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 Design-Build Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Design-Builder's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Owner will promptly make such inspection. When the Owner finds the Work acceptable under the Design-Build Documents and the Contract fully performed, the Owner will, subject to Section 9.10.2, promptly issue a final Certificate for Payment.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Design-Builder submits to the Owner (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 Design-Build Documents to remain in force after final payment is currently in effect, (3) a written statement that the Design-Builder knows of no substantial reason that the insurance will not be renewable to cover the period required by the Design-Build Documents, (4) consent of surety, if any, to final payment, (5) as-constructed record copy of the Construction Documents marked to indicate field changes and selections made during construction, (6) manufacturer's warranties, product data, and maintenance and operations manuals, and (7) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, or 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 an Architect, a Consultant, or a Contractor, or other person or entity providing services or work for the Design-Builder, refuses to furnish a release or waiver required by the Owner, the Design-Builder may furnish a bond satisfactory to the Owner to indemnify the Owner against such liens, claims, security interests, or encumbrances. If such liens, claims, security interests, or encumbrances remains unsatisfied after payments are made, the Design-Builder shall refund to the Owner all money that the Owner may be compelled to pay in discharging such liens, claims, security interests, or encumbrances, 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 Design-Builder or by issuance of Change Orders affecting final completion, the Owner shall, upon application by the Design-Builder, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Design-Build Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Design-Builder to the Owner prior to issuance of 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 Design-Build Documents as specified in Section 11.2.2; or
- .3 warranties pursuant to Section 3.1.12.

§ 9.10.5 Acceptance of final payment by the Design-Builder shall constitute a waiver of claims by the Design-Builder except those previously made in writing and identified by the Design-Builder as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Design-Builder 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 Design-Builder shall be responsible for precautions for the safety of, and reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .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 Design-Builder or the Architect, Consultants, or Contractors, or other person or entity providing services or work for the Design-Builder; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, or structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Design-Builder 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 Design-Builder 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 notify owners and users of adjacent sites and utilities of the safeguards and protections. In addition, the Design-Builder shall comply with the railing, barricades, signs and other safety requirements in Section 5.8.B of the Project Manual.

§ 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 Design-Builder shall exercise utmost care, and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Design-Builder shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Design-Build Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3, caused in whole or in part by the Design-Builder, the Architect, a Consultant, a Contractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Design-Builder is responsible under Sections 10.2.1.2 and 10.2.1.3; except damage or loss attributable to acts or omissions of the Owner, or anyone directly or indirectly employed by the Owner, or by anyone for whose acts the Owner may be liable, and not attributable to the fault or negligence of the Design-Builder. The foregoing obligations of the Design-Builder are in addition to the Design-Builder's obligations under Section 3.1.14.

§ 10.2.6 The Design-Builder shall designate a responsible member of the Design-Builder's organization, at the site, whose duty shall be the prevention of accidents. This person shall be the Design-Builder's superintendent unless otherwise designated by the Design-Builder in writing to the Owner.

§ 10.2.7 The Design-Builder 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 the Owner or Design-Builder suffers injury or damage to person or property because of an act or omission of the other, or of others for whose acts such party is legally responsible, written 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

§ 10.3.1 The Design-Builder is responsible for compliance with any requirements included in the Design-Build Documents regarding hazardous materials. If the Design-Builder encounters a hazardous material or substance not addressed in the Design-Build 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 Design-Builder, the Design-Builder shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner in writing.

§ 10.3.2 Upon receipt of the Design-Builder's written 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 Design-Builder 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 Design-Build Documents, the Owner shall furnish in writing to the Design-Builder the names and qualifications

of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Design-Builder will promptly reply to the Owner in writing stating whether or not the Design-Builder has reasonable objection to the persons or entities proposed by the Owner. If the Design-Builder has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Design-Builder has 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 Design-Builder. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Design-Builder's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Design-Builder, the Architect, Consultants, and Contractors, 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 materials or substances the Design-Builder brings to the site unless such materials or substances are required by the Owner's Criteria. The Owner shall be responsible for materials or substances required by the Owner's Criteria, except to the extent of the Design-Builder's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Design-Builder shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Design-Builder brings to the site and negligently handles, or (2) where the Design-Builder 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 Design-Builder, the Design-Builder 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 Design-Build Documents, the Owner shall indemnify the Design-Builder for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Design-Builder shall act, at the Design-Builder's discretion, to prevent threatened damage, injury or loss.

ARTICLE 11 UNCOVERING AND CORRECTION OF WORK

§ 11.1 Uncovering of Work

Prior to Substantial Completion, the Owner may request to examine a portion of the Work that the Design-Builder has covered to determine if the Work has been performed in accordance with the Design-Build Documents. If such Work is in accordance with the Design-Build Documents, the Owner and Design-Builder shall execute a Change Order to adjust the Contract Time and Contract Sum, as appropriate. If such Work is not in accordance with the Design-Build Documents, the costs of uncovering and correcting the Work shall be at the Design-Builder's expense and the Design-Builder shall not be entitled to a change in the Contract Time unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs and the Contract Time will be adjusted as appropriate.

§ 11.2 Correction of Work

§ 11.2.1 Reserved.

§ 11.2.2 After Substantial Completion

§ 11.2.2.1 In addition to the Design-Builder's obligations under Section 3.1.12, 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, any of the Work is found not to be in accordance with the requirements of the Design-Build Documents, the Design-Builder shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Design-Builder 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 the Work, if the Owner fails to notify the Design-Builder and give the Design-Builder an opportunity to make the correction, the Owner waives the rights to require correction by the Design-Builder and to make a claim for breach of warranty. If the Design-Builder fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner, the Owner may correct it in accordance with Section 7.9.

§ 11.2.2.2 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.

§ 11.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Design-Builder pursuant to this Section 11.2.

§ 11.2.3 During the one-year period for correction of Work, the Design-Builder shall remove from the site portions of the Work that are not in accordance with the requirements of the Design-Build Documents and are neither corrected by the Design-Builder nor accepted by the Owner.

§ 11.2.4 The Design-Builder shall bear the cost of correcting destroyed or damaged construction of the Owner or separate contractors, whether completed or partially completed, caused by the Design-Builder's correction or removal of Work that is not in accordance with the requirements of the Design-Build Documents.

§ 11.2.5 Nothing contained in this Section 11.2 shall be construed to establish a period of limitation with respect to other obligations the Design-Builder has under the Design-Build Documents. Establishment of the one-year period for correction of Work as described in Section 11.2.2 relates only to the specific obligation of the Design-Builder to correct the Work, and has no relationship to the time within which the obligation to comply with the Design-Build Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Design-Builder's liability with respect to the Design-Builder's obligations other than specifically to correct the Work.

§ 11.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Design-Build 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 12 COPYRIGHTS AND LICENSES

§ 12.1 Drawings, specifications, and other documents furnished by the Design-Builder, including those in electronic form, are Instruments of Service. The Design-Builder, and the Architect, Consultants, Contractors, and any other person or entity providing services or work for any of them, shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and shall retain all common law, statutory and other reserved rights, including copyrights. Submission or distribution of Instruments of Service to meet official regulatory requirements, or for similar purposes in connection with the Project, is not to be construed as publication in derogation of the reserved rights of the Design-Builder and the Architect, Consultants, and Contractors, and any other person or entity providing services or work for any of them.

§ 12.2 The Design-Builder and the Owner warrant that in transmitting Instruments of Service, or any other information, the transmitting party is the copyright owner of such information or has permission from the copyright owner to transmit such information for its use on the Project.

§ 12.3 Upon execution of the Agreement, the Design-Builder grants to the Owner a limited, irrevocable and non-exclusive license to use the Instruments of Service solely and exclusively for purposes of constructing, using, maintaining, altering and adding to the Project, provided that the Owner substantially performs its obligations, including prompt payment of all sums when due, under the Design-Build Documents. The license granted under this section permits the Owner to authorize its consultants and separate contractors to reproduce applicable portions of the Instruments of Service solely and exclusively for use in performing services or construction for the Project. If the Design-Builder rightfully terminates this Agreement for cause as provided in Section 13.1.4 or 13.2.1 the license granted in this Section 12.3 shall terminate.

§ 12.3.1 The Design-Builder shall obtain non-exclusive licenses from the Architect, Consultants, and Contractors, that will allow the Design-Builder to satisfy its obligations to the Owner under this Article 12. The Design-Builder's licenses from the Architect and its Consultants and Contractors shall also allow the Owner, in the event this Agreement is terminated for any reason other than the default of the Owner or in the event the Design-Builder's Architect, Consultants, or Contractors terminate their agreements with the Design-Builder for cause, to obtain a limited, irrevocable and non-exclusive license solely and exclusively for purposes of constructing, using, maintaining, altering and adding to the Project, provided that the Owner (1) agrees to pay to the Architect, Consultant or Contractor all amounts due, and (2) provide the Architect, Consultant or Contractor with the Owner's written agreement to indemnify and hold harmless the Architect, Consultant or Contractor from all costs and expenses, including the cost of defense, related to claims and causes of action asserted by any third person or entity to the extent such costs and expenses arise from the Owner's alteration or use of the Instruments of Service.

§ 12.3.2 In the event the Owner alters the Instruments of Service without the author's written authorization or uses the Instruments of Service without retaining the authors of the Instruments of Service, the Owner releases the Design-Builder, Architect, Consultants, Contractors and any other person or entity providing services or work for any of them, from all claims and causes of action arising from or related to such uses. The Owner, to the extent permitted by law, further agrees to indemnify and hold harmless the Design-Builder, Architect, Consultants, Contractors and any other person or entity providing services or work for any of them, from all costs and expenses, including the cost of defense, related to claims and causes of action asserted by any third person or entity to the extent such costs and expenses arise from the Owner's alteration or use of the Instruments of Service under this Section 12.3.2. The terms of this Section 12.3.2 shall not apply if the Owner rightfully terminates this Agreement for cause under Sections 13.1.4 or 13.2.2.

ARTICLE 13 TERMINATION OR SUSPENSION

(Paragraphs deleted)

§ 13.1 Reserved

§ 13.2 Termination or Suspension Following Execution of the Design-Build Amendment

§ 13.2.1 Termination by the Design-Builder

§ 13.2.1.1 The Design-Builder may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Design-Builder, the Architect, a Consultant, or a Contractor, or their agents or employees, or any other persons or entities performing portions of the Work under direct or indirect contract with the Design-Builder, 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 Owner has not issued a Certificate for Payment and has not notified the Design-Builder of the reason for withholding certification as provided in Section 9.5.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Design-Build Documents; or
- .4 The Owner has failed to furnish to the Design-Builder promptly, upon the Design-Builder's request, reasonable evidence as required by Section 7.2.7.

§ 13.2.1.2 Reserved.

§ 13.2.1.3 If one of the reasons described in Section 13.2.1.1 or 13.2.1.2 exists, the Design-Builder may, upon seven days' written notice to the Owner, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 13.2.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Design-Builder or any other persons or entities performing portions of the Work under contract with the Design-Builder because the Owner has repeatedly failed to fulfill the Owner's obligations under the Design-Build Documents with respect to matters important to the progress of the Work, the Design-Builder may, upon seven additional days' written notice to the Owner, terminate the Contract and recover from the Owner as provided in Section 13.2.1.3.

§ 13.2.2 Termination by the Owner For Cause

§ 13.2.2.1 The Owner may terminate the Contract if the Design-Builder

- .1 fails to submit the Final Design to CT DAS by the date required by this Agreement;

- .2 repeatedly refuses or fails to supply an Architect, or enough properly skilled Consultants, Contractors, or workers or proper materials;
- .3 fails to make payment to the Architect, Consultants, or Contractors for services, materials or labor in accordance with their respective agreements with the Design-Builder;
- .4 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .5 is otherwise guilty of substantial breach of a provision of the Design-Build Documents, or the requirements in Section 5.17 of the Project Manual.

§ 13.2.2.2 When any of the above reasons exist, the Owner may without prejudice to any other rights or remedies of the Owner and after giving the Design-Builder and the Design-Builder's surety, if any, seven days' written notice, terminate employment of the Design-Builder and may, subject to any prior rights of the surety:

- .1 Exclude the Design-Builder from the site;
- .2 Reserved.
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Design-Builder, the Owner shall furnish to the Design-Builder a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 13.2.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 13.2.2.1, the Design-Builder shall not be entitled to receive further payment until the Work is finished.

§ 13.2.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Design-Builder. If such costs and damages exceed the unpaid balance, the Design-Builder shall pay the difference to the Owner. The obligation for such payments shall survive termination of the Contract.

§ 13.2.3 Suspension by the Owner for Convenience

§ 13.2.3.1 The Owner may, without cause, order the Design-Builder in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 13.2.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 13.2.3.1. 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 Design-Builder is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

(Paragraphs deleted)

§ 13.2.4 Reserved.

ARTICLE 14 CLAIMS AND DISPUTE RESOLUTION

§ 14.1 Claims

§ 14.1.1 **Definition.** A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, 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 Design-Builder arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 14.1.2 **Time Limits on Claims.** The Owner and Design-Builder shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other, arising out of or related to the Contract in accordance with the requirements of the binding dispute resolution method selected in Section 1.3, within the time 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 Design-Builder waive all claims and causes of action not commenced in accordance with this Section 14.1.2.

§ 14.1.3 Notice of Claims

§ 14.1.3.1 **Prior To Final Payment.** Prior to Final Payment, Claims by either the Owner or Design-Builder must be initiated by written notice to the other party 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.

§ 14.1.3.2 Claims Arising After Final Payment. After Final Payment, Claims by either the Owner or Design-Builder that have not otherwise been waived pursuant to Sections 9.10.4 or 9.10.5, must be initiated by prompt written notice to the other party. The notice requirement in Section 14.1.3.1 and the Initial Decision requirement as a condition precedent to mediation in Section 14.2.1 shall not apply.

§ 14.1.4 Continuing Contract Performance. Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 13, the Design-Builder shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Design-Build Documents.

§ 14.1.5 Claims for Additional Cost. If the Design-Builder intends to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the portion of the Work that relates to the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 14.1.6 Claims for Additional Time

§ 14.1.6.1 If the Design-Builder intends to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Design-Builder'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.

§ 14.1.6.2 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.

§ 14.1.7 Claims for Consequential Damages

The Design-Builder and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .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 Design-Builder 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 13. Nothing contained in this Section 14.1.7 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Design-Build Documents.

§ 14.2 Initial Decision

§ 14.2.1 An initial decision shall be required as a condition precedent to mediation of all Claims between the Owner and Design-Builder initiated prior to the date final payment is due, excluding those arising under Sections 10.3 and 10.4 of the Agreement, unless 30 days have passed after the Claim has been initiated with no decision having been rendered. Unless otherwise mutually agreed in writing, the Owner shall render the initial decision on Claims.

§ 14.2.2 Procedure

§ 14.2.2.1 Claims Initiated by the Owner. If the Owner initiates a Claim, the Design-Builder shall provide a written response to Owner within ten days after receipt of the notice required under Section 14.1.3.1. Thereafter, the Owner shall render an initial decision within ten days of receiving the Design-Builder's response: (1) withdrawing the Claim in whole or in part, (2) approving the Claim in whole or in part, or (3) suggesting a compromise.

§ 14.2.2.2 Claims Initiated by the Design-Builder. If the Design-Builder initiates a Claim, the Owner will take one or more of the following actions within ten days after receipt of the notice required under Section 14.1.3.1: (1) request additional supporting data, (2) render an initial decision rejecting the Claim in whole or in part, (3) render an initial decision approving the Claim, (4) suggest a compromise or (5) indicate that it is unable to render an initial decision because the Owner lacks sufficient information to evaluate the merits of the Claim.

§ 14.2.3 In evaluating Claims, the Owner may, but shall not be obligated to, consult with or seek information from persons with special knowledge or expertise who may assist the Owner in rendering a decision. The retention of such persons shall be at the Owner's expense.

§ 14.2.4 If the Owner requests the Design-Builder to provide a response to a Claim or to furnish additional supporting data, the Design-Builder shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Owner when the response or supporting data will be furnished or (3) advise the Owner that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Owner will either reject or approve the Claim in whole or in part.

§ 14.2.5 The Owner's initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) identify 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.

§ 14.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 14.2.6.1.

§ 14.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 14.2.7 In the event of a Claim against the Design-Builder, 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 Design-Builder's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 14.2.8 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.

§ 14.3 Mediation

§ 14.3.1 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 14.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 14.3.2 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 proceeding is stayed pursuant to this Section 14.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 14.3.3 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.

(Paragraphs deleted)

§ 14.4 Reserved.

ARTICLE 15 MISCELLANEOUS PROVISIONS

§ 15.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 14.4.

§ 15.2 Successors and Assigns

§ 15.2.1 The Owner and Design-Builder, respectively, bind themselves, their partners, successors, assigns and legal representatives to the covenants, agreements and obligations contained in the Design-Build Documents. Except as provided in Section 15.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 15.2.2 The Owner may, without consent of the Design-Builder, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Design-Build Documents. The Design-Builder shall execute all consents reasonably required to facilitate such assignment.

§ 15.2.3 If the Owner requests the Design-Builder, Architect, Consultants, or Contractors to execute certificates, other than those required by Section 3.1.10, the Owner shall submit the proposed language of such certificates for review at least 14 days prior to the requested dates of execution. If the Owner requests the Design-Builder, Architect, Consultants, or Contractors to execute consents reasonably required to facilitate assignment to a lender, the Design-Builder, Architect, Consultants, or Contractors shall execute all such consents that are consistent with this Agreement, provided the proposed consent is submitted to them for review at least 14 days prior to execution. The Design-Builder, Architect, Consultants, and Contractors shall not be required to execute certificates or consents that would require knowledge, services or responsibilities beyond the scope of their services.

§ 15.3 Written Notice

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 15.4 Rights and Remedies

§ 15.4.1 Duties and obligations imposed by the Design-Build 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.

§ 15.4.2 No action or failure to act by the Owner or Design-Builder 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 in writing.

§ 15.5 Tests and Inspections

§ 15.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Design-Build Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Design-Builder 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 Design-Builder shall give the Owner timely notice of when and where tests and inspections are to be made so that the Owner may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Design-Builder.

§ 15.5.2 If the Owner determines that portions of the Work require additional testing, inspection or approval not included under Section 15.5.1, the Owner will instruct the Design-Builder to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Design-Builder shall give timely notice to the Owner of when and where tests and inspections are to be made so that the Owner may be present for such procedures. Such costs, except as provided in Section 15.5.3, shall be at the Owner's expense.

§ 15.5.3 If such procedures for testing, inspection or approval under Sections 15.5.1 and 15.5.2 reveal failure of the portions of the Work to comply with requirements established by the Design-Build Documents, all costs made necessary by such failure shall be at the Design-Builder's expense.

§ 15.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Design-Build Documents, be secured by the Design-Builder and promptly delivered to the Owner.

§ 15.5.5 If the Owner is to observe tests, inspections or approvals required by the Design-Build Documents, the Owner will do so promptly and, where practicable, at the normal place of testing.

§ 15.5.6 Tests or inspections conducted pursuant to the Design-Build Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 15.6 Confidential Information

If the Owner or Design-Builder transmits Confidential Information, the transmission of such Confidential Information constitutes a warranty to the party receiving such Confidential Information that the transmitting party is authorized to transmit the Confidential Information. If a party receives Confidential Information, the receiving party shall keep the Confidential Information strictly confidential and shall not disclose it to any other person or entity except as set forth in Section 15.6.1.

§ 15.6.1 A party receiving Confidential Information may disclose the Confidential Information as required by law or court order, including a subpoena or other form of compulsory legal process issued by a court or governmental entity. A party receiving Confidential Information may also disclose the Confidential Information to its employees, consultants or contractors in order to perform services or work solely and exclusively for the Project, provided those employees, consultants and contractors are subject to the restrictions on the disclosure and use of Confidential Information as set forth in this Contract.

§ 15.7 Capitalization

Terms capitalized in the Contract 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.

§ 15.8 Interpretation

§ 15.8.1 In the interest of brevity the Design-Build 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.

§ 15.8.2 Unless otherwise stated in the Design-Build Documents, words which have well-known technical or construction industry meanings are used in the Design-Build Documents in accordance with such recognized meanings.

ARTICLE 16 SCOPE OF THE AGREEMENT

§ 16.1 This Agreement is comprised of the following documents listed below:

- .1 AIA Document A141™-2014, Standard Form of Agreement Between Owner and Design-Builder
- .2 AIA Document A141™-2014, Exhibit A, Design-Build Amendment, if executed

(Paragraphs deleted)

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

OWNER *(Signature)*

(Printed name and title)

DESIGN-BUILDER *(Signature)*

(Printed name and title)

 AIA® Document A141™ – 2014 Exhibit A**Design-Build Amendment**

This Amendment is incorporated into the accompanying AIA Document A141™–2014, Standard Form of Agreement Between Owner and Design-Builder dated the ____ day of _____ in the year 2025 (the "Agreement")
(In words, indicate day, month and year.)

for the following PROJECT:

(Name and location or address)

Rooftop solar photovoltaic project at Southington High School (DAS ID# 131-0131PV),
720 Pleasant Street, Southington, CT 06489

THE OWNER:

(Name, legal status and address)

Town of Southington
75 Main Street
Southington, CT 06489

THE DESIGN-BUILDER:

(Name, legal status and address)

ABC Corporation
123 Commercial Drive
Anywhere, CT 12345

The Owner and Design-Builder hereby amend the Agreement as follows.

TABLE OF ARTICLES

- A.1 CONTRACT SUM**
- A.2 RESERVED**
- A.3 INFORMATION UPON WHICH AMENDMENT IS BASED**
- A.4 DESIGN-BUILDER'S PERSONNEL, CONTRACTORS AND SUPPLIERS**
- A.5 COST OF THE WORK**

ARTICLE A.1 CONTRACT SUM

§ A.1.1 The Owner shall pay the Design-Builder the Contract Sum in current funds for the Design-Builder's performance of the Contract after the execution of this Amendment. The Contract Sum shall be one of the following and shall not include compensation the Owner paid the Design-Builder for Work performed prior to execution of this Amendment:
(Check the appropriate box.)

[X] Stipulated Sum, in accordance with Section A.1.2 below

- [] Cost of the Work plus the Design-Builder's Fee, in accordance with Section A.1.3 below
- [] Cost of the Work plus the Design-Builder's Fee with a Guaranteed Maximum Price, in accordance with Section A.1.4 below

(Based on the selection above, complete Section A.1.2, A.1.3 or A.1.4 below.)

§ A.1.2 Stipulated Sum

§ A.1.2.1 The Stipulated Sum shall be \$_____ for Southington High School (DAS ID# 131-0131 PV), subject to authorized adjustments as provided in the Design-Build Documents.

§ A.1.2.2 The Stipulated Sum is based upon the following alternates, if any, which are described in the Design-Build Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the Owner is permitted to accept other alternates subsequent to the execution of this Amendment, attach a schedule of such other alternates showing the change in Stipulated Sum for each and the deadline by which the alternate must be accepted.)

Not Applicable.

§ A.1.2.3 Unit prices, if any: **Not Applicable.**

(Identify item, state the unit price, and state any applicable quantity limitations.)

(Table deleted)

§ A.1.3 Cost of the Work Plus Design-Builder's Fee

Deleted because Not Applicable.

(Paragraphs deleted)

§ A.1.4 Cost of the Work Plus Design-Builder's Fee With a Guaranteed Maximum Price

Deleted because Not Applicable.

(Paragraphs deleted)

(Table deleted)

(Paragraphs deleted)

§ A.1.5 Payments

§ A.1.5.1 Progress Payments

§ A.1.5.1.1 Based upon Applications for Payment submitted to the Owner by the Design-Builder, the Owner shall make progress payments on account of the Contract Sum to the Design-Builder as provided below and elsewhere in the Design-Build Documents.

§ A.1.5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ A.1.5.1.3 As specified in the Payment Procedures & Payment Period in Section 5.11 of the Project Manual.

§ A.1.5.1.4 Not applicable.

§ A.1.5.1.5 With each Application for Payment where the Contract Sum is based upon a Stipulated Sum, the Design-Builder shall submit the most recent schedule of values in accordance with the Design-Build Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. Compensation for design services, if any, shall be shown separately. The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the Owner may require. This schedule of values, unless objected to by the Owner, shall be used as a basis for reviewing the Design-Builder's Applications for Payment.

§ A.1.5.1.6 In taking action on the Design-Builder's Applications for Payment, the Owner shall be entitled to rely on the accuracy and completeness of the information furnished by the Design-Builder and shall not be deemed to have made a detailed examination, audit or arithmetic verification of the documentation submitted in accordance with Sections A.1.5.1.4 or A.1.5.1.5, or other supporting data; to have made exhaustive or continuous on-site inspections; or to have made examinations to ascertain how or for what purposes the Design-Builder has used amounts previously paid. Such examinations, audits and verifications, if required by the Owner, will be performed by the Owner's auditors acting in the sole interest of the Owner.

§ A.1.5.1.7 Except with the Owner's prior approval, the Design-Builder shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ A.1.5.2 Progress Payments—Stipulated Sum

§ A.1.5.2.1 Applications for Payment where the Contract Sum is based upon a Stipulated Sum shall indicate the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ A.1.5.2.2 Subject to other provisions of the Design-Build Documents, the amount of each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values. Pending final determination of cost to the Owner of Changes in the Work, amounts not in dispute shall be included as provided in Section 6.3.9 of the Agreement;
- .2 Add 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);
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, the Owner has withheld or nullified, as provided in Section 9.5 of the Agreement.

§ A.1.5.2.3 The progress payment amount determined in accordance with Section A.1.5.2.2 shall be further modified under the following circumstances:

- .1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Owner shall determine for incomplete Work, and unsettled claims; and
(Section 9.8.6 of the Agreement discusses release of applicable retainage upon Substantial Completion of Work.)
- .2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Design-Builder, any additional amounts payable in accordance with Section 9.10.3 of the Agreement.

§ A.1.5.2.4 Reduction or limitation of retainage, if any, shall be as follows:

(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections A.1.5.2.2.1 and A.1.5.2.2.2 above, and this is not explained elsewhere in the Design-Build Documents, insert provisions here for such reduction or limitation.)

Not applicable.

§ A.1.5.3 Progress Payments—Cost of the Work Plus a Fee

Not applicable.

§ A.1.5.4 Progress Payments—Cost of the Work Plus a Fee with a Guaranteed Maximum Price

Not applicable.

(Paragraphs deleted)

§ A.1.5.5 Final Payment

§ A.1.5.5.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Design-Builder not later than 30 days after the Design-Builder has fully performed the Contract and the requirements of Section 9.10 of the Agreement have been satisfied, except for the Design-Builder's responsibility to correct non-conforming Work discovered after final payment or to satisfy other requirements, if any, which extend beyond final payment.

§ A.1.5.5.2 Not applicable.

(Paragraphs deleted)

ARTICLE A.2 RESERVED

(Paragraphs deleted)

(Table deleted)

ARTICLE A.3 INFORMATION UPON WHICH AMENDMENT IS BASED

§ A.3.1 The Contract Sum set forth in this Amendment is based on the following:

The Design-Builder's winning bid submitted in response to the Town of Southington Bid #2026-001 and the Project Manual, as approved by the Southington Town Council on _____ [date].

§ A.3.1.1 The Supplementary and other Conditions of the Contract: **Not applicable.**

(Table deleted)

§ A.3.1.2 The Specifications:

(Either list the specifications here or refer to an exhibit attached to this Amendment.)

Not applicable.

(Table deleted)

§ A.3.1.3 The Drawings:

(Either list the drawings here or refer to an exhibit attached to this Amendment.)

Not applicable.

(Table deleted)

§ A.3.1.4 The Sustainability Plan, if any:

(Paragraphs deleted)

Not applicable.

§ A.3.1.5 Allowances and Contingencies: **Not applicable.**

(Identify any agreed upon allowances and contingencies, including a statement of their basis.)

.1 Allowances

Not applicable.

.2 Contingencies

Not applicable.

§ A.3.1.6 Design-Builder's assumptions and clarifications:

Not applicable.

§ A.3.1.7 Deviations from the Owner's Criteria as adjusted by a Modification:

Not applicable.

§ A.3.1.8 To the extent the Design-Builder shall be required to submit any additional Submittals to the Owner for review, indicate any such submissions below:

Not applicable.

ARTICLE A.4 DESIGN-BUILDER'S PERSONNEL, CONTRACTORS AND SUPPLIERS

§ A.4.1 The Design-Builder's key personnel are identified in § 1.2.4 of the Agreement.
(Identify name, title and contact information.)

.1 Superintendent

Not applicable.

.2 Project Manager

Not applicable.

.3 Others

Not applicable.

§ A.4.2 The Design-Builder shall retain the following Consultants, Contractors and suppliers, identified below:
(List name, discipline, address and other information.)

ARTICLE A.5 COST OF THE WORK

Not applicable to this Stipulated Sum contract.

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

OWNER (Signature)

(Printed name and title)

DESIGN-BUILDER (Signature)

(Printed name and title)



Connecticut Department of Administrative Services
Office of School Construction Grants
Public School Construction Cost Database

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Grant Application Phase Cost Estimate

State Project #	EstNum000471			
LEA	Southington Public Schools			
School Name	Southington High School			
Project Type				
Square Footage of Construction	125,000			
Grades	G1			
Enrollment Projections				
Reimbursement Rate				
	Cost/Square Feet	Ineligible (		
Project Cost	\$2,495,031.12	of Project Costs \$19.96	Project Ineligible Costs \$648.88	
All Soft Cost	\$323,229.63		Ineligible Soft Costs \$648.88	
Construction Cost	\$2,171,801.49	of Construction Cost \$17.37	Ineligible Construction Costs \$0.00	
Eligible Construction Costs	\$2,171,801.49	of Eligible Costs \$17.37		
Consultants	FF&E	Fees	Contingencies	Acquisition
\$107,000.00	\$0.00	\$16,229.63	\$200,000.00	\$0.00

Construction Cost		Cost	Ineligibles
A. SUBSTRUCTURE	A10. Foundations	0.00	0.00
	A20. Basements	0.00	0.00
B. SHELL	B10. Super Structure	0.00	0.00
	B20. Exterior Enclosures	0.00	0.00
	B30. Roofing	0.00	0.00
C. INTERIORS	C10. Interior Construction	0.00	0.00
	C20. Stairs	0.00	0.00
	C30. Interior Finishes	0.00	0.00
D. SERVICES	D10. Conveying	0.00	0.00
	D20. Plumbing	0.00	0.00
	D30. HVAC	0.00	0.00
	D40. Fire Protection	0.00	0.00
	D50. Electrical	1360751.20	0.00
E. EQUIPMENT & FURNISHINGS	E10. Equipment	0.00	0.00
	E20. Furnishings	0.00	0.00
F. SPECIAL CONSTRUCTION AND DEMOLITION	F10. Special Construction	0.00	0.00
	F20. Selective Building Demolition	0.00	0.00
	F30. Abatement	0.00	0.00
X. GENERAL CONDITIONS, OFFICE OVERHEAD, & PROFIT	X10. General Conditions	70900.00	0.00
	X20. Overhead & Profit	740150.29	0.00
Z. ALLOWANCES	Z10. Design Contingency	0.00	0.00
	Z20. Inflation (Escalation) Allowance	0.00	0.00
	Z30. Construction Contingency	0.00	0.00

Soft Cost		Cost	Ineligibles
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G. SITEWORK (beyond 5 ft from Building)	G1010. Site Clearing	0.00	0.00
	G1020. Site Demolition & Relocation	0.00	0.00
	G1030. Site Earthwork	0.00	0.00
	G1040. Hazardous Waste Remediation	0.00	0.00
	G2010 Roadways	0.00	0.00
	G2020. Parking	0.00	0.00
	G2030. Pedestrian Paving	0.00	0.00
	G2040. Site Development	0.00	0.00
	G2045. Athletic Fields	0.00	0.00
	G2050. Landscaping	0.00	0.00
	G3010. Water Supply	0.00	0.00
	G3020. Sanitary Sewer	0.00	0.00
	G3030. Storm Sewer	0.00	0.00
	G3040. Heating Distribution	0.00	0.00
	G3050. Cooling Distribution	0.00	0.00
	G3060. Fuel Distribution	0.00	0.00
	G3090. Other Site Mechanical Utilities	0.00	0.00
	G4010. Electrical Distribution	0.00	0.00
	G4020. Site Lighting	0.00	0.00
	G4030. Site Communications & Security	0.00	0.00
	G4090. Other Site Electrical Utilities	0.00	0.00
	G9010. Service & Pedestrian	0.00	0.00
	G9020. Bleachers, Concession Stands, etc.	0.00	0.00
	G9090. Other Site Systems	0.00	0.00
Y.SITE GENERAL CONDITIONS, OFFICE OVERHEAD, PROFIT, & ALLOWANCES	Y1010. Site General Conditions	0.00	0.00
	Y2010. Site Overhead & Profit	0.00	0.00
	Y3010. Site Design Contingency	0.00	0.00
	Y4010. Site Inflation (Escalation) Allowance	0.00	0.00
	Y5010. Trade Contractor Bond Costs	0.00	0.00
	Y3020. Site Construction Contingency	0.00	0.00
R. CONSULTANTS	R1010. Architect/Engineer	37500.00	0.00
	R2010. Environmental	0.00	0.00
	R3010. Commissioning	0.00	0.00
	R4010. Geotechnical	0.00	0.00
	R5010. Cost Estimator	0.00	0.00
	R6010. Owners Rep	69500.00	0.00
	R7010. CM Pre-Construction	0.00	0.00
	R8010. FF&E Coordinator	0.00	0.00
	R9010. Legal	0.00	0.00
S. FF&E	S1010. FF&E	0.00	0.00
	S2010. Technology	0.00	0.00
	S3010. Playground Equipment	0.00	0.00
	S4010. Playground Surfacing	0.00	0.00
	S5010. Moving	0.00	0.00
T. FEES	T1010. District Bonding Fees	0.00	0.00
	T2010. Insurance Cost	0.00	0.00
	T3010. Town Staff Cost	0.00	0.00
	T4010. Town Permit Fees	0.00	0.00
	T5010. State Permit Fees	0.00	648.88
	T6010. Testing/Inspection Fees	0.00	0.00
	T7010. Printing & Mailing	0.00	0.00
	T8010. Other Costs	16229.63	0.00

U. CONTINGENCIES	U1010. Owner Contingency	200000.00	0.00
W. ACQUISITION COSTS W	W1010. Land/Building Purchase	0.00	0.00
	W2010. Swing Space/Portables	0.00	0.00
	W3010. Site Remediation	0.00	0.00
	W4010. Appraisals	0.00	0.00
	W5010. Land Survey	0.00	0.00
	W6010. Other Acquisition Costs	0.00	0.00
Save and Continue	Save and Exit	Signoff and Submit	