

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. Contract Number	Page of Pages	
				1	49
2. Amendment/Modification Number	3. Effective Date	4. Requisition/Purchase Request No.		UDC Renovation of David A. Clarke School of Law	
GF-2012-B-0039-002	February 16, 2012				
6. Issued By: University of the District of Columbia Capital Procurement Division 4200 Connecticut Avenue, NW, Room C03 Building 38 Washington, DC 20008		Code	7. Administered By (If other than line 6) University of the District of Columbia Capital Procurement Division 4200 Connecticut Avenue, NW, Room C03 Building 38 Washington, DC 20008		
8. Name and Address of Contractor (No. Street, city, country, state and ZIP Code)			(X)	9A. Amendment of Solicitation No. GF-2012-B-0039	
				9B. Dated (See Item 11) February 3, 2012	
				10A. Modification of Contract/Order No.	
				10B. Dated (See Item 13)	
Code	Facility				
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input checked="" type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning <u>1</u> copy of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or fax which includes a reference to the solicitation and amendment number. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or fax, provided each letter or telegram makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.					
12. Accounting and Appropriation Data (if Required)					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14					
A. This change order is issued pursuant to: (Specify Authority)					
The changes set forth in Item 14 are made in the contract/order no. in item 10A.					
B. The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation date, etc.) set forth in item 14, pursuant to the authority of 27 DCMR, Chapter 36, Section 3601.2.					
C. This supplemental agreement is entered into pursuant to authority of:					
D. Other (Specify type of modification and authority)					
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return <u>1</u> copy to the issuing office.					
14. Description of amendment/modification (Organized by UCF Section headings, including solicitation/contract subject matter where feasible.)					
Solicitation No. GF-2012-B-0039 for Renovation of the University of the District of Columbia David A. Clarke School of Law is hereby amended as follows:					
1. Pre-bid Conference Questions and Answers (Attachment A)					
2. Drawing S205-S205 Fifth Floor Plan (Attachment B)					
3. A920 Signage Schedule is Attached (Attachment C)					
4. A111 University of the District of Columbia Building 52 Renovation Wilson High School Temporary Space (Attachment D)					
5. Table of Contents (Attachment E)					
6. Section 12 56 34 Classroom Tables (Attachment F)					
7. Section 10 11 00 Visual Display Surfaces (Attachment G)					
8. Section 11 52 13 Projection Screens (Attachment H)					
Except as provided herein, all terms and conditions of the document referenced in Item (9A or 10A) remain unchanged and in full force and effect					
15A. Name and Title of Signer (Type or print)			16A. Name of Contracting Officer SHERRY JONES-QUASHIE		
15B. Name of Contractor		15C. Date Signed	16B. District of Columbia		16C. Date Signed
(Signature of person authorized to sign)			Sherry Jones-Quashie (Signature of Contracting Officer)		2/16/12

9. Section 12 24 13 Window Roller Shades (Attachment I)

10. Section 07 81 10 Sprayed-on Fireproofing (Attachment J)

11. Additional revised drawings will be delivered by courier on Thursday morning, February 16, 2012.

All other Terms and Conditions remain unchanged.

ATTACHMENT A

Pre-bid Conference Questions and Answers

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Amendment 002 – Questions and Answers

1. Question: What will be the preferred hours of operation for this project?

Answer: **Work can take place twenty four hours a day, however, special consideration must be given for noise during school hours between 8:00 am and 9:00 pm.**

2. Question: Please provide us with the door hardware specifications.

Answer: **This was provided in Amendment #1**

3. Question: Does this project get any window treatments? If so, please provide us with a schedule and specifications.

Answer: **All windows to receive shades. Classrooms (both tiered classrooms and seminar rooms) to receive "Type 2" –Dual shade. All other spaces to receive "Type 1" Roller shade. See attached specification with Amendment #2.**

4. Question: Is system furniture, free standing furniture part of this project? If so, please provide us with specifications.

Answer: **All free standing furniture are not a part of this contract and will be addressed under a separate procurement.**

5. Question: We have sheet S-201 indicating work for a "New Ramp", is this part of this project? If so, please provide additional details.

Answer: **The first floor ramp indicated on the drawings is not a part of this procurement and is not required on the project. S-201 is not required for this project.**

6. Question: We have sheet S-203 "3rd Floor Framing Plan" in the bid documents. Is this intended for this project?

Answer: **The third floor is not a part of this procurement and S203 is not a required on the project.**

7. Question: We have sheet S-205 "5th Floor Framing Plan" and it is not corresponding to sheet A-105 (i.e., Room 518 shows a tiered flooring and missing raming details in S-205). Please provide us a revised sheet S-205 if floor framing is needed in Room 518.

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Answer: **The Amendment #1 shows the final layout of room 518 on sheet A105. Revised sheet S2.05 as issued in Amendment #2 shows the current layout for tiered seating in room 518.**

8. Question: Is the Owner procuring / paying and providing the Building Permit for this project?

Answer: **The owner has paid for the permit application fee. The remainder of the fees are due and paid by the contractor when the permit is picked up.**

9. Question: Is there a Hazmat report available for this project?

Answer: **There is no hazardous materials report. It is assumed that hazardous materials were addressed during previous renovations.**

10. Question: Would it be possible to get drawings and specs in pdf format on CD? This would help us on the pricing front given the quick bid response duration.

Answer: **No.**

11. Question: Please provide the following specification sections:

- a. Division 0 – Procurement and Contracting Requirements
See Amendment #1
- b. Division 1 – General Requirements
See Amendment #1
- c. Ceramic Tile
Not required on project.
- d. Mailbox
Not required on project
- e. Markerboards -
See specification attachment to this Amendment #2
- f. Projection screens / projectors –
No projectors are required to be provided, See attachment to Amendment #2 for projection screens. Assume sixteen (16) 6’x4’ marker boards; however, final quantity to be determined based on salvaged markerboards (see demolition coded note 7.)
- g. Furniture, Fixtures, & Equipment –
Not in project with the exception of fixed seminar tables in the five tiered class rooms. See attachment to Amendment #2
- h. Finish Hardware
See Add. #1

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12. Question: Will the building be occupied during the construction period?

Answer: **Yes, the lower level through third floor will be occupied. Limited access to the third floor and lower level mechanical rooms should be coordinated with the facility.**

13. Question: Will there be a designated stairway and/or freight elevator for construction usage?

Answer: **No,**

14. Question: Are there specific periods for utility shut-downs for tie-ins without interrupting the school curriculum?

Answer: **This needs to be coordinated with the school and not during classes.**

15. Question: Detail 3/A801.1 shows a sloped ramp of 2' with a total run of 20'. Does this slope meet ADA requirement?

Answer: **Detail 3/A801.1 shows a 30' ramp inside the classroom and a 24' ramp outside the classroom in both the original bid set and the Amendment #1.**

16. Question: Drawing A004, demolition note #27, "*New plumbing lines in third floor clg. (Ref. plumbing dwgs.)*". Please provide the reflected ceiling plan of third floor so we can demo and patch the work accordingly.

Answer: **This information should be field verified by the contractor. The existing corridors have gypsum ceilings with access panels. All other spaces have acoustic lay in ceilings. See attached Third floor plan from previous renovation.**

17. Question: Detail 6 and 7/A801.2 show lecture hall table. Is this table part of the scope of work? If so, please provide the quantity and specification for the work.

Answer: **Permanently affixed seminar tables are in the five tiered class rooms. Quantity as per drawings. See attachment to Amendment #2**

18. Question: Drawings A934 and A935 shows furniture plan. Is this part of the scope of work? If so, please provide the quantity and specification for the work.

Answer: **All free standing furniture will be addressed under a separate procurement. See response above for the fixed tables.**

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19. Question: Specification section 095113, paragraph 2.02B and C show ACT-1 and ACT-2. Drawings A204, A205 and A901 don't identify which is ACT-1 or ACT-2. Please provide appropriate drawing to distinguish the work.

Answer: **The intent of the design is to use the ACT-2 in the Moot Court Room (Room 518) and the ACT-1 in all other spaces requiring Acoustic Ceiling tiles.**

20. Question: The sign schedule on drawing A920 is missing the bottom part. It's too big to fit the drawing. Please provide a complete sign schedule.

Answer: **See Revised sheet A920.**

21. Question: Door schedule on drawing A701.1 doesn't provide the hardware set information. Please provide the missing information.

Answer: **The information has been provided in Amendment #1**

22. Question: Specification section 081400, part 2.02C calls for the stile and rail wood doors. Door schedule on drawing A701.1 only indicates "WD" on all doors (which are wood solid-core doors). Which doors are stile and rail wood doors?

Answer: **All doors indicated as wood doors shall be flush panel solid core wood doors. There are no stile and rail wood doors.**

23. Question: Key note #11 on drawing A105 and A106 calls for operable glass wall. This type of operable glass wall is not shown on the drawing or specified anywhere in the specification. Is this part of the scope? If so, please provide appropriate drawing and specification section.

Answer: **Disregard this keynote, there are no operable glass walls in this project.**

24. Question: There are security system, card readers, and smartboards shown on drawing EP101. Who is providing the equipment and wiring for these items? Are these items parts of the scope of work? If so, please provide the appropriate specification sections.

Answer: **This work is not a part of this procurement.**

25. Question Drawing A105 shows vertical lift operable walls on an inclined ramp. Specification section 102228, part 1.03G specifies the operable walls shall be sealed against the floor without the need for any manual intervention.

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Please advise and provide details to show this method.

Answer: **Details are provided at 7/A401, 10/A401, 19/A8011.1 and 21/A801.1. The manufacturer specified in section 10 22 28 is familiar with the connection at the ramp and it is part of their system and as such would be a part of the submittal process.**

26. Question: Drawing S201 shows new ramp work on the first floor and S203 shows concrete curb and framing work for stage on the third floor. Architectural drawings don't show any of these details. Are these works part of the scope of work? Please provide the architectural drawings to reflect these works.

Answer: **This work is not in this procurement.**

27. Question: Drawing S205 shows new 4" light weight concrete ramp on rigid insulation (typ.). Drawing A801.1 indicates metal stud, wood framing, batt insulation, and plywood sub-floor ramp at the same locations. Which is correct?

Answer: **Structural (See revised S2..05 with Amendment #2)**

28. Question: Drawing S205 and 2/S401 show 6" concrete curb below the partition wall. Architectural drawing doesn't show any concrete curb. Which is correct?

Answer: **Structural (See revised S2..05 with Amendment #2)**

29. Question: Is CCTV and security system part of this project? If so, please provide us with details and specifications.

Answer: **The CCTV and security system will be addressed under separate procurement.**

30. Question: Please provide us with hydraulic calculations of the existing sprinkler system in the building.

Answer: **Base building hydraulic calculations are not currently available. Contractor is responsible for obtaining a current flow test and performing new hydraulic calculations for the SOW area.**

31. Question: Does the campus have a DDC system that this project needs to interface with? If so, please provide us with the information on the existing system.

Answer: **We are not aware of a campus wide DDC system. Design intent is to interface with existing building DDC system.**

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32. Question: Demo note #1 on P403.1 says to remove existing EWC & associated piping back to the active main or branch. I do not see this note indicated any where on the drawings on this page, is there a Water Cooler to remove for this section?

Answer: **No, 3rd floor work is only for work relating to 4th floor fixtures.**

33. Question: What are the pipe sizes of the branch lines to the Heat Pumps to be removed on MD1.4, and the riser sizes going to the Heat Pumps on MD1.5

Answer: **¾" per schedule on M602. Confirm contractor is reviewing M602 Amendment dated 1-27-12.**

34. Question: The new heat pumps that are to be installed above ceilings, are they to be controlled separately, and if so, where are the controls mounted?

Answer: **Design intent is for heat pumps (above ceiling) to have their own wall mounted thermostat for each office. Design intent for heat pumps serving classrooms is to daisy chain the heat pumps serving one orientation together to one wall mounted thermostat.**

35. Question: The heat pump unit schedule on drawing M602, are these all new units?

Answer: **Yes. Confirm contractor is reviewing M602 Amendment dated 1-27-12.**

36. Question: Drawing M106 needs to clearly delineate the new work by means of notes.

Answer: **All equipment is existing to remain except for RTU-2 and its associated power and gas piping work.**

37. Question: Drawing P403.1, does the circled number on the part plans refer to the notes under "Demolition Notes" and "New Work Notes?"

Answer: **Yes, but DEMO notes 1,6,8 are N/A.**

38. Question: Drawing P404.1, does the circled number on the part plans refer to the notes under the "Demolition Notes" and "New Work Notes?"

Answer: **Yes.**

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39. Question: Is testing and inspection part of the scope of work? Please clarify.

Answer: **Refer to specifications for specific testing requirements associated with equipment.**

40. Question: Note #1 on drawing FP001 indicates to provide a complete sprinkler protection system throughout the entire buildings 38 and 39. Is building 39 part of the scope of work?

Answer: **Sheet FP001 and the FP series does not reference Buildings 38 or 39.**

41. Question: Drawing P202 indicates new rooftop units and boilers with new gas lines. Are these items part of the scope of work? If so, please provide appropriate specification section and mechanical schedule.

Answer: **Only RTU-2 is new as well as the gas service to RTU- 2. Boilers are existing.**

42. Question: Please provide the controls supplier or should we assume the controls are stand alone?

Answer: **Design intent is to provide controls that are compatible with existing base building DDC system. Refer to specifications for detailed direction.**

43. Question: On M106 RTU-1 says existing, and RTU-2 looks to be new. The schedule calls for an RTU-1, are these mislabeled or does the existing RTU-1 need to be removed and then replaced?

Answer: **Drawing M602 (RTU schedule) is mislabeled but the correct drawing of M602 is Amendment #1 dated 1-27-12 which has the corrected identification.**

44. Question: There is no provision on where new fire alarm devices will be provided or reusing the existing.

Answer: **The "FA" Series drawings clearly identifies (by subscript) which devices are new (N), existing to remain (E), or existing to be relocated (R).**

45. Question: There are also no provisions for maintaining the system while devices are to be removed.

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Answer: **The fire alarm system shall be maintained operational throughout the entire project. Contractor shall minimize downtime to the existing fire alarm system as much as practical. For a "tenant fitout" such as this project, this is typically achieved by installing all new wire and roughing in devices first (since this will have no impact on the existing fire alarm system). Then, the contractor will remove the existing devices and relocate them (to the newly installed rough-ins) accordingly. It is understood that there will be some troubles on the fire alarm system during this process, but the existing system should still be functional even with the trouble signals. Lastly, the contractor will re-land the new fire alarm circuits to the existing (or new) panels.**

46. Question: Is AV work part of this project? If so are there any additional specifications other than the drawings? Also the equipment schedule on sheet AV001 does not give details on the equipment. Please clarify and provide us with additional information.

Answer: **Procurement of the AV equipment is not included in this procurement.**

47. Question: There are security system, card readers, and smartboards shown on drawing EP101. Who is providing the equipment and wiring for these items? Are these items parts of the scope of work? If so, please provide the appropriate specification sections.

Answer: **Procurement of the Security systems and Smartboards is not included in this bid.**

48. Question: Drawing AV001 shows an audiovisual technology equipment schedule, which includes flat panel displays, motorized screens, speakers, video cameras, video projectors, and etc.

Answer: **The AV infrastructure as indicated on the AV drawings is to be provided.**

49. Question: There are mentions of the TC drawings... and in quantities indicated in the TC-series drawings." We have TC 001, 104, 105, 204, 205 - Are there other drawings?

Answer: **There are no other TC drawings at this time.**

50. Question: Is there a plan (TC drawing or other plan set) that shows how they want the LAN rooms setup and the equipment in them? 2 post racks, ladder rack, cabinets, et

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Answer: **LAN rooms are to be re-used in their current configurations. Remove existing patch panels and replace them with new 48 port patch panels.**

51. Question: Where on plans does it say use cabinets instead of 2 post distribution racks?

Answer: **Cabinets are not anticipated to be installed in this project.**

52. Question: Are we to use 110 blocks for Voice and Patch panels for Data?

Answer: **Terminate all Category6 cables on new 48 port patch panels mounted in a 2-post relay rack.**

53. Question: The AV plans and cabling plans do not match. Are we to provide cost for the combined two plans? Please advise.

Answer: **The AV drawings show the infrastructure only. Cabling for the AV systems will be provided in separate Procurement. Telecom drops shown at projector, flat panel or video camera locations shall be provided at the height specified for these AV elements.**

54. Question: Details 5/6/8/9/11 and 12 on drawing A801.1, Material Key Note Legend 05 5200.A shows OD wooden handrail. Please provide a detail and specification for these rails.

Answer: **The details are shown on the drawings as noted. Refer to specification section 06 40 00 for general Architectural woodwork standards.**

55. Question: Amendment#1, detail 3/S401 shows fireproofing. Please provide the missing specification section.

Answer: Attached.

56. Question: Windows type W10, W11, W12, W13 and W14, what is the material of the window frame?

Answer: **These are fixed aluminum frames with wood trim per details on A602.**

57. Question: There a AV drawings with system layout shown on the plans but no specification section are provided.

Answer: **The AV drawings show the infrastructure only. Cabling and equipment for the AV systems will be provided as part of separate procurement documents, not a part of this contract.**

ATTACHMENT B

S205-S205 Fifth Floor Plan



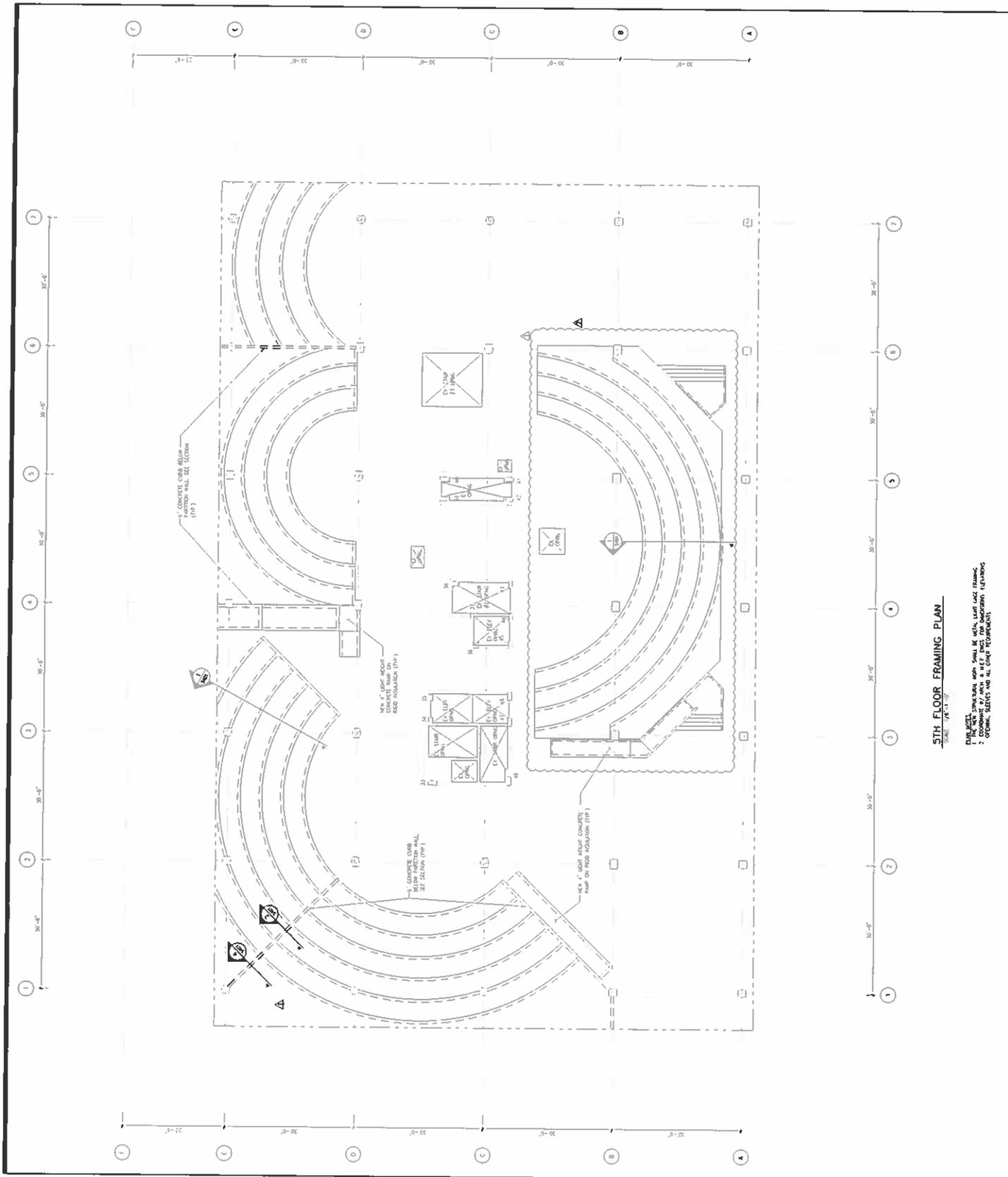
General Notes

#	Date	Change Description
1	10/20/12	Admission 1
2	02/07/13	Admission 2

DAVIS A. CLARKE SCHOOL
UNIVERSITY OF COLUMBIA
 DISTRICT OF COLUMBIA

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Eng. Draw. Title: 5th Floor Framing
 Date: 02/07/13
 Project No.: 1113205-01
 Drawing No.: S205
 Revision: 001/02/013



5TH FLOOR FRAMING PLAN

1. ALL STRUCTURAL MEMBERS SHALL BE WITH LATEST FRAMING CODES & U.F.C. FOR SEISMICITY & WIND LOADS.
 2. CONSULT ARCHITECT'S U.F.C. FOR SEISMICITY & WIND LOADS.
 3. CONSULT ARCHITECT'S U.F.C. FOR SEISMICITY & WIND LOADS.

ATTACHMENT C

A920 Signage Schedule

ATTACHMENT D

**A111 – University of the
District of Columbia Building
52 Renovation Wilson High
School Temporary Space**

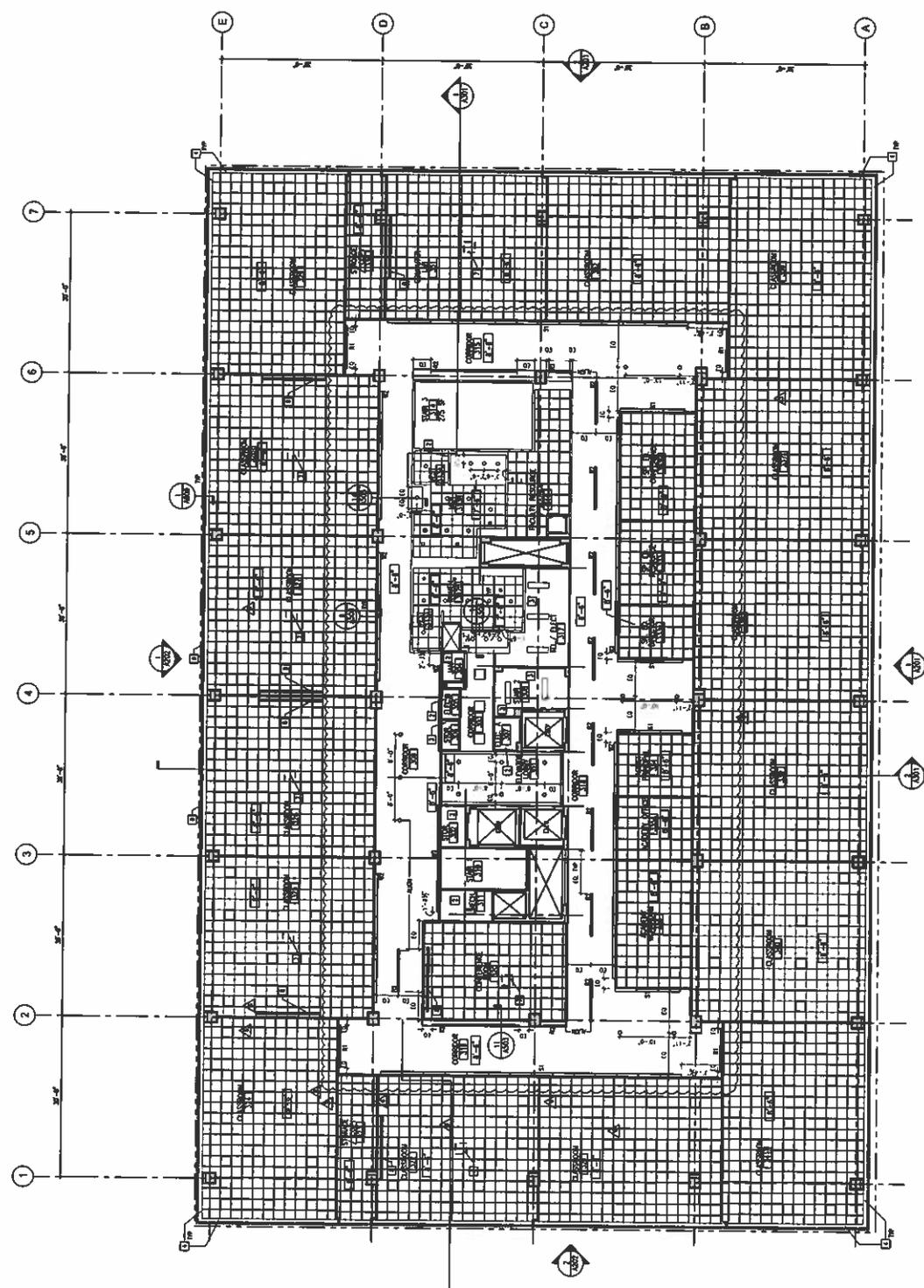
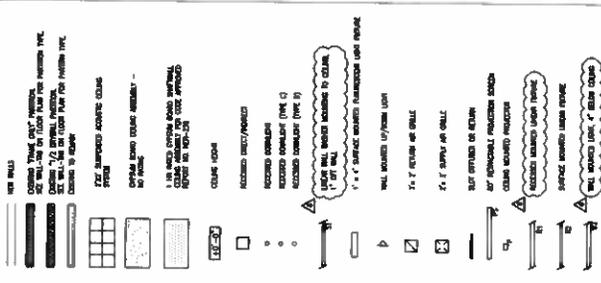
CEILING KEY NOTES

- 1. REF. SEE KEY NOTES ON P. 1-11, 1-12, 1-13, 1-14, 1-15, 1-16, 1-17, 1-18, 1-19, 1-20, 1-21, 1-22, 1-23, 1-24, 1-25, 1-26, 1-27, 1-28, 1-29, 1-30, 1-31, 1-32, 1-33, 1-34, 1-35, 1-36, 1-37, 1-38, 1-39, 1-40, 1-41, 1-42, 1-43, 1-44, 1-45, 1-46, 1-47, 1-48, 1-49, 1-50, 1-51, 1-52, 1-53, 1-54, 1-55, 1-56, 1-57, 1-58, 1-59, 1-60, 1-61, 1-62, 1-63, 1-64, 1-65, 1-66, 1-67, 1-68, 1-69, 1-70, 1-71, 1-72, 1-73, 1-74, 1-75, 1-76, 1-77, 1-78, 1-79, 1-80, 1-81, 1-82, 1-83, 1-84, 1-85, 1-86, 1-87, 1-88, 1-89, 1-90, 1-91, 1-92, 1-93, 1-94, 1-95, 1-96, 1-97, 1-98, 1-99, 1-100, 1-101, 1-102, 1-103, 1-104, 1-105, 1-106, 1-107, 1-108, 1-109, 1-110, 1-111, 1-112, 1-113, 1-114, 1-115, 1-116, 1-117, 1-118, 1-119, 1-120, 1-121, 1-122, 1-123, 1-124, 1-125, 1-126, 1-127, 1-128, 1-129, 1-130, 1-131, 1-132, 1-133, 1-134, 1-135, 1-136, 1-137, 1-138, 1-139, 1-140, 1-141, 1-142, 1-143, 1-144, 1-145, 1-146, 1-147, 1-148, 1-149, 1-150, 1-151, 1-152, 1-153, 1-154, 1-155, 1-156, 1-157, 1-158, 1-159, 1-160, 1-161, 1-162, 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GENERAL NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE ALARM AND SIGNAL CODE (NFPA 72).
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LEGEND



REFLECTED CEILING PLAN - THIRD FLOOR
Scale: 1/8" = 1'-0"



NORTH

DATE	DESCRIPTION
REVISED	ADD COMMENTS

Designer	ES
Checker	WES
Contractor	REC. 887
Project No.	
Date	
By	
Approved	

PROJECT DRAWINGS
REFLECTED CEILING PLAN
THIRD FLOOR
University of the District of Columbia
Building S2 Renovation
Wilson High School Temporary Space

PROJECT NO. A111

UNIVERSITY OF THE DISTRICT OF COLUMBIA
OFFICE OF PROJECT MANAGEMENT

DATE: 10/15/2013
DRAWN BY: WES
CHECKED BY: REC. 887
PROJECT NO.: A111
DATE: 10/15/2013

UNIVERSITY OF THE DISTRICT OF COLUMBIA
OFFICE OF PROJECT MANAGEMENT

UNIVERSITY OF THE DISTRICT OF COLUMBIA
OFFICE OF PROJECT MANAGEMENT

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OFFICE OF PROJECT MANAGEMENT

ATTACHMENT E

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ATTACHMENT F

Section 12 56 34

Classroom Tables

SECTION 12 56 34
CLASSROOM TABLES

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Provide fixed, radiused front plastic laminate table tops with modesty panels located in B/I Seminar Room (Rm. 314).

1.02 SUBMITTALS

- A. Samples: Provide two sets of samples of manufacturer's full range of colors available table tops.
- B. Shop Drawings: Required for all tables. Indicate dimensions, construction details, installation details and layout in room.

1.03 DELIVERY, STORAGE AND HANDLING

- A. Deliver units in manufacturer's containers or packaging. Use care when delivering and handling.
- B. Protect units until acceptance by Owner.

PART 2 PRODUCTS

2.01 FIXED SEMINAR TABLES

- A. Description: Floor-mounted steel bases which support solid core table tops including but not limited to:
 - 1. Table tops shall be 1-1/4" thick, warp-resistant construction with a center core of 1-1/8" thick particleboard, minimum of 45 pounds PCF density to prevent warping. Top surface to be a minimum of .040" thick high-pressure laminate meeting NEMA standards with a .040" thick phenolic backer.
 - 2. Knappe & Voight Tite Joint fasteners, hardwood spline, and steel splice plates shall be used to provide a virtual "seamless top" on continuous work surfaces.
 - 3. Power Up power distribution systems provide surface-mounted power access for laptop users. The wire harness of flexible conduit shall distribute power between the power modules and the power in feed.
 - 4. Modesty panels shall be available in laminate, steel, or wood veneer.
 - 5. Basic rectangular base styles
 - 6. Powder-coated steel frames provide maximum durability

7. UL classified for electrical hazards.
- B. Product: Fixed Seminar Tables as manufactured by KI, Green Bay, WI, or as approved by architect.
 - C. Plastic Laminate: High pressure plastic laminate meeting current NEMA Standards. Acceptable manufacturers WILSON ART, FORMICA, NEVAMAR, PIONITE or equal. Colors as selected by Architect.
 1. Tabletops: .04" top surface; .03" bottom surface.
 2. Modesty Panel: .04" back surface; .03" front surface.
 - D. Edges: Provide edges with extruded vinyl bullnose insert with barbed "T".
 - E. Corners: Radiussed 1-1/2".
 - F. Joints: Secure continuous table joints with minimum of two mechanical fasteners. KNAPE & VOGT #516 or equal; hardwood spline and steel plate under joint.
 - G. Table Supports: Provide manufacturer's standard steel tube supports, anchor plates and escutcheons. Baked enamel finish. Color as selected by Architect.
 1. Provide cutouts in table supports located over junction box to receive electrical feed.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's recommendations and instructions. Coordinate layout of tables with placement of electrical junction boxes.

END OF SECTION

ATTACHMENT G

Section 10 11 00

Visual Display Surfaces

SECTION 10 11 00
VISUAL DISPLAY SURFACES

PART 1 GENERAL

1.01 WORK INCLUDED

A. Provide the following items, as specified herein and indicated on the drawings:

1. Markerboards

1.02 RELATED SECTIONS

A. Projection Screens: Section 11 52 13.

B. Wood Blocking: Section 06 10 00.

1.03 SUBMITTALS

A. Samples: Submit samples of color finishes for all items specified for selection by Architect.

1. Submit 6" length sample of trim required.

B. Shop Drawings: Submit drawings showing sizes, arrangements, accessories and installation details of all items specified.

C. Submit manufacturer's product data showing reference numbers, construction details and methods of assembly.

D. Guarantee

1. Markerboard: Provide written guarantee to the Owner signed by an officer of the manufacturer of the marker board stating that all marker boards which do not retain their original writing quality, original erasing quality and original visual acuity for 5 years after date of acceptance will be replaced without charge to the Owner.

E. Cleaning Instructions: Provide written instructions for any care, maintenance and cleaning required beyond normal custodial care.

1.04 DELIVERY, STORAGE AND HANDLING

A. Deliver products in manufacturer's original unopened shipping cartons. Store

indoors in clean, dry area in manner to prevent warping or physical damage.

- B. Protect work from dust, dirt and physical damage during and after installation until final acceptance.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. POLYVISION; CLAIRIDGE PRODUCTS AND EQUIPMENT; ADP LEMCO; PLATINUM VISUAL SYSTEMS; GHENT MANUFACTURING, DRAPER.

2.02 MARKERBOARD

- A. Description: Steel sheets with nickel cobalt primer coat of .002" min. thickness and surface coat of high fired type porcelain frits of .0025" min. thickness; laminated to 3/8" particleboard core and aluminum foil panel backing.
- B. Color: White.
- C. Trim: Extruded aluminum perimeter trim approximately 5/8" wide; marker trough with end closures (approximately 3-1/4" from face of wall); map rail with cork insert (approximately 1" wide).
 - 1. Finish: Clear anodized.
 - 2. Provide 2 map hooks per 4' of chalkboard.
- D. Provide all required mounting devices for installation without exposed fasteners.
- E. Sizes: As indicated on drawings.

2.03 FABRICATION

- A. Fabricate and factory assemble complete units where possible. Frames shall be straight and square with joints tight and neat.

PART 3 EXECUTION

3.01 INSPECTION

- A. Verify building items affecting this section are placed and ready to receive work.
- B. Field measurements shall be taken to verify that boards will fit in their designated locations.
- C. Install wood grounds or wood blocking as required.

3.02 INSTALLATION

A. Workmanship

1. Install boards straight and level and securely anchored in place.
2. Leave surfaces clean and free from defects at time of final acceptance.

B. Clean-up: Remove all cartons, debris, scraps, etc. and leave spaces clean and have boards ready for use.

END OF SECTION

ATTACHMENT H

Section 11 52 13

Projection Screens

SECTION 11 52 13
PROJECTION SCREENS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Provide motor operated, above ceiling mount front projection screen complete with all controls, mounting brackets and hardware.

1.02 RELATED SECTIONS

- A. Electrical: Division 26.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturer's product data in accordance with the requirements of the General Conditions and Section 01 33 23.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery items in manufacturer's original protective packaging.
- B. Store items in original packaging to prevent soiling and physical damage.
- C. Handle so as to prevent damage to finished surface.

PART 2 PRODUCTS

2.01 PROJECTION SCREENS

- A. Motor Operated Projection Screen
 - 1. Type: Motor operated, remote controlled, recessed ceiling mounted.
 - 2. Screen: Flame retardant and mildew resistant, mat white with black masking borders. Vertical seams permitted at minimum 6' on center. HDTV 16:9 format.
 - a. Provide extra drop length of dimension indicated to comply with the following requirements for fabric color and location of drop length:
 - 1) Color: Black.
 - 2) Location: At top of screen.
 - 3) Provide drop length as required for bottom of screen to be

- set 3' above floor. Coordinate each screen with ceiling/screen mounting height
3. Sizes: As indicated on schedule contained herein.
 4. Doors: Independently motorized. Field finished to match ceiling.
 5. Motor: 3-wire quick reversal type; ball bearing with automatic overload cut-off and integral interlocking gears.
 - a. Power: 115V, 60 Hz, 3.5 amp.
 - b. Controls: Key operated 3-position switch ("UP", "OFF", "DOWN").
 - c. Provide with pre-set but accessible limit switches to automatically stop screen fabric in the up and down position. Provide positive stop action.
 6. Case: Extruded aluminum back, top and front with stamped steel end caps.
 7. Mounting Brackets: Provide ceiling mount type brackets of quantity as required by manufacturer.
 8. Manufacturer: Signature Series V Motorized Screen with M1300 Viewing Surface by DRAPER or equal by DA-LITE SCREEN COMPANY, BRETTFORD/KNOX MANUFACTURING.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install screens in neat, plumb, true alignment in locations indicated on drawings and as detailed. Comply with written installation instructions of screen manufacturer.
- B. Coordinate above ceiling mount with ceiling grid layout.

END OF SECTION

ATTACHMENT I

Section 12 24 13

Window Roller Shades

SECTION 12 24 13

WINDOW ROLLER SHADES

PART 1 GENERAL

1.01 WORK INCLUDED

A. Work includes:

1. Shade Type 1: Manually operated interior roller-screen solar shades as indicated on the drawings.
3. Shade Type 2: Manually operated, double-shade system, interior roller-screen room darkening and solar shades on same bracket allowing for independent control of each shade as indicated on the drawings.

B. Work also includes furnishing the following for installation by others:

1. Extruded aluminum ceiling pocket trim assemblies for installation under Section 09 51 00, Acoustic Ceiling Systems.

1.02 RELATED SECTIONS

- A. Wood Blocking: Section 06 10 00.
- B. Acoustic Ceiling Systems (installation of ceiling pocket trim): Section 09 51 00.
- C. Electrical: Division 26.

1.03 PERFORMANCE REQUIREMENTS

A. Fire Test Characteristics: Provide shade fabrics tested in accordance with:

1. Flame Resistance Ratings: Passes NFPA 701.

B. Anti-Microbial: Provide shade fabrics tested in accordance with:

1. ASTM G22 – Results for ATCC6538 and ATCC13388 indicating minimum 5mm indicating “No Growth Contact Area”.
2. ASTM G21 – Results for ATCC9642, ATCC9644, ATCC9348 and ATCC9645 indicating “No Growth”.

C. Electrical: Control systems and components approved AS A SYSTEM by either

Underwriter Laboratories (UL) or Electrical Testing Laboratories (ETL).

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's product data sheets, performance data and installation instructions for each item.
- B. Shop Drawings
 - 1. Show location and extent of roller shades.
 - 2. Include elevations, sections, details and dimensions.
 - 3. Show installation details, mountings, attachment to other work, operational clearances and relationship to adjoining work.
 - 4. Complete wiring diagrams including connection details for all components supplied by this section for installation and connection by Division 26.
- C. Coordination Drawings: Coordinate with reflected ceiling plans. Show the following:
 - 1. Ceiling suspension system members and attachment to building structure.
 - 2. Ceiling mounted or penetrating items.
 - 3. Shade mounting assembly and attachment.
 - 4. Size and location of access to shade adjustable components.
- D. Samples
 - 1. Selection Samples
 - a. Submit 3" x 5" shade cloth fabric swatches for initial fabric color selection from manufacturer's full range of available fabrics.
 - b. Submit aluminum finish color samples from manufacturer's full range of colors.
 - 2. Verification Samples
 - a. Submit one fully operational window shade sample of each type required; approximately 30" x 30" complete with selected shade cloth.
 - b. One complete set of all shade components, unassembled.
- E. Test Reports, Design Data and Certifications: Current reports from independent testing laboratories demonstrating compliance with Article 1.03.
- F. Installation Instructions: Submit for types of shades and mounting substrates encountered.

1.05 QUALITY ASSURANCE

- A. Qualifications
 - 1. Manufacturer: 20 years minimum experience manufacturing products

- comparable to those specified.
- 2. Installer: 5 years minimum experience installing products comparable to those specified.
- B. Do not fabricate shades without obtaining field dimensions for each opening. Coordinate construction of surrounding conditions to allow for timely field dimension verification.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Do not deliver shades until painting, wet work, grinding and similar operations which could damage, soil or deteriorate shades have been completed in installation areas. If, due to unforeseen circumstances, shades must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas.
- B. Deliver shades to project in labeled protective packaging. Label each shade for the appropriate opening. Schedule deliveries to prevent delays to completion of work but to minimize on site storage time.
- C. Store shades in a dry secure place. Protect from weather, surface contaminants, corrosion, construction traffic and other potential damage.

1.07 WARRANTY

- A. Provide manufacturer's warranty for the installed systems. Warranty shall provide for repair or replacement of defective roller shade system components, including excessive deterioration or failure of system components. Repair or replacement shall include all costs associated with verifying failures, removal of deteriorated or defective products, replacement, testing, transportation, travel and other expenses related to corrective measures.
 - 1. Warranty Period: 5 years from date of substantial completion.
- B. Shade Motors and motor control system electrical components: Provide Manufacturer's warranty. Warranty period to be 5 years from Date of Substantial Completion for shade motors and two years for all other control components containing provisions that installation will remain operational without fault for the warranty period and include all operating parts.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design: Drawings and specifications are based on shades manufactured by MECHOSHADE SYSTEMS INC.
- B. Other Acceptable Manufacturers: Shades manufactured by LUTRON, DRAPER, SILENT GLISS USA INC., NYSAN SHADING SYSTEMS are acceptable providing the shade assemblies meet the requirements specified herein and the profile/arrangements indicated on the drawings.

2.02 COMPONENTS

- A. Shadebands: Construction of shade bands includes fabric, hembar and hempocket, and the attachment of the shade band to the roller.
 - 1. Shade Type 1: Visually transparent single-fabric shade cloth; MECHSHADE ThermoVeil Group, single thickness non-raveling 0.03" thick vinyl fabric, woven from 0.18" extruded vinyl yarn comprised of 21% polyester and 79% reinforced vinyl; colors as selected by Architect.
 - a. Dense Basket Weave: 1300 Series, 5% open, 2 x 2 dense basket weave pattern; colors as selected by Architect.
 - 2. Shade Type 2: Double shade system incorporating two independently operable shades on one bracket.
 - a. Solar Shade: Dense basket weave; 1300 Series, 5% open, 2 x 2 dense basket weave pattern; colors as selected by Architect.
 - b. Black-Out Shade: ThermoVeil 0700 Series; vinyl coated fabric; colors as selected by Architect.
 - 3. Hembars and Hempockets: Fabric hempocket with RF-welded seams (including welded ends) and concealed hem weights. Provide continuous hem weights of appropriate size and weight for shadeband inside sealed hempocket.
- B. Manually Operated Hardware and Shade Brackets: Shade Types 1 and 2
 - 1. Provide for regular and offset drive capacity (chain fall at front or rear of bracket) on all shade drive end brackets.
 - 2. Provide shade hardware system that allows for removal of shade roller tube from brackets without removing hardware from opening.
 - 3. Provide shade hardware that allows for removal and re-mounting of the shade band without having to remove shade tube, drive or operating support brackets.
 - 4. Provide positive mechanical engagement of drive mechanism to shade roller tube. Friction fit connections are not acceptable.
 - 5. Provide hardware construction of minimum 1/8" thick cadmium plated steel or heavier as required to support 150% of the full weight of each shade.
 - 6. Drive Bracket/Brake Assembly: Manufacturer's standard type that disengages to 90% during the raising and lowering of the shade and is capable of withstanding a pull force of 50 pounds in the stopped position.

- C. Shade Roller and Shade Cloth Attachment
1. Extruded aluminum; diameter and wall thickness to support shade fabric as determined by manufacturer.
 2. Provide for positive mechanical engagement with drive/brake mechanism.
 3. Provide for positive mechanical attachment of shade band to roller tube without use of adhesives, adhesive tape, staples or rivets. A mounting method that does not allow the shade band to be removed from the shade tube while installed is not acceptable.
 4. Attach shade bands to tube in a manner that allows removal and replacement of the shade band without removing either the tube from the brackets or without removing shade brackets.
- D. Drive Chain: #10 Qualified stainless steel chain rated to 90 pound minimum breaking strength.
- E. Shade Motors and Motor Control System [IQ/MLC System]: Specifications and Design are based on the IQ/MLC motor control system.
1. Shade Motors
 - a. Tubular, asynchronous (non-synchronous) motors with built-in reversible capacitor operating at 110V AC (60hz), single phase, temperature Class A, thermally protected, totally enclosed, maintenance free with line voltage power supply equipped with locking disconnect plug assembly furnished with each motor.
 - b. Conceal shade motors inside shade roller tube.
 - c. Each shade motor draws a maximum current of 2.3 amps.
 - d. Use motors rated at the same nominal speed for all shades in the same room.
 - e. Total hanging weight of shadeband shall not exceed 80% of the rated lifting capacity of the shade motor and tube assembly.
 2. Wall Switches
 - a. 3 button architectural flush mounted switches with metal cover plates and no exposed fasteners. Provide keyed type switches where indicated. Key all switches in accordance with Section 08710.
 - b. Connect local wall switches to control system components via low voltage (12V DC) 4 conductor modular cable equipped with RJ-11 type connectors supplied, installed and certified under Section 16000.
 - c. Connect master wall switches to control system components via low voltage (12V DC) 6 conductor modular cable equipped with RJ-12 type connectors supplied, installed and certified under Section 16000.
 3. Motor Control System
 - a. Provide power to each shade motor via individual 3 conductor line voltage circuits connecting each motor to the relay based

- b. intelligent controllers (IQ/MLC).
- b. Control system components provide appropriate (spike and brown out) over-current protection (+/- 10% of line voltage) for each of the four individual motor circuits and shall be rated by UL or ETL as a recognized component and tested as an integrated system.
- c. Motor control system allows each group of four shade motors in any combination to be controlled by each of four local switch ports, with up to fourteen possible "sub-group" combinations via local 3 button wall switches and all at once via a master 3 button switch. System shall allow for overlapping switch combinations from 2 or more local switches.
- d. Multiple "sub-groups" from different IQ/MLC control components may be combined to form "groups" operated by a single 3 button wall switch, from either the master port or in series from any local switch ports.
- e. Each shade motor shall be accessible (for control purposes) from up to four local switches and one master switch.
- f. Control system shall allow for automatic alignment of shade hembars at 25%, 50% and 75% of opening heights, or up to three user defined intermediate stopping positions in addition to all up / all down positions regardless of shade height, a total of 5 positions.
Control system shall allow shades to be stopped at any point in the opening height, however, shade hembars may not be in alignment at these non-defined positions. (asynchronous motors)
- g. Control system shall have two standard operating modes: Normal Mode allowing the shades to be stopped anywhere in the window's opening height and Uniform Mode allowing the shades to only be stopped at the predefined intermediate stop positions. Both modes shall allow for all up/all down positioning.
- h. Control system components shall allow for interface with low voltage Audio Visual system components via a dry contact terminal block.
- i. Control system components shall allow for interface with external analog input control devices such as solar activated controllers, wind activated controllers, 24 hour timers, etc. via a dry contact terminal block.
- j. Reconfiguration of switchable groups [as specified in 3.d above] shall not require rewiring of the hardwired line voltage motor power supply wiring or the low voltage control wiring. Reconfiguration of switch groups shall be accomplished within the motor controller device (IQ/MLC).

F. Accessories

- 1. Provide extruded aluminum pocket closure assemblies for use with drywall or other framed shade pocket construction as indicated on the drawings.

2.03 FABRICATION

- A. Fabricate units to completely fill openings from head to sill and jamb-to-jamb, unless specifically indicated otherwise. Comply with manufacturer's edge clearance standards and recommendations.
- B. Fabricate shade cloth to hang flat without buckling or distortion. Fabricate with heat-sealed trimmed edges to hang straight without curling or raveling. Fabricate unguided shade cloth to roll true and straight without shifting sideways more than 1/8" in either direction per 8' of shade height due to warp distortion or weave design.

2.04 FINISHES

- A. Aluminum Components: Baked enamel; colors as selected by Architect.
- B. Steel Components: Baked enamel; colors as selected by Architect.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine substrate and conditions for installation. Do not begin installation until conditions are satisfactory. Beginning installation indicates acceptance of site conditions by contractor. Notify Architect upon inspection when the project conditions are unacceptable for shade installation. Beginning of installation means acceptance of substrate and project conditions.

3.02 INSTALLATION

- A. Install units to comply with manufacturer's instructions for the type of mounting and operation required. Provide units plumb, true and securely anchored in place with recommended hardware and accessories to provide smooth, non-binding operation.
- B. Install unit within the following tolerances:
 - 1. Maximum variation of gap at window opening perimeter: 1/4" per 8' (+/- 1/8") of shade height.
 - 2. Maximum offset from level: 1/16" per 5' of shade width.

3.03 ADJUSTING

- A. Adjust drive/brake mechanism for smooth operation. Adjust shade and shade cloth

to hang flat without buckling or distortion. Replace units or components that do not hang properly or operate smoothly.

3.04 CLEANING

- A. Touch-up damaged finishes and repair minor damage in order to eliminate evidence of repair. Remove and replace work that cannot be repaired to the Architect's satisfaction.
- B. Clean exposed surfaces, including metal and shade cloth, using non-abrasive materials and methods recommended by manufacturer. Remove and replace work that cannot be cleaned to the Architect's satisfaction.

3.05 DEMONSTRATION

- A. Demonstrate operation and instruct Owner's personnel in the proper operation and maintenance of the shade systems.

END OF SECTION

ATTACHMENT J

Section 07 81 10

Sprayed-on Fireproofing

SECTION 07 81 10

SPRAYED-ON FIREPROOFING

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Provide rated installations which comply with indicated ratings for fire endurance, flame spread, and combustibility; including applicable code interpretations by governing authorities, and listing and labeling by UL or FM where applicable.
- B. This Section includes both mineral fiber type and cementitious type fireproofing. Unless otherwise indicated, the Contractor may use either type of fireproofing on the project. A combination of types may be used (i.e. mineral fiber type on decks and cementitious type on framing members).
 - 1. However, unless otherwise indicated, one type shall be used throughout the entire project for each type of application (i.e. the same type shall be used for all beams; the same type for all decks; etc).

1.02 RELATED SECTIONS

- A. Firesafing: Section 07 84 00.
- B. Intumescent Fireproofing: Section 07 81 23.
- C. Structural Steel: Section 05 12 00.
- D. Sustainable Design Requirements: Section 01 81 13.

1.03 QUALITY ASSURANCE

- A. Applicator: Acceptable to fireproofing manufacturer.
- B. Regulatory Requirements
 - 1. Underwriters' Laboratories, Inc.: Products, execution and thickness shall conform to approved UL designs as published in UL Fire Resistance Directory.
 - 2. Conform to [OBC] for fire resistance ratings.
- C. References: Wherever the following abbreviations occur, they shall refer to the corresponding standard:
 - 1. ASTM: American Society for Testing and Materials.
 - 2. U.L.: Underwriters' Laboratories, Inc.

1.03 SUBMITTALS

- A. Submit the following in accordance with the requirements of the General Conditions and Section 01 33 23.
 - 1. Manufacturer's product data including instructions for bonding and applying fireproofing.
 - 2. Copies of certified test reports of:
 - a. Manufacturer's certification or independent test reports confirming that materials meet or exceed performance criteria specified.
 - b. Reports from independent testing agencies of product proposed for use, which indicate conformance to ASTM E84 and E119.
- B. Special Environmental Requirements: Submit the following in accordance with Section 01 81 13:
 - 1. Product documentation indicating VOC Content

1.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver all materials in original unopened packages bearing the manufacturer's name, brand and UL label verifying compliance with UL's quality control inspection program and the appropriate fire resistance ratings.
- B. Keep materials dry until ready for use. Keep materials off the ground, under cover and away from sweating walls and other damp surfaces. Discard materials that have been exposed to water before actual use.

1.05 JOB CONDITIONS

- A. Environmental Requirements
 - 1. Do not apply fireproofing when temperature of substrate, material and surrounding air is below 40° F. Maintain temperature 24 hours before and 24 hours after application of fireproofing.
 - 2. Provide ventilation in areas to receive fireproofing during and for 24 hours after application, to help dry material and maintain nontoxic, unpolluted working area.

PART 2 PRODUCTS

2.01 MINERAL FIBER TYPE

- A. Materials
 - 1. Metal Lath: 3.4 pound per square yard expanded diamond steel lath, galvanized finish; with reinforcing members, anchorage and accessories as appropriate for substrate conditions and applications indicated.

2. Sprayed-On Mineral Fiber Fireproofing: Non-combustible (ASTM E136), non-asbestos, mineral fiber mixed with binders, fillers and additives for spraying in place to form a rigid, porous fireproofing blanket with thermal insulating K value of 0.30 at 75° F.
 3. Sealer: Manufacturer's standard sprayed-on resinous coating, for control of dusting without significant increase in surface burning characteristics. Color tinted to distinguish sealed fireproofing from unsealed.
- B. Manufacturer: Specifications are based on ISOLATEK INTERNATIONAL (CAFECO). Equal products manufactured by AMERICAN SPRAYED FIBERS INC. and AD FIRE PROTECTION SYSTEMS (SOUTHWEST FIREPROOFING) are acceptable providing the performance requirements specified herein are maintained.
- C. Performance Requirements: Factory mixed material applied to provide compliance with specified performance specifications and test criteria.
1. Dry Density: No less than 12 pcf.
 2. Deflection - ASTM E759: No cracks or delaminations.
 3. Bond Impact - ASTM E760: No cracks or delaminations.
 4. Air Erosion - ASTM E859: Maximum allowable weight loss of the fireproofing material is .025 gm./sq. ft.
 5. Compressive Strength - ASTM E761: The fireproofing shall not deform more than 10 percent when subjected to 500 psf compressive forces.
 6. Surface Burning Characteristics - ASTM E84:
Flame Spread: 10.
Smoke Developed: 0.
 7. Indentation Hardness - ASTM C569: Less than 0.50 inch.
 8. Cohesion/Adhesion - ASTM E736: Over 100 psf.
- D. Water: Clean; potable.
- E. Hour Ratings and UL Test Designs: As indicated on drawings.

2.02 CEMENTITIOUS TYPE

- A. Type: Spray applied cementitious fireproofing.
- B. Manufacturer: Specifications are based on MK-6 by W. R. GRACE. Equal products by ISOLATEK INTERNATIONAL (CAFECO), AD FIRE PROTECTION SYSTEMS (SOUTHWEST FIREPROOFING), CARBOLINE COMPANY or ALBI MANUFACTURING are acceptable providing the performance requirements specified herein are maintained.
1. Fibrous Ingredients: Asbestos or mineral wool are not permitted; comply with OSHA Regulation 29, FR, 1926.58.
- C. Factory mixed material applied to provide compliance with specified performance specifications and test criteria.

1. Dry Density: The field density shall be measured in accordance with ASTM Standard E605. Minimum average density shall be that required by the manufacturer, listed in the UL Fire Resistance Directory for each rating indicated, ICBO Evaluation Report, as required by the authority having jurisdiction, or minimum average 15 pcf, whichever is greater.
2. Deflection: Material shall not crack or delaminate when tested in accordance with ASTM E759.
3. Impact Resistance: Fireproofing material tested in accordance with ASTM E760 shall not crack or delaminate.
4. Bond Strength: Fireproofing, when tested in accordance with ASTM E736, shall have a minimum average bond strength of 200 psf and a minimum individual bond strength of 150 psf.
5. Air Erosion: Maximum allowable total weight loss of the fireproofing material shall be .005 g/ft² when tested in accordance with ASTM E859. Sample surface shall be "as applied" (not pre-purged) and the total reported weight loss shall be the total weight loss over a 24 hour period from the beginning of the test.
6. Compression: The fireproofing shall not deform more than 10 percent when subjected to 1200 psf compressive forces in accordance with ASTM E761.
7. Corrosion Resistance: Steel shall be tested in accordance with ASTM E937 without evidence of corrosion of the steel.
8. Surface Burning Characteristics - ASTM E84:
Flame Spread: 0.
Smoke Developed: 0.
9. Resistance to Mold: The fireproofing material shall be formulated at the time of manufacturing with a mold inhibitor. Fireproofing material shall be tested in accordance with ASTM G21 and shall show resistance to mold growth for a period of 28 days for general use.
10. Combustibility: Material shall have a maximum total heat release of 20 MJ/m² and a maximum 125 kw/m² peak rate of heat release 600 seconds after insertion when tested in accordance with ASTM E1354 at a radiant heat flux of 75 kw/m² with the use of electric spark ignition. The sample shall be tested in the horizontal orientation.
11. VOC Content: 0.0 g/L.

PART 3 EXECUTION

3.01 INSPECTION

- A. Verify that surfaces to receive fireproofing material are free of oil, grease, loose mill scale, or other substances which may impair proper adhesion.
- B. Confirm compatibility of surfaces to receive fireproofing material.
- C. Verify clips, hangers, supports, sleeves and other items required to penetrate fireproofing are in place.

- D. Verify ducts, piping, equipment or other items which would interfere with application of fireproofing materials are not positioned until fireproofing work is completed.
- E. Beginning of installation means acceptance of substrates and installation conditions.
- F. Testing and Inspection shall be in accordance with Technical Manual 12-A "Standard Practice for the Testing and Inspection of Field Applied Sprayed Fire-Resistive Materials; an Annotated Guide."

3.02 PROTECTION

- A. Protect adjacent surfaces and equipment from damage by overspray, fallout and dusting.
- B. Close off and seal ductwork in areas where fireproofing is being applied.
- C. Protect applied sprayed fireproofing from damage.

3.03 APPLICATION

- A. Apply fireproofing in strict accordance with manufacturer's instructions.
- B. Apply fireproofing in sufficient thickness to achieve rating with as many passes as necessary to cover with monolithic blanket of uniform density and texture.
- C. Apply adhesive as recommended by fireproofing manufacturer to horizontal surfaces.
- D. Apply sealer to all mineral fiber type fireproofing. Apply at rates as indicated by manufacturer.

3.04 CLEANING, PROTECTING, AND REPAIR

- A. Cleaning: Immediately after completing spraying operations in each containable area of Project, remove material overspray and fallout from surfaces of other construction and clean exposed surfaces to remove evidence of soiling.
- B. Protect fireproofing, according to advice of product manufacturer and Installer, from damage resulting from construction operations or other causes so fire protection will be without damage or deterioration at time of Substantial Completion.
- C. Coordinate application of fireproofing with other construction to minimize need to cut or remove fire protection. As installation of other construction proceeds, inspect fireproofing and patch any damaged or removed areas.

3.05 CLEANING

- A. After completion of fireproofing work, equipment shall be removed and all exposed wall and floor areas shall be left in a broom-clean condition.

END OF SECTION