



STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Administration  
DIVISION OF PURCHASES  
One Capitol Hill  
Providence, RI 02908-5855

Tel: (401) 574-8100  
Fax: (401) 574-8387  
Website: [www.purchasing.ri.gov](http://www.purchasing.ri.gov)

**ADDENDUM NUMBER FOUR  
BID NUMBER 7549712  
WINDOW REPLACEMENT  
Louis Pasteur, Bldg. #57  
Pastore Center  
57 Howard Avenue  
Cranston, Rhode Island**

**Closing Date and Time: 8/27/15 at 3:00 PM (note change)**

**Per the issuance of this ADDENDUM # (4).**

**Please be advised the Bid Closing Date and Time has been extended:**

**From: 8/20/15 at 3:00 PM  
To: 8/27/15 at 3:00 PM**

**The specifications for the products listed in this Invitation to Bid forms a basis of performance and design for this product. Any substitutions must meet or surpass these specifications in every way. Any substitution request that does not fully meet the requirements of these specifications will be rejected.**

1. Question: Please confirm that as discussed at the Pre-Bid Meeting that the Type B windows shown on Drawing A-601 will be a Twin Double Hung with each window having grids 12/12.  
Answer: Yes they will be mulled double hung units. The center mullion will be the 'zero' type shown on the drawings. Refer to the revised plans & specifications provided in Addendum #4.



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2. Question: Provide a mull detail for these two windows.  
Answer: The center mullion will be the 'zero' type shown on the drawings
3. Question: We would also like to confirm that the 24/24 grids at Types A and D as shown on Drawing A-601 are correct.  
Answer: See revised window type elevations for grid configuration Addendum #4.
4. Question: We hereby request a copy of the attendance list for the PreBid Meeting for the above captioned project.  
Answer: See Addendum #2.
5. Question: Addendum #1 includes a zip file that contains only revised Drawing A-202, not Drawings A-201 or A-601.  
Answer: New drawings will be issued clarifying the scope of work. Refer to Addendum #4 for complete set of revised plans & specifications.
6. Question: Drawings AD-201 and AD-202 have notes stating, "Remove (4) windows this face (not shown)". There are not windows at four of the places indicated.  
Answer: See revised drawings for scope of work. Addendum #4.
7. Question: Drawings AD-201 and AD-202 do not indicate what happens to mechanical and electrical equipment that is in existing windows.  
Answer: Refer to Addendum #4 for complete set of revised plans & specifications.
8. Question: Drawings A3 and A4 indicate window types that do not correspond with the Window Schedule on A -601, such as Types C, D, E, F, or G.  
Answer: See revised drawings for updated scope of work. Addendum #4.
9. Question: The Interior Conditions for Window Types on Drawings A3 and A4 refer to details marked Detail X/XX.  
Answer: See revised drawings for correct detail references.



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10. Question: No work is indicated on the drawings to the steel grates at Basement windows.  
Answer: See revised drawings for scope of work.
11. Question: No work is indicated on drawings to the existing cast window sills.  
Answer: Currently there are not repairs necessary to the cast window sills.
12. Question: According to window vendors at the Pre-Bid Meeting, the window trim and frames will not work as shown on the details on A-501. Window removal is going to impact existing wood window sills, aprons and casings.  
Answer: See revised window details. Addendum #4.
13. Question: What is the extent of interior painting and woodwork required?  
Answer: Refer to details on drawing A501 and General Note 7 on drawings A-201 & A202 for limit of interior refinishing/painting.
14. Question: Does the synthetic wood trim Azek (or approved equal) get painted? All fasteners set, plugged and sanded?  
Answer: PVC trim is not to be painted. Fasteners are to be counter sunk, plugged (with PVC plugs) and sanded flush.
15. Question: Lead paint is assumed to be present at window sills and casings indicated on Drawing A-501 to be scraped, sanded, primed and painted. This will require the rooms to be emptied, barriers erected, and hard surfaces to be cleaned and tested prior to reoccupancy. Is this what is intended?  
Answer: Yes
16. Question: Will personal belongings, files, paperwork, office equipment and furnishings be moved by the Owner?  
Answer: Yes
17. Question: Will the rooms be vacant during window work and for how long?  
Answer: Contractor will need to coordinate construction schedule with the Owner
18. Question: Will temporary barriers (windows) be required or is it the intention to have windows removed and replaced in the same day?  
Answer: It is the Owners intention to only remove as many windows as can be replaced in the same day.
19. Question: What happens to existing curtains and curtain hardware?  
Answer: Contractor shall remove existing curtains, hangars and hardware and turn over to counter.



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20. Question: The specifications refer to the Asbestos Abatement Plan "For Reference Only" implying that the work is not part of the contract.  
Answer: Asbestos abatement work is a part of this contract and will be conducted in strict accordance with the approved abatement plan.
21. Question: Are the new louvers all venting?  
Answer: Refer to the revised plans in Addendum #4. New louvers and dampers may be fixed or operable.
22. Question: Are blank off panels required at any?  
Answer: Blank panels are located on revised elevations.
23. Are any of the louvers connected to mechanical ductwork?  
Answer: Yes, contractor shall remove existing and reconnect new.
24. Do the louvers have a water infiltration rating or is there a standard to be met?  
Answer: Louvers are to be stormproof as noted on the revised drawings.
25. Question: Please verify whether Common-Use Field Office (furniture, conference room) and Electronic Communication Service (desktop computer, printer, internet service) are required per Section 015000.  
Answer: Yes, contractor shall provide common use field office as specified including amenities as specified.
26. Question: Is any work required to existing windows, louvers, or exterior doors to remain?  
Answer: See revised drawings for scope of work. – We currently are not doing anything with the existing doors.
27. Question: Is there any independent lab field testing or inspections required under this contract? Section 085200, Part 3.3 refers to engaging a qualified testing agency to perform tests and inspections. Is that a reference to the manufacturer's testing or on-site testing?  
Answer: Refer to revised specifications.

# LOUIS PASTEUR STATE OFFICE BUILDING WINDOW REPLACEMENT

57 HOWARD AVENUE (BLD. 57)  
CRANSTON, RHODE ISLAND 02920

ADDENDUM #4  
AUGUST 6, 2015

## LIST OF DRAWINGS

### GENERAL

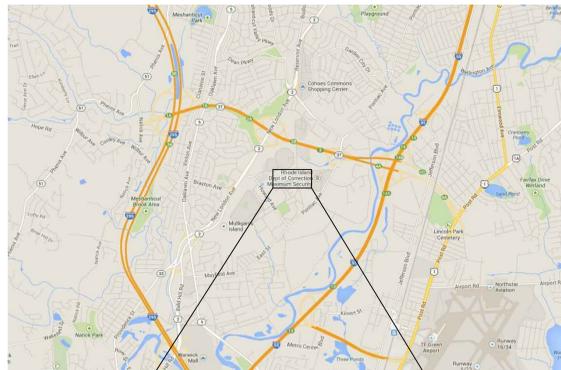
G-001 COVER SHEET

### ARCHITECTURAL DEMO

AD-201 DEMOLITION BUILDING ELEVATION-SOUTH  
AD-202 DEMOLITION BUILDING ELEVATIONS- NORTH, WEST, EAST

### ARCHITECTURAL

A-000 ABBREVIATIONS AND CODE REVIEW  
A-201 BUILDING ELEVATION-SOUTH  
A-202 BUILDING ELEVATIONS-NORTH, WEST, EAST  
A-501 WINDOW DETAILS  
A-601 WINDOW SCHEDULE TYPES AND ELEVATIONS



VICINITY MAP



LOCUS MAP



OVERVIEW



Architects / Engineers / Planners  
225 Chapman Street, 4th Floor  
Providence, RI 02905

ELEC. INDICADORE  
 MEC. INDICADORE  
 FIRE INDICADORE  
 PLUM. INDICADORE  
 STRU. INDICADORE  
 ARCH. INDICADORE  
 CIVIL INDICADORE  
 REVENED BY:

### CODE REVIEW

#### BUILDING INFORMATION:

LOUIS PASTEUR STATE OFFICE BUILDING  
 57 HOWARD AVENUE, CRANSTON RI 02920  
 PROVIDENCE COUNTY

BUILD: 1936  
 ORIGINAL USE : MEDICAL & SURGICAL BUILDING, THE STATE HOSPITAL FOR MENTAL DISEASES  
 ORIGINAL ARCHITECT: EDWARD O. EKMAN, PROVIDENCE, RI  
 CONSTRUCTION: REINFORCED CONCRETE FOUNDATION, LOAD BEARING BRICK WALLS, STEEL AND WOOD ROOF FRAME (UNPROTECTED), SLATE ROOF

SPRINKLERED  
 BASEMENT, 3 STORIES (21,500 SF OCCUPIED)  
 ATTIC (UNOCCUPIED)

CURRENT OCCUPANTS: EXECUTIVE OFFICE OF HEALTH AND HUMAN SERVICES  
 CURRENT OCCUPANCY: BUSINESS GROUP B  
 PROPOSED OCCUPANCY: UNCHANGED

#### CODE INFORMATION:

##### APPLICABLE CODES:

SBC-1-2013, THE RHODE ISLAND STATE BUILDING CODE

RHODE ISLAND HISTORIC PRESERVATION ACT

THE INTERNATIONAL BUILDING CODE, 2012 EDITION W/ RHODE ISLAND AMENDMENTS

INTERNATIONAL EXISTING BUILDINGS CODE, 2012 EDITION W/ RHODE ISLAND AMENDMENTS

INTERNATIONAL ENERGY CONSERVATION CODE, 2012 EDITION W/ RHODE ISLAND AMENDMENTS

STANDARD ASCE/SEI 7-10

CITY OF CRANSTON - CODE OF ORDINANCES TITLE 15 - BUILDINGS AND CONSTRUCTION  
 TITLE 8 - HEALTH AND SAFETY, CHAPTER 8.20 NOISE CONTROL

#### SPECIFIC CODE SECTIONS:

SBC-1-2013, THE RHODE ISLAND STATE BUILDING CODE

TABLE 1608.1	BASIC WIND SPEED, V (MPH)	RISK CATEGORY II	134
CRANSTON (EAST OF 295)	SEISMIC COEFFICIENTS (S)		SS 0.175, S1 0.061

INTERNATIONAL ENERGY CONSERVATION CODE, 2012 EDITION W/ RHODE ISLAND AMENDMENTS

SECTION C301 CLIMATE ZONES

RHODE ISLAND (ALL) CLIMATE ZONE 5A

TABLE C402.3 BUILDING ENVELOPE REQUIREMENTS: FENESTRATION

	U-VALUE	SHGC
FIXED FENESTRATION	0.38	0.40
OPERABLE FENESTRATION	0.45	0.40

THE INTERNATIONAL BUILDING CODE, 2012 EDITION W/ RHODE ISLAND AMENDMENTS

CHAPTER 3 - USE AND OCCUPANCY CLASSIFICATION

BUSINESS GROUP - OFFICE BUILDING

CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS

TABLE 503 ALLOWABLE BUILDING HEIGHTS AND AREAS  
 504.2 AUTOMATIC SPRINKLER SYSTEM INCREASE. MAXIMUM BUILDING HEIGHT IS INCREASED BY 20 FEET (6096 MM)  
 AND THE MAXIMUM NUMBER OF STORIES IS INCREASED BY ONE  
 506.3 AUTOMATIC SPRINKLER SYSTEM INCREASE. THE BUILDING AREA LIMITATION IN TABLE 503 IS PERMITTED TO BE INCREASED BY AN ADDITIONAL 200 PERCENT  
 ALLOWABLE AREA 38,000 SF  
 ALLOWABLE STORIES 4  
 ALLOWABLE HEIGHT 75

CHAPTER 6 - TYPES OF CONSTRUCTION

TYPE III-B--UNPROTECTED COMBUSTIBLE, SPRINKLERED

TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

EXTERIOR WALLS 1-HR (WITH SPRINKLER)

CHAPTER 7 - FIRE AND SMOKE PROTECTION FEATURES

SECTION 705 EXTERIOR WALLS

TABLE 705.8 MAXIMUM AREA OF EXTERIOR WALL OPENINGS BASED ON FIRE SEPARATION DISTANCE AND DEGREE OF OPENING PROTECTION

FIRE SEPARATION DISTANCE (FEET)	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA
20 TO LESS THAN 25	UNPROTECTED, SPRINKLERED (UP, S)	NO LIMIT

CHAPTER 24 - GLASS AND GLAZING

2406.4.3 GLAZING IN WINDOWS. GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS SHALL BE CONSIDERED A HAZARDOUS LOCATION:

1. THE EXPOSED AREA OF AN INDIVIDUAL PANE IS GREATER THAN 9 SQUARE FEET (0.84 M<sup>2</sup>);
2. THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18 INCHES (457 MM) ABOVE THE FLOOR;
3. THE TOP EDGE OF THE GLAZING IS GREATER THAN 36 INCHES (914 MM) ABOVE THE FLOOR; AND
4. ONE OR MORE WALKING SURFACE(S) ARE WITHIN 36 INCHES (914 MM), MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE PLANE OF THE GLAZING.

CHAPTER 14 - EXTERIOR WALLS

SECTION 1403 PERFORMANCE REQUIREMENTS

1403.2 WEATHER PROTECTION.

EXTERIOR WALLS SHALL PROVIDE THE BUILDING WITH A WEATHER-RESISTANT EXTERIOR WALL ENVELOPE. THE EXTERIOR WALL ENVELOPE SHALL INCLUDE FLASHING, AS DESCRIBED IN SECTION 1405.4. THE EXTERIOR WALL ENVELOPE SHALL BE DESIGNED AND CONSTRUCTED IN SUCH A MANNER AS TO PREVENT THE ACCUMULATION OF WATER WITHIN THE WALL ASSEMBLY BY PROVIDING A WATER-RESISTIVE BARRIER BEHIND THE EXTERIOR VENEER, AS DESCRIBED IN SECTION 1404.2, AND A MEANS FOR DRAINING WATER THAT ENTERS THE ASSEMBLY TO THE EXTERIOR. PROTECTION AGAINST CONDENSATION IN THE EXTERIOR WALL ASSEMBLY SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 1405.3.

### ABBREVIATIONS LIST

<p>&amp;. AND          / ANGLE          @ AT          C.C. CENTERLINE          C. CHANNEL          D. DIAMETER OR ROUND          P. PENNY (NAIL)          PL. PLATE(S)          #, NO, NO'S NUMBER(S)</p> <p>A. ANCHOR BOLT          ABV. ABOVE          A/C AIR CONDITIONING          A.C. ASPHALTIC CONCRETE          ACUS. ACUSTICAL          A.D. AREA DRAIN          ADDM. ADDENDUM          ADJ. ADJUSTABLE          ADJA. ADJACENT          AGGR. AGGREGATE          A.F.F. ABOVE FINISH FLOOR          ALUM. ALUMINUM          ALT. ALTERNATE          ANOD. ANODIZED          A.P. ACCESS PANEL          APPROX. APPROXIMATE          ARCH. ARCHITECT(URAL)          ASPH. ASPHALT          AT. ACOUSTICAL TILE</p> <p>B. BOTTOM OF CURB          BOARD          BIT. BITUMINOUS          BLDG. BUILDING          BLK. BLOCK          BLKG. BLOCKING          B.M. BENCHMARK          BM. BEAM          BOT. BOTTOM          B.R. BEDROOM          BRCKT. BRACKET          BRNZ. BRONZE          B.S. BOTTOM OF STAIR          BSMT. BASEMENT          BTWN. BETWEEN          B.U.R. BUILT-UP ROOF(ING)          B.W. BOTTOM OF WALL</p> <p>C. CABINET          CPT. CARPET          C.B. CATCH BASIN          C.B.B. CEMENT BACKER BOARD          CEM. CEMENT          CER. CERAMIC          CF. CUBIC FOOT/FEET          CHAM. CHAMFER          C.I. CAST IRON          C.J. CONTROL JOINT          CLF. CHAIN LINK FENCE          CLG. CEILING          CLKG. CAULKING          CLOS. CLOSET          CLR. CLEAR(ANCE)          C.M.U. CONCRETE MASONRY UNIT(S)          CNTR. COUNTER          C.O. CLEAN OUT          COL. COLUMN          COMB. COMBINATION          COMP. COMPRESS(ED), (ION), (IBLE)          CONC. CONCRETE          COND. CONDITION          CONN. CONNECTION          CONST. CONSTRUCTION          CONT. CONTINUOUS          CONTR. CONTRACTOR          CORR. CORRIDOR, CORRUGATED          C.R.M. CONCRETE RUBBLE MASONRY          CSMT. CASEMENT          C.T. CERAMIC TILE          CTR. CENTER          CTSK. COUNTERSUNK, (SINK)          CY. CUBIC YARD(S)</p>	<p>D. DEEP,DEPTH          DBL. DOUBLE          DEMO. DEMOLISH, DEMOLITION          DEP. DEPRESSED          DEPT. DEPARTMENT          DET. DETAIL          D.F. DRINKING FOUNTAIN          DIA. DIAMETER          DIM. DIMENSION          DISP. DISPENSER          D.M.H. DRAIN MANHOLE          DN. DOWN          DR. DOOR          D.S. DOWNSPOUT          D.S.P. DRY STANDPIPE          DVT. DAVIT (WINDOW WASHING)          DWG. DRAWING          DWR. DRAWER</p> <p>E. EAST          EA. EACH          E.B. ELECTRICAL CONTRACTOR          E.C. EACH FACE          E.F. EXPANSION JOINT          E.J. ELEVATION          EL. ELECTRICAL          ELEV. ELEVATOR          EMER. EMERGENCY          ENCL. ENCLOSURE          E.P. ELECTRICAL PENETRATION (CONDUIT)          EQ. EQUAL          EQPT. EQUIPMENT          E.S. ELECTRIC STRIKE          E.W. EACH WAY          E.W.C. ELEC. WATER COOLER          EXH. EXHAUST          EXP. EXPOSED, EXPANSION          EXIST. EXISTING          EXT. EXTERIOR</p> <p>F. FEMALE          F.A. FIRE ALARM, FRESH AIR          F.A.E.M. FLUID APPLIED ELASTOMERIC MEMBRANE          F.B. FLAT BAR          F.B.O. FURNISHED BY OTHERS          F.D. FLOOR DRAIN          FDN. FOUNDATION          F.E. FIRE EXTINGUISHER          F.E.C. FIRE EXTINGUISHER CABINET          F.F. FACTORY FINISH          F.H. FIRE HYDRANT          F.H.C. FIRE HOSE CABINET          FIN. FL. FINISH(ED) FLOOR          FL. FLOOR          FLASH. FLASHING          FLDG. FOLDING          FLUOR. FLUORESCENT          F.O.C. FACE OF CONCRETE          F.O.S. FACE OF STUD(S)          FFRF. FIREPROOF          FR. FRAME          F.R.P. FIBERGLASS REINFORCED PANEL          F.S. FULL SIZE, FLOOR SINK          FT. FOOT, FEET          F.T. FIRE TREATED          FOOTING          FURRED. (NG) FURRED          FUT. FUTURE</p>	<p>G. GALV. GALVANIZED          G.B. GRAB BAR          G.C. GENERAL CONTRACT(OR)          G.F.R.C. GLASS FIBER REINFORCED CONCRETE          G.I. GALVANIZED IRON/STEEL          GL. GLASS          GLB. GLASS BLOCK          GLU.LAM. GLUE LAMINATED          GND. GROUND          GR. GRADE          G.W.B. GYPSUM WALL BOARD          GYP. BD. GYPSUM BOARD</p> <p>H. HIGH          H.B. HOSE BIBB          H.C. HOLLOW CORE          H.D. HEAVY DUTY, HOT DIPPED          HOB. HARDBOARD          HDNR. HARDENER          HDR. HEADER          HDWD. HARDWOOD          HDWE. HARDWARE          HGT. HEIGHT          H.M. HOLLOW METAL          HORIZ. HORIZONTAL          H.P. HIGH POINT          HR. HOUR          H.V.A.C. HEATING/VENTILATING AIR CONDITIONING</p> <p>I. INSIDE DIAMETER/DIMENSION          INCL. INCL(UD)ED, (NG), (SIV)          INSUL. INSULATION          INT. INTERIOR          INV. INVERT</p> <p>J. JANITOR          JOIST          JOINT</p> <p>K. KITCHEN          KEYED JOINT          KNOCK-OUT</p> <p>L. LABORATORY          LAM. LAMINATE          LAV. LAVATORY          LKR. LOCKER          L.P. LOW POINT          L.R. LIVING ROOM          LT. LIGHT          LVR. LOUVER          LWT. LIGHTWEIGHT</p>	<p>M. MALE          MAX. MAXIMUM          M.C. MEDICINE CABINET          MECH. MECHANICAL          MEMB. MEMBRANE          MET. METAL          MFR. MANUFACTURER          MH. MANHOLE          MIN. MINIMUM          MIR. MIRROR          MISC. MISCELLANEOUS          M.O. MASONRY OPENING          MTD. MOUNTED          MTC. MOUNTING          MUL. MULLION</p> <p>N. NORTH          N.C. NONCOMBUSTIBLE          N.I.C. NOT IN CONTRACT          NO. # NUMBER          NOM. NOMINAL          N.T.S. NOT TO SCALE</p> <p>O. OVERALL          OBS. OBSCURE          O.C. ON CENTER          O.D. OUTSIDE DIAMETER/DIMENSION          OFF. OFFICE          OPNG. OPENING          OPP. OPPOSITE</p> <p>P. PIECE          P.L. PROPERTY LINE          P.LAM. PLASTIC LAMINATE          PLAS. PLASTER          PLUMB. PLUMBING          PL.G.L. PLATE GLASS          PLYWD. PLYWOOD          PNL. PANEL          POL. POLISHED          P.P. PORCELAIN PAVERS          PR. PAIR          PRGST. PRECAST          P.T. PRESSURE TREATED          PT. POINT          PTD.P. PAINTED          P.T.D. PAPER TOWEL DISPENSER          P.T.D./R. COMBINATION PAPER TOWEL DISPENSER AND RECEPTACLE          PTN. PARTITION          P.T.R. PAPER TOWEL RECEPTACLE          P.V.C. POLYVINYL CHLORIDE          P.V.M. PAVEMENT</p> <p>Q. QUARRY TILE</p> <p>R. RISER, RADIUS          RAD. RADIUS          R.A.F. RAISED ACCESS FLOORING          R.A.R. RETURN AIR REGISTER          R.B. REINFORCING BAR(S)          RC. ROOF CURB          RD. ROOF DRAIN          REF. REFERENCE          REFR. REFRIGERATOR          REINF. REINFORCES, REINFORCING          REQD. REQUIRED          RESIL. RESILIENT          R.F. RUBBER FLOORING          R.H. ROBE HOOK          RM. ROOM          R.O. ROUGH OPENING          RUB. RUBBER          RV. ROOF VENT          RWD. REDWOOD</p>	<p>S. SOUTH          S.A.R. SUPPLY AIR REGISTER          S.A.T. SUSPENDED ACOUSTICAL TILE          S.C. SOLID CORE          SC. SCALE          S.C.D. SEAT COVER DISPENSER          SCHED. SCHEDULE          SCR. SCREEN          S.C.R. SOAP DISPENSER          SECT. SECTION          SF., SQ.FT. SQUARE FOOT (FEET)          S.G.B. SUSPENDED GYPSUM BOARD          SHWR. SHOWER          SHT. SHEET          SIM. SIMILAR          SL. SLOPE          S.H. SMOKE HATCH          SLDG. SLIDING          S.N.D. SANITARY NAPKIN DISPENSER          S.N.R. SANITARY NAPKIN RECEPTACLE          S.P. SUSPENDED PLASTER          SQ. SQUARE          S.S. STAINLESS STEEL          S.S.K. SERVICE SINK          STA. STATION          STD. STANDARD          STL. STEEL          STOR. STORAGE          STRUC. STRUCTURAL          SURR. SURROUND          SUSP. SUSPENDED(ED)          S.W.C. SOLID WOOD CORE          SYM. SYMMETRICAL</p> <p>T. TOWEL BAR          T.C. TOP OF CURB          TEL. TELEPHONE          TEMP. TEMPERED          T.&amp; G. TONGUE AND GROOVE          T.O.S. TOP OF STAIR (TOP OF STEEL)          THR. THRESHOLD          T.P. TOP OF PAVEMENT          T.P.D. TOILET PAPER DISPENSER          T.P.H. TOILET PAPER HOLDER          TREAD          T.V. TELEVISION          T.O.R. TOP OF ROOF          T.O.W. TOP OF WALL          TYP. TYPICAL</p> <p>U. UNFINISHED          UNF. UNLESS OTHERWISE NOTED          UR. URINAL          U.P. UTILITY POLE</p> <p>V. VENT          V.C.T. VINYL COMPOSITION TILE          VERT. VERTICAL          V.I.F. VERIFY IN FIELD          V.V.C. VINYL WALL COVERING          VNR.PLAS. VENEER PLASTER</p> <p>W. WEST, WIDE, WIDTH          W/ WITH          W.C. WATER CLOSET,          WD. WOOD          WDW. WINDOW          W.F. WIDE FLANGE          WG. WATER GATE          W.H. WATER HEATER          W/O WITHOUT          WP. WATERPROOF (NG)          WR. WATER RESISTANT          WNSCOT. WAINSCOT          W.S.P. WET STAND PIPE          WGT. WEIGHT          W.W.M. WELDED WIRE MESH</p>
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**Architects / Engineers / Planners**  
 225 Chapman Street, 4th Floor  
 Providence, Rhode Island 02905  
 TEL: (401) 275-6000  
 www.cdrmaguire.com

REVISIONS		
Number	Description	Date
1	ADDENDUM #4	08/06/15

**ISSUED FOR:  
 BIDDING  
 JUNE 16, 2015**

**LOUIS PASTEUR  
 STATE OFFICE  
 BUILDING WINDOW  
 REPLACEMENT  
 CRANSTON, RI**

### ABBREVIATIONS AND CODE REVIEW

PROJECT NUMBER: 19484  
 DESIGNED BY: FC  
 DRAWN BY: MLR  
 CHECKED BY: FC  
 DATE: FEBRUARY 19, 2015  
 SCALE:

SHEET NUMBER:  
**A-000**  
 SHEET 1 OF 7

REMOVED BY: CONG. INDIAGARDE ARCH. INDIAGARDE PLUMB. INDIAGARDE MECH. INDIAGARDE ELEC. INDIAGARDE



1 SOUTH ELEVATION  
1/8" = 1'-0"

- GENERAL DEMO NOTES
1. REMOVAL OF ANY WORK OR ITEM SHALL INCLUDE LEGAL DISPOSAL OF SAME UNLESS INDICATED TO BE SALVAGED. ALL REMOVAL AND DISPOSAL WORK SHALL BE PERFORMED IN A SAFE AND LEGAL MANNER. DOCUMENTATION OF RECYCLED WASTE IS REQUIRED.
  2. CONTRACTOR SHALL VERIFY ALL CONDITIONS IN THE FIELD PRIOR TO COMMENCEMENT OF DEMOLITION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S ARCHITECT CM IN WRITING IMMEDIATELY UPON DISCOVERY.
  3. DRAWINGS MAY NOT FULLY SHOW EVERY DETAIL OR CONDITION. CONTRACTOR SHALL COORDINATE WITH NEW CONSTRUCTION WORK TO PROVIDE ALL DEMOLITION WORK REQUIRED TO MEET NEW DESIGN BASED ON ALL INFORMATION PROVIDED AND OBSERVED DURING A THOROUGH SITE VISIT PRIOR TO SUBMISSION OF BID. PROVIDE UNIT PRICES FOR WORK AS REQUIRED.
  4. CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL STRUCTURAL MEMBERS PRIOR TO DEMOLITION AND SHALL PROVIDE ALL NECESSARY SHORING, BRACING AND TEMPORARY SUPPORTS REQUIRED TO ENSURE STRUCTURAL STABILITY AND PREVENT COLLAPSE OF EXISTING STRUCTURE AND CONSTRUCTION TO REMAIN.
  5. CONTRACTOR SHALL PROTECT ALL ADJACENT CONSTRUCTION THAT IS TO REMAIN AND SHALL REPAIR AND PATCH ANY EXISTING TO REMAIN CONSTRUCTION THAT IS DAMAGED DURING DEMOLITION OPERATIONS. REPAIRS SHALL MATCH EXISTING IN APPEARANCE AND INTEGRITY.
  6. OPENINGS WILL BE SEALED WITH 6 MIL POLYETHYLENE SHEETING TAPED TO CREATED AN AIRTIGHT DUST BARRIER BETWEEN THE CONTROLLED AREA AND THE AREA ACCESSIBLE TO BUILDING OCCUPANTS. BARRIERS WILL BE SEALED FROM INSIDE THE CONTROLLED AREA. ADDITIONAL BARRIERS MAY BE SEALED ON THE OUTSIDE.
  7. REMOVAL OF EXISTING WINDOWS AND CALKING SHALL BE DONE IN STRICT COMPLIANCE WITH THE APPROVED ASBESTOS ABATEMENT PLAN.
  8. REMOVE EXISTING WOOD WINDOW TRIM AND SILL. REPLACE SILL WITH PVC TRIM TO MATCH PROFILE OF REMOVED SILL.
  9. CONTRACTOR IS TO COMPLETELY REMOVE VEGETATION AT WINDOW WELLS PRIOR TO COMMENCEMENT OF STEEL GRATE REFINISHING WORK.
  10. \*\* INDICATES LOCATION OF EXISTING METAL SHUTTER BRACKET ANCHORED IN BRICK TO BE REMOVED. ONCE REMOVED, RE-POINT BRICK AS REQUIRED.

**CDR MAGUIRE**  
Architects / Engineers / Planners  
225 Chapman Street, 4th Floor  
Providence, Rhode Island 02905  
TEL: (401) 373-6000  
www.edmaguire.com

REVISIONS

Number	Description	Date
ADDENDUM #1		07/07/15
ADDENDUM #4		08/06/15

ISSUED FOR:  
BIDDING  
JUNE 16, 2015

LOUIS PASTEUR  
STATE OFFICE  
BUILDING WINDOW  
REPLACEMENT  
CRANSTON, RI

DEMOLITION  
BUILDING  
ELEVATIONS-SOUTH

PROJECT NUMBER: 19484  
DESIGNED BY: FC  
DRAWN BY: MLR  
CHECKED BY: FC  
DATE: FEBRUARY 19, 2015  
SCALE: 1/8" = 1'-0"

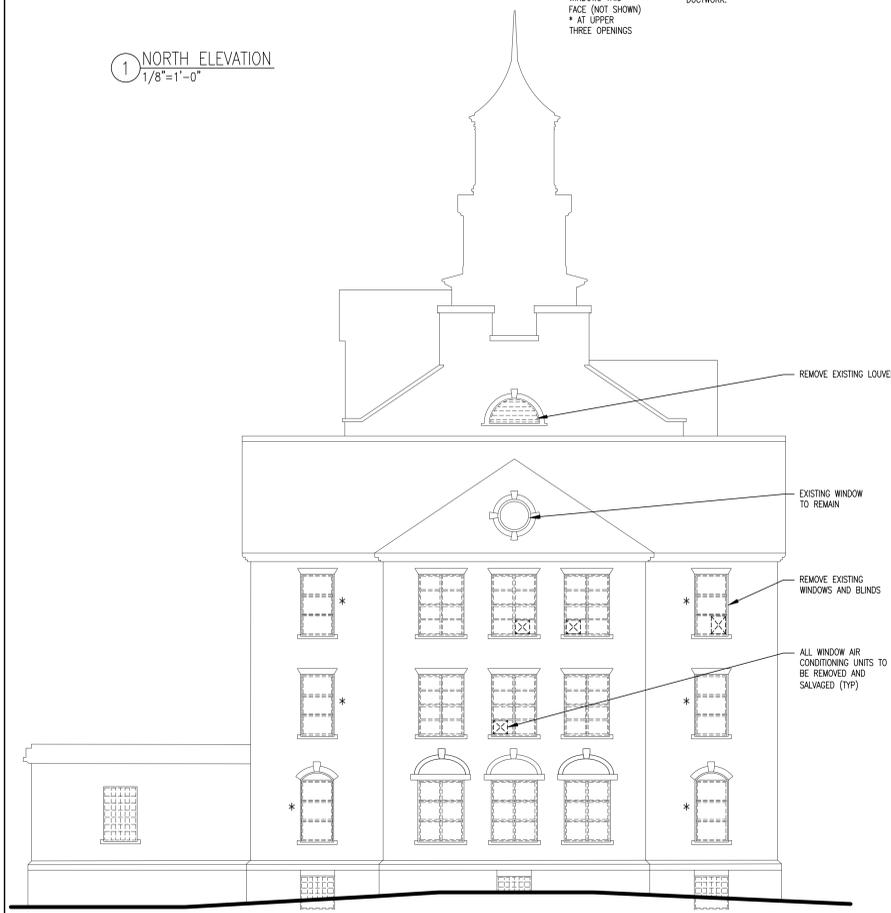
SHEET NUMBER:  
**AD-201**

ELEC. INDICADATE  
 MECH. INDICADATE  
 FIRE INDICADATE  
 PLUMB. INDICADATE  
 STRUC. INDICADATE  
 ARCH. INDICADATE  
 CIVIL INDICADATE  
 REVIEWED BY:

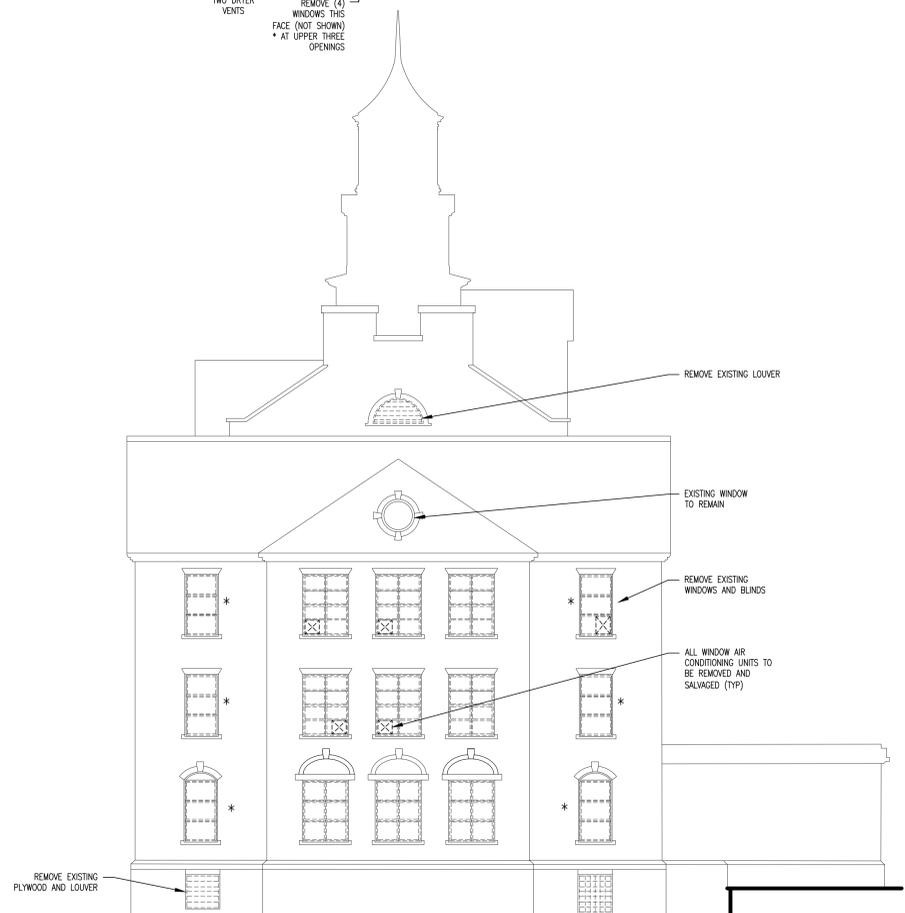


① NORTH ELEVATION  
1/8" = 1'-0"

- GENERAL DEMO NOTES
1. REMOVAL OF ANY WORK OR ITEM SHALL INCLUDE LEGAL DISPOSAL OF SAME UNLESS INDICATED TO BE SALVAGED. ALL REMOVAL AND DISPOSAL WORK SHALL BE PERFORMED IN A SAFE AND LEGAL MANNER. DOCUMENTATION OF RECYCLED WASTE IS REQUIRED.
  2. CONTRACTOR SHALL VERIFY ALL CONDITIONS IN THE FIELD PRIOR TO COMMENCEMENT OF DEMOLITION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S ARCHITECT ON IN WRITING IMMEDIATELY UPON DISCOVERY.
  3. DRAWINGS MAY NOT FULLY SHOW EVERY DETAIL OR CONDITION. CONTRACTOR SHALL COORDINATE WITH NEW CONSTRUCTION WORK TO PROVIDE ALL DEMOLITION WORK REQUIRED TO MEET NEW DESIGN BASED ON ALL INFORMATION PROVIDED AND OBSERVED DURING A THOROUGH SITE VISIT PRIOR TO SUBMISSION OF BID. PROVIDE UNIT PRICES FOR WORK AS REQUIRED.
  4. CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL STRUCTURAL MEMBERS PRIOR TO DEMOLITION AND SHALL PROVIDE ALL NECESSARY SHORING, BRACING AND TEMPORARY SUPPORTS REQUIRED TO ENSURE STRUCTURAL STABILITY AND PREVENT COLLAPSE OF EXISTING STRUCTURE AND CONSTRUCTION TO REMAIN.
  5. CONTRACTOR SHALL PROTECT ALL ADJACENT CONSTRUCTION THAT IS TO REMAIN AND SHALL REPAIR AND PATCH ANY EXISTING TO REMAIN CONSTRUCTION THAT IS DAMAGED DURING DEMOLITION OPERATIONS. REPAIRS SHALL MATCH EXISTING IN APPEARANCE AND INTEGRITY.
  6. OPENINGS WILL BE SEALED WITH 6 MIL POLYETHYLENE SHEETING TAPED TO CREATED AN AIRTIGHT DUST BARRIER BETWEEN THE CONTROLLED AREA AND THE AREA ACCESSIBLE TO BUILDING OCCUPANTS. BARRIERS WILL BE SEALED FROM INSIDE THE CONTROLLED AREA. ADDITIONAL BARRIERS MAY BE SEALED ON THE OUTSIDE.
  7. REMOVAL OF EXISTING WINDOWS AND CAULKING SHALL BE DONE IN STRICT COMPLIANCE WITH THE APPROVED ASBESTOS ABATEMENT PLAN.
  8. REMOVE EXISTING WOOD WINDOW TRIM AND SILL. REPLACE SILL WITH PVC TRIM TO MATCH PROFILE OF REMOVED SILL.
  9. CONTRACTOR IS TO COMPLETELY REMOVE VEGETATION AT WINDOW WELLS PRIOR TO COMMENCEMENT OF STEEL GRATE REFINISHING WORK.
  10. \* INDICATES LOCATION OF EXISTING METAL SHUTTER BRACKET ANCHORED IN BRICK TO BE REMOVED. ONCE REMOVED, RE-POINT BRICK AS REQUIRED.



② WEST ELEVATION  
1/8" = 1'-0"



③ EAST ELEVATION  
1/8" = 1'-0"

REVISIONS

Number	Description	Date
ADDENDUM #1		07/07/15
ADDENDUM #4		08/06/15

ISSUED FOR:  
BIDDING  
JUNE 16, 2015

LOUIS PASTEUR  
 STATE OFFICE  
 BUILDING WINDOW  
 REPLACEMENT  
 CRANSTON, RI  
 DEMOLITION  
 BUILDING  
 ELEVATIONS-NORTH,  
 WEST, EAST

PROJECT NUMBER: 19484  
 DESIGNED BY: FC  
 DRAWN BY: MLR  
 CHECKED BY: FC  
 DATE: FEBRUARY 19, 2015  
 SCALE: 1/8" = 1'-0"

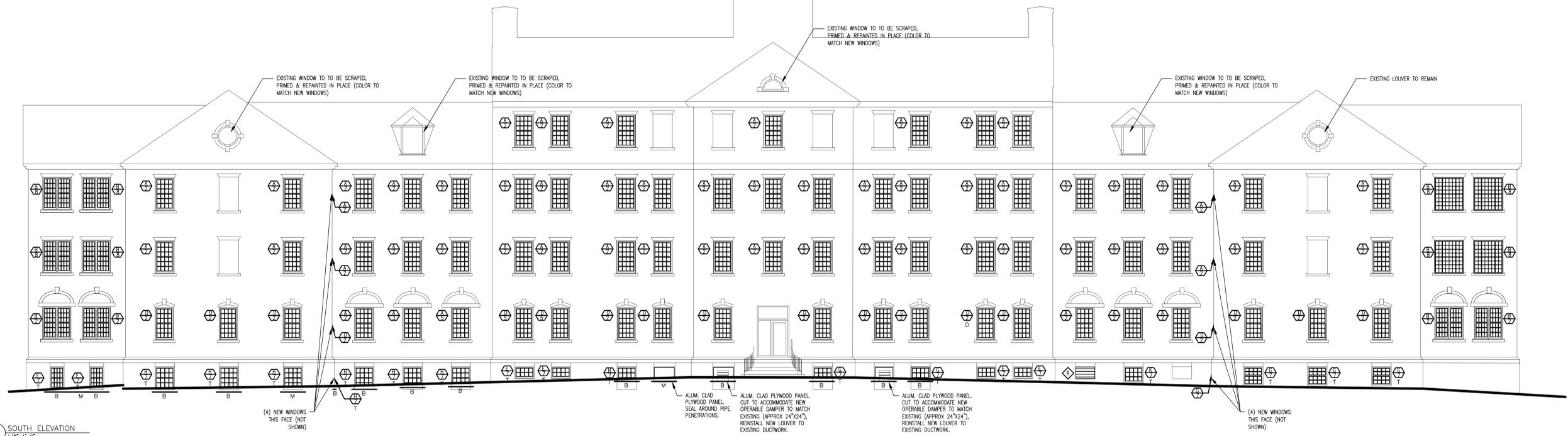
SHEET NUMBER:  
AD-202  
 SHEET 3 OF 7

REVISIONS: ELEC, MECH, FIRE, PLUMB, STRUCT, ARCH, CIVIL

LEGEND	
	DENOTES WINDOW TYPE
	DENOTES INTERIOR CONDITIONS
O	PROVIDE OBSCURE GLASS AT THIS WINDOW
T	PROVIDE TEMPERED GLASS AT THIS WINDOW
B	EXISTING STEEL BAR GRATE TO BE REMOVED, SANDBLASTED, PRIMED AND FINISH PAINTED (2 COATS) AND REINSTALLED. PERIMETER SUPPORT FRAME TO BE SCRAPPED, PRIMED AND FINISH PAINTED (2 FINISH COATS) IN PLACE.
M	EXISTING STEEL MESH GRATE TO BE REMOVED, SANDBLASTED, PRIMED AND FINISH PAINTED (2 COATS) AND REINSTALLED. PERIMETER SUPPORT FRAME TO BE SCRAPPED, PRIMED AND FINISH PAINTED (2 FINISH COATS) IN PLACE.

INTERIOR CONDITIONS FOR WINDOW TYPES	
1.	WOOD WANSICOTING/ CHAIR RAL WITH A WOOD TRIM PIECE AROUND OPENING. (DETAILS 1/A-501; 4/A-501; 8/A-501)
1B.	WOOD WANSICOTING/ CHAIR RAL WITH WOOD TRIM PIECE AROUND WINDOW OPENING AND WOOD BASE TRIM. (DETAILS 1/A-501; 4/A-501; 8/A-501)
2.	WOOD WANSICOTING/ CHAIR RAL WITH RETURNING PLASTER FROM WALL TO WINDOW. (DETAILS 2/A-501; 3/A-501; 8/A-501)
3.	WOOD WANSICOTING/ CHAIR RAL WITH RETURNING PLASTER FROM WALL TO WINDOW AND WOOD HEADER DETAIL. (DETAILS 1/A-501; 2/A-501; 3/A-501; 4/A-501; 5/A-501; 8/A-501; 9/A-501)
4.	GLAZED BLOCK (STAIRWELLS). (DETAILS 2/A-501; 5/A-501; 9/A-501)
5.	GLAZED WALL TILE PARTIAL. (DETAILS 2/A-501; 5/A-501; 9/A-501)
6.	GLAZED TILE, DRYWALL AND LAMINATE SILL (DETAILS 1/A-501; 4/A-501; 8/A-501)
7.	CONCRETE FOUNDATION WITH PLASTERBOARD (BASEMENT). (DETAILS 2/A-501; 5/A-501; 9/A-501)
8.	DRYWALL RETURN HEAD AND SILL (DETAILS 1/A-501; 4/A-501; 8/A-501)
9.	ANCHORED IN CMU WITH MORTAR BED SILL (DETAILS 2/A-501; 5/A-501; 9/A-501)

GENERAL NOTES	
1.	REMOVE EXISTING WINDOWS AND WOOD BLOCKING TO ACCOMMODATE THE INSTALLATION OF THE NEW WINDOWS.
2.	REMOVE EXISTING WINDOW BLINDS.
3.	PROVIDE PRESSURE TREATED WOOD BLOCKING AS REQUIRED IN HEAD, JAMB AND SILL OF WINDOW FOR PROPER INSTALLATION OF WINDOW AND ALUMINUM BRICK MOLDING.
4.	ONLY REMOVE AND ABATE THE NUMBER OF WINDOWS THAT CAN BE REPLACED ON A DAILY BASIS.
5.	PROVIDE 6 MIL POLYETHYLENE DUST PROTECTION ON INSIDE FACE OF WINDOW OPENING DURING REMOVAL AND INSTALLATION OF WINDOW.
6.	SCRAPE, PRIME AND PAINT EXISTING STEEL LINTELS (TYP)
7.	SCRAPE, PRIME AND PAINT EXISTING INTERIOR WINDOW WOOD TRIM WHEN SILL OF WINDOW CONTIGUES AS PART OF A CHAIR RAL SCRAPE, PRIME AND PAINT CHAIR RAL STOPPING AT NEAREST INTERIOR CORNER.
8.	SCRAPE, PRIME AND PAINT EXISTING PLASTER, MASONRY OR CONCRETE JAMB, SILLS AND HEADS.
9.	VERIFY ALL CONDITIONS IN FIELD.
10.	ALL GRATES ARE ASSUMED TO BE 16" WIDER THAN THE WINDOW IT IS IN FRONT OF AND PROJECTS 24" FROM FACE OF BUILDING.



**CDR MAGUIRE**  
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REVISIONS		
Number	Description	Date
	ADDENDUM #1	07/07/15
	ADDENDUM #4	08/06/15

ISSUED FOR:  
 BIDDING  
 JUNE 16, 2015

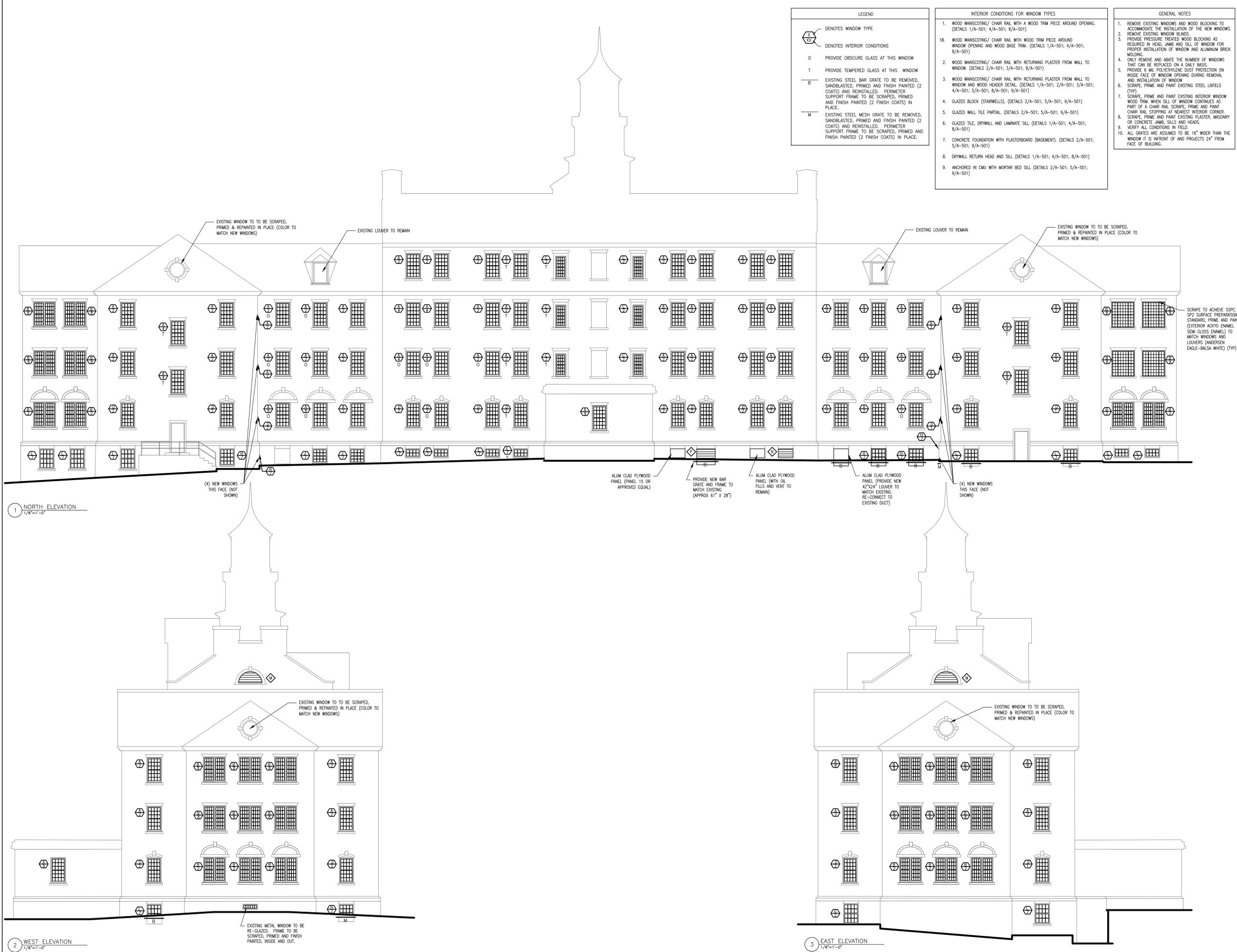
LOUIS PASTEUR  
 STATE OFFICE  
 BUILDING WINDOW  
 REPLACEMENT  
 CRANSTON, RI

BUILDING  
 ELEVATIONS-SOUTH

PROJECT NUMBER: 19484  
 DESIGNED BY: FC  
 DRAWN BY: MLR  
 CHECKED BY: FC  
 DATE: FEBRUARY 19, 2015  
 SCALE:

SHEET NUMBER:  
**A-201**  
 SHEET 4 OF 7

REVIEWED BY: CONL INDIANAPOLIS ARCH INDIANAPOLIS FIRE INDIANAPOLIS MECH INDIANAPOLIS ELEC INDIANAPOLIS



REVISIONS		
Number	Description	Date
ADDENDUM #1		07/07/15
ADDENDUM #4		08/06/15

**ISSUED FOR:  
BIDDING  
JUNE 16, 2015**

**LOUIS PASTEUR  
STATE OFFICE  
BUILDING WINDOW  
REPLACEMENT  
CRANSTON, RI**

**BUILDING  
ELEVATIONS-NORTH,  
WEST, EAST**

PROJECT NUMBER: 19484  
DESIGNED BY: FC  
DRAWN BY: MLR  
CHECKED BY: FC  
DATE: FEBRUARY 19, 2015  
SCALE:

SHEET NUMBER:  
**A-202**  
SHEET 5 OF 7

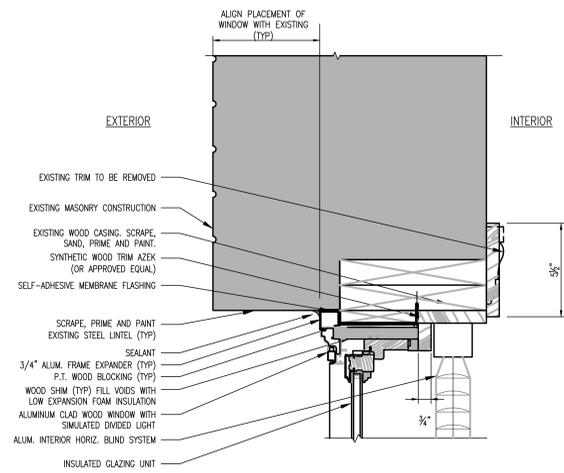
REVIEWED BY: CMHC, INDIANAPOLIS; ARCHP, INDIANAPOLIS; SPRM, INDIANAPOLIS; PLUMB, INDIANAPOLIS; FIRE, INDIANAPOLIS; MECH, INDIANAPOLIS; ELEC, INDIANAPOLIS

- GENERAL NOTES**
1. REMOVE EXISTING WINDOWS AND WOOD BLOCKING TO ACCOMMODATE THE INSTALLATION OF THE NEW WINDOWS.
  2. REMOVE EXISTING WINDOW BLINDS.
  3. PROVIDE PRESSURE TREATED WOOD BLOCKING AS REQUIRED IN HEAD, JAMB AND SILL OF WINDOW FOR PROPER INSTALLATION OF WINDOW AND ALUMINUM BRIC MOLDING.
  4. ONLY REMOVE AND ABATE THE NUMBER OF WINDOWS THAT CAN BE REPLACED ON A DAILY BASIS.
  5. PROVIDE 6 MIL POLYETHYLENE DUST PROTECTION ON INSIDE FACE OF WINDOW OPENING DURING REMOVAL AND INSTALLATION OF WINDOW.
  6. SCRAPE, PRIME AND PAINT EXISTING STEEL LINETS (TYP).
  7. SCRAPE, PRIME AND PAINT EXISTING INTERIOR WINDOW WOOD TRIM. WHEN SILL OF WINDOW CONTINUES AS PART OF A CHAIR RAIL, SCRAPE, PRIME AND PAINT CHAIR RAIL STOPPING AT NEAREST INTERIOR CORNER.
  8. SCRAPE, PRIME AND PAINT EXISTING PLASTER, MASONRY OR CONCRETE, JAMS, SILLS AND HEADS.

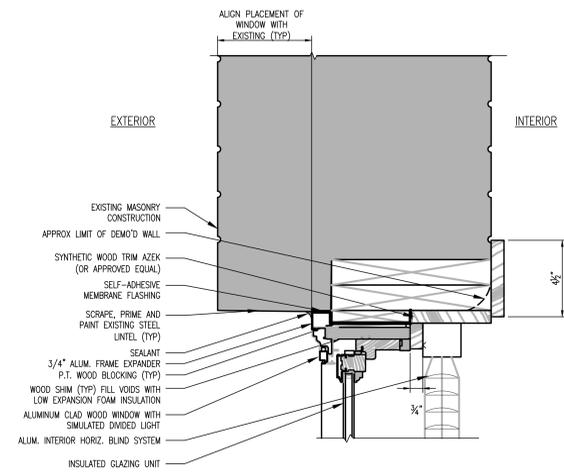
**CDR** ARCHITECTURE  
 Architects / Engineers / Planners  
 225 Chapman Street, 4th Floor  
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**REVISIONS**

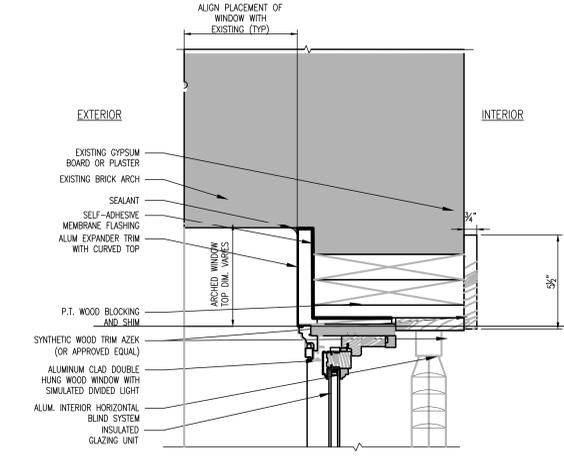
Number	Description	Date
ADDENDUM #1		07/07/15
ADDENDUM #4		08/06/15



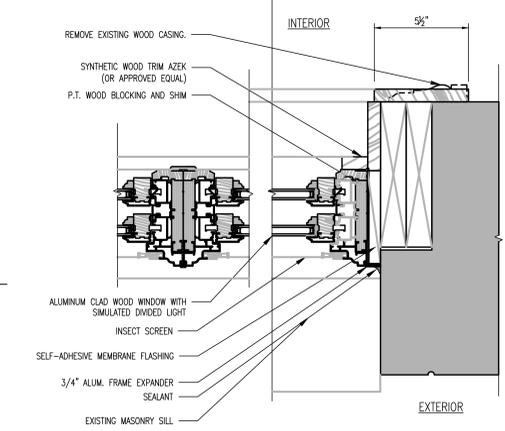
1 HEAD DETAIL @ EXISTING INTERIOR WOOD CASING  
 3'-11\"/>



2 HEAD DETAIL @ EXPOSED CMU/ CONCRETE/ PLASTER  
 3'-11\"/>

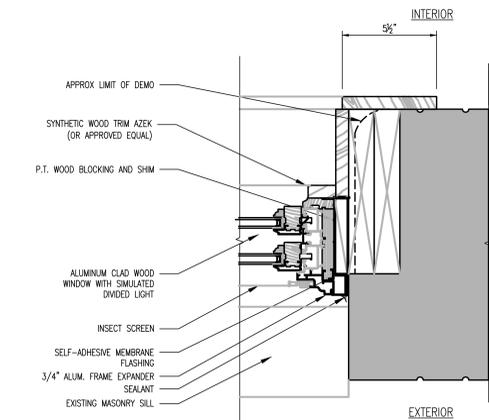


3 HEAD DETAIL-GYPSUM BOARD OR PLASTER AT WINDOW TYPE \"D\"  
 3'-11\"/>

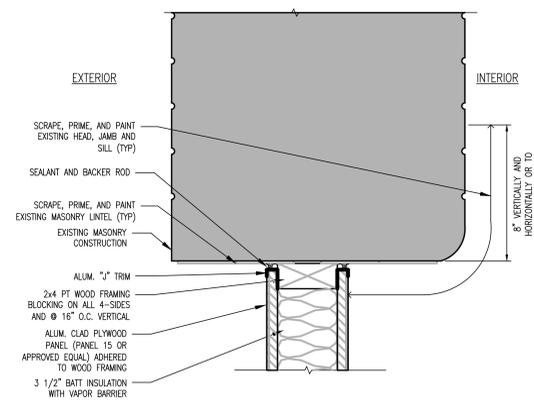


4 JAMB DETAIL @ EXISTING INTERIOR WOOD CASING  
 3'-11\"/>

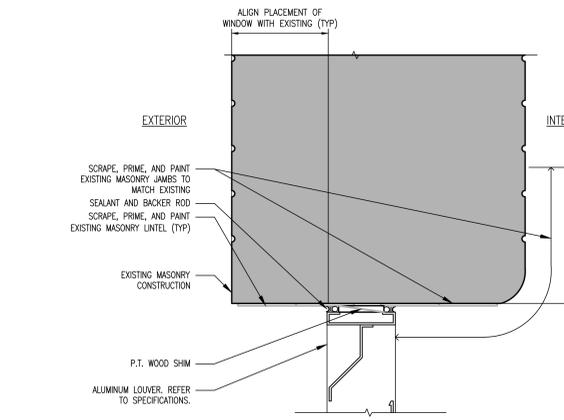
4A MULLION DETAIL  
 5'-11\"/>



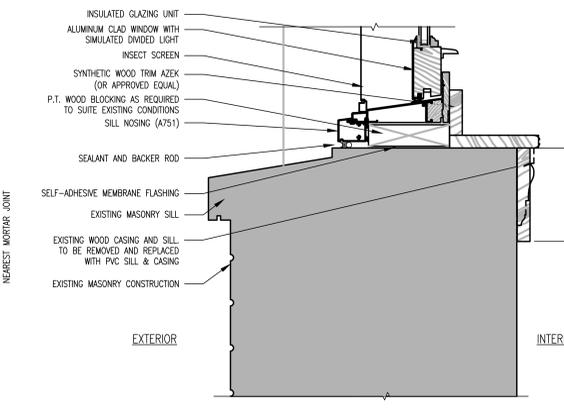
5 JAMB DETAIL @ EXPOSED CMU/ CONCRETE/ PLASTER  
 3'-11\"/>



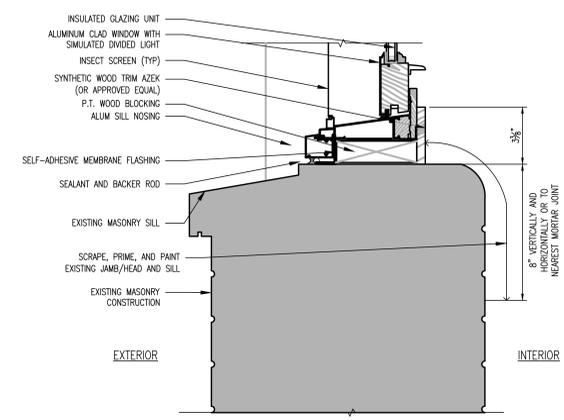
6 HEAD DETAIL-ALUM CLAD PLYWOOD PANEL  
 3'-11\"/>



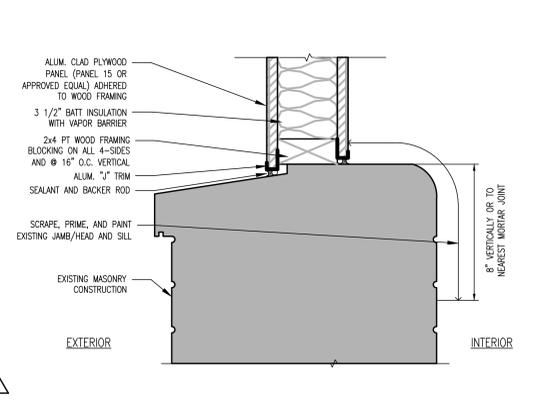
7 HEAD AND JAMB DETAIL-LOUVER  
 3'-11\"/>



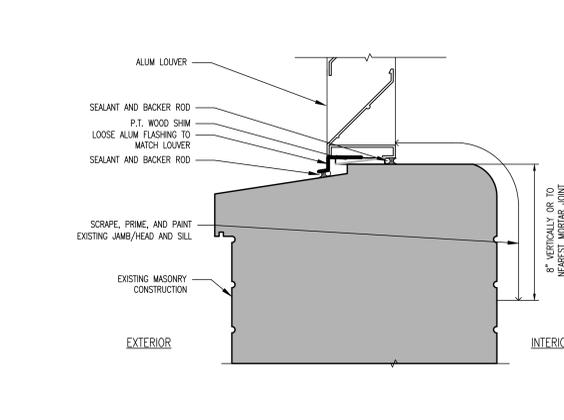
8 SILL DETAIL @ EXISTING WOOD SILL  
 3'-11\"/>



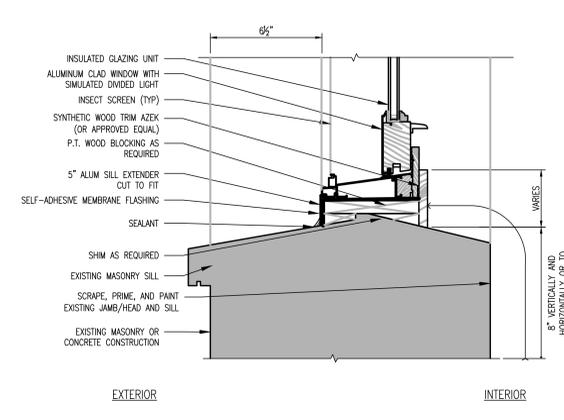
9 SILL DETAIL @ EXPOSED CMU/ CONCRETE/ PLASTER  
 3'-11\"/>



10 SILL DETAIL-ALUM CLAD PLYWOOD PANEL  
 3'-11\"/>



11 SILL DETAIL-LOUVER  
 3'-11\"/>



12 SILL DETAIL-BASEMENT  
 3'-11\"/>

ISSUED FOR:  
 BIDDING  
 JUNE 16, 2015

LOUIS PASTEUR  
 STATE OFFICE  
 BUILDING WINDOW  
 REPLACEMENT  
 CRANSTON, RI

WINDOW  
 DETAILS

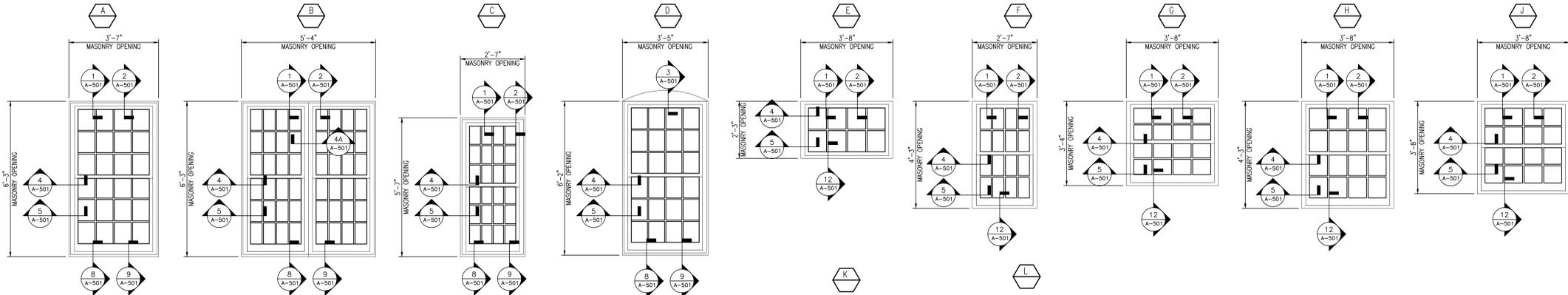
PROJECT NUMBER: 19484  
 DESIGNED BY: FC  
 DRAWN BY: MLR  
 CHECKED BY: FC  
 DATE: FEBRUARY 19, 2015  
 SCALE:

SHEET NUMBER:

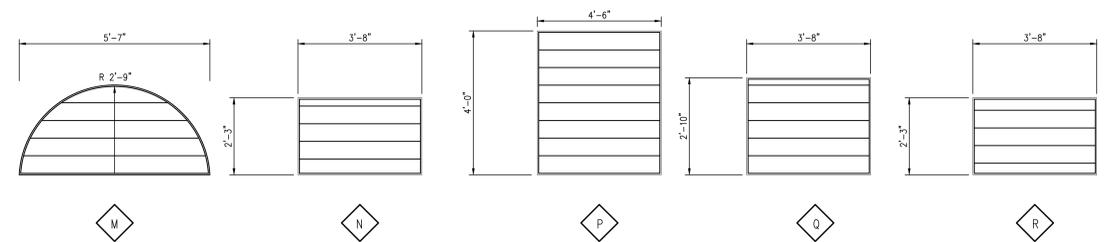
A-501

SHEET 6 OF 7

REVISIONS BY: CDR MAGUIRE ARCHITECTS INC. PUMP, FIRE, MECH, ELEC. INDUSTRIAL



1 WINDOW TYPES  
1/2"-1'-0"



2 LOUVER TYPES  
1/2"-1'-0"

WINDOW SCHEDULE													
BUILDING	MARK	WINDOW				FRAME			FIRE RATING (MIN.)	QUANTITY	NOTES \ REMARKS		
		WIDTH	HEIGHT	THICKNESS	MATERIAL	MATERIAL	ELEV.	HEAD				JAMB	SILL
LOUIS PASTEUR	A	3'-8"	6'-4"		METAL CLAD	METAL		1/A-501	4/A-501	8/A-501			
LOUIS PASTEUR	B	5'-6"	6'-4"		METAL CLAD	METAL		1/A-501	4/A-501	8/A-501			
LOUIS PASTEUR	C	2'-7"	5'-7"		METAL CLAD	METAL		2/A-501	5/A-501	9/A-501			TEMPERED GLASS
LOUIS PASTEUR	D	3'-8"	6'-4"		METAL CLAD	METAL		3/A-501	4/A-501	8/A-501			ARCHED TOP
LOUIS PASTEUR	E	3'-8"	2'-3"		METAL CLAD	METAL		2/A-501	5/A-501	9/A-501			TEMPERED GLASS
LOUIS PASTEUR	F	2'-7"	4'-4"		METAL CLAD	METAL		2/A-501	5/A-501	9/A-501			TEMPERED GLASS
LOUIS PASTEUR	G	3'-8"	3'-4"		METAL CLAD	METAL		2/A-501	5/A-501	9/A-501			TEMPERED GLASS
LOUIS PASTEUR	H	3'-8"	4'-3"		METAL CLAD	METAL		2/A-501	5/A-501	9/A-501			TEMPERED GLASS
LOUIS PASTEUR	J	3'-8"	3'-7"		METAL CLAD	METAL		2/A-501	5/A-501	9/A-501			TEMPERED GLASS
LOUIS PASTEUR	K	3'-8"	2'-9"		METAL CLAD	METAL		2/A-501	5/A-501	9/A-501			TEMPERED GLASS
LOUIS PASTEUR	L	3'-8"	5'-0"		METAL CLAD	METAL		2/A-501	5/A-501	9/A-501			TEMPERED GLASS
TOTAL													

LOUVER SCHEDULE													
BUILDING	MARK	LOUVER				FRAME			FIRE RATING (MIN.)	QUANTITY	NOTES \ REMARKS		
		WIDTH	HEIGHT	THICKNESS	MATERIAL	MATERIAL	ELEV.	HEAD				JAMB	SILL
LOUIS PASTEUR	M	5'-7"	R 2'-9"	4"	ALUM	ALUM		7/A-501	7/A-501	11/A-501		2	PREFINISHED, STORMPROOF BLADE CONFIGURATION
LOUIS PASTEUR	N	3'-8"	2'-3"	4"	ALUM	ALUM		7/A-501	7/A-501	11/A-501		2	PREFINISHED, STORMPROOF BLADE CONFIGURATION
LOUIS PASTEUR	P	4'-6"	4'-0"	4"	ALUM	ALUM		7/A-501	7/A-501	11/A-501		1	PREFINISHED, STORMPROOF BLADE CONFIGURATION
LOUIS PASTEUR	Q	3'-8"	2'-10"	4"	ALUM	ALUM		7/A-501	7/A-501	11/A-501		1	PREFINISHED, STORMPROOF BLADE CONFIGURATION
LOUIS PASTEUR	R	3'-8"	2'-3"	4"	ALUM	ALUM		7/A-501	7/A-501	11/A-501		1	PREFINISHED, STORMPROOF BLADE CONFIGURATION
TOTAL												9	

REVISIONS		
Number	Description	Date
1	ADDENDUM #1	07/07/15
4	ADDENDUM #4	08/06/15

ISSUED FOR:  
 BIDDING  
 JUNE 16, 2015

LOUIS PASTEUR  
 STATE OFFICE  
 BUILDING WINDOW  
 REPLACEMENT  
 CRANSTON, RI

WINDOW SCHEDULE  
 TYPES AND  
 ELEVATIONS

PROJECT NUMBER: 19484  
 DESIGNED BY: FC  
 DRAWN BY: MLR  
 CHECKED BY: FC  
 DATE: FEBRUARY 19, 2015  
 SCALE:

A-601

# **INVITATION FOR BIDS**

## **Window Replacement Louis Pasteur State Office Building 57 Howard Avenue (Building #57) Cranston, RI 02920**

**General Contractor Bids Due and Opened  
Addendum #4**

**TBD**



## **Rhode Island Department of Administration Division of Facilities Management**

**Project Manager  
Mark D. Barnes**

**One Capitol Hill  
Providence, Rhode Island 02908-5853  
P: 401-222-5093  
F: 401-222-2599**

## TABLE OF CONTENTS

### DIVISION

### SECTION TITLE

#### **DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS**

000100	PROJECT TITLE PAGE
000101	TABLE OF CONTENTS
000115	LIST OF DRAWING SHEETS
003126	EXISTING HAZARDOUS MATERIALS INFORMATION
004113	BID FORM

#### **DIVISION 01 – GENERAL REQUIREMENTS**

011000	SUMMARY
012100	ALLOWANCES
012200	UNIT PRICES
012500	PRODUCT SUBSTITUTIONS
012600	CONTRACT MODIFICATION PROCEDURES
012900	PAYMENT PROCEDURES
013100	PROJECT MANAGEMENT AND COORDINATION
013200	CONSTRUCTION PROGRESS DOCUMENTATION
013300	SUBMITTAL PROCEDURES
	SUBSTITUTION REQUEST FORM
014000	QUALITY REQUIREMENTS
014200	REFERENCES
016000	PRODUCT REQUIREMENTS
017300	EXECUTION
017329	CUTTING AND PATCHING
017700	CLOSEOUT PROCEDURES
017839	PROJECT RECORD DOCUMENTS

#### **DIVISION 02 – EXISTING CONDITIONS**

028200	ASBESTOS HAZARD ABATEMENT PLAN (FOR REFERENCE ONLY)
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#### **DIVISION 06 - WOOD, PLASTICS AND COMPOSITES**

061053	MISCELLANEOUS ROUGH CARPENTRY
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#### **DIVISION 07 - THERMAL AND MOISTURE PROTECTION**

079200	JOINT SEALANTS
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**DIVISION 08 – OPENINGS**

085200 WOOD WINDOWS  
089119 FIXED LOUVERS

**DIVISION 09 – FINISHES**

099100 PAINTING

**DIVISION 12 – FURNISHINGS**

122113 HORIZONTAL LOUVER BLINDS

**END OF TABLE OF CONTENTS**

DOCUMENT 000115 - LIST OF DRAWING SHEETS

1.1 LIST OF DRAWINGS

- A. Drawings: Drawings consist of the Contract Drawings and other drawings listed on the Table of Contents page of the separately bound drawing set titled ISSUED FOR REVIEW, dated April 03, 2014, as modified by subsequent Addenda and Contract modifications.
- B. List of Drawings: Drawings consist of the following Contract Drawings and other drawings of type indicated:

GENERAL

G-001 COVER SHEET

ARCHITECTURAL DEMO

AD-201 DEMOLITION BUILDING ELEVATION-SOUTH

AD-202 DEMOLITION BUILDING ELEVATIONS- NORTH, WEST, EAST

ARCHITECTURAL

A-000 ABBREVIATIONS AND SYMBOLS

A-201 BUILDING ELEVATION-SOUTH

A-202 BUILDING ELEVATION-NORTH, WEST, EAST

A-501 WINDOW DETAILS

A-601 WINDOW SCHEDULE TYPES AND ELEVATIONS

END OF DOCUMENT 000115

**SECTION: 003126 EXISTING HAZARDOUS MATERIAL  
INFORMATION**

Solicitation #: \_\_\_\_\_

Solicitation Title: \_\_\_\_\_

## **BID FORM**

To: The State of Rhode Island Department of Administration  
Division of Purchases, 2<sup>nd</sup> Floor  
One Capitol Hill, Providence, RI 02908-5855

Bidder: \_\_\_\_\_

Legal name of entity

Address (street/city/state/zip)

Contact name

Contact email

Contact telephone

Contact fax

### **1. BASE BID PRICE**

The Bidder submits this bid proposal to perform all of the work (including labor and materials) described in the solicitation for this Base Bid Price (*including the costs for all Allowances, Bonds, and Addenda*):

\$ \_\_\_\_\_

(base bid price *in figures* printed electronically, typed, or handwritten legibly in ink)

\_\_\_\_\_  
(base bid price *in words* printed electronically, typed, or handwritten legibly in ink)

- **Bonds**

The Base Bid Price ***includes*** the costs for all Bid and Payment and Performance Bonds required by the solicitation.

- **Unit Price**

The base bid price ***includes*** the cost for wall refinishing allowance at a Unit price of: \$ \_\_\_\_\_/S.F

Solicitation #: \_\_\_\_\_

Solicitation Title: \_\_\_\_\_

- **Addenda**

The Bidder has examined the entire solicitation (including the following Addenda), and the Base Bid Price ***includes*** the costs of any modifications required by the Addenda.

*All Addenda must be acknowledged.*

Addendum No. 1 dated: \_\_\_\_\_

Addendum No. 2 dated: \_\_\_\_\_

Addendum No. 3 dated: \_\_\_\_\_

Addendum No. 4 dated: \_\_\_\_\_

**2. CONTRACT TIME**

The Bidder offers to perform the work in accordance with the timeline specified below:

- Start of construction: \_\_\_\_\_
- Substantial completion: \_\_\_\_\_
- Final completion: \_\_\_\_\_

**3. LIQUIDATED DAMAGES**

The successful bidder awarded a contract pursuant to this solicitation shall be liable for and pay the State, as liquidated damages and not as a penalty, the following amount

Solicitation #: \_\_\_\_\_

Solicitation Title: \_\_\_\_\_

for each calendar day of delay beyond the date for substantial completion, as determined in the sole discretion of the State: \$\_\_\_\_\_.

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**This bid proposal is irrevocable for 60 days from the bid proposal submission deadline.**

**If the Bidder is determined to be the successful bidder pursuant to this solicitation, the Bidder will promptly: (i) comply with each of the requirements of the Tentative Letter of Award; and (ii) commence and diligently pursue the work upon issuance and receipt of the purchase order from the State and authorization from the user agency.**

**The person signing below certifies that he or she has been duly authorized to execute and submit this bid proposal on behalf of the Bidder.**

**BIDDER**

**Date:** \_\_\_\_\_

\_\_\_\_\_  
Name of Bidder

\_\_\_\_\_  
Signature in ink

\_\_\_\_\_  
Printed name and title of person signing on behalf of Bidder  
# \_\_\_\_\_

\_\_\_\_\_  
Bidder's Contractor Registration Number

## SECTION 011000 - SUMMARY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Work by Owner.
4. Access to site.
5. Coordination with occupants.
6. Work restrictions.
7. Specification and drawing conventions.

- B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

#### 1.3 PROJECT INFORMATION

- A. Project Identification: Window Replacement - Louis Pasteur State Office Building.
  1. Project Location: 57 Howard Avenue (Building #57), Cranston, RI 02920.
- B. Owner: Rhode Island Department of Administration, Division of Facilities Management, One Capitol Hill, Providence, RI 02908.
  1. Owner's Representative: Mark D. Barnes, Project Manager
- C. Architect: CDR Maguire, Inc., 225 Chapman Street, 4th Floor, Providence, RI 02905.

#### 1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:

1. The work consists of demolition of existing windows, localized hazardous material abatement, and replacement of the windows with associated trim and window coverings in a historic building.

- B. Type of Contract:

1. Project will be constructed under a single prime contract.

#### 1.5 WORK BY OWNER

- A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.
- B. Concurrent Work: Owner will perform the following construction operations at Project site. Those operations will be conducted simultaneously with work under this Contract.
  1. HVAC Replacement.

#### 1.6 ACCESS TO SITE

- A. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
  1. Limits: Confine construction operations to the exterior windows and immediate interior area around exterior windows.
  2. Limits: Limit site disturbance to 40 feet (12.2 m) beyond building perimeter; 10 feet (3 m) beyond surface walkways, patios, and surface parking; 15 feet (4.5 m) beyond primary roadway curbs and main utility branch trenches; and 25 feet (7.6 m) beyond constructed areas with permeable surfaces (such as pervious paving areas, stormwater detention facilities, and playing fields) that require additional staging areas in order to limit compaction in the constructed area.
  3. Driveways, Walkways and Entrances: Keep driveways loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
    - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
    - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- B. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

#### 1.7 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy site and existing adjacent building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
  1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used

facilities without written permission from Owner and approval of authorities having jurisdiction.

2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

#### 1.8 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
  1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 5 p.m., Monday through Friday, unless otherwise indicated.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
  1. Notify Owner not less than two days in advance of proposed utility interruptions.
  2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
  1. Notify Owner not less than two days in advance of proposed disruptive operations.
  2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet (8 m) of entrances, operable windows, or outdoor-air intakes.
- F. Controlled Substances: Use of tobacco products and other controlled substances within the existing building and on Project site is not permitted.
- G. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- H. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.
  1. Maintain list of approved screened personnel with Owner's representative.

#### 1.9 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
  2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
  2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

## SECTION 012100 - ALLOWANCES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. The Contractor, Subcontractors, and/or suppliers providing goods and services referenced in or related to this Section shall also be bound by the Related Documents identified in Division 01 Section "Summary."

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
  - 1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
  - 1. Quantity allowances.
- C. Related Sections include the following:
  - 1. Division 01 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders for allowances.
  - 2. Division 01 Section "Unit Prices" for procedures for using unit prices.
  - 3. Divisions 02 through 48 Sections for items of Work covered by allowances.

#### 1.3 SUBMITTALS

- A. Submit proposals for systems included in allowances, in the form specified for Change Orders.
- B. Submit invoices or delivery slips to show actual quantities of materials delivered to (or removed from) the site for use in fulfillment of each allowance.

#### 1.4 COORDINATION

- A. Coordinate allowance items with other portions of the Work.

#### 1.5 QUANTITY ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner under allowance and shall include taxes, freight, and delivery to Project site.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PREPARATION

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

3.2 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: The Contractor shall include the quantity of 1,500 square feet of wall refinishing in the base bid.

END OF SECTION 01 21 00

## SECTION 012200 - UNIT PRICES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. The Contractor, Subcontractors, and/or suppliers providing goods and services referenced in or related to this Section shall also be bound by the Related Documents identified in Division 01 Section "Summary."

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for unit prices.
- B. Related Sections include the following:
  - 1. Division 01 Section "Allowances" for procedures for using unit prices to adjust quantity allowances.
  - 2. Division 01 Section "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
  - 3. Division 01 Section "Quality Requirements" for general testing and inspecting requirements.

#### 1.3 DEFINITIONS

- A. Unit price is a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.
- B. Abbreviations: The following abbreviations for units of measurement are used in unit prices:
  - 1. S.F.: square foot

#### 1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead and profit.
  - 1. Unit price amounts are net changes in the Contract Sum for additional work and include the Contractor's and any Subcontractor's amount for overhead and profit.
  - 2. For deleted work, the net credit to the Contract Sum shall be 10% less.
- B. List of Unit Prices: A list of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES

A. Provide the following unit prices as listed on the Bid Form:

1. Wall refinishing:

- a. Description: Remove spalled, cracked, blistered or calcified plaster, re-plaster to a level 5 finish, prime and paint (two finish coats)
- b. Unit of Measurement: \$\_\_\_/S.F.

END OF SECTION 01 22 00

## SECTION 012500 - SUBSTITUTION PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
  - 1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

#### 1.3 DEFINITIONS

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

#### 1.4 ACTION SUBMITTALS

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

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

## 1.5 QUALITY ASSURANCE

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

## 1.6 PROCEDURES

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

## PART 2 - PRODUCTS

### 2.1 SUBSTITUTIONS

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

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

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

## SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
  - 1. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

#### 1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

#### 1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
  - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
  - 2. Within time specified in Proposal Request or 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
    - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    - c. Include costs of labor and supervision directly attributable to the change.
    - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and

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

- e. Quotation Form: Use CSI Form 13.6D, "Proposal Worksheet Summary," and Form 13.6C, "Proposal Worksheet Detail." or forms acceptable to Architect.
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
  2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
  3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
  4. Include costs of labor and supervision directly attributable to the change.
  5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
  6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
  7. Proposal Request Form: Use CSI Form 13.6A, "Change Order Request (Proposal)," with attachments CSI Form 13.6D, "Proposal Worksheet Summary," and Form 13.6C, "Proposal Worksheet Detail." or form acceptable to Architect.

#### 1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

#### 1.6 CONSTRUCTION CHANGE DIRECTIVE

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

Louis Pasteur State Office Building  
Window Replacement

Cranston, Rhode Island  
April 3, 2014  
**Addendum #4 August 6, 2015**

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

## SECTION 012900 - PAYMENT PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
  - 1. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
  - 2. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

#### 1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

#### 1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule. Cost-loaded Critical Path Method Schedule may serve to satisfy requirements for the schedule of values.
  - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
    - a. Application for Payment forms with continuation sheets.
    - b. Submittal schedule.
    - c. Items required to be indicated as separate activities in Contractor's construction schedule.
  - 2. Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
  - 3. Subschedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values coordinated with each phase of payment.

4. Subschedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide subschedules showing values coordinated with each element.
  5. Provide further break down of installed windows per building elevation.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the schedule of values:
    - a. Project name and location.
    - b. Name of Architect.
    - c. Architect's project number.
    - d. Contractor's name and address.
    - e. Date of submittal.
  2. Arrange schedule of values consistent with format of AIA Document G703.
  3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
    - a. Related Specification Section or Division.
    - b. Description of the Work.
    - c. Name of subcontractor.
    - d. Name of manufacturer or fabricator.
    - e. Name of supplier.
    - f. Change Orders (numbers) that affect value.
    - g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
      - 1) Labor.
      - 2) Materials.
      - 3) Equipment.
  4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
  5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
  6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
    - a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
  7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

8. Purchase Contracts: Provide a separate line item in the schedule of values for each purchase contract. Show line-item value of purchase contract. Indicate owner payments or deposits, if any, and balance to be paid by Contractor.
9. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
  - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
10. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

#### 1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
  1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Submit Application for Payment to Architect by the end of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
  1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.
- D. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- E. Application for Payment Forms: Use forms provided by Owner for Applications for Payment. Sample copies are included in Project Manual.
- F. Application for Payment Forms: Use forms acceptable to Architect and Owner for Applications for Payment. Submit forms for approval with initial submittal of schedule of values.
- G. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
  1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.

2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
  3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
  4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- H. **Stored Materials:** Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
  2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
  3. Provide summary documentation for stored materials indicating the following:
    - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
    - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- I. **Transmittal:** Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- J. **Waivers of Mechanic's Lien:** With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
  2. When an application shows completion of an item, submit conditional final or full waivers.
  3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
  4. **Waiver Forms:** Submit executed waivers of lien on forms acceptable to Owner.
- K. **Waivers of Mechanic's Lien:** With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
  2. When an application shows completion of an item, submit conditional final or full waivers.
  3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
  4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
  5. Waiver Forms: Submit executed waivers of lien on forms, acceptable to Owner.
- L. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
  2. Schedule of values.
  3. Contractor's construction schedule (preliminary if not final).
  4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
  5. Products list (preliminary if not final).
  6. Schedule of unit prices.
  7. Submittal schedule (preliminary if not final).
  8. List of Contractor's staff assignments.
  9. List of Contractor's principal consultants.
  10. Copies of building permits.
  11. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  12. Initial progress report.
  13. Report of preconstruction conference.
  14. Certificates of insurance and insurance policies.
  15. Performance and payment bonds.
  16. Data needed to acquire Owner's insurance.
- M. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
  2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- N. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
  2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
  3. Updated final statement, accounting for final changes to the Contract Sum.

4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

## SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. General coordination procedures.
  - 2. Coordination drawings.
  - 3. Requests for Information (RFIs).
  - 4. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
- C. Related Requirements:
  - 1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
  - 2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
  - 3. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

#### 1.3 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A. Include the following information in tabular form:
  - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
  - 2. Number and title of related Specification Section(s) covered by subcontract.

3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.
1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

#### 1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
  3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
  3. Make adequate provisions to accommodate items scheduled for later installation.
- C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
  2. Preparation of the schedule of values.
  3. Installation and removal of temporary facilities and controls.
  4. Delivery and processing of submittals.
  5. Progress meetings.
  6. Preinstallation conferences.
  7. Project closeout activities.
  8. Startup and adjustment of systems.
- E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

## 1.6 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
    - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
    - b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
    - c. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
    - d. Indicate required installation sequences.
    - e. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
1. Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's

- responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make changes as directed and resubmit.
2. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements in Section 013300 "Submittal Procedures."
- C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
1. File Preparation Format: Same digital data software program, version, and operating system as original Drawings.
  2. File Preparation Format: DWG, in most current version of AutoCAD as well as v2000, operating in Microsoft Windows.
  3. File Submittal Format: Submit or post coordination drawing files using format same as file preparation format and Portable Data File (PDF) format.
  4. Architect will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.
    - a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
    - b. Digital Data Software Program: Drawings are available in AutoCAD v2010 .DWG format.
    - c. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to Owner and Architect.

#### 1.7 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
  2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
  2. Project number.
  3. Date.
  4. Name of Contractor.
  5. Name of Architect.
  6. RFI number, numbered sequentially.
  7. RFI subject.
  8. Specification Section number and title and related paragraphs, as appropriate.
  9. Drawing number and detail references, as appropriate.
  10. Field dimensions and conditions, as appropriate.

11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  12. Contractor's signature.
  13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
    - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: AIA Document G716.
1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days (does not include weekends or holidays) for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following Contractor-generated RFIs will be returned without action:
    - a. Requests for approval of submittals.
    - b. Requests for approval of substitutions.
    - c. Requests for approval of Contractor's means and methods.
    - d. Requests for coordination information already indicated in the Contract Documents.
    - e. Requests for adjustments in the Contract Time or the Contract Sum.
    - f. Requests for interpretation of Architect's actions on submittals.
    - g. Incomplete RFIs or inaccurately prepared RFIs.
  2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
  3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
    - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly on Tuesdays. Use CSI Log Form 13.2B. Include the following:
1. Project name.
  2. Name and address of Contractor.
  3. Name and address of Architect.
  4. RFI number including RFIs that were returned without action or withdrawn.
  5. RFI description.
  6. Date the RFI was submitted.
  7. Date Architect's response was received.

- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.
  - 1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
  - 2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

## 1.8 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
  - 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
  - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
  - 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.
  
- B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
  - 1. Conduct the conference to review responsibilities and personnel assignments.
  - 2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
  - 3. Agenda: Discuss items of significance that could affect progress, including the following:
    - a. Tentative construction schedule.
    - b. Critical work sequencing and long-lead items.
    - c. Designation of key personnel and their duties.
    - d. Lines of communications.
    - e. Procedures for processing field decisions and Change Orders.
    - f. Procedures for RFIs.
    - g. Procedures for testing and inspecting.
    - h. Procedures for processing Applications for Payment.
    - i. Distribution of the Contract Documents.
    - j. Submittal procedures.
    - k. Preparation of record documents.
    - l. Use of the premises and existing building.
    - m. Work restrictions.
    - n. Working hours.
    - o. Owner's occupancy requirements.
    - p. Responsibility for temporary facilities and controls.

- q. Procedures for moisture and mold control.
  - r. Procedures for disruptions and shutdowns.
  - s. Construction waste management and recycling.
  - t. Parking availability.
  - u. Office, work, and storage areas.
  - v. Equipment deliveries and priorities.
  - w. First aid.
  - x. Security.
  - y. Progress cleaning.
4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
  - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
    - a. Contract Documents.
    - b. Options.
    - c. Related RFIs.
    - d. Related Change Orders.
    - e. Purchases.
    - f. Deliveries.
    - g. Submittals.
    - h. Review of mockups.
    - i. Possible conflicts.
    - j. Compatibility requirements.
    - k. Time schedules.
    - l. Weather limitations.
    - m. Manufacturer's written instructions.
    - n. Warranty requirements.
    - o. Compatibility of materials.
    - p. Acceptability of substrates.
    - q. Temporary facilities and controls.
    - r. Space and access limitations.
    - s. Regulations of authorities having jurisdiction.
    - t. Testing and inspecting requirements.
    - u. Installation procedures.
    - v. Coordination with other work.
    - w. Required performance results.
    - x. Protection of adjacent work.
    - y. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
  4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
  5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 30 days prior to the scheduled date of Substantial Completion.
1. Conduct the conference to review requirements and responsibilities related to Project closeout.
  2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
  3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
    - a. Preparation of record documents.
    - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
    - c. Submittal of written warranties.
    - d. Requirements for preparing operations and maintenance data.
    - e. Requirements for delivery of material samples, attic stock, and spare parts.
    - f. Requirements for demonstration and training.
    - g. Preparation of Contractor's punch list.
    - h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
    - i. Submittal procedures.
    - j. Coordination of separate contracts.
    - k. Owner's partial occupancy requirements.
    - l. Installation of Owner's furniture, fixtures, and equipment.
    - m. Responsibility for removing temporary facilities and controls.
  4. Minutes: Entity conducting meeting will record and distribute meeting minutes.
- E. Progress Meetings: Conduct progress meetings at weekly intervals.
1. Coordinate dates of meetings with preparation of payment requests.
  2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
  3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

- a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
    - 1) Review schedule for next period.
  - b. Review present and future needs of each entity present, including the following:
    - 1) Interface requirements.
    - 2) Sequence of operations.
    - 3) Status of submittals.
    - 4) Deliveries.
    - 5) Off-site fabrication.
    - 6) Access.
    - 7) Site utilization.
    - 8) Temporary facilities and controls.
    - 9) Progress cleaning.
    - 10) Quality and work standards.
    - 11) Status of correction of deficient items.
    - 12) Field observations.
    - 13) Status of RFIs.
    - 14) Status of proposal requests.
    - 15) Pending changes.
    - 16) Status of Change Orders.
    - 17) Pending claims and disputes.
    - 18) Documentation of information for payment requests.
4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
- a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.
- F. Coordination Meetings: Conduct Project coordination meetings at weekly intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.
1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

- a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
  - b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
  - c. Review present and future needs of each contractor present, including the following:
    - 1) Interface requirements.
    - 2) Sequence of operations.
    - 3) Status of submittals.
    - 4) Deliveries.
    - 5) Off-site fabrication.
    - 6) Access.
    - 7) Site utilization.
    - 8) Temporary facilities and controls.
    - 9) Work hours.
    - 10) Hazards and risks.
    - 11) Progress cleaning.
    - 12) Quality and work standards.
    - 13) Change Orders.
3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

## SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
  - 1. Startup construction schedule.
  - 2. Contractor's construction schedule.
  - 3. Construction schedule updating reports.
  - 4. Daily construction reports.
  - 5. Material location reports.
  - 6. Site condition reports.
  - 7. Special reports.
- B. Related Requirements:
  - 1. Section 013300 "Submittal Procedures" for submitting schedules and reports.
  - 2. Section 014000 "Quality Requirements" for submitting a schedule of tests and inspections.

#### 1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
  - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
  - 2. Predecessor Activity: An activity that precedes another activity in the network.
  - 3. Successor Activity: An activity that follows another activity in the network.
- B. Cost Loading: The allocation of the schedule of values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum unless otherwise approved by Architect.

- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.
- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- E. Event: The starting or ending point of an activity.
- F. Float: The measure of leeway in starting and completing an activity.
  - 1. Float time belongs to Owner.
  - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
  - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- G. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
  - 1. Working electronic copy of schedule file, where indicated.
  - 2. PDF electronic file.
  - 3. Three paper copies.
- B. Startup construction schedule.
  - 1. Approval of cost-loaded, startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.
- C. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.
- D. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
  - 1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.
- E. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
  - 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.

2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
  3. Total Float Report: List of all activities sorted in ascending order of total float.
  4. Earnings Report: Compilation of Contractor's total earnings from the Notice to Proceed until most recent Application for Payment.
- F. Construction Schedule Updating Reports: Submit with Applications for Payment.
- G. Daily Construction Reports: Submit at weekly intervals.
- H. Material Location Reports: Submit at weekly intervals.
- I. Site Condition Reports: Submit at time of discovery of differing conditions.
- J. Special Reports: Submit at time of unusual event.
- K. Qualification Data: For scheduling consultant.

#### 1.5 QUALITY ASSURANCE

- A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of Architect's request.
- B. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:
1. Review software limitations and content and format for reports.
  2. Verify availability of qualified personnel needed to develop and update schedule.
  3. Discuss constraints, including work stages, area separations, interim milestones, and, partial Owner occupancy.
  4. Review delivery dates for Owner-furnished products.
  5. Review schedule for work of Owner's separate contracts.
  6. Review submittal requirements and procedures.
  7. Review time required for review of submittals and resubmittals.
  8. Review requirements for tests and inspections by independent testing and inspecting agencies.
  9. Review time required for Project closeout and Owner startup procedures, including agency approval and testing activities.
  10. Review and finalize list of construction activities to be included in schedule.
  11. Review procedures for updating schedule.

## 1.6 COORDINATION

- A. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.
  - 1. Secure time commitments for performing critical elements of the Work from entities involved.
  - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

## PART 2 - PRODUCTS

### 2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final completion.
  - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each story or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
  - 1. Activity Duration: Define activities so no activity is longer than **20** days, unless specifically allowed by Architect.
  - 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
    - a. Windows.
  - 3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
  - 4. Startup and Testing Time: Include no fewer than 7 days for startup and testing.
  - 5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
  - 6. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
  - 1. Work under More Than One Contract: Include a separate activity for each contract.
  - 2. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.

3. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
  4. Work Restrictions: Show the effect of the following items on the schedule:
    - a. Coordination with existing construction.
    - b. Limitations of continued occupancies.
    - c. Uninterruptible services.
    - d. Partial occupancy before Substantial Completion.
    - e. Use of premises restrictions.
    - f. Provisions for future construction.
    - g. Seasonal variations.
    - h. Environmental control.
  5. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
    - a. Subcontract awards.
    - b. Submittals.
    - c. Purchases.
    - d. Mockups.
    - e. Fabrication.
    - f. Sample testing.
    - g. Deliveries.
    - h. Installation.
    - i. Tests and inspections.
    - j. Adjusting.
    - k. Curing.
  6. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
    - a. Structural completion.
    - b. Temporary enclosure and space conditioning.
    - c. Permanent space enclosure.
    - d. Substantial Completion.
  7. Other Constraints: Review and approval of final installation by The Rhode Island Historical Preservation & Heritage Commission.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion , and the following interim milestones or similar:
1. Temporary enclosure and space conditioning.
  2. Demolition and hazardous material remediation.
  3. Installation and approval of mock up window by The Rhode Island Historical Preservation & Heritage Commission, Owner, and Architect.

4. Installation of all windows
  5. Finishes and trim complete
  6. Final review and approval by The Rhode Island Historical Preservation & Heritage Commission, Owner, and Architect.
  7. Testing of windows
  8. Punch list complete
- E. Cost Correlation: Superimpose a cost correlation timeline, indicating planned and actual costs. On the line, show planned and actual dollar volume of the Work performed as of planned and actual dates used for preparation of payment requests.
1. See Section 012900 "Payment Procedures" for cost reporting and payment procedures.
- F. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
1. Unresolved issues.
  2. Unanswered Requests for Information.
  3. Rejected or unreturned submittals.
  4. Notations on returned submittals.
  5. Pending modifications affecting the Work and Contract Time.
- G. Recovery Schedule: When periodic update indicates the Work is 7 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.
- H. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
1. Use Microsoft Project for current Windows operating system or Macintosh OS X operating system.

## 2.2 STARTUP CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Submit startup, horizontal, bar-chart-type construction schedule within seven days of date established for the Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

## 2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 30 days of date established for the Notice to Proceed.

Base schedule on the startup construction schedule and additional information received since the start of Project.

- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
  - 1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

#### 2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

- A. General: Prepare network diagrams using AON (activity-on-node) format.
- B. Startup Network Diagram: Submit diagram within 14 days of date established for the Notice of Award. Outline significant construction activities for the first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.
- C. CPM Schedule: Prepare Contractor's construction schedule using a cost- and resource-loaded, time-scaled CPM network analysis diagram for the Work.
  - 1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 30 days after date established for the Notice of Award.
    - a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Architect's approval of the schedule.
  - 2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.
  - 3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
  - 4. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule in order to coordinate with the Contract Time.
- D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the startup network diagram, prepare a skeleton network to identify probable critical paths.
  - 1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
    - a. Preparation and processing of submittals.
    - b. Mobilization and demobilization.
    - c. Purchase of materials.
    - d. Delivery.
    - e. Fabrication.

- f. Utility interruptions.
  - g. Installation.
  - h. Work by Owner that may affect or be affected by Contractor's activities.
  - i. Testing.
  - j. Punch list and final completion.
  - k. Activities occurring following final completion.
2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
  3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
  4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
    - a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.
  5. Cost- and Resource-Loading of CPM Schedule: Assign cost to construction activities on the CPM schedule. Do not assign costs to submittal activities. Obtain Architect's approval prior to assigning costs to fabrication and delivery activities. Assign costs under main subcontracts for testing and commissioning activities, operation and maintenance manuals, punch list activities, Project record documents, and demonstration and training (if applicable), in the amount of **5** percent of the Contract Sum.
    - a. Each activity cost shall reflect an appropriate value subject to approval by Architect.
    - b. Total cost assigned to activities shall equal the total Contract Sum.
- E. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.
- F. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list indicating straight "early start-total float." Identify critical activities. Prepare tabulated reports showing the following:
1. Contractor or subcontractor and the Work or activity.
  2. Description of activity.
  3. Main events of activity.
  4. Immediate preceding and succeeding activities.
  5. Early and late start dates.
  6. Early and late finish dates.
  7. Activity duration in workdays.
  8. Total float or slack time.
  9. Average size of workforce.
  10. Dollar value of activity (coordinated with the schedule of values).

- G. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
1. Identification of activities that have changed.
  2. Changes in early and late start dates.
  3. Changes in early and late finish dates.
  4. Changes in activity durations in workdays.
  5. Changes in the critical path.
  6. Changes in total float or slack time.
  7. Changes in the Contract Time.
- H. Value Summaries: Prepare two cumulative value lists, sorted by finish dates.
1. In first list, tabulate activity number, early finish date, dollar value, and cumulative dollar value.
  2. In second list, tabulate activity number, late finish date, dollar value, and cumulative dollar value.
  3. In subsequent issues of both lists, substitute actual finish dates for activities completed as of list date.
  4. Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.
    - a. In both value summary lists, tabulate "actual percent complete" and "cumulative value completed" with total at bottom.
    - b. Submit value summary printouts one week before each regularly scheduled progress meeting.

## 2.5 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
1. List of subcontractors at Project site.
  2. List of separate contractors at Project site.
  3. Approximate count of personnel at Project site.
  4. Equipment at Project site.
  5. Material deliveries.
  6. High and low temperatures and general weather conditions, including presence of rain or snow.
  7. Accidents.
  8. Meetings and significant decisions.
  9. Unusual events (see special reports).
  10. Stoppages, delays, shortages, and losses.
  11. Meter readings and similar recordings.
  12. Emergency procedures.
  13. Orders and requests of authorities having jurisdiction.
  14. Change Orders received and implemented.
  15. Construction Change Directives received and implemented.
  16. Services connected and disconnected.

17. Equipment or system tests and startups.
  18. Partial completions and occupancies.
  19. Substantial Completions authorized.
- B. Material Location Reports: At weekly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:
1. Material stored prior to previous report and remaining in storage.
  2. Material stored prior to previous report and since removed from storage and installed.
  3. Material stored following previous report and remaining in storage.
- C. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

## 2.6 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

## PART 3 - EXECUTION

### 3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.
1. In-House Option: Owner may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
  2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.
- B. Contractor's Construction Schedule Updating: At weekly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one day before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
  2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
  3. As the Work progresses, indicate final completion percentage for each activity.
- C. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
  2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

## SECTION 013300 - SUBMITTAL PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
  - 1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
  - 2. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
  - 3. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

#### 1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

#### 1.4 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
  2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
  3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
    - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
  4. Format: Arrange the following information in a tabular format:
    - a. Scheduled date for first submittal.
    - b. Specification Section number and title.
    - c. Submittal category: Action; informational.
    - d. Name of subcontractor.
    - e. Description of the Work covered.
    - f. Scheduled date for Architect's final release or approval.
    - g. Scheduled date of fabrication.
    - h. Scheduled dates for purchasing.
    - i. Scheduled dates for installation.
    - j. Activity or event number.

#### 1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.
1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project record drawings.
    - a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
    - b. Digital Drawing Software Program: The Contract Drawings are available in AutoCAD v2010 .DWG format.
    - c. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to Owner and Architect.

- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
  3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
  4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
  2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
  3. Resubmittal Review: Allow 15 days for review of each resubmittal.
  4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
  5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
- D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
  2. Name file with submittal number or other unique identifier, including revision identifier.
    - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
  4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:
    - a. Project name.
    - b. Date.
    - c. Name and address of Architect.
    - d. Name of Construction Manager.
    - e. Name of Contractor.
    - f. Name of firm or entity that prepared submittal.
    - g. Names of subcontractor, manufacturer, and supplier.
    - h. Category and type of submittal.
    - i. Submittal purpose and description.
    - j. Specification Section number and title.
    - k. Specification paragraph number or drawing designation and generic name for each of multiple items.
    - l. Drawing number and detail references, as appropriate.
    - m. Location(s) where product is to be installed, as appropriate.
    - n. Related physical samples submitted directly.
    - o. Indication of full or partial submittal.
    - p. Transmittal number, numbered consecutively.
    - q. Submittal and transmittal distribution record.
    - r. Other necessary identification.
    - s. Remarks.
  5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
    - a. Project name.
    - b. Number and title of appropriate Specification Section.
    - c. Manufacturer name.
    - d. Product name.
- E. Options: Identify options requiring selection by Architect.
- F. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
1. Note date and content of previous submittal.
  2. Note date and content of revision in label or title block and clearly indicate extent of revision.
  3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

- H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- I. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

## PART 2 - PRODUCTS

### 2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
  - 1. Submit electronic submittals via email as PDF electronic files.
    - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
  - 2. Action Submittals: Submit three paper copies of each submittal unless otherwise indicated. Architect will return two copies.
  - 3. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Architect and Construction Manager will not return copies.
  - 4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
    - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
    - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
  - 1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
  - 2. Mark each copy of each submittal to show which products and options are applicable.
  - 3. Include the following information, as applicable:
    - a. Manufacturer's catalog cuts.
    - b. Manufacturer's product specifications.
    - c. Standard color charts.
    - d. Statement of compliance with specified referenced standards.
    - e. Testing by recognized testing agency.
    - f. Application of testing agency labels and seals.

- g. Notation of coordination requirements.
    - h. Availability and delivery time information.
  - 4. For equipment, include the following in addition to the above, as applicable:
    - a. Wiring diagrams showing factory-installed wiring.
    - b. Printed performance curves.
    - c. Operational range diagrams.
    - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
  - 5. Submit Product Data before or concurrent with Samples.
  - 6. Submit Product Data in the following format:
    - a. PDF electronic file.
    - b. Three paper copies of Product Data unless otherwise indicated. Architect will return two copies.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect's digital data drawing files is otherwise permitted.
  - 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    - a. Identification of products.
    - b. Schedules.
    - c. Compliance with specified standards.
    - d. Notation of coordination requirements.
    - e. Notation of dimensions established by field measurement.
    - f. Relationship and attachment to adjoining construction clearly indicated.
    - g. Seal and signature of professional engineer if specified.
  - 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm), but no larger than 24 by 36 inches (750 by 1067 mm).
  - 3. Submit Shop Drawings in the following format:
    - a. PDF electronic file.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
  - 1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
  - 2. Identification: Attach label on unexposed side of Samples that includes the following:
    - a. Generic description of Sample.

- b. Product name and name of manufacturer.
    - c. Sample source.
    - d. Number and title of applicable Specification Section.
    - e. Specification paragraph number and generic name of each item.
  3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
  4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
  5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
    - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
  6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
    - a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.
      - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
      - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
  2. Manufacturer and product name, and model number if applicable.
  3. Number and name of room or space.
  4. Location within room or space.
  5. Submit product schedule in the following format:
    - a. PDF electronic file.
- F. Coordination Drawing Submittals: Comply with requirements specified in Section 013100 "Project Management and Coordination."
- G. Contractor's Construction Schedule: Comply with requirements specified in Section 013200 "Construction Progress Documentation."
- H. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures."
- I. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 014000 "Quality Requirements."
- J. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures."
- K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- L. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- M. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- N. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- O. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- P. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- Q. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

- R. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
1. Name of evaluation organization.
  2. Date of evaluation.
  3. Time period when report is in effect.
  4. Product and manufacturers' names.
  5. Description of product.
  6. Test procedures and results.
  7. Limitations of use.
- S. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- T. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- U. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- V. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

### PART 3 - EXECUTION

#### 3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

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

END OF SECTION 013300



## SECTION 014000 - QUALITY REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
  - 4. Specific test and inspection requirements are not specified in this Section.

#### 1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Integrated Exterior Mockups: Mockups of the exterior envelope erected separately from the building but on Project site, consisting of multiple products, assemblies, and subassemblies.
- D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
  1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

#### 1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

## 1.5 ACTION SUBMITTALS

- A. Shop Drawings: For integrated exterior mockups, provide plans, sections, and elevations, indicating materials and size of mockup construction.
  - 1. Indicate manufacturer and model number of individual components.
  - 2. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

## 1.6 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Qualification Data : For Contractor's quality-control personnel.
- C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:
  - 1. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan.
- D. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- E. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
  - 1. Specification Section number and title.
  - 2. Entity responsible for performing tests and inspections.
  - 3. Description of test and inspection.
  - 4. Identification of applicable standards.
  - 5. Identification of test and inspection methods.
  - 6. Number of tests and inspections required.
  - 7. Time schedule or time span for tests and inspections.
  - 8. Requirements for obtaining samples.
  - 9. Unique characteristics of each quality-control service.

## 1.7 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within days of Notice of Award , and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.
- B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.

1. Project quality-control manager may also serve as Project superintendent.
  2. Must have previous experience with The Rhode Island Historical Preservation & Heritage Commission Project Review System approval process for windows.
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
  2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."
  3. Owner-performed tests and inspections indicated in the Contract Documents.
- E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
- F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

## 1.8 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
  2. Project title and number.
  3. Name, address, and telephone number of testing agency.
  4. Dates and locations of samples and tests or inspections.
  5. Names of individuals making tests and inspections.
  6. Description of the Work and test and inspection method.
  7. Identification of product and Specification Section.
  8. Complete test or inspection data.
  9. Test and inspection results and an interpretation of test results.
  10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
  11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
  12. Name and signature of laboratory inspector.
  13. Recommendations on retesting and reinspecting.

- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of technical representative making report.
  2. Statement on condition of substrates and their acceptability for installation of product.
  3. Statement that products at Project site comply with requirements.
  4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  6. Statement whether conditions, products, and installation will affect warranty.
  7. Other required items indicated in individual Specification Sections.
- C. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

#### 1.9 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: An individual experienced in installing, erecting, or assembling work similar in material, design, certified as an installer by the specific window manufacturer for the actual product being used, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
  2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
1. Contractor responsibilities include the following:
    - a. Provide test specimens representative of proposed products and construction.
    - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    - c. Provide sizes and configurations of test assemblies and mockups, to adequately demonstrate capability of products to comply with performance requirements.
    - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
  2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- J. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
  2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
  3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.
  4. Demonstrate the proposed range of aesthetic effects and workmanship.
  5. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
    - a. Allow seven days for initial review and each re-review of each mockup.
  6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.

7. Demolish and remove mockups when directed unless otherwise indicated.

K. Integrated Exterior Mockups: Construct integrated exterior mockup according to approved Shop Drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials.

#### 1.10 QUALITY CONTROL

A. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
3. Retain first subparagraph below to assure validity of agencies' reports.
4. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
5. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
6. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
7. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

B. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."

C. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.

3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
  4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
  5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
  6. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
  2. Incidental labor and facilities necessary to facilitate tests and inspections.
  3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
  4. Facilities for storage and field curing of test samples.
  5. Delivery of samples to testing agencies.
  6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- H. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents as a component of Contractor's quality-control plan. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses.
1. Distribution: Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.
- 1.11 SPECIAL TESTS AND INSPECTIONS
- A. Special Tests and Inspections: Engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:
- B. Special Tests and Inspections: Conducted by a qualified testing agency as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.

2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

### 3.1 ACCEPTABLE TESTING AGENCIES

- A. Qualified firms are acceptable to perform designated tests and inspections.

### 3.2 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
  1. Date test or inspection was conducted.
  2. Description of the Work tested or inspected.
  3. Date test or inspection results were transmitted to Architect.
  4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

### 3.3 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
  1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

Louis Pasteur State Office Building  
Window Replacement

Cranston, Rhode Island  
April 3, 2014  
**Addendum #4 August 6, 2015**

END OF SECTION 014000

## SECTION 014200 - REFERENCES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

#### 1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
  - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

#### 1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.
  - 1. AAMA - American Architectural Manufacturers Association; [www.aamanet.org](http://www.aamanet.org).
  - 2. ANSI - American National Standards Institute; [www.ansi.org](http://www.ansi.org).
  - 3. ASTM - ASTM International; (American Society for Testing and Materials International); [www.astm.org](http://www.astm.org).
  - 4. AWPA - American Wood Protection Association; (Formerly: American Wood-Preservers' Association); [www.awpa.com](http://www.awpa.com).
  - 5. CSI - Construction Specifications Institute (The); [www.csinet.org](http://www.csinet.org).
  - 6. FM Approvals - FM Approvals LLC; [www.fmglobal.com](http://www.fmglobal.com).
  - 7. FM Global - FM Global; (Formerly: FMG - FM Global); [www.fmglobal.com](http://www.fmglobal.com).
  - 8. GANA - Glass Association of North America; [www.glasswebsite.com](http://www.glasswebsite.com).
  - 9. HPVA - Hardwood Plywood & Veneer Association; [www.hpva.org](http://www.hpva.org).
  - 10. HPW - H. P. White Laboratory, Inc.; [www.hpwhite.com](http://www.hpwhite.com).
  - 11. ICC - International Code Council; [www.iccsafe.org](http://www.iccsafe.org).
  - 12. IGMA - Insulating Glass Manufacturers Alliance; [www.igmaonline.org](http://www.igmaonline.org).
  - 13. ISO - International Organization for Standardization; [www.iso.org](http://www.iso.org).
  - 14. NFPA - NFPA; (National Fire Protection Association); [www.nfpa.org](http://www.nfpa.org).
  - 15. NFPA - NFPA International; (See NFPA).
  - 16. NFRC - National Fenestration Rating Council; [www.nfrc.org](http://www.nfrc.org).
  - 17. NHLA - National Hardwood Lumber Association; [www.nhla.com](http://www.nhla.com).
  - 18. NLGA - National Lumber Grades Authority; [www.nlga.org](http://www.nlga.org).
  - 19. NSPE - National Society of Professional Engineers; [www.nspe.org](http://www.nspe.org).
  - 20. SMA - Screen Manufacturers Association; [www.smainfo.org](http://www.smainfo.org).
  - 21. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; [www.smacna.org](http://www.smacna.org).
  - 22. SPIB - Southern Pine Inspection Bureau; [www.spib.org](http://www.spib.org).
  - 23. UL - Underwriters Laboratories Inc.; [www.ul.com](http://www.ul.com).
  - 24. USGBC - U.S. Green Building Council; [www.usgbc.org](http://www.usgbc.org).
  - 25. WCLIB - West Coast Lumber Inspection Bureau; [www.wclib.org](http://www.wclib.org).

26. WCMA - Window Covering Manufacturers Association; [www.wcmanet.org](http://www.wcmanet.org).
  27. WDMA - Window & Door Manufacturers Association; [www.wdma.com](http://www.wdma.com).
- C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.
1. ICC - International Code Council; [www.iccsafe.org](http://www.iccsafe.org).
  2. ICC-ES - ICC Evaluation Service, LLC; [www.icc-es.org](http://www.icc-es.org).
- D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up-to-date as of the date of the Contract Documents.
1. COE - Army Corps of Engineers; [www.usace.army.mil](http://www.usace.army.mil).
  2. CPSC - Consumer Product Safety Commission; [www.cpsc.gov](http://www.cpsc.gov).
  3. DOC - Department of Commerce; National Institute of Standards and Technology; [www.nist.gov](http://www.nist.gov).
  4. DOD - Department of Defense; <http://dodssp.daps.dla.mil>.
  5. DOE - Department of Energy; [www.energy.gov](http://www.energy.gov).
  6. EPA - Environmental Protection Agency; [www.epa.gov](http://www.epa.gov).
  7. FAA - Federal Aviation Administration; [www.faa.gov](http://www.faa.gov).
  8. FG - Federal Government Publications; [www.gpo.gov](http://www.gpo.gov).
  9. GSA - General Services Administration; [www.gsa.gov](http://www.gsa.gov).
  10. HUD - Department of Housing and Urban Development; [www.hud.gov](http://www.hud.gov).
  11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; <http://eetd.lbl.gov>.
  12. OSHA - Occupational Safety & Health Administration; [www.osha.gov](http://www.osha.gov).
  13. SD - Department of State; [www.state.gov](http://www.state.gov).
  14. TRB - Transportation Research Board; National Cooperative Highway Research Program; [www.trb.org](http://www.trb.org).
  15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; [www.ars.usda.gov](http://www.ars.usda.gov).
  16. USDA - Department of Agriculture; Rural Utilities Service; [www.usda.gov](http://www.usda.gov).
  17. USDJ - Department of Justice; Office of Justice Programs; National Institute of Justice; [www.ojp.usdoj.gov](http://www.ojp.usdoj.gov).
  18. USP - U.S. Pharmacopeia; [www.usp.org](http://www.usp.org).
  19. USPS - United States Postal Service; [www.usps.com](http://www.usps.com).
- E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.
1. CFR - Code of Federal Regulations; Available from Government Printing Office; [www.gpo.gov/fdsys](http://www.gpo.gov/fdsys).
  2. DOD - Department of Defense; Military Specifications and Standards; Available from Department of Defense Single Stock Point; <http://dodssp.daps.dla.mil>.
  3. DSCC - Defense Supply Center Columbus; (See FS).
  4. FED-STD - Federal Standard; (See FS).

5. FS - Federal Specification; Available from Department of Defense Single Stock Point; <http://dodssp.daps.dla.mil>.
    - a. Available from Defense Standardization Program; [www.dsp.dla.mil](http://www.dsp.dla.mil).
    - b. Available from General Services Administration; [www.gsa.gov](http://www.gsa.gov).
    - c. Available from National Institute of Building Sciences/Whole Building Design Guide; [www.wbdg.org/ccb](http://www.wbdg.org/ccb).
  6. MILSPEC - Military Specification and Standards; (See DOD).
  7. USAB - United States Access Board; [www.access-board.gov](http://www.access-board.gov).
  8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).
- F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.
1. CBHF; State of California; Department of Consumer Affairs; Bureau of Electronic Appliance and Repair, Home Furnishings and Thermal Insulation; [www.bearhfti.ca.gov](http://www.bearhfti.ca.gov).
  2. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; [www.calregs.com](http://www.calregs.com).
  3. CDHS; California Department of Health Services; (See CDPH).
  4. CDPH; California Department of Public Health; Indoor Air Quality Program; [www.cal-iaq.org](http://www.cal-iaq.org).
  5. CPUC; California Public Utilities Commission; [www.cpuc.ca.gov](http://www.cpuc.ca.gov).
  6. SCAQMD; South Coast Air Quality Management District; [www.aqmd.gov](http://www.aqmd.gov).
  7. TFS; Texas Forest Service; Forest Resource Development and Sustainable Forestry; <http://txforestservation.tamu.edu>.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

## SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
  - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

#### 1.3 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
- B. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage.
  - 1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.
  - 2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.

- C. Dust: Submit coordination drawing and narrative that indicates the dust measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:
  - 1. Locations of dust-control partitions at each phase of work.
  - 2. Waste handling procedures.
  - 3. Other dust-control measures.

## 1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

## 1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Portable Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized-steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide galvanized-steel bases for supporting posts.
- B. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil (0.25-mm) minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

### 2.2 TEMPORARY FACILITIES

- A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect, and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:

1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
  2. Conference room of sufficient size to accommodate meetings of 10 individuals. Provide electrical power service and 120-V ac duplex receptacles, with no fewer than one receptacle on each wall. Furnish room with conference table, chairs, and 4-foot- (1.2-m-) square tack and marker boards.
  3. Drinking water and private toilet.
  4. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F (20 to 22 deg C).
  5. Lighting fixtures capable of maintaining average illumination of 20 fc (215 lx) at desk height.
- C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
1. Store combustible materials apart from building.

## 2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

### 3.2 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

- C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
1. Toilets: Use of Owner's existing toilet facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- D. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
1. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
  2. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.
- E. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.
- F. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install one telephone line(s) for each field office.
1. Provide additional telephone lines for the following:
    - a. Provide a dedicated telephone line for each facsimile machine in each field office.
    - b. Provide one telephone line(s) for Owner's use.
  2. At each telephone, post a list of important telephone numbers.
    - a. Police and fire departments.
    - b. Ambulance service.
    - c. Contractor's home office.
    - d. Contractor's emergency after-hours telephone number.
    - e. Architect's office.
    - f. Engineers' offices.
    - g. Owner's office.
    - h. Principal subcontractors' field and home offices.
  3. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.
- G. Electronic Communication Service: Provide a desktop computer in the primary field office adequate for use by Architect and Owner to access Project electronic documents and maintain electronic communications. Equip computer with not less than the following:
1. Processor: Intel Pentium D or Intel CoreDuo, 3.0 GHz processing speed.
  2. Memory: 4 gigabyte.
  3. Disk Storage: 300 gigabyte hard-disk drive and combination DVD-RW/CD-RW drive.
  4. Display: 22-inch (560-mm) LCD monitor with 256-Mb dedicated video RAM.

5. Full-size keyboard and mouse.
6. Network Connectivity: 10/100BaseT Ethernet.
7. Operating System: Microsoft Windows XP Professional or Microsoft Windows Vista Business.
8. Productivity Software:
  - a. Microsoft Office Professional, XP or higher, including Word, Excel, and Outlook.
  - b. Adobe Reader 7.0 or higher.
  - c. WinZip 7.0 or higher.
9. Printer: "All-in-one" unit equipped with printer server, combining color printing, photocopying, scanning, and faxing, or separate units for each of these three functions.
10. Internet Service: Broadband modem, router and ISP, equipped with hardware firewall, providing minimum 384 Kbps upload and 1 Mbps download speeds at each computer.
11. Internet Security: Integrated software, providing software firewall, virus, spyware, phishing, and spam protection in a combined application.
12. Backup: External hard drive, minimum 40 gigabyte, with automated backup software providing daily backups.

### 3.3 SUPPORT FACILITIES INSTALLATION

#### A. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet (9 m) of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

#### B. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

#### C. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

#### D. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

#### E. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

#### F. Existing Elevator Use: Use of Owner's existing elevators will not be permitted.

- G. Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.
  - 1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.

### 3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
  - 1. Comply with work restrictions specified in Section 011000 "Summary."
- C. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.
  - 1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
  - 2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.
- D. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.
- E. Covered Walkway: Erect protective, covered walkway for passage of individuals through or adjacent to Project site. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction and requirements indicated on Drawings.
  - 1. Construct covered walkways using scaffold or shoring framing.
  - 2. Provide overhead decking, protective enclosure walls, handrails, barricades, warning signs, exit signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.
  - 3. Paint and maintain appearance of walkway for duration of the Work.
  - 4. Construct dustproof partitions with two layers of 6-mil (0.14-mm) polyethylene sheet on each side. Cover floor with two layers of 6-mil (0.14-mm) polyethylene sheet, extending sheets 18 inches (460 mm) up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant-treated plywood.

### 3.5 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.
- B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
  - 1. Protect porous materials from water damage.
  - 2. Protect stored and installed material from flowing or standing water.
  - 3. Keep porous and organic materials from coming into prolonged contact with concrete.
  - 4. Keep deck openings covered or dammed.
- C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
  - 1. Keep interior spaces clean and protected from water damage.
  - 2. Periodically collect and remove waste containing cellulose or other organic matter.
  - 3. Discard or replace water-damaged material.
  - 4. Do not install material that is wet.
  - 5. Discard, replace, or clean stored or installed material that begins to grow mold.
  - 6. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

### 3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
- C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
  - 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
  - 2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

## SECTION 016000 - PRODUCT REQUIREMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
  - 1. Section 012500 "Substitution Procedures" for requests for substitutions.
  - 2. Section 014200 "References" for applicable industry standards for products specified.

#### 1.3 DEFINITIONS

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

#### 1.4 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
  2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
    - a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
    - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

#### 1.5 QUALITY ASSURANCE

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

#### 1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
  2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
  3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.
7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

## 1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. **Manufacturer's Warranty:** Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. **Special Warranty:** Written warranty required by the Contract Documents to provide specific rights for Owner.

- B. **Special Warranties:** Prepare a written document that contains appropriate terms and identification, ready for execution.

1. **Manufacturer's Standard Form:** Modified to include Project-specific information and properly executed.
2. **Specified Form:** When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

- C. **Submittal Time:** Comply with requirements in Section 017700 "Closeout Procedures."

## PART 2 - PRODUCTS

### 2.1 PRODUCT SELECTION PROCEDURES

- A. **General Product Requirements:** Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

**B. Product Selection Procedures:**

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:
  - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
  - b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
4. Manufacturers:
  - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
  - b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers.

Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

- C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
  - 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

## 2.2 COMPARABLE PRODUCTS

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

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

## SECTION 017300 - EXECUTION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
  - 1. Construction layout.
  - 2. Installation of the Work.
  - 3. Cutting and patching.
  - 4. Coordination of Owner-installed products.
  - 5. Progress cleaning.
  - 6. Starting and adjusting.
  - 7. Protection of installed construction.
- B. Related Requirements:
  - 1. Section 011000 "Summary" for limits on use of Project site.
  - 2. Section 013300 "Submittal Procedures" for submitting surveys.
  - 3. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

#### 1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:
  - 1. Extent: Describe reason for and extent of each occurrence of cutting and patching.

2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
  3. Products: List products to be used for patching and firms or entities that will perform patching work.
  4. Dates: Indicate when cutting and patching will be performed.
  5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
    - a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.
- B. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

#### 1.5 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
  2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
    - a. Primary operational systems and equipment.
    - b. Fire separation assemblies.
    - c. Air or smoke barriers.
    - d. Fire-suppression systems.
    - e. Mechanical systems piping and ducts.
    - f. Control systems.
    - g. Communication systems.
    - h. Fire-detection and -alarm systems.
    - i. Conveying systems.
    - j. Electrical wiring systems.
    - k. Operating systems of special construction.
  3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or

decreased operational life or safety. Other construction elements include but are not limited to the following:

- a. Water, moisture, or vapor barriers.
  - b. Membranes and flashings.
  - c. Sprayed fire-resistive material.
  - d. Equipment supports.
  - e. Piping, ductwork, vessels, and equipment.
  - f. Noise- and vibration-control elements and systems.
4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- B. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
  1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
  1. Examine walls for suitable conditions where products and systems are to be installed.

2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- B. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
  1. Description of the Work.
  2. List of detrimental conditions, including substrates.
  3. List of unacceptable installation tolerances.
  4. Recommended corrections.
- C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

### 3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  1. Make vertical work plumb and make horizontal work level.
  2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
  4. Maintain minimum headroom clearance of 96 inches (2440 mm) in occupied spaces and 90 inches (2300 mm) in unoccupied spaces.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
  - 1. Allow for building movement, including thermal expansion and contraction.
  - 2. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

### 3.4 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
  - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."
- F. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
  - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  - 4. Proceed with patching after construction operations requiring cutting are complete.
- G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
  - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
  - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
    - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    - b. Restore damaged pipe covering to its original condition.
    - c. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
- H. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

### 3.5 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
  - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).

3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
    - a. Use containers intended for holding waste materials of type to be stored.
  4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
1. Remove liquid spills promptly.
  2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.
- 3.6 ADJUSTING
- A. Adjust windows for proper operation. Adjust operating components for proper operation without binding.

- B. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- C. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.7 PROTECTION OF INSTALLED CONSTRUCTION

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

END OF SECTION 017300

## SECTION 017329 - CUTTING AND PATCHING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes procedural requirements for cutting and patching.
- B. See other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
- C. Construction Manager to include cutting, coring, drilling, and patching of holes and openings for the work of all subtrades unless specifically noted otherwise.

#### 1.2 QUALITY ASSURANCE

- A. **General Scope:** The contract documents include replacement work and construction. Not all the existing conditions are shown nor the complete extent of patching nor interfacing construction to existing conditions. The Construction Manager and subcontractors shall examine and study the existing construction and conditions to fully understand the extent of cutting required. The work includes, but is not limited to, selective demolition and cutting required to perform demolition work, patching/repairing existing to remain construction is required if damaged during selective demolition.
- B. **Structural Work:** Do not cut and patch structural elements in a manner that would reduce the load-carrying capacity or load deflection ratio. Obtain approval of the cutting and patching proposal before cutting and patching structural elements.
- C. **Operational and Safety Limitations:** Do not cut and patch operating elements or safety components in a manner that would reduce their capacity to perform as intended, or would increase maintenance, or decrease operational life or safety. Obtain approval of the cutting and patching proposal before cutting and patching operating elements or safety related systems.
- D. **Visual Requirements:** Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would reduce the building's aesthetic qualities or result in visual evidence of cutting and patching. Remove and replace Work cut and patched in a visually unsatisfactory manner if Work is to remain exposed.

### PART 2 PRODUCTS

#### 2.1 MATERIALS

- A. Use materials identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible. Use materials whose performance will equal or surpass existing materials.
- B. Comply with requirements in other Sections.

### PART 3 EXECUTION

#### 3.1 INSPECTION

- A. Before cutting, examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered.

#### 3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions that might be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

#### 3.3 PERFORMANCE

- A. Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
  - 1. Cut existing construction to provide for the installation of other components or the performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible, review procedures with the original installer; comply with the original installer's recommendations.
  - 1. Where cutting is required, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
- C. Patching: Patch with durable seams that which are as invisible as possible. Comply with specified tolerances.
  - 1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
  - 2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
- D. Cleaning: Thoroughly clean areas and spaces where cutting and patching is performed. Remove paint, mortar, oils, putty and similar items. Thoroughly clean piping, conduit and similar features before painting or finishing is applied.

Louis Pasteur State Office Building  
Window Replacement

Cranston, Rhode Island  
April 3, 2014  
**Addendum #4 August 6, 2015**

END OF SECTION 017329

## SECTION 017700 - CLOSEOUT PROCEDURES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
  - 1. Substantial Completion procedures.
  - 2. Final completion procedures.
  - 3. Warranties.
  - 4. Final cleaning.
  - 5. Repair of the Work.
- B. Related Requirements:
  - 1. Section 017300 "Execution" for progress cleaning of Project site.
  - 2. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For cleaning agents.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

#### 1.4 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: For pest control inspection.

## 1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

## 1.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
  3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number where applicable.
    - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.
  5. Submit test.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 Insert number days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
  2. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  3. Complete final cleaning requirements, including touchup painting.
  4. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 Insert number days prior to date the work will be completed and ready for final

inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

#### 1.7 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

#### 1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction. Use CSI Form 14.1A.

1. Organize list of spaces in sequential order, starting with exterior areas first by façade and proceeding from lowest floor to highest floor.
2. Include the following information at the top of each page:
  - a. Project name.
  - b. Date.

- c. Name of Architect.
  - d. Name of Contractor.
  - e. Page number.
3. Submit list of incomplete items in the following format:
- a. MS Excel electronic file. Architect will return annotated file.
  - b. PDF electronic file. Architect will return annotated file.
  - c. Three paper copies. Architect will return two copies.

## 1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Partial Occupancy: Submit properly executed warranties within 15 Insert number days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
  1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.
  2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
  3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
  4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

### PART 3 - EXECUTION

#### 3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
  1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
    - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    - f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, and similar spaces.
    - g. Sweep concrete floors broom clean in unoccupied spaces.
    - h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
    - i. Clean transparent materials, and glass in windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
    - j. Remove labels that are not permanent.
- C. Construction Waste Disposal: Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
  
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
  - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
  - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
  - 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

END OF SECTION 017700

## SECTION 017839 - PROJECT RECORD DOCUMENTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
  - 1. Record Drawings.
  - 2. Record Specifications.
  - 3. Record Product Data.
  - 4. Miscellaneous record submittals.
- B. Related Requirements:
  - 1. Section 017300 "Execution" for final property survey.
  - 2. Section 017700 "Closeout Procedures" for general closeout procedures.

#### 1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Submit copies of record Drawings as follows:
    - a. Final Submittal:
      - 1) Submit one (1) full sized paper copy of record drawings.
      - 2) Submit one (1) half sized paper copy of record drawings.
      - 3) Submit PDF record digital data files.
- B. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.
  - 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.
- D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories of each submittal.

- E. Reports: Submit written report weekly indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.
- F. PDF copies of all documents, including submittals, project manual, manufacturer's recommended maintenance instruction, schedules, warranties, etc.

## PART 2 - PRODUCTS

### 2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
  - 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
    - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    - b. Accurately record information in an acceptable drawing technique.
    - c. Record data as soon as possible after obtaining it.
    - d. Record and check the markup before enclosing concealed installations.
    - e. Cross-reference record prints to corresponding archive photographic documentation.
  - 2. Content: Types of items requiring marking include, but are not limited to, the following:
    - a. Dimensional changes to Drawings.
    - b. Revisions to details shown on Drawings.
    - c. Depths of foundations below first floor.
    - d. Locations and depths of underground utilities.
    - e. Changes made by Change Order or Construction Change Directive.
    - f. Changes made following Architect's written orders.
    - g. Details not on the original Contract Drawings.
    - h. Field records for variable and concealed conditions.
    - i. Record information on the Work that is shown only schematically.
  - 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
  - 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
  - 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
  - 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
1. Format: Same digital data software program, version, and operating system as the original Contract Drawings.
  2. Format: DWG, in the most current version of AutoCAD, as well as v2000, Microsoft Windows operating system.
  3. Format: Annotated PDF electronic file with comment function enabled.
  4. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
  5. Refer instances of uncertainty to Architect for resolution.
  6. Architect will furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.
    - a. See Section 013300 "Submittal Procedures" for requirements related to use of Architect's digital data files.
    - b. Architect will provide data file layer information. Record markups in separate layers.
- C. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing record Drawings where Architect determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.
1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
  2. Consult Architect for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared record Drawings into record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.
- D. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints and newly prepared record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
  2. Format: Annotated PDF electronic file with comment function enabled.
  3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
  4. Identification: As follows:
    - a. Project name.
    - b. Date.
    - c. Designation "PROJECT RECORD DRAWINGS."
    - d. Name of Architect.
    - e. Name of Contractor.

## 2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
  - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
  - 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
  - 4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
  - 5. Note related Change Orders, record Product Data, and record Drawings where applicable.
- B. Format: Submit record Specifications as annotated PDF electronic file.

## 2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
  - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
  - 3. Note related Change Orders, record Specifications, and record Drawings where applicable.
- B. Format: Submit record Product Data as annotated PDF electronic file.
  - 1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

## 2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as PDF electronic file.
  - 1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's reference during normal working hours.

END OF SECTION 017839

**SECTION:      028200      ASBESTOS HAZARD ABATEMENT  
PLAN (FOR REFERENCE ONLY)**

## SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Wood blocking, and nailers.

#### 1.3 DEFINITIONS

- A. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) or greater but less than 5 inches nominal (114 mm actual) in least dimension.
- B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
  - 1. NeLMA: Northeastern Lumber Manufacturers' Association.
  - 2. NHLA: National Hardwood Lumber Association.
  - 3. NLGA: National Lumber Grades Authority.
  - 4. SPIB: The Southern Pine Inspection Bureau.
  - 5. WCLIB: West Coast Lumber Inspection Bureau.
  - 6. WWPA: Western Wood Products Association.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
  - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
  - 2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
  - 3. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:

1. Preservative-treated wood.
2. Power-driven fasteners.
3. Powder-actuated fasteners.
4. Expansion anchors.
5. Metal framing anchors.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

## PART 2 - PRODUCTS

### 2.1 WOOD PRODUCTS, GENERAL

- A. Certified Wood: Lumber and plywood shall be produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."
- B. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
  1. Factory mark each piece of lumber with grade stamp of grading agency.
  2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
  3. Provide dressed lumber, S4S, unless otherwise indicated.
- C. Maximum Moisture Content of Lumber: 15 percent unless otherwise indicated.

### 2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWWA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.
  1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
  2. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.

- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat all miscellaneous carpentry unless otherwise indicated:
  - 1. Wood sills, blocking, stripping, and similar concealed members in contact with masonry or concrete.

### 2.3 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
  - 1. Blocking.
  - 2. Nailers.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber and any of the following species:
  - 1. Hem-fir (north); NLGA.
  - 2. Mixed southern pine; SPIB.
  - 3. Spruce-pine-fir; NLGA.
  - 4. Hem-fir; WCLIB or WWPA.
- C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

### 2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Lag Bolts: ASME B18.2.1 (ASME B18.2.3.8M).
- F. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.
- G. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as

determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.

1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
2. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 (ASTM F 738M and ASTM F 836M, Grade A1 or A4).

## 2.5 MISCELLANEOUS MATERIALS

- A. Adhesives for Gluing Furring to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.
  1. Adhesives shall have a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
  2. Adhesives shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- B. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber or rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch (0.6 mm).

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- C. Comply with AWP A M4 for applying field treatment to cut surfaces of preservative-treated lumber.
  1. Use inorganic boron for items that are continuously protected from liquid water.
  2. Use copper naphthenate for items not continuously protected from liquid water.
- D. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
  1. NES NER-272 for power-driven fasteners.

2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
3. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.

- E. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

### 3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

### 3.3 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

## SECTION 079200 - JOINT SEALANTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Silicone joint sealants.
  - 2. Latex joint sealants.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- D. Joint-Sealant Schedule: Include the following information:
  - 1. Joint-sealant application, joint location, and designation.
  - 2. Joint-sealant manufacturer and product name.
  - 3. Joint-sealant formulation.
  - 4. Joint-sealant color.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Product Test Reports: For each kind of joint sealant, for tests performed by manufacturer and witnessed by a qualified testing agency.
- C. Preconstruction Laboratory Test Reports: From sealant manufacturer, indicating the following:
  - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.

2. Interpretation of test results and written recommendations for primers and substrate preparation are needed for adhesion.
- D. Preconstruction Field-Adhesion-Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on testing specified in "Preconstruction Testing" Article.
- E. Field-Adhesion-Test Reports: For each sealant application tested.
- F. Sample Warranties: For special warranties.

#### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
- B. Product Testing: Test joint sealants using a qualified testing agency.
  1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.
- C. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

#### 1.6 PRECONSTRUCTION TESTING

- A. Preconstruction Laboratory Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
  1. Adhesion Testing: Use ASTM C 794 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
  2. Stain Testing: Use ASTM C 1248 to determine stain potential of sealant when in contact with masonry substrates.
  3. Submit manufacturer's recommended number of pieces of each type of material, including joint substrates, joint-sealant backings, and miscellaneous materials.
  4. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
  5. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures, including use of specially formulated primers.
  6. Testing will not be required if joint-sealant manufacturers submit data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, staining of, and compatibility with joint substrates and other materials matching those submitted.

#### 1.7 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

## 1.8 WARRANTY

- A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
  1. Warranty Period: Five years from date of Substantial Completion.
- B. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
  1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
  2. Disintegration of joint substrates from causes exceeding design specifications.
  3. Mechanical damage caused by individuals, tools, or other outside agents.
  4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

## PART 2 - PRODUCTS

### 2.1 MATERIALS, GENERAL

- . Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
- A. Colors: Provide color of exposed joint sealants to comply with the following:
  1. Provide selections made by Architect from manufacturer's full range of colors for products of type indicated.
- C. VOC Content of Interior Sealants: Provide sealants and sealant primers for use inside weather-proofing system that comply with following limits for VOC content when calculated according to 40 CFR 59, Part 59, Subpart D (EPA Method 24):
  1. Architectural Sealants: 250 g/L.
  2. Sealant Primers for Nonporous Substrates: 250 g/L.
  3. Sealant Primers for Porous Substrates: 775 g/L.

## 2.2 SILICONE JOINT SEALANTS

- A. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 50, for Use NT.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. BASF Building Systems; Omniseal 50.
    - b. Dow Corning Corporation; 795.
    - c. GE Advanced Materials - Silicones; SilGlaze II SCS2800.
    - d. May National Associates, Inc.; Bondaflex Sil 295.
    - e. Pecora Corporation; 898.
    - f. Polymeric Systems, Inc.; PSI-641.
    - g. Sika Corporation, Construction Products Division; SikaSil-C995.
    - h. Tremco Incorporated; Spectrem 3.
    - i. Or equal.

## 0.3 ACRYLIC JOINT SEALANTS

- A. Acrylic Sealant: Manufacturer's standard one-part, nonsag, solvent-release-curing acrylic terpolymer sealant complying with AAMA 808.3 or FS TT-S-00230 or both, with capability when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719, to withstand the following percentage change in joint width existing at time of application and remain adhered to joint substrates indicated for Project without failing cohesively:
0. 7-1/2 percent movement in both extension and compression for a total of 15 percent.
  1. 12-1/2 percent movement in both extension and compression for a total of 25 percent.
- B. Products: Subject to compliance with requirements, provide one of the following:
1. Acrylic Sealant:
    - a. Similar to "Acryl-R Acrylic Sealant," Schnee-Moorehead, Inc.
    - b. Similar to "Mono 555," Tremco, Inc.
    - c. Or equal.

#### 0.9 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Elastomeric Tubing Joint Fillers: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, capable of remaining resilient at temperatures down to -26 deg F. Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and otherwise contribute to optimum sealant performance.
- B. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

#### 0.10 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming in any way joint substrates and adjacent nonporous surfaces, and formulated to promote optimum adhesion of sealants with joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
  2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
    - a. Concrete.
    - b. Masonry.
    - c. Unglazed surfaces of ceramic tile.
    - d. Stone.
  3. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
    - a. Metal.
    - b. Glass.
    - c. Glazed surfaces of ceramic tile.
    - d. Cellular PVC Trim Boards.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

### 3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
  - 1. Do not leave gaps between ends of sealant backings.
  - 2. Do not stretch, twist, puncture, or tear sealant backings.
  - 3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
  - 1. Place sealants so they directly contact and fully wet joint substrates.
  - 2. Completely fill recesses in each joint configuration.
  - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
  - 1. Remove excess sealant from surfaces adjacent to joints.
  - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
  - 3. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

### 3.4 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

### 3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
  - 1. Joint Locations:
    - a. Perimeter joints between masonry and frames of windows/louvers.
    - b. Other joints as indicated on Drawings.
  - 2. Joint Sealant: Silicone, nonstaining, S, NS, 50, NT.
  - 3. Joint-Sealant Color: Match Windows and Louvers.
  
- B. Joint-Sealant Application: Interior joints in vertical surfaces not subject to significant movement.
  - 1. Joint Locations:
    - a. Perimeter joints between interior wall surfaces and frames of windows.
    - b. Other joints as indicated on Drawings.
  - 2. Joint Sealant: Acrylic latex.
  - 3. Joint-Sealant Color: Match Windows and Louvers.

END OF SECTION 079200

## SECTION 085200 - WOOD WINDOWS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section includes aluminum-clad wood windows.

#### 1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site Louis Pasteur State Office Building, 25 Howard Avenue (Building #57), Cranston, RI.
  - 1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  - 2. Review, discuss, and coordinate the interrelationship of wood windows with other exterior wall components. Include provisions for anchoring, flashing, weeping, sealing perimeters, and protecting finishes.
  - 3. Review and discuss the sequence of work required to construct and maintain a watertight and weathertight exterior building envelope.
  - 4. Inspect and discuss the condition of substrate and other preparatory work performed by other trades.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Include construction details, material descriptions, glazing and fabrication methods, dimensions of individual components and profiles, hardware, and finishes for alum clad wood windows.
- B. Shop Drawings: Include plans, elevations, sections, hardware, accessories, insect screens, operational clearances, and details of installation, including anchor, flashing, and sealant installation.
- C. Samples: For each exposed product and for each color specified, 2 by 4 inches (50 by 100 mm) in size.
- D. Samples for Initial Selection: For units with factory-applied color finishes.
  - 1. Include similar Samples of hardware and accessories involving color selection.

- E. Samples for Verification: For alum clad wood windows and components required, prepared on Samples of size indicated below:
  - 1. Exposed Finishes: 2 by 4 inches (50 by 100 mm).
  - 2. Exposed Hardware: Full-size units.
- F. Product Schedule: For alum clad wood windows. Use same designations indicated on Drawings.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For manufacturer and Installer.
- B. Product Test Reports: For each type of wood window, for tests performed by a qualified testing agency.
- C. Field quality-control reports.
- D. Sample Warranties: For manufacturer's warranties.

#### 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A manufacturer capable of fabricating wood windows that meet or exceed performance requirements indicated and of documenting this performance by test reports, and calculations.
- B. Installer Qualifications: An installer acceptable to wood window manufacturer for installation of units required for this Project.
- C. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Build mockup of typical rectangular and arched window in place as shown on Drawings.
  - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  - 3. Approved mockup shall remain in place within the work.

#### 1.7 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace wood windows that fail in materials or workmanship within manufacturer's warranty and specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Failure to meet performance requirements.
    - b. Structural failures including excessive deflection, water leakage, and air infiltration.
    - c. Faulty operation of movable sash and hardware.
    - d. Deterioration of materials and finishes beyond normal weathering.

- e. Failure of insulating glass.
2. Warranty Period:
  - a. Window: 20 years from date of Substantial Completion.
  - b. Glazing Units: 20 years from date of Substantial Completion.
  - c. Aluminum-Cladding Finish: 20 years from date of Substantial Completion.
  - d. Wood Members: 20 years from date of substantial completion.
  - e. Aluminum-Cladding Structural Performance: Lifetime.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

#### A. Aluminum-Clad Wood Windows:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Eagle Talon or comparable product by one of the following: Contact: Don Hamel, Territory Sales Representative, 413-237-2385 or donald.hamel@andersencorp.com
2. Andersen-Eagle Window & Door Manufacturing, Inc., 2045 Kerber Blvd, Dubuque, IA 52001
3. Marvin Windows and Doors, P.O. Box 100 Warroad, MN 56763
4. Kolbe & Kolbe Millwork Co, Inc., 1323 S 11<sup>th</sup> Ave, Wausah, WI 54401

#### B. Source Limitations: Obtain wood windows from single source from single manufacturer.

### 2.2 WINDOW PERFORMANCE REQUIREMENTS

#### A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.

1. Window Certification: WDMA certified with label attached to each window.

#### B. Performance Class and Grade: AAMA/WDMA/CSA 101/I.S.2/A440 as follows:

1. Minimum Performance Class: CW.
2. Minimum Performance Grade: 40.

#### C. Thermal Transmittance: NFRC 100 maximum whole-window U-factor of 0.32 Btu/sq. ft. x h x deg F (1.83 W/sq. m x K)

#### D. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum whole-window SHGC of 0.27.

#### E. Sound Transmission Class (STC): Rated for not less than 30 STC when tested for laboratory sound transmission loss according to ASTM E 90 and determined by ASTM E 413.

- F. Outside-Inside Transmission Class (OITC): Rated for not less than 30 OITC when tested for laboratory sound transmission loss according to ASTM E 90 and determined by ASTM E 1332.

## 2.3 ALUM CLAD WOOD WINDOWS

- A. Operating Types: Provide the following operating types in locations indicated on Drawings:

1. Double hung.

- B. Frames and Sashes: Fine-grained wood lumber complying with AAMA/WDMA/CSA 101/I.S.2/A440; kiln dried to a moisture content of not more than 12 percent at time of fabrication; free of visible finger joints, blue stain, knots, pitch pockets, and surface checks larger than 1/32 inch (0.8 mm) deep by 2 inches (51 mm) wide; water-repellent preservative treated.

1. Exterior Finish: Aluminum-clad wood.

- a. Aluminum Finish: Manufacturer's standard fluoropolymer two-coat system with fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight and complying with AAMA 2605.

- b. Color: To match Andersen-Eagle Window & Door Manufacturing, Inc. #2605 'Balsa White'

2. Interior Finish: To match Andersen-Eagle Window & Door Manufacturing, Inc. .

- a. Color: Birch Bark.

- C. Insulating-Glass Units: ASTM E 2190, certified through IGCC as complying with requirements of IGCC.

1. Glass: ASTM C 1036, Type 1, Class 1, q3.

- a. Tint: Clear
- b. Kind: Fully tempered where indicated on Drawings.

2. Lites: As indicated on Drawings.
3. Filling: Fill space between glass lites with argon.
4. Low-E Coating: 3 coatings of Low E soft coat

- D. Hardware, General: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, carbon steel complying with AAMA 907, or other corrosion-resistant material compatible with adjacent materials; designed to smoothly operate, tightly close, and securely lock windows, and sized to accommodate sash weight and dimensions.

1. Exposed Hardware Color and Finish: White.

- E. Hung Window Hardware:

1. Counterbalancing Mechanism: Complying with AAMA 902, concealed, of size and capacity to hold sash stationary at any open position.
  2. Locks and Latches: Allow unobstructed movement of the sash across adjacent sash in direction indicated and operated from the inside only.
  3. Tilt Hardware: Releasing tilt latch allows sash to pivot about horizontal axis to facilitate cleaning exterior surfaces from the interior.
- F. Weather Stripping: Provide full-perimeter weather stripping for each operable sash unless otherwise indicated.
- G. Fasteners: Noncorrosive and compatible with window members, trim, hardware, anchors, and other components.
1. Exposed Fasteners: Do not use exposed fasteners to the greatest extent possible. For application of hardware, use fasteners that match finish hardware being fastened.

## 2.4 ACCESSORIES

- A. Dividers (False Muntins): Provide divider grilles in designs indicated for each sash lite.
1. Quantity and Type: Three per sash, two permanently located at exterior and interior lites and one permanently located between insulating-glass lites.
  2. Material: Manufacturer's standard.
  3. Pattern: As indicated on Drawings.
  4. Profile: Colonial. 5/8
  5. Color: To match Andersen-Eagle Window & Door Manufacturing, Inc. #2605 'Balsa White' (Exterior), Birch Bark White (Interior).

## 2.5 INSECT SCREENS

- A. General: Fabricate insect screens to integrate with window frame. Provide screen for each operable exterior sash. Screen wickets are not permitted.
1. Type and Location: Half, outside for double-hung sashes.
- B. Aluminum Frames: Manufacturer's standard aluminum alloy complying with SMA 1004 or SMA 1201. Fabricate frames with mitered or coped joints or corner extrusions, concealed fasteners, and removable PVC spline/anchor concealing edge of frame.
1. Tubular Framing Sections and Cross Braces: Roll formed from aluminum sheet.
  2. Finish for Exterior Screens: Balsa White.
- C. Glass-Fiber Mesh Fabric: 18-by-16 (1.0-by-1.1-mm) mesh of PVC-coated, glass-fiber threads; woven and fused to form a fabric mesh resistant to corrosion, shrinkage, stretch, impact damage, and weather deterioration. Comply with ASTM D 3656.
1. Mesh Color: Charcoal.

## 2.6 FABRICATION

- A. Fabricate wood windows in sizes indicated. Include a complete system for installing and anchoring windows.
- B. Glaze wood windows in the factory.
- C. Frame Expander with Sill Nosing
- D. Weather strip each operable sash to provide weathertight installation.
- E. Mullions: Provide mullions and cover plates, matching window units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections. Provide mullions and cover plates capable of withstanding design wind loads of window units.
- F. Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation. Allow for scribing, trimming, and fitting at Project site.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Verify rough opening dimensions, levelness of sill plate, and operational clearances.
- C. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure weathertight window installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E 2112.
- B. Install windows level, plumb, square, true to line, without distortion, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction to produce weathertight construction.

### 3.3 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

1. Testing and inspecting agency will interpret tests and state in each report whether tested work complies with or deviates from requirements.
  - B. Testing Services: Testing and inspecting of installed windows shall take place as follows:
    1. Testing Methodology: Testing of windows for air infiltration and water resistance shall be performed according to AAMA 502.
    2. Air-Infiltration Testing:
      - a. Test Pressure: That required to determine compliance with AAMA/WDMA/CSA 101/I.S.2/A440 performance class indicated.
      - b. Allowable Air-Leakage Rate: 1.5 times the applicable AAMA/WDMA/CSA 101/I.S.2/A440 rate for product type and performance class rounded down to one decimal place.
    3. Water-Resistance Testing:
      - a. Test Pressure: Two-thirds times test pressure required to determine compliance with AAMA/WDMA/CSA 101/I.S.2/A440 performance grade indicated.
      - b. Allowable Water Infiltration: No water penetration.
    4. Testing Extent: Three windows of each type as selected by Architect and a qualified independent testing and inspecting agency. Windows shall be tested after perimeter sealants have cured.
    5. Test Reports: Prepared according to AAMA 502.
  - C. Remove and replace noncomplying windows and retest as specified above.
  - D. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
  - E. Prepare test and inspection reports.
- 3.4 ADJUSTING, CLEANING, AND PROTECTION
- A. Adjust operating sashes and hardware for a tight fit at contact points and weather stripping for smooth operation and weathertight closure.
  - B. Clean exposed surfaces immediately after installing windows. Remove excess sealants, glazing materials, dirt, and other substances.
    1. Keep protective films and coverings in place until final cleaning.
  - C. Remove and replace sashes if glass has been broken, chipped, cracked, abraded, or damaged during construction period.
  - D. Protect window surfaces from contact with contaminating substances resulting from construction operations. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written instructions.

Louis Pasteur State Office Building  
Window Replacement

Cranston, Rhode Island  
April 3, 2014  
**Addendum #4 August 6, 2015**

END OF SECTION 085200

## SECTION 089119 - FIXED LOUVERS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Fixed, extruded-aluminum and formed-metal louvers.

#### 1.3 DEFINITIONS

- A. Louver Terminology: Definitions of terms for metal louvers contained in AMCA 501 apply to this Section unless otherwise defined in this Section or in referenced standards.
- B. Wind-Driven-Rain-Resistant Louver: Louver that provides specified wind-driven rain performance, as determined by testing according to AMCA 500-L.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. For louvers specified to bear AMCA seal, include printed catalog pages showing specified models with appropriate AMCA Certified Ratings Seals.
- B. Shop Drawings: For louvers and accessories. Include plans, elevations, sections, details, and attachments to other work. Show frame profiles and blade profiles, angles, and spacing.
  - 1. Show weep paths, gaskets, flashing, sealant, and other means of preventing water intrusion.
  - 2. Show mullion profiles and locations.
- C. Samples: For each type of metal finish required.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: Based on evaluation of comprehensive tests performed according to AMCA 500-L by a qualified testing agency or by manufacturer and witnessed by a qualified

testing agency, for each type of louver and showing compliance with performance requirements specified.

- B. Windborne-debris-impact-resistance test reports.

## 1.6 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to the following:

- 1. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."

## 1.7 FIELD CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Source Limitations: Obtain louvers from single source from a single manufacturer where indicated to be of same type, design, or factory-applied color finish.

### 2.2 PERFORMANCE REQUIREMENTS

- A. Louver Performance Ratings: Provide louvers complying with requirements specified, as demonstrated by testing manufacturer's stock units identical to those provided, except for length and width according to AMCA 500-L.
- B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
  - 1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- C. SMACNA Standard: Comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" for fabrication, construction details, and installation procedures.

### 2.3 FIXED, EXTRUDED-ALUMINUM LOUVERS

- A. Horizontal, Wind-Driven-Rain-Resistant Louver:

- 1. Manufactures:
  - a. Greenheca.

- b. Rhsicin.
  - c. Arch Louvers.
- 2. Louver Depth: 4 inches (100 mm).
  - 3. Frame and Blade Nominal Thickness: Not less than 0.080 inch (2.03 mm) for blades and 0.080 inch (2.03 mm) for frames.

## 2.4 LOUVER SCREENS

- A. General: Provide screen at each exterior louver.
  - 1. Screen Location for Fixed Louvers: Interior face.
  - 2. Screening Type: Insect screening.
- B. Secure screen frames to louver frames with stainless-steel machine screws, spaced a maximum of 6 inches (150 mm) from each corner and at 12 inches (300 mm) o.c.
- C. Louver Screen Frames: Fabricate with mitered corners to louver sizes indicated.
  - 1. Metal: Same type and form of metal as indicated for louver to which screens are attached. Reinforce extruded-aluminum screen frames at corners with clips.
  - 2. Finish: Same finish as louver frames to which louver screens are attached.
  - 3. Type: Non-rewirable, U-shaped frames.
- D. Louver Screening for Aluminum Louvers:
  - 1. Insect Screening: Stainless steel, 18-by-18 (1.4-by-1.4-mm) mesh, 0.009-inch (0.23-mm) wire.

## 2.5 BLANK-OFF PANELS

- A. Insulated, Blank-Off Panels: Laminated panels consisting of an insulating core surfaced on back and front with metal sheets and attached to back of louver.
  - 1. Thickness: 2 inches (50 mm).
  - 2. Metal Facing Sheets: Aluminum sheet, not less than 0.032-inch (0.81-mm) nominal thickness.
  - 3. Insulating Core: Rigid, glass-fiber-board insulation.
  - 4. Edge Treatment: Trim perimeter edges of blank-off panels with louver manufacturer's standard extruded-aluminum-channel frames, not less than 0.080-inch (2.03-mm) nominal thickness, with corners mitered and with same finish as panels.
  - 5. Seal perimeter joints between panel faces and louver frames with gaskets or sealant.
  - 6. Panel Finish: Same finish applied to louvers.
  - 7. Attach blank-off panels with clips.

## 2.6 MATERIALS

- A. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), Alloy 6063-T5, T-52, or T6.

- B. Fasteners: Use types and sizes to suit unit installation conditions.
  - 1. Use hex-head or Phillips pan-head screws for exposed fasteners unless otherwise indicated.
  - 2. For fastening aluminum, use aluminum or 300 series stainless-steel fasteners.
  - 3. For color-finished louvers, use fasteners with heads that match color of louvers.
- C. Postinstalled Fasteners for Concrete and Masonry: Torque-controlled expansion anchors, made from stainless-steel components, with capability to sustain, without failure, a load equal to 4 times the loads imposed, for concrete, or 6 times the load imposed for masonry, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.
- D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

## 2.7 FABRICATION

- A. Factory assemble louvers to minimize field splicing and assembly. Disassemble units as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.
- B. Maintain equal louver blade spacing, including separation between blades and frames at head and sill, to produce uniform appearance.
- C. Fabricate frames, including integral sills, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances, adjoining material tolerances, and perimeter sealant joints.
  - 1. Frame Type: Channel unless otherwise indicated.
- D. Include supports, anchorages, and accessories required for complete assembly.
- E. Provide subsills made of same material as louvers for recessed louvers.
- F. Join frame members to each other and to fixed louver blades with fillet welds concealed from view unless otherwise indicated or size of louver assembly makes bolted connections between frame members necessary.

## 2.8 ALUMINUM FINISHES

- A. Finish louvers after assembly.
- B. High-Performance Organic Finish: Two-coat fluoropolymer finish complying with AAMA 2605 and containing not less than **70** percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
  - 1. Color and Gloss: Match Window Color.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates and openings, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation of anchorages that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.

#### 3.3 INSTALLATION

- A. Locate and place louvers level, plumb, and at indicated alignment with adjacent work.
- B. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight connection.
- C. Form closely fitted joints with exposed connections accurately located and secured.
- D. Provide perimeter reveals and openings of uniform width for sealants and joint fillers, as indicated.
- E. Protect unpainted galvanized and nonferrous-metal surfaces that are in contact with concrete, masonry, or dissimilar metals from corrosion and galvanic action by applying a heavy coating of bituminous paint or by separating surfaces with waterproof gaskets or nonmetallic flashing.
- F. Install concealed gaskets, flashings, joint fillers, and insulation as louver installation progresses, where weathertight louver joints are required. Comply with Section 079200 "Joint Sealants" for sealants applied during louver installation.

#### 3.4 ADJUSTING AND CLEANING

- A. Clean exposed louver surfaces that are not protected by temporary covering, to remove fingerprints and soil during construction period. Do not let soil accumulate during construction period.
- B. Before final inspection, clean exposed surfaces with water and a mild soap or detergent not harmful to finishes. Thoroughly rinse surfaces and dry.
- C. Restore louvers damaged during installation and construction so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by Architect, remove damaged units and replace with new units.

1. Touch up minor abrasions in finishes with air-dried coating that matches color and gloss of, and is compatible with, factory-applied finish coating.

END OF SECTION 089119

## SECTION 099100 - PAINTING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Surface preparation and field application of paints and finishes for interior and exterior surfaces.
  - 2. Schedule of Items to be painted.
  - 3. Exterior painting and finishing schedule.
  - 4. Interior painting and finishing schedule.
  
- B. Related Documents: The Contract Documents, as defined in Section 011000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.

#### 1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
  - 1. ASTM E 84 - Test Method for Surface Burning Characteristics of Building Materials.

#### 1.3 SUBMITTALS

- A. Section 013300 - Submittals: Procedures for submittals.
  - 1. Product Data: Submit product data for each type of paint specified.
    - a. Technical data sheets indicating manufacturer's catalog number, paint type description, and VOC content.
    - b. Painting Schedule listing surfaces to be painted with cross reference to the specific painting and finishing system and application. Identify each paint material by manufacturer's catalog number and general classification.
  - 2. Samples: Submit color brush-out sample for each paint color and sheen specified.
    - a. Three samples on 8 1/2 inch x 11 inch card stock for color and sheen verification.
    - b. Identify each sample by paint manufacturer, paint type, color, and sheen.
  - 3. Assurance/Control Submittals:
    - a. Test Reports: Submit manufacturer's Material Safety Data Sheets (MSDS) for each paint type proposed.

#### 1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in performing Work of this Section with minimum five years documented experience.
  
- B. Regulatory Requirements:
  - 1. Surface Burning Characteristics in Accordance with ASTM E-84 for Class I or A finish:

- a. Flame Spread (Non-Combustible Surfaces): Less than 25.
- b. Smoke Density (Non-Combustible Surfaces): Less than 450.
2. Provide paint and coating materials that conform to Federal, State, and Local restrictions for Volatile Organic Compounds (VOC) content.

#### 1.5 DELIVERY, STORAGE AND HANDLING

- A. Section 016000 - Product Requirements: Transport, handle, store, and protect products.
- B. Deliver paint materials in sealed original labeled containers, bearing manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time , cleanup requirements, color designation, and instructions for mixing and/or reducing.
- C. Store paint materials at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's published instructions.
- D. Prevent fire hazards and spontaneous combustion.

#### 1.6 PROJECT CONDITIONS OR SITE CONDITIONS

- A. Environmental Requirements:
  1. Apply paint finishes only when moisture content of surfaces is within manufacturer's acceptable ranges for type of finish being applied.
  2. Surface temperatures or surrounding air temperature to be above 40 degrees F before applying alkyd finishes; above 45 degrees F for interior latex, and 50 degrees F for exterior latex work. Minimum for varnish and transparent finishes is 65 degrees F.
  3. Provide continuous ventilation and heating facilities to maintain temperatures above 45 degrees F for 24 hours prior to, during and 48 hours after application of finishes.
  4. Do not apply paint in areas where dust is being generated.
  5. Provide lighting level in areas being painted of 80 foot candles measured mid-height at substrate surface.

#### 1.7 MAINTENANCE

- A. Section 017704 - Closeout Procedures and Training: Procedures for closeout submittals.
- B. Extra Materials:
  1. Provide one gallon of each color, type and sheen to Owner.
  2. Label each container with color, type, texture, room locations, in addition to the manufacturer's label.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Subject to compliance with project requirements, manufacturers offering specified items which may be incorporated in the work include the following:
  - 1. Benjamin Moore and Company, Montvale, NJ (201) 573-9600.
  - 2. Duron Paints and Wall Coverings, Beltsville, MD (800) 723-8766.
  - 3. Devoe (ICI), Cleveland, OH (888) 681-6353.
  - 4. Glidden (ICI), Cleveland, OH (888) 681-6353.
  - 5. Frazee Paint Company, Los Angeles, CA (800) 826-9048.
  - 6. Pittsburgh Paints, Pittsburgh, PA (800) 441-9695.
  - 7. Sherwin-Williams Company, Cleveland, OH (800) 321-8194.
  
- B. Section 016000 - Product Requirements: Product options and substitutions. Substitutions: Permitted.

## 2.2 MATERIALS

- A. Paints:
  - 1. Manufacturer's "Best Grade" for each type specified.
  - 2. Ready-mixed; pigments fully ground maintaining a soft paste consistency, capable of readily and uniformly dispersing to a complete homogeneous mixture.
  - 3. Providing good flowing and brushing properties and be capable of drying or curing free of streaks or sags.
  - 4. VOC limits (g/L) for exterior and interior paint applications:
    - a. Exterior- Steel- Primed
      - 1) Top Coat – Non-Flat: 150
      - 2) Top Coat - Gloss: 250
    - b. Interior Concrete, Concrete Block
      - 1) Block filler: 300
      - 2) Top Coat – Flat: 100
      - 3) Top Coat – Non-Flat: 150
      - 4) Top Coat – Gloss: 250
    - c. Interior Steel – Unprimed
      - 1) Rust Prime Coat: 400
      - 2) Top Coat – Non-Flat: 150
      - 3) Top Coat – Gloss: 250
    - d. Interior Plaster, Gypsum Board, Wood
      - 1) Undercoater: 200
      - 2) Top Coat - Flat: 100
      - 3) Top Coat – Non-Flat: 150
      - 4) Top Coat – Gloss: 250
  
- B. Primers and Undercoaters: Manufactured by same manufacturer as finish coat materials.
  
- C. Paint Accessory Materials: Linseed oil, shellac, turpentine and other materials not specifically indicated herein but required to achieve the finishes specified of high quality and approved manufacturer.

## 2.3 EXTERIOR PAINT SYSTEMS

- A. Benjamin Moore:
  - 1. Ferrous Metal: Semi-Gloss, Water Base, Alkyd Primer/Acrylic Latex.
    - a. Primer: M04 Acrylic Metal Primer; MDF 2.0 mils.
    - b. Each Finish Coat: M29 DTM Acrylic Semi-Gloss; MDF 2.0 mils.
- B. Duron:
  - 1. Ferrous Metal: Semi-Gloss, Water Base, Alkyd Primer/Acrylic Latex.
    - a. Primer: Dura Clad Universal Acrylic Metal Primer, 33-105; MDF 2.4 mils. (MPI xx, Approved)
    - b. Each Finish Coat: Dura Clad DTM Acrylic Coating Gloss 95-30X, MDF 3.0 mils. (MPI 110-G6)
- C. Devoe (ICI):
  - 1. Ferrous Metal: Semi-Gloss, Water Base, Alkyd Primer/Acrylic Latex.
    - a. Primer: Mirrolac W/B DTM Primer DP85XX.
    - b. Each Finish Coat: Mirrolac W/B Semi-Gloss Enamel DP83XX.
- D. Frazee:
  - 1. Ferrous Metal: Semi-Gloss, Water Base, Alkyd Primer/Acrylic Latex.
    - a. Primer: 661F774Metal Prime; MDF 1.7 mils.
    - b. Each Finish Coat: 128 Satin Glide Semi Gloss Acrylic, 03-Series; MDF 1.4 mils.
- E. Pittsburgh:
  - 1. Ferrous Metal: Semi-Gloss, Water Base, Alkyd Primer/Acrylic Latex.
    - a. Primer: 90-709 DTM Interior/Exterior Primer; MDF 3.0 mils.
    - b. Each Finish Coat: 90-474 Acrylic Enamel Satin; MDF 3.0 mils.
- F. Sherwin-Williams:
  - 1. Ferrous Metal: Semi-Gloss, Low VOC, Alkyd Primer/Acrylic Latex.
    - a. Primer: Pro-Cryl Universal Water-Based Primer, B66-310, MDF 3.0 mils.
    - b. Each Finish Coat: DTM Acrylic B66 Series; MDF 3.0 mils.

## 2.4 INTERIOR PAINT SYSTEMS

- A. Benjamin Moore:
  - 1. Gypsum Board: Eggshell, Water Base, Acrylic Latex.
    - a. Primer: 284 Moorecraft Superhide Interior Latex Primer/Undercoater; MDF 1.5 mils.
    - b. Each Finish Coat: Moorecraft Super-Hide Eggshell 286.
  - 2. Masonry: Eggshell, Water Base, Acrylic Latex.
    - a. Primer: Moorecraft Super Hide Interior/Exterior Latex Blockfiller 285; MDF 11.0 mils.
    - b. Each Finish Coat: Moorecraft Super-Hide Eggshell 286.
  - 3. Wood: Satin, Water Base, Acrylic Latex.
    - a. Primer: 253 Moorecraft Latex Enamel Undercoater and Primer Sealer; 2.0 mils.
    - b. Each Finish Coat: Moorecraft Super-Hide Eggshell 286.

4. Concrete: Semi-Gloss, Water Base, Acrylic Latex.
  - a. Primer: Moorecraft Super Hide Interior/Exterior Latex Blockfiller 285; MDF 11.0 mils.
  - b. Each Finish Coat: 276 Moorecraft Acrylic Latex; MDF 1.5 mils.
  
- B. Duron:
  1. Gypsum Board: Eggshell, Water Base, Acrylic Latex.
    - a. Primer: Interior Latex Drywall Primer 04-124: Applied at a dry film thickness of not less than 1.6 mils (0.041 mm). (MPI 50, Approved)
    - b. Each Finish Coat: Acrylic Latex Eggshell (Low Sheen) Enamel 36 Series; MDF 1.4 mils.(MPI 44, Approved)
  2. Masonry: Eggshell, Water Base, Acrylic Latex.
    - a. Primer: Block Kote Interior/Exterior Latex Block Filler 08-128; MDF 10.2 mils.
    - b. Each Finish Coat: Acrylic Latex Eggshell (Low Sheen) Enamel 36Series; MDF 1.4 mils. (MPI 44, Approved)
  3. Wood: Satin, Water Base, Acrylic Latex.
    - a. Primer: Interior Acrylic Enamel Undercoater 04-123; MDF 1.6mils. (MPI 50, Approved)
    - b. Each Finish Coat: Ultra Deluxe Interior Acrylic Latex Eggshell (Low Sheen) Enamel 36 Series; MDF 1.4 mils.
  4. Concrete: Semi-Gloss, Water Base, Acrylic Latex.
    - a. Primer: Block Kote Interior/Exterior Latex Block Filler 08-128; MDF 10.2 mils.
    - b. Each Finish Coat: Genesis Odor-Free Interior Latex Semi-Gloss Enamel, 83-Series, MDF 1.5 mils.
  
- C. Devoe (ICI):
  1. Gypsum Board: Eggshell, Water Base, Acrylic Latex.
    - a. Primer: Wonder-Tones Primer DR50801; MDF 1.5 mil.
    - b. Each Finish Coat: Wonder-Tone Eggshell Enamel DR34XX, MDF 1.5 mil.
  2. Masonry: Eggshell, Water Base, Acrylic Latex.
    - a. Primer: Bloxfil 4000 Interior/Exterior Heavy Duty Acrylic Block Filler 4000-1000; 7.0-14.5 MDF.
    - b. Each Finish Coat: Wonder-Tone Eggshell Latex Enamel DR34XX; MDF 1.5 mil.
  3. Wood: Satin, Water Base, Acrylic Latex.
    - a. Primer: Wonder-Prime DR51701.
    - b. Each Finish Coat: Devflex 4216HP High Performance Waterborne Acrylic Semi-Gloss Enamel; MDF 1.5 mil.
  4. Concrete: Semi-Gloss, Water Base, Acrylic Latex; MDF 1.5 mil.
    - a. Primer: Bloxfil 4000 Interior/Exterior Heavy Duty Acrylic Block Filler 4000-1000; 7.0-14.5 MDF.
    - b. Each Finish Coat: Mirrolac W/B Semi-Gloss Latex Enamel DP83XX; MDF 1.5 mil.
  
- D. Frazee:
  1. Gypsum Board: Eggshell, Water Base, Acrylic Latex.
    - a. Primer :063 PVA Aqua Seal Drywall Vinyl Primer Sealer; MDF 1.4 mils.
    - b. Each Finish Coat: 026 Speed Sheen Interior Acrylic Eggshell Enamel; MDF 1.6 mils.
  2. Masonry: Eggshell, Water Base, Acrylic Latex.
    - a. Primer: 262 Block Filler Latex Block Filler; MDF 10.2 mils.

- b. Each Finish Coat: 026 Speed Sheen Interior Acrylic Eggshell Enamel; MDF 1.6 mils.
    - 3. Wood: Satin, Water Base, Acrylic Latex.
      - a. Primer: 172 Grip N Seal Enamel Undercoater; MDF 2.2 mils.
      - b. Each Finish Coat: 126 Mirro Glide Interior Low Sheen Acrylic Enamel; MDF 1.4 mils.
    - 4. Concrete: Semi-Gloss, Water Base, Acrylic Latex.
      - a. Primer: 262 Block Filler Latex Block Filler; MDF 10.2 mils.
      - b. Each Finish Coat: 024 Speed Sheen Semi-Gloss Enamel; MDF 1.7 mils.
- E. Glidden(ICI):
  - 1. Gypsum Board: Eggshell, Water Base, Acrylic Latex.
    - a. Primer: ProMaster Interior Latex Primer-Sealer MP-5111; MDF 1.5 mil.
    - b. Each Finish Coat: ProMaster Interior Latex Eggshell MP-6800; MDF 1.5 mil.
  - 2. Masonry: Eggshell, Water Base, Acrylic Latex.
    - a. Primer: Bloxfil 4000 Interior/Exterior Heavy Duty Acrylic Block Filler 4000-1000; MDF 11 mil.
    - b. Each Finish Coat: ProMaster Interior Latex Eggshell MP-6800; MDF 1.5 mil.
  - 3. Wood: Satin, Water Base, Acrylic Latex; MDF 1.5 mil.
    - a. Primer: Prime Interior 100% Acrylic Multi-Purpose Latex Stain Killer, PC 1000; MDF 1.5 mil.
    - b. Each Finish Coat: Devflex 4216 HP High Performance Waterborne Acrylic Semi-Gloss Enamel; MDF 1.5 mil.
  - 4. Concrete: Semi-Gloss, Water Base, Acrylic Latex.
    - a. Primer: Bloxfil 4000 Interior/Exterior Heavy Duty Acrylic Block Filler 4000-1000; MDF 11 mil.
    - b. Each Finish Coat: Devflex 4216 HP High Performance Waterborne Acrylic Semi-Gloss Enamel; MDF 1.5 mil.
- F. Pittsburgh:
  - 1. Gypsum Board: Eggshell, Water Base, Acrylic Latex.
    - a. Primer: 6-2 Speedhide Latex Sealer; MDF 1.0 mils.
    - b. Each Finish Coat: 6-411 Speedhide Eggshell Latex; MDF 1.5 mils.
  - 2. Masonry: Eggshell, Water Base, Acrylic Latex.
    - a. Primer: 6-7 Speedhide Block Filler; MDF 10.2 mils.
    - b. Each Finish Coat: 6-411 Speedhide Eggshell Latex; MDF 1.5 mils.
  - 3. Wood: Satin, Water Base, Acrylic Latex.
    - a. Primer: 6-855 Interior Water Base Undercoater; MDF 1.5 mils.
    - b. Each Finish Coat: 90-474 DTM Acrylic Satin; MDF 1.5 mils.
  - 4. Concrete: Semi-Gloss, Water Base, Acrylic Latex.
    - a. Primer: 6-7 Speedhide Block Filler; MDF 10.2 mils.
    - b. Each Finish Coat: 6-500 Speedhide Semi-Gloss Latex; MDF 1.2 mils.
- G. Sherwin Williams:
  - 1. Gypsum Board: Low VOC, Eg-shell, Water Base, Acrylic Latex.
    - a. Primer: Harmony Latex Primer, MDF 1.6 mils.
    - b. Each Finish Coat: Harmony Latex Eg-Shel, MDF 1.6 mils.
  - 2. Masonry: Semi-Gloss, Water Base, Acrylic Latex.
    - a. Primer: ProMar Interior/Exterior Block Filler, B25W25; MDF 10.0 mils.

- b. Two Finish Coats: ProMar 200 Interior Latex Egg Shell: MDF 1.5 mils.
- 3. Wood: Semi-Gloss, Water Base, Acrylic Latex.
  - a. Primer: PrepRite Classic Primer, B28W101, MDF 1.6 mils.
  - b. Each Finish Coat: ProClassic Waterborne S-G, MDF 1.4 mils.
- 4. Concrete: Semi-Gloss, Water Base, Acrylic Latex.
  - a. Primer: ProMar Interior/Exterior Block Filler, B25W25; MDF 10.0 mils.
  - b. Each Finish Coat: ProClassic Waterborne S-G, MDF 1.4 mils.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Section 017300 - Execution: Verification of existing conditions before starting work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
- C. Report in writing to Owner and Architect prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the Owner.

#### 3.2 PREPARATION

- A. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, and conditions otherwise detrimental to formation of a durable paint film.
- B. Perform preparation and cleaning procedures in accordance with paint manufacturer's published instructions for each particular substrate condition.
  - 1. Provide barrier coats over incompatible primers or remove and reprime as required.
  - 2. Remove hardware, hardware accessories, machined surfaces, plates, lighting fixtures, and similar items in place and not to be painted or provide surface applied protection prior to surface preparation and painting operations. Reinstall all removed items after completion of paint work.
  - 3. Clean surfaces to be painted before applying paint of surface treatment. Remove oil and grease prior to mechanical cleaning.
- C. Ferrous Metals: Clean ferrous surfaces, that are not galvanized or shop-coated, of oil, grease, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning.
  - 1. Touch-up shop-applied prime coats, where damaged or bare. Clean and touch-up with same type shop primer.
- D. Galvanized Surfaces: Clean free of oil and surface contaminants with non-petroleum based solvent. Apply coat of etching primer if required by paint manufacturer.

- E. Cementitious Materials: Prepare cementitious surfaces to be painted by removing efflorescence, chalk, dust, dirt, grease, oils, and by roughening as required to remove glaze.
  - 1. Determine alkalinity and moisture content of surfaces to be painted by performing appropriate tests.
    - a. If surfaces are found to be sufficiently alkaline to cause blistering and burning of finish paint, correct condition before application of paint.
  - 2. Do not paint over surfaces where moisture content exceeds that permitted in manufacturer's printed instructions.
  
- F. Wood: Clean wood surfaces to be painted of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sandpaper smooth those finished surfaces exposed to view, and dust off. Scrape and clean small, dry, seasoned knots and apply a thin coat of white shellac or other recommended knot sealer, before application of priming coat. After priming, fill holes, and imperfections in finish surfaces with putty or plastic wood-filler. Sandpaper smooth when dried.
  - 1. Prime, stain, or seal wood required to be job-painted immediately upon delivery to job. Prime edges, ends faces, undersides, and backsides of such wood, including cabinets and counters.
  - 2. Seal tops, bottoms, and cut-outs with a heavy coat of varnish or equivalent sealer immediately upon delivery to job.
  
- G. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

### 3.3 APPLICATION

- A. Apply paint products in accordance with manufacturer's published instructions using application procedures approved for the particular application and substrate to the specified Minimum Dry Film Thickness (MDF). Apply each coat to uniform finish.
- B. Apply each coat slightly darker than preceding coat unless otherwise approved by Owner and Architect. Sand lightly between coats to achieve specified finish.
- C. Do not apply finishes on surfaces that are not dry.
- D. Number of coats and film thickness required is same regardless of application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer.
- E. Apply additional coats when undercoats, stains, or other conditions show through final coat until paint film is of uniform finish, color, and appearance. Surfaces, including edges, corners, crevices, welds, and exposed fasteners to receive minimum dry film thickness equivalent to that of flat surfaces.
- F. Minimum Coating Thickness: Apply materials at not less than manufacturer's recommended spreading rate. Provide minimum dry film thickness (MDF) of the entire coating system as indicated in Painting and Finishing Schedule at end of this Section.

- G. Block Fillers: Apply block fillers to concrete masonry units at rate to provide complete coverage with pores filled.
- H. Prime Coats: Before application of finish coats, apply a prime coat of material as recommended by manufacturer to material scheduled to be painted or finished that has not been shop primed. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to assure a finish coat with no burn through or other defects due to insufficient sealing.
- I. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, laps, brush marks, runs, sags, or other surface imperfections will not be acceptable.
- J. Completed Work: Match Owner and Architect approved field samples for color and sheen.

### 3.4 FIELD QUALITY CONTROL

- A. Section 014000 - Quality Requirements: Field testing and inspection.
- B. Inspect painting and coating application for scheduled material, color, sheen, specified thickness (MDF), and coverage.

### 3.5 CLEANING

- A. As work proceeds and upon completion, promptly remove paint where spilled, splashed, or spattered.
- B. During progress of work keep premises free from any unnecessary accumulation of tools, equipment, surplus materials, and debris.
- C. Collect waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.
- D. Upon completion of work leave premises neat and clean.

### 3.6 PROTECTION

- A. Protect other surfaces from paint and damage. Repair damage as a result of inadequate or unsuitable protection.

### 3.7 COLOR SCHEDULE

- A. Any proposal to substitute a color is to include manufacturer's certification that the color matches the specified color.
- B. Andersen Eagle – Birch Bark

### 3.8 SCHEDULE OF ITEMS TO BE PAINTED

- A. Painted finishes shall be provided for, but not limited to, the following items. Refer to Drawings and Paint Color Schedule above for designated finishes and colors of areas.
1. Exterior: All exterior surfaces including, but not limited to:
    - a. Steel lintels
  2. Interior: All interior surfaces as scheduled on Drawings including, but not limited to:
    - a. Gypsum wallboard.
    - b. Plaster.
    - c. Exposed concrete unit masonry and concrete.
    - d. Exposed wood trim.
- B. Do not paint the following items:
1. Pre-finished items:
    - a. Aluminum, brass, bronze, stainless steel, and chrome plated steel.
    - b. Pre-finished items, such as toilet compartments, acoustical ceiling materials, mechanical, and electrical equipment.
    - c. UL, FM, and other code-required labels.
    - d. Equipment identification, performance rating, and name plates.
    - e. Finish hardware.
    - f. Factory finished metal wall panels, metal wall panel trim, and metal gravel stops.
    - g. Glazed block.
    - h. Ceramic tile.
  2. Exposed items:
    - a. Exposed mechanical ductwork, hangers, and supports.
    - b. Exposed piping and conduit, hangers and supports.
    - c. Exposed fire protection piping, hangers and supports.
    - d. Exposed roof structure.
    - e. Exposed roof deck.

### 3.9 PAINTING AND FINISHING SCHEDULE

- A. Interior Paint Systems:
1. Interior Gypsum Wallboard:
    - a. 1 coat Latex Wall Primer.
    - b. 1 coat Latex Eggshell Enamel
  2. Interior Masonry:
    - a. 1 coat Latex Block Filler
    - b. 1 coat Latex Eggshell Enamel
  3. Interior Wood (painted):
    - a. 1 coat Enamel Undercoat
    - b. 2 coats Alkyd Semi-Satin Enamel
  4. Cast-In-Place Concrete:

- a. One coat of Latex Masonry Block Filler.
  - b. Two tinted coats of Acrylic Latex Semi-Gloss Enamel.
- B. Exterior Paint Systems:
- 1. Ferrous Metals:
    - a. Touch up Prime Coat.
    - b. Two tinted coats Exterior Alkyd Enamel Semi-Gloss Enamel.

END OF SECTION

## SECTION 122113 - HORIZONTAL LOUVER BLINDS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:

- 1. Horizontal louver blinds with aluminum slats.

- B. Related Requirements:

- 1. Section 061053 "Miscellaneous Rough Carpentry" for wood blocking and grounds for mounting horizontal louver blinds and accessories.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Shop Drawings: Show fabrication and installation details for horizontal louver blinds.

- C. Samples: For each exposed product and for each color and texture specified, 12 inches (300 mm) long.

- D. Samples for Initial Selection: For each type and color of horizontal louver blind.

- 1. Include similar Samples of accessories involving color selection.

- E. Samples for Verification: For each type and color of horizontal louver blind indicated.

- 1. Slat: Not less than 12 inches (300 mm) long.
  - 2. Tapes: Full width, not less than 6 inches (150 mm) long.
  - 3. Horizontal Louver Blind: Full-size unit, not less than 16 inches (400 mm) wide by 24 inches (600 mm) long.

- F. Window-Treatment Schedule: Provide louver blinds for each window.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of horizontal louver blind.

- B. Product Test Reports: For each type of horizontal louver blind, for tests performed by manufacturer and witnessed by a qualified testing agency.

#### 1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For horizontal louver blinds to include in maintenance manuals.

#### 1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Horizontal Louver Blinds: Full-size units equal to 5 percent of quantity installed for each size, color, texture, pattern, and gloss indicated, but no fewer than two units.

#### 1.7 QUALITY ASSURANCE

- A. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
  - 1. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  - 2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver horizontal louver blinds in factory packages, marked with manufacturer, product name, and location of installation using same designations indicated on Drawings.

#### 1.9 FIELD CONDITIONS

- A. Environmental Limitations: Do not install horizontal louver blinds until construction and wet and finish work in spaces, including painting, is complete and dry and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- B. Field Measurements: Where horizontal louver blinds are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for operating hardware of operable glazed units through entire operating range. Notify Architect of installation conditions that vary from Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Source Limitations: Obtain horizontal louver blinds from single source from single manufacturer.

### 2.2 HORIZONTAL LOUVER BLINDS, ALUMINUM SLATS

- A. Manufacturers:
- a. Hunter Douglas Contract
  - b. Levolor Corporation.
  - c. Springs Window Fashions.
  - d. Or Equal.
- B. Slats: Aluminum; alloy and temper recommended by producer for type of use and finish indicated; with crowned profile and radius corners.
1. Width: 1 inch (25 mm).
  2. Thickness: Not less than 0.008 inch (0.20 mm).
  3. Spacing: 20mm.
  4. Finish: Ionized antistatic, dust-repellent, baked polyester finish.
  5. Features:
    - a. Lift-Cord Rout Holes: Minimum size required for lift cord and located near back (outside) edge of slat to maximize slat overlap and minimize light gaps between slats.
- C. Headrail: Formed steel or extruded aluminum; long edges returned or rolled. Headrails fully enclose operating mechanisms on three sides.
1. Capacity: One blind per headrail unless otherwise indicated.
  2. Ends: Capped or plugged.
  3. Manual Lift Mechanism:
    - a. Lift-Cord Lock: Variable; stops lift cord at user-selected position within blind full operating range.
    - b. Operator: Extension of lift cord(s) through lift-cord lock mechanism to form cord pull.
  4. Manual Tilt Mechanism: Enclosed worm-gear mechanism and linkage rod that adjusts ladders.
    - a. Tilt: Full.
    - b. Operator: Clear-plastic wand.
    - c. Over-Rotation Protection: Manufacturer's detachable operator or slip clutch to prevent over rotation of gear.

5. Manual Lift-Operator and Tilt-Operator Lengths: Full length of blind when blind is fully closed.
  6. Manual Lift-Operator and Tilt-Operator Locations: Manufacturer's standard unless otherwise indicated.
- D. Bottom Rail: Formed-steel or extruded-aluminum tube that secures and protects ends of ladders and lift cords and has plastic- or metal-capped ends.
1. Type: Manufacturer's standard.
- E. Lift Cords: Manufacturer's standard braided cord.
- F. Ladders: Evenly spaced across headrail at spacing that prevents long-term slat sag.
1. Type: Braided cord.
- G. Mounting Brackets: With spacers and shims required for blind placement and alignment indicated.
1. Type: Overhead.
  2. Intermediate Support: Provide intermediate support brackets to produce support spacing recommended by blind manufacturer for weight and size of blind.
- H. Hold-Down Brackets and Hooks or Pins: Manufacturer's standard.
- I. Colors, Textures, Patterns, and Gloss:
1. Slats: To be selected by architect from manufacturer full range of color.
  2. Components: Provide rails, cords, ladders, and materials exposed to view matching or coordinating with slat color unless otherwise indicated.

### 2.3 HORIZONTAL LOUVER BLIND FABRICATION

- A. Product Safety Standard: Fabricate horizontal louver blinds to comply with WCMA A 100.1 including requirements for corded, flexible, looped devices; lead content of components; and warning labels.
- B. Unit Sizes: Fabricate units in sizes to fill window and other openings as follows, measured at 74 deg F (23 deg C):
1. Between (Inside) Jamb Installation: Width equal to jamb-to-jamb dimension of opening in which blind is installed less 1/4 inch (6 mm) per side or 1/2 inch (13 mm) total, plus or minus 1/8 inch (3.1 mm). Length equal to head-to-sill dimension of opening in which blind is installed less 1/4 inch (6 mm), plus or minus 1/8 inch (3.1 mm).
- C. Concealed Components: Noncorrodible or corrosion-resistant-coated materials.
1. Lift-and-Tilt Mechanisms: With permanently lubricated moving parts.

- D. Mounting and Intermediate Brackets: Designed for removal and reinstallation of blind without damaging blind and adjacent surfaces, for supporting blind components, and for bracket positions and blind placement indicated.
- E. Installation Fasteners: No fewer than two fasteners per bracket, fabricated from metal noncorrosive to brackets and adjoining construction; type designed for securing to supporting substrate; and supporting blinds and accessories under conditions of normal use.
- F. Color-Coated Finish:
  - 1. Metal: For components exposed to view, apply manufacturer's standard baked finish complying with manufacturer's written instructions for surface preparation including pretreatment, application, baking, and minimum dry film thickness.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances, and other conditions affecting performance.
  - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 INSTALLATION

- A. Install horizontal louver blinds level and plumb, aligned and centered on openings, and aligned with adjacent units according to manufacturer's written instructions.
  - 1. Locate so exterior slat edges are not closer than 2 inches (51 mm) from interior faces of glass and not closer than 1-1/2 inches (38 mm) from interior faces of glazing frames through full operating ranges of blinds.
  - 2. Install mounting and intermediate brackets to prevent deflection of headrails.
  - 3. Install with clearances that prevent interference with adjacent blinds, adjacent construction, and operating hardware of glazed openings, other window treatments, and similar building components and furnishings.

#### 3.3 ADJUSTING

- A. Adjust horizontal louver blinds to operate free of binding or malfunction through full operating ranges.

3.4 CLEANING AND PROTECTION

- A. Clean horizontal louver blind surfaces after installation according to manufacturer's written instructions.
- B. Provide final protection and maintain conditions in a manner acceptable to manufacturer and Installer and that ensures that horizontal louver blinds are without damage or deterioration at time of Substantial Completion.
- C. Replace damaged horizontal louver blinds that cannot be repaired in a manner approved by Architect before time of Substantial Completion.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain systems.

END OF SECTION 122113