

AMENDMENT NO. 0001 TO ADVERTISED RFP DACW31-03-R-0008
EFFECTIVE: APRIL 23, 2003

SPECIFICATIONS:

- 1) General: Substitute the words “optional bid” for the words “additive bid” throughout the specifications.
- 2) Table of Contents: Add 01731 – Cutting and Patching, 13721 - Small Intrusion Detection Systems, 16751 - Closed Circuit Television Systems
- 3) Page 01000-7, Paragraph 1.16.b: Delete remainder of sentence after “DCRA.”
- 4) Page 01000-7, Paragraph 1.16.d: Delete remainder of sentence after “WASA/DOH.”
- 5) Page 01000-7: Delete “ATTACHMENTS” section.
- 6) Page 01050-1, Paragraph 1.1: Delete Paragraphs titled Alternate 1 and Alternate 3. Delete the phrase “Alternate 2”.
- 7) Page 01050-7, Paragraph 1.12: Add the following lists of salvage items:

DESCRIPTION

- 1) All window A/C units.
 - 2) All lighting fixtures and ceiling fans.
 - 3) All boilers.
 - 4) All security system; ADT system and camera system.
 - 5) All door hardware.
 - 6) All plumbing fixtures.
- 8) Page 01050-8, Paragraph 1.15: Substitute the following paragraph: “Asbestos abatement is part of a separate contract. Contractor is responsible for coordination with any ongoing work during construction.”
 - 9) Section 01050: Delete Paragraphs 1.16 and 1.17
 - 10) Page 01451-5, Paragraph 3.4.2: Modify second sentence as follows: “The CQC System Manager shall be a graduate engineer with a minimum of 5 years construction experience on construction similar to this contract.”
 - 11) Page 01451-5, Paragraph 3.4.3: Delete this paragraph in its entirety.
 - 12) Section 01731: Add this new section: 01731 – Cutting and Patching, attached to this amendment.
 - 13) Page 02300a-3, Paragraph 1.2.1: Add the following at the end of paragraph: “Satisfactory materials shall also include materials classified by ASTM D2487 as ML and SC.
 - 14) Page 02300a-3, Paragraph 1.6: Replace this paragraph in its entirety with the following:

“1.6UTILIZATION OF EXCAVATED MATERIALS

Unsatisfactory materials removed from excavations shall be legally disposed of off-site. Satisfactory material removed from excavations shall be used, insofar as practicable, in the construction of fills, embankments, subgrades, shoulders, bedding (as backfill), and for similar purposes. No satisfactory excavated material shall be wasted without specific written authorization. Satisfactory material authorized to be wasted shall be legally disposed of off-site. No excavated material shall be disposed of to obstruct the flow of any stream, endanger a partly finished structure or impair the efficiency or appearance of any structure.

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The estimated quantity of soil cut is 5,250 cu. yds. and estimated quantity of fill is 520 cu. yds. for the Project. All excess and unsatisfactory material shall be legally removed from the site and legally disposed of. Contractors shall be responsible for their own estimate of excavation quantities for bidding. Regardless of estimated quantities, all required import of satisfactory fill material and all required export of unsatisfactory or excess material shall be the responsibility of the contractor. In the area of on-site pavement, the Contractor shall provide a one foot undercut of existing material beyond design subgrade or existing grade (lower elevation) after stripping of existing pavement and/or topsoil. Contractor shall backfill this undercut depth with approved engineered fill to design subgrades.”

- 15) Page 02300a-3, Paragraph 3.1: Delete first sentence and replace with the following sentence: “All topsoil shall be stripped and stockpiled.”
- 16) Page 02300a-5, Paragraph 3.4: Add the following at the end of paragraph: “Backfill should be placed in horizontal layers of maximum 8” loose thickness and compacted.
- 17) Page 02300a-6, Paragraph 3.6.2: Revise last sentence of paragraph as follows: “..., each layer shall be compacted to at least 95% of laboratory maximum density.”
- 18) Page 02300a-6, Paragraph 3.6.2.1: Revise first sentence of paragraph as follows: Subgrade for pavements shall be compacted to at least 95% of laboratory maximum density.....”
- 19) Page 02315a-3, Paragraph 3.7: Substitute the following: “Blasting will not be permitted.”
- 20) Page 03300N-16, Paragraph 3.7.2.a: Modify specified values as follows:

“For slabs to be covered with carpet, provide specified overall values of flatness, F(F) 25, and levelness, F(L) 20; with minimum local values of flatness, F(F) 17, and levelness, F(L) 15.

For slabs to be covered with thin floor coverings, provide specified overall values of flatness, F(F) 35., and levelness, F(L) 25; with minimum local values of flatness, F(F) 24, and levelness, F(L) 17.”
- 21) Page 04200A-3, Paragraph 1.3: Modify the first sentence of this paragraph as follows: “After material samples are approved and prior to starting masonry work, three 6’x6’ sample masonry panels shall be constructed for each type and color of masonry required.”
- 22) Page 04200A-5, Paragraph 2.2: Modify the last sentence of this paragraph as follows: “Brick color 1 shall be a blend of Yankee Hill Light Red Smooth (60%) and Yankee Hill Medium Red Smooth (40%). Brick color 2 shall be Yankee Hill Plum Smooth. Manufacturer’s colors and patterns indicated are for reference purposes only. The references used are to indicate the intended detail, color and pattern. It is not intended to limit the selection of other manufacturer’s products of acceptable matching detail, color and pattern. Final approval of acceptable matching products will be by the Contracting Officer. Allow the amount of \$2.00 per brick for replacement of existing brick including field brick or special shapes. Replacement brick to match existing in color, texture, size and profile.”
- 23) Page 04200A-8, Paragraph 2.7.2.a: Substitute “Mortar Color: Match Flamingo C-498.”
- 24) Page 04200A-6, Paragraph 2.5.1.d: Modify last sentence as follows: “The cast stone color and texture shall be as selected by the Contracting Officer from manufacturer’s full product line.”
- 25) Page 04900-7, Paragraph 2.3.1.a: Delete paragraph “a” in its entirety.

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26) Page 04900-11, Paragraph 3.3.1: Add the following at the end of this paragraph:

“Every lineal inch of jointwork is to be observed. All loose, broken, crazed or otherwise deteriorating and unsound mortar shall be removed down to the depth of deterioration or at least $\frac{3}{4}$ inch. Care must be taken to avoid chipping, cutting or marring adjacent brick. All brick so damaged must be replaced.

Rake out joints as follows:

1. Rake out mortar from joints to depths equal to 2-1/2 times their widths but not less than $\frac{1}{2}$ inch nor less than that required to expose sound, unweathered mortar.
2. Remove mortar from masonry surfaces within raked out joints to provide reveals with square backs and to exposed masonry for contract with painting mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
3. Do not spall edges of masonry units or widen joints. Replace damaged masonry units.
 - a. Cut out old mortar by hand with a chisel and mallet, unless otherwise indicated.
 - b. Do not use power operated rotary hand saws and grinders unless specific Contracting Officer’s written approval is obtained based on submission by Contractor of a satisfactory quality control program and demonstrated ability of operators to use tools without damaging masonry. Quality control program shall include provisions for supervising performance and preventing damage due to worker fatigue.

Point joints as follows:

1. Rinse masonry joint surfaces with water to remove dust and mortar particles. Time the rinsing application so that at the time of pointing excess water has evaporated or run off and joint surfaces are damp, but free of standing water.
2. Apply the first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than $\frac{3}{8}$ inch until a uniform depth is formed. Compact each later thoroughly and allow it to become thumbprint hard before applying the next layer.
3. After joints have been filled to a uniform depth, place remaining pointing mortar in 3 layers with each of first and second layers filling approximately $\frac{2}{5}$ of joint depth and third layer the remaining $\frac{1}{5}$. Fully compact each layer and allow to become thumbprint hard before applying next layer slightly from face. Take care not to spread mortar over edges onto exposed masonry surfaces, or to featheredge mortar.
4. When mortar is thumbprint hard, tool joints to match original appearance of joints, unless otherwise indicated. Remove excess mortar from edge of joint by brushing.
5. Cure mortar by maintaining in a damp condition for not less than 72 hours.
6. Where repointing work precedes cleaning of existing masonry, allow mortar to harden not less than 30 days before beginning cleaning work.

Contractor shall inspect all existing jointwork and allow for mortar analysis as directed and replacement and repointing of 5000 lineal feet of mortar in accordance with the procedures above. These quantities are in addition to all restoration work on existing chimneys identified on the roof plan. Contractor shall include unit price per lineal foot for replacement and repointing.”

27) Page 04900-12, Paragraph 3.3.2.3: Add the following at the end of this paragraph: “Contractor shall allow for 250s.f. of existing masonry to be repaired with patch anchors. Contractor shall include unit price per square foot for masonry to be repaired with patch anchors.”

28) Page 04900-14, Paragraph 3.5: Add the following at the end of this paragraph: “Contractor shall allow for 250 s.f. of masonry replacement in existing brick field. Contractor shall allow for replacement and repointing of 100 special shape brick units in corbels, water table and cornices. Brick shall be replaced with salvage or new brick to match existing in size, shape, color, texture and profile. Final acceptance of matching brick material shall

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be by the Contracting Officer. These quantities are in addition to all restoration work on existing chimneys identified on the roof plan.”

29) Page 05500A-10, Paragraph 2.21.6: Immediately after this paragraph, add the following:

“2.22 PREFINISHED ALUMINUM LOUVER SCREENS

Provide pre-finished extruded aluminum horizontal screens, factory assembled, complying with the following:

- a. Blades: 0.080 (2) nominal wall thickness, positioned at 45 degree angle and spaced approximately 5 inches on center.
- b. Anchorage: Concealed fasteners not visible on the exterior face of the screen.
- c. Finish: High performance organic finish in accordance with AAMA 2605 with total dry film thickness of not less than 1.2 mils. Finish color shall match color of face brick.
- d. Design shall incorporate blade supports required to withstand a wind load of 20 lbs per square ft. Screens shall be continuous appearing, with intermediate supports not interrupting blade appearance as viewed from outside of screen.

2.23 PERFORATED GRILLES

Provide interior perforated grilles in the Dining Room and Auditorium, complying with the following:

- a. Material: Steel, primed for field painting.
- b. Thickness: 1/4-inch.
- c. Pattern: Lattice pattern, 3/4-inch x 3/4-inch with 1/4-inch bar; 56 percent open.”

30) Page 08110-4, Paragraph 2.2.e: Replace last sentence with the following: “Finish color shall be as selected by the Contracting Officer.”

31) Page 08120-4, Paragraph 2.3.8: Modify to read “anodic” coating in lieu of “organic” coating.

32) Page 08120-4, Paragraph 2.3.8.1: Replace this paragraph in its entirety with the following:

2.3.8.1 Anodic Coating

Clean exposed aluminum surfaces and provide an anodized finish conforming to the AAMA 611. Finish shall be Architectural Class II (0.4 mil to 0.7 mil), designation AA-M10-C22-A31, clear (natural) anodized.

33) Page 08520-5, Paragraph 2.2.8: Replace the three sentences in their entirety with the following: “Exposed aluminum surfaces shall be factory finished with an anodic coating.”

34) Page 08520-5, Paragraph 2.2.8.1: Replace this paragraph in its entirety with the following:

2.2.8.1 Anodic Coating

Clean exposed aluminum surfaces and provide an anodized finish conforming to the AAMA 611. Finish shall be Architectural Class II (0.4 mil to 0.7 mil), designation AA-M10-C22-A31, clear (natural) anodized.

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- 35) Page 08520-5, Paragraph 2.3.1: Immediately following this paragraph, add the following paragraph:

“2.4 WINDOW SECURITY SCREENS

Provide Steel Narrowline Model S-NRS-O Security Screens as manufactured by Kane Screens on all windows. Provide DCPS Standard infill which is #10 (0.135 diameter) wire, 1-inch diamond mesh, triple crimped, black vinyl coated.”

- 36) Page 08710-4, Paragraph 2.3.4: Add the following sentence: “All cylinder locks shall have Schlage C Keyways or Generic SC1 Keyways in accordance with District of Columbia Public Schools requirements.”

- 37) Page 08710-12, HD-21: Replace this hardware set with the following:

“HD-21

2	Cont. Hinge	780-224-HD-FL
2	Rim Exit Device	98L-F-992L-BE- #06
1	Keyed Mullion	KR4954
2	Closer	PR-7500
2	Wall Stop	
2	Kick Plate	
2	Mop Plate	
1-set	Gasket	5050 (Head, Jambs and Mullion)”

- 38) Page 08710-13, HD-28: Modify Closer/Stops specification to read “(back to back doors only)” in lieu of “(L.H.R. Leaf).”

- 39) Page 08900-6, Paragraph 2.1.1.2: Modify to read “anodic” coating in lieu of “organic” coating.

- 40) Page 08900-6, Paragraph 2.1.1.3: Replace this paragraph in its entirety with the following:

2.1.1.3 Anodic Coating

Clean exposed aluminum surfaces and provide an anodized finish conforming to the AAMA 611. Finish shall be Architectural Class II (0.4 mil to 0.7 mil), designation AA-M10-C22-A31, clear (natural) anodized.

- 41) Page 09310A-5, Paragraph 2.5: Immediately following this paragraph, add the following paragraph:

2.6 SLATE TILE FLOORING

Provide dimension slate stone stair treads and risers indicated, complying with the following:

- a. Performance Requirements:
 - 1) Stone Abrasion Resistance: Minimum abrasive-hardness value OF 13 as determined by ASTM C 241.
 - 2) Static Coefficient of Friction: Minimum 0.6 for level surfaces as determined by ASTM C 1028.
- b. Slate Building Stone Classification: ASTM C 629, II interior.
- c. Grade: Select.
- d. Finish: Natural cleft.
- e. Color: Blue-black.
- f. Pattern: Rectangular grid OF 13 by 12 inches.

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- g. Thickness: ½ inches
- h. Tile Edges: Square.
- i. Joint Widths: 3/8 inches.
- j. Install with latex-portland cement mortar and grout as specified for ceramic tile.

42) Page 10440A-5, Paragraph 2.7: Immediately following this paragraph, add the following paragraph:

2.8 OUTDOOR LED MATRIX DISPLAY

Provide double faced outdoor LED matrix display, with supports for mounting between brick piers, complying with the following:

- a. Cabinet Dimensions: 15.8 inches high by 65.6 inches wide by 14 inches deep.
- b. Character Heights: 2.1,4.5, 6.9, and 9.3 inches.
- c. Maximum/Average Power Watts: 395/160.
- d. Interface: EIA/TIA RS232 (Rev. E), EIA/TIA RS-422 (Rev. B), Modem or fiber optic.
- e. Cabinet: Design to NEMA 4 Standards.
- f. Paint Color: Flat black.
- g. LED Color: amber.
- h. Face Panel Color: Gray
- i. Mounting: Hanging – provide supports between brick piers.
- j. Dimming: Displays equipped with an internal light level detector for 64 levels of automatic dimming.
- k. Viewing Angle: 30 degrees.
- l. LED Rating: 100,000 hour average LED life.

43) Section 13721: Add this new section, attached to this Amendment.

44) Page 15515-2:

- a) Paragraph 1.3: In the second line, delete "and removal and replacement of tubes"
- b) Paragraph 1.4: Delete the text of the paragraph on this page, and substitute this: "Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES."

45) Page 15620-9, subparagraph 2.4.1.e: Delete "reciprocating,"

46) Page 15620-11-12, paragraph 2.5.5.1: Delete this paragraph entirely, including its subparagraphs.

47) Page 15700-15: Add this new paragraph:

"2.12 ELECTRIC UNIT HEATERS

2.12.1 Cabinet Unit Heaters

Assembly including cabinet, filter, chassis, heating element, fan, and motor in blow-through configuration. Arrangement, capacities, and current characteristics are indicated on the drawings.

2.12.1.1 Cabinet

Steel, at least 16 gage, phosphatized and finished with baked enamel.

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- a. Cabinet front, or bottom on horizontal units, shall be removable for access to motor, fans, heating element, and appurtenances.
- b. Vertical cabinet shall be without openings in top bottom, sides, and back.
- c. Cabinet front for recessed and semirecessed units shall have overlap trim on all four sides.
- d. Provide 4-inch-high subbase for surface-mounted units.

2.12.1.2 Fan

Forward-curved, double-inlet type, designed for quiet operation, directly driven.

2.12.1.3 Heating Element

Nickel-chromium heating wire, free from expansion noise and 60-Hz hum, embedded in magnesium-oxide insulating refractory and sealed in high-mass steel or corrosion-resistant metallic sheath with fins no closer than 0.16 inch. Element ends shall be enclosed in terminal box. Fin surface temperature shall not exceed 550 degrees F at any point during normal operation. Provide overcurrent protection and limit controls for overtemperature protection.

2.12.1.4 Motor

Resiliently mounted, three-speed, tap-wound with built-in overload protection, suitable for operation on 115-V, single-phase, 60-Hz current, permanent split-capacitor type. Select capacities at medium or low speed.

2.12.1.5 Controls

Unit-mounted fan-speed switch and thermostat.

2.12.1.6 Filter Rack and Filter

Filter rack to accommodate a filter no less than 1/2 inch thick, arranged to provide at least one sq ft of filter media surface for each 300 cfm air delivery. Provide filters FS F-F-310, Type 1, Grade B high dust holding capacity, size and thickness to fit units.

2.12.2 Propeller Unit Heater

Type, capacity, and current characteristics indicated on the drawings.

2.12.2.1 Casing

Steel, phosphatized and finished with baked enamel.

- a. Horizontal units: Furnished with double-deflection louver to allow for horizontal and vertical deflection of air pattern.
- b. Vertical units: Diffuser shall provide widespread discharge air pattern.

2.12.2.2 Heating Element

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Nickel-chromium heating wire, free from expansion noise and 60-Hz hum, embedded in magnesium-oxide insulating refractory and sealed in high-mass steel or corrosion-resistant metallic sheath with fins no closer than 0.16 inch. Element ends shall be enclosed in terminal box. Fin surface temperature shall not exceed 550 degrees F at any point during normal operation. Provide overcurrent protection and limit controls for overtemperature protection.

2.12.2.3 Fan

Directly connected to single-speed electric motor and provided with wire guard."

- 48) Page 15895-17-18, paragraph 2.8.4.a "Systems with Total Pressure Above 4 Inches Water Gauge": Delete this paragraph.
- 49) Page 15895-18, paragraph 2.8.4.a "Acoustical Duct Liner": Delete this paragraph.
- 50) Page 15895-34, paragraph 3.1.15: Delete this paragraph.
- 51) Page 16264-12, paragraph 2.3.4: In the first line, change "additive" to "optional".
- 52) Page 16264-13, paragraph 2.3.5: In the first line, change "additive" to "optional".
- 53) Section 16751: Add this new section, attached to this Amendment.

DRAWINGS:

- 54) Sheet C-1: Replace Property Data text "Lot 808" with "Lot 20".
- 55) Sheet C-2: Replace Property Data text "Lot 808" with "Lot 20".
- 56) Sheet C-4:
- Modify driveway width from 16' to 17' and modify associated dimensions as shown on attached drawings SK-C-1 and SK-C-2, dated 4/17/03.
 - Change Key Legend #35 text from "Additive Bid Item" to "Optional Bid Item".
 - Add dimensions to the sidewalk area along Monroe St., Lawrence St., and 10th St as shown on attached drawings SK-C-3 and SK-C-4, dated 4/17/03.
- 57) Sheet LA-1:
- Change Note #8 text from "Additive Bid Item" to "Optional Bid Item".
 - Change text on plan from "Additive Bid Item" to "Optional Bid Item".
- 58) Sheet A-0.4: Add new sheet A-0.4, Lower And Upper Level Phasing Plans, dated 4/17/03.
- 59) Sheet A-0.5: Add new sheet A-0.5, Main Level Phasing Plan, dated 4/17/03.
- 60) Sheets D-1.1 thru D-1.3: At General Demolition / Renovation Notes, delete note which states "(NOT ALL NOTES APPLY TO THIS PROJECT)." Replace with the following: "(ALL NOTES APPLY TO THIS PROJECT)."
- 61) Sheet D-1.2: Add Demolition Key Note 71 as follows: "71. PROVIDE OPENING IN EXISTING BRICK CHIMNEY AS REQUIRED TO ACCOMMODATE ALL WORK RELATED TO DUCT INSTALLATION. INSTALL NEW BRICK TIGHT TO DUCT AFTER INSTALLATION. SEE MECHANICAL DRAWING M1.4." Add note 71 designation to chimney in Science rooms B201 and B207.

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- 62) Sheet D-1.3: Add General Demolition / Renovation note D26 as follows: “D26. REMOVE EXISTING ATTIC STAIR TO ROOF HATCH AND REBUILD STAIR TO ROOF HATCH W/ WOOD CONSTRUCTION – MEET ALL APPLICABLE CODES.”
- 63) Sheets D-2.1, D-2.2 and D-2.3: Add General Demolition Note D9 as follows: “D9. REMOVE EXISTING DOWNSPOUTS AS NECESSARY TO REPOINT AND REPAIR EXISTING MASONRY AND RE-INSTALL WHEN COMPLETE. REPLACE ALL EXISTING DOWNSPOUT STRAPS WITH NEW STRAPS.”
- 64) Sheet A-1.1: Revise notes referencing “ADDITIVE BID ITEM” to “OPTIONAL BID ITEM.”
- 65) Sheet A-1.2:
- a) Add new corridor doors B10a as shown on attached drawing SK-A-1 dated 4/17/03.
 - b) Revise notes referencing “ADDITIVE BID ITEM” to “OPTIONAL BID ITEM.”
- 66) Sheet A-1.4:
- a) Add new corridor doors B25 as shown on attached drawing SK-A-2 dated 4/17/03.
 - b) Revise notes referencing “ADDITIVE BID ITEM” to “OPTIONAL BID ITEM.”
- 67) Sheet A-1.6: Add door designation B33 to pair of doors in Stair 01.
- 68) Sheet A-1.8:
- a) Change note number “4” designation at the two existing chimneys at center of roof to note “2.”
 - b) Revise Typical Roof Note 12 to reference detail “H1/A-1.9.”
- 69) Sheet A-2.1:
- a) Revise notes referencing “ADDITIVE BID ITEM” to “OPTIONAL BID ITEM.”
 - b) Elevation G1 and G4 - Add note at lower level windows as follows: “PROVIDE STEEL SECURITY SCREENS AT ALL LOWER LEVEL WINDOW OPENINGS, MOUNTED WITHIN JAMB OPENING, 1” MIN. FROM FACE OF WALL – SEE SPEC.”
 - c) Substitute the following for Elevation Key Note N3: “Work on chimney includes repointing and reconstructing veneer. Refer to roof plan for scope of masonry work required for all chimneys and roof conditions.”
- 70) Sheet A-2.2:
- a) Revise notes referencing “ADDITIVE BID ITEM” to “OPTIONAL BID ITEM.”
 - b) Elevation H5 - Add note at lower level windows as follows: “PROVIDE STEEL SECURITY SCREENS AT ALL LOWER LEVEL WINDOW OPENINGS, MOUNTED WITHIN JAMB OPENING, 1” MIN. FROM FACE OF WALL – SEE SPEC.”
- 71) Sheet A-2.3:
- a) Section H4 – Add notes at pier detail as follows: “4’-0”X4’-0”X 1’-0” CONC. FOOTING W/ 5 #5 BEW. 1 #5 VERTICAL REINFORCING.” Revise dimension to bottom of footing to “2’-6” MIN.”
 - b) Elevation F3 - Add note at lower level windows as follows: “PROVIDE STEEL SECURITY SCREENS AT ALL LOWER LEVEL WINDOW OPENINGS, MOUNTED WITHIN JAMB OPENING, 1” MIN. FROM FACE OF WALL – SEE SPEC.”
 - c) Elevation F3 – Add note at tower as follows: “PROVIDE PRE-FINISHED MTL. LOUVER W/ 50% FREE AREA AND INSECT SCREEN AT EXISTING OPENING BETWEEN TOWER AND ATTIC SPACE - SEAL AT FULL PERIMETER.”
- 72) Sheet A-3.1:
- a) Revise Typical Note 8 as follows: “REFER TO INTERIOR ELEVATIONS AND SECTIONS FOR ADDITIONAL FINISH INFORMATION. ANY FINISH MATERIAL SHOWN IN ELEVATIONS OR

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SECTIONS SHALL BE PROVIDED AS NOTED OR DEPICTED ON THE DRAWINGS AND SPECIFICATIONS.”

b) Revise Numbered Remarks notes referencing “ADDITIVE BID ITEM” to “OPTIONAL BID ITEM.”

73) Sheet A-3.2:

- a) Add door B10a as follows: Door: width 2(3'-0”), height 7'-6”, thickness 1 ¾”, type NV, material SCWD, Frame: material HM, type 1, jamb see detail D4/A-5.7, head detail H2, SIM., sill NONE, door label C45, HW set 38, remarks 2, 3, 9. Add door B25 as follows: Door: width 2(3'-4”), height 8'-0”, thickness 1 ¾”, type NV, material SCWD, Frame: material HM, type 1, jamb see detail G4 & H4/A-5.7, head detail H2, SIM., sill NONE, door label C45, HW set 38, remarks 2, 3, 9.
- b) At doors A24 and A24a revise HW set to “38” and add note “3” to remarks
- c) Revise door A219 hardware set from “11” to “13.”

74) Sheet A-3.7:

- a) Delete one sidelight on frame 12. Revise overall frame dimension to 5'-6”.
- b) At frame elevation 13, revise note referencing “additive bid item” to “optional bid item.”

75) Sheet A-4.5: Section H1 - Revise note referencing “ADDITIVE BID ITEM” to “OPTIONAL BID ITEM.”

76) Sheet A-4.6: Section B1 - Revise note referencing “ADDITIVE BID ITEM” to “OPTIONAL BID ITEM.”

77) Sheet A-5.3:

- a) Details E1 and H1 - Revise notes referencing “ADDITIVE BID ITEM” to “OPTIONAL BID ITEM.”
- b) Detail H1 – revise note at fountain as follows: “FOUNTAIN WITH NATURAL STONE FACING – OPTIONAL BID ITEM.”
- c) Detail E1 - Add notes, section references, and additional detail at fountain below stair as shown on attached drawing SK-A-3 dated 4/17/03.
- d) Add new detail F5 as shown on attached drawing SK-A-4 dated 4/17/03.

78) Sheet A-5.4:

- a) Details D4 and F5 – Add the following note: “PROVIDE ALUM. ‘U’ CHANNEL AROUND FULL PERIMETER OF BIRCH VENEER PLYWOOD PANEL CURVED TO RADIUS OF ELLIPSE, TYP.”
- b) Add new tread detail C4 as shown on attached drawing SK-A-5 dated 4/17/03.

79) Sheet A-5.7:

- a) Sections B1, B2, and B4 - Revise notes referencing “ADDITIVE BID ITEM” to “OPTIONAL BID ITEM.”
- b) Revise details H4, G4 and D4 as shown on attached drawings SK-A-6 through SK-A-8 dated 4/17/03.

80) Sheet A-5.9: Section D1 - Revise note referencing “ADDITIVE BID ITEM” to “OPTIONAL BID ITEM.”

81) Sheet A-6.1: Elevation H1 - Revise note referencing “ADDITIVE BID ITEM” to “OPTIONAL BID ITEM.”

82) Sheet A-6.5:

- a) Revise plate number to 88.
- b) Revise notes referencing “ADDITIVE BID ITEM” to “OPTIONAL BID ITEM.”
- c) Elevation H2 – Revise note at louver to read as follows: “ARCHITECTURAL GRILLE – SEE SPEC.” Add note as follows: “PROVIDE 8” HIGH CAST ALUMINUM LETTER SIGNAGE ABOVE SERVING LINE AREA, TOTAL OF 24 CHARACTERS.”

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- 83) Sheets A- A-9.1 through A-9.6: Revise notes referencing “ADDITIVE BID ITEM” to “OPTIONAL BID ITEM.”
- 84) Sheet S-3.2: Revise per attached sketch SK-S-6, dated 04/17/03.
- 85) Sheet S-4.1:
a) At three areaways, revise note to read “Optional bid item”
b) Add a reference for the Top of Slab elevation in the Auditorium to be 0’-0”, referencing Note 2.
- 86) Sheet S-4.2:
a) At two areaways, revise note to read “Optional bid item”.
b) Revise per attached sketch SK-S-5, dated 04/17/03.
c) Revise elevation of exterior wall footing at Stair 04 from -2’-8” to extend down to align with elevation of lowest footing of adjacent existing building wall footing.
- 87) Sheet S-5.1: Revise per attached sketch SK-S-3, dated 04/17/03.
- 88) Sheet S-5.2: Revise per attached sketch SK-S-4, dated 04/17/03.
- 89) Sheet S-6.1: Revise per attached sketch SK-S-2, dated 04/17/03.
- 90) Sheet S-8.2:
a) Revise title for 6/S-8.2 to read “Areaway Section-Optional Bid Item”.
b) In note regarding aluminum grating on detail 6/S-8.2, delete “McNichols GAL Series or equivalent” and add “with 4” x 1 3/16” bar spacing.”
c) Revise title for 9/S-8.2 to read “Areaway Section-Optional Bid Item”
d) In note regarding galvanized steel grating on detail 9/S-8.2, delete “McNichols GW Series or equivalent” and add “with 4” x 1 3/16” bar spacing.”
- 91) Sheet S-9.3: Add detail 9/S-9.3 per attached sketch SK-S-1, dated 04/17/03.
- 92) All Mechanical and Electrical Sheets: Substitute the words “optional bid” for the words “additive bid” wherever they appear.
- 93) Sheet M1.1: Revise Sheet M1.1 in accordance with the attached sketches SK-M-1, SK-M-2, and SK-M-3 dated 4/17/03.
- 94) Sheet M1.3: Revise Sheet M1.3 in accordance with the attached sketch SK-M-4 dated 4/17/03.
- 95) Sheet M1.5: Revise Sheet M1.5 in accordance with the attached sketch SK-M-5 dated 4/17/03.
- 96) Sheet M1.6: Revise Sheet M1.6 in accordance with the attached sketch SK-M-6 dated 4/17/03.
- 97) Sheet M1.7: Revise Sheet M1.7 in accordance with the attached sketch SK-M-7 dated 4/17/03.
- 98) Sheet M3.2: Revise Sheet M3.2 in accordance with the attached sketch SK-M-8 dated 4/17/03
- 99) Sheet M3.3: Revise Sheet M3.3 in accordance with the attached sketches SK-M-9 and SK-M-10 dated 4/17/03.

AMENDMENT NO. 0001 TO ADVERTISED RFP DACW31-03-R-0008
EFFECTIVE: APRIL 23, 2003

100) Sheet FA-1.2: Add magnetic hold opens at new door opening B10a.

101) Sheet FA-1.4: Add magnetic hold opens at new door opening B25.

ATTACHMENTS:

1. Section 01731, Cutting and Patching.
2. Section 13721, Small Intrusion Detection System.
3. Section 16751, Closed Circuit Television Systems.
4. New Sheets A-0.4 and A-0.5, dated 4/17/03.
5. Sketches SK-C-1 thru SK-C-4, SK-A-1 thru SK-A-6, SK-S-1 thru SK-S-6, SK-M-1 thru SK-M-10 dated 4/17/03.

SECTION 01731

CUTTING AND PATCHING

PART 1 GENERAL

1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only or as otherwise designated. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Cutting and Patching Proposal; G AE

Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:

1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
2. Changes to Existing Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
3. Products: List products to be used and firms or entities that will perform the Work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.
6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
7. Contracting Officer's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.2 QUALITY ASSURANCE

1.2.1 Structural Elements

Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

1.2.2 Operational Elements

Do not cut and patch the following 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.

- a. Primary operational systems and equipment.
- b. Air or smoke barriers.
- c. Fire-protection systems.
- d. Control systems.
- e. Communication systems.
- f. Conveying systems.
- g. Electrical wiring systems.

1.2.3 Miscellaneous Elements

Do not cut and patch the following elements or related 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.

- a. Water, moisture, or vapor barriers.
- b. Membranes and flashings.
- c. Exterior curtain-wall construction.
- d. Equipment supports.
- e. Piping, ductwork, vessels, and equipment.
- f. Noise- and vibration-control elements and systems.

1.2.4 Visual Requirements

Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Owner's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner. If possible, retain original Installer or fabricator to cut and patch exposed Work listed below. If it is impossible to engage original Installer or fabricator, engage another recognized, experienced, and specialized firm.

PART 2 PRODUCTS

2.1 MATERIALS

General: Comply with requirements specified in other Sections of these Specifications.

Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.

PART 3 EXECUTION

3.1 EXAMINATION

Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed. Before patching, verify compatibility

with and suitability of substrates, including compatibility with existing finishes or primers. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

Temporary Support: Provide temporary support of Work to be cut.

Protection: Protect existing 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.

Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

3.3 PERFORMANCE

3.3.1 General

Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay. Cut existing 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.

3.3.2 Cutting

Cut existing 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.

- a. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
- b. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
- c. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
- d. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
- e. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
- f. Proceed with patching after construction operations requiring cutting are complete.

3.3.3 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 possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

- a. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
- b. Exposed Finishes: 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.
- c. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
- d. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.
- e. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

-- End of Section --

SECTION 13721

SMALL INTRUSION DETECTION SYSTEM

PART 1 GENERAL

1.1 REFERENCES

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

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

47 CFR 15 Radio Frequency Devices

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C2 (1997) National Electrical Safety Code

IEEE C62.41 (1991; R 1995) Surge Voltages in
Low-Voltage AC Power Circuits

IEEE Std 100 (1997) IEEE Standard Dictionary of
Electrical and Electronics Terms

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA 250 (1997) Enclosures for Electrical Equipment
(1000 Volts Maximum)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (2002) National Electrical Code

UNDERWRITERS LABORATORIES (UL)

UL 681 (1999) Installation and Classification of
Burglar and Holdup Alarm Systems

UL 1037 (1999) Antitheft Alarms and Devices

UL 1076 (1995; Rev thru Feb 1999) Proprietary
Burglar Alarm Units and Systems

1.2 SYSTEM DESCRIPTION

1.2.1 General

The Contractor shall configure the Intrusion Detection System (IDS) as described and shown, including Government Furnished Equipment (GFE). Computing devices, as defined in 47 CFR 15, shall be certified to comply with the requirements for Class A computing devices and labeled as set forth in 47 CFR 15.

1.2.2 Overall System Reliability Requirement

The system, including all components and appurtenances, shall be configured and installed to yield a mean time between failure (MTBF), as defined in IEEE Std 100, of at least 10,000 hours continuous operation.

1.2.3 Definitions

1.2.3.1 Intrusion Alarm

An alarm resulting from the detection of a specified target and which results in an attempt to intrude into the protected area or when entry into an entry controlled area is attempted without successfully using entry control procedures.

1.2.3.2 Nuisance Alarm

An alarm resulting from the detection of an alarm stimuli, but which does not represent an attempt to intrude into the protected area.

1.2.3.3 Environmental Alarm

An alarm during environmental conditions which exceed those specified.

1.2.3.4 False Alarm

An alarm when there is no alarm stimulus.

1.2.3.5 Duress Alarm

An alarm condition which results from a set of pre-established conditions such as entering a special code into a keypad or by activating a switch. This alarm category shall take precedence over other alarm categories.

1.2.4 Probability of Detection

Each zone shall have a continuous probability of detection greater than 90 percent and shall be demonstrated with a confidence level of 95 percent. This probability of detection equates to 49 successful detections out of 50 tests or 98 successful detections out of 100 tests.

1.2.5 Standard Intruder and Intruder Movement

The system shall be able to detect an intruder that weighs 100 pounds or less and is 5 feet tall or less. The intruder shall be dressed in a long-sleeved shirt, slacks and shoes unless environmental conditions at the site require protective clothing. Standard intruder movement is defined as any movement such as walking, running, crawling, rolling, or jumping through a protected zone in the most advantageous manner for the intruder.

1.2.6 Electrical Requirements

Electrically powered IDS equipment shall operate on 120 volt 60 Hz AC sources as shown. Equipment shall be able to tolerate variations in the voltage source of plus or minus 10 percent, and variations in the line frequency of plus or minus 2 percent with no degradation of performance.

1.2.7 Power Line Surge Protection

Equipment connected to alternating current circuits shall be protected from

power line surges. Equipment protection shall withstand surge test waveforms described in IEEE C62.41. Fuses shall not be used for surge protection.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-03 Product Data

Intrusion Detection System; G,

- a. System block diagram.
- b. Console installation, block diagrams, and wiring diagrams.
- c. Processor installation, typical block, and wiring diagrams.
- d. Details of connections to power sources, including power supplies and grounding.
- e. Details of surge protection device installation.
- f. Sensor detection patterns.
- g. The qualifications of the Manufacturer, Contractor, and Installer to perform the work specified herein.

Manufacturer's Instructions; G,

Printed copies of manufacturer's recommendations for installation of materials prior to installation. Where installation procedures, or any part thereof, are required to be in accordance with manufacturer's recommendations, installation of the item will not be allowed to proceed until the recommendations are received and approved.

Testing; G,

Test plan defining all tests required to ensure that the system meets technical, operational and performance specifications, 60 days prior to proposed test date. The test plan must be approved before the start of any testing. The test plan shall identify the capabilities and functions to be tested, and include detailed instructions for the setup and execution of each test and procedures for evaluation and documentation of the results.

Experience; G,

Written proof of specified experience requirements.

SD-06 Test Reports

Performance Verification Test;

Test reports, in booklet form with witness signatures verifying

execution of tests. Reports shall show the field tests to verify compliance with the specified performance criteria. Test reports shall include records of the physical parameters verified during testing. Test reports shall be submitted within 7 days after completion of testing.

Materials and Equipment; G,

Where materials or equipment are specified to conform, be constructed or tested to meet specific requirements, certification that the items provided conform to such requirements. Certification by a nationally recognized testing laboratory that a representative sample has been tested to meet the requirements, or a published catalog specification statement to the effect that the item meets the referenced standard, will be acceptable as evidence that the item conforms. Compliance with these requirements does not relieve the Contractor from compliance with other requirements of the specifications.

1.4 TESTING

The Contractor shall perform site testing and adjustment of the completed intrusion detection system. The Contractor shall provide all personnel, equipment, instrumentation, and supplies necessary to perform all testing. Written notification of planned testing shall be given to the Government at least 14 days prior to the test, and in no case shall notice be given until after the Contractor has received written approval of the specific test procedures.

1.5 LINE SUPERVISION

1.5.1 Signal and Data Transmission System (DTS) Line Supervision

All signal or DTS lines between sensors and the alarm annunciation console shall be supervised by the system. The system shall supervise the signal lines by monitoring changes in the direct current that flows through the signal lines and a terminating resistor. The system shall initiate an alarm in response to a current change of 10 percent or greater. The system shall also initiate an alarm in response to opening, closing, shorting, or grounding of the signal and DTS lines.

1.6 EXPERIENCE

The Contractor shall submit written proof that the following experience requirements are being met.

1.6.1 Hardware Manufacturer

All system components shall be produced by manufacturers who have been regularly engaged in the production of intrusion detection system components of the types to be installed for at least 3 years.

1.6.2 Software Manufacturer

All system and application software shall be produced by manufacturers who have been regularly engaged in the production of intrusion detection system and application software of similar type and complexity as the specified system for at least 2 years.

1.6.3 System Installer

The system shall be installed by a contractor who has been regularly engaged in the installation of intrusion detection systems of similar type and complexity as the specified system for at least 2 years.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

2.1.1 Materials and Equipment

Units of the same type of equipment shall be products of a single manufacturer. All material and equipment shall be new and currently in production. Each major component of equipment shall have the manufacturer's model and serial number in a conspicuous place.

2.1.2 Enclosures

2.1.2.1 Interior Sensor

Sensors to be used in an interior environment shall be housed in an enclosure that provides protection against dust, falling dirt, and dripping noncorrosive liquids.

2.1.2.2 Interior Electronics

System electronics to be used in an interior environment shall be housed in enclosures which meet the requirements of NEMA 250 Type 1.

2.1.3 Nameplates

Laminated plastic nameplates shall be provided for local processors. Each nameplate shall identify the local processor and its location within the system. Laminated plastic shall be 1/8 inch thick, white with black center core. Nameplates shall be a minimum of 1 by 3 inches, with minimum 1/4 inch high engraved block lettering. Nameplates shall be attached to the inside of the enclosure housing the local processor. Other major components of the system shall have the manufacturer's name, address, type or style, model or serial number, and catalog number on a corrosion resistant plate secured to the item of equipment. Nameplates will not be required for devices smaller than 1 by 3 inches.

2.1.4 Locks and Key-Lock Switches

2.1.4.1 Locks

Locks shall be installed on system enclosures for maintenance purposes. All maintenance locks shall be keyed alike.

2.1.5 Access/Secure Devices

Access/secure devices shall be used to place a protected zone in ACCESS. The device shall disable all sensor alarm outputs, with the exception of tamper alarm outputs within the protected zone, and sensors in zones above false ceilings or other inaccessible locations as shown.

2.2 INTERIOR SENSORS

2.2.1 Door Switch

Provide Sentrol Model 1078 flush in door frame. The door switch shall detect 1/4 inch of separating relative movement between the magnet and the switch housing. Upon detecting such movement, it shall transmit an alarm signal to the alarm annunciation system.

2.2.1.1 Door Switch Subassemblies

The BMS shall consist of a switch assembly and an actuating magnetic assembly. The switch mechanism shall be of the balanced magnetic type. The housings of recess mounted switches and magnets shall be made of nonferrous metal or plastic.

2.2.2 Microwave-Passive Infrared Dual Detection Motion Sensor (Motion Detectors)

The dual detection motion sensor shall be a single unit combining a detector which detects changes in the transmitted microwave signal and a detector which detects changes in the ambient level of infrared emissions caused by the movement of a standard intruder within the detection pattern.

The detection pattern of a wide-beam unit shall be capable of covering a 20 by 30 feet room. The detection pattern of a narrow beam unit shall be capable of covering a 100 by 8-foot corridor. Upon detection of changes by either detector, a window of more than 3 seconds but less than 8 seconds shall be opened. If the other detector detects a change during this window, the sensor shall transmit an alarm signal to the alarm annunciation system. The passive infrared detector shall detect a change in temperature of no more than 2 degrees F, and shall detect a standard intruder traveling within the detection pattern at a speed of 0.3 to 7.5 feet per second across two adjacent segments of the field of view. Emissions monitored by the sensor shall be in the range of 8 to 14 microns. The microwave detector shall detect a standard intruder moving within the detection pattern at a speed of 0.3 to 7.5 feet per second. The microwave detector shall comply with 47 CFR 15 Subpart F. The controls shall not be accessible when the sensor housing is in place. The sensor shall be configured to produce an alarm when both detectors sense a target.

2.3 CONTROL PANEL

Provide ADT SCU-16 Control Panel.

2.4 SOFTWARE

Perform programming necessary to complete installation of the IDS panel, including identification and programming of necessary exit-entry zones.

2.4.1 Zones

2.4.1.1 Doorways

Each exterior door opening, furnished with one door or several adjacent doors (leaves), shall be programmed as an individual zone.

2.4.1.2 Motion Detectors

Each motion detector shall be programmed as an individual zone.

2.4.1.3 Zones

Zones shall be the normally closed, supervised type.

2.4.2 Annunciation

System shall be capable of activating audible alarm, controlling doorway status annunciator, and sending alarm data to central monitoring station over telephone lines via dial-up modem. System shall annunciate zones in trouble or alarm to keypad alphanumeric display.

2.5 MOTION DETECTOR POWER SUPPLY

Provide DC power supply with 8-hour battery backup. Power supply shall be housed in a locked cabinet enclosure located directly adjacent to the control panel.

2.6 SERIAL INTERFACE MODULE (SIM)

Provide ADT model.

2.7 AUDIBLE ALARM

Provide 30-watt audible alarm as shown on drawing.

2.8 WIRE AND CABLE

2.8.1 General

The Contractor shall provide all wire and cable not indicated as Government furnished equipment. All wiring shall meet NFPA 70 standards.

2.8.2 Above Ground Sensor Wiring

Sensor wiring shall be 20 AWG minimum, twisted and shielded, 2, 3, 4, or 6 pairs to match hardware. Multiconductor wire shall have an outer jacket of PVC.

2.8.3 Class 2 Low Energy Conductors

The conductor sizes specified for digital functions shall take precedence over any requirements for Class 2 low energy signal-circuit conductors specified elsewhere.

PART 3 EXECUTION

3.1 INSTALLATION

The Contractor shall install all system components, including Government furnished equipment, and appurtenances in accordance with the manufacturer's instructions, IEEE C2 and as shown, and shall furnish necessary interconnections, services, and adjustments required for a complete and operable system as specified and shown.

3.1.1 Motion Detectors

At each wall-mounted motion detector location, provide a flush-mounted galvanized steel box, containing the SIM. At each ceiling-mounted motion detector location connect the detector to the IDS by a plenum-rated cable, run exposed above the ceiling, to a surface-mounted galvanized steel box,

wall-mounted above the nearest accessible ceiling, as close to the detector as possible. The box shall contain the SIM.

3.1.2 Door Switches

3.1.2.1 Wiring

Provide done SIM for each exterior doorway. Provide one door switch for each leaf of each exterior doorway. Connect all door switches of a doorway to the doorway's SIM so that the SIM monitors every leaf of its doorway.

3.1.2.2 Mounting

Door switches shall be recessed into door leaf and frame. Secure components with ADT door contact cement. Provide conduit concealed in doorframe and wall to SIM. Mount doorway SIM in galvanized steel box surface-mounted above nearest accessible ceiling unless shown otherwise on drawings.

3.1.3 SIM

Provide programming and wiring to complete installation.

3.1.4 Installation, General

The Contractor shall install the system in accordance with the standards for safety, NFPA 70, UL 681, UL 1037 and UL 1076, and the appropriate installation manual for each equipment type. Components within the system shall be configured with appropriate service points to pinpoint system trouble in less than 20 minutes. Minimum size of conduit shall be 3/4 inch, unless otherwise noted on drawings. DTS shall not be pulled into conduits or placed in raceways, compartments, outlet boxes, junction boxes, or similar fittings with other building wiring. Flexible cords or cord connections shall not be used to supply power to any components of the system, except where specifically shown on drawings or noted herein. Grounding shall be installed as necessary to preclude ground loops, noise, and surges from adversely affecting system operation.

3.2 SYSTEM STARTUP

The Contractor shall not apply power to the intrusion detection system until the following items have been completed:

- a. Intrusion detection system equipment items and wiring have been set up in accordance with manufacturer's instructions.
- b. A visual inspection of the intrusion detection system has been conducted to ensure that defective equipment items have not been installed and that there are no loose connections.
- c. System wiring has been tested and verified as correctly connected as indicated.
- d. All system grounding and transient protection systems have been verified as properly installed and connected as indicated.
- e. Power supplies to be connected to the intrusion detection system have been verified as the correct voltage, phasing, and frequency as indicated.

- f. Satisfaction of the above requirements shall not relieve the Contractor of responsibility for incorrect installation, defective equipment items, or collateral damage as a result of Contractor work/equipment.

3.3 SITE TESTING

3.3.1 General

The Contractor shall provide personnel, equipment, instrumentation, and supplies necessary to perform the site testing. The Government will witness all testing. Written permission shall be obtained from the Government before proceeding with the next phase of testing. Original copies of all data produced during performance verification and endurance testing shall be turned over to the Government at the conclusion of each phase of testing prior to Government approval of the test.

3.3.2 Contractor's Field Testing

The Contractor shall calibrate and test all equipment, verify data transmission system (DTS) operation, place the integrated system in service, and test the integrated system. The Contractor shall deliver a report describing results of functional tests, diagnostics, and calibrations including written certification to the Government that the installed complete system has been calibrated, tested, and is ready to begin performance verification testing. The report shall also include a copy of the approved performance verification test procedure.

3.3.3 Performance Verification Test

The Contractor shall demonstrate that the completed system complies with the specified requirements. Using approved test procedures, all physical and functional requirements of the project shall be demonstrated and shown.

The performance verification test, as specified, shall not be started until receipt by the Contractor of written permission from the Government, based on the Contractor's written request. This shall include certification of successful completion of testing as specified in paragraph Contractor's Field Testing, and upon successful completion of training as specified. Upon successful completion of the performance verification test, the Contractor shall deliver test reports and other documentation to the Government, as specified. The Contractor will not be held responsible for failures in system performance resulting from the following:

- (1) An outage of the main power in excess of the capability of any backup power source, provided that the automatic initiation of all backup sources was accomplished and that automatic shutdown and restart of the system performed as specified.
- (2) Failure of a Government furnished communications link, provided that the failure was not due to Contractor furnished equipment, installation, or software.

-- End of Section --

SECTION 16751

CLOSED CIRCUIT TELEVISION SYSTEMS

PART 1 GENERAL

1.1 REFERENCES

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

ELECTRONIC INDUSTRIES ALLIANCE (EIA)

EIA 170 (1957) Electrical Performance Standards - Monochrome Television Studio Facilities

EIA ANSI/EIA/TIA-232-F (1997) Interface Between Data Terminal Equipment and Data Circuit-Terminating Equipment Employing Serial Binary Data Interchange

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C2 (1997) National Electrical Safety Code

IEEE C62.41 (1991; R 1995) Surge Voltages in Low-Voltage AC Power Circuits

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA 250 (1997) Enclosures for Electrical Equipment (1000 Volts Maximum)

1.2 SYSTEM DESCRIPTION

1.2.1 General

The Contractor shall configure the system as described and shown. The system shall include all connectors, adapters, and terminators necessary to interconnect all equipment. The Contractor shall also supply all cabling necessary to interconnect the closed circuit television (CCTV) equipment installed in the Head End room, and interconnect equipment installed at remote control/monitoring stations. If the CCTV system is installed for use with an Intrusion Detection system (IDS) the Contractor shall interface the CCTV system with the IDS.

1.2.2 Power Line Surge Protection

All equipment connected to AC power shall be protected from surges. Equipment protection shall withstand surge test waveforms described in IEEE C62.41. Fuses shall not be used for surge protection.

1.2.3 Video and Sync Signal Transmission Line Surge Protection

All cable, except fiber optic cable, used for sync or video signal

transmission shall include protective devices to safeguard the CCTV equipment against surges. The surge suppression device shall not attenuate or reduce the video or sync signal under normal conditions. The surge suppression device shall be capable of dissipating not less than 1500 watts for 1 millisecond, and the response time from zero volts to clamping shall not be greater than 5 nanoseconds. Fuses shall not be used for surge protection.

1.2.4 Control Line Surge Protection

All cables and conductors, except fiber optic cables, which serve as communication, control, or signal lines shall be protected against surges and shall have surge protection installed at each end. Protection shall be furnished at the equipment and additional triple electrode gas surge protectors rated for the application on each wireline circuit shall be installed within 3 feet of the building cable entrance. Fuses shall not be used for surge protection. The inputs and outputs shall be tested in both normal mode and common mode using the following waveforms:

- a. A 10 microsecond rise time by 1000 microsecond pulse width waveform with a peak voltage of 1500 volts and a peak current of 60 amperes.
- b. An 8 microsecond rise time by 20 microsecond pulse width waveform with a peak voltage of 1000 volts and a peak current of 500 amperes.

1.2.5 Environmental Conditions

1.2.5.1 Field Equipment

1.2.5.2 Head End Room Equipment

Head End room and remote control/monitoring station equipment shall, unless designated otherwise, be rated for continuous operation under ambient environmental conditions of 60 degrees F to 85 degrees F and a relative humidity of 20 to 80 percent.

1.2.6 Electrical Requirements

Electrically powered CCTV equipment shall operate on 120 volt 60 Hz AC sources as shown. Equipment shall be able to tolerate variations in the voltage source of plus or minus 10 percent, and variations in the line frequency of plus or minus 2 percent with no degradation of performance.

1.3 DELIVERY OF TECHNICAL DATA AND COMPUTER SOFTWARE

All items of computer software and technical data (including technical data which relates to computer software), which are specifically identified in this specification shall be delivered strictly in accordance with the CONTRACT CLAUSES, SPECIAL CONTRACT REQUIREMENTS, Section 01330 SUBMITTAL PROCEDURES, and in accordance with the Contract Data Requirements List (CDRL), DD Form 1423, which is attached to and thereby made a part of this contract. All data delivered shall be identified by reference to the particular specification paragraph against which it is furnished.

1.3.1 Group I Technical Data Package

1.3.1.1 System Drawings

The data package shall include the following:

- a. System block diagram.
- b. CCTV system console installation, block diagrams, and wiring diagrams.
- c. Head End room CCTV equipment installation, interconnection with console equipment, block diagrams and wiring diagrams.
- d. Remote control/monitoring station installation, interconnection to security center including block diagrams and wiring diagrams.
- e. Camera wiring and installation drawings.
- f. Pan/tilt mount wiring and installation drawings.
- g. Interconnection with video signal transmission system, block diagrams and wiring diagrams.
- h. Surge protection device installation.
- i. Details of interconnection with IDS.

1.3.1.2 Manufacturers' Data

The data package shall include manufacturers' data for all materials and equipment and security center equipment provided under this specification.

1.3.1.3 System Description and Analyses

The data package shall include complete system descriptions, analyses and calculations used in sizing the equipment required by these specifications. Descriptions and calculations shall show how the equipment will operate as a system to meet the performance of this specification. The data package shall include the following:

- a. Switcher matrix size.
- b. Camera call-up response time.
- c. System start up and shutdown operations.
- d. Switcher programming instructions.
- e. Switcher operating and maintenance instructions.
- f. Manuals for CCTV equipment.
- g. Data entry forms.

1.3.1.4 Software Data

The data package shall consist of descriptions of the operation and capability of system and application software as specified.

1.3.1.5 Certifications

All specified manufacturer's certifications shall be included with the data package.

1.3.2 Group II Technical Data Package

The Contractor shall verify that site conditions are in agreement with the design package. The Contractor shall submit a report to the Government documenting changes to the site, or conditions that affect performance of the system to be installed. For those changes or conditions which affect system installation or performance, provide (with the report) specification sheets, or written functional requirements to support the findings, and a cost estimate to correct the deficiency. The Contractor shall not correct any deficiency without written permission from the Government.

1.3.3 Group III Technical Data Package

The Contractor shall prepare test procedures and reports for the predelivery test. The Contractor shall deliver the predelivery test procedures to the Government for approval. After receipt by the Contractor of written approval of the predelivery test procedures, the Contractor may schedule the predelivery test. The final predelivery test report shall be delivered after completion of the predelivery test.

1.3.4 Group IV Technical Data Package

The Contractor shall prepare test procedures and reports for the performance verification test and the endurance test. The Contractor shall deliver the performance verification test and endurance test procedures to the Government for approval. After receipt by the Contractor of written approval of the test procedures, the Contractor may schedule the tests. The contractor shall provide a report detailing the results of the field test and a video tape as specified in paragraph "Contractor's Field Testing." The final performance verification and endurance test report shall be delivered after completion of the tests.

1.3.4.1 Operation and Maintenance Manuals

A draft copy of the operation and maintenance manuals, as specified for the Group V technical data package, shall be delivered to the Government prior to beginning the performance verification test for use during site testing.

1.3.4.2 Training Documentation

Lesson plans and training manuals for the training phases, including type of training to be provided with a sample training report, and a list of reference material, shall be delivered for approval.

1.3.4.3 Data Entry

The Contractor shall enter all data needed to make the system operational. The Contractor shall deliver the data to the Government on data entry forms, utilizing data from the contract documents, Contractor's field surveys, and all other pertinent information in the Contractor's possession required for complete installation of the data base. The Contractor shall identify and request from the Government, any additional data needed to provide a complete and operational CCTV system. The completed forms shall be delivered to the Government for review and approval at least 90 days prior to the Contractor's scheduled need date.

1.3.4.4 Graphics

Where graphics are required and are to be delivered with the system, the Contractor shall create and install all graphics needed to make the system operational. Graphics shall have sufficient level of detail for the system operator to assess the alarm. The Contractor shall supply hard copy, color examples at least 8 by 10 inches in size, of each type of graphic to be used for the completed CCTV system. If the video switcher does not use a monitor for display of system information, the Contractor shall provide examples of the video annotation used for camera identification. The graphics examples shall be delivered to the Government for review and approval at least 90 days prior to the Contractor's scheduled need date.

1.3.5 Group V Technical Data Package

Final copies of each of the manufacturer's commercial manuals arranged as specified bound in hardback, loose-leaf binders, shall be delivered to the Government within 30 days after completing the endurance test. The draft copy used during site testing shall be updated prior to final delivery of the manuals. Each manual's contents shall be identified on the cover. The manual shall include names, addresses, and telephone numbers of each subcontractor installing equipment and systems, and nearest service representatives for each item of equipment for each system. The manuals shall have a table of contents and tab sheets. Tab sheets shall be placed at the beginning of each chapter or section and at the beginning of each appendix. The final copies delivered after completion of the endurance test shall include all modifications made during installation, checkout, and acceptance. The number of copies of each manual to be delivered shall be as specified on DD Form 1423.

1.3.5.1 Functional Design Manual

The functional design manual shall identify the operational requirements for the system and explain the theory of operation, design philosophy, and specific functions. A description of hardware and software functions, interfaces, and requirements shall be included for all system operating modes.

1.3.5.2 Hardware Manual

A manual shall describe all equipment furnished, including:

- a. General hardware description and specifications.
- b. Installation and checkout procedures.
- c. Equipment electrical schematics and layout drawings.
- d. System schematics and wiring lists.
- e. System setup procedures.
- f. Manufacturer's repair parts list indicating sources of supply.
- g. Interface definition.

1.3.5.3 Software Manual

The software manual shall describe the functions of all software, and shall

include all other information necessary to enable proper loading, testing and operation, including:

- a. Definitions of terms and functions.
- b. Procedures for system boot-up.
- c. Description of using the programs.
- d. Description of required operational sequences.
- e. Directory of all disk files.
- f. Description of all communications protocols, including data formats, command characters, and a sample of each type of data transfer.

1.3.5.4 Operator's Manual

The operator's manual shall explain all procedures and instructions for operation of the system including:

- a. Video switcher (server).
- b. Cameras and video recording equipment.
- c. Use of the software.
- d. Operator commands.
- e. System start-up and shut-down procedures.
- f. Recovery and restart procedures.

1.3.5.5 Maintenance Manual

The maintenance manual shall describe maintenance for all equipment including inspection, periodic preventive maintenance, fault diagnosis, and repair or replacement of defective components.

1.3.5.6 As-Built Drawings

The Contractor shall maintain a separate set of drawings, elementary diagrams and wiring diagrams of the CCTV system to be used for as-built drawings. This set shall be accurately kept up to date by the Contractor with all changes and additions to the CCTV system and shall be delivered to the Government with the final endurance test report. In addition to being complete and accurate, this set of drawings shall be kept neat and shall not be used for installation purposes. Upon completion of the final system drawings, a representative of the Government will review the final system work with the Contractor. If the final system work is not complete, the Contractor will be so advised and shall complete the work as required. Final drawings submitted with the endurance test report shall be finished drawings on mylar or vellum, and as AutoCAD or Microstation files on CD-ROM.

1.4 TESTING

1.4.1 General

The Contractor shall perform predelivery testing, site testing, and adjustment of the completed CCTV system. The Contractor shall provide all personnel, equipment, instrumentation, and supplies necessary to perform all testing. Written notification of planned testing shall be given to the Government at least 14 days prior to the test, and in no case shall notice be given until after the Contractor has received written approval of the specific test procedures.

1.4.2 Test Procedures and Reports

Test procedures shall explain, in detail, step-by-step actions and expected results demonstrating compliance with the requirements of the specification. Test reports shall be used to document results of the tests. Reports shall be delivered to the Government within 7 days after completion of each test.

1.5 TRAINING

1.5.1 General

The Contractor shall conduct training courses for designated personnel in the maintenance and operation of the CCTV system as specified. If the CCTV system is being installed in conjunction with an ESS, the CCTV training shall be concurrent and part of the ESS training. The training shall be oriented to the specific system being installed under this contract. Training manuals shall be delivered for each trainee with two additional manuals delivered for archiving at the project site. The manuals shall include an agenda, defined objectives for each lesson, and a detailed description of the subject matter for each lesson. The Contractor is responsible for furnishing all audio-visual equipment and all other training materials and supplies. Where the Contractor presents portions of the course through the use of audio-visual material, copies of the audio-visual materials shall be delivered to the Government, either as a part of the printed training manuals or on the same media as that used during the training sessions. A training day is 8 hours of instruction, including two 15 minute breaks and excluding lunchtime, Monday through Friday, during the daytime shift in effect at the facility. For guidance in planning the required instruction, the Contractor should assume the attendees will have a high school education or equivalent. Approval of the planned training schedule shall be obtained from the Government at least 30 days prior to the training.

1.5.2 Operator's Training

The course shall be taught at the project site for five consecutive training days during or after the Contractor's field testing. A maximum of 12 personnel will attend the course. No part of the training given during this course will be counted toward completion of the performance verification test. The course shall consist of classroom instruction, hands-on training, instruction on the specific hardware configuration of the installed system, and specific instructions for operating the installed system. The course shall demonstrate system start up, system operation, system shutdown, system recovery after a failure, the specific hardware configuration, and operation of the system and its software. The students should have no unanswered questions regarding operation of the installed CCTV system. The Contractor shall prepare and insert additional training material in the training manuals when the need for additional material becomes apparent during instruction. The Contractor shall prepare a written report after the completion of the course. The Contractor shall

list in the report the times, dates, attendees and material covered at each training session. The Contractor shall describe the skill level of each student at the end of this course. The Contractor shall submit the report before the end of the performance verification test. The course shall include:

- a. General CCTV hardware, installed system architecture and configuration.
- b. Functional operation of the installed system and software.
- c. Operator commands.
- d. Alarm interfaces.
- e. Alarm reporting.
- f. Fault diagnostics and correction.
- g. General system maintenance.
- h. Replacement of failed components and integration of replacement components into the operating CCTV system.

1.6 MAINTENANCE AND SERVICE

1.6.1 General Requirements

The Contractor shall provide all services required and equipment necessary to maintain the entire CCTV system in an operational state as specified for a period of 1 year after completion of the endurance test, and shall provide all necessary material required for the work. Impacts on facility operations shall be minimized when performing scheduled adjustments or other unscheduled work.

1.6.2 Description of Work

The adjustment and repair of the CCTV system includes all computer equipment, software updates, signal transmission equipment, and video equipment. Provide the manufacturer's required adjustments and all other work necessary.

1.6.3 Personnel

Service personnel shall be qualified to accomplish all work promptly and satisfactorily. The Government shall be advised in writing of the name of the designated service representative, and of any changes in personnel.

1.6.4 Schedule of Work

The Contractor shall perform two inspections at 6-month intervals or less. This work shall be performed during regular working hours, Monday through Friday, excluding legal holidays. These inspections shall include:

- a. Visual checks and operational tests of the CPU, switcher, peripheral equipment, interface panels, recording devices, monitors, video equipment electrical and mechanical controls, and a check of the picture quality from each camera.

- b. Run system software and correct all diagnosed problems.
- c. Resolve any previous outstanding problems.

1.6.5 Emergency Service

The Government will initiate service calls when the CCTV system is not functioning properly. Qualified personnel shall be available to provide service to the complete CCTV system. The Government shall be furnished with a telephone number where the service supervisor can be reached at all times. Service personnel shall be at the site within 24 hours after receiving a request for service. The CCTV system shall be restored to proper operating condition within 3 calendar days after receiving a request for service.

1.6.6 Operation

Performance of scheduled adjustments and repair shall verify operation of the CCTV system as demonstrated by the applicable portions of the performance verification test.

1.6.7 Records and Logs

The Contractor shall keep records and logs of each task, and shall organize cumulative records for each major component, and for the complete system chronologically. A continuous log shall be maintained for all devices. The log shall contain calibration, repair, and programming data. Complete logs shall be kept and shall be available for inspection on site, demonstrating that planned and systematic adjustments and repairs have been accomplished for the CCTV system.

1.6.8 Work Requests

The Contractor shall separately record each service call request, as received. The form shall include the serial number identifying the component involved, its location, date and time the call was received, nature of trouble, names of the service personnel assigned to the task, instructions describing what has to be done, the amount and nature of the materials to be used, the time and date work started, and the time and date of completion. The Contractor shall deliver a record of the work performed within 5 days after work is completed.

1.6.9 System Modifications

The Contractor shall make any recommendations for system modification in writing to the Government. No system modifications, including operating parameters and control settings, shall be made without prior approval of the Government. Any modifications made to the systems shall be incorporated into the operations and maintenance manuals, and other documentation affected.

1.6.10 Software

The Contractor shall recommend all software updates to the Government for approval. Upon Government approval, updates shall be accomplished in a timely manner, fully coordinated with the CCTV system operators, operation in the system verified, and shall be incorporated into the operations and maintenance manuals, and software documentation. There shall be at least one scheduled update near the end of the first year's warranty period, at

which time the Contractor shall install and validate the latest released version of the manufacturer's software.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

All system hardware and software components shall be produced by manufacturers regularly engaged in the production of CCTV equipment. Units of the same type of equipment shall be products of a single manufacturer. All material and equipment shall be new and currently in production. Each major component of equipment shall have the manufacturer's name and address, and the model and serial number in a conspicuous place. Equipment located at the Head End room or a remote control/monitoring station shall be rack mounted.

2.1.1 Soldering

All soldering shall be done in accordance with standard industry practices.

2.2 ENCLOSURES

The Contractor shall provide metallic enclosures as needed for equipment not housed in racks or supplied with a housing. The enclosures shall be as specified or shown.

2.2.1 Interior

Enclosures to house equipment in an interior environment shall meet the requirements of NEMA 250 Type 12.

2.2.2 Exposed-to-Weather

Enclosures to house equipment in an outdoor environment shall meet the requirements of NEMA 250 Type 4X.

2.3 LOCKS AND KEY-LOCK OPERATED SWITCHES

2.3.1 Locks

Locks shall be provided on system enclosures for maintenance purposes. The locks shall be so arranged that the key can only be withdrawn when in the locked position. All maintenance locks shall be keyed alike and only two keys shall be furnished for all of these locks.

2.4 SOLID STATE CAMERAS

2.4.1 High Resolution Color Camera

Provide Marshall Electronics model V-1255-DW cameras. Provide two keys for camera's tamper-resistant screws.

2.4.2 Exterior Dome Mount Cameras

Provide Pelco Environmental Pendant model SD5BC22-PG-E0 with Pelco IWM24 Wall Mount.

2.5 PAN/TILT/ZOOM CONTROLLER

Provide one PELCO model CM6700-MXB2 pan/tilt/zoom controller and video signal switcher.

2.5.1 Keyboard

Provide one PELCO model KBD300A keyboard for input to pan/tilt/zoom controller. Provide remote keyboard wiring kit PELCO model KBDKIT.

2.6 CAMERA LENSES

Camera lenses shall be all glass with coated optics. The lens mount shall be a C or CS mount, compatible with the cameras selected. The lens shall be supplied with the camera, and shall have a maximum f-stop opening of f/1.2 or the maximum available for the focal length specified. The lens shall be equipped with an auto-iris mechanism unless otherwise specified. Lenses having auto iris, manual iris, or zoom and focus functions shall be supplied with connectors, wiring, receiver/drivers, and controls as needed to operate the lens functions. Lenses shall have sufficient circle of illumination to cover the image sensor evenly. Lenses shall not be used on a camera with an image format larger than the lens is designed to cover. Lens focal lengths shall be as shown or specified in the manufacturer's lens selection tables.

2.7 VIDEO MONITOR

2.7.1 Color Video Monitor and VCR Player

Provide Progressive Systems TV/VCR monitoring station.

2.7.2 Picture Tube

The monitor shall have a 20 inch picture tube minimum measured diagonally.

2.7.3 Configuration

The monitor shall be configured in a wall- or ceiling-mount. Provide mounts manufactured by OWI Incorporated, model number C-1921 for ceiling mount, with CK-10 adapter for suspended ceilings; model number WTV-1921 for wall-mount.

2.7.4 Controls

Front panel controls shall be provided for power on/off, horizontal hold, vertical hold, contrast, and brightness.

2.7.5 Connectors for Video Monitor

Video signal input and output shall be by BNC connectors.

2.8 VIDEO SWITCHER(SERVER)

Provide Progressive Systems LLC model number PS-16-480 servers, which shall perform the functions of video switchers and video recorders. Servers shall be mounted in racks. Racks shall be secured in locked, ventilated enclosures. Enclosures shall have internal receptacles and shall have a single-point power connection for a hard-wired 120-volt 20-amp circuit.

2.8.1 Alarm Interface

An alarm interface shall be furnished with the switcher. The interface shall be compatible with the IDS alarm annunciation system. The alarm interface shall monitor alarm closures for processing by the switcher CPU. Alarm inputs to the alarm interface shall be relay contact or through an EIA ANSI/EIA/TIA-232-F interface. The alarm interface shall be modular and shall allow for system expansion. The alarm interface to be installed at the site shall be configured to handle 14 alarm points, and shall have an expansion capability of not less than 10 percent. An output shall be provided to actuate a video recorder hard drive.

2.8.2 Control Keyboards

Control and programming keyboards shall be supplied for the video switcher at the Head End room, and control keyboards shall be supplied for any control/monitoring stations as shown. The control keyboard shall provide the interface between the operator and the CCTV system, and shall relay commands from the operator to the switcher CPU. The keyboard shall provide control of the video switcher functions needed for operation and programming of the video switcher. Controls shall include, but not be limited to: programming the switcher, switcher control, lens function control, pan/tilt/zoom (PTZ) control, control of environmental housing accessories, and annotation programming. If the switcher CPU requires an additional text keyboard for system management functions, the keyboard shall be supplied as part of the video switcher.

2.8.3 Accessory Control Equipment

The video switcher shall be equipped with signal distribution units, preposition cards, expansion units, cables, software or any other equipment needed to ensure that the CCTV system is complete and fully operational.

2.8.4 Connectors for Video Switcher

Video signal input and output shall be by BNC connectors.

2.8.5 Video Annotation

Video annotation equipment shall be provided for the video switcher. The annotation shall be alphanumeric and programmable for each video source. Annotation to be generated shall include, but not be limited to: individual video source identification number, time (hour, minute, second) in a 24 hour format, date (month, day, year), and a unique, user-defined title with at least 8 characters. The annotation shall be inserted onto the source video so that both shall appear on a monitor or recording. The lines of annotation shall be movable for horizontal and vertical placement on the video picture. The annotation shall be automatically adjusted for date. Programmed annotation information shall be retained in memory for at least 4 hours in the event of power loss.

2.9 CAMERA POWER SUPPLY

Provide Altronix ALTV 1224-DC2 DC CCTV power supply units, one per video switcher, mounted adjacent to server.

2.10 VIDEO SIGNAL EQUIPMENT

The following video signal equipment shall conform to EIA 170. Electrically powered equipment shall operate on 120 Volts 60 Hz AC power. All video signal inputs and outputs shall be by BNC connectors.

2.10.1 Ground Loop Corrector

The ground loop corrector shall eliminate the measured ground loop interference (common mode voltage) in wireline or coaxial video transmission lines. The ground loop corrector shall pass the full transmitted video bandwidth with no signal attenuation or loss. Clamping ground loop correctors shall be capable of rejecting at least an 8 volt peak-to-peak 60 Hz common mode signal. Ground isolation transformers shall be capable of rejecting at least a 10 volt peak-to-peak 60 Hz common mode signal. Ground isolation amplifiers shall be capable of rejecting at least a 30 volt peak-to-peak 60 Hz common mode signal. Differential ground loop correctors shall be capable of rejecting at least a 100 volt peak-to-peak 60 Hz common mode signal.

2.10.2 Video Distribution Amplifier (VDA)

Provide a VDA for each server. The VDA shall have 16 inputs and at least 3 outputs for each channel. Each output shall be equal in strength to the camera input to which it corresponds.

2.11 WIRE AND CABLE

The Contractor shall provide all wire and cable not indicated as Government Furnished Equipment. All wire and cable components shall be able to withstand the environment the wire or cable is installed in for a minimum of 20 years.

2.11.1 CCTV Equipment Video Signal Wiring

The coaxial cable shall have a characteristic impedance of 75 ohms plus or minus 3 ohms. RG 59/U coaxial signal cable shall have shielding which provides a minimum of 95 percent coverage, a solid copper center conductor of not less than 23 AWG, polyethylene insulation, and a black non-contaminating polyvinylchloride (PVC) jacket.

2.11.2 Low Voltage Control Wiring

Twisted pair low voltage control wiring to be used above ground or as direct burial cable shall be provided as described in Section 16792 WIRE LINE DATA TRANSMISSION SYSTEM. Plenum or riser cables shall be IEEE C2 CL2P certified.

2.11.3 Digital Data Interconnection Wiring

Interconnecting cables carrying digital data between equipment located at the Head End room or at a secondary control/monitoring site shall be not less than 20 AWG and shall be stranded copper wire for each conductor. The cable or each individual conductor within the cable shall have a shield that provides 100 percent coverage. Cables with a single overall shield shall have a tinned copper shield drain wire. Plenum or riser cables shall be IEEE C2 CL2P certified.

2.11.4 Dual Use Cable

Internal cameras shall be connected with dual-use cable. Dual-use cable shall consist of a coaxial cable as specified in "CCTV Equipment Video Signal Wiring" above, and a low-voltage power cable consisting of two No.18 AWG twisted copper conductors. Provide CommScope plenum RG-59/2-18 AWG

cable, catalog number 2054K.

2.12 PREDELIVERY TESTING

2.12.1 General

The Contractor shall assemble the test CCTV system as specified, and perform tests to demonstrate that the performance of the system complies with the contract requirements in accordance with the approved predelivery test procedures. The tests shall take place during regular daytime working hours on weekdays. Model numbers of equipment tested shall be identical to those to be delivered to the site. Original copies of all data produced during predelivery testing, including results of each test procedure, shall be delivered to the Government at the conclusion of predelivery testing prior to Government approval of the test. The test report shall be arranged so that all commands, stimuli, and responses are correlated to allow logical interpretation.

2.12.2 Test Setup

The Contractor shall provide the equipment needed for the test setup and shall configure it to provide alarm actuated camera call-up and alarm recording as required to emulate the installed system. The test setup shall consist of at least 4 complete camera circuits. The alarm signal input to the CCTV test setup shall be by the same method that is used in the installed system. The video switcher shall be capable of switching any camera to any monitor and any combination of cameras to any combination of monitors. The minimum test setup shall include:

- a. Four video cameras and lenses, including dome cameras.
- b. Three video monitors.
- c. Video recorder if it is required for the installed system.
- d. Video switcher including video input modules, video output modules, and control and applications software.
- e. Alarm input panel if required for the installed system.
- f. Pan/tilt mount and pan/tilt controller.
- g. Any ancillary equipment associated with a camera circuit such as equalizing amplifiers, video loss/presence detectors, terminators, ground loop correctors, surge protectors or other in-line video devices.
- h. Cabling for all components.

PART 3 EXECUTION

3.1 INSTALLATION

The Contractor shall install all system components including Government furnished equipment, and appurtenances in accordance with the manufacturer's instructions, IEEE C2 and as shown, and shall furnish all necessary connectors, terminators, interconnections, services, and adjustments required for a complete and operable system. Raceways shall be furnished and installed as specified in Section 16375 ELECTRICAL

DISTRIBUTION SYSTEM, UNDERGROUND and Section 16415 ELECTRICAL WORK, INTERIOR. DTM shall not be pulled into conduits or placed in raceways, compartments, outlet boxes, junction boxes, or similar fittings with other building wiring. All other electrical work shall be as specified in the above sections including grounding to preclude ground loops, noise, and surges from adversely affecting system operation.

3.1.1 Current Site Conditions

The Contractor shall visit the site and verify that site conditions are in agreement with the design package. The Contractor shall report all changes to the site or conditions that will affect performance of the system to the Government in a report as defined in paragraph Group II Technical Data Package. The Contractor shall not take any corrective action without written permission from the Government.

3.1.2 Enclosure Penetrations

All enclosure penetrations shall be from the bottom unless the system design requires penetrations from other directions. Penetrations of interior enclosures involving transitions of conduit from interior to exterior, and all penetrations on exterior enclosures shall be sealed with rubber silicone sealant to preclude the entry of water. The conduit riser shall terminate in a hot-dipped galvanized metal cable terminator. The terminator shall be filled with an approved sealant as recommended by the cable manufacturer, and in such a manner that the cable is not damaged.

3.1.3 Interconnection of Console Video Equipment

The Contractor shall connect signal paths between video equipment with RG-6/U coaxial cable. Cables shall be as short as practicable for each signal path without causing strain at the connectors. Rack mounted equipment on slide mounts shall have cables of sufficient length to allow full extension of the slide rails from the rack.

3.1.4 Cameras

The Contractor shall install the cameras with the proper focal length lens as indicated for each zone; connect power and signal lines to the camera; set cameras with fixed iris lenses to the proper f-stop to give full video level; aim camera to give field of view as needed to cover the alarm zone; aim fixed mount cameras installed outdoors facing the rising or setting sun sufficiently below the horizon to preclude the camera looking directly at the sun; focus the lens to give a sharp picture over the entire field of view; and synchronize all cameras so the picture does not roll on the monitor when cameras are selected. Dome cameras shall have all preset positions defined and installed.

3.1.5 Monitors

The Contractor shall install the monitors as shown and specified; connect all signal inputs and outputs as shown and specified; terminate video input signals as required; and connect the monitor to AC power.

3.1.6 Switcher

The Contractor shall install the switcher as shown and according to manufacturer's instructions; connect all subassemblies as specified by the manufacturer and as shown; connect video signal inputs and outputs as shown

and specified; terminate video inputs as required; connect alarm signal inputs and outputs as shown and specified; connect control signal inputs and outputs for ancillary equipment or secondary control/monitoring sites as specified by the manufacturer and as shown; connect the switcher CPU and switcher subassemblies to AC power; load all software as specified and required for an operational CCTV system configured for the site requirements, including data bases, operational parameters, and system, command, and application programs; provide the original and 2 backup copies for all accepted software upon successful completion of the endurance test; and program the video annotation for each camera.

3.1.7 Video Recording Equipment

The Contractor shall install the video recording equipment as shown and as specified by the manufacturer; connect video signal inputs and outputs as shown and specified; connect alarm signal inputs and outputs as shown and specified; and connect video recording equipment to AC power.

3.1.8 Video Signal Equipment

The Contractor shall install the video signal equipment as specified by the manufacturer and as shown; connect video or signal inputs and outputs as shown and specified; terminate video inputs as required; connect alarm signal inputs and outputs as required; connect control signal inputs and outputs as required; and connect electrically powered equipment to AC power.

3.1.8.1 Video Distribution Amplifier (VDA)

Install each VDA in the same rack as its associated server. For each interior camera monitored by a server, connect the cable from the camera to an input on the VDA. Connect one of the three corresponding VDA outputs to the server. Connect the second VDA output to the IDS control panel as shown on the drawings.

3.1.9 Camera Housings and Mounts

The Contractor shall install the camera housings and mounts as specified by the manufacturer and as shown, and provide mounting hardware sized appropriately to secure each camera, housing and mount with maximum wind and ice loading encountered at the site.

3.2 SYSTEM STARTUP

The Contractor shall not apply power to the CCTV system until the following items have been completed:

- a. CCTV system equipment items and DTM have been set up in accordance with manufacturer's instructions.
- b. A visual inspection of the CCTV system has been conducted to ensure that defective equipment items have not been installed and that there are no loose connections.
- c. System wiring has been tested and verified as correctly connected as indicated.
- d. All system grounding and transient protection systems have been verified as properly installed and connected as indicated.

- e. Power supplies to be connected to the CCTV system have been verified as the correct voltage, phasing, and frequency as indicated.
- f. Satisfaction of the above requirements shall not relieve the Contractor of responsibility for incorrect installation, defective equipment items, or collateral damage as a result of Contractor work/equipment.

3.3 SUPPLEMENTAL CONTRACTOR QUALITY CONTROL

The following requirements supplement the contractor quality control requirements specified elsewhere in the contract. The contractor shall provide the services of technical representatives who are thoroughly familiar with all components and installation procedures of the installed IDS; and are approved by the Contracting Officer. These representatives will be present on the job site during the preparatory and initial phases of quality control to provide technical assistance. These representatives shall also be available on an as needed basis to provide assistance with follow-up phases of quality control. These technical representatives shall participate in the testing and validation of the system and shall provide certification that their respective system portions meet its contractual requirements.

3.4 SITE TESTING

3.4.1 General

The Contractor shall provide all personnel, equipment, instrumentation, and supplies necessary to perform all site testing. The Government will witness all performance verification and endurance testing. Written permission shall be obtained from the Government before proceeding with the next phase of testing. Original copies of all data produced during performance verification and endurance testing shall be turned over to the Government at the conclusion of each phase of testing prior to Government approval of the test.

3.4.2 Contractor's Field Testing

The Contractor shall calibrate and test all equipment, verify DTM operation, place the integrated system in service, and test the integrated system. The Contractor shall deliver a report describing results of functional tests, diagnostics, and calibrations including written certification to the Government that the installed complete system has been calibrated, tested, and is ready to begin performance verification testing.

The report shall also include a copy of the approved performance verification test procedure. In addition, the Contractor shall make a master video tape recording showing typical day and night views of each camera in the system and shall deliver the tape with the report. Note any objects in the field of view that might produce highlights that could cause camera blinding. Note any objects in the field of view or anomalies in the terrain which may cause blind spots. Note if a camera cannot be aimed to cover the zone and exclude the rising or setting sun from the picture. Note night assessment capabilities and whether lights or vehicle headlights cause blooming or picture degradation. If any of the above conditions or other conditions exist that cause picture degradation or interfere with the camera field of view, the Contractor shall inform the Contracting Officer. The Contractor shall provide the tape in Video Home System (VHS) format. The Contractor shall provide the Government with the original tape as part

of the documentation of the system and shall submit a letter certifying that the CCTV system is ready for performance verification testing. The field testing shall as a minimum include:

- a. Verification that the video transmission system and any signal or control cabling have been installed, tested, and approved as specified.
- b. When the system includes remote control/monitoring stations or remote switch panels, verification that the remote devices are functional, communicate with the security center, and perform all functions as specified.
- c. Verification that the switcher is fully functional and that the switcher software has been programmed as needed for the site configuration.
- d. Verification that switcher software is functioning correctly. All software functions shall be exercised.
- e. Operation of all electrical and mechanical switcher controls and verification that the control performs the designed function.
- f. Verification that all video sources and video outputs provide a full bandwidth signal that complies with EIA 170 at all video inputs.
- g. Verification that all video signals are terminated properly.
- h. Verification that all cameras are aimed and focused properly. The Contractor shall conduct a walk test of the area covered by each camera to verify the field of view.
- i. Verification that cameras facing the direction of rising or setting sun are aimed sufficiently below the horizon so that the camera does not view the sun directly.
- j. If vehicles are used in proximity of the assessment areas, verification of night assessment capabilities and determination if headlights cause blooming or picture degradation.
- k. Verification that all cameras are synchronized and that the picture does not roll when cameras are switched.
- l. Verification that the alarm interface to the IDS is functional and that automatic camera call-up is functional with appropriate video annotation for all designated ESS alarm points and cameras.
- m. Where pan/tilt mounts are used in the system, verification that the limit stops have been set correctly. Verification of all controls for pan/tilt or zoom mechanisms are operative and that the controls perform the desired function. If preposition controls are used, verification that all home positions have been set correctly, and have been tested for auto home function and correct home position.
- n. When dome camera mounts are used in the system, verify that all preset positions are correct and that the dome also operates correctly in a manual control mode.

The Contractor shall deliver a report describing results of functional tests, diagnostics, and calibrations including written certification to the Government that the installed complete system has been calibrated, tested, and is ready to begin performance verification testing. The report shall also include a copy of the approved performance verification test procedure.

3.4.3 Performance Verification Test

The Contractor shall demonstrate that the completed CCTV system complies with the contract requirements. Using approved test procedures, all physical and functional requirements of the project shall be demonstrated and shown. The performance verification test, as specified, shall not be started until receipt by the Contractor of written permission from the Government, based on the Contractor's written report. This shall include certification of successful completion of Contractor Field Testing as specified in paragraph "Contractor's Field Testing," and upon successful completion of training as specified. If the CCTV system is being installed in conjunction with an ESS, the CCTV performance verification test shall be run simultaneously with the ESS performance verification test. The Government may terminate testing at any time when the system fails to perform as specified. Upon termination of testing by the Government or by the Contractor, the Contractor shall commence an assessment period as described for Endurance Testing Phase II. Upon successful completion of the performance verification test, the Contractor shall deliver test reports and other documentation as specified to the Government prior to commencing the endurance test.

3.4.4 Endurance Test

- a. The Contractor shall demonstrate the specified requirements of the completed system. The endurance test shall be conducted in phases as specified. The endurance test shall not be started until the Government notifies the Contractor, in writing, that the performance verification test is satisfactorily completed, training as specified has been completed, and correction of all outstanding deficiencies has been satisfactorily completed. If the CCTV system is being installed in conjunction with an ESS, the CCTV performance verification test shall be run simultaneously with the ESS performance verification test. The Contractor shall provide one operator to operate the system 24 hours per day, including weekends and holidays, during Phase I and Phase III endurance testing, in addition to any government personnel that may be made available. The Government may terminate testing at any time the system fails to perform as specified. Upon termination of testing by the Government or by the Contractor, the Contractor shall commence an assessment period as described for Phase II. During the last day of the test the Contractor shall verify the operation of each camera. Upon successful completion of the endurance test, the Contractor shall deliver test reports and other documentation as specified to the Government prior to acceptance of the system.
- b. Phase I (Testing): The test shall be conducted 24 hours per day for 15 consecutive calendar days, including holidays, and the system shall operate as specified. The Contractor shall make no repairs during this phase of testing unless authorized by the Government in writing. If the system experiences no failures during Phase I testing, the Contractor may proceed directly to

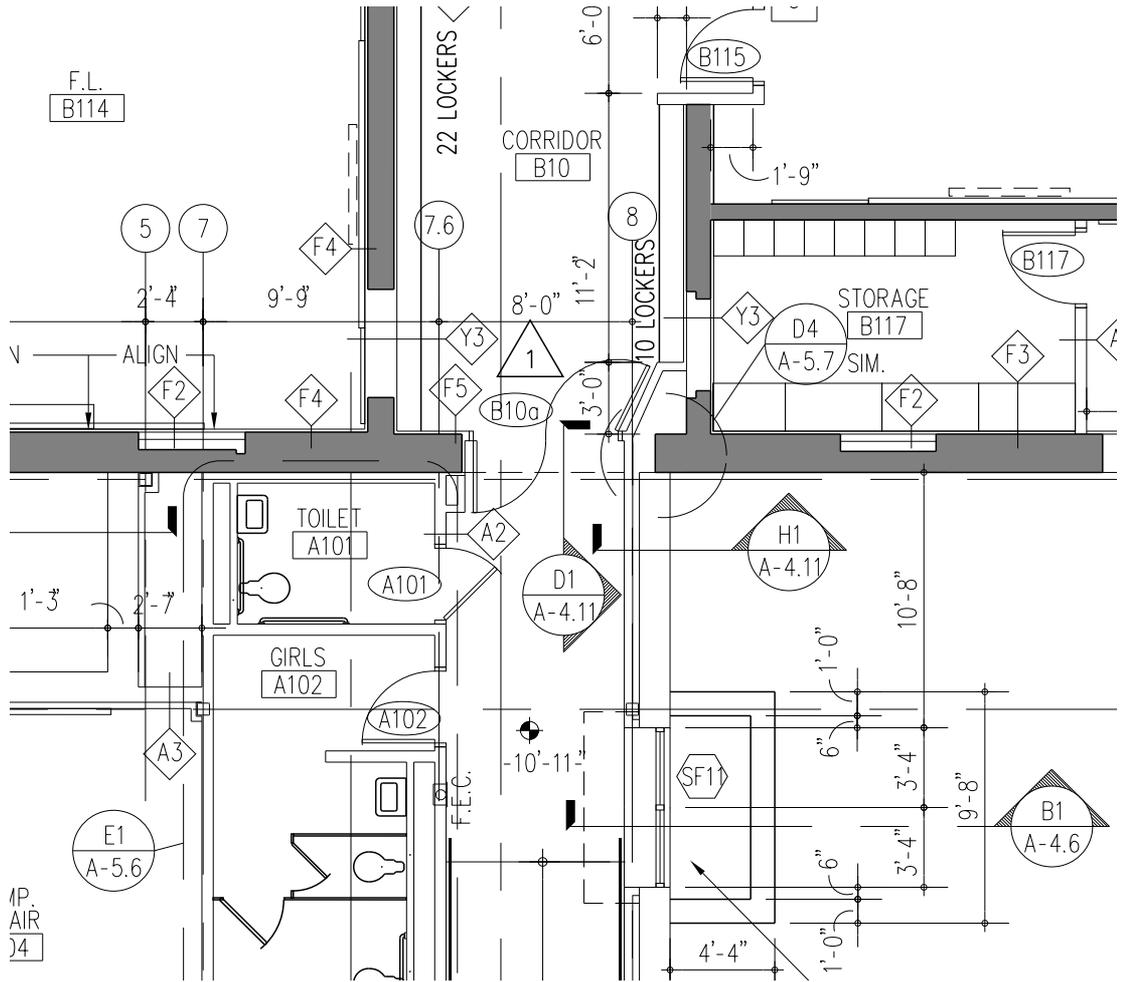
Phase III testing after receipt by the Contractor of written permission from the Government.

- c. Phase II (Assessment): After the conclusion of Phase I, the Contractor shall identify all failures, determine causes of all failures, repair all failures, and deliver a written report to the Government. The report shall explain in detail the nature of each failure, corrective action taken, results of tests performed, and shall recommend the point at which testing should be resumed. After delivering the written report, the Contractor shall convene a test review meeting at the job site to present the results and recommendations to the Government. The meeting shall not be scheduled earlier than 5 business days after receipt of the report by the Government. As a part of this test review meeting, the Contractor shall demonstrate that all failures have been corrected by performing appropriate portions of the performance verification test. Based on the Contractor's report and the test review meeting, the Government will determine the restart date, or may require that Phase I be repeated. If the retest is completed without any failures, the Contractor may proceed directly to Phase III testing after receipt by the Contractor of written permission from the Government.
- d. Phase III (Testing): The test shall be conducted 24 hours per day for 15 consecutive calendar days, including holidays, and the system shall operate as specified. The Contractor shall make no repairs during this phase of testing unless authorized by the Government in writing.
- e. Phase IV (Assessment): After the conclusion of Phase III, the Contractor shall identify all failures, determine causes of all failures, repair all failures, and deliver a written report to the Government. The report shall explain in detail the nature of each failure, corrective action taken, results of tests performed, and shall recommend the point at which testing should be resumed. After delivering the written report, the Contractor shall convene a test review meeting at the job site to present the results and recommendations to the Government. The meeting shall not be scheduled earlier than 5 business days after receipt of the report by the Government. As a part of this test review meeting, the Contractor shall demonstrate that all failures have been corrected by repeating appropriate portions of the performance verification test. Based on the Contractor's report and the test review meeting, the Government will determine the restart date, and may require that Phase III be repeated. The Contractor shall not commence any required retesting until after receipt of written notification by Government. After the conclusion of any retesting which the Government may require, the Phase IV assessment shall be repeated as if Phase III had just been completed.
- f. Exclusions: The Contractor will not be held responsible for failures resulting from the following:
 - (1) An outage of the main power supply in excess of the capability of any backup power source, provided that the automatic initiation of all backup sources was accomplished.
 - (2) Failure of a Government furnished DTM circuit, provided that the failure was not due to Contractor furnished equipment,

installation, or software.

(3) Failure of existing Government owned equipment, provided that the failure was not due to Contractor furnished equipment, installation, or software.

-- End of Section --



LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: A-1.2

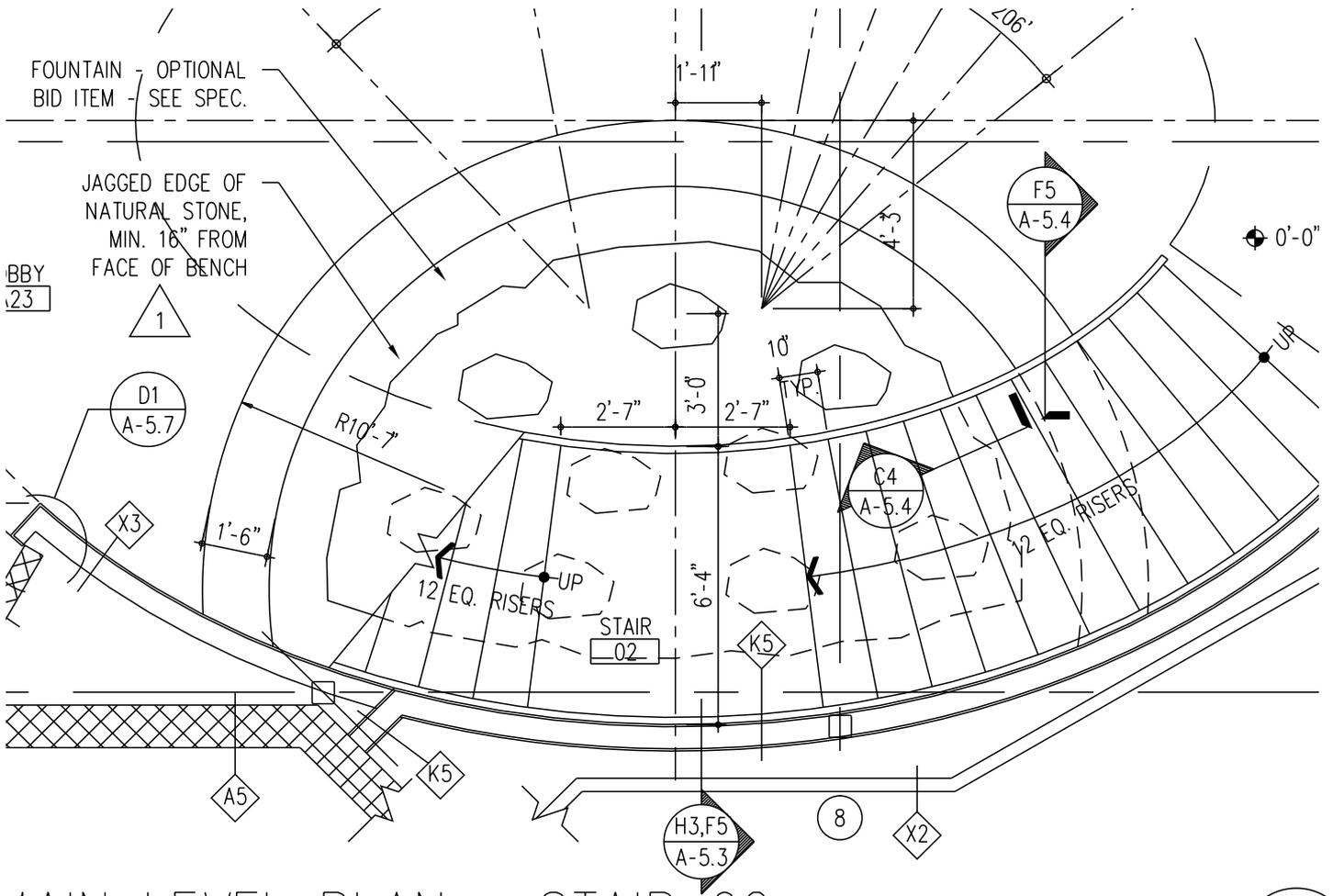
SCALE: 1/8" = 1'-0"

DATE	AMENDMENT
04/17/03	1 SK-A-1

**GRIMM +
PARKER**
ARCHITECTS

2 Bethesda Metro Center Suite 1350 Bethesda, MD 20814
 1355 Beverly Road Suite 105 McLean, VA 22101
 11785 Beltsville Drive Suite 1400 Calverton, MD 20705

Tel 240.223.0500 Fax 240.223.0510
 Tel 703.903.9100 Fax 703.903.9755
 Tel 301.595.1000 Fax 301.595.0089



MAIN LEVEL PLAN - STAIR 02 SEE H5 FOR ELLIPSE DIMENSIONS

"=1'-0"

E1

LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: A-5.3

SCALE: 1/2"=1'-0"

DATE

04/17/03

AMENDMENT

1

SK-A-3

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2 Bethesda Metro Center
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Bethesda, MD 20814

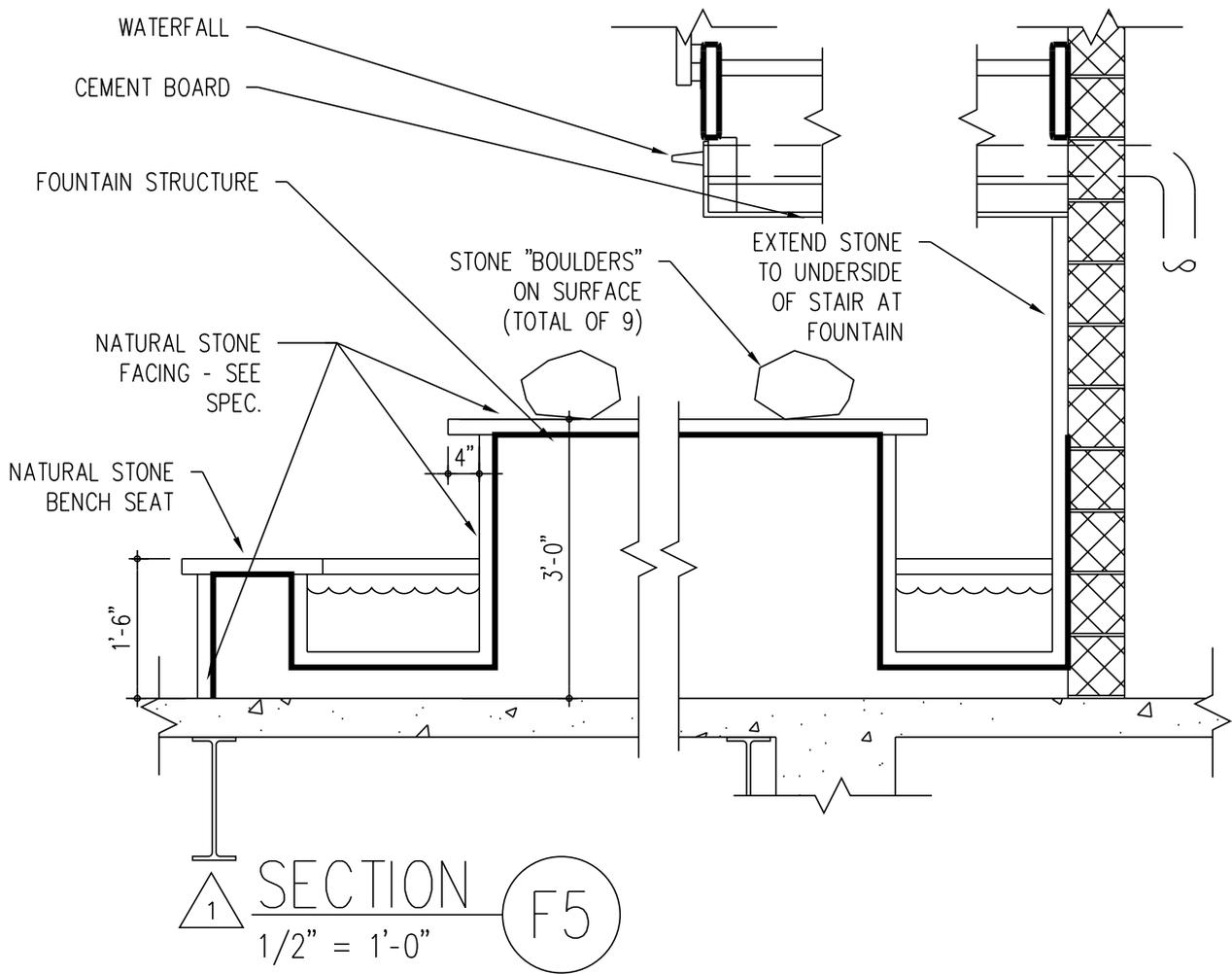
1355 Beverly Road
Suite 105
McLean, VA 22101

11785 Beltsville Drive
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Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

Tel 301.595.1000
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LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: A-5.3

SCALE: 1/2" = 1'-0"

DATE

04/17/03

AMENDMENT

1

SK-A-4

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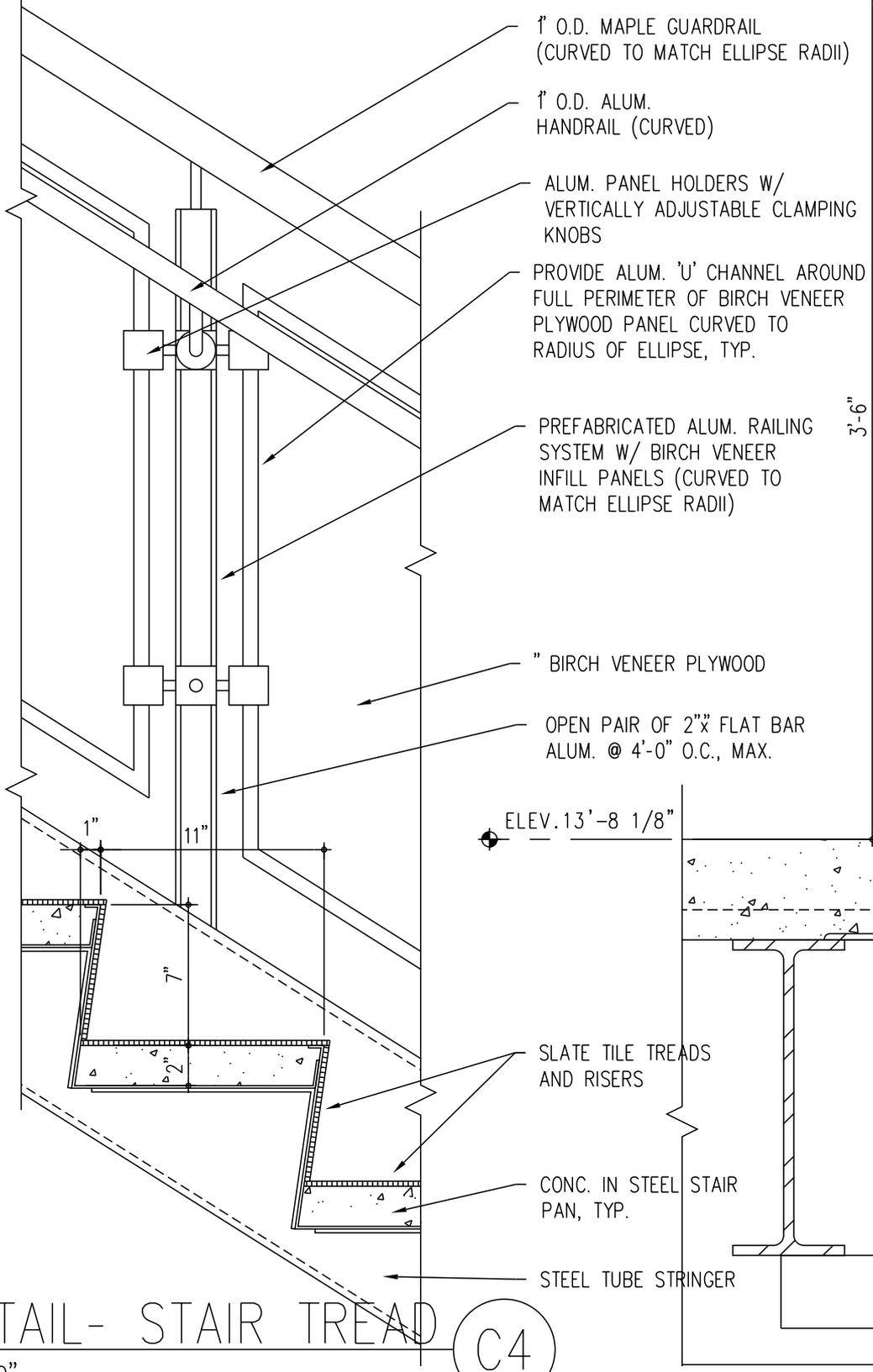
1355 Beverly Road
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Suite 1400
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Fax 703.903.9755

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1
 1"=1'-0"
 DETAIL- STAIR TREAD (C4)

LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: A-5.4

SCALE: 1 1/2"=1'-0"

DATE
04/17/03

AMENDMENT
1
SK-A-5

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ARCHITECTS

2 Bethesda Metro Center
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Bethesda, MD 20814

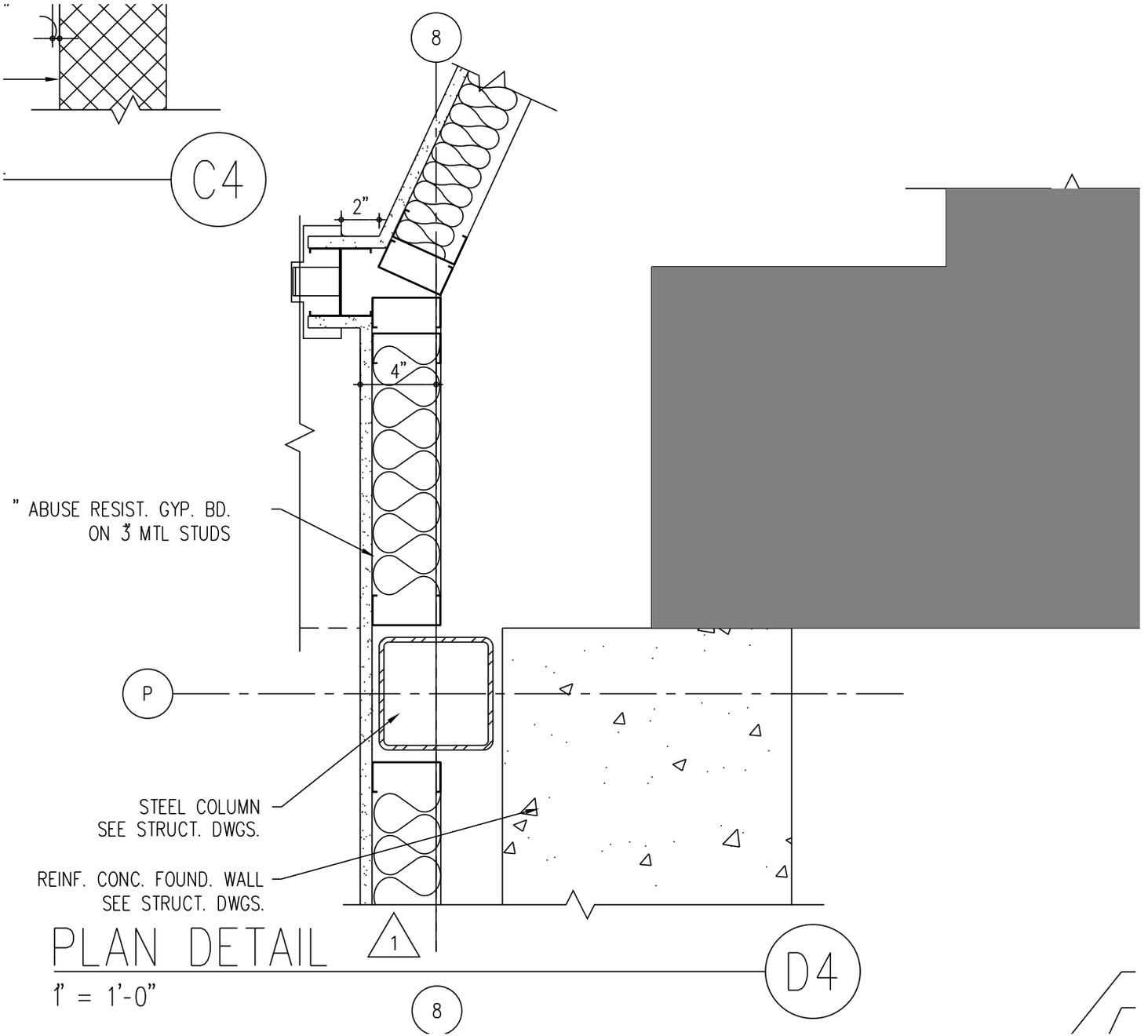
1355 Beverly Road
Suite 105
McLean, VA 22101

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Calverton, MD 20705

Tel 240.223.0500
Fax 240.223.0510

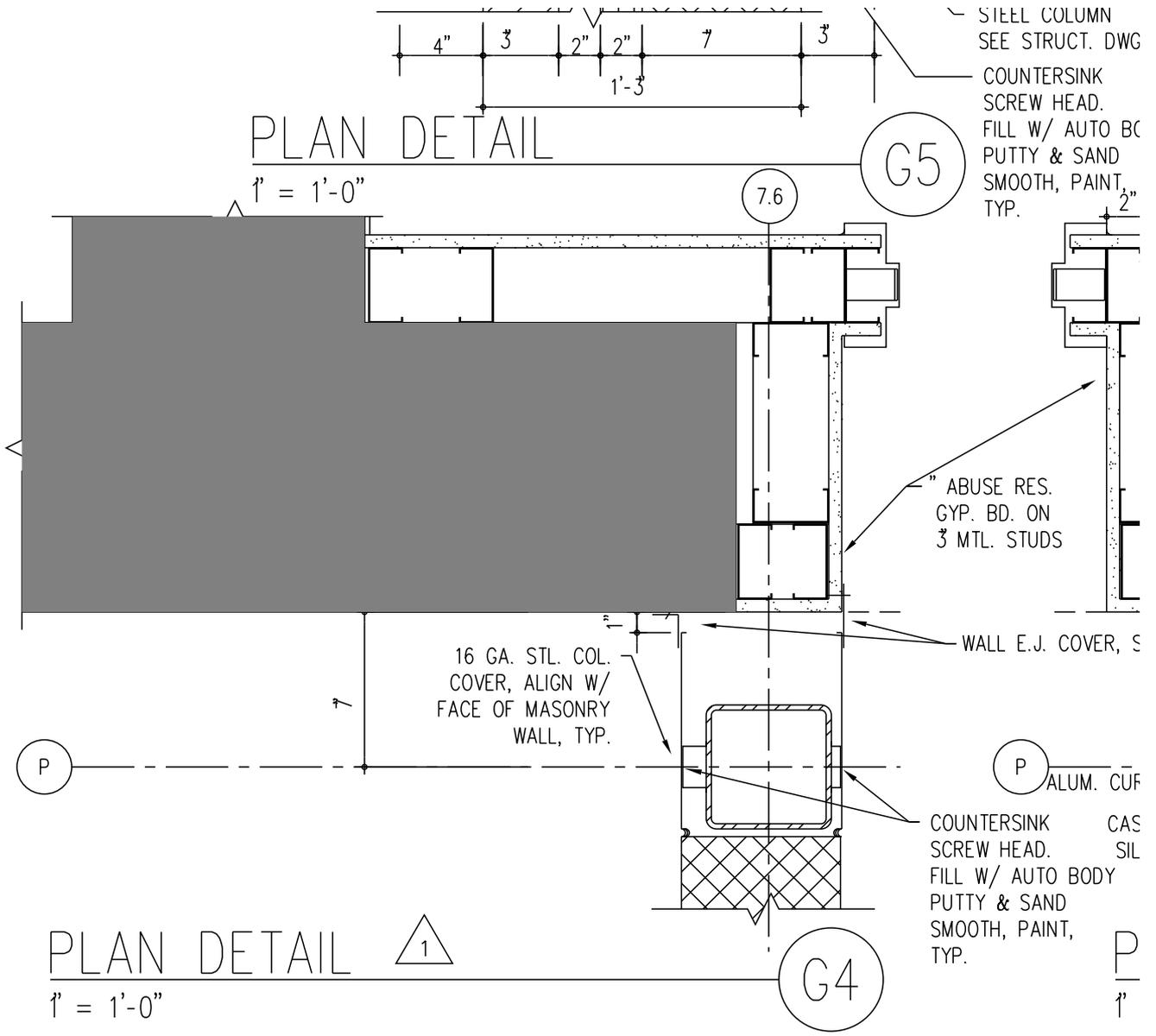
Tel 703.903.9100
Fax 703.903.9755

Tel 301.595.1000
Fax 301.595.0089



PLAN DETAIL

1" = 1'-0"



LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: A-5.7

SCALE: 1 1/2"=1'-0"

DATE
04/17/03

AMENDMENT
1
SK-A-7

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PARKER**

ARCHITECTS

2 Bethesda Metro Center
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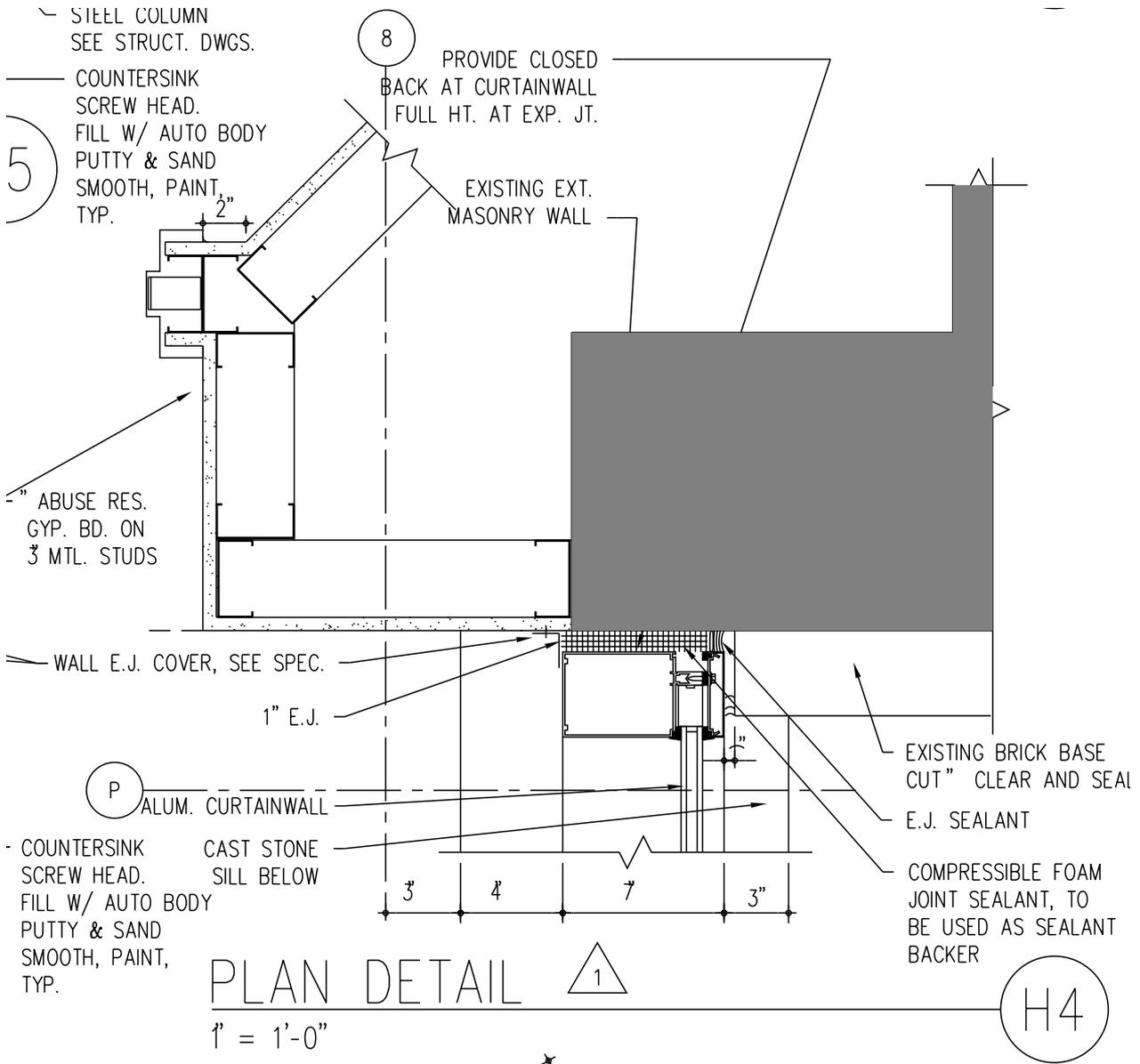
1355 Beverly Road
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McLean, VA 22101

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Suite 1400
Calverton, MD 20705

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Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

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Fax 301.595.0089



LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: A-5.7

SCALE: 1 1/2"=1'-0"

DATE

04/17/03

AMENDMENT

1

SK-A-8

**GRIMM +
PARKER**

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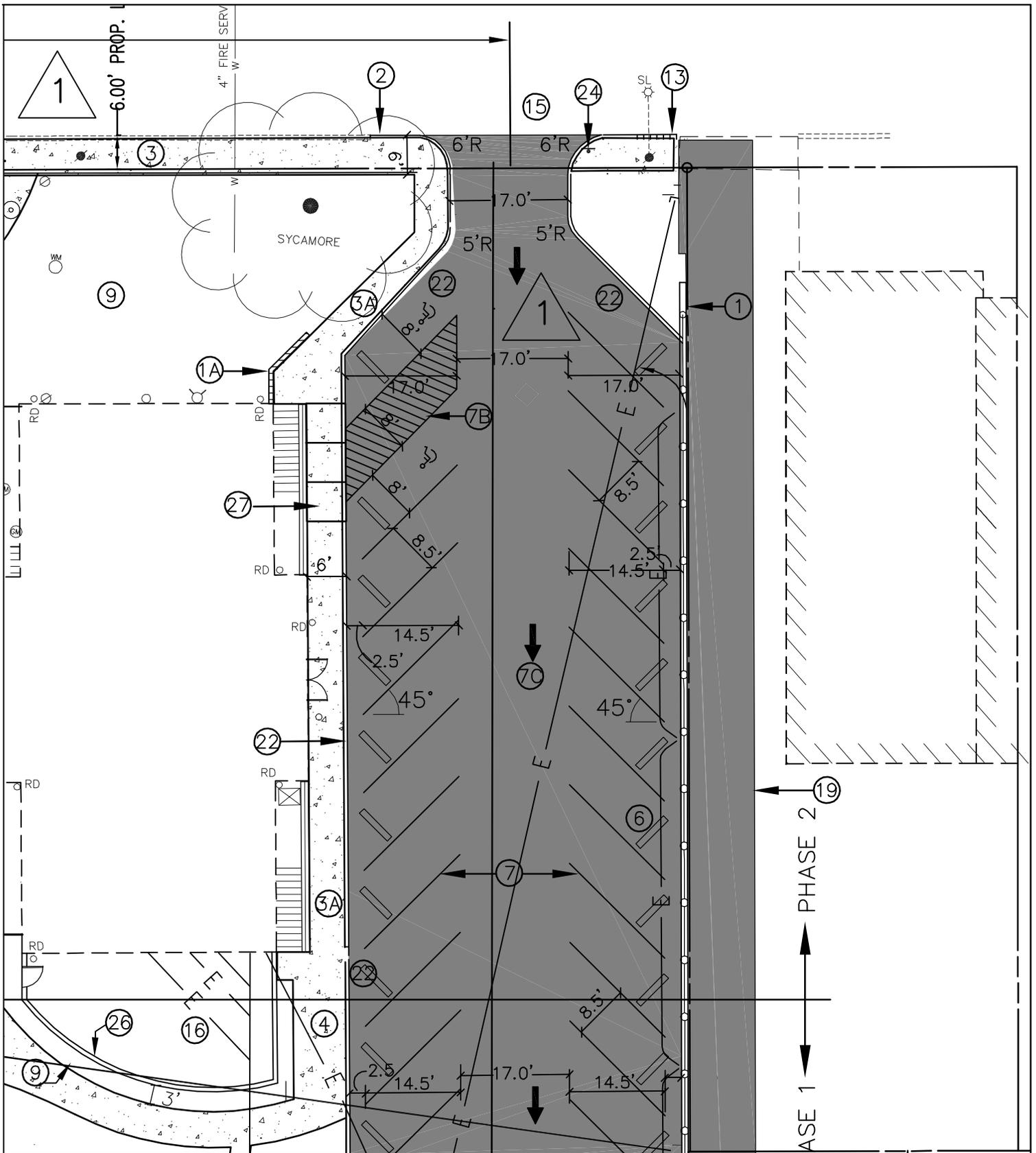
1355 Beverly Road
Suite 105
McLean, VA 22101

11785 Beltsville Drive
Suite 1400
Calverton, MD 20705

Tel 240.223.0500
Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

Tel 301.595.1000
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LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: C-4

SCALE: 1"=20'

DATE
4/17/03

AMENDMENT
1
SK-C-1



2 Bethesda Metro Center
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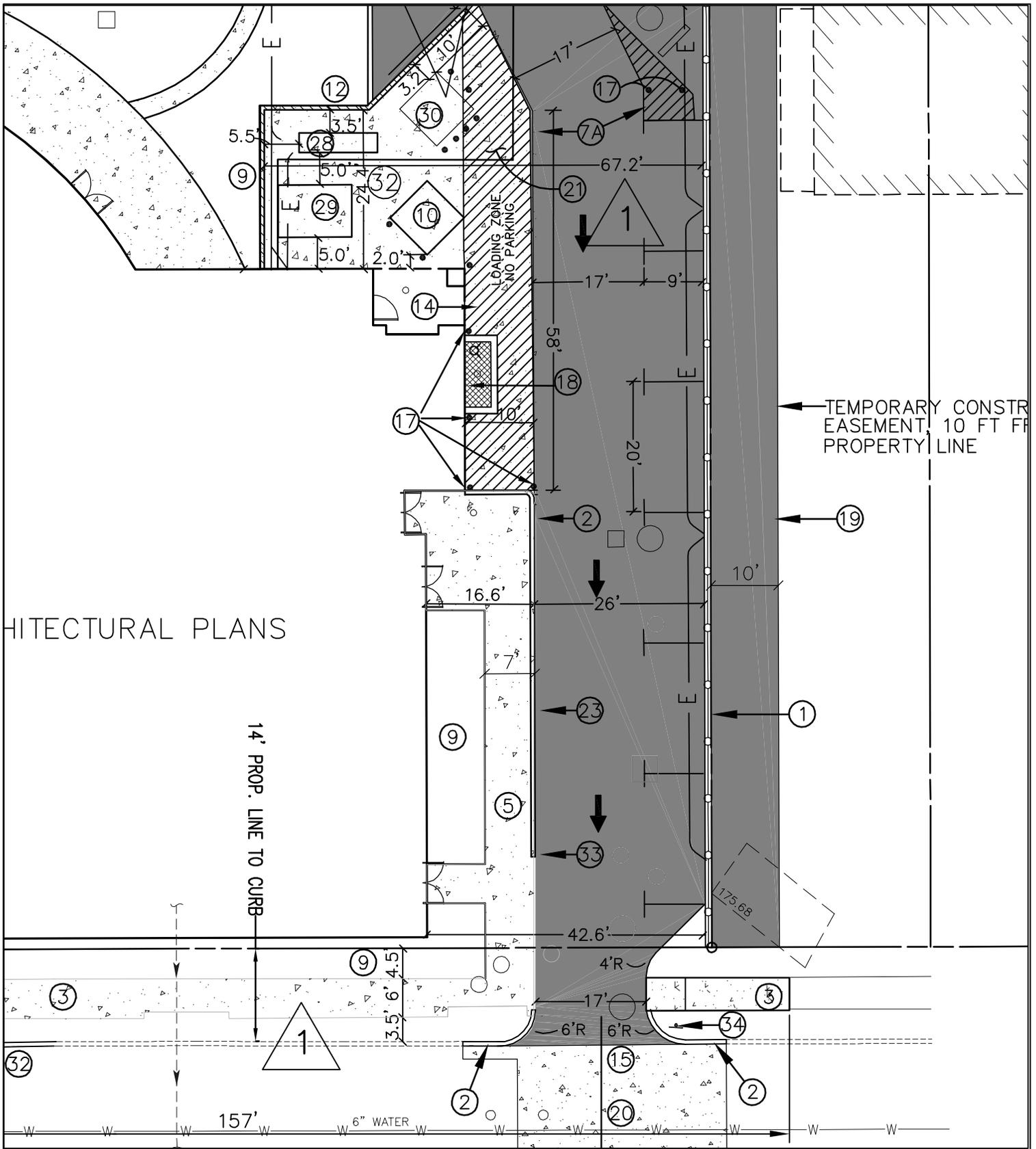
1355 Beverly Road
Suite 105
McLean, VA 22101

11785 Beltsville Drive
Suite 1400
Calverton, MD 20705

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Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

Tel 301.595.1000
Fax 301.595.0089



LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: C-4

SCALE: 1"=20'

DATE

4/17/03

AMENDMENT

1
SK-C-2



2 Bethesda Metro Center
Suite 1950
Bethesda, MD 20814

1355 Beverly Road
Suite 105
McLean, VA 22101

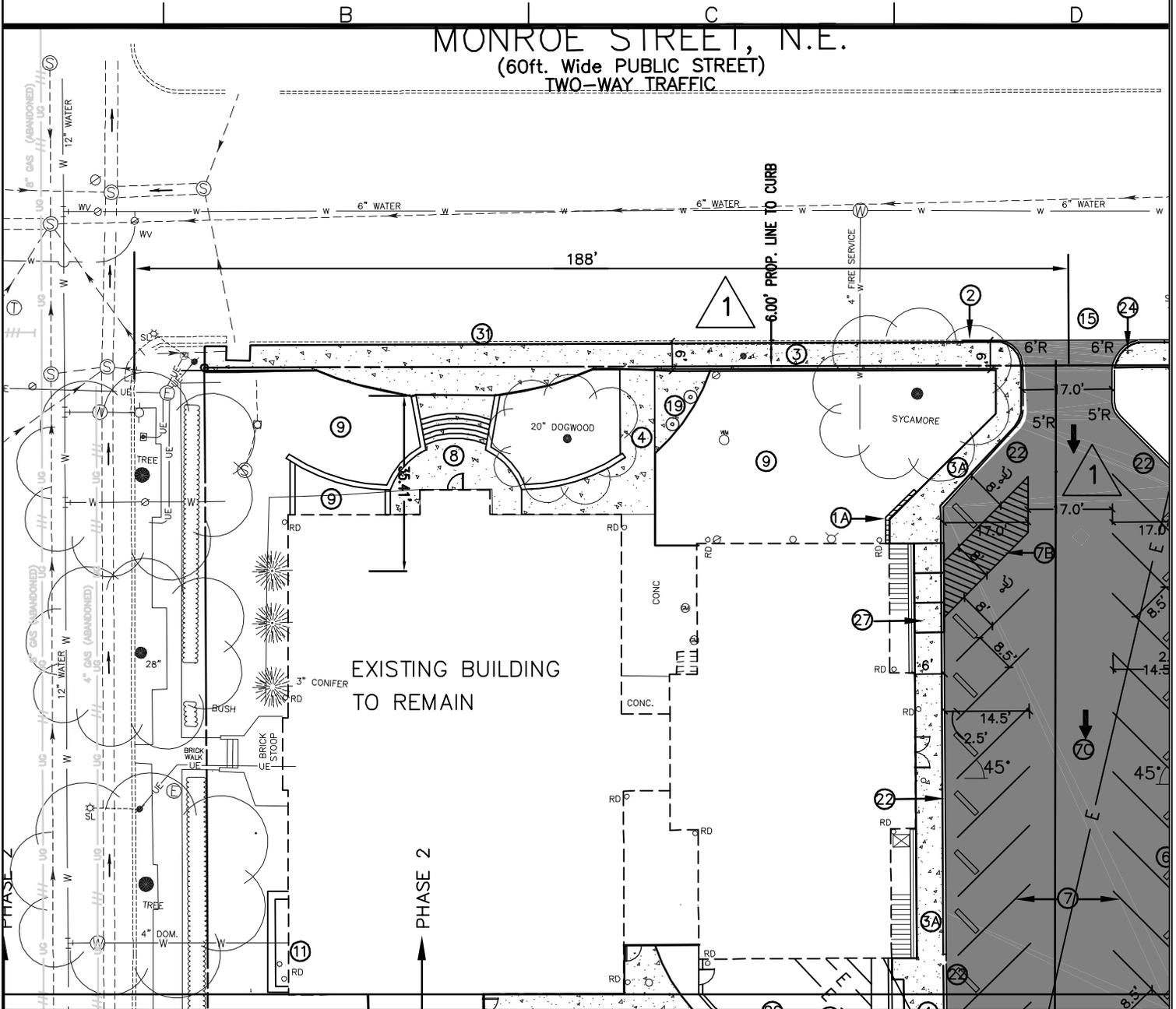
11785 Beltsville Drive
Suite 1400
Calverton, MD 20705

Tel 240.223.0500
Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

Tel 301.595.1000
Fax 301.595.0089

MONROE STREET, N.E.
 (60ft. Wide PUBLIC STREET)
 TWO-WAY TRAFFIC



LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: C-4

SCALE: 1"=30'

DATE

4/17/03

AMENDMENT

1
SK-C-3



2 Bethesda Metro Center
 Suite 1350
 Bethesda, MD 20814

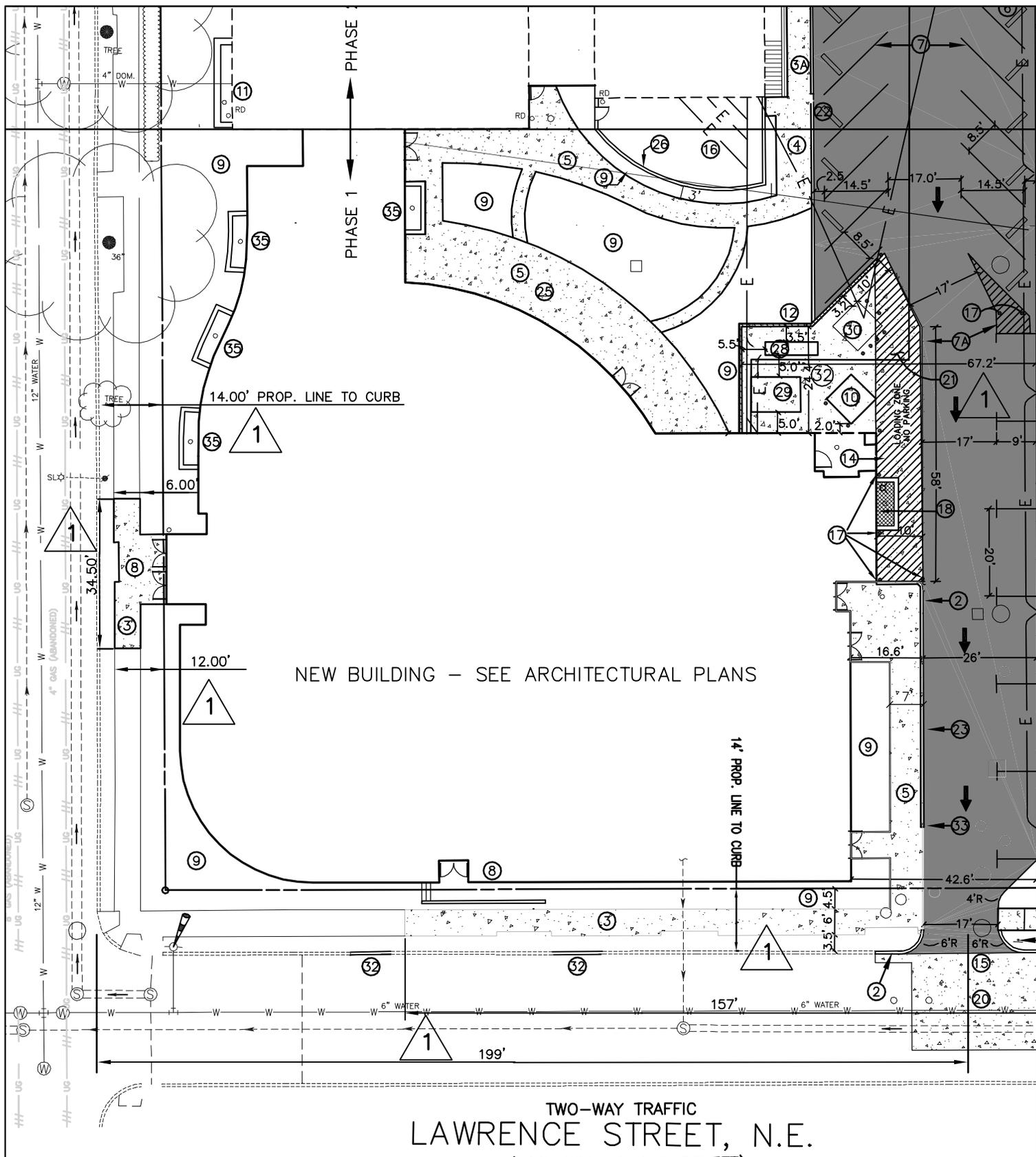
1355 Beverly Road
 Suite 105
 McLean, VA 22101

11785 Beltsville Drive
 Suite 1400
 Calverton, MD 20705

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 Fax 240.223.0510

Tel 703.903.9100
 Fax 703.903.9755

Tel 301.595.1000
 Fax 301.595.0089



TWO-WAY TRAFFIC
LAWRENCE STREET, N.E.

LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: C-4

SCALE: 1"=30'

DATE
4/17/03

AMENDMENT
1
SK-C-4



2 Bethesda Metro Center
Suite 1350
Bethesda, MD 20814

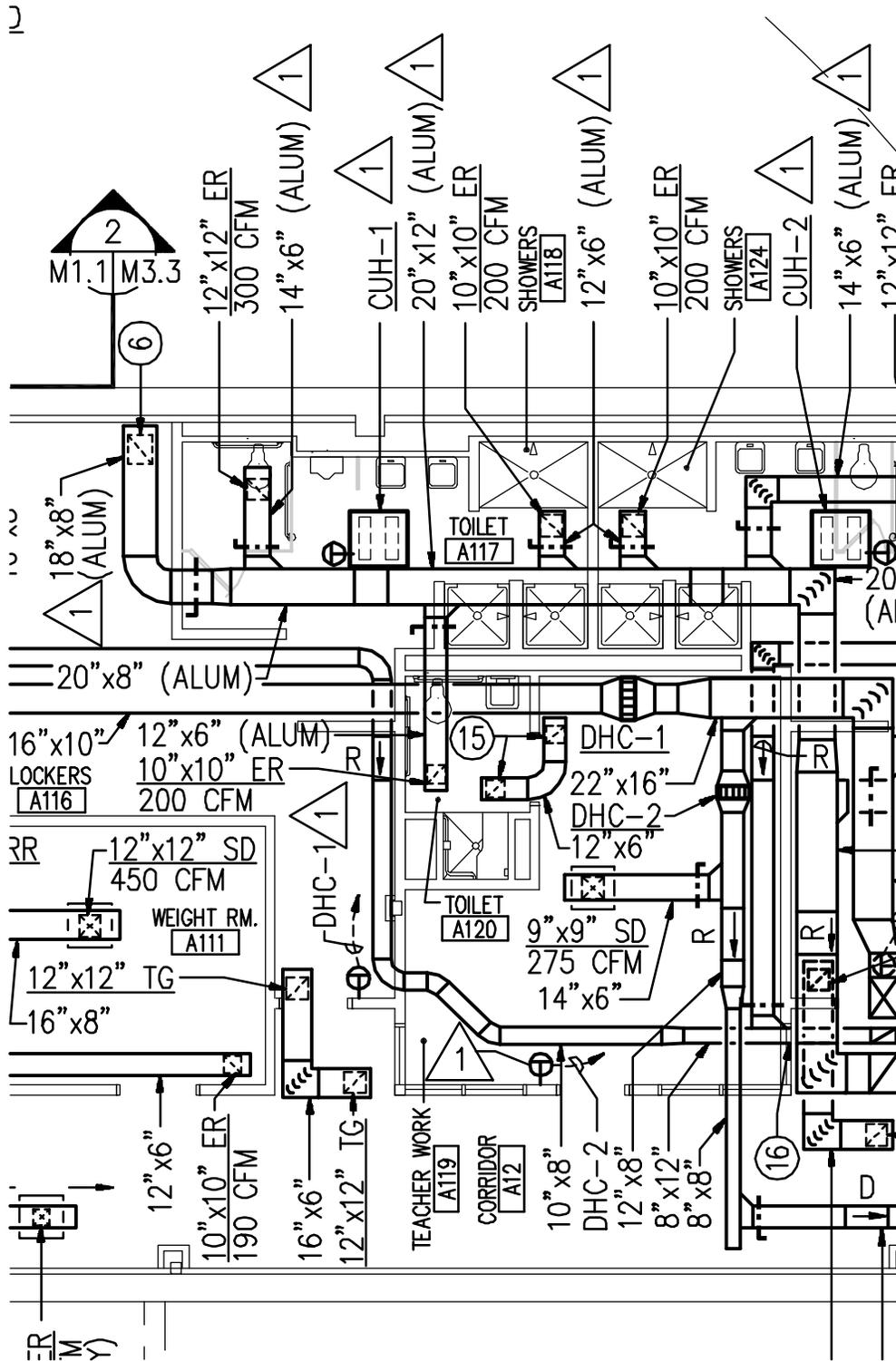
1355 Beverly Road
Suite 105
McLean, VA 22101

11785 Beltsville Drive
Suite 1400
Calverton, MD 20705

Tel 240.223.0500
Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

Tel 301.595.1000
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LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: M1.1

SCALE: 1/8" = 1'-0"

DATE

04/17/03

AMENDMENT

1
SK-M-1



2 Bethesda Metro Center
Suite 1350
Bethesda, MD 20814

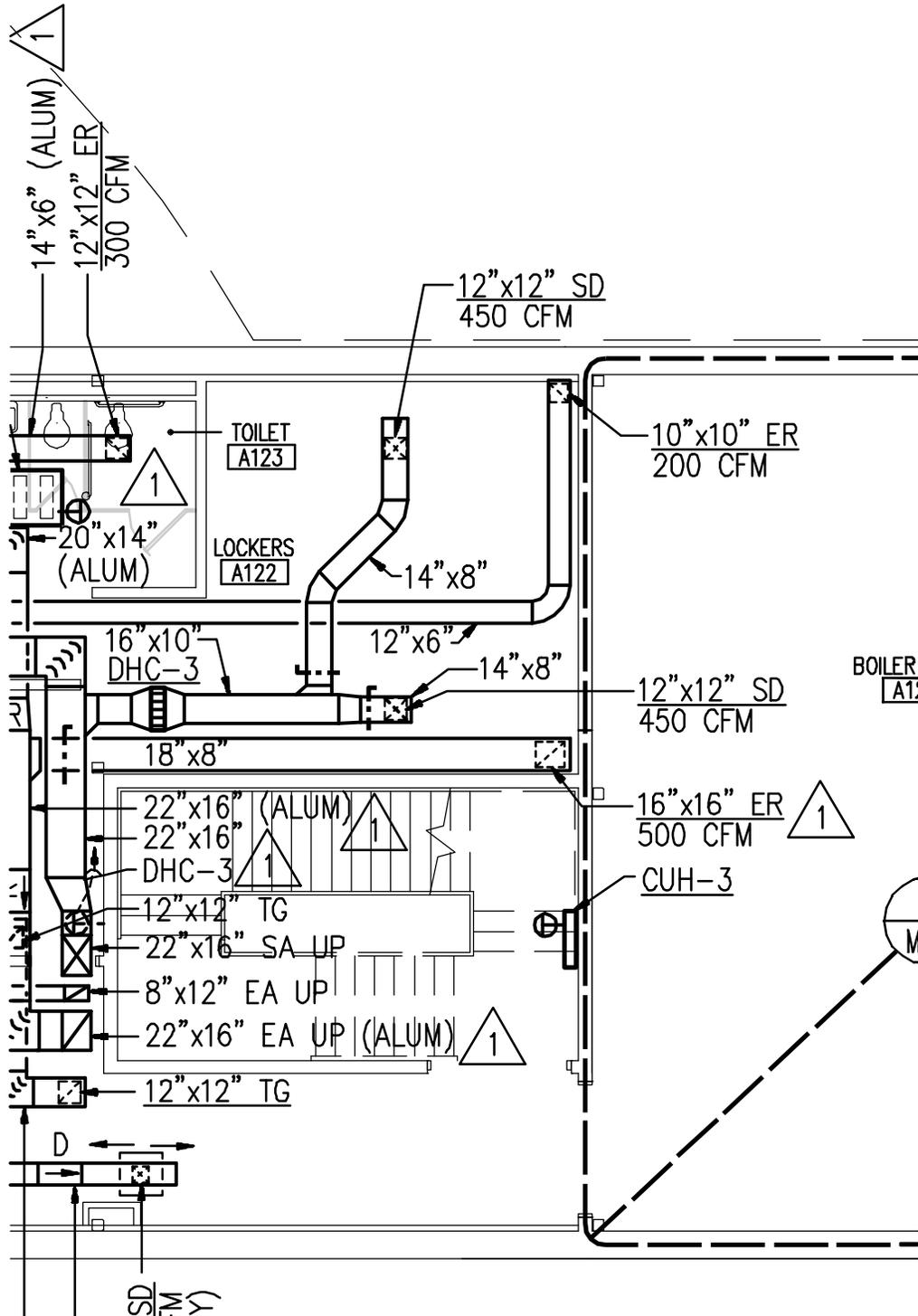
1355 Beverly Road
Suite 105
McLean, VA 22101

11785 Beltsville Drive
Suite 1400
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Tel 240.223.0500
Fax 240.223.0510

Tel 703.903.9700
Fax 703.903.9755

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Fax 301.584.0089



LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: M1.1

SCALE: 1/8"=1'-0"

DATE
04/17/03

AMENDMENT
1
SK-M-2



2 Bethesda Metro Center
Suite 1350
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1955 Beverly Road
Suite 105
McLean, VA 22101

11785 Belwin Drive
Suite 1400
Calverton, MD 20705

Tel 240.223.0500
Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

Tel 301.334.1000
Fax 301.334.0089

SPECIFIC NOTES:

- ① FULL SIZE RA PLENUM CONNECTION TO UNIT.
- ② FULL SIZE FLEX CONNECTION
- ③ ARCHITECTURAL SHAFTWALL CEILING.
- ④ DSAC-2 (I)
(MOUNT HIGH ON WALL ABOVE DOOR)
- ⑤ 8"x6" ER, 100 CFM
- ⑥ 16"x16" ER, 500 CFM 
- ⑦ 10"x10" ER, 200 CFM
- ⑧ 12"x12" SD, 450 CFM
- ⑨ 12"x12" SD, 350 CFM, (3-WAY)
- ⑩ 16"x8" ER ABOVE,
12"x6" RA BELOW
- ⑪ 12"x12" ER, 300 CFM
- ⑫ DROP BELOW BEAM.
- ⑬ 16"x14" CA UP
- ⑭ F/D & A/D (TYP)
- ⑮ 10"x10" TG
- ⑯ 8"x12" EA BETWEEN 16"x6" TRANSFER
AIR AND 22"x16" EA DUCTS.
- ⑰ DSAC-6 (I)
(ABOVE DOOR)

LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: M1.1

SCALE: 1/8"=1'-0"

DATE

04/17/03

AMENDMENT

1
SK-M-3

GRIMM+
PARKER

ARCHITECTS

2 Bethesda Metro Center
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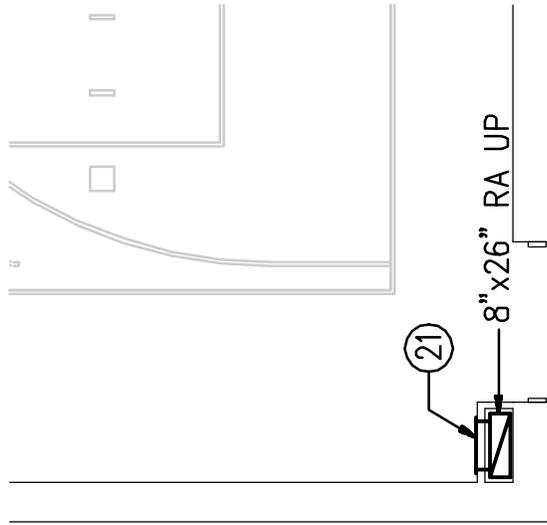
1955 Beverly Road
Suite 105
McLean, VA 22101

11785 Belwinville Drive
Suite 1400
Calverton, MD 20705

Tel 240.223.0500
Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

Tel 301.834.1000
Fax 301.834.0089



- ④ 16"x22" EA UP & DN
- ⑤ 22"x10" EA BETWEEN STRUCTURAL BEAMS.
- ⑥ 22"x16" EA UP & DN (ALUM) 
- ⑦ 24"x12" TG (MOUNT HIGH ON WALL).
- ⑧ SA BETWEEN STRUCTURAL BEAMS.
- ⑨ DROP BELOW BEAM.
- ⌋
- ⑳ F/D AND A/D AT FLOOR.
- ㉑ 24"x24" RR; 650 CFM (0" DEFLECTION) (HEAVY DUTY STEEL TYPE)(MOUNT BOTTOM 8" ABOVE SEATING PLATFORM) 

LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: M1.3

SCALE: 1/8"=1'-0"

DATE

04/17/03

AMENDMENT

1
SK-M-4



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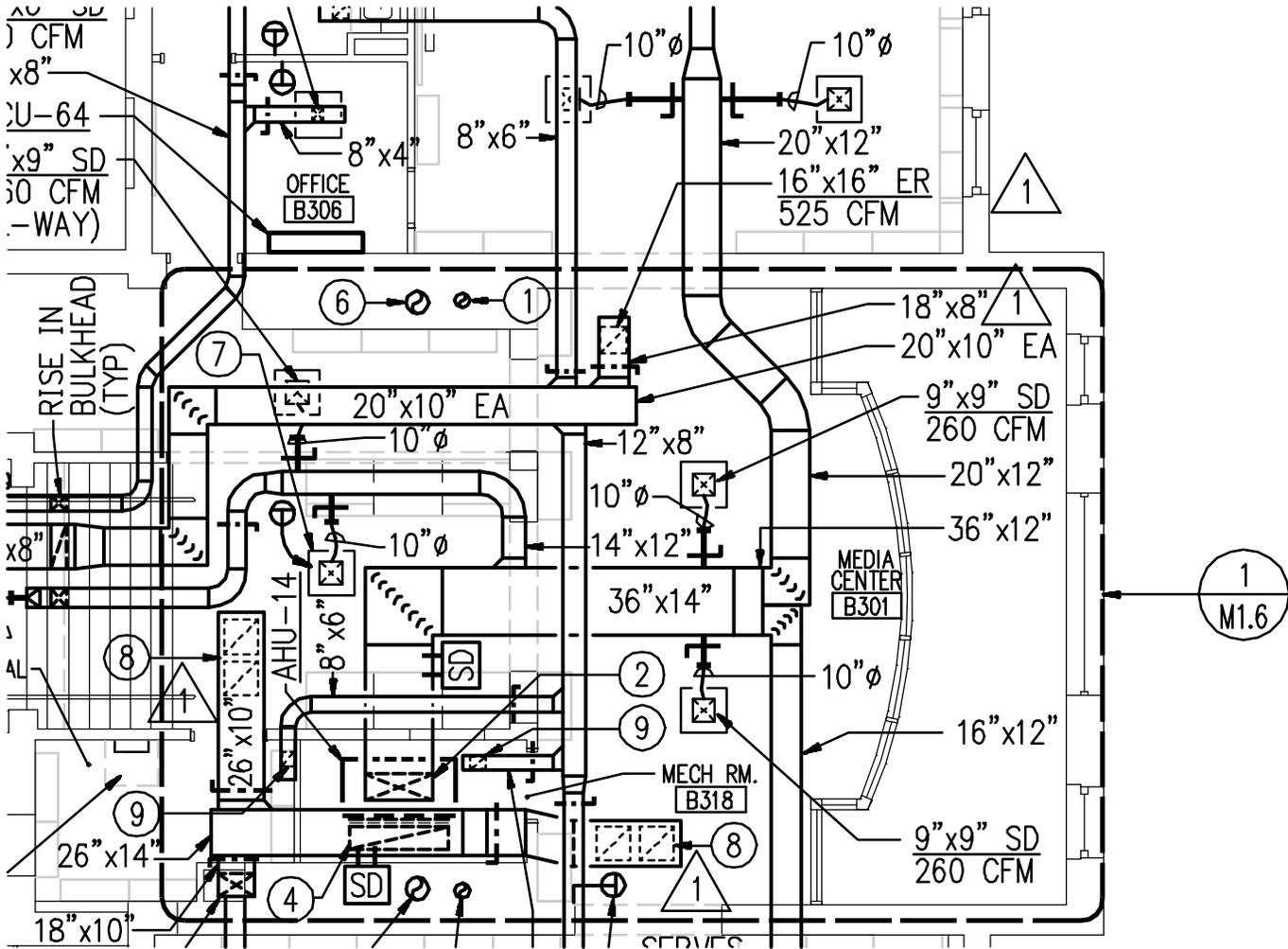
1955 Beverly Road
Suite 105
McLean, VA 22101

11785 Beltsville Drive
Suite 1400
Calverton, MD 20705

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Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

Tel 301.584.1000
Fax 301.584.0089



- ⑦ 9" x 9" SD; 250 CFM
- ⑧ (2) 18" x 18" RR; 655 CFM EACH; 1310 CFM TOTAL. \triangle 1
- ⑨ 8" x 6" ER; 100 CFM
- ⑩ FLEX CONNECTION (TYP)
- ⑪ ACID RESISTANT FLEX CONNECTION (TYP).

LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: M1.6

SCALE: 1/8" = 1'-0"

DATE

04/17/03

AMENDMENT

1
SK-M-6



2 Bethesda Metro Center
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Bethesda, MD 20814

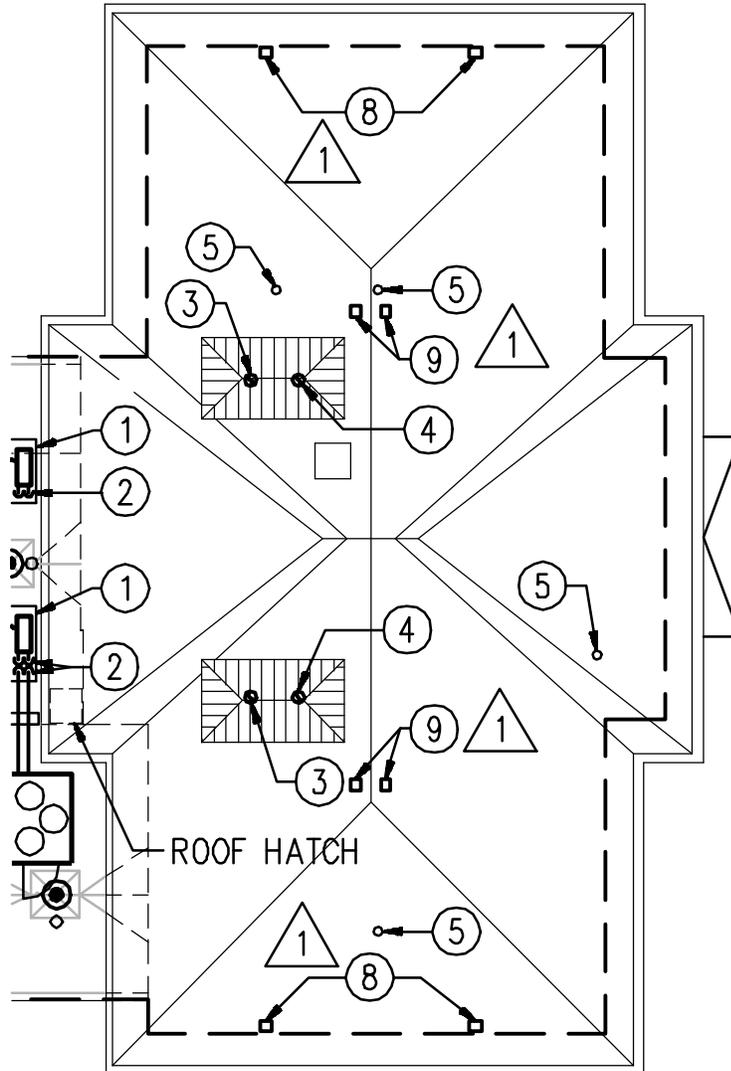
1355 Beverly Road
Suite 105
McLean, VA 22101

11785 Beltsville Drive
Suite 1400
Calverton, MD 20705

Tel 240.223.0500
Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

Tel 301.334.1000
Fax 301.334.0089



- 8
 SLOPED ROOF CAP (INTAKE). (APPROX 10"x11" ROOF OPENING. APPROX 6 1/2" ABOVE ROOF. PAINT FLAT BLACK).
- 1
 (Paint Flat Black)
- 9
 SLOPED ROOF CAP (EXHAUST). (APPROX 10"x11" ROOF OPENING. APPROX 6 1/2" ABOVE ROOF. PAINT FLAT BLACK).

LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: M1.7

SCALE: 1/16"=1'-0"

DATE

04/17/03

AMENDMENT

1
SK-M-7



2 Bethesda Metro Center
Suite 1350
Bethesda, MD 20814

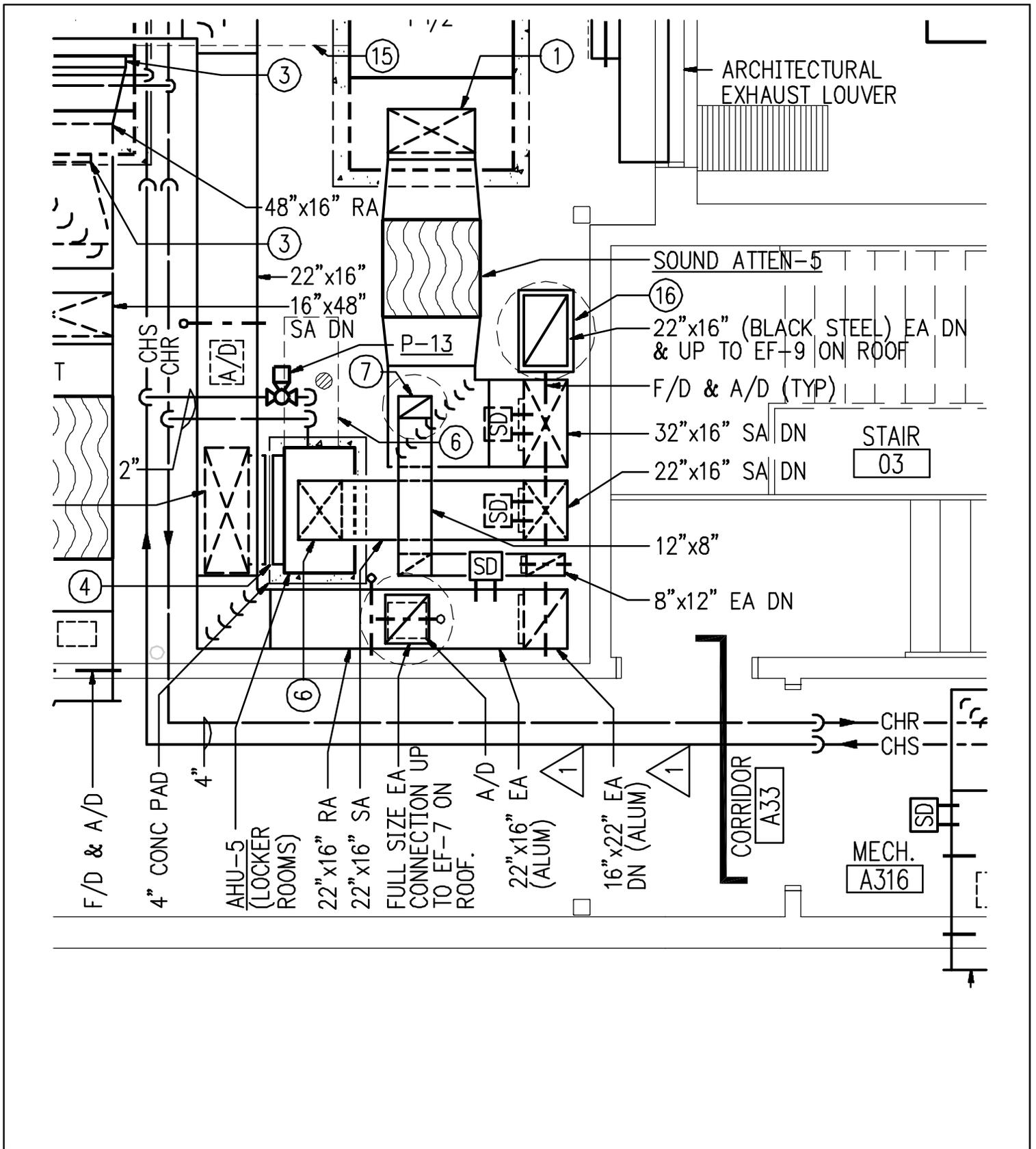
1355 Beverly Road
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Suite 1400
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Fax 703.903.9755

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Fax 301.334.0089



LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: M3.2

SCALE: 1/4" = 1'-0"

DATE

04/17/03

AMENDMENT

1
SK-M-8



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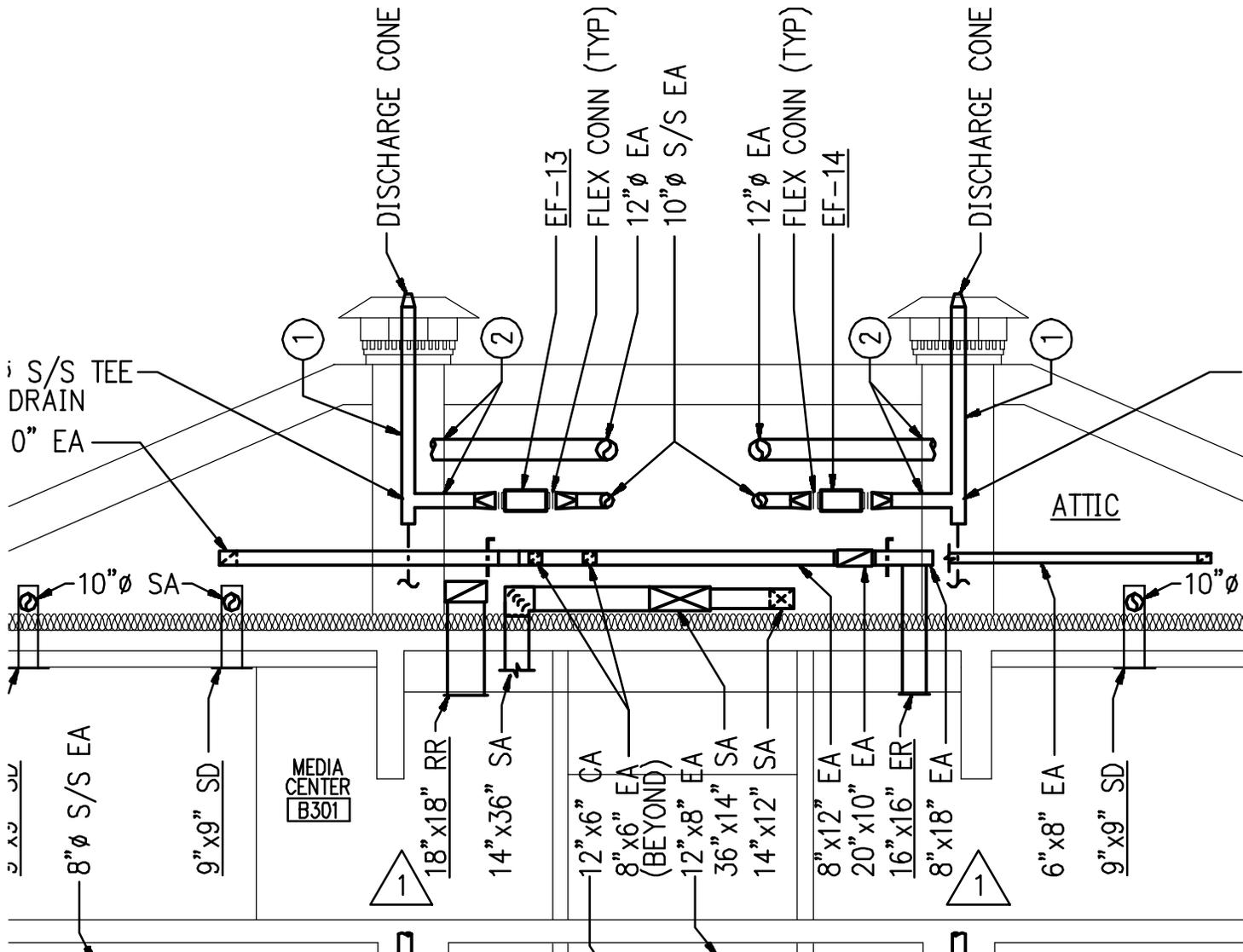
1355 Beverly Road
Suite 105
McLean, VA 22101

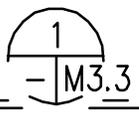
11785 Beltsville Drive
Suite 1400
Calverton, MD 20705

Tel 240.223.0500
Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

Tel 301.884.1000
Fax 301.884.0089



SECTION 

SCALE: 1/8" = 1'-0"

LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: M3.3

SCALE: 1/8" = 1'-0"

DATE

04/17/03

AMENDMENT

1
SK-M-9



2 Bethesda Metro Center
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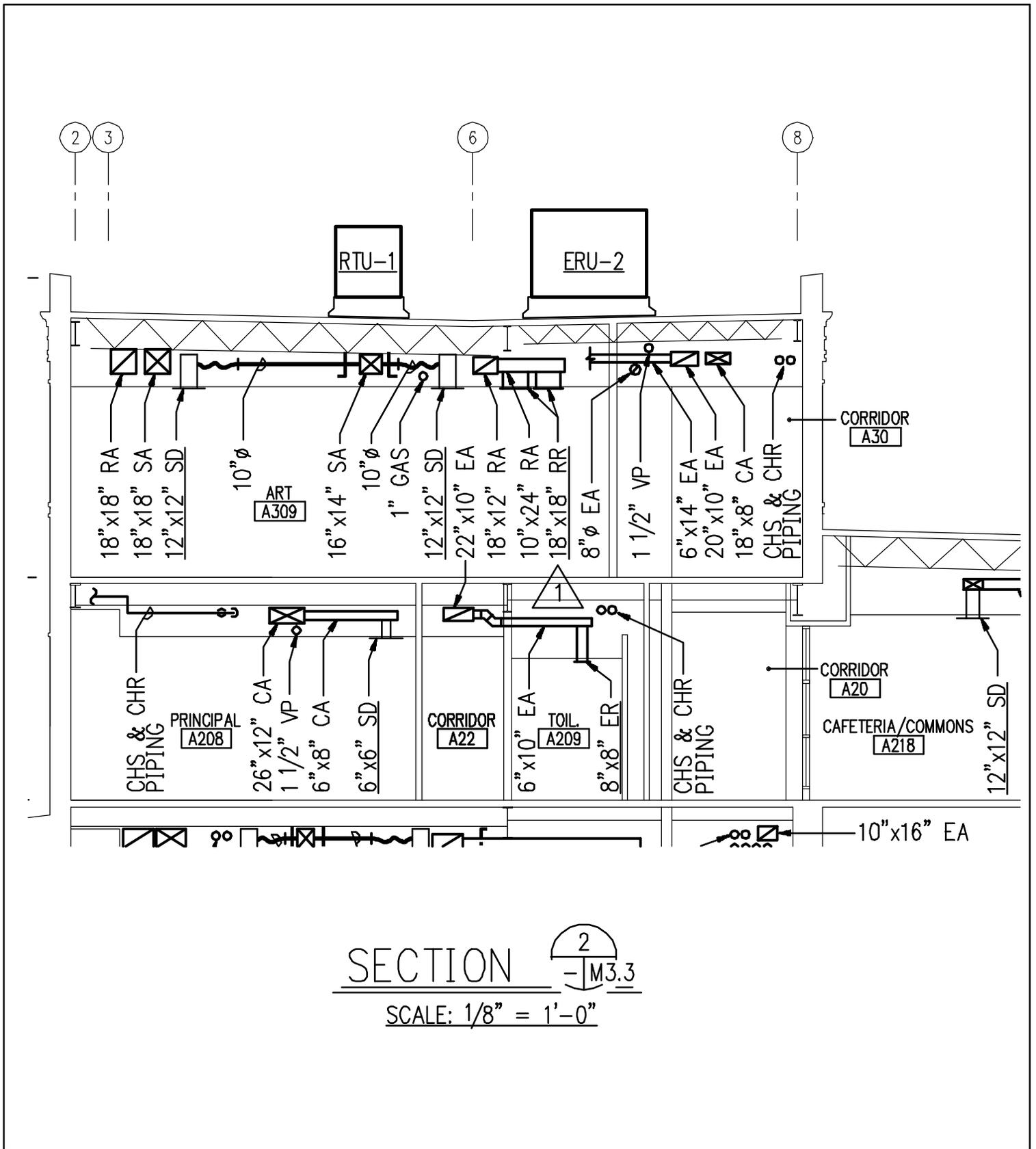
1955 Beverly Road
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McLean, VA 22101

11785 Beltsville Drive
Suite 1400
Calverton, MD 20705

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Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

Tel 301.884.1000
Fax 301.884.0089



LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET: M3.3

SCALE: 1/8" = 1'-0"

DATE

04/17/03

AMENDMENT

1
SK-M-10



2 Bethesda Metro Center
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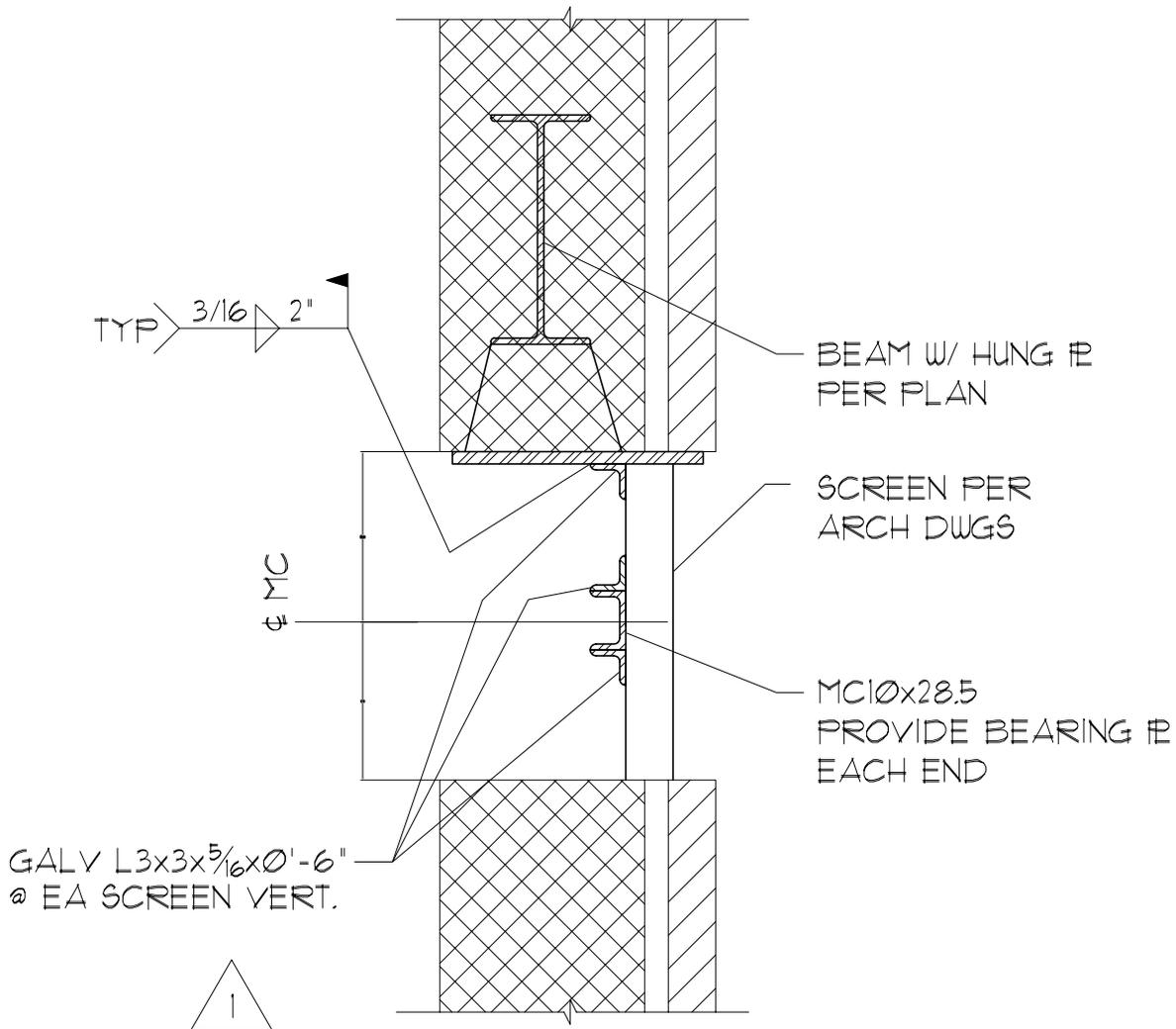
1955 Beverly Road
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McLean, VA 22101

11786 Belvidere Drive
Suite 1400
Calverton, MD 20705

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Fax 240.223.0510

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Fax 703.903.9755

Tel 301.334.1000
Fax 301.334.0089



9 SECTION @ MECH LOUVER @ CHILLER
 S-9.3 NOT TO SCALE

LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET NO: S-9.3

SCALE: N.T.S.

DATE
04/17/03

AMENDMENT
1
SK-S-1



2 Bethesda Metro Center
Suite 1350
Bethesda, MD 20814

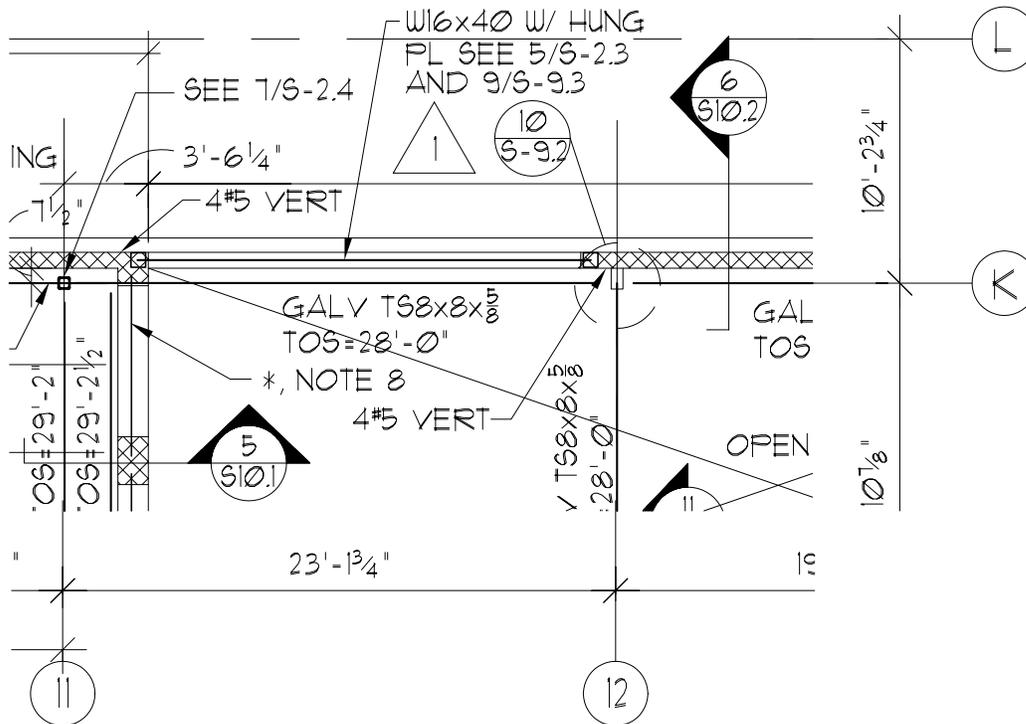
1355 Beverly Road
Suite 105
McLean, VA 22101

11785 Beltsville Drive
Suite 1400
Calverton, MD 20705

Tel 240.223.0500
Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

Tel 301.595.1000
Fax 301.595.0089



LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET NO: S-6.1

SCALE: N.T.S.

DATE
04/17/03

AMENDMENT
1
SK-S-2



2 Bethesda Metro Center
Suite 1350
Bethesda, MD 20814

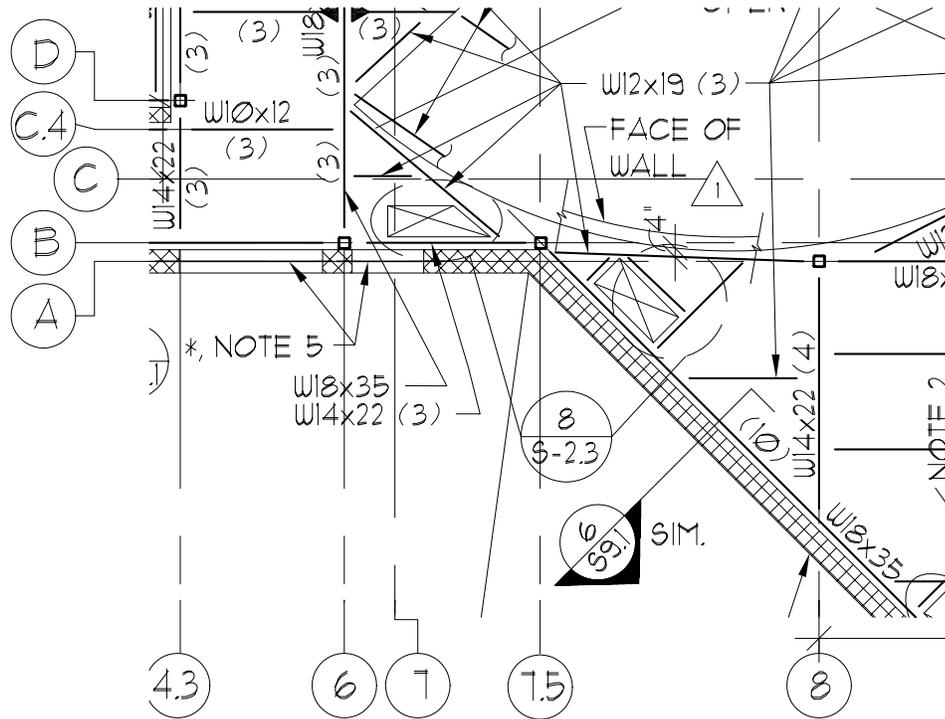
1355 Beverly Road
Suite 105
McLean, VA 22101

11785 Beltsville Drive
Suite 1400
Calverton, MD 20705

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Fax 240.223.0510

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LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET NO: S-5.1

SCALE: N.T.S.

DATE
04/17/03

AMENDMENT
1
SK-S-3



2 Bethesda Metro Center
Suite 1350
Bethesda, MD 20814

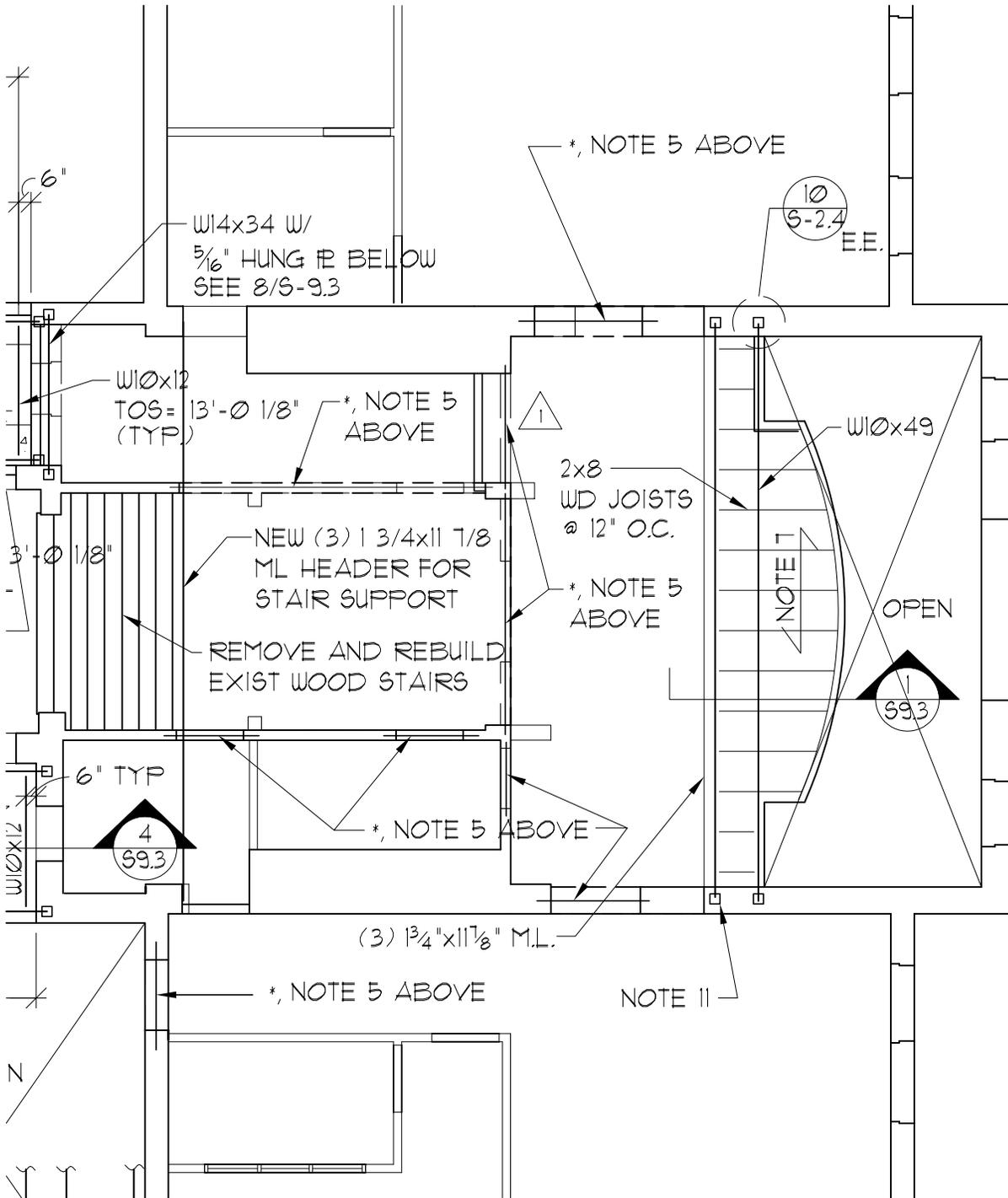
1355 Beverly Road
Suite 105
McLean, VA 22101

11785 Beltsville Drive
Suite 1400
Calverton, MD 20705

Tel 240.223.0500
Fax 240.223.0510

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Fax 703.903.9755

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Fax 301.595.0089



LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET NO: S-5.2

SCALE: N.T.S.

DATE

04/17/03

AMENDMENT

1
SK-S-4



2 Bethesda Metro Center
Suite 1350
Bethesda, MD 20814

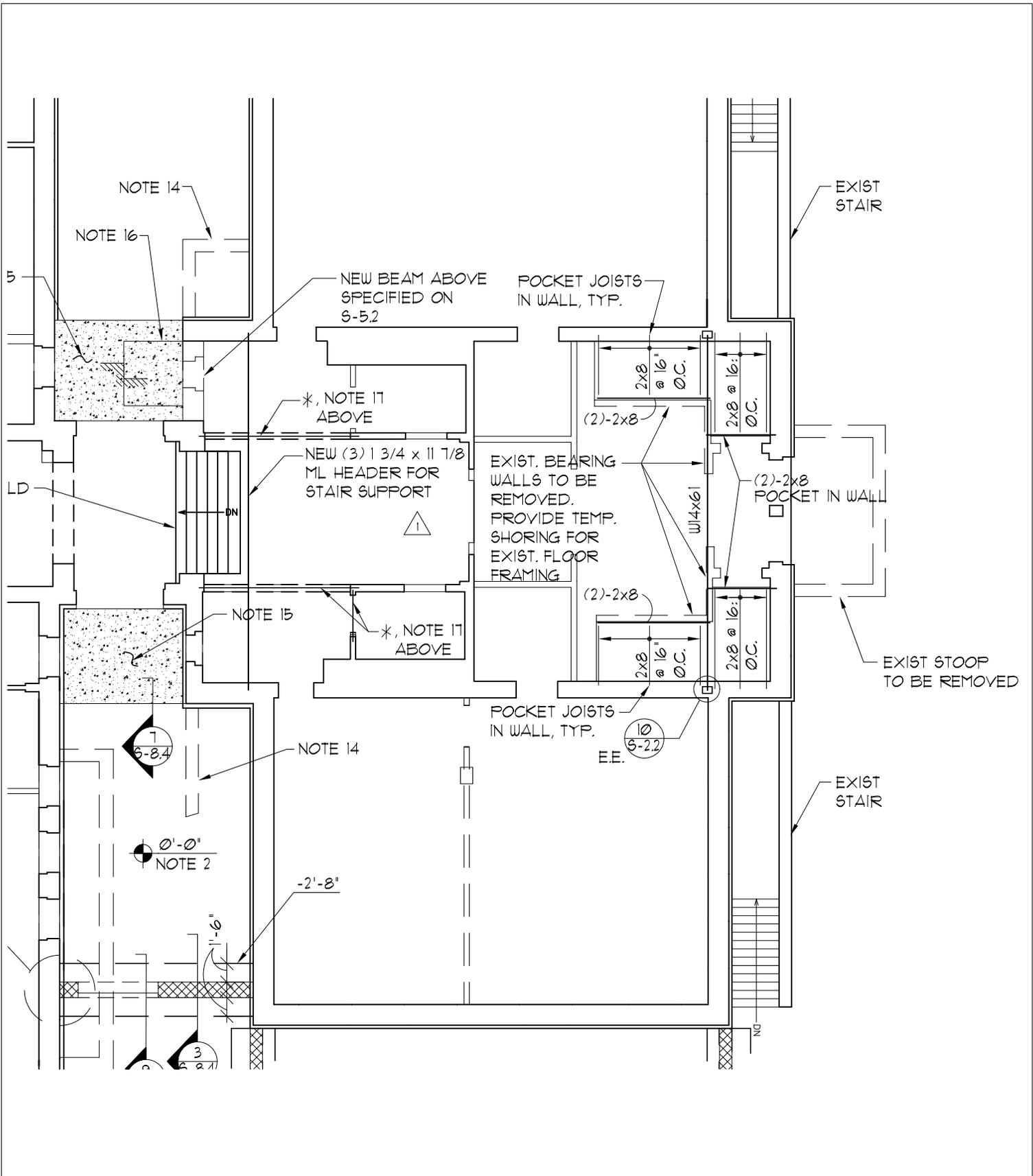
1355 Beverly Road
Suite 105
McLean, VA 22101

11785 Beltsville Drive
Suite 1400
Calverton, MD 20705

Tel 240.223.0500
Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

Tel 301.595.1000
Fax 301.595.0089



LUKE C. MOORE ACADEMY HIGH SCHOOL

SHEET NO: S-4.2

SCALE: N.T.S.

DATE
04/17/03

AMENDMENT
1
SK-S-5



2 Bethesda Metro Center
Suite 1350
Bethesda, MD 20814

1355 Beverly Road
Suite 105
McLean, VA 22101

11785 Beltsville Drive
Suite 1400
Calverton, MD 20705

Tel 240.223.0500
Fax 240.223.0510

Tel 703.903.9100
Fax 703.903.9755

Tel 301.595.1000
Fax 301.595.0089

