

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE	PAGE OF PAGES	
				J	1	2
2. AMENDMENT/MODIFICATION NO. 0004		3. EFFECTIVE DATE 22-Mar-2004	4. REQUISITION/PURCHASE REQ. NO. W68MD9-4035-9142		5. PROJECT NO.(If applicable)	
6. ISSUED BY USA ENGINEER DISTRICT, SEATTLE ATTN: CENWS-CT 4735 EAST MARGINAL WAY SOUTH SEATTLE WA 98134-2329		CODE W912DW	7. ADMINISTERED BY (If other than item 6) See Item 6		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)				X	9A. AMENDMENT OF SOLICITATION NO. W912DW-04-R-0019	
				X	9B. DATED (SEE ITEM 11) 24-Feb-2004	
					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 type="checkbox"/> is extended, <input checked="" 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 _____ 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.) Correct errors.						
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		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
_____ (Signature of person authorized to sign)			BY _____ (Signature of Contracting Officer)		22-Mar-2004	

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

The following items are applicable to this modification:

CONT. SHEET

Cont. Sheet, SF 30

A. This amendment is issued to correct the following specifications in this solicitation:

1. Replace Bid Schedule in its entirety.
2. Replace Section 01025 in its entirety.
3. Replace Section 08950 in its entirety.

B. THE PROPOSAL DUE DATE AND TIME HAS NOT BEEN CHANGED, 2:00 PM (PDT), March 25, 2004.

C. NOTICE TO OFFERORS: Offerors must acknowledge receipt of this amendment by number and date on Standard Form 1442, BACK, Block 19, or by telegram.

D. All Technical Amendments are available for download this date on the Army Corps of Engineers website at <http://www.nws.usace.army.mil/ct/>.

Enclosures

Bid Schedule

Section 01025

Section 08950

SCHEDULE

<u>Item No.</u>	<u>Description of Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
BASE ITEMS					
0001	All Work for Addition to Maintenance Hangar Bldg 375, including Associated Site Work and Utilities Except for Items Separately Priced	1	JOB	L.S.	\$_____
0002	All Work to Alter Squadron Operations Facility, Bldg 304, including Associated Site Work and Utilities Except for Items Separately Priced	1	JOB	L.S.	\$_____
0003	All Work for As-Built Drawings as specified in Section 01702 from preparation to final approval	1	JOB	L.S.	\$25,000.00
0004	All Work for O&M Manuals as specified in Section 01701 from preparation to final approval	1	JOB	L.S.	\$60,000.00
0005	All Work for Form 1354 Checklist and Equipment in Place List as specified in Sections 01704 and 01705 from preparation to final approval	1	JOB	L.S.	\$12,000.00
TOTAL BASE ITEMS					\$_____
OPTIONAL ITEMS					
0006	All Work for Covered Patio - Bldg 304	1	JOB	L.S.	\$_____
0007	All Work for Locker Room Upgrade and Restrooms 1005, 1007, 1008, and 1009 - Bldg 304	1	JOB	L.S.	\$_____
0008	All Work for Curved Counter in Room 1036_8 - Bldg 304	1	JOB	L.S.	\$_____
0009	All Work for Upgrade to Restroom 1043 - Bldg 304	1	JOB	L.S.	\$_____
0010	All Work for Auditorium Seating Removal - Bldg 304	1	JOB	L.S.	\$_____

03060

ADD/ALTER FLIGHTLINE FACILITIES, BLDG 304 & 375, PORTLAND ANG, OR

SCHEDULE

<u>Item No.</u>	<u>Description of Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Amount</u>
OPTIONAL ITEMS					
0011	All Work for New Exterior Windows - Bldg 304	1	JOB	L.S.	\$_____
0012	All Work for Flooring Within Existing Portion of Hangar Bay, Tug Bay and Existing Door Pockets in Lieu of Existing Floor As Is - Bldg 375	1	JOB	L.S.	\$_____
0013	All Work for Painting Within Existing Portion of Hangar Bay, Existing Tug Bay and Existing Door Pockets Above 7'-0" and the 3" Wide Perimeter Stripe Around the Existing Hangar Bay - Bldg 375	1	JOB	L.S.	\$_____
0014	All Work for Liner Panels on Exterior Walls Except at Wall Between Pockets 119 and 120 - Bldg 375	1	JOB	L.S.	\$_____
0015	All Work for High Bay Lighting Within Existing Portion of Hanger Bay - Bldg 375	1	JOB	L.S.	\$_____
0016	Auger Piles – Variations from Principal Sum				
0016AA	Additional Pile Length (See note 2)	570	LF	\$_____	\$_____
0016BA	Each Additional Test Pile	1	EA	\$_____	\$_____
0016CA	Each Additional Pile Load Test	1	EA	\$_____	\$_____
0016DA	Each Additional Auger Withdrawal (See note 3)	5	EA	L.S.	\$_____
TOTAL OPTIONAL ITEMS 0006 THROUGH 0016					\$_____
TOTAL ALL ITEMS 0001 THROUGH 0016					\$_____

NOTES:

1. The dollar amounts established in Items No. 0003, 0004 and 0005 shall not be revised by offerers.
2. The quantity established is 15 percent of the principal sum.(See Section 01025 for quantity required under the principal sum). This item will be awarded on actual use basis within the established 15 percent variation and is not subject to the CONTRACT CLAUSE "VARIATIONS IN QUANTITIES. If the total amount of variation in quantity exceeds 15 percent from the principle sum then the additional variation will be subject to the CONTRACT CLAUSE "VARIATIONS IN QUANTITIES."
3. This item will be awarded on actual use basis and is not subject to the CONTRACT CLAUSE "VARIATIONS IN QUANTITIES within the first 5 units

03060

ADD/ALTER FLIGHTLINE FACILITIES, BLDG 304 & 375, PORTLAND ANG, OR

SECTION 01025

PAYMENT

PART 1 GENERAL

1.1 GENERAL

The contract price for each item shall constitute full compensation for furnishing all plant, labor, materials, appurtenances, and incidentals and performing all operations necessary to construct and complete the items in accordance with these specifications and the applicable drawings, including surveying performed by the Contractor. Payment for each item shall be considered as full compensation, notwithstanding that minor features may not be mentioned herein. Work paid for under one item will not be paid for under any other item. No separate payment will be made for the work, services, or operations required by the Contractor, as specified in DIVISION 1, GENERAL REQUIREMENTS, to complete the project in accordance with these specifications; all costs thereof shall be considered as incidental to the work.

1.2 PAYMENT

1.2.1 ITEM 0001 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0001, All Work for Addition to Maintenance Hangar Bldg 375, including Associated Site Work and Utilities Except for Items Separately Priced, payment of which shall constitute full compensation for costs associated with the item of work as shown on the drawings and as specified, complete. This item also includes but is not limited to the following feature of work:

- a. Painting of exposed girts at exterior walls. (The exterior siding is already finished on both sides so painting is not required.) See corresponding optional item for additional work in these areas.
- b. Auger Piles, Principal Sum

The principal sum shall be based on 16 inch diameter piles, having a total aggregate length of 3,800 linear feet and shall include 0 pile load tests and 6 pile auger withdrawals.

(1) The Contractor's furnished price shall include all necessary equipment, tools, material, labor, and supervision required for installing and cutting off the piles (including test piles), and for auger withdrawals in order to meet the applicable contract requirements. Payments for piles will be on the basis of the lengths of the piles measured from cut-off elevations to final tip elevations. No additional payment will be made for withdrawn, damaged, or rejected piles, for any portion of a piles remaining above the cut-off elevation, for cutting off piles, nor for any cut off lengths of piles. Payment for auger withdrawal will be made for each auger withdrawal made at the direction of the Contracting Officer.

(2) See corresponding optional item for additional piling work and for variation in length of piling.

1.2.2 ITEM 0002 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0002, All Work to Alter Squadron Operations Facility, Bldg 304, including Associated Site Work and Utilities Except for Items Separately Priced, payment of which shall constitute full compensation for costs associated with the item of work as shown on the drawings and as specified, complete. This item also includes but is not limited to the following features of work:

- a. For Locker Rooms and Restrooms 1005, 1007, 1008, 1009, 1010, and 1011 provide painting of wall and ceiling, new carpet, and cleaning and regrouting of ceramic tile surfaces.
- b. New floor finish in room 1038. See corresponding optional item for additional work in room 1038.
- c. (Deleted)
- d. New grab bars in room 1043 at water closet. See corresponding optional item for additional work in room 1043.
- e. New floor finish in auditorium. See corresponding optional item for additional/alternative work in auditorium.

1.2.3 ITEM 0003 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0003, All Work for As-Built Drawings as specified in Section 01702 from preparation to final approval, payment of which shall constitute full compensation for costs associated with the item of work, complete. No partial or total payment will be made for this item until the as-built drawings, both marked up blue prints and electronic files are fully approved by the Government (A or B action) and all copies of approved drawings and electronic media received by the Government.

1.2.4 ITEM 0004 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0004, All Work for O&M Manuals as specified in Section 01701 from preparation to final approval, payment of which shall constitute full compensation for costs associated with the item of work, complete. No partial or total payment will be made for this item until all O&M manuals are fully approved by the Government (A or B action) and all copies of final manuals are received by the Government in their final binders.

1.2.5 ITEM 0005 (BASE ITEM)

Payment will be made at the contract lump sum price for Item No. 0005, All Work for Form 1354 Checklist and Equipment in Place List as specified in Sections 01704 and 01705 from preparation to final approval, payment of which shall constitute full compensation for costs associated with the item of work, complete. No partial or total payment will be made for this item until both the 1354 Checklist and Equipment in Place List are fully approved by the Government (A or B action) and all copies of approved lists received by the Government.

1.2.6 Item No. 0006 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0006, All Work for Covered Patio-Bldg 304, payment of which shall constitute full compensation for costs associated with the item of work as shown on the drawings and as specified.

1.2.7 Item No. 0007 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0007, All Work for Locker Room Upgrade and Restrooms 1005, 1007, 1008, 1009, 1010, and 1011-Bldg 304, payment of which shall constitute full compensation for costs associated with the item of work as shown on the drawings and as specified.

1.2.8 Item No. 0008 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0008, All Work for Curved Counter in Room 1036-8-Bldg 304, payment of which shall constitute full compensation for costs associated with the item of work as shown on the drawings and as specified.

1.2.9 Item No. 0009 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0009, All Work for Upgrade to Restroom 1043-Bldg 304, payment of which shall constitute full compensation for costs associated with the item of work as shown on the drawings and as specified.

1.2.10 Item No. 0010 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0010, All Work for Auditorium Seating Removal-Bldg 304, payment of which shall constitute full compensation for costs associated with the item of work as shown on the drawings and as specified. Installation of new seating will be performed by others.

1.2.11 Item No. 0011 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0011, All Work for New Exterior Windows-Bldg 304, payment of which shall constitute full compensation for costs associated with the item of work as shown on the drawings and as specified.

1.2.12 Item No. 0012 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0012, All Work for Flooring Within Existing Portion of Hangar Bay, Tug Bay and Existing Door Pockets in Lieu of Existing Floor As Is-Bldg 375, payment of which shall constitute full compensation for costs associated with the item of work as shown on the drawings and as specified.

1.2.13 Item No. 0013 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0013, All Work for Painting Within Existing Portion of Hangar Bay, Existing Tug Bay and Existing Door Pockets Above 7'-0" and the 3" Wide Perimeter Stripe Around the Existing Hangar Bay-Bldg 375, payment of which shall constitute full compensation for costs associated with the item of work as shown on the drawings and as specified.

1.2.14 Item No. 0014 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0014, All Work for Liner Panels on Exterior Walls Except at Wall Between Pockets 119 and 120-Bldg 375, payment of which shall constitute full compensation for costs associated with the item of work as shown on the drawings and as specified. Painting of girts covered by the liner panels is not required under this item (deduct corresponding work under Base item from this item).

1.2.15 Item No. 0015 (OPTIONAL ITEM)

Payment will be made at the contract lump sum price for Item No. 0015, All Work for High Bay Lighting Within Existing Portion of Hanger Bay-Bldg 375, payment of which shall constitute full compensation for costs associated with the item of work as shown on the drawings and as specified.

1.2.16 Item No. 0016 (OPTIONAL ITEM)

1.2.16.1 Variations in Pile Quantities

From the results of laboratory tests on soil samples, the Contracting Officer will determine and will list for the Contractor "calculated" pile tip elevations for all piles. The Contracting Officer reserves the right to increase the total length of piles to be furnished and installed by changing the pile locations or elevations, and requiring the installation of additional piles. Should the total pile length installed vary from that specified as the basis for bidding because of added or variations in the pile lengths, the principal sum shall be adjusted by the amount bid per linear foot for

- a. Item 0016AA "Additional Pile Length"

1.2.16.2 Variations in Pile Test and Load Test Quantities

The Contracting Officer reserves the right to increase the number of test piles or pile load tests from that specified for the basis of bidding. For changes in the number of test piles or pile load tests required, the contract principal sum price shall be adjusted by the amount bid for the following items:

- a. Item 0016BA "Each Additional Test Pile"
- b. Item 0016CA "Each Additional Pile Load Test"

1.2.16.3 Variations in Auger Withdrawal Quantities

Should the number of auger withdrawals be increased above the specified contract number at the direction of the Contracting Officer, the contract principal sum shall be adjusted by the amount bid for Item 0016DA "Each Additional Auger Withdrawal."

1.3 PROGRESS PAYMENT INVOICE

Requests for payment shall be submitted in accordance with Federal Acquisition Regulations (FAR) Subpart 32.9, entitled "PROMPT PAYMENT", and Paragraphs 52.232-5 and 52.232-27, entitled "Payments Under Fixed-Price Construction Contracts", and "Prompt Payment for Construction Contracts", respectively. In addition each request shall be submitted in the number of copies and to the designated billing office as shown in the Contract.

1.3.1 When submitting payment requests, the Contractor shall complete Blocks 1 through 12 of the "PROGRESS PAYMENT INVOICE" Form as directed by the Contracting Officer. (A sample form is attached at the end of this Technical Specification Section.) The completed form shall then become the cover document to which all other support data shall be attached.

1.3.2 One additional copy of the entire request for payment, to include the "PROGRESS PAYMENT INVOICE" cover document, shall be forwarded to a separate address as designated by the Contracting Officer.

1.3.3 The Contractor shall submit with each pay request, a list of subcontractors that have worked during that pay period. The listing shall be broken down into weeks, identifying each subcontractor that has worked during a particular week, and indicate the total number of employees that have worked on site for each subcontractor for each week. The prime Contractor shall also indicate the total number of employees for its on site staff for each week.

PARTS 2 and 3 NOT USED

08950

INSULATED TRANSLUCENT SANDWICH PANEL UNIT SYSTEM

PART 1 GENERAL

1.1 SUMMARY

Translucent panel units shall consist of 2-3/4" thick flat factory pre-fabricated sandwich panels, accessories and system, factory assembled into a single unit.

Provide all labor and materials required to install the insulated translucent panel unit system, including:

1. Pre-fabricated insulated translucent sandwich panels.
2. Aluminum installation system.

1.2 QUALITY ASSURANCE

Translucent panel system must be listed by International Conference of Building Officials, which requires quality control inspections and fire, structural, and water infiltration testing of sandwich panel systems by an approved agency; and the National Evaluation Service of the International Building Code.

Quality control inspections and required testing shall be conducted at least once each year shall include manufacturing facilities, sandwich panel components and production sandwich panels for conformance with "Acceptance Criteria for Sandwich Panels" as regulated by the ICBO-ES.

Materials and products shall be manufactured by a company continuously and regularly employed in the manufacture of translucent panel systems for a period of at least ten (10) consecutive years and which can show evidence of the specified materials being satisfactorily used on at least six (6) projects of similar size and scope. At least three (3) of the projects must have been in successful use for ten (10) years or longer.

Erection shall be by installer which has been in the business of erecting insulated translucent sandwich panel systems for at least five (5) consecutive years, including 2 years installing this manufacturer's product, and who can show evidence of satisfactory completion of projects of similar size, scope, and type.

Performance Requirements: The manufacturer shall be responsible for the configuration and fabrication of the complete panel system.

1.3 SUBMITTALS

SD-02 Shop Drawings

Submit shop drawings showing in detail all system components, connections to the building, interface with other materials and methods of construction. Shop drawings must be prepared under the supervision of and be sealed by the engineer who provides the calculations of system specified.

SD-03 Design Data

Submit structural calculations, sealed by a structural engineer registered in the state where the project is located, showing the structural adequacy of the translucent panel system and all connections to the building structure.

SD-04 Samples

Submit color samples of components specified.

SD-06 Test Reports

Submit certified test reports made by an independent testing organization for each type and class of panel system. Reports are to verify that the material will meet all performance requirements of this specification. Previously completed test reports will be acceptable if current and indicative of products used on this project.

1. Flame Spread and Smoke Development (UL 723) - Submit UL Card
2. Burn Extent (ASTM D-635)
3. Color Difference (ASTM D-2244)
4. Erosion Resistance (ASTM D-4060)
5. Impact Strength (UL 972)
6. Tensile Bond Strength (ASTM C-297 after aging by ASTM D-1037)
7. Shear Bond Strength (ASTM D-1002 after five separate conditions)
8. Beam Bending Strength (ASTM E-72)
9. Insulation "U" Factor (NFRC 100)
10. NFRC Certification
11. Condensation Resistance Factor (AAMA 1503.1)
12. Class 1 Fire Approval (FM 4411)
13. Performance for Windows (AAMA/NWWDA 101/I.S.2)
14. Submit current U.L. listing documenting that the interior face sheets are manufactured by the translucent panel fabricator.

SD-07 Certificates

Submit certified proof of regular, independent quality control monitoring under a building code review and listing program.

SD-10 Operation and Maintenance Data

Submit maintenance manuals for the panel systems with a sequence of items, materials and methods used for proper cleaning and maintenance.

1.4 PRODUCT HANDLING

Store translucent panels on the long edge, several inches above the ground, blocked and tied off and under cover to prevent warping.

Allow air to circulate freely around and under the material to prevent excessive condensation in the panels.

Combustion type heaters must be properly vented to the exterior to prevent possible staining of the panels.

1.5 WARRANTY

Submit a one year manufacturer's warranty agreeing to repair or replace any part of the translucent panel systems that exhibits defects in workmanship, materials or performance.

Submit a one year installer's warranty for water tightness agreeing to repair or replace any part of the installation.

PART 2 PRODUCTS

~~2.1 MANUFACTURERS~~

~~2.1.1 Kalwall Corporation.~~

~~2.1.1.1 Substitutions shall be of equal or higher performance~~

2.2 SUB TITLE

Translucent face sheets shall be manufactured from glass fiber reinforced thermoset resins designed specifically for architectural use. Thermoplastic faces are not acceptable.

2.2.1 Flammability of Interior Face Sheet

1. Flamespread maximum of 50 and smoke developed maximum 250 as determined by UL 723.
2. Burn extent shall be 1" or less as determined by ASTM D-635.
3. Faces shall not deform, deflect or drip when subjected to fire or flame, or delaminate when exposed to 200 deg F for 30 minutes per NBC and IBC.

2.2.2 Weatherability of Exterior Face Sheet

The exterior face sheet shall be manufactured with a full-thickness color-fast resin that does not rely on a coating or film for long term color stability.

- a. Delta E (Color Difference): When tested in accordance with ASTM D-2244, the full thickness of the white exterior face sheet shall not change color more than 3.0 units when exposed to 5 years of outdoor weathering in South Florida sloping at 5 degrees facing south. Color difference shall be determined by the average of 3 samples with and without a protective film or coating to ensure long-term color stability. Color stability shall be unaffected by abrasion or scratching.
- b. Delta L (Light/Dark Difference): When tested in accordance with ASTM D-2244, an exterior white face sheet shall not darken more than 0.2 units when exposed to 150 degrees F for 2 weeks.

2.2.3 Exterior Face

The exterior face shall have a permanent glass erosion barrier embedded beneath the surface to provide long-term resistance to reinforcing fiber exposure. Sacrificial surface films or coatings are not acceptable erosion barriers.

2.2.4 Appearance

<LST INDENT=-0.33>1. The face sheets shall be uniform in color without splotchy appearance and shall not to vary more than +10% in thickness.

- a. Exterior face sheets shall be smooth, .070" thick and white in color.
- b. Interior face sheets shall be .045" thick and white in color.

<LST INDENT=-0.33>2. Faces shall be completely free of ridges and wrinkles which prevent proper surface contact in bonding to the aluminum grid core. Clusters of air bubbles or pinholes which collect moisture and dirt are not acceptable.

2.2.5 Strength

The exterior face sheet shall be uniform in strength, impenetrable by hand held pencil, and repel an impact equal to 70 ft. lbs. without fracture or tear per UL 972.

2.3 STRUCTURAL GRID CORE

Panels shall incorporate an aluminum I-beam grid core of 6063-T6 or 6005-T5 with provisions for mechanical interlocking of muntin-mullion and perimeter. Width of I-beam shall be no less than 7/16". The I-beam grid shall be machined to tolerances of not greater than .002".

Panels shall withstand 1200 deg F fire for minimum one hour without collapse or exterior flaming.

2.4 ADHESIVE

The laminate adhesive shall be heat and pressure resin-type engineered for structural sandwich panel use, with minimum 25-years field use.

Adhesive shall pass testing requirements specified by the International Conference of Building Officials "Acceptance Criteria for Sandwich Panel Adhesive".

<LST INDENT=-0.33>1. Tensile strength must be minimum 750 PSI per ASTM C-297 after 2 exposures to 6 cycles each of the aging conditions in ASTM D-1037.

<LST INDENT=-0.33>2. Shear strength, measured as an average of 5 exposures by ASTM D-1002:

- a. 540 PSI after 50% relative humidity at 73 F.
- b. 182 F: 100 PSI
- c. Accelerated Aging by ASTM D-1037 at room temperature: 800 PSI
- d. Accelerated Aging by ASTM D-1037 at 182 F: 250 PSI
- e. 1400 PSI after 500 hour oxygen bomb by ASTM D-572

2.5 PANEL CONSTRUCTION

The translucent panels shall be a true structural sandwich panel of flat fiberglass sheets bonded with tested adhesives to a grid core of mechanically interlocking aluminum I-beams under a controlled process of heat and pressure. Tape bond systems do not meet these requirements. Panels shall be laminated under a controlled process of heat and pressure, and deflect no more than 1.9" at 30 psf in 10-foot span without a supporting frame by ASTM E-72.

The adhesive bonding line shall be straight, cover the entire width of the I-beam and have a neat, sharp edge.

1. In order to insure bonding strength, white spots at intersections of muntins and mullions shall not be larger than 3/64" in width nor exceed 4 for each 50 square feet of panel.

Translucent panels shall have a thickness of 2-3/4" with a U-Factor by NFRC certified laboratory of 0.29, light transmission of 20 percent and solar heat gain coefficient of 0.30. Panel and frame assembly shall have NFRC certified U-Factor of 0.53.

Grid patterns shall be nominal 12 inches by 24 inches, reverse shoji, symmetrical about the horizontal centerline of each panel.

Translucent panel units shall be pre-assembled and sealed at the factory. Panel units shall be shipped to the job site in rugged shipping units and be ready for erection as units, except for removable components, by contractor. Field assembly of major components will not be allowed.

2.6 BATTENS AND PERIMETER CLOSURE SYSTEM

Provide an extruded aluminum 6063-T5 and 6063-T6 alloy closure system, clamp-tite screw type, factory sealed to the panels.

Pre-apply flexible sealing tape to closure system under factory controlled conditions.

2.7 FASTENERS

<LST INDENT=-0.33>A. Fasteners exposed to weather are to be 300 series stainless steel.

<LST INDENT=-0.33>B. Exterior cap fasteners are to have stainless steel weather sealing washers.

<LST INDENT=-0.33>C. Anchor bolts to the building are to be zinc plated steel as engineered.

<LST INDENT=-0.33>D. All exposed fasteners are to be finished to match the aluminum components.

2.8 FINISH

Finish of all exposed aluminum shall be manufacturer's standard which meets the performance requirements of AAMA 2604. Color shall be as selected by Contracting Officer.

PART 3 EXECUTION

3.1 ACCEPTABLE INSTALLERS

Only qualified experienced craftsmen may be employed to install the work of this section. Installer must conform to the qualifications specified.

3.2 EXAMINATION

Inspect the installed work of other trades and verify that it is satisfactorily completed for the proper installation of the panel systems. Do not proceed with installation until any discrepancies have been corrected.

3.3 PREPARATION

Isolate dissimilar materials from the aluminum system, which may cause damage by electrolysis, with concealed 3M Scotchrap-50, 10-mil vinyl corrosion protection tape, color black.

Protect surrounding work and secure staging with protection as required, to prevent damage to adjacent materials.

3.4 INSTALLATION

Install the translucent systems in strict accordance with approved engineered shop drawings. Clean all surfaces prior sealing the system. Seal the system as recommended by the manufacturer.

Install the translucent systems level, plumb and properly aligned with uniform joints and reveals. Remove and replace any components that may be defective or are damaged during installation.

After other trades have completed work on adjacent material, carefully inspect the translucent panel installation and make adjustments necessary to insure proper weather-tight performance.

Leave the interior and exterior surfaces of the translucent panel systems free of all protective material, identification labels and excess sealant.

Clean the translucent panel systems within one week of final acceptance in accordance with manufacturer's recommended methods.

-- End of Section --