

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES 1 3
2. AMENDMENT/MODIFICATION NO. 0004	3. EFFECTIVE DATE 25-Mar-2015	4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO.(If applicable)
6. ISSUED BY NAVFAC MID ATLANTIC PWD PHILADELPHIA 4921 S. BROAD STREET BLDG 1, 2ND FLOOR PHILADELPHIA PA 19112		CODE N40085	7. ADMINISTERED BY (If other than item 6) See Item 6	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)			X	9A. AMENDMENT OF SOLICITATION NO. N40085-15-R-7509
			X	9B. DATED (SEE ITEM 11) 11-Feb-2015
				10A. MOD. OF CONTRACT/ORDER NO.
				10B. DATED (SEE ITEM 13)
CODE		FACILITY CODE		
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS				
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input checked="" type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning <u>1</u> copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.				
12. ACCOUNTING AND APPROPRIATION DATA (If required)				
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.				
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.				
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).				
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:				
D. OTHER (Specify type of modification and authority)				
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.				
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) N40085-15-R-7509; IDIQ ROOF REPAIR AND MAINTENANCE AT THE PHILADELPHIA NAVAL BUSINESS CENTER (PNBC) AND NAVAL SUPPORT ACTIVITY (NSA), PHILADELPHIA, PA THE PURPOSE OF THIS AMENDMENT IS TO EXTEND THE RFP DUE DATE, PROVIDE QUESTIONS AND ANSWERS, INCORPORATE REVISED ELIN SCHEDULE, REVISED ROOF LIST, AND INCORPORATE SPEC SECTIONS. SEE PAGE 2 FOR DETAILED INFORMATION.				
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.				
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
			TEL:	EMAIL:
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)	
			16C. DATE SIGNED 25-Mar-2015	

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION SF 30 - BLOCK 14 CONTINUATION PAGE

The following have been added by full text:

AMENDMENT 0004

N40085-15-R-7509; IDIQ ROOF REPAIR AND MAINTENANCE AT THE PHILADELPHIA NAVAL BUSINESS CENTER (PNBC) AND NAVAL SUPPORT ACTIVITY (NSA), PHILADELPHIA, PA

THE PURPOSE OF THIS AMENDMENT IS TO:

1. INCORPORATE THE QUESTIONS AND ANSWERS FOR THE SUBJECT RFP.
2. INCORPORATE SECTION 01 33 29 -- SUSTAINABILITY REPORTING
3. INCORPORATE SECTION 07 61 15.00 20 -- ALUMINUM STANDING SEAM ROOFING
4. INCORPORATE REVISED ELIN SCHEDULE (INCLUDES BASE AND ALL OPTION YEARS). **PREVIOUS ELIN SCHEDULE (BASE AND ALL OPTIONS) IS HEREBY DELETED IN ITS ENTIRETY.**
5. INCORPORATE REVISED NSWF ROOF LIST / ATTACH A GUTTER AND DRAIN CLEANING LIST. **PREVIOUS VERSION IS HEREBY DELETED IN ITS ENTIRETY.**

THE REQUEST FOR PROPOSAL (RFP) HAS BEEN EXTENDED AND PROPOSALS ARE DUE ON OR BEFORE 4/1/2015 AT 3:00PM EASTERN TIME.

NO FURTHER QUESTIONS PERTAINING TO THE SUBJECT RFP WILL BE EXCEPTED.

QUESTIONS AND ANSWERS FOR N40085-15-R-7509; IDIQ ROOF REPAIR AND MAINTENANCE AT THE PHILADELPHIA NAVAL BUSINESS CENTER (PNBC) AND NAVAL SUPPORT ACTIVITY (NSA), PHILADELPHIA, PA:

1. Please clarify how line item X0162 will be used. The description asks for the contractor to make any necessary repairs, however, not to exceed \$1,000.00...it continues by saying the labor cost is based on the labor rate for ELIN X0159 times the hours worked. What exactly are we getting paid for with this line item?

RESPONSE: Each customer using this contract will be required to order service calls if they wish to use them. Service calls will be for minor repairs (i.e. small leak) that that might have an emergent need or does not require the specifications of a task order. The Contractor shall respond within 4 hours for a service call (hopefully during the event) and only charge for the actual amount of work (material and labor) actually performed. Cost limit is \$1,000 per service call and is arrived at by a combined material cost + labor cost < \$1,000.00. So as an example, the Contractor comes in and repairs a small leak in a roof. He expends 6 hours of labor at his labor rate (X0159, i.e. \$50.00) and \$125.00 in material. 6 hours X \$50.00 = \$300.00, \$300.00 + \$125.00 = \$425.00. The \$425.00 is what the Contractor shall invoice the Government for. If for any reason after beginning work the Contractor realizes that it will exceed the \$1,000.00 threshold, he shall immediately notify the Contracting Officer and cease work and await further instructions.

2. ELIN's 0160 (Command Interest Work) AND 0162 (Perform Emergency Service Call) appear to be "mobilization" costs only. Please confirm the Contractor will be paid for the cost of actual work completed based on ELIN 0159 (for labor) and actual material costs incurred (in addition to the

mobilization charges under ELIN 0160 or 0162). Also, is the Contractor entitled to a markup on actual materials used for Command Interest Work and Emergency Service Calls?

RESPONSE: They are not mobilization costs. Service calls answers are provided in question 1. Command interest work ELIN 0160 will be added to task order to expedite work.

3. The line item pricing sheets references “remove and replace with” throughout the documents. However the roof insulation section states “Provide” only. We are interpreting “Provide” as meaning: provide a price for the materials and installation (see line items below). Is our interpretation correct in including labor?

RESPONSE: It should also be to remove and replace. Please see attached Revised ELIN Schedule which changes the following:

ROOF INSULATION – REVISED ELINS FOR BASE AND ALL OPTION YEARS.

Remove and replace rigid roof insulation in conjunction with roofing systems specified herein.

X0006 Reserved

X0007 Reserved

X0008 **Remove and replace** polyisocyanurate tapered insulation panels

X0009 **Remove and replace** tapered roof insulation

X0010 **Remove and replace** vapor barrier in conjunction with built up roofing system

X0011 **Remove and replace** resin sized building paper (5 lb)

In addition, please note that ELIN X0009 Quantity has changed from 1,000 BF to 100 SQ.

4. Can you give us some idea as to the size of Bldgs. 519/520 (B-H; L-O) for the cleaning schedule?

RESPONSE: Please see Revised NSWf Roof List / Attachment A which has been attached via this Amendment

NOTE: REMARKS AND EXPLANATIONS ADDRESSED SHALL NOT BE DEEMED OR CONSTRUED TO CONSTITUTE ANY REPRESENTATION OR WARRANTY BY THE DOD, OR A LEGALLY BINDING AGREEMENT, CONTRACT OR COMMITMENT BETWEEN THE DOD AND ANY OTHER PARTY, OR ALTER THE TERMS AND CONDITIONS OF THE SOLICITATION.

REMINDER: IT IS THE CONTRACTOR’S RESPONSIBILITY TO CHECK NECO WEBSITE, WWW.NECO.NAVY.MIL FOR ALL AMENDMENTS TO THE SUBJECT SOLICITATION.

EXCEPT AS PROVIDED HEREIN, ALL TERMS AND CONDITIONS OF THE DOCUMENT REFERENCED REMAINS UNCHANGED AND IN FULL FORCE AND EFFECT.

SECTION 00010 - SOLICITATION CONTRACT FORM

The required response date/time has changed from 13-Mar-2015 03:00 PM to 01-Apr-2015 03:00 PM.

(End of Summary of Changes)

ROOFING CONTRACT 15-D-7509 ELINs

SCHEDULE OF PRICES - BASE YEAR

ELIN Number	Supplies/Services	Est. Quantity	Unit	X	Unit Price	Total
ROOFING						
INDEFINITE QUANTITY WORK ITEMS - CLIN 0001						
ROOF DECKS						
A0001	Remove existing metal roof decks (ALL OR PARTIAL) and replace with new steel roof decking, shall include all closures and accessories	10	SQ	X	\$	\$
	Remove existing wood roof deck and replace with new wood decking					
A0002	1" nominal T & G (treated)	200	BF	X	\$	\$
A0003	2" nominal T & G (treated)	250	BF	X	\$	\$
A0004	3/4" plywood	250	SF	X	\$	\$
A0005	1/2" plywood	150	SF	X	\$	\$
ROOF INSULATION						
	Remove and replace rigid roof insulation in conjunction with roofing systems specified herein.					
A0006	Reserved					
A0007	Reserved					
A0008	Remove and replace polyisocyanurate tapered insulation panels	100	SQ	X	\$	\$
A0009	Remove and replace tapered roof insulation	100	SQ	X	\$	\$
A0010	Remove and replace vapor barrier in conjunction with built up roofing system	25	SQ	X	\$	\$
A0011	Remove and replace resin sized building paper (5 lb)	50	SQ	X	\$	\$
A0012	Remove existing cants and replace with new fiberboard cants 4 x 4	100	LF	X	\$	\$
A0013	Remove existing cants and replace with new treated wood cants 4 x 4	100	LF	X	\$	\$
A0014	Remove existing nailers and replace with new treated 2" x 6" wood	250	BF	X	\$	\$
SHINGLED ROOF SYSTEMS						
	Remove existing composition shingles and replace with new composition shingles, shall include starter strips, ridges & hips					
A0015	Twenty Five Year (3 tab)	50	SQ	X	\$	\$
A0016	Thirty Year (architectual)	25	SQ	X	\$	\$
A0017	Forty Year (architectual)	25	SQ	X	\$	\$
A0018	Remove and dispose of existing composition shingles (all types)(where new shingles are not going to be installed)	25	SQ	X	\$	\$
A0019	Remove and dispose of existing slate shingles.	25	SQ	X	\$	\$
A0020	Remove and re-install existing slate shingles (All or Partial)	5	SQ	X	\$	\$
A0021	Install new slate shingles (Weathering	10	SQ	X	\$	\$

	green, Vermont)(All or Partial)					
A0022	Install new slate shingles (Buckingham)(All or Partial)	10	SQ	X	\$	\$
	Remove existing preformed metal (All or Partial) roofing and replace with new preformed metal roofing					
A0023	Coated steel	10	SQ	X	\$	\$
A0024	Coated aluminum	10	SQ	X	\$	\$
	ROOF COATING (ALUMINUM PIGMENTED FIBERED BITUMINOUS ROOF COATING)					
A0025	Coat roofing with aluminum pigmented fibered bitumen roof coating	25	SQ	X	\$	\$
	Field paint roof mounted equipment					
A0026	Up to 25 SF X in surface area X	25	SF	X	\$	\$
A0027	Over 25 SF X in surface area X	25	SF	X	\$	\$
	BUILT UP ROOF					
	Remove existing roof system and replace with new aggregate surfaced BU roofing system					
A0028	System GAA (Gravel)	25	SQ	X	\$	\$
	Remove existing roof system and replace with new smooth surfaced BU roofing system.					
A0029	System Gas	25	SQ	X	\$	\$
	Remove existing roof system and replace with new single ply reinforced modified bitumen sheet roofing system					
A0030	Torch Applied	25	SQ	X	\$	\$
A0031	Mop Applied	25	SQ	X	\$	\$
A0032	Remove existing base flashing and replace with new 2 ply glass felt base flashing	50	SF	X	\$	\$
A0033	Remove existing base flashing and replace with new 3-ply bituminous base flashing	50	SF	X	\$	\$
A0034	Remove existing base flashing and replace with new single ply reinforced modified, bitumen sheet roofing flashing	50	SF	X	\$	\$
A0035	Remove and Dispose of Second layer of Built up roof	100	SQ	X	\$	\$
A0036	(1) Walkway/Asphalt Planks	500	SF	X	\$	\$
	ROOF AND PARAPET WALL DAMPROOFING					
A0037	Coat Existing BU Roof or Parapet Wall	50	SF	X	\$	\$
	E.P.D.M. (RUBBER ROOF SYSTEM) (Install new E.P.D.M. Roof System over Existing Built-up Roof)					
A0038	Ballasted System	50	SQ	X	\$	\$
A0039	Mechanically Fastened System	25	SQ	X	\$	\$
A0040	Full Adhered System	50	SQ	X	\$	\$
	Remove existing roof system and replace with new E.P.D.M. roof system					
A0041	Ballasted System	50	SQ	X	\$	\$
A0042	Mechanically Fastened System	50	SQ	X	\$	\$
A0043	Full Adhered System	50	SQ	X	\$	\$
A0044	Install new E.P.D.M. Wall/Curb Flashings	100	SF	X	\$	\$
A0045	Install Rubber Pipe Vents	10	EA	X	\$	\$
A0046	Install Termination Bars. Shall include caulking	25	LF	X	\$	\$

A0047	Reserved					
A0048	Install E.P.D.M Walk Pads	10	EA	X	\$	\$
	Remove existing roof system and replace with new Thermoplastic alloy roof system (TPA)					
A0049	Mechanically Fastened	10	SQ	X	\$	\$
A0050	Ballasted	10	SQ	X	\$	\$
A0051	Install new TPA wall/curb flashing	50	SF	X	\$	\$
A0052	Install new TPA pipe vent flashing	5	EA	X	\$	\$
	Remove existing metal base flashing and replace with new metal base flashing					
A0053	Copper	50	SF	X	\$	\$
A0054	Aluminum	50	SF	X	\$	\$
A0055	Aluminum/various colors	50	SF	X	\$	\$
A0056	Stainless Steel	50	SF	X	\$	\$
	Remove existing metal step flashing and replace with new metal step flashing					
A0057	Copper	50	SF	X	\$	\$
A0058	Aluminum	50	SF	X	\$	\$
A0059	Aluminum/various colors	50	SF	X	\$	\$
A0060	Stainless Steel	50	SF	X	\$	\$
	Remove existing metal counter flashing and replace with new metal counter flashing, shall include caulking					
A0061	Copper	50	SF	X	\$	\$
A0062	Aluminum	50	SF	X	\$	\$
A0063	Aluminum/various colors	35	SF	X	\$	\$
A0064	Stainless Steel	35	SF	X	\$	\$
	Remove existing metal gravel stop and replace with new metal gravel stop (up to 6" high)					
A0065	Copper	35	LF	X	\$	\$
A0066	Aluminum	35	LF	X	\$	\$
A0067	Aluminum/various colors	35	LF	X	\$	\$
A0068	Stainless Steel	35	LF	X	\$	\$
	Remove existing metal gravel stop and replace with new metal gravel stop (up to 12" high)					
A0069	Copper	35	LF	X	\$	\$
A0070	Aluminum	35	LF	X	\$	\$
A0071	Aluminum/various colors	35	LF	X	\$	\$
A0072	Stainless Steel	35	LF	X	\$	\$
	Remove existing and install new metal coping. Shall include caulking.					
A0073	Copper	25	SF	X	\$	\$
A0074	Aluminum	25	SF	X	\$	\$
A0075	Aluminum/various colors	25	SF	X	\$	\$
A0076	Stainless Steel	25	SF	X	\$	\$
	Remove metal drip edge and replace with new metal drip edge					
A0077	Copper	25	LF	X	\$	\$
A0078	Aluminum	25	LF	X	\$	\$
A0079	Aluminum/various colors	25	LF	X	\$	\$
A0080	Stainless Steel	25	LF	X	\$	\$
METAL GUTTERS AND DOWNSPOUTS						
	Install Metal Gutters					
A0081	Copper/5" ogee	25	LF	X	\$	\$
A0082	Copper/6" ogee	25	LF	X	\$	\$

A0083	Copper/6" half round	25	LF	X	\$	\$
A0084	Copper/6" box	25	LF	X	\$	\$
A0085	Copper/8" box	25	LF	X	\$	\$
A0086	Prefinish Alum/5" ogee	25	LF	X	\$	\$
A0087	Prefinish Alum/6" ogee	25	LF	X	\$	\$
A0088	Prefinish Alum/6" Box	25	LF	X	\$	\$
A0089	Prefinish Alum/8" Box	25	LF	X	\$	\$
A0090	Stainless steel/6" box	25	LF	X	\$	\$
A0091	Stainless steel/8" box	25	LF	X	\$	\$
Install Metal Downspouts						
A0092	Copper 2" x 3"	25	LF	X	\$	\$
A0093	Copper 3" x 4"	25	LF	X	\$	\$
A0094	Copper/3" round	25	LF	X	\$	\$
A0095	Copper/4" round	25	LF	X	\$	\$
A0096	Copper/6" round	25	LF	X	\$	\$
A0097	Prefinish alum 2" x 3"	25	LF	X	\$	\$
A0098	Prefinish alum 3" x 4"	25	LF	X	\$	\$
A0099	Stainless Steel 3" x 4"	25	LF	X	\$	\$
A0100	Provide and place new concrete splash block (standard commercial size)	10	EA	X	\$	\$
Remove Gutters and/or downspouts						
A0101	Remove and dispose of existing gutters and/or downspouts	35	LF	X	\$	\$
A0102	Remove and reinstall existing gutters and/or downspouts. Reseal all joints	35	LF	X	\$	\$
A0103	Realign and resecure existing gutters and/or downspouts (Replace hangers, fasteners and straps) as needed. Reseal all joints.	35	LF	X	\$	\$
A0104	Resolder broken gutter joints	10	EA	X	\$	\$
A0105	Reseal, broken gutter joints	10	EA	X	\$	\$
A0106	Clean and dispose of debris in existing gutters	250	LF	X	\$	\$
Remove existing metal open valley flashing and replace with new metal valley flashing						
A0107	Copper	50	SF	X	\$	\$
A0108	Aluminum	50	SF	X	\$	\$
A0109	Aluminum/various colors	50	SF	X	\$	\$
A0110	Stainless Steel	50	SF	X	\$	\$
Remove existing metal flashing/miscellaneous shapes and replace with new						
A0111	Copper	35	SF	X	\$	\$
A0112	Aluminum	35	SF	X	\$	\$
A0113	Aluminum/various colors	25	SF	X	\$	\$
A0114	Stainless Steel	25	SF	X	\$	\$
A0115	Compatible w/EPDM & CPE	35	SF	X	\$	\$
Remove existing pitch pocket and 'replace with new						
A0116	Copper	10	SF	X	\$	\$
A0117	Aluminum	10	SF	X	\$	\$
A0118	Stainless steel	10	SF	X	\$	\$
DRAINS, STRAINERS, SCUPPERS, CONDUCTOR HEADS & SPLASH HEADS						
A0119	Clean and clear roof drains	25	EA	X	\$	\$

Remove existing roof drain sumps and
replace with new roof drain sumps

A0120 6-Pound Lead 2 EA X \$ \$

TPA EPDM roof drain Sumps

A0121 TPA EPDM roof drain sumps (removal only) 2 EA X \$ \$

Provide and install TPA EPDM roof drain sumps

A0122 TPA EPDM roof drain sumps (provide and install only) 2 EA X \$ \$

Retrofit Drains

A0123 Reserved

Remove existing strainers

A0124 Metal Strainers 2 EA X \$ \$

A0125 PVC Strainers 2 EA X \$ \$

Furnish and Install New Strainers

A0126 Metal Strainers 2 EA X \$ \$

A0127 PVC Strainers 2 EA X \$ \$

Remove existing metal scupper lining and replace with
new metal scupper lining

A0128 Copper 2 EA X \$ \$

A0129 Stainless Steel 2 EA X \$ \$

Remove existing metal conductor heads
and replace with new metal conductor heads

A0130 Copper 2 EA X \$ \$

A0131 Stainless Steel 2 EA X \$ \$

Install new metal splash pans

A0132 Copper 2 EA X \$ \$

A0133 Stainless Steel 2 EA X \$ \$

MISCELLANEOUS ROOFING WORK

Remove existing expansion joints and replace
with new expansion joints. Include wood nailers,
bituminous base flashing, metal counterflashing
and metal joint cover

A0134 Copper 10 SF X \$ \$

A0135 Aluminum 10 SF X \$ \$

A0136 Stainless Steel 10 SF X \$ \$

A0137 Remove existing pipe vent flashing and
replace with new IEA Xd pipe vent flashing 2 EA X \$ \$

A0138 Remove existing metal vent collars and replace with
new vent collars and accessories 3 EA X \$ \$

A0139 Install caulking 50 LF X \$ \$

A0140 Remove existing caulking and replace
with new sealant/caulking 75 LF X \$ \$

A0141 Cut new reglet In masonry 10 LF X \$ \$

A0142 Cut new reglet In concrete 10 LF X \$ \$

A0143 Reserved

A0144	Reserved						
A0145	Reserved						
A0146	Reserved						
A0147	Reserved						
A0148	Reserved						
A0149	Reserved						
A0150	Remove existing fascia and replace with new fascia board	<u>25</u>	BF	X	\$		\$
A0151	Prime and paint fascia board	<u>25</u>	SF	X	\$		\$
A0152	Cover existing fascia board with aluminum coil stock (various colors)	<u>25</u>	SF	X	\$		\$
RESERVED							
A0153	Reserved						
ASBESTOS ABATEMENT/REMOVAL							
A0154	Min. costs incurred for asbestos abatement, for trailer (provide, set-up, & removal)	<u>1</u>	EA	X	\$		\$
A0155	Additional cost incurred for the removal and disposal of asbestos containing substances. Regular roofing only.	<u>5,000</u>	SF	X	\$		\$
A0156	Additional cost incurred for the removal and disposal of asbestos containing substance. (Flashings, Pitch pockets, etc.)	<u>5,000</u>	SF	X	\$		\$
A0157	Removal of lead based paint. Contractor removes loose paint from surface. The contractor furnishes container and the Government disposes	<u>150</u>	SF	X	\$		\$
NON-PREPRICED LABOR, MATERIAL and COMMAND INTEREST WORK							
A0158	Provide all materials and equipment to perform Unit Priced Labor work per the scope and delivery schedule specified in the order. Use with ELIN A0159. These material costs MUST BE NEGOTIATED BY KO.	<u>1</u>	LS	X	\$199,463.71		\$199,463.71
A0159	Provide labor to perform all Unit Priced Labor work per the scope and delivery schedule specified in the order. MUST BE NEGOTIATED BY KO.	<u>500</u>	HRS	X	\$		\$
ADDITIONAL ROOFING WORK							
A0160	COMMAND INTEREST WORK (One time cost per Task Order to respond within 48 hours and work diligently until all work is completed).	<u>2</u>	EA	X	\$		\$
A0161	Perform quarterly and bi-annual roof, drain, gutter and downspout cleaning and inspection in accordance with Attachment A.	<u>1</u>	LOT		\$		\$
A0162	Perform Emergency Service call.	<u>75</u>	EA	X	\$1,000.00		\$75,000.00

Contractor shall respond to service call within 2 working days of receipt of order, secure emergency and make any necessary repairs to roof and drain system. Service call is limited to a combined labor and material cost not to exceed \$1,000.00. The total labor cost is based on the labor rate for ELIN A0159 times the hours worked. Contractor shall submit proposal to the Contracting Officer for any work beyond scope of the call. Contractor shall complete within 4 working days.

A0163	Perform Roof Survey / Assessment up to 50,000 SF in accordance with Attachment B.	<u>5</u>	EA	X	\$	\$ _____
A0164	Perform Roof Survey / Assessment over 50,000 SF and up to 100,000 SF in accordance with Attachment B.	<u>5</u>	EA	X	\$	\$ _____
A0165	Perform Roof Survey / Assessment over 100,000 SF in accordance with Attachment B.	<u>5</u>	EA	X	\$	\$ _____
Total Price for BASE YEAR (IQ) Price Work Items - CLIN 0001 (Sum of Exhibit Line Items A0001-A0165)						\$ _____

ROOFING CONTRACT 15-D-7509 ELINs

SCHEDULE OF PRICES - 1ST OPTION YEAR

ELIN Number	Supplies/Services	Est. Quantity	Unit	X	Unit Price	Total
ROOFING						
INDEFINITE QUANTITY WORK ITEMS - CLIN 0002						
ROOF DECKS						
B0001	Remove existing metal roof decks (ALL OR PARTIAL) and replace with new steel roof decking, shall include all closures and accessories	10	SQ	X	\$	\$
	Remove existing wood roof deck and replace with new wood decking					
B0002	1" nominal T & G (treated)	200	BF	X	\$	\$
B0003	2" nominal T & G (treated)	250	BF	X	\$	\$
B0004	3/4" plywood	250	SF	X	\$	\$
B0005	1/2" plywood	150	SF	X	\$	\$
ROOF INSULATION						
Remove and replace rigid roof insulation in conjunction with roofing systems specified herein.						
B0006	Reserved					
B0007	Reserved					
B0008	Remove and replace polyisocyanurate tapered insulation panels	100	SQ	X	\$	\$
B0009	Remove and replace tapered roof insulation	100	SQ	X	\$	\$
B0010	Remove and replace vapor barrier in conjunction with built up roofing system	25	SQ	X	\$	\$
B0011	Remove and replace resin sized building paper (5 lb)	50	SQ	X	\$	\$
B0012	Remove existing cants and replace with new fiberboard cants 4 x 4	100	LF	X	\$	\$
B0013	Remove existing cants and replace with new treated wood cants 4 x 4	100	LF	X	\$	\$
B0014	Remove existing nailers and replace with new treated 2" x 6" wood	250	BF	X	\$	\$
SHINGLED ROOF SYSTEMS						
Remove existing composition shingles and replace with new composition shingles, shall include starter strips, ridges & hips						
B0015	Twenty Five Year (3 tab)	50	SQ	X	\$	\$
B0016	Thirty Year (architectual)	25	SQ	X	\$	\$
B0017	Forty Year (architectual)	25	SQ	X	\$	\$
B0018	Remove and dispose of existing composition shingles (all types)(where new shingles are not	25	SQ	X	\$	\$

going to be installed)

B0019	Remove and dispose of existing slate shingles.	25	SQ	X	\$	\$
B0020	Remove and re-install existing slate shingles (All or Partial)	5	SQ	X	\$	\$
B0021	Install new slate shingles (Weathering green, Vermont)(All or Partial)	10	SQ	X	\$	\$
B0022	Install new slate shingles (Buckingham)(All or Partial)	10	SQ	X	\$	\$
	Remove existing preformed metal (All or Partial) roofing and replace with new preformed metal roofing					
B0023	Coated steel	10	SQ	X	\$	\$
B0024	Coated aluminum	10	SQ	X	\$	\$
	ROOF COATING (ALUMINUM PIGMENTED FIBERED BITUMINOUS ROOF COATING)					
B0025	Coat roofing with aluminum pigmented fibered bitumen roof coating	25	SQ	X	\$	\$
	Field paint roof mounted equipment					
B0026	Up to 25 SF X in surface area X	25	SF	X	\$	\$
B0027	Over 25 SF X in surface area X	25	SF	X	\$	\$
	BUILT UP ROOF					
	Remove existing roof system and replace with new aggregate surfaced BU roofing system					
B0028	System GAA (Gravel)	25	SQ	X	\$	\$
	Remove existing roof system and replace with new smooth surfaced BU roofing system.					
B0029	System Gas	25	SQ	X	\$	\$
	Remove existing roof system and replace with new single ply reinforced modified bitumen sheet roofing system					
B0030	Torch Applied	25	SQ	X	\$	\$
B0031	Mop Applied	25	SQ	X	\$	\$
B0032	Remove existing base flashing and replace with new 2 ply glass felt base flashing	50	SF	X	\$	\$
B0033	Remove existing base flashing and replace with new 3-ply bituminous base flashing	50	SF	X	\$	\$
B0034	Remove existing base flashing and replace with new single ply reinforced modified, bitumen sheet roofing flashing	50	SF	X	\$	\$
B0035	Remove and Dispose of Second layer of Built up roof	100	SQ	X	\$	\$
B0036	(1) Walkway/Asphalt Planks	500	SF	X	\$	\$
	ROOF AND PARAPET WALL DAMPROOFING					
B0037	Coat Existing BU Roof or Parapet Wall	50	SF	X	\$	\$

E.P.D.M. (RUBBER ROOF SYSTEM) (Install new

E.P.D.M. Roof System over Existing Built-up Roof)

B0038	Ballasted System	50	SQ	X	\$	\$
B0039	Mechanically Fastened System	25	SQ	X	\$	\$
B0040	Full Adhered System	50	SQ	X	\$	\$

Remove existing roof system and replace with new E.P.D.M. roof system

B0041	Ballasted System	50	SQ	X	\$	\$
B0042	Mechanically Fastened System	50	SQ	X	\$	\$
B0043	Full Adhered System	50	SQ	X	\$	\$
B0044	Install new E.P.D.M. Wall/Curb Flashings	100	SF	X	\$	\$
B0045	Install Rubber Pipe Vents	10	EA	X	\$	\$
B0046	Install Termination Bars. Shall include caulking	25	LF	X	\$	\$
B0047	Reserved					

B0048	Install E.P.D.M Walk Pads	10	EA	X	\$	\$
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Remove existing roof system and replace with new Thermoplastic alloy roof system (TPA)

B0049	Mechanically Fastened	10	SQ	X	\$	\$
B0050	Ballasted	10	SQ	X	\$	\$
B0051	Install new TPA wall/curb flashing	50	SF	X	\$	\$
B0052	Install new TPA pipe vent flashing	5	EA	X	\$	\$

Remove existing metal base flashing and replace with new metal base flashing

B0053	Copper	50	SF	X	\$	\$
B0054	Aluminum	50	SF	X	\$	\$
B0055	Aluminum/various colors	50	SF	X	\$	\$
B0056	Stainless Steel	50	SF	X	\$	\$

Remove existing metal step flashing and replace with new metal step flashing

B0057	Copper	50	SF	X	\$	\$
B0058	Aluminum	50	SF	X	\$	\$
B0059	Aluminum/various colors	50	SF	X	\$	\$
B0060	Stainless Steel	50	SF	X	\$	\$

Remove existing metal counter flashing and replace with new metal counter flashing, shall include caulking

B0061	Copper	50	SF	X	\$	\$
B0062	Aluminum	50	SF	X	\$	\$
B0063	Aluminum/various colors	35	SF	X	\$	\$
B0064	Stainless Steel	35	SF	X	\$	\$

Remove existing metal gravel stop and replace with new metal gravel stop (up to 6" high)

B0065	Copper	35	LF	X	\$	\$
B0066	Aluminum	35	LF	X	\$	\$
B0067	Aluminum/various colors	35	LF	X	\$	\$
B0068	Stainless Steel	35	LF	X	\$	\$

Remove existing metal gravel stop and replace with new metal gravel stop (up to 12" high)

B0069	Copper	35	LF	X	\$	\$
B0070	Aluminum	35	LF	X	\$	\$
B0071	Aluminum/various colors	35	LF	X	\$	\$
B0072	Stainless Steel	35	LF	X	\$	\$

Remove existing and install new metal coping.
Shall include caulking.

B0073	Copper	25	SF	X	\$	\$
B0074	Aluminum	25	SF	X	\$	\$
B0075	Aluminum/various colors	25	SF	X	\$	\$
B0076	Stainless Steel	25	SF	X	\$	\$

Remove metal drip edge and replace
with new metal drip edge

B0077	Copper	25	LF	X	\$	\$
B0078	Aluminum	25	LF	X	\$	\$
B0079	Aluminum/various colors	25	LF	X	\$	\$
B0080	Stainless Steel	25	LF	X	\$	\$

METAL GUTTERS AND DOWNSPOUTS

Install Metal Gutters

B0081	Copper/5" ogee	25	LF	X	\$	\$
B0082	Copper/6" ogee	25	LF	X	\$	\$
B0083	Copper/6" half round	25	LF	X	\$	\$
B0084	Copper/6" box	25	LF	X	\$	\$
B0085	Copper/8" box	25	LF	X	\$	\$
B0086	Prefinish Alum/5" ogee	25	LF	X	\$	\$
B0087	Prefinish Alum/6" ogee	25	LF	X	\$	\$
B0088	Prefinish Alum/6" Box	25	LF	X	\$	\$
B0089	Prefinish Alum/8" Box	25	LF	X	\$	\$
B0090	Stainless steel/6" box	25	LF	X	\$	\$
B0091	Stainless steel/8" box	25	LF	X	\$	\$

Install Metal Downspouts

B0092	Copper 2" x 3"	25	LF	X	\$	\$
B0093	Copper 3" x 4"	25	LF	X	\$	\$
B0094	Copper/3" round	25	LF	X	\$	\$
B0095	Copper/4" round	25	LF	X	\$	\$
B0096	Copper/6" round	25	LF	X	\$	\$
B0097	Prefinish alum 2" x 3"	25	LF	X	\$	\$
B0098	Prefinish alum 3" x 4"	25	LF	X	\$	\$
B0099	Stainless Steel 3" x 4"	25	LF	X	\$	\$
B0100	Provide and place new concrete splash block (standard commercial size)	10	EA	X	\$	\$

Remove Gutters and/or downspouts

B0101	Remove and dispose of existing gutters and/or downspouts	35	LF	X	\$	\$
B0102	Remove and reinstall existing gutters and/or downspouts. Reseal all joints	35	LF	X	\$	\$
B0103	Realign and resecure existing gutters and/or downspouts (Replace hangers, fasteners and straps) as needed. Reseal all joints.	35	LF	X	\$	\$
B0104	Resolder broken gutter joints	10	EA	X	\$	\$
B0105	Reseal, broken gutter joints	10	EA	X	\$	\$

B0106	Clean and dispose of debris in existing gutters	<u>250</u>	LF	X	\$	<u> </u>	\$
	Remove existing metal open valley flashing and replace with new metal valley flashing						
B0107	Copper	<u>50</u>	SF	X	\$	<u> </u>	\$
B0108	Aluminum	<u>50</u>	SF	X	\$	<u> </u>	\$
B0109	Aluminum/various colors	<u>50</u>	SF	X	\$	<u> </u>	\$
B0110	Stainless Steel	<u>50</u>	SF	X	\$	<u> </u>	\$
	Remove existing metal flashing/miscellaneous shapes and replace with new						
B0111	Copper	<u>35</u>	SF	X	\$	<u> </u>	\$
B0112	Aluminum	<u>35</u>	SF	X	\$	<u> </u>	\$
B0113	Aluminum/various colors	<u>25</u>	SF	X	\$	<u> </u>	\$
B0114	Stainless Steel	<u>25</u>	SF	X	\$	<u> </u>	\$
B0115	Compatible w/EPDM & CPE	<u>35</u>	SF	X	\$	<u> </u>	\$
	Remove existing pitch pocket and 'replace with new						
B0116	Copper	<u>10</u>	SF	X	\$	<u> </u>	\$
B0117	Aluminum	<u>10</u>	SF	X	\$	<u> </u>	\$
B0118	Stainless steel	<u>10</u>	SF	X	\$	<u> </u>	\$
	DRAINS, STRAINERS, SCUPPERS, CONDUCTOR HEADS & SPLASH HEADS						
B0119	Clean and clear roof drains	<u>25</u>	EA	X	\$	<u> </u>	\$
	Remove existing roof drain sumps and replace with new roof drain sumps						
B0120	6-Pound Lead	<u>2</u>	EA	X	\$	<u> </u>	\$
	TPA EPDM roof drain Sumps						
B0121	TPA EPDM roof drain sumps (removal only)	<u>2</u>	EA	X	\$	<u> </u>	\$
	Provide and install TPA EPDM roof 'drain sumps						
B0122	TPA EPDM roof drain sumps (provide and install only)	<u>2</u>	EA	X	\$	<u> </u>	\$
B0123	Reserved						
	Remove existing strainers						
B0124	Metal Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
B0125	PVC Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
	Furnish and Install New Strainers						
B0126	Metal Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
B0127	PVC Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
	Remove existing metal scupper lining and replace with new metal scupper lining						
B0128	Copper	<u>2</u>	EA	X	\$	<u> </u>	\$
B0129	Stainless Steel	<u>2</u>	EA	X	\$	<u> </u>	\$
	Remove existing metal conductor heads and replace with new metal conductor heads						
B0130	Copper	<u>2</u>	EA	X	\$	<u> </u>	\$

B0131	Stainless Steel	<u>2</u>	EA	X	<u>\$</u>	<u>\$</u>
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Install new metal splash pans

B0132	Copper	<u>2</u>	EA	X	<u>\$</u>	<u>\$</u>
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B0133	Stainless Steel	<u>2</u>	EA	X	<u>\$</u>	<u>\$</u>
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MISCELLANEOUS ROOFING WORK

Remove existing expansion joints and replace with new expansion joints. Include wood nailers, bituminous base flashing, metal counterflashing and metal joint cover

B0134	Copper	<u>10</u>	SF	X	<u>\$</u>	<u>\$</u>
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B0135	Aluminum	<u>10</u>	SF	X	<u>\$</u>	<u>\$</u>
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B0136	Stainless Steel	<u>10</u>	SF	X	<u>\$</u>	<u>\$</u>
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B0137	Remove existing pipe vent flashing and replace with new IEA Xd pipe vent flashing	<u>2</u>	EA	X	<u>\$</u>	<u>\$</u>
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B0138	Remove existing metal vent collars and replace with new vent collars and accessories	<u>3</u>	EA	X	<u>\$</u>	<u>\$</u>
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B0139	Install caulking	<u>50</u>	LF	X	<u>\$</u>	<u>\$</u>
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B0140	Remove existing caulking and replace with new sealant/caulking	<u>75</u>	LF	X	<u>\$</u>	<u>\$</u>
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B0141	Cut new reglet In masonry	<u>10</u>	LF	X	<u>\$</u>	<u>\$</u>
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B0142	Cut new reglet In concrete	<u>10</u>	LF	X	<u>\$</u>	<u>\$</u>
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B0143 Reserved

B0144 Reserved

B0145 Reserved

B0146 Reserved

B0147 Reserved

B0148 Reserved

B0149 Reserved

B0150	Remove existing fascia and replace with new fascia board	<u>25</u>	BF	X	<u>\$</u>	<u>\$</u>
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B0151	Prime and paint fascia board	<u>25</u>	SF	X	<u>\$</u>	<u>\$</u>
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B0152	Cover existing fascia board with aluminum coil stock (various colors)	<u>25</u>	SF	X	<u>\$</u>	<u>\$</u>
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RESERVED

B0153 Reserved

ASBESTOS ABATEMENT/REMOVAL

B0154	Min. costs incurred for asbestos abatement, for trailer (provide, set-up, & removal)	<u>1</u>	EA	X	<u>\$</u>	<u>\$</u>
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B0155	Additional cost incurred for the removal and disposal of asbestos containing substances. Regular roofing only.	5,000	SF	X	\$	\$
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B0156	Additional cost incurred for the removal and disposal of asbestos containing substance. (Flashings, Pitch pockets, etc.)	5,000	SF	X	\$	\$
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B0157	Removal of lead based paint. Contractor removes loose paint from surface. The contractor furnishes container and the Government disposes	150	SF	X	\$	\$
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NON-PREPRICED LABOR, MATERIAL and COMMAND INTEREST WORK

B0158	Provide all materials and equipment to perform Unit Priced Labor work per the scope and delivery schedule specified in the order. Use with ELIN B0159. These material costs MUST BE NEGOTIATED BY KO.	1	LS	X	\$206,444.94	\$206,444.94
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B0159	Provide labor to perform all Unit Priced Labor work per the scope and delivery schedule specified in the order. MUST BE NEGOTIATED BY KO.	500	HRS	X	\$	\$
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ADDITIONAL ROOFING WORK

B0160	COMMAND INTEREST WORK (One time cost per Task Order to respond within 48 hours and work diligently until all work is completed).	2	EA	X	\$	\$
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B0161	Perform quarterly and bi-annual roof, drain, gutter and downspout cleaning and inspection in accordance with Attachment A.	1	LOT	\$	\$	\$
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B0162	Perform Emergency Service call. Contractor shall respond to service call within 2 working days of receipt of order, secure emergency and make any necessary repairs to roof and drain system. Service call is limited to a combined labor and material cost not to exceed \$1,000.00. The total labor cost is based on the labor rate for ELIN B0159 times the hours worked. Contractor shall submit proposal to the Contracting Officer for any work beyond scope of the call. Contractor shall complete within 4 working days.	75	EA	X	\$1,000.00	\$75,000.00
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B0163	Perform Roof Survey / Assessment up to 50,000 SF in accordance with Attachment B.	5	EA	X	\$	\$
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B0164	Perform Roof Survey / Assessment over 50,000 SF and up to 100,000 SF in accordance with Attachment B.	5	EA	X	\$	\$
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B0165	Perform Roof Survey / Assessment over 100,000 SF in accordance with Attachment B.	5	EA	X	\$	\$
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Total Price for 1ST OPTION YEAR (IQ) Price Work Items - CLIN 0001						\$
(Sum of Exhibit Line Items B0001-B0165)						\$

ROOFING CONTRACT 15-D-7509 ELINs

SCHEDULE OF PRICES - 2ND OPTION YEAR

ELIN Number	Supplies/Services	Est. Quantity	Unit	X	Unit Price	Total
ROOFING						
INDEFINITE QUANTITY WORK ITEMS - CLIN 0003						
ROOF DECKS						
C0001	Remove existing metal roof decks (ALL OR PARTIAL) and replace with new steel roof decking, shall include all closures and accessories	10	SQ	X	\$	\$
	Remove existing wood roof deck and replace with new wood decking					
C0002	1" nominal T & G (treated)	200	BF	X	\$	\$
C0003	2" nominal T & G (treated)	250	BF	X	\$	\$
C0004	3/4" plywood	250	SF	X	\$	\$
C0005	1/2" plywood	150	SF	X	\$	\$
ROOF INSULATION						
	Remove and replace rigid roof insulation in conjunction with roofing systems specified herein.					
C0006	Reserved					
C0007	Reserved					
C0008	Remove and replace polyisocyanurate tapered insulation panels	100	SQ	X	\$	\$
C0009	Remove and replace tapered roof insulation	100	SQ	X	\$	\$
C0010	Remove and replace vapor barrier in conjunction with built up roofing system	25	SQ	X	\$	\$
C0011	Remove and replace resin sized building paper (5 lb)	50	SQ	X	\$	\$
C0012	Remove existing cants and replace with new fiberboard cants 4 x 4	100	LF	X	\$	\$
C0013	Remove existing cants and replace with new treated wood cants 4 x 4	100	LF	X	\$	\$
C0014	Remove existing nailers and replace with new treated 2" x 6" wood	250	BF	X	\$	\$
SHINGLED ROOF SYSTEMS						
	Remove existing composition shingles and replace with new composition shingles, shall include starter strips, ridges & hips					
C0015	Twenty Five Year (3 tab)	50	SQ	X	\$	\$
C0016	Thirty Year (architectual)	25	SQ	X	\$	\$
C0017	Forty Year (architectual)	25	SQ	X	\$	\$
C0018	Remove and dispose of existing composition shingles (all types)(where new shingles are not	25	SQ	X	\$	\$

going to be installed)

C0019	Remove and dispose of existing slate shingles.	25	SQ	X	\$	\$
C0020	Remove and re-install existing slate shingles (All or Partial)	5	SQ	X	\$	\$
C0021	Install new slate shingles (Weathering green, Vermont)(All or Partial)	10	SQ	X	\$	\$
C0022	Install new slate shingles (Buckingham)(All or Partial)	10	SQ	X	\$	\$
	Remove existing preformed metal (All or Partial) roofing and replace with new preformed metal roofing					
C0023	Coated steel	10	SQ	X	\$	\$
C0024	Coated aluminum	10	SQ	X	\$	\$
	ROOF COATING (ALUMINUM PIGMENTED FIBERED BITUMINOUS ROOF COATING)					
C0025	Coat roofing with aluminum pigmented fibered bitumen roof coating	25	SQ	X	\$	\$
	Field paint roof mounted equipment					
C0026	Up to 25 SF X in surface area X	25	SF	X	\$	\$
C0027	Over 25 SF X in surface area X	25	SF	X	\$	\$
	BUILT UP ROOF					
	Remove existing roof system and replace with new aggregate surfaced BU roofing system					
C0028	System GAA (Gravel)	25	SQ	X	\$	\$
	Remove existing roof system and replace with new smooth surfaced BU roofing system.					
C0029	System Gas	25	SQ	X	\$	\$
	Remove existing roof system and replace with new single ply reinforced modified bitumen sheet roofing system					
C0030	Torch Applied	25	SQ	X	\$	\$
C0031	Mop Applied	25	SQ	X	\$	\$
C0032	Remove existing base flashing and replace with new 2 ply glass felt base flashing	50	SF	X	\$	\$
C0033	Remove existing base flashing and replace with new 3-ply bituminous base flashing	50	SF	X	\$	\$
C0034	Remove existing base flashing and replace with new single ply reinforced modified, bitumen sheet roofing flashing	50	SF	X	\$	\$
C0035	Remove and Dispose of Second layer of Built up roof	100	SQ	X	\$	\$
C0036	(1) Walkway/Asphalt Planks	500	SF	X	\$	\$
	ROOF AND PARAPET WALL DAMPROOFING					
C0037	Coat Existing BU Roof or Parapet Wall	50	SF	X	\$	\$

E.P.D.M. (RUBBER ROOF SYSTEM) (Install new

E.P.D.M. Roof System over Existing Built-up Roof)

C0038	Ballasted System	50	SQ	X	\$	\$
C0039	Mechanically Fastened System	25	SQ	X	\$	\$
C0040	Full Adhered System	50	SQ	X	\$	\$

Remove existing roof system and replace with new E.P.D.M. roof system

C0041	Ballasted System	50	SQ	X	\$	\$
C0042	Mechanically Fastened System	50	SQ	X	\$	\$
C0043	Full Adhered System	50	SQ	X	\$	\$
C0044	Install new E.P.D.M. Wall/Curb Flashings	100	SF	X	\$	\$
C0045	Install Rubber Pipe Vents	10	EA	X	\$	\$
C0046	Install Termination Bars. Shall include caulking	25	LF	X	\$	\$
C0047	Reserved					

C0048	Install E.P.D.M Walk Pads	10	EA	X	\$	\$
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Remove existing roof system and replace with new Thermoplastic alloy roof system (TPA)

C0049	Mechanically Fastened	10	SQ	X	\$	\$
C0050	Ballasted	10	SQ	X	\$	\$
C0051	Install new TPA wall/curb flashing	50	SF	X	\$	\$
C0052	Install new TPA pipe vent flashing	5	EA	X	\$	\$

Remove existing metal base flashing and replace with new metal base flashing

C0053	Copper	50	SF	X	\$	\$
C0054	Aluminum	50	SF	X	\$	\$
C0055	Aluminum/various colors	50	SF	X	\$	\$
C0056	Stainless Steel	50	SF	X	\$	\$

Remove existing metal step flashing and replace with new metal step flashing

C0057	Copper	50	SF	X	\$	\$
C0058	Aluminum	50	SF	X	\$	\$
C0059	Aluminum/various colors	50	SF	X	\$	\$
C0060	Stainless Steel	50	SF	X	\$	\$

Remove existing metal counter flashing and replace with new metal counter flashing, shall include caulking

C0061	Copper	50	SF	X	\$	\$
C0062	Aluminum	50	SF	X	\$	\$
C0063	Aluminum/various colors	35	SF	X	\$	\$
C0064	Stainless Steel	35	SF	X	\$	\$

Remove existing metal gravel stop and replace with new metal gravel stop (up to 6" high)

C0065	Copper	35	LF	X	\$	\$
C0066	Aluminum	35	LF	X	\$	\$
C0067	Aluminum/various colors	35	LF	X	\$	\$
C0068	Stainless Steel	35	LF	X	\$	\$

Remove existing metal gravel stop and replace with new metal gravel stop (up to 12" high)

C0069	Copper	35	LF	X	\$	\$
C0070	Aluminum	35	LF	X	\$	\$
C0071	Aluminum/various colors	35	LF	X	\$	\$
C0072	Stainless Steel	35	LF	X	\$	\$

Remove existing and install new metal coping.
Shall include caulking.

C0073	Copper	25	SF	X	\$	\$
C0074	Aluminum	25	SF	X	\$	\$
C0075	Aluminum/various colors	25	SF	X	\$	\$
C0076	Stainless Steel	25	SF	X	\$	\$

Remove metal drip edge and replace
with new metal drip edge

C0077	Copper	25	LF	X	\$	\$
C0078	Aluminum	25	LF	X	\$	\$
C0079	Aluminum/various colors	25	LF	X	\$	\$
C0080	Stainless Steel	25	LF	X	\$	\$

METAL GUTTERS AND DOWNSPOUTS

Install Metal Gutters

C0081	Copper/5" ogee	25	LF	X	\$	\$
C0082	Copper/6" ogee	25	LF	X	\$	\$
C0083	Copper/6" half round	25	LF	X	\$	\$
C0084	Copper/6" box	25	LF	X	\$	\$
C0085	Copper/8" box	25	LF	X	\$	\$
C0086	Prefinish Alum/5" ogee	25	LF	X	\$	\$
C0087	Prefinish Alum/6" ogee	25	LF	X	\$	\$
C0088	Prefinish Alum/6" Box	25	LF	X	\$	\$
C0089	Prefinish Alum/8" Box	25	LF	X	\$	\$
C0090	Stainless steel/6" box	25	LF	X	\$	\$
C0091	Stainless steel/8" box	25	LF	X	\$	\$

Install Metal Downspouts

C0092	Copper 2" x 3"	25	LF	X	\$	\$
C0093	Copper 3" x 4"	25	LF	X	\$	\$
C0094	Copper/3" round	25	LF	X	\$	\$
C0095	Copper/4" round	25	LF	X	\$	\$
C0096	Copper/6" round	25	LF	X	\$	\$
C0097	Prefinish alum 2" x 3"	25	LF	X	\$	\$
C0098	Prefinish alum 3" x 4"	25	LF	X	\$	\$
C0099	Stainless Steel 3" x 4"	25	LF	X	\$	\$
C0100	Provide and place new concrete splash block (standard commercial size)	10	EA	X	\$	\$

Remove Gutters and/or downspouts

C0101	Remove and dispose of existing gutters and/or downspouts	35	LF	X	\$	\$
C0102	Remove and reinstall existing gutters and/or downspouts. Reseal all joints	35	LF	X	\$	\$
C0103	Realign and resecure existing gutters and/or downspouts (Replace hangers, fasteners and straps) as needed. Reseal all joints.	35	LF	X	\$	\$
C0104	Resolder broken gutter joints	10	EA	X	\$	\$
C0105	Reseal, broken gutter joints	10	EA	X	\$	\$

C0106	Clean and dispose of debris in existing gutters	<u>250</u>	LF	X	\$	<u> </u>	\$
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Remove existing metal open valley flashing and replace with new metal valley flashing

C0107	Copper	<u>50</u>	SF	X	\$	<u> </u>	\$
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C0108	Aluminum	<u>50</u>	SF	X	\$	<u> </u>	\$
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C0109	Aluminum/various colors	<u>50</u>	SF	X	\$	<u> </u>	\$
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C0110	Stainless Steel	<u>50</u>	SF	X	\$	<u> </u>	\$
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Remove existing metal flashing/miscellaneous shapes and replace with new

C0111	Copper	<u>35</u>	SF	X	\$	<u> </u>	\$
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C0112	Aluminum	<u>35</u>	SF	X	\$	<u> </u>	\$
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C0113	Aluminum/various colors	<u>25</u>	SF	X	\$	<u> </u>	\$
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C0114	Stainless Steel	<u>25</u>	SF	X	\$	<u> </u>	\$
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C0115	Compatible w/EPDM & CPE	<u>35</u>	SF	X	\$	<u> </u>	\$
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Remove existing pitch pocket and replace with new

C0116	Copper	<u>10</u>	SF	X	\$	<u> </u>	\$
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C0117	Aluminum	<u>10</u>	SF	X	\$	<u> </u>	\$
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C0118	Stainless steel	<u>10</u>	SF	X	\$	<u> </u>	\$
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**DRAINS, STRAINERS, SCUPPERS,
CONDUCTOR HEADS & SPLASH HEADS**

C0119	Clean and clear roof drains	<u>25</u>	EA	X	\$	<u> </u>	\$
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Remove existing roof drain sumps and replace with new roof drain sumps

C0120	6-Pound Lead	<u>2</u>	EA	X	\$	<u> </u>	\$
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TPA EPDM roof drain Sumps

C0121	TPA EPDM roof drain sumps (removal only)	<u>2</u>	EA	X	\$	<u> </u>	\$
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Provide and install TPA EPDM roof drain sumps

C0122	TPA EPDM roof drain sumps (provide and install only)	<u>2</u>	EA	X	\$	<u> </u>	\$
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C0123 Reserved

Remove existing strainers

C0124	Metal Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
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C0125	PVC Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
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Furnish and Install New Strainers

C0126	Metal Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
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C0127	PVC Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
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Remove existing metal scupper lining and replace with new metal scupper lining

C0128	Copper	<u>2</u>	EA	X	\$	<u> </u>	\$
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C0129	Stainless Steel	<u>2</u>	EA	X	\$	<u> </u>	\$
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Remove existing metal conductor heads and replace with new metal conductor heads

C0130	Copper	<u>2</u>	EA	X	\$	<u> </u>	\$
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C0131	Stainless Steel	<u>2</u>	EA	X	<u>\$</u>	<u>\$</u>
	Install new metal splash pans					
C0132	Copper	<u>2</u>	EA	X	<u>\$</u>	<u>\$</u>
C0133	Stainless Steel	<u>2</u>	EA	X	<u>\$</u>	<u>\$</u>

MISCELLANEOUS ROOFING WORK

Remove existing expansion joints and replace with new expansion joints. Include wood nailers, bituminous base flashing, metal counterflashing and metal joint cover

C0134	Copper	<u>10</u>	SF	X	<u>\$</u>	<u>\$</u>
C0135	Aluminum	<u>10</u>	SF	X	<u>\$</u>	<u>\$</u>
C0136	Stainless Steel	<u>10</u>	SF	X	<u>\$</u>	<u>\$</u>
C0137	Remove existing pipe vent flashing and replace with new IEA Xd pipe vent flashing	<u>2</u>	EA	X	<u>\$</u>	<u>\$</u>
C0138	Remove existing metal vent collars and replace with new vent collars and accessories	<u>3</u>	EA	X	<u>\$</u>	<u>\$</u>
C0139	Install caulking	<u>50</u>	LF	X	<u>\$</u>	<u>\$</u>
C0140	Remove existing caulking and replace with new sealant/caulking	<u>75</u>	LF	X	<u>\$</u>	<u>\$</u>
C0141	Cut new reglet In masonry	<u>10</u>	LF	X	<u>\$</u>	<u>\$</u>
C0142	Cut new reglet In concrete	<u>10</u>	LF	X	<u>\$</u>	<u>\$</u>
C0143	Reserved					

- C0144 Reserved
- C0145 Reserved
- C0146 Reserved
- C0147 Reserved

C0148	Reserved					
C0149	Reserved					
C0150	Remove existing fascia and replace with new fascia board	<u>25</u>	BF	X	<u>\$</u>	<u>\$</u>
C0151	Prime and paint fascia board	<u>25</u>	SF	X	<u>\$</u>	<u>\$</u>
C0152	Cover existing fascia board with aluminum coil stock (various colors)	<u>25</u>	SF	X	<u>\$</u>	<u>\$</u>

RESERVED

C0153	Reserved			X		
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ASBESTOS ABATEMENT/REMOVAL

C0154	Min. costs incurred for asbestos abatement, for trailer (provide, set-up, & removal)	<u>1</u>	EA	X	<u>\$</u>	<u>\$</u>
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C0155	Additional cost incurred for the removal and disposal of asbestos containing substances. Regular roofing only.	5,000	SF	X	\$	\$
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C0156	Additional cost incurred for the removal and disposal of asbestos containing substance. (Flashings, Pitch pockets, etc.)	5,000	SF	X	\$	\$
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C0157	Removal of lead based paint. Contractor removes loose paint from surface. The contractor furnishes container and the Government disposes	150	SF	X	\$	\$
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NON-PREPRICED LABOR, MATERIAL and COMMAND INTEREST WORK

C0158	Provide all materials and equipment to perform Unit Priced Labor work per the scope and delivery schedule specified in the order. Use with ELIN C0159. These material costs MUST BE NEGOTIATED BY KO.	1	LS	X	\$	\$213,670.51	\$213,670.51
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C0159	Provide labor to perform all Unit Priced Labor work per the scope and delivery schedule specified in the order. MUST BE NEGOTIATED BY KO.	500	HRS	X	\$	\$
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ADDITIONAL ROOFING WORK

C0160	COMMAND INTEREST WORK (One time cost per Task Order to respond within 48 hours and work diligently until all work is completed).	2	EA	X	\$	\$
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C0161	Perform quarterly and bi-annual roof, drain, gutter and downspout cleaning and inspection in accordance with Attachment A.	1	LOT	X	\$	\$
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C0162	Perform Emergency Service call. Contractor shall respond to service call within 2 working days of receipt of order, secure emergency and make any necessary repairs to roof and drain system. Service call is limited to a combined labor and material cost not to exceed \$1,000.00. The total labor cost is based on the labor rate for ELIN C0159 times the hours worked. Contractor shall submit proposal to the Contracting Officer for any work beyond scope of the call. Contractor shall complete within 4 working days.	75	EA	X	\$	\$1,000.00	\$75,000.00
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C0163	Perform Roof Survey / Assessment up to 50,000 SF in accordance with Attachment B.	5	EA	X	\$	\$
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C0164	Perform Roof Survey / Assessment over 50,000 SF and up to 100,000 SF in accordance with Attachment B.	5	EA	X	\$	\$
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C0165	Perform Roof Survey / Assessment over 100,000 SF in accordance with Attachment B.	5	EA	X	\$	\$
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Total Price for 2ND OPTION YEAR (IQ) Price Work Items - CLIN 0003						\$
(Sum of Exhibit Line Items C0001-C0165)						\$

ROOFING CONTRACT 15-D-7509 ELINs

SCHEDULE OF PRICES - 3RD OPTION YEAR

ELIN Number	Supplies/Services	Est. Quantity	Unit	X	Unit Price	Total
ROOFING						
INDEFINITE QUANTITY WORK ITEMS - CLIN 0004						
ROOF DECKS						
D0001	Remove existing metal roof decks (ALL OR PARTIAL) and replace with new steel roof decking, shall include all closures and accessories	10	SQ	X	\$	\$
	Remove existing wood roof deck and replace with new wood decking					
D0002	1" nominal T & G (treated)	200	BF	X	\$	\$
D0003	2" nominal T & G (treated)	250	BF	X	\$	\$
D0004	3/4" plywood	250	SF	X	\$	\$
D0005	1/2" plywood	150	SF	X	\$	\$
ROOF INSULATION						
	Remove and replace rigid roof insulation in conjunction with roofing systems specified herein.					
D0006	Reserved					
D0007	Reserved					
D0008	Remove and replace polyisocyanurate tapered insulation panels	100	SQ	X	\$	\$
D0009	Remove and replace tapered roof insulation	100	SQ	X	\$	\$
D0010	Remove and replace vapor barrier in conjunction with built up roofing system	25	SQ	X	\$	\$
D0011	Remove and replace resin sized building paper (5 lb)	50	SQ	X	\$	\$
D0012	Remove existing cants and replace with new fiberboard cants 4 x 4	100	LF	X	\$	\$
D0013	Remove existing cants and replace with new treated wood cants 4 x 4	100	LF	X	\$	\$
D0014	Remove existing nailers and replace with new treated 2" x 6" wood	250	BF	X	\$	\$
SHINGLED ROOF SYSTEMS						
	Remove existing composition shingles and replace with new composition shingles, shall include starter strips, ridges & hips					
D0015	Twenty Five Year (3 tab)	50	SQ	X	\$	\$
D0016	Thirty Year (architectual)	25	SQ	X	\$	\$
D0017	Forty Year (architectual)	25	SQ	X	\$	\$
D0018	Remove and dispose of existing composition shingles (all types)(where new shingles are not	25	SQ	X	\$	\$

going to be installed)

D0019	Remove and dispose of existing slate shingles.	25	SQ	X	\$	\$
D0020	Remove and re-install existing slate shingles (All or Partial)	5	SQ	X	\$	\$
D0021	Install new slate shingles (Weathering green, Vermont)(All or Partial)	10	SQ	X	\$	\$
D0022	Install new slate shingles (Buckingham)(All or Partial)	10	SQ	X	\$	\$
	Remove existing preformed metal (All or Partial) roofing and replace with new preformed metal roofing					
D0023	Coated steel	10	SQ	X	\$	\$
D0024	Coated aluminum	10	SQ	X	\$	\$
	ROOF COATING (ALUMINUM PIGMENTED FIBERED BITUMINOUS ROOF COATING)					
D0025	Coat roofing with aluminum pigmented fibered bitumen roof coating	25	SQ	X	\$	\$
	Field paint roof mounted equipment					
D0026	Up to 25 SF X in surface area X	25	SF	X	\$	\$
D0027	Over 25 SF X in surface area X	25	SF	X	\$	\$
	BUILT UP ROOF					
	Remove existing roof system and replace with new aggregate surfaced BU roofing system					
D0028	System GAA (Gravel)	25	SQ	X	\$	\$
	Remove existing roof system and replace with new smooth surfaced BU roofing system.					
D0029	System Gas	25	SQ	X	\$	\$
	Remove existing roof system and replace with new single ply reinforced modified bitumen sheet roofing system					
D0030	Torch Applied	25	SQ	X	\$	\$
D0031	Mop Applied	25	SQ	X	\$	\$
D0032	Remove existing base flashing and replace with new 2 ply glass felt base flashing	50	SF	X	\$	\$
D0033	Remove existing base flashing and replace with new 3-ply bituminous base flashing	50	SF	X	\$	\$
D0034	Remove existing base flashing and replace with new single ply reinforced modified, bitumen sheet roofing flashing	50	SF	X	\$	\$
D0035	Remove and Dispose of Second layer of Built up roof	100	SQ	X	\$	\$
D0036	(1) Walkway/Asphalt Planks	500	SF	X	\$	\$
	ROOF AND PARAPET WALL DAMPROOFING					
D0037	Coat Existing BU Roof or Parapet Wall	50	SF	X	\$	\$

E.P.D.M. (RUBBER ROOF SYSTEM) (Install new

E.P.D.M. Roof System over Existing Built-up Roof)

D0038	Ballasted System	50	SQ	X	\$	\$
D0039	Mechanically Fastened System	25	SQ	X	\$	\$
D0040	Full Adhered System	50	SQ	X	\$	\$

Remove existing roof system and replace with new E.P.D.M. roof system

D0041	Ballasted System	50	SQ	X	\$	\$
D0042	Mechanically Fastened System	50	SQ	X	\$	\$
D0043	Full Adhered System	50	SQ	X	\$	\$
D0044	Install new E.P.D.M. Wall/Curb Flashings	100	SF	X	\$	\$
D0045	Install Rubber Pipe Vents	10	EA	X	\$	\$
D0046	Install Termination Bars. Shall include caulking	25	LF	X	\$	\$
D0047	Reserved					

D0048	Install E.P.D.M Walk Pads	10	EA	X	\$	\$
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Remove existing roof system and replace with new Thermoplastic alloy roof system (TPA)

D0049	Mechanically Fastened	10	SQ	X	\$	\$
D0050	Ballasted	10	SQ	X	\$	\$
D0051	Install new TPA wall/curb flashing	50	SF	X	\$	\$
D0052	Install new TPA pipe vent flashing	5	EA	X	\$	\$

Remove existing metal base flashing and replace with new metal base flashing

D0053	Copper	50	SF	X	\$	\$
D0054	Aluminum	50	SF	X	\$	\$
D0055	Aluminum/various colors	50	SF	X	\$	\$
D0056	Stainless Steel	50	SF	X	\$	\$

Remove existing metal step flashing and replace with new metal step flashing

D0057	Copper	50	SF	X	\$	\$
D0058	Aluminum	50	SF	X	\$	\$
D0059	Aluminum/various colors	50	SF	X	\$	\$
D0060	Stainless Steel	50	SF	X	\$	\$

Remove existing metal counter flashing and replace with new metal counter flashing, shall include caulking

D0061	Copper	50	SF	X	\$	\$
D0062	Aluminum	50	SF	X	\$	\$
D0063	Aluminum/various colors	35	SF	X	\$	\$
D0064	Stainless Steel	35	SF	X	\$	\$

Remove existing metal gravel stop and replace with new metal gravel stop (up to 6" high)

D0065	Copper	35	LF	X	\$	\$
D0066	Aluminum	35	LF	X	\$	\$
D0067	Aluminum/various colors	35	LF	X	\$	\$
D0068	Stainless Steel	35	LF	X	\$	\$

Remove existing metal gravel stop and replace with new metal gravel stop (up to 12" high)

D0069	Copper	35	LF	X	\$	\$
D0070	Aluminum	35	LF	X	\$	\$
D0071	Aluminum/various colors	35	LF	X	\$	\$
D0072	Stainless Steel	35	LF	X	\$	\$

Remove existing and install new metal coping.
Shall include caulking.

D0073	Copper	25	SF	X	\$	\$
D0074	Aluminum	25	SF	X	\$	\$
D0075	Aluminum/various colors	25	SF	X	\$	\$
D0076	Stainless Steel	25	SF	X	\$	\$

Remove metal drip edge and replace
with new metal drip edge

D0077	Copper	25	LF	X	\$	\$
D0078	Aluminum	25	LF	X	\$	\$
D0079	Aluminum/various colors	25	LF	X	\$	\$
D0080	Stainless Steel	25	LF	X	\$	\$

METAL GUTTERS AND DOWNSPOUTS

Install Metal Gutters

D0081	Copper/5" ogee	25	LF	X	\$	\$
D0082	Copper/6" ogee	25	LF	X	\$	\$
D0083	Copper/6" half round	25	LF	X	\$	\$
D0084	Copper/6" box	25	LF	X	\$	\$
D0085	Copper/8" box	25	LF	X	\$	\$
D0086	Prefinish Alum/5" ogee	25	LF	X	\$	\$
D0087	Prefinish Alum/6" ogee	25	LF	X	\$	\$
D0088	Prefinish Alum/6" Box	25	LF	X	\$	\$
D0089	Prefinish Alum/8" Box	25	LF	X	\$	\$
D0090	Stainless steel/6" box	25	LF	X	\$	\$
D0091	Stainless steel/8" box	25	LF	X	\$	\$

Install Metal Downspouts

D0092	Copper 2" x 3"	25	LF	X	\$	\$
D0093	Copper 3" x 4"	25	LF	X	\$	\$
D0094	Copper/3" round	25	LF	X	\$	\$
D0095	Copper/4" round	25	LF	X	\$	\$
D0096	Copper/6" round	25	LF	X	\$	\$
D0097	Prefinish alum 2" x 3"	25	LF	X	\$	\$
D0098	Prefinish alum 3" x 4"	25	LF	X	\$	\$
D0099	Stainless Steel 3" x 4"	25	LF	X	\$	\$
D0100	Provide and place new concrete splash block (standard commercial size)	10	EA	X	\$	\$

Remove Gutters and/or downspouts

D0101	Remove and dispose of existing gutters and/or downspouts	35	LF	X	\$	\$
D0102	Remove and reinstall existing gutters and/or downspouts. Reseal all joints	35	LF	X	\$	\$
D0103	Realign and resecure existing gutters and/or downspouts (Replace hangers, fasteners and straps) as needed. Reseal all joints.	35	LF	X	\$	\$
D0104	Resolder broken gutter joints	10	EA	X	\$	\$
D0105	Reseal, broken gutter joints	10	EA	X	\$	\$

D0106	Clean and dispose of debris in existing gutters	<u>250</u>	LF	X	\$	<u> </u>	\$
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Remove existing metal open valley flashing and replace with new metal valley flashing

D0107	Copper	<u>50</u>	SF	X	\$	<u> </u>	\$
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D0108	Aluminum	<u>50</u>	SF	X	\$	<u> </u>	\$
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D0109	Aluminum/various colors	<u>50</u>	SF	X	\$	<u> </u>	\$
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D0110	Stainless Steel	<u>50</u>	SF	X	\$	<u> </u>	\$
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Remove existing metal flashing/miscellaneous shapes and replace with new

D0111	Copper	<u>35</u>	SF	X	\$	<u> </u>	\$
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D0112	Aluminum	<u>35</u>	SF	X	\$	<u> </u>	\$
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D0113	Aluminum/various colors	<u>25</u>	SF	X	\$	<u> </u>	\$
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D0114	Stainless Steel	<u>25</u>	SF	X	\$	<u> </u>	\$
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D0115	Compatible w/EPDM & CPE	<u>35</u>	SF	X	\$	<u> </u>	\$
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Remove existing pitch pocket and replace with new

D0116	Copper	<u>10</u>	SF	X	\$	<u> </u>	\$
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D0117	Aluminum	<u>10</u>	SF	X	\$	<u> </u>	\$
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D0118	Stainless steel	<u>10</u>	SF	X	\$	<u> </u>	\$
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**DRAINS, STRAINERS, SCUPPERS,
CONDUCTOR HEADS & SPLASH HEADS**

D0119	Clean and clear roof drains	<u>25</u>	EA	X	\$	<u> </u>	\$
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Remove existing roof drain sumps and replace with new roof drain sumps

D0120	6-Pound Lead	<u>2</u>	EA	X	\$	<u> </u>	\$
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TPA EPDM roof drain Sumps

D0121	TPA EPDM roof drain sumps (removal only)	<u>2</u>	EA	X	\$	<u> </u>	\$
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Provide and install TPA EPDM roof drain sumps

D0122	TPA EPDM roof drain sumps (provide and install only)	<u>2</u>	EA	X	\$	<u> </u>	\$
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D0123

Remove existing strainers

D0124	Metal Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
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D0125	PVC Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
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Furnish and Install New Strainers

D0126	Metal Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
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D0127	PVC Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
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Remove existing metal scupper lining and replace with new metal scupper lining

D0128	Copper	<u>2</u>	EA	X	\$	<u> </u>	\$
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D0129	Stainless Steel	<u>2</u>	EA	X	\$	<u> </u>	\$
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Remove existing metal conductor heads and replace with new metal conductor heads

D0130	Copper	<u>2</u>	EA	X	\$	<u> </u>	\$
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D0131	Stainless Steel	<u>2</u>	EA	X	<u>\$</u>	<u>\$</u>
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Install new metal splash pans

D0132	Copper	<u>2</u>	EA	X	<u>\$</u>	<u>\$</u>
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D0133	Stainless Steel	<u>2</u>	EA	X	<u>\$</u>	<u>\$</u>
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MISCELLANEOUS ROOFING WORK

Remove existing expansion joints and replace with new expansion joints. Include wood nailers, bituminous base flashing, metal counterflashing and metal joint cover

D0134	Copper	<u>10</u>	SF	X	<u>\$</u>	<u>\$</u>
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D0135	Aluminum	<u>10</u>	SF	X	<u>\$</u>	<u>\$</u>
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D0136	Stainless Steel	<u>10</u>	SF	X	<u>\$</u>	<u>\$</u>
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D0137	Remove existing pipe vent flashing and replace with new IEA Xd pipe vent flashing	<u>2</u>	EA	X	<u>\$</u>	<u>\$</u>
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D0138	Remove existing metal vent collars and replace with new vent collars and accessories	<u>3</u>	EA	X	<u>\$</u>	<u>\$</u>
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D0139	Install caulking	<u>50</u>	LF	X	<u>\$</u>	<u>\$</u>
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D0140	Remove existing caulking and replace with new sealant/caulking	<u>75</u>	LF	X	<u>\$</u>	<u>\$</u>
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D0141	Cut new reglet In masonry	<u>10</u>	LF	X	<u>\$</u>	<u>\$</u>
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D0142	Cut new reglet In concrete	<u>10</u>	LF	X	<u>\$</u>	<u>\$</u>
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D0143 Reserved

D0144 Reserved

D0145 Reserved

D0146 Reserved

D0147 Reserved

D0148 Reserved

D0149 Reserved

D0150	Remove existing fascia and replace with new fascia board	<u>25</u>	BF	X	<u>\$</u>	<u>\$</u>
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D0151	Prime and paint fascia board	<u>25</u>	SF	X	<u>\$</u>	<u>\$</u>
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D0152	Cover existing fascia board with aluminum coil stock (various colors)	<u>25</u>	SF	X	<u>\$</u>	<u>\$</u>
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RESERVED

D0153	Reserved			X		
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ASBESTOS ABATEMENT/REMOVAL

D0154	Min. costs incurred for asbestos abatement, for trailer (provide, set-up, & removal)	<u>1</u>	EA	X	<u>\$</u>	<u>\$</u>
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D0155	Additional cost incurred for the removal and disposal of asbestos containing substances. Regular roofing only.	5,000	SF	X	\$	\$
D0156	Additional cost incurred for the removal and disposal of asbestos containing substance. (Flashings, Pitch pockets, etc.)	5,000	SF	X	\$	\$
D0157	Removal of lead based paint. Contractor removes loose paint from surface. The contractor furnishes container and the Government disposes	150	SF	X	\$	\$
NON-PREPRICED LABOR, MATERIAL and COMMAND INTEREST WORK						
D0158	Provide all materials and equipment to perform Unit Priced Labor work per the scope and delivery schedule specified in the order. Use with ELIN D0159. These material costs MUST BE NEGOTIATED BY KO.	1	LS	X	\$221,148.98	\$221,148.98
D0159	Provide labor to perform all Unit Priced Labor work per the scope and delivery schedule specified in the order. MUST BE NEGOTIATED BY KO.	500	HRS	X	\$	\$
ADDITIONAL ROOFING WORK						
D0160	COMMAND INTEREST WORK (One time cost per Task Order to respond within 48 hours and work diligently until all work is completed).	2	EA	X	\$	\$
D0161	Perform quarterly and bi-annual roof, drain, gutter and downspout cleaning and inspection in accordance with Attachment A.	1	LOT		\$	\$
D0162	Perform Emergency Service call. Contractor shall respond to service call within 2 working days of receipt of order, secure emergency and make any necessary repairs to roof and drain system. Service call is limited to a combined labor and material cost not to exceed \$1,000.00. The total labor cost is based on the labor rate for ELIN D0159 times the hours worked. Contractor shall submit proposal to the Contracting Officer for any work beyond scope of the call. Contractor shall complete within 4 working days.	75	EA	X	\$1,000.00	\$75,000.00
D0163	Perform Roof Survey / Assessment up to 50,000 SF in accordance with Attachment B.	5	EA	X	\$	\$
D0164	Perform Roof Survey / Assessment over 50,000 SF and up to 100,000 SF in accordance with Attachment B.	5	EA	X	\$	\$
D0165	Perform Roof Survey / Assessment over 100,000 SF in accordance with Attachment B.	5	EA	X	\$	\$
Total Price for 3RD OPTION YEAR (IQ) Price Work Items - CLIN 0004						\$
(Sum of Exhibit Line Items D0001-D0165)						

ROOFING CONTRACT 15-D-7509 ELINs

SCHEDULE OF PRICES - 4TH OPTION YEAR

ELIN Number	Supplies/Services	Est. Quantity	Unit	X	Unit Price	Total
ROOFING						
INDEFINITE QUANTITY WORK ITEMS - CLIN 0005						
ROOF DECKS						
E0001	Remove existing metal roof decks (ALL OR PARTIAL) and replace with new steel roof decking, shall include all closures and accessories	10	SQ	X	\$	\$
	Remove existing wood roof deck and replace with new wood decking					
E0002	1" nominal T & G (treated)	200	BF	X	\$	\$
E0003	2" nominal T & G (treated)	250	BF	X	\$	\$
E0004	3/4" plywood	250	SF	X	\$	\$
E0005	1/2" plywood	150	SF	X	\$	\$
ROOF INSULATION						
Remove and replace rigid roof insulation in conjunction with roofing systems specified herein.						
E0006	Reserved					
E0007	Reserved					
E0008	Remove and replace polyisocyanurate tapered insulation panels	100	SQ	X	\$	\$
E0009	Remove and replace tapered roof insulation	100	SQ	X	\$	\$
E0010	Remove and replace vapor barrier in conjunction with built up roofing system	25	SQ	X	\$	\$
E0011	Remove and replace resin sized building paper (5 lb)	50	SQ	X	\$	\$
E0012	Remove existing cants and replace with new fiberboard cants 4 x 4	100	LF	X	\$	\$
E0013	Remove existing cants and replace with new treated wood cants 4 x 4	100	LF	X	\$	\$
E0014	Remove existing nailers and replace with new treated 2" x 6" wood	250	BF	X	\$	\$
SHINGLED ROOF SYSTEMS						
Remove existing composition shingles and replace with new composition shingles, shall include starter strips, ridges & hips						
E0015	Twenty Five Year (3 tab)	50	SQ	X	\$	\$
E0016	Thirty Year (architectual)	25	SQ	X	\$	\$
E0017	Forty Year (architectual)	25	SQ	X	\$	\$
E0018	Remove and dispose of existing composition shingles (all types)(where new shingles are not	25	SQ	X	\$	\$

going to be installed)

E0019	Remove and dispose of existing slate shingles.	25	SQ	X	\$	\$
E0020	Remove and re-install existing slate shingles (All or Partial)	5	SQ	X	\$	\$
E0021	Install new slate shingles (Weathering green, Vermont)(All or Partial)	10	SQ	X	\$	\$
E0022	Install new slate shingles (Buckingham)(All or Partial)	10	SQ	X	\$	\$
	Remove existing preformed metal (All or Partial) roofing and replace with new preformed metal roofing					
E0023	Coated steel	10	SQ	X	\$	\$
E0024	Coated aluminum	10	SQ	X	\$	\$
	ROOF COATING (ALUMINUM PIGMENTED FIBERED BITUMINOUS ROOF COATING)					
E0025	Coat roofing with aluminum pigmented fibered bitumen roof coating	25	SQ	X	\$	\$
	Field paint roof mounted equipment					
E0026	Up to 25 SF X in surface area X	25	SF	X	\$	\$
E0027	Over 25 SF X in surface area X	25	SF	X	\$	\$
	BUILT UP ROOF					
	Remove existing roof system and replace with new aggregate surfaced BU roofing system					
E0028	System GAA (Gravel)	25	SQ	X	\$	\$
	Remove existing roof system and replace with new smooth surfaced BU roofing system.					
E0029	System Gas	25	SQ	X	\$	\$
	Remove existing roof system and replace with new single ply reinforced modified bitumen sheet roofing system					
E0030	Torch Applied	25	SQ	X	\$	\$
E0031	Mop Applied	25	SQ	X	\$	\$
E0032	Remove existing base flashing and replace with new 2 ply glass felt base flashing	50	SF	X	\$	\$
E0033	Remove existing base flashing and replace with new 3-ply bituminous base flashing	50	SF	X	\$	\$
E0034	Remove existing base flashing and replace with new single ply reinforced modified, bitumen sheet roofing flashing	50	SF	X	\$	\$
E0035	Remove and Dispose of Second layer of Built up roof	100	SQ	X	\$	\$
E0036	(1) Walkway/Asphalt Planks	500	SF	X	\$	\$
	ROOF AND PARAPET WALL DAMPROOFING					
E0037	Coat Existing BU Roof or Parapet Wall	50	SF	X	\$	\$

E.P.D.M. (RUBBER ROOF SYSTEM) (Install new

E.P.D.M. Roof System over Existing Built-up Roof)

E0038	Ballasted System	50	SQ	X	\$	\$
E0039	Mechanically Fastened System	25	SQ	X	\$	\$
E0040	Full Adhered System	50	SQ	X	\$	\$

Remove existing roof system and replace with new E.P.D.M. roof system

E0041	Ballasted System	50	SQ	X	\$	\$
E0042	Mechanically Fastened System	50	SQ	X	\$	\$
E0043	Full Adhered System	50	SQ	X	\$	\$
E0044	Install new E.P.D.M. Wall/Curb Flashings	100	SF	X	\$	\$
E0045	Install Rubber Pipe Vents	10	EA	X	\$	\$
E0046	Install Termination Bars. Shall include caulking	25	LF	X	\$	\$
E0047	Reserved					

E0048	Install E.P.D.M Walk Pads	10	EA	X	\$	\$
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Remove existing roof system and replace with new Thermoplastic alloy roof system (TPA)

E0049	Mechanically Fastened	10	SQ	X	\$	\$
E0050	Ballasted	10	SQ	X	\$	\$
E0051	Install new TPA wall/curb flashing	50	SF	X	\$	\$
E0052	Install new TPA pipe vent flashing	5	EA	X	\$	\$

Remove existing metal base flashing and replace with new metal base flashing

E0053	Copper	50	SF	X	\$	\$
E0054	Aluminum	50	SF	X	\$	\$
E0055	Aluminum/various colors	50	SF	X	\$	\$
E0056	Stainless Steel	50	SF	X	\$	\$

Remove existing metal step flashing and replace with new metal step flashing

E0057	Copper	50	SF	X	\$	\$
E0058	Aluminum	50	SF	X	\$	\$
E0059	Aluminum/various colors	50	SF	X	\$	\$
E0060	Stainless Steel	50	SF	X	\$	\$

Remove existing metal counter flashing and replace with new metal counter flashing, shall include caulking

E0061	Copper	50	SF	X	\$	\$
E0062	Aluminum	50	SF	X	\$	\$
E0063	Aluminum/various colors	35	SF	X	\$	\$
E0064	Stainless Steel	35	SF	X	\$	\$

Remove existing metal gravel stop and replace with new metal gravel stop (up to 6" high)

E0065	Copper	35	LF	X	\$	\$
E0066	Aluminum	35	LF	X	\$	\$
E0067	Aluminum/various colors	35	LF	X	\$	\$
E0068	Stainless Steel	35	LF	X	\$	\$

Remove existing metal gravel stop and replace with new metal gravel stop (up to 12" high)

E0069	Copper	35	LF	X	\$	\$
E0070	Aluminum	35	LF	X	\$	\$
E0071	Aluminum/various colors	35	LF	X	\$	\$
E0072	Stainless Steel	35	LF	X	\$	\$

Remove existing and install new metal coping.
Shall include caulking.

E0073	Copper	25	SF	X	\$	\$
E0074	Aluminum	25	SF	X	\$	\$
E0075	Aluminum/various colors	25	SF	X	\$	\$
E0076	Stainless Steel	25	SF	X	\$	\$

Remove metal drip edge and replace
with new metal drip edge

E0077	Copper	25	LF	X	\$	\$
E0078	Aluminum	25	LF	X	\$	\$
E0079	Aluminum/various colors	25	LF	X	\$	\$
E0080	Stainless Steel	25	LF	X	\$	\$

METAL GUTTERS AND DOWNSPOUTS

Install Metal Gutters

E0081	Copper/5" ogee	25	LF	X	\$	\$
E0082	Copper/6" ogee	25	LF	X	\$	\$
E0083	Copper/6" half round	25	LF	X	\$	\$
E0084	Copper/6" box	25	LF	X	\$	\$
E0085	Copper/8" box	25	LF	X	\$	\$
E0086	Prefinish Alum/5" ogee	25	LF	X	\$	\$
E0087	Prefinish Alum/6" ogee	25	LF	X	\$	\$
E0088	Prefinish Alum/6" Box	25	LF	X	\$	\$
E0089	Prefinish Alum/8" Box	25	LF	X	\$	\$
E0090	Stainless steel/6" box	25	LF	X	\$	\$
E0091	Stainless steel/8" box	25	LF	X	\$	\$

Install Metal Downspouts

E0092	Copper 2" x 3"	25	LF	X	\$	\$
E0093	Copper 3" x 4"	25	LF	X	\$	\$
E0094	Copper/3" round	25	LF	X	\$	\$
E0095	Copper/4" round	25	LF	X	\$	\$
E0096	Copper/6" round	25	LF	X	\$	\$
E0097	Prefinish alum 2" x 3"	25	LF	X	\$	\$
E0098	Prefinish alum 3" x 4"	25	LF	X	\$	\$
E0099	Stainless Steel 3" x 4"	25	LF	X	\$	\$
E0100	Provide and place new concrete splash block (standard commercial size)	10	EA	X	\$	\$

Remove Gutters and/or downspouts

E0101	Remove and dispose of existing gutters and/or downspouts	35	LF	X	\$	\$
E0102	Remove and reinstall existing gutters and/or downspouts. Reseal all joints	35	LF	X	\$	\$
E0103	Realign and resecure existing gutters and/or downspouts (Replace hangers, fasteners and straps) as needed. Reseal all joints.	35	LF	X	\$	\$
E0104	Resolder broken gutter joints	10	EA	X	\$	\$
E0105	Reseal, broken gutter joints	10	EA	X	\$	\$

E0106	Clean and dispose of debris in existing gutters	<u>250</u>	LF	X	\$	<u> </u>	\$
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Remove existing metal open valley flashing and replace with new metal valley flashing

E0107	Copper	<u>50</u>	SF	X	\$	<u> </u>	\$
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E0108	Aluminum	<u>50</u>	SF	X	\$	<u> </u>	\$
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E0109	Aluminum/various colors	<u>50</u>	SF	X	\$	<u> </u>	\$
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E0110	Stainless Steel	<u>50</u>	SF	X	\$	<u> </u>	\$
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Remove existing metal flashing/miscellaneous shapes and replace with new

E0111	Copper	<u>35</u>	SF	X	\$	<u> </u>	\$
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E0112	Aluminum	<u>35</u>	SF	X	\$	<u> </u>	\$
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E0113	Aluminum/various colors	<u>25</u>	SF	X	\$	<u> </u>	\$
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E0114	Stainless Steel	<u>25</u>	SF	X	\$	<u> </u>	\$
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E0115	Compatible w/EPDM & CPE	<u>35</u>	SF	X	\$	<u> </u>	\$
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Remove existing pitch pocket and replace with new

E0116	Copper	<u>10</u>	SF	X	\$	<u> </u>	\$
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E0117	Aluminum	<u>10</u>	SF	X	\$	<u> </u>	\$
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E0118	Stainless steel	<u>10</u>	SF	X	\$	<u> </u>	\$
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**DRAINS, STRAINERS, SCUPPERS,
CONDUCTOR HEADS & SPLASH HEADS**

E0119	Clean and clear roof drains	<u>25</u>	EA	X	\$	<u> </u>	\$
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Remove existing roof drain sumps and replace with new roof drain sumps

E0120	6-Pound Lead	<u>2</u>	EA	X	\$	<u> </u>	\$
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TPA EPDM roof drain Sumps

E0121	TPA EPDM roof drain sumps (removal only)	<u>2</u>	EA	X	\$	<u> </u>	\$
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Provide and install TPA EPDM roof drain sumps

E0122	TPA EPDM roof drain sumps (provide and install only)	<u>2</u>	EA	X	\$	<u> </u>	\$
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E0123

Remove existing strainers

E0124	Metal Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
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E0125	PVC Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
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Furnish and Install New Strainers

E0126	Metal Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
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E0127	PVC Strainers	<u>2</u>	EA	X	\$	<u> </u>	\$
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Remove existing metal scupper lining and replace with new metal scupper lining

E0128	Copper	<u>2</u>	EA	X	\$	<u> </u>	\$
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E0129	Stainless Steel	<u>2</u>	EA	X	\$	<u> </u>	\$
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Remove existing metal conductor heads and replace with new metal conductor heads

E0130	Copper	<u>2</u>	EA	X	\$	<u> </u>	\$
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E0131	Stainless Steel	<u>2</u>	EA	X	\$	<u> </u>	\$
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Install new metal splash pans

E0132	Copper	<u>2</u>	EA	X	\$	<u> </u>	\$
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E0133	Stainless Steel	<u>2</u>	EA	X	\$	<u> </u>	\$
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MISCELLANEOUS ROOFING WORK

Remove existing expansion joints and replace with new expansion joints. Include wood nailers, bituminous base flashing, metal counterflashing and metal joint cover

E0134	Copper	<u>10</u>	SF	X	\$	<u> </u>	\$
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E0135	Aluminum	<u>10</u>	SF	X	\$	<u> </u>	\$
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E0136	Stainless Steel	<u>10</u>	SF	X	\$	<u> </u>	\$
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E0137	Remove existing pipe vent flashing and replace with new IEA Xd pipe vent flashing	<u>2</u>	EA	X	\$	<u> </u>	\$
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E0138	Remove existing metal vent collars and replace with new vent collars and accessories	<u>3</u>	EA	X	\$	<u> </u>	\$
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E0139	Install caulking	<u>50</u>	LF	X	\$	<u> </u>	\$
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E0140	Remove existing caulking and replace with new sealant/caulking	<u>75</u>	LF	X	\$	<u> </u>	\$
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E0141	Cut new reglet In masonry	<u>10</u>	LF	X	\$	<u> </u>	\$
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E0142	Cut new reglet In concrete	<u>10</u>	LF	X	\$	<u> </u>	\$
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E0143 Reserved

E0144 Reserved

E0145 Reserved

E0146 Reserved

E0147 Reserved

E0148 Reserved

E0149 Reserved

E0150	Remove existing fascia and replace with new fascia board	<u>25</u>	BF	X	\$	<u> </u>	\$
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E0151	Prime and paint fascia board	<u>25</u>	SF	X	\$	<u> </u>	\$
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E0152	Cover existing fascia board with aluminum coil stock (various colors)	<u>25</u>	SF	X	\$	<u> </u>	\$
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RESERVED

E0153	Reserved			X			
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ASBESTOS ABATEMENT/REMOVAL

E0154	Min. costs incurred for asbestos abatement, for trailer (provide, set-up, & removal)	<u>1</u>	EA	X	\$	<u> </u>	\$
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E0155	Additional cost incurred for the removal and disposal of asbestos containing substances. Regular roofing only.	5,000	SF	X	\$	\$
E0156	Additional cost incurred for the removal and disposal of asbestos containing substance. (Flashings, Pitch pockets, etc.)	5,000	SF	X	\$	\$
E0157	Removal of lead based paint. Contractor removes loose paint from surface. The contractor furnishes container and the Government disposes	150	SF	X	\$	\$
NON-PREPRICED LABOR, MATERIAL and COMMAND INTEREST WORK						
E0158	Provide all materials and equipment to perform Unit Priced Labor work per the scope and delivery schedule specified in the order. Use with ELIN E0159. These material costs MUST BE NEGOTIATED BY KO.	1	LS	X	\$228,889.20	\$228,889.20
E0159	Provide labor to perform all Unit Priced Labor work per the scope and delivery schedule specified in the order. MUST BE NEGOTIATED BY KO.	500	HRS	X	\$	\$
ADDITIONAL ROOFING WORK						
E0160	COMMAND INTEREST WORK (One time cost per Task Order to respond within 48 hours and work diligently until all work is completed).	2	EA	X	\$	\$
E0161	Perform quarterly and bi-annual roof, drain, gutter and downspout cleaning and inspection in accordance with Attachment A.	1	LOT		\$	\$
E0162	Perform Emergency Service call. Contractor shall respond to service call within 2 working days of receipt of order, secure emergency and make any necessary repairs to roof and drain system. Service call is limited to a combined labor and material cost not to exceed \$1,000.00. The total labor cost is based on the labor rate for ELIN E0159 times the hours worked. Contractor shall submit proposal to the Contracting Officer for any work beyond scope of the call. Contractor shall complete within 4 working days.	75	EA	X	\$1,000.00	\$75,000.00
E0163	Perform Roof Survey / Assessment up to 50,000 SF in accordance with Attachment B.	5	EA	X	\$	\$
E0164	Perform Roof Survey / Assessment over 50,000 SF and up to 100,000 SF in accordance with Attachment B.	5	EA	X	\$	\$
E0165	Perform Roof Survey / Assessment over 100,000 SF in accordance with Attachment B.	5	EA	X	\$	\$
Total Price for 4TH OPTION YEAR (IQ) Price Work Items - CLIN 0005						\$
(Sum of Exhibit Line Items E0001-E0165)						

SECTION 01 33 29

SUSTAINABILITY REPORTING

02/15

NOTE: This guide specification covers the requirements for providing sustainability documentation for Guiding Principles Validation (GPV), and Third Party Certification (TPC)

.PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS (ASHRAE)

ASHRAE 189.1 (2011; Errata 1-2 2012; INT 1 2013; Errata 3-8 2013) Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings

GREEN BUILDING INITIATIVE (GBI)

GBI GP Compliance GBI Guiding Principles Compliance Program for New Construction

GBI Green Globes for NC (2013) Green Globes(tm) for New Construction Technical Reference Manual

SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)

ANSI/SMACNA 008 (2007) IAQ Guidelines for Occupied Buildings Under Construction, 2nd Edition

U.S. DEPARTMENT OF ENERGY (DOE)

ISWG Guiding Principles (2008) High Performance and Sustainable Buildings Guidance

U.S. GREEN BUILDING COUNCIL (USGBC)

LEED GBDC Ref Guide (2009; R 2010) LEED Reference Guide for Green Building Design, Construction and Major Renovations of Commercial and Institutional Buildings including Core & Shell and K-12 Projects

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 247 Comprehensive Procurement Guideline for Products Containing
Recovered Materials

1.2 SUMMARY

This specification includes general requirements and procedures for this project to be constructed and documented per the federally mandated "Guiding Principles" (GP), Third Party Certification (TPC) requirements (if applicable), UFC 1-200-02, High Performance and Sustainable Building Requirements, and other requirements identified in this specification.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor QC approval. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. Submittals with an "S" are for inclusion in the Sustainability Notebook, in conformance to this section. Submit the following in accordance with Section 01 33 00:

SD-01 Preconstruction Submittals

Preliminary Sustainability Notebook; G

Preliminary High Performance and Sustainable Building Checklist

SD-07 Certificates

Third Party Certification (TPC)

SD-11 Closeout Submittals

Final Sustainability Notebook; G

Final High Performance and Sustainable Building Checklist; G

Amended Final Sustainability Notebook; G

Third Party Certification Certificates; G

1.4 GUIDING PRINCIPLES VALIDATION (GPV)

Provide construction related sustainability documentation to verify achievement of ISWG Guiding Principles Validation (GPV). Provide the following for GPV:

a. Refer to Attachment 1, HPSB Checklist at the end of this specification section.

b. Obtain approval of any changes to the HPSB Checklist from the Contracting Officer at the Preconstruction Conference. Contracting Officer's approval establishes identified ISWG Guiding Principles Requirements as the project's sustainability goals.

No variations or substitutions to the HPSB Checklist are allowed without written consent from the Contracting Officer. Immediately bring to the attention of the Contracting Officer any changes that impact meeting the approved

ISWG Guiding Principles Requirements for this project and demonstrate that change will not incur additional construction cost or increase the life cycle cost.

c. Include all work required to incorporate the applicable ISWG Guiding Principles Requirements indicated on the HPSB Checklist and in this contract.

d. Include construction related documentation to maintain an up-to-date Sustainability Notebook. Supplement construction related documentation containing the following components;

(1) HPSB Checklist

(2) Sustainability Action Plan

(3) Documentation illustrating Guiding Principle (GP) Requirements compliance

(4) Commissioning Plan and Reports

1.4.1 Sustainability Action Plan

Include the following information in the Sustainability Action Plan:

a. Contractor's planned method to achieve each construction related GP requirement.

b. For each designated construction related ISWG Guiding Principles Requirements that is not achieved, provide narrative explaining how mission or activity precludes achieving specific sustainability requirement or goal. Provide analysis of particular requirement and level to which project is able to comply.

c. Name and contact information for: Contractor's POC responsible for ensuring sustainability goals are accomplished and documentation is assembled.

1.4.2 Costs

Contractor is responsible for all costs associated with constructing and demonstrating that project complies with approved ISWG Guiding Principles Requirements.

1.4.3 Calculations

Provide calculations, product data, and certifications required in this section to demonstrate compliance with the ISWG Guiding Principles Requirements.

1.4.4 Third Party Certification (TPC) Documentation

This project has been designed for, and must be constructed to attain a sustainability rating. Project is already registered with the TPC Organization. Provide construction related sustainability documentation, in the format required by the TPC Organization, to the Contracting Officer for approval, and for final approval by the TPC organization. Third Party Certification is met when Government receives TPC organization certificate. Include the following:

a. Refer to Attachment 2, TPC Checklist at the end of this specification section.

b. Obtain approval of the TPC Checklist from the Contracting Officer at the Pre-Construction Conference.

No variations or substitutions to the approved TPC checklist are allowed without written consent from the Contracting Officer. Immediately bring to the attention of the Contracting Officer any project changes that impact meeting the approved TPC Requirements for this project. Demonstrate that change will not: incur additional construction cost; increase the life cycle cost; impact previous TPC Design Review; or impact required TPC certification level.

c. Complete all work required to incorporate the applicable TPC Requirements.

d. Maintain the construction related information, and provide replacement pages, in the Sustainability Notebook pertaining to additions and changes to the approved sustainability requirements. The Sustainability Notebook is in electronic format and is explained in the paragraph entitled "SUSTAINABILITY NOTEBOOK". The Sustainability Notebook contains the following components in addition to the GPV components above:

(1) TPC Checklist

(2) Sustainability Action Plan

(3) Completed TPC documentation for each identified prerequisite and credit. Forward to the Contracting Officer for approval.

(4) Copy of all correspondence with the TPC organization.

e. Include the following information in the Sustainability Action Plan. Provide this TPC information in addition to the GPV Action Plan items above:

(1) Contractor's planned method to achieve each TPC requirement.

(2) For each required TPC credit that is attempted but not achieved, provide narrative explaining how mission or activity precludes achieving specific sustainability requirement or goal. Provide analysis of particular requirement and level to which project is able to comply.

(3) Provide the commissioning plan and schedule for performance testing, and data collection to take place during first year of facility usage.

(4) Name and contact information for: Contractor's Sustainability POC and other names of sustainability professionals on the Contractor's Staff responsible for ensuring TPC sustainability goals are accomplished and documentation is assembled. Contractor's Sustainability

POCs are also responsible for ensuring GPV required in paragraph GUIDING PRINCIPLES VALIDATION (GPV) above.

f. Contractor is responsible for all costs associated with constructing and demonstrating that project complies with approved TPC requirements, including but not limited to:

(1) TPC coordination with Government's AE and other consultants, TPC website requirements, and management for construction related documentation.

(2) Construction work required to incorporate TPC prerequisites and credits.

(3) Submittals required to demonstrating compliance with Government approved TPC checklists.

g. Provide all calculations, product data, and certifications required in this contract to demonstrate compliance with the TPC Requirements of this section.

1.4.5 Third Party Certification (TPC)

Contractor is responsible for registering and meeting all requirements to achieve Third Party Certification (TPC) level of certification or other Government-approved equivalent TPC sustainability certification. An equivalent TPC organization must demonstrate equivalency for Government consideration, prior to use on the project. Third Party Certification is met when Government receives TPC organization certificate.

Register project with TPC organization using the following format and content:

a. Project Title First Line: US Army, US Air Force, US Navy or US Marine Corps, Building Name (if known)

b. Project Title Second Line: MILCON P#, DD1391 Project Name

c. Project Address: UIC (Installation code), Category code, RPUID (Real Property Unique Identifier) Number

d. Project Owner Organization: US Army, US Air Force, US Navy or US Marine Corps

e. Primary Contact, Owner: Agency Project Manager

f. Additional Contact, Building Owner: Public Works Officer or Designee

Project is already registered with TPC organization to achieve level of certification. The TPC Online management will be turned over to the Contractor, who will assume full responsibility for management and obtaining Final Certification.

Third Party Certification is met when Government receives TPC organization certificate.

The TPC Certification requires the following:

a. Refer to Attachment 2, TPC Checklist at the end of this specification section.

b. Obtain approval of the TPC Checklist from the Contracting Officer at the Pre-Construction Conference.

No variations or substitutions to the approved TPC checklist are allowed without written consent from the Contracting Officer. Immediately bring to the attention of the Contracting Officer any project changes that impact meeting the approved TPC Requirements for this project. Demonstrate that change will not: incur additional construction cost; increase the life cycle cost; impact previous TPC Design Review; or impact required TPC certification level.

c. Complete all work required to incorporate the applicable TPC Requirements.

d. Maintain the construction related information, and provide replacement pages, in the Sustainability Notebook pertaining to additions and changes to the approved sustainability requirements. The Sustainability Notebook is in electronic format and is explained in the paragraph entitled "SUSTAINABILITY NOTEBOOK". The Sustainability Notebook contains the following components in addition to the GPV components above:

(1) TPC Checklist

(2) Completed TPC Online forms for each identified prerequisite and credit

(3) Copy of all correspondence with the TPC organization including proof of TPC registration

(4) Documentation illustrating compliance with TPC requirements

(5) TPC Award Certificate

e. Include the following information in the Sustainability Action Plan. Provide this TPC information in addition to the GPV Action Plan items above:

(1) Contractor's planned method to achieve each TPC requirement.

(2) For each required TPC credit that is attempted but not achieved, provide narrative explaining how mission or activity precludes achieving specific sustainability requirement or goal. Provide analysis of particular requirement and level to which project is able to comply.

(3) Name and contact information for: Contractor's Sustainability POC and other names of sustainability professionals

on the Contractor's Staff responsible for ensuring TPC sustainability goals are accomplished and documentation is assembled

(4) Provide the plan and schedule for performance testing, data collection, and commissioning to take place during first year of facility usage.

f. Contractor is responsible for all costs associated with constructing and demonstrating that project complies with approved TPC requirements, including but not limited to:

(1) Final TPC review, certification fees

(2) Online (or offline with secure facilities) TPC management and documentation.

(3) Obtaining TPC certification based on Government-approved sustainability goals.

(4) Construction work required to incorporate TPC prerequisites and credits.

(5) Submittals required to demonstrate compliance with Government approved TPC checklists.

g. Provide all calculations, product data, and certifications required in this specification to demonstrate compliance with the TPC Requirements.

h. Provide all online (or offline, with secure facilities) TPC management and documentation.

i. Contractor is responsible for all required responses to TPC.

j. Provide TPC Certificates. Use format below to create the Plaque, Certificate and Letter of Congratulations. Forward to parties designated by Contracting Officer:

(1) Plaque:

Name: Final Building Name. If unknown, provide Form DD1391 Project Name.

(2) Certificate:

Project Title, first line: P-(X); Form DD1391 Project Name.

Project Title, second line: UIC (Installation code)

(3) Letter Congratulations:

Address letter to Facility's Installation commander Name. Address the letter to an individual person.

1.5 SUSTAINABILITY SUBMITTALS

Provide documentation in the Sustainability Notebook and the HPSB Checklist to indicate compliance with the sustainability requirements of the project.

1.5.1 "S" Submittals for Sustainability Documentation

Submit the GPV and TPC sustainability documentation required in this specification as "S" submittals. Highlight GPV and TPC compliance data in "S" submittal.

1.5.2 SUSTAINABILITY NOTEBOOK

Provide and maintain a comprehensive Sustainability Notebook to document compliance with the sustainability requirements identified in the approved HPSB and TPC Checklists. Sustainability Notebook must contain all required data to support full compliance with the ISWG Guiding Principles Requirements and TPC requirements. Sustainability Notebook is in the form of an Adobe PDF file; bookmarked at each ISWG Guiding Principles Requirement, TPC requirement, and sub-bookmarked at each document. Match format to ISWG Guiding Principles numbering system indicated herein. Maintain up to date information, spreadsheets, templates, and other required documentation with each current submittal. For TPC projects, provide a second Table of contents using TPC numbering system. Locate documentation unique to TPC here. Where TPC documentation would repeat GP documentation, insert note referring reviewer to GP documentation.

Contracting Officer may deduct from the monthly progress payment accordingly if Sustainability Notebook information is not current, until information is updated and on track per project goals.

1.5.2.1 Sustainability Notebook Submittal Schedule

Provide Sustainability Notebook Submittals at the following milestones of the project:

a. Preliminary Sustainability Notebook

Submit preliminary Sustainability Notebook for approval at the Pre-construction conference. Include Preliminary High Performance and Sustainable Building Checklist

b. Construction Progress Meetings. Update GP and TPC documentation in the Sustainability Notebook and TPC Online tool for each meeting.

c. Final Sustainability Notebook

Submit updated Sustainability Notebook within 60 days after the Beneficial Occupancy Date (BOD). Final progress payment retainage may be held by Contracting Officer until final sustainability documentation is complete. Submit three (3) electronic copies of the Final Sustainability Notebook on DVDs to the Government. Include Final High Performance and Sustainable Building Checklist

d. Amended Final Sustainability Notebook

Amend and resubmit the Final Sustainability Notebook to include commissioning, testing and balancing, and collection of performance requirements. Submit three (3) final electronic copies of the Amended Final Sustainability Notebook Submittal on DVDs to the Government no longer than 30 days after the designated data collection period.

1.5.3 HIGH PERFORMANCE SUSTAINABLE BUILDING (HPSB) CHECKLIST

Provide construction documentation that provides proof of and supports compliance with the completed HBSP Checklist.

1.5.3.1 HPSB Checklist Submittals

Submit an updated copy of the HPSB Checklist with each Sustainability Notebook submittal. Attach HPSB Checklist to DD1354 Real Property Record Submittal.

1.5.3.2 HPSB Checklist Public Access

Where not included as attachment to this specification section, use the following as HPSB Checklist for respective service branch. Where Internet address appears on two lines, copy full address into Internet browser.

a. Air Force - Air Force MILCON Sustainability Requirements Scoresheet, Attachment 3 of "AF Sustainable Design Development Implementing Guidance Memo"
http://www.wbdg.org/ccb/browse_cat.php?c=265

b. Army - Energy & Sustainability Record Card
http://wbdg.org/ccb/ARMYCOE/COEECB/ecb_2013_25.pdf

c. Navy - NAVFAC Sustainability & Energy Data Record Card/High Performance and Sustainable Building Checklist
http://www.wbdg.org/pdfs/navfac_sustainable_energy_data_record_card.pdf

1.6 DOCUMENTATION REQUIREMENTS

Third Party Certification requirements or credits are mandatory when they have requirements that match a Guiding Principle Requirement. Documentation used to demonstrate TPC compliance may be used to demonstrate GP compliance.

Incorporate each of the following ISWG Guiding Principles Requirements into project construction; and provide documentation that proves compliance with each listed requirement. Items below are organized according to the ISWG Guiding Principles. For projects that require TPC, refer to Third Party Certifier's reference manuals for TPC requirements.

1.6.1 Commissioning

Work with the Commissioning Authority (CxA) to achieve requirements of the Commissioning plan and other contract document requirements at each stage of commissioning. Maintain up-to-date records of commissioning activities in the

Sustainability Notebook, to include commissioning plan and summary commissioning report.

1.6.2 Energy Efficient Equipment

Provide only energy-using equipment that is Energy Star rated, or has the Federal Energy Management Program (FEMP) recommended efficiency. Where Energy Star or FEMP recommendations have not been established, provide equipment with efficiency in the top 25 percent for the type of equipment procured. Provide only energy using equipment that meets FEMP requirements for low standby power consumption. Energy efficient equipment can be found at: <http://www1.eere.energy.gov/femp/> and <http://www.energystar.gov/>. Provide the following documentation:

Proof that equipment is energy efficient and complies with the cited requirements.

1.6.3 Benchmarking

Provide report of initial actual energy performance with the energy design targets. Provide the following documentation:

Prefinal Performance Report with data collected from the first 60 days of operation of the facility after Beneficial Occupancy Date (BOD). Submit this information with the Final Sustainability Notebook Submittal.

1.6.4 Reduce Volatile Organic Compounds (VOC)

Provide materials and products with low pollutant emissions, including composite wood products, adhesives, sealants, interior paints and finishes, carpet systems, and furnishings. Meeting the requirements of ASHRAE 189.1 Sections 8.4.2 (Prescriptive Option: Materials) or Section 8.5.2 (Performance Option: Materials) demonstrates compliance. Provide the following documentation:

a. Demonstrate that materials do not exceed maximum VOC emissions of cited standards. VOC averaging is allowed where coatings are subject to human contact or harsh environmental conditions.

b. Demonstrate that flooring materials comply with VOC emissions of cited standards.

c. Demonstrate that composite wood and agrifiber products and associated laminating adhesives contain no added urea-formaldehyde.

d. Demonstrate that furniture and seating complies with low emissions requirements.

e. Create and maintain a list of above listed products used on the project within the building vapor barrier. Demonstrate how product meets cited standards.

1.6.5 Indoor Air Quality During Construction

Prior to construction, create indoor air quality plan. Implement IAQ plan during construction and flush building air before occupancy.

a. Construction submittal documentation required:

(1) For new construction and for renovation of unoccupied existing buildings, comply with ASHRAE 189.1 Section 10.3.1.4 (Indoor Air Quality (IAQ) Construction Management), with maximum outdoor air consistent with achieving relative humidity no greater than 60 percent. For renovation of occupied existing buildings, comply with ANSI/SMACNA 008 IAQ Guidelines for Occupied Buildings Under Construction.

(2) Provide required documentation showing that after construction ends and prior to occupancy, new HVAC filters were installed, and building air was flushed out in accordance with UFC 1-200-02.

1.6.6 Recycled Content

Provide materials on this project with aggregated total recycled content greater than 10 percent. In addition, comply with 40 CFR 247. Refer to <http://www.epa.gov/cpg/products.htm> for assistance identifying products cited in 40 CFR 247. Provide the following documentation:

a. Total amount of recycled content contained in building materials as a percentage of total cost of all building materials on the project (mechanical, electrical, and plumbing components, fire protection equipment and transportation are excluded).

b. Substitutions: Contractor may submit for Government approval, proposed alternative products or systems that provide equivalent performance and appearance and have greater contribution to project recycled content requirements. For all such proposed substitutions, submit with the Sustainability Action Plan accompanied by product data demonstrating equivalence.

1.6.7 Bio-Based Products

Utilize products and material made from biobased materials to the maximum extent possible without jeopardizing the intended end use or detracting from the overall quality delivered to the end user. Use only supplies and materials of a type and quality that conform to applicable specifications and standards.

Biobased products that are designated for preferred procurement under the USDA BioPreferred Program must meet the required minimum biobased content. Refer to <http://www.biopreferred.gov> for the product categories and BioPreferred Catalog. Provide the following documentation:

a. For biobased products used on this project, provide biobased content and biobased source of material. Indicate name of the manufacturer, cost of each product and the use of each product on this project.

1.6.8 Landfill Disposal

Divert construction debris from landfill disposal in accordance with Section 01 74 19 CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT. Provide the following documentation:

- a. Documentation showing total amount of construction debris diverted from landfill as a percentage of all construction debris on the project.
- b. Include project's Construction Waste Management Plan and all dumpster haul tickets.

1.6.9 Ozone Depleting Substances

Eliminate the use of ozone depleting substances during and after construction where alternative environmentally preferable products are available. Meet the requirements of ASHRAE 189.1 Section 9.3.3 Refrigerants for no CFC-based refrigerants in heating ventilation, air conditioning and refrigeration systems (except for fire suppression system requirements, covered elsewhere in this specification). Provide the following documentation:

- a. MSDS sheets for all refrigerants provided
- b. Products that meet the criteria of U.S. EPA Significant New Alternatives Policy, available at <http://www.epa.gov/ozone/snap/index.html>.

1.6.10 Validation and Certification Restrictions

The Contractor's purchase of renewable energy certificates (RECs) specifically to meet project sustainability goals is prohibited.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 SUSTAINABILITY COORDINATION

3.1.1 Coordinating Sustainability Documentation Progress

Provide sustainability focus and coordination at the following meetings to achieve sustainability goals. Contractor's designated TPC accredited sustainability professional responsible for GP and TPC documentation must participate in the following meetings to coordinate documentation completion.

- a. Pre-Construction Conference: Discuss the following: TPC and HPSB Checklists, Sustainability Action Plan, Construction submittal requirements and schedule, individuals responsible for achieving each Guiding Principle Requirement and TPC prerequisite and credit.
- b. Construction Progress Meetings: Review GP and TPC sustainability requirements with project team including contractor and sub-

contractor representatives. Demonstrate GP and TPC documentation is being collected and updated to the Sustainability Notebook.

(1) Facility Turnover Meetings: Review Sustainability Notebook for completeness and identify any outstanding issues relating to final documentation requirements.

(2) Final Sustainability Notebook Review

3.2 SUSTAINABILITY AWARD

Finalize the sustainability certification process and obtain the TPC Certification Certificates, indicating completion of the projects sustainability goals.

3.2.1 Third Party Certification Certificates

Obtain and install plaque and provide one original framed copy of the certificate. Mount certificates in 1 inch deep metal frames, with double matt, and wire hangers. Obtain additional certificates, and deliver to Contractor Officer, unless otherwise instructed. Hang the Plaque in a prominent interior location approved by the Contracting Officer.

End of Section

USACE / NAVFAC / AFCEC / NASA UFGS-07 61 15.00 20 (May 2011)

Preparing Activity: NAVFAC Superseding
UFGS-07 61 15.00 20 (August 2008)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated January 2015

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05/11

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SECTION 07 61 15.00 20

ALUMINUM STANDING SEAM ROOFING
05/11

NOTE: This guide specification covers the requirements for aluminum standing seam roofing.

Use of electronic communication is encouraged.

Adhere to UFC 1-300-02 Unified Facilities Guide Specifications (UFGS) Format Standard when editing this guide specification or preparing new project specification sections. Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable items(s) or insert appropriate information. Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

Comments, suggestions and recommended changes for this guide specification are welcome and should be submitted as a Criteria Change Request (CCR).

NOTE: On the drawings, show:

1. Design loads.
2. Roof slope (minimum one in 24 1/2 inch per foot).
3. Line(s) of fixity.
4. Supporting structural framework.
5. Track spacing and attachment details, when applicable.
6. Attachment clip spacing (list capacity of each type in spec).
7. Flashing support and fastening spacing.
8. Roof venting. (Pay particular attention to

preventing infiltration of wind-driven rain).

9. Sealant and closure locations.

10. Locations for dissimilar metal protection.

11. Details of accessories such as ladders, walkways, antenna mounts, guy wire fastening, ventilation equipment and lighting.

12. Details of flashing at all roof penetrations.

NOTE: When designing standing seam roofs, consider:

1. Consult with manufacturers early in design stage to obtain current design manuals and structural information regarding roof attachments. Early contact will reduce need for corrections and changes during review process and construction phase.

2. Calculate wind uplift forces in accordance with UFC 1-200-01, "General Building Requirements".

3. NAVFAC minimum guidelines are one in 24 1/2 inch per foot for roof slopes. Provide greater slope if possible. In renovation of existing buildings, adequate slope must often be obtained by imaginative solutions. Sleepers and stub walls have been successfully used, but attachment and structural stability of these must be assured. In some existing structures it will be difficult to design strong connections to structural system, or modifications to existing structural shimming system will be necessary to resist wind forces adequately.

4. It will be necessary to diagram a number of attachment clips for varying roof conditions. Each type should be individually designated on the drawings with spacing shown. Spacing will be a function of allowable panel span and holding capability assumed for the clip(s). Minimum holding force for each type should be specified as subparagraphs under paragraph entitled "Attachment Clips." Assure that fasteners used to attach clips to structure develop full capacity of clip. Check existing structures to assure that the forces can be resisted by existing structural system. Make provisions for thermal expansion of roof structure.

5. Flashing presents a particular design problem in preventing wind and water infiltration. High winds create stresses in flashing which must be resisted by careful detailing of attachment.

While standing seam roofing presents continuous, sealed surface to the elements, flashing transitions are often the cause of serious problems. Overhangs,

especially, are susceptible to high wind forces and attachment should be at much closer spacing than usual. Copious use of sealants and closure pieces molded to conform to roof panels is imperative.

6. Building may require equipment such as antennae, ladders, or lighting installed on roof. Access to roof-mounted mechanical equipment is often required. Provide walking surfaces and attachment accessories which do not compromise integrity of roof system. These accessories should provide support without penetrating roofing panels. Usually this is done with clamps attached to standing seam, or other specially designed clips. Provide curbs for mechanical equipment.

7. Specify insulation in appropriate Division 07 section.

PART 1 GENERAL

1.1 REFERENCES

NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ALUMINUM ASSOCIATION (AA)

- | | |
|-----------|--|
| AA ADM | (2010) Aluminum Design Manual |
| AA ASM-35 | (2000) Specifications for Aluminum Sheet Metal Work in Building Construction, Construction Manual Series Section 5 |

AMERICAN IRON AND STEEL INSTITUTE (AISI)

AISI SG03-3 (2002; Suppl 2001-2004; R 2008)
Cold-Formed Steel Design Manual Set

AMERICAN WOOD COUNCIL (AWC)

AWC NDS (2012) National Design Specification (NDS)
for Wood Construction

ASTM INTERNATIONAL (ASTM)

ASTM B117 (2011) Standard Practice for Operating
Salt Spray (Fog) Apparatus

ASTM B209 (2014) Standard Specification for Aluminum
and Aluminum-Alloy Sheet and Plate

ASTM B209M (2014) Standard Specification for Aluminum
and Aluminum-Alloy Sheet and Plate (Metric)

ASTM D1654 (2008) Evaluation of Painted or Coated
Specimens Subjected to Corrosive
Environments

ASTM D2247 (2011) Testing Water Resistance of
Coatings in 100% Relative Humidity

ASTM D226/D226M (2009) Standard Specification for
Asphalt-Saturated Organic Felt Used in
Roofing and Waterproofing

ASTM D2565 (1999; R 2008) Xenon Arc Exposure of
Plastics Intended for Outdoor Applications

ASTM D4214 (2007) Standard Test Method for Evaluating
the Degree of Chalking of Exterior Paint
Films

ASTM D522/D522M (2014) Mandrel Bend Test of Attached
Organic Coatings

ASTM D523 (2014) Standard Test Method for Specular
Gloss

ASTM D714 (2002; R 2009) Evaluating Degree of
Blistering of Paints

ASTM D968 (2005; R 2010) Abrasion Resistance of
Organic Coatings by Falling Abrasive

ASTM E1592 (2005; R 2012) Structural Performance of
Sheet Metal Roof and Siding Systems by
Uniform Static Air Pressure Difference

ASTM E330/E330M (2014) Structural Performance of Exterior
Windows, Doors, Skylights and Curtain
Walls by Uniform Static Air Pressure
Difference

ASTM E84	(2014) Standard Test Method for Surface Burning Characteristics of Building Materials
ASTM G152	(2013) Operating Open Flame Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
ASTM G153	(2013) Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials

NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)

NRCA Details	(2003) NRCA Roof Perimeter Flashing Systems Construction Details for Class 1 Roof Construction
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SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)

SMACNA 1793	(2012) Architectural Sheet Metal Manual, 7th Edition
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1.2 DEFINITIONS

1.2.1 Field-Formed Seam

Seams of panels so configured that when adjacent sheets are installed the seam is sealed utilizing mechanical or hand seamers. Crimped (45 degree bend), roll formed (180 degree bend), double roll formed (2 - 180 degree bend), and roll and lock systems are types of field-formed seam systems.

1.2.2 Snap Together Seam

Panels so configured that the male and female portions of the seam interlock through the application of foot pressure or tamping with a mallet. Snap-on cap configurations are a type of snap together system.

1.2.3 Pre-Formed

Formed to the final, less field-formed seam, profile and configuration in the factory.

1.2.4 Field-Formed

Formed to the final, less field-formed seam, profile and configuration at the site of work prior to installation.

1.2.5 Roofing System

The roofing system is defined as the assembly of roofing components, including roofing panels, flashing, fasteners, and accessories which, when assembled properly result in a watertight installation.

1.3 SYSTEM DESCRIPTION

1.3.1 Design Requirements

- a. Provide continuous length panels with no joints or seams, except where indicated. Individual panels shall be removable for replacement of damaged material.
- b. There shall be no exposed or penetrating fasteners except where shown on the approved shop drawings. Fasteners into wood shall be stainless steel sheet metal screws with full length threads. Fasteners into steel shall be stainless steel or cadmium plated stainless steel screws inserted into predrilled holes. Length and diameter of screws shall be sufficient to meet the design loads with a suitable factor of safety for the material to which the roofing components are attached. Calculate fastener capacity in accordance with AISI SG03-3, AA ADM or AWC NDS as applicable.
- c. Roof panel standing seam shall include a capillary break and be mechanically locked closed by the manufacturer's locking tool. The seam shall include a continuous sealant when required by the manufacturer to withstand the rainfall and wind specified in paragraph entitled "Manufacturer's Requirements."
- d. Roof panel anchor clips shall be concealed and designed to allow for thermal movement of the panels, except where specific fixed points are indicated.
- e. The system shall resist the positive and negative loads specified herein in accordance with "Sheet Building Sheathing Design Guide" of the AA ADM. Determine capacity in accordance with principles of ASTM E330/E330M modified as follows:
 - (1) Test panels shall be production material of the type proposed for use. Use either full length or partial length panels with attachment representative of the main part of the roof.
 - (2) Test specimens shall be five panels wide, span one or more supports, and shall have no end or edge attachment or seals that will restrict crosswise movement of the panels under load. Do not bridge longitudinal seams with tape or film that can restrict separation.
 - (3) Panels shall be tested to failure. Report load at failure.
- f. Panels shall support walking loads without excessive distortion or telegraphing of the structural supports. Panels shall support a 115 kilogram 250 pound load concentrated on a 2500 square millimeter (mm) four square inch area at the center of the panel without buckling or permanent distortion.

1.3.2 Performance Requirements

1.3.2.1 Wind Loads

NOTE: Determine the appropriate pressures, positive and negative, that apply to the various portions of the roof using current engineering technology that

The Guide Specification technical editors have designated those items that require Government approval, due to their complexity or criticality, with a "G". Generally, other submittal items can be reviewed by the Contractor's Quality Control System. Only add a "G" to an item, if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

An "S" following a submittal item indicates that the submittal is required for the Sustainability Notebook to fulfill federally mandated sustainable requirements in accordance with Section 01 33 29 SUSTAINABILITY REPORTING.

Choose the first bracketed item for Navy, Air Force and NASA projects, or choose the second bracketed item for Army projects.

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are [for Contractor Quality Control approval.][for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] Submittals with an "S" are for inclusion in the Sustainability Notebook, in conformance to Section 01 33 29 SUSTAINABILITY REPORTING. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Roofing panels; G[, [_____]]

Submit drawings as necessary to supplement the instructions and diagrams. Drawings shall include design and erection drawings containing an isometric view of the roof showing the design uplift pressures and dimensions of edge, ridge and corner zones. Show typical and special conditions including flashings, accessory installation, materials and thicknesses, all dimensions, anchoring methods, sealant locations, sealant tape locations, fastener layout, sizes, spacing, provisions for thermal movement, terminations, penetrations, and attachments. Details of installation shall be in accordance with the manufacturer's Standard Instructions and details or the SMACNA 1793. The manufacturer's technical engineering department shall approve the

drawings before they are submitted.

SD-03 Product Data

Roofing panels; G[, [_____]]

Attachment clips

Closures

Accessories

Underlayment

Sample warranty certificate; G[, [_____]]

Submit for all materials to be provided. Submit data sufficient to indicate conformance to specified requirements.

SD-04 Samples

Roofing panels

Submit a 300 mm 12 inch long section of typical panel [in color specified] [in color selected].

When colors are not indicated, submit samples of not less than six different manufacturer's standard colors for selection.

Accessories

Submit each type of accessory item used in the project including, but not limited to: each type of anchor clip, closures, fasteners and leg clamps.

SD-05 Design Data

Load calculations; G[, [_____]]

SD-06 Test Reports

Structural performance; G[, [_____]]

Panel finish; G[, [_____]]

Submit reports of the tests required by this section.

Manufacturer's field inspection; G[, [_____]]

Submit manufacturer's technical representative's inspection reports as required in paragraph entitled "Manufacturer's Field Inspection."

SD-07 Certificates

Technical representative

Qualification of Installer

Submit documentation proving the installer is factory-trained, has the specified experience and is authorized by the manufacturer to install the products specified.

Coil stock compatibility; G[, [_____]]

Provide certification of coil compatibility with roll forming machinery to be used for forming panels without warping, waviness, and rippling not part of panel profile; to be done without damage, abrasion or marking of finish coating.

SD-08 Manufacturer's Instructions

Sealant

Submit manufacturer's sealant requirements for making the standing seam watertight when subjected to 125 mm 5 inches of rainfall per hour simultaneous with [160] [200] [_____] km/h [100] [124] [_____] mph winds.

Installation manual; G[, [_____]]

Submit manufacturer's printed installation manual/instructions and standard details.

SD-11 Closeout Submittals

Information card

For each roofing installation, submit a typewritten card or photoengraved aluminum card containing the information listed on Form 1 located at the end of this section.

1.5 LOAD CALCULATIONS

NOTE: Ensure that appropriate design loads are specified in paragraph entitled "Wind Loads."

NOTE: Use 200 km/h 124 mph at Adak, Alaska.

Submit load calculations for the following by a structural engineer registered as a Professional Engineer in any jurisdiction verifying that the system supplied meets the design loads indicated. Coordinate calculations with manufacturer's test results.

- a. Wind load uplift design pressure at roof locations specified in paragraph entitled "Wind Loads."
- b. Clip spacing and allowable load per clip calculations.
- c. The fastening of clips to structure or intermediate support spacing.
- d. Intermediate support spacing and fastening to structure when required.
- e. Allowable panel span at anchorage spacing indicated.

- f. Safety factor used in determining loading.

1.6 QUALITY ASSURANCE

1.6.1 Preroofing Conference

NOTE: Consult with the Contracting Officer responsible for construction of the project to determine who should conduct the conference. For NAVFAC SE administered projects, delete the option of Contractor conducting the conference and delete the last sentence.

After submittals are received and approved but before roofing [and insulation] work, including associated work, is preformed, the [Contracting Officer will] [Contractor shall] hold a preroofing conference to review the following:

- a. The drawings and specifications
- b. Procedure for on site inspection and acceptance of the roofing substrate and pertinent structural details relating to the roofing system
- c. Contractor's plan for coordination of the work of the various trades involved in providing the roofing system and other components secured to the roofing
- d. Safety requirements.

The preroofing conference shall be attended by the Contractor and personnel directly responsible for the roofing [and insulation] installation, [mechanical] [and] [electrical work], and the roofing manufacturer's technical representative. Conflicts among those attending the preroofing conference shall be resolved and confirmed in writing before roofing work, including associated work, is begun. [Prepare written minutes of the preroofing conference and submit to the Contracting Officer.]

1.6.2 Manufacturer's Technical Representative

The representative shall have authorization from manufacturer to approve field changes and be thoroughly familiar with the products and with installations in the geographical area where construction will take place. The manufacturer's representative shall be an employee of the manufacturer with at least 5 years experience in installing the roof system. The representative shall be available to perform field inspections and attend meetings as required herein, and as requested by the Contracting Officer.

1.6.3 Qualification of Installer

The roofing system installer shall be factory-trained, approved by the metal roofing system manufacturer to install the system, and shall have a minimum of three years experience as an approved applicator with that manufacturer. The applicator shall have applied five installations of similar size and scope to this project within the previous 3 years.

1.6.4 Single Source

Provide roofing panels, clips, closures and other accessories from a single manufacturer.

1.6.5 Manufacturer

The SSMRS shall be the product of a metal roofing industry recognized SSMRS manufacturer who has been in the practice of manufacturing SSMRS for a period of not less than 5 years and who has been involved in at least 5 projects similar in size and complexity to this project.

1.7 DELIVERY, STORAGE, AND HANDLING

Deliver, store, and handle preformed panels, bulk roofing products and other manufactured items in a manner to prevent damage or deformation.

1.7.1 Delivery

Provide adequate packaging to protect materials during shipment. Do not uncrate materials until ready for use except for inspection. Immediately upon arrival of materials at jobsite, inspect materials for damage, dampness, and staining. Replace damaged or permanently stained materials that cannot be restored to like-new condition with new material. If materials are wet, remove moisture, restack and protect panels until used.

1.7.2 Handling

Handle material carefully to avoid damage to surfaces, edges and ends.

1.7.3 Storage

Stack materials stored on the site on platforms or pallets and cover with tarpaulins or other suitable weathertight coverings which prevent water trapping or condensation. Store panels so that water which might have accumulated during transit or storage will drain off. Do not store the panels in contact with materials that might cause staining, such as mud, lime, cement, fresh concrete or chemicals. Protect stored panels from wind damage.

1.8 Warranty

Furnish manufacturer's no dollar limit materials and workmanship warranty for the roofing system. The warranty period shall be not less than 20 years from the date of Government acceptance of the work. The warranty shall be issued directly to the Government. The warranty shall provide that if within the warranty period the metal roofing system becomes non-watertight or shows evidence of corrosion, perforation, peeling paint, rupture or excess weathering due to deterioration of the roofing system resulting from defective materials or workmanship the repair or replacement of the defective materials and correction of the defective workmanship shall be the responsibility of the roofing system manufacturer. Repairs that become necessary because of defective materials and workmanship while roofing is under warranty shall be performed within 7 days after notification, unless additional time is approved by the Contracting Officer. Failure to perform repairs within the specified period of time will constitute grounds for having the repairs performed by others and the cost billed to the manufacturer. Contractor shall also provide a 2 year contractor installation warranty.

PART 2 PRODUCTS

2.1 ROOFING PANELS

2.1.1 Material

3004 aluminum, ASTM B209M ASTM B209.

2.1.1.1 Thickness

1.0 mm 0.040 inch minimum.

2.1.1.2 Finish

NOTE: Choose the finish appropriate for the project. In general, hangars, warehouses, and other utilitarian structures may use mill finish to reduce cost. Mill finish Alclad is more economical than fluorocarbon painted finish. Some colors in the painted finish are substantially more costly than others, due to the scarcity of certain pigments.

[Alclad mill finish, unpainted] [Alclad fluorocarbon baked enamel exterior and neutral washcoat interior].

2.1.1.3 Texture

[Stucco embossed.][Smooth.][Smooth with raised intermediate ribs for added stiffness].

2.1.1.4 Color

NOTE: Check with the facility regarding color selection. Use only manufacturer's standard colors. Delete this paragraph if mill finish has been selected.

[As selected.] [Blue] [Red] [[____], No. [____]] exterior.

2.1.1.5 Configuration

NOTE: The height of vertical legs should not be less than 50 mm 2 inches on roofs having a slope less than 2 in 12. The occurrence of ice dams or other water flow obstructions should be considered when determining the vertical leg height.

Provide panels of continuous lengths from ridge to eaves or from top to eaves on shed roof designs. Panels shall be [300] [____] mm [12] [____] inches wide with a minimum [50] [____] mm [2.0] [____] inch high vertical legs and two [9.4 mm 0.37 inch] [____] stiffening ribs at 100 mm 4 inches on center between the legs to minimize oil-canning and telegraphing of

structural members. Leading vertical leg shall have a continuous groove in the rib top for anti-siphon protection when hook-rib top of next panel is locked over leading vertical leg to form the standing seam. Panels from coil stock shall be formed without warping, waviness or ripples not a part of the panel profile, and shall be free of damage to the finish coating system.

[2.1.1.6 Prefinished Coating System

NOTE: Delete this paragraph if mill finish has been selected.

Fluorocarbon baked enamel, factory-applied, minimum total dry film nominal thickness of [0.0175] [0.050] [_____] mm [0.7] [2.0] [_____] mils, and conforming to test requirements specified herein. Provide prefinished coating system on [both faces.] [the exterior face.] Interior face shall receive same coating system, or, at the manufacturer's option, receive a coat of acrylic wash coat applied to a minimum total dry film nominal thickness of 0.005 mm 0.20 mil. Color shall be [as specified] [as selected from the manufacturer's standard colors].

]2.2 ATTACHMENT CLIPS

NOTE: Add the appropriate choice(s) for the attachment clip(s) used in the design. Insert design value for minimum load capacity.

Series 300 non-magnetic stainless steel.

- a. Type 1: [_____] clip, minimum capacity [_____] kgs lbs.
- b. Type 2: [_____] clip, minimum capacity [_____] kgs lbs.
- c. Type 3: [_____] clip, minimum capacity [_____] kgs lbs.

2.3 ACCESSORIES

Sheet metal flashings, trim, moldings, closure strips, caps, preformed crickets, equipment curbs, [gutters,] [down spouts,] and other similar sheet metal accessories provided in conjunction with preformed metal panels shall be of the same material and finish as panels, except that such items which will be concealed after installation may be provided without the finish if they are aluminum or stainless steel. Provide ridge and rib closures, as specified. Metal shall be of thickness not less than that of panels. Molded closure strips shall be closed-cell synthetic rubber, neoprene, or polyvinyl chloride premolded to match configurations of preformed metal panels. Thermal spacer blocks and other thermal barriers at concealed fasteners shall be as recommended by the roofing panel manufacturer.

2.3.1 Closures

2.3.1.1 Ridge Closure

Metal-clad foam or metal closure with foam secondary closure matching panel

configuration for installation on surface of roof panel between panel ribs at ridge and headwall roof panel flashing conditions and terminations. Foam material shall not absorb water.

2.3.1.2 Rib Closure

Aluminum, closed-cell or solid-cell synthetic rubber, neoprene or polyvinyl chloride pre-molded to match configuration of rib opening. Material for closures shall not absorb water.

2.3.2 Fasteners

NOTE: In the high winds, metal will vibrate and fatigue at fasteners on "normal" spacings. For this reason, cleated (blind fastened) flashings are not acceptable, and attachment at 50 to 200 mm 6 to 8 inches on center is customary. Flashing should not extend a significant distance more than 25 mm one inch beyond a support or fastener.

Series 300 stainless steel with composite metal and neoprene composition washers. Fasteners for attachment to structural supports and fasteners for attachment of panels shall be as approved and in accordance with manufacturer's recommendation. Unless specified otherwise herein, fasteners shall be either self-tapping screws, bolts and nuts, or self-locking bolts. Design fastening system to withstand design loads indicated. Fasteners shall not be over-torqued and shall develop full capacity of attachment clips.

2.3.2.1 Screws

Provide not less than 0.242 mm No. 14 diameter for self-tapping type and not less than 0.216 mm No. 12 diameter for self-drilling and self-tapping.

2.3.2.2 Bolts

Provide not less than 6 mm 1/4 inch diameter, shouldered or plain shank as required, with proper nuts.

2.3.2.3 Automatic End-Welded Studs

Provide shouldered type with a shank diameter of not less than 5 mm 3/16 inch and cap or nut for holding covering against the shoulder.

2.3.2.4 Explosive Driven Fasteners

Provide fasteners to be driven with explosive actuated tools and with a shank diameter of not less than 13 mm 1/2 inch for fastening to steel and not less than 25 mm one inch for fastening to concrete.

2.3.2.5 Rivets

Blind rivets shall be aluminum with 5 mm 3/16 inch nominal diameter shank or stainless steel with 3 mm 1/8 inch nominal diameter shank. Rivets shall be threaded stem type if used for other than fastening trim. Rivets with hollow stems shall have closed ends.

2.3.3 Sealant

Elastomeric type containing no oil or asphalt. Exposed sealant shall cure to a rubberlike consistency. Concealed sealant shall be the non-hardening type. Seam sealant shall be factory-applied, non-skinning, non-drying, and shall conform to the roofing manufacturer's recommendations. Silicone-based sealants shall not be used in contact with finished metal panels and components unless approved otherwise by the Contracting Officer.

2.3.4 Sealant Tape

Polyvinyl chloride closed cell foam tape or composed of 99 percent solids in a base of butyl polyisobutylene rubber with the following properties and characteristics:

- a. Webbing and Elongation: 100 percent minimum at 25 degrees C 77 degrees F
- b. Adhesion: Excellent to surfaces used
- c. U-V light exposure: No effect
- d. Ozone: No effect
- e. Weathering: 1000 hours in QUV Test Apparatus - Excellent, no cracking, bleeding, or significant changes.
- f. Moisture Transmission: 0.05 to 0.15 grams per 62500 square mm 100 square inches in 24 hours.
- g. Service Temperature Tests: Bending over 13 mm 1/2 inch mandrel at minus 50 degrees C minus 60 degrees F with no cracking. Expose sealed typical metal lap joint to plus 176 degrees C plus 350 degrees F for 24 hours with no significant loss of original properties.
- h. Reaction to Metals: Non-corrosive to metals

2.4 UNDERLAYMENT FOR WOOD SUBSTRATES

NOTE: Include the following paragraph where standing seam metal roof is applied directly to a wood deck.

Provide underlayment ASTM D226/D226M, Type I perforated, covered by water-resistant rosin sized building paper.

2.5 LABORATORY TESTS FOR PANEL FINISH

Previously manufactured panels of the same type and finish as proposed for the project shall have been tested by an approved testing laboratory to ensure conformance to specifications. The term "appearance of base metal" refers to the aluminum base metal. Panels shall meet the following test requirements.

2.5.1 Salt Spray Test

NOTE: Use 2000-hour test for products to be installed in marine environments such as at Adak, Alaska.

Panels shall withstand a salt spray test for a minimum of [1000] [2000] hours in accordance with ASTM B117, including the scribe requirement in the test. Immediately upon removal of the panel from the test, coating shall receive a rating of 10, no blistering, as determined by ASTM D714; and a rating of 7, 2 mm 1/16 inch failure at scribe, as determined by ASTM D1654, Rating Schedule No. 1.

2.5.2 Formability Test

For formability test, when subjected to a 180 degree bend over a 3 mm 1/8 inch diameter mandrel in accordance with ASTM D522/D522M, exterior coating film shall show only microchecking of the exterior film and there shall be no loss of adhesion.

2.5.3 Accelerated Weathering Test

Panels shall withstand an accelerated weathering test for a minimum of 2000 hours in accordance with ASTM G152, ASTM G153 or ASTM D2565 without cracking, peeling, blistering, loss of adhesion of the protective coating, or corrosion of the base metal. Protective coating that can be readily removed from the base metal with a penknife blade or similar instrument shall be considered to indicate loss of adhesion.

2.5.4 Chalking Resistance

After the 2000-hour weatherometer test, exterior coating shall not chalk greater than No. 8 rating when measured in accordance with ASTM D4214 test procedures.

2.5.5 Abrasion Resistance Test for Color Coating

When subjected to the falling sand test in accordance with ASTM D968, coating system shall withstand a minimum of 100 liters of sand per 0.025 mm mil of coating thickness before appearance of base metal.

2.5.6 Humidity Test

When subjected to a humidity cabinet test in accordance with ASTM D2247 for 1000 hours, a scored panel shall show no signs of blistering, cracking, creepage, or corrosion.

2.5.7 Fire Hazard

NOTE: Delete this paragraph if mill finish has been selected. If roofing is exposed in exit areas, use a flame spread of 25; if exposed in non-exit areas, use flame spread of 75; otherwise delete the paragraph.

The finish on factory-fabricated panels shall have a flame spread rating of not more than [25] [75] when tested in accordance with ASTM E84.

2.5.8 Gloss

The gloss of the finish shall be 30 plus or minus 5 at an angle of 60 degrees, when measured in accordance with ASTM D523.

2.5.9 Glare Resistance

NOTE: The requirements for glare resistance should be included only when specifically required by the facility for critical glare areas such as control towers or other structures where glare can be an operational hazard.

Surfaces of panels that will be exposed to the exterior shall have a specular reflectance of not more than 10 when measured in accordance with ASTM D523 at an angle of 85 degrees. Requirements specified under "Formability Test" will be waived if necessary to conform to this requirement.

2.6 LINER PANELS

Fabricate liner panels of the same material as roof panels, and formed or patterned to prevent waviness and distortion. Liner panels shall have a factory applied, 0.025 mm one mil thick minimum painted coating on the inside face, and a prime coat on the liner side.

PART 3 EXECUTION

3.1 EXAMINATION

Examine surfaces to receive standing seam metal roofing and flashing. Provide plumb and true surfaces, clean, even, smooth and as dry as possible. Ensure that surfaces are free from defects and projections which might affect the installation. Report unsuitable conditions to Contracting Officer.

3.2 PROTECTION OF DISSIMILAR METALS

NOTE: Galvanized steel will deteriorate in humid conditions, coastal areas and should be considered a dissimilar metal unless it is known that the contact surface will remain dry and free from condensation. Wood which has been pressure treated will also react with aluminum. Provide protection if aluminum could contact treated wood.

Where an aluminum component is in contact with, fastened to, or contacted by drainage from dissimilar metals other than stainless steel, give such dissimilar metals one of the following treatments:

- a. A heavy brush coat of primer followed by two coats of aluminum metal and masonry paint.
- b. A heavy coat of alkali-resistant bituminous paint.

c. Separate contact surfaces with non-absorptive tape or gasket.

3.2.1 Contact with Masonry

Where aluminum is in contact with masonry, concrete, or plaster, apply a heavy coat of alkali-resistant bituminous paint.

3.2.2 Contact with Wood

Where aluminum is in contact with wood or other absorptive material subject to wetting, or with wood treated with a preservative not compatible with aluminum, seal joints with sealing compound and apply one heavy brushcoat of aluminum pigmented bituminous paint.

3.3 INSTALLATION

Install in accordance with approved manufacturer's erection instructions shop drawings, and diagrams, except as specified otherwise herein. Provide panels in full and firm contact with clips. Obtain approval prior to installation on prefinished panels cut in the field, and factory applied coverings or coatings that were repaired after being abraded or damaged during handling or installation. Make repairs with material of same color as weather coating. Completely seal openings through panels. Correct defects or errors in materials in an approved manner. Replace materials which cannot be corrected in an approved manner with new materials. Provide molded closure strips where indicated and where necessary for weathertight construction. [Use shims as required to ensure clip line is true.] Use a spacing gage at each row of panels to ensure that panel width is not stretched or shortened. [Provide one layer of asphalt-saturated felt placed perpendicular to roof slope covered by one layer of rosin-sized building paper placed parallel to roof slope with side laps down slope and attached with roofing nails. Overlap side end laps 75 mm 3 inches, offset seams in building paper with seams in felt.]

3.3.1 Roof Panels

Apply roofing panels with standing seams parallel to slope of roof. Provide roofing panels in full lengths from ridge to eaves (top to eaves on shed roofs), with no transverse joints except at the junction of ventilators, curbs, skylights, chimneys, and similar openings. Form interlocking rib type panel seams in the field with an automatic mechanical seamer approved by the manufacturer. Attach panels to structure with concealed clips which are incorporated into the panel seams. Clip attachment shall allow roof to move freely and independently of the structure, except at fixed points as indicated.

3.3.2 Flashings

NOTE: In the high winds metal will vibrate and fatigue at fasteners on "normal" spacings. For this reason, cleated (blind fastened) flashings are not acceptable, and attachment at 100 to 150 mm 4 to 6 inches on center is customary. Flashing should not extend a significant distance more than 25 mm one inch beyond a support or fastener.

Provide flashing and related closures and accessories in connection with

preformed metal panels [as indicated] and as necessary to provide a weathertight installation. Install flashing to ensure positive water drainage away from roof penetrations. Flash and seal roof at ridge, eaves and rakes, at projections through roof, and elsewhere as necessary. Accomplish placement of closure strips, flashing, and sealing material in an approved manner that will ensure complete weathertightness. Details of installation which are not indicated shall be in accordance with the NRCA Details, SMACNA 1793, AA ASM-35, panel manufacturer's printed instructions and details of the approved shop drawings. Installation shall allow for expansion and contraction of flashing.

3.3.3 Flashing Fasteners

NOTE: In the high winds, metal will vibrate and fatigue at fasteners on "normal" spacings. For this reason, cleated (blind fastened) flashings are not acceptable, and attachment at 100 to 150 mm 4 to 6 inches on center is customary. Flashing should not extend any significant distance more than 25 mm one inch beyond a support or fastener.

Fastener spacings shall be in accordance with the panel manufacturer's recommendations and as necessary to withstand the indicated design loads. Install fasteners in roof valleys as recommended by the manufacturer of the panels. Install fasteners in straight lines within a tolerance of 13 mm 1/2 inch in the length of a bay. Drive exposed penetrating type fasteners normal to the surface and to a uniform depth to seat gasketed washers properly and drive so as not to damage factory applied coating. Exercise extreme care in drilling pilot holes for fastenings to keep drills perpendicular and centered. Do not drill through sealant tapes. After drilling, remove metal filings and burrs from holes prior to installing fasteners and washers. Torque used in applying fasteners shall not exceed that recommended by the manufacturer. Remove panels deformed or otherwise damaged by over-torqued fastenings, and provide new panels.

3.3.4 Closure/Closure Strips

Set closure/closure strips in joint sealant material.

3.4 CLEANING

Clean exposed sheet metal work at completion of installation. Remove metal shavings, filings, nails, bolts, and wires from roofs on completion to prevent discoloration and harm to the panels and flashing. Remove grease and oil films, excess sealants handling marks, contamination from steel wool, fittings and drilling debris and scrub the work clean. Exposed metal surfaces shall be free of dents, creases, waves, scratch marks, and solder or weld marks.

3.5 MANUFACTURER'S FIELD INSPECTION

Manufacturer's technical representative shall visit the site as necessary during the installation process to assure panels, flashings, and other components are being installed in a satisfactory manner. Manufacturer's technical representative shall perform a field inspection during the first [20] [_____] squares of roof panel installation and at substantial completion prior to issuance of warranty, as a minimum, and as otherwise

requested by the Contracting Officer. Additional inspections shall not exceed one for each [100] [_____] squares of total roof area with the exception that follow-up inspections of previously noted deficiencies or application errors shall be performed as requested by the Contracting Officer. Each inspection visit shall include a review of the entire installation to date. After each inspection, a report, signed by the manufacturer's technical representative, shall be submitted to the Contracting Officer noting the overall quality of work, deficiencies and any other concerns, and recommended corrective actions in detail. Notify Contracting Officer a minimum of 2 working days prior to site visit by manufacturer's technical representative.

3.6 COMPLETED WORK

Completed work shall be plumb and true without oil canning, dents, ripples, abrasion, rust, staining, or other damage detrimental to the performance or aesthetics of the completed roof assembly.

3.7 INFORMATION CARD

NOTE: Include only the applicable EFD.

For each roof, provide a typewritten card, laminated in plastic and framed for interior display or a photoengraved 0.8 mm thick 0.032 inch thick aluminum card for exterior display. Card to be 220 by 280 mm 8 1/2 by 11 inches minimum and contain the information listed on Form 1 at end of this section. Install card near point of access to roof, or where indicated. Send a photostatic paper copy to [LANTNAVFACENGCOM, Code 1613, 1510 Gilbert Street, Norfolk, VA 23511-2699] [NORTHNAVFACENGCOM, Code 103A, 10 Industrial Highway, Mail Stop #82, Lester, PA 19113-2090] [PACNAVFACENGCOM, Code 102, Pearl Harbor, HI 96860-7300] [SOUTHNAVFACENGCOM, Code 0535, P.O. Box 190010, North Charleston, SC 29419-9010] [SOUTHWESTNAVFACENGCOM, Code 133SB, 1220 Pacific Highway, San Diego, CA 92132-5190].

3.8 SCHEDULE

Some metric measurements in this section are based on mathematical conversion of English unit measurements, and not on metric measurement commonly agreed to by the manufacturers or other parties. The English and metric units for the measurements shown are as follows:

<u>PRODUCTS</u>	<u>ENGLISH UNITS</u>	<u>METRIC UNITS</u>
a. Sheet Aluminum	0.040 inch	1.0 mm
b. Panels	12 inches	300 mm
- vertical legs	2 inches	50 mm
- stiffening ribs	4 inches	100 mm

c. Screws	No. 14	0.242 mm
	No. 12	0.216 mm
d. Bolts	1/4 inch	6 mm
e. Studs	3/16 inch	5 mm
f. Fasteners	1/2 inch	13 mm
	One inch	25 mm
g. Rivets	1/16 inch	5 mm
	1/8 inch	3 mm

3.9 FORM ONE

FORM 1 - PREFORMED STEEL STANDING SEAM ROOFING SYSTEM COMPONENTS

1. Contract Number:
2. Building Number & Location:
3. NAVFAC Specification Number:
4. Deck/Substrate Type:
5. Slopes of Deck/Roof Structure:
6. Insulation Type & Thickness:
7. Insulation Manufacturer:
8. Vapor Retarder: ()Yes ()No
9. Vapor Retarder Type:
10. Preformed Steel Standing Seam Roofing Description:
 - a. Manufacturer (Name, Address, & Phone No.):
 - b. Product Name: c. Width: d. Gage:
 - e. Base Metal: f. Method of Attachment:
11. Repair of Color Coating:
 - a. Coating Manufacturer (Name, Address & Phone No.):
 - b. Product Name:
 - c. Surface Preparation:
 - d. Recoating Formula:
 - e. Application Method:
12. Statement of Compliance or Exception: _____

13. Date Roof Completed:
14. Warranty Period: From _____ To _____
15. Roofing Contractor (Name & Address):
16. Prime Contractor (Name & Address):

Contractor's Signature _____ Date:

Inspector's Signature _____ Date:

-- End of Section --

Attachment 3 NSWF Roof List / Attachment A PNBC Gutter and Drain Cleaning List (Rev. 3/15)

Table 1. Quarterly Roof / Gutter / Drain cleaning. Cleaning to be conducted at the following intervals: 15-31 March; 01-15 June; 15-30 September and 15-30 November with an annual inspection conducted during the March cleaning.

Building	Roof-type	Approx. SF	Pitch	Parapet	Date of Roof Construction	Warranty - Manufacturer	Roof Access (See Note 1)	Notes
29 (Roof A)	Corrugated Alum.	18,602	7/12		Approx. 1980	Coating - MuleHide (Kalimex 2007)	High reach / ladder	
29 (Roof B-E)	Asphalt Built-up	8,686	Flat	Yes	2006 - MidAtlantic		Ext. stairway	
29 (Roof F-H)	Asphalt Built-up	1,726	Flat	Yes	2006 - MidAtlantic		Ext. stairway	
4 (Roofs A-I, K)	Standing seam painted alum.	33,816	7/12 - 5/12		Approx. 1985		High reach / ladder	
4 (J & L)	Standing seam painted alum.	14,562	5/12		2009	American Alliance/Merchant & Evans	High reach / ladder	
4 (Roofs M,O,Q)	Mod. bit., 3-ply Built-up, w/ cap	1,600	Flat	No	2004 - Eagle Roofing	Tremco 20-year warranty (2004)	Int. Stairs / elevator	
4 (Roofs N,R,P)	4 ply modified with cap	14,000	Flat	No	2007 - R.L. Campbell	Tremco 5-year TPW (2004)	Int. Stairs / elevator	
633 (Roof A & B)	Modified Bitumen	12,900	Flat	Yes	2011 Brown and Guarino	GAF 20 Year (2031)	Penthouse/Ext Ladder	
633 (Roof C)	Asphalt Built-up w/insul.	35,784	Flat	Yes	1997	Tremco 5-year warranty (2001)	Int. Stairs / Ladder	
633 (Roof D1 & D2)	Smooth-surface Asphalt Built-up	46,000	Flat	Partial	1997	Tremco 5-year warranty (2001)	Int. Stairs / Ladder	New Roof being installed 2015
633 (Roof E)	Smooth-surface Asphalt Built-up	17,990	Flat	Yes	Approx. 1985		Int. Stairs / Ladder	
633 (Roof F)	4-ply Asphalt BUR w/ syn cap sheet	34,536	Flat	Yes	2007	Kalimex	Int. Stairs / Ladder	
670	TPO 60 mil	8,400	Flat	Partial	2011 Johnson/Pro Com	Johnson Roofing	Ext Ladder	
745 (Roofs A-C)	4-ply Asphalt Built-up - smooth	4,177			Approx. 2000		Ext. ladder	
756 (Roofs A-C)	4-ply Asphalt BUR & corrugated	11,231			2007 - Benaka		Ext. Ladder	
77H (Roofs A&E)	Mod. bit., 3-ply Built-up, w/ cap	70,000	Flat	Partial	2004 - Eagle Roofing	Tremco 20-year warranty (2004)	Int. / Ext. Ladders	
77H (Roofs B,C,D)	Standing seam painted alum.	72,930	7/12	No	2009	Kalimex/Merchant & Evans	Int. / Ext. Ladders	
77H (Roof F)	0.060 EPDM - fully adhered	2,880	Flat	No	1987		Int. / Ext. Ladders	
77H East Locker Room	TPO 60 mil	2,000	Flat	Partial	2011 Johnson/Pro Com	Johnson Roofing	Ladder/High Reach	
77L (High roofs)	EPDM - 0.090 mil (over SPUF)	94,000	Flat	Yes	2005 MidAtlantic	2001 Company Inc. 20-year	Ext. Ladder	
77L (Low roofs)	Mod. bit., 3-ply Built-up, w/ cap	48,000	Flat	No	2003 Boro Const.	Johns Manville 20-year	Ext. Ladder	Interior Roofs are bounded by walls
87 (Roofs A-I)	Standing seam painted alum. Mod Bit Valleys	106,150		Yes	2007 Benaka		Ext. Ladder	
87 (Roof J)	0.060 EDPM - fully adhered	6,900	Flat		Approx. 2001		Ext. Ladder	

Table 2. Bi-annual Roof / Gutter / Drain cleaning. Cleaning to be conducted at the following intervals: 15-30 April and 01-15 December with an annual inspection conducted during the April cleaning.

Building	Roof-type	Approx. SF	Pitch	Parapet	Date of Roof Construction	Warranty - Manufacturer	Roof Access (See Note 1)	Notes
666	Asphalt Built-up w/insul.	2,000	Flat	Yes				
771	TPO 60 mil	3,400	Flat	No	2011 Johnson/Pro Com	Johnson Roofing	Ext. ladder	
776	0.060 EPDM	2,268	Flat		Approx. 1998		Ext. ladder	
1000 (Roof H&J)	Smooth-surface Asphalt Built-up	484	Flat	No	2012 Persaud/Belcher	Johns-Manville	Int. Stairs / elevator	
1000 (Roof I)	4-ply Asphalt Built-up w/insul.	3,800	Flat	No	2012 Persaud/Belcher	Johns-Manville	Int. Stairs / elevator	
1000 (Roofs A-G)	4-ply Asphalt Built-up w/insul.	100,126	Flat	No	2012 Persaud/Belcher	Johns-Manville	Int. Stairs / elevator	
519/520 (Roof A)	0.060 EPDM	10,160	Flat	No	Approx. 2002		Ext. ladder	
519/520 (B-D, F-J, L-O)	Asphalt Built-up w/insul.	8,428	Flat	No	Approx. 2002		Ext. ladder	
519/520 (E & K)	Corrugated Metal	500	Flat	No	Approx. 2002		Ext. ladder	
519/520 (P, Q & R)	Flat Metal	994	Flat	No	Approx. 2002		Ext. ladder	
542 (Roofs A-C)	4-ply Asphalt Built-up w/insul.	107,730	Flat	No	Approx. 2000	Tremco 20-year warranty (2004)	Ext. ladder	

Notes:

1. If "Ladder" or "High reach / ladder" is noted, then contractor must provide a means of access during cleaning & inspection.
2. Inspection shall consist of visual examination of roof and drainage system for damage or excessive wear. Inspection report shall be submitted to the Government within 7 calendar days of completion of each inspection. Contractor shall submit a written estimate for any repairs needed.
3. Cleaning shall include removal of all debris (leaves, silt, litter and other foreign matter) from roof drains, roof surface, gutters and downspouts.