

SECTION 12496

WINDOW SHADE SYSTEMS

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions, Owner's Contract Documents, and Division 1 Specification Sections, apply to this Section.

1.02 SECTION INCLUDES

- A. Manually-operated window shades and accessories for sun/glare/heat control.

1.03 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Wood blocking and grounds for mounting roller shades and accessories.
- B. Section 09260 - Gypsum Board Assemblies: Coordination with gypsum board assemblies for installation of shade pockets, closures and related accessories.

1.04 REFERENCES

- A. ASTM G 21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
- B. NFPA 701 - Fire Tests for Flame-Resistant Textiles and Films.

1.05 SUBMITTALS

- A. Product Data: Manufacturer's catalog data, product descriptions, installation instructions, detail sheets, and specifications for each type system specified.
- B. Samples for Selection: For each finish product specified, one set of shade cloth options and aluminum finish color samples representing manufacturer's full range of available colors and patterns.
- C. Shop Drawings: Prepared specifically for this project; show plans, elevations, sections, product details, installation details, operational clearances and relationship to adjacent work.
 - 1. Room schedule including field-verified dimensions of each opening to receive window shade systems.
 - 2. Indicate System Series, operation, fabric selection, and mounting type and installation methods.
 - 3. Indicate control type.
 - 4. Storage and handling requirements and recommendations.
 - 5. Maintenance Data: Methods for maintaining roller shades, precautions regarding cleaning materials and methods, instructions for operating hardware and controls.

1.06 QUALITY ASSURANCE

- A. Installer: Approved by manufacturer.
- B. Installer Qualifications: Installer trained and certified by the manufacturer with a minimum of ten years experience in installing products comparable to those specified in this section.
- C. Fire-Test-Response Characteristics: Passes NFPA 701 small and large-scale vertical burn. Materials tested shall be identical to products proposed for use.
- D. Anti-Microbial Characteristics: 'No Growth' per ASTM G 21 results for fungi ATCC9642, ATCC 9644, ATCC9645.

- E. Mock-Up: Provide a mock-up of one roller shade assembly for evaluation of mounting, appearance and accessories.
 - 1. Locate mock-up in window designated by Architect.
 - 2. Do not proceed with remaining work until, mock-up is accepted by Architect.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to project site in manufacturer's original cartons.
- B. Individually package and mark shades with room number and opening number.
- C. Inspect the materials upon delivery to assure that specified products have been received.
- D. Store and handle shades to prevent damage to fabrics, finishes, and operators prior to installation.

1.08 PROJECT CONDITIONS

- A. Environmental Limitations: Install roller shades after finish work including painting is complete and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

1.09 WARRANTY

- A. Roller Shade Hardware and Chain Warranty: Manufacturer's standard non-depreciating twenty-five year limited warranty.
- B. Standard Shadecloth: Manufacturer's standard twenty-five year warranty.
- C. Roller Shade Installation: One year from date of Substantial Completion, not including scaffolding, lifts or other means to reach inaccessible areas.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturer: Mechoshade System, Inc. which is located at: 42-03 35th St Long Island City, NY., T 718.729.2020, F 718.729.2941. Email: daniels@mechoshade.com; Web: www.Mechoshade.com
- B. Provide all window shade systems from a single manufacturer.

2.02 ROLLER SHADE TYPES

- A. Manually Operated Shades:
 - 1. Mounting: Surface mounted.
 - 2. Configuration: Single solar Shadecloth.
 - 3. Solar Shadecloths:
 - a. Fabric: ThermoVeil 1300, **Match existing**, 2 by 2 dense basket-weave pattern.
 - b. Color: Selected from manufacturer's standard colors

2.03 SHADE CLOTH

- A. Visually Transparent Shadecloth: MechoShade Systems, Inc., ThermoVeil series, **Match existing**.

2.04 SHADE BAND

- A. Shade Bands: Construction of shade band includes the fabric, the hem weight, hem-pocket, shade roller tube, and the attachment of the shade band to the roller tube. Sewn hems and open hem pockets are not acceptable.
 - 1. Hem Pockets and Hem Weights: Fabric hem pocket with RF-welded seams (including welded ends) and concealed hem weights. Hem weights shall be of appropriate size and

weight for shade band. Hem weight shall be continuous inside a sealed hem pocket. Hem pocket construction and hem weights shall be similar, for all shades within one room.

2. Shade Band and Shade Roller Attachment:
 - a. Use extruded aluminum shade roller tube of a diameter and wall thickness required to support shade fabric without excessive deflection. Roller tubes less than 1.55 inch (39.37 mm) in diameter for manual shades are not acceptable.
 - b. Provide for positive mechanical engagement with drive / brake mechanism.
 - c. Provide for positive mechanical attachment of shade band to roller tube; shade band shall be made removable / replaceable with a "snap-on" snap-off" spline mounting, without having to remove shade roller from shade brackets.
 - d. Mounting spline shall not require use of adhesives, adhesive tapes, staples, and/or rivets.
 - e. Any method of attaching shade band to roller tube that requires the use of: adhesive, adhesive tapes, staples, and/or rivets are not acceptable.

2.05 SHADE FABRICATION

- A. Fabricate units to completely fill existing openings from head to sill and jamb-to-jamb, unless specifically indicated otherwise.
- B. Provide battens in standard shades as required to assure proper tracking and uniform rolling of the shadebands. Contractor shall be responsible for assuring the width-to-height (W:H) ratios shall not exceed manufacturer's standards or, in absence of such standards, shall be responsible for establishing appropriate standards to assure proper tracking and rolling of the Shadecloth within specified standards. Battens shall be roll-formed stainless steel or tempered steel, as required.
- C. For railroaded shadebands, provide seams in railroaded multi-width shadebands as required to meet size requirements and in accordance with seam alignment as acceptable to Architect. Seams shall be properly located. Furnish battens in place of plain seams when the width, height, or weight of the shade exceeds manufacturer's standards. In absence of such standards, assure proper use of seams or battens as required to, and assure the proper tracking of the railroaded multi-width shadebands.
- D. Provide battens for railroaded shades when width-to-height (W:H) ratios meet or exceed manufacturer's standards. In absence of manufacturer's standards, be responsible for proper use and placement of battens to assure proper tracking and roll of shadebands.

2.06 COMPONENTS

- A. Access and Material Requirements:
 1. Provide shade hardware allowing for the removal of shade roller tube from brackets without removing hardware from opening and without requiring end or center supports to be removed.
 2. Provide shade hardware that allows for removal and re-mounting of the shade bands without having to remove the shade tube, drive or operating support brackets.
 3. Use only Delrin engineered plastics by DuPont for all plastic components of shade hardware. Styrene based plastics, and /or polyester, or reinforced polyester will not be acceptable.
- B. Manual Operated Chain Drive Hardware and Brackets:
 1. Provide for universal, regular and offset drive capacity, allowing drive chain to fall at front, rear or non-offset for all shade drive end brackets. Universal offset shall be adjustable for future change.
 2. Provide hardware capable for installation of a removable fascia, for both regular and/or reverse roll, which shall be installed without exposed fastening devices of any kind.

3. Provide shade hardware system that allows for removable regular and/or reverse roll fascias to be mounted continuously across two or more shade bands without requiring exposed fasteners of any kind.
4. Provide shade hardware system that allows for operation of multiple shade bands (multi-banded shades) by a single chain operator, subject to manufacturer's design criteria. Connectors shall be offset to assure alignment from the first to the last shade band.
5. Provide shade hardware system that allows multi-banded manually operated shades to be capable of smooth operation when the axis is offset a maximum of 6 degrees on each side of the plane perpendicular to the radial line of the curve, for a 12 degrees total offset.
6. Provide positive mechanical engagement of drive mechanism to shade roller tube. Friction fit connectors for drive mechanism connection to shade roller tube are not acceptable.
7. Provide shade hardware constructed of minimum 1/8-inch (3.18 mm) thick plated steel or heavier as required to support 150 percent of the full weight of each shade.
8. Drive Bracket / Brake Assembly:
 - a. MechoShade Drive Bracket model M5 shall be fully integrated with all MechoShade accessories, including, but not limited to: SnapLoc fascia, room darkening side / sill channels, center supports and connectors for multi-banded shades.
 - b. M5 drive sprocket and brake assembly shall rotate and be supported on a welded 3/8 inch (9.525 mm) steel pin.
 - c. The brake shall be an over-running clutch design which disengages to 90 percent during the raising and lowering of a shade. The brake shall withstand a pull force of 50 lbs. (22 kg) in the stopped position.
 - d. The braking mechanism shall be applied to an oil-impregnated hub on to which the brake system is mounted. The oil impregnated hub design includes an articulated brake assembly, which assures a smooth, non-jerky operation in raising and lowering the shades. The assembly shall be permanently lubricated. Products that require externally applied lubrication and or not permanently lubricated are not acceptable.
 - e. The entire M5 assembly shall be fully mounted on the steel support bracket, and fully independent of the shade tube assembly, which may be removed and reinstalled without effecting the roller shade limit adjustments.
 - f. Drive Chain: #10 qualified stainless steel chain rated to 90 lb. (41 kg) minimum breaking strength. Nickel plate chain shall not be accepted.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

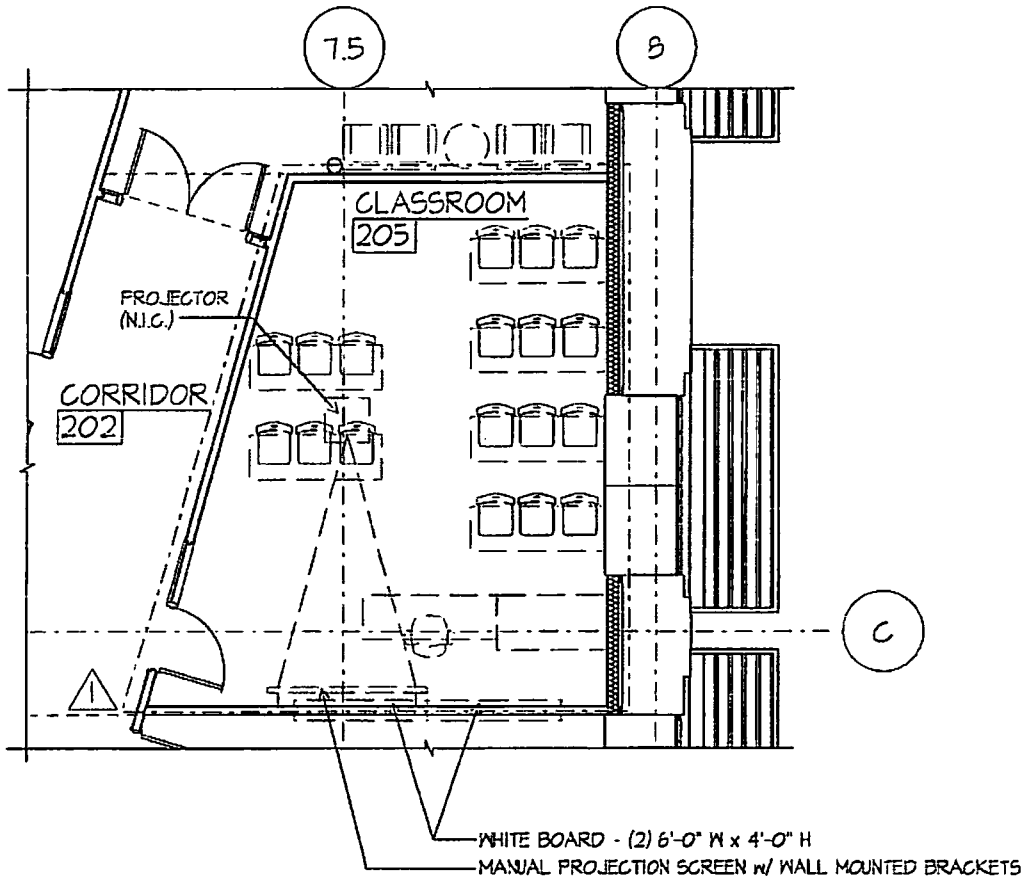
- A. Install roller shades level, plumb, square, and true according to manufacturer's written instructions, and located so shade band is not closer than 2 inches (50 mm) to interior face of glass. Allow proper clearances for window operation hardware.

- B. Install window shade systems in accordance with manufacturer's instructions and these specifications.
- C. Assume responsibility for all field dimensions and mounting surfaces.
- D. Adjust and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.
- E. Clean roller shade surfaces after installation, according to manufacturer's written instructions.
- F. Installer to train Owner's maintenance personnel to adjust, operate and maintain roller shade systems.

3.04 PROTECTION

- A. Protect installed products until completion of project.
- B. Repair or replace damaged products before Substantial Completion.

END OF SECTION



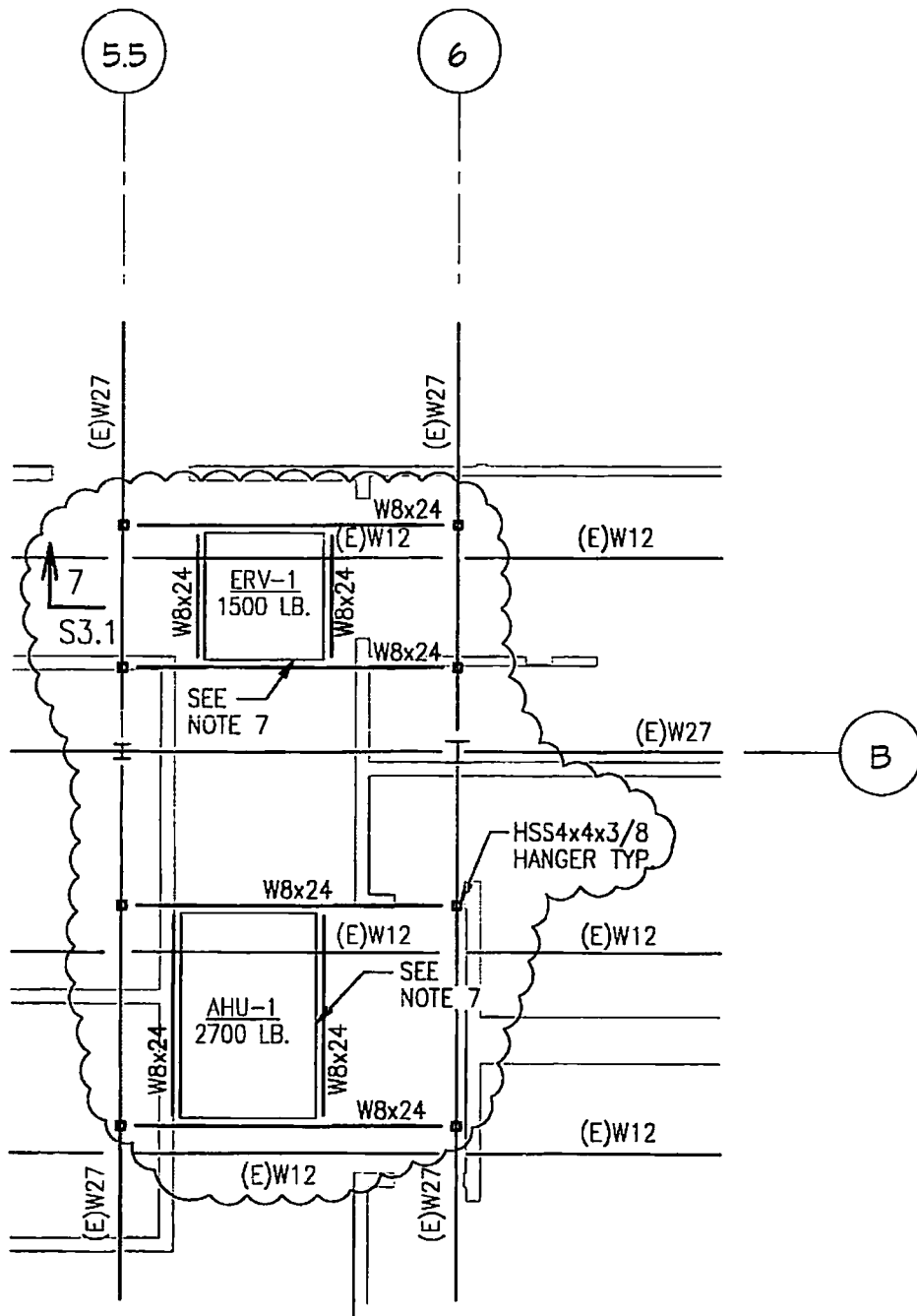
TYPICAL CLASSROOM
EQUIPMENT LAYOUT

PARTIAL SECOND FLOOR
EQUIPMENT PLAN

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

NOTE: COORDINATE FURNITURE, FIXTURES AND EQUIPMENT WITH OWNER PRIOR TO INSTALLATION.

| | |
|---|------------------------|
| REVISIONS: | |
| △ | EG4/09 ADDENDUM #2 |
| | |
| | |
| | |
| <p>THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE SITE BEFORE PROCEEDING WITH EACH PHASE OF HIS WORK. THIS DRAWING, AS AN INSTRUMENT OF SERVICE, IS AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT.</p> <p>© Alberry Associates Architects, P.L.L.C.</p> | |
| <p>CONSULTANT: STRUCTURAL ENGINEER</p> <p>WHITNEY, BAILEY, COX & MAGNANI, LLC</p> <p>355 N. 25TH STREET, SUITE 100 CAMP HILL, PA 17011 717-730-6032</p> | |
| <p>CONSULTANT: M/E/P ENGINEER</p> <p>GATTER & DIEHL, INC.</p> <p>2400 PARK DRIVE HARRISBURG, PA 17109 717-657-4700</p> | |
| | |
| <p>PHASE II CCTA HARRISBURG AREA COMMUNITY COLLEGE HARRISBURG, PA</p> | |
| <p>PARTIAL SECOND FLOOR EQUIPMENT PLAN</p> | |
| <p>CONSTRUCTION DOCUMENTS</p> | |
| DRAWN BY ALS | CHECKED BY BMD |
| PLOT NO. SKA-16_16 | DATE APRIL 17, 2009 |
| <p>PROJECT NO. 3226</p> | |
| <p>DRAWING NO. SKA-16</p> | |
| <p>REFER TO DMS A102</p> | |



REF. S1.2 & S1.2A

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

| REVISIONS | |
|-----------|---------------------|
| △ | 5/04/04 ADDENDUM #2 |
| | |
| | |
| | |
| | |

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE SITE BEFORE PROCEEDING WITH EACH PHASE OF HIS WORK. THIS DRAWING AS AN INSTRUMENT OF SERVICE, IS AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT.

© Murray Associates Architects, P.C.

CONSULTANT: STRUCTURAL ENGINEER
 WHITNEY, BAILEY,
 COX & MAGNANI, LLC
 355 N. 26TH STREET, SUITE 100
 CAMP HILL, PA. 17001
 717-730-6032

CONSULTANT: M/E/P ENGINEER
 GATTER & DIEHL, INC.
 2400 PARK DRIVE
 HARRISBURG, PA. 17102
 717-651-4100



PHASE II
 CCTA
 HARRISBURG AREA
 COMMUNITY COLLEGE
 HARRISBURG, PA

PARTIAL FOUNDATION
 PLAN - SECTION U

CONSTRUCTION DOCUMENTS

| | |
|-----------------|-------------------|
| DRAWN BY GKM | CHECKED BY TMS |
|-----------------|-------------------|

| | |
|----------|------------------------|
| PLOT NO. | DATE APRIL 17, 2004 |
|----------|------------------------|

PROJECT NO.
 3226

DRAWING NO.
 SKS-5

| REVISIONS: | | |
|------------|---------|------------|
| △ | EXC/104 | ADDRESS #2 |
| | | |
| | | |
| | | |
| | | |

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE SITE BEFORE PROCEEDING WITH EACH PHASE OF HIS WORK. THIS DRAWING AS AN INSTRUMENT OF SERVICE IS AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT.

© Murray Associates Architects, P.C.

CONSULTANT: STRUCTURAL ENGINEER

WHITNEY, BAILEY,
COX & MAGNAN, LLC

355 N. 25TH STREET, SUITE 100
CAMP HILL PA 17008
717-759-6032

CONSULTANT: H/E/P ENGINEER

GATTER & DIEHL, INC.

2400 PARK DRIVE
HARRISBURG, PA. 17110
717-651-4100



PHASE II
CCTA
HARRISBURG AREA
COMMUNITY COLLEGE
HARRISBURG, PA

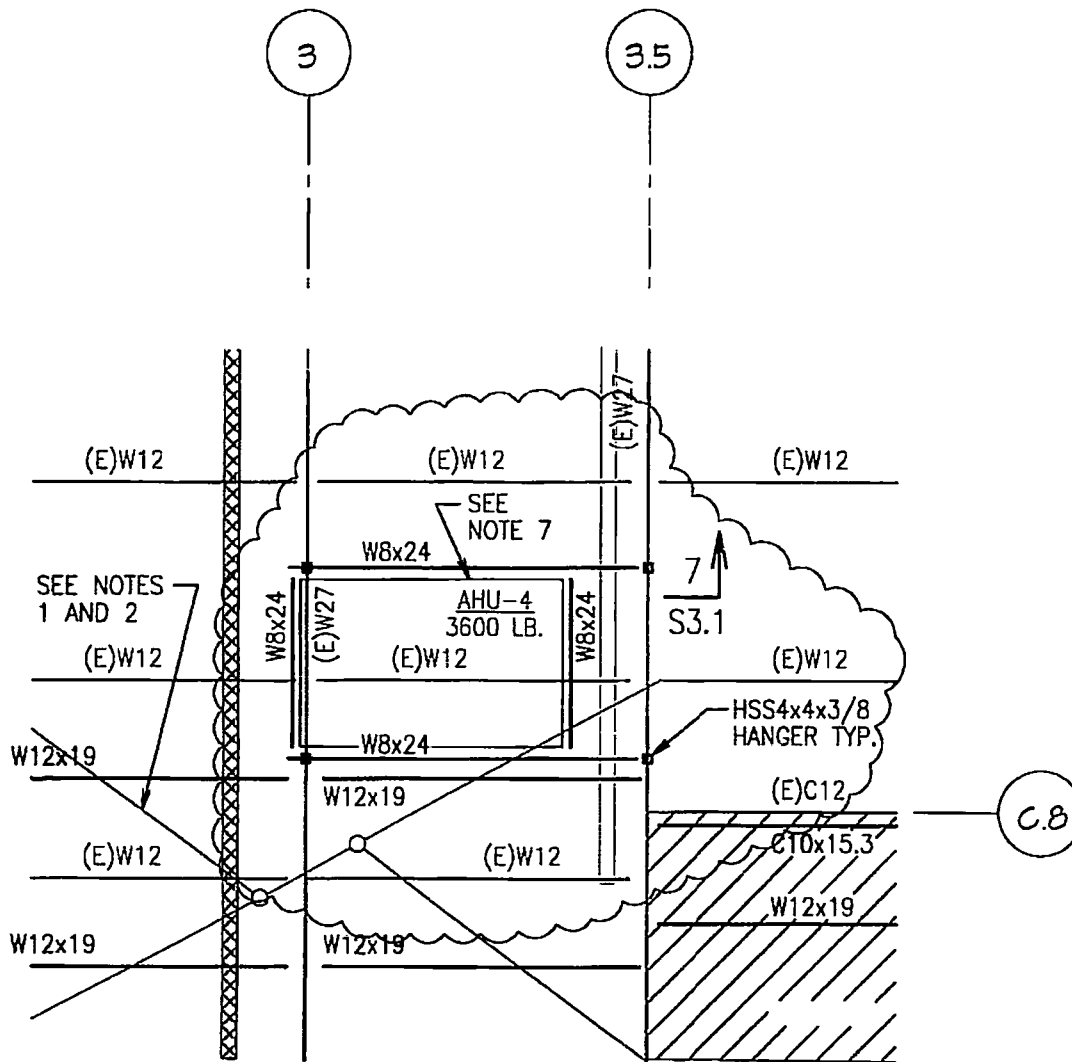
PARTIAL FOUNDATION
PLAN - SECTION U

CONSTRUCTION DOCUMENTS

| | |
|-----------------|------------------------|
| DRAWN BY CKM | CHECKED BY TMS |
| PLOT NO. | DATE APRIL 17, 2004 |

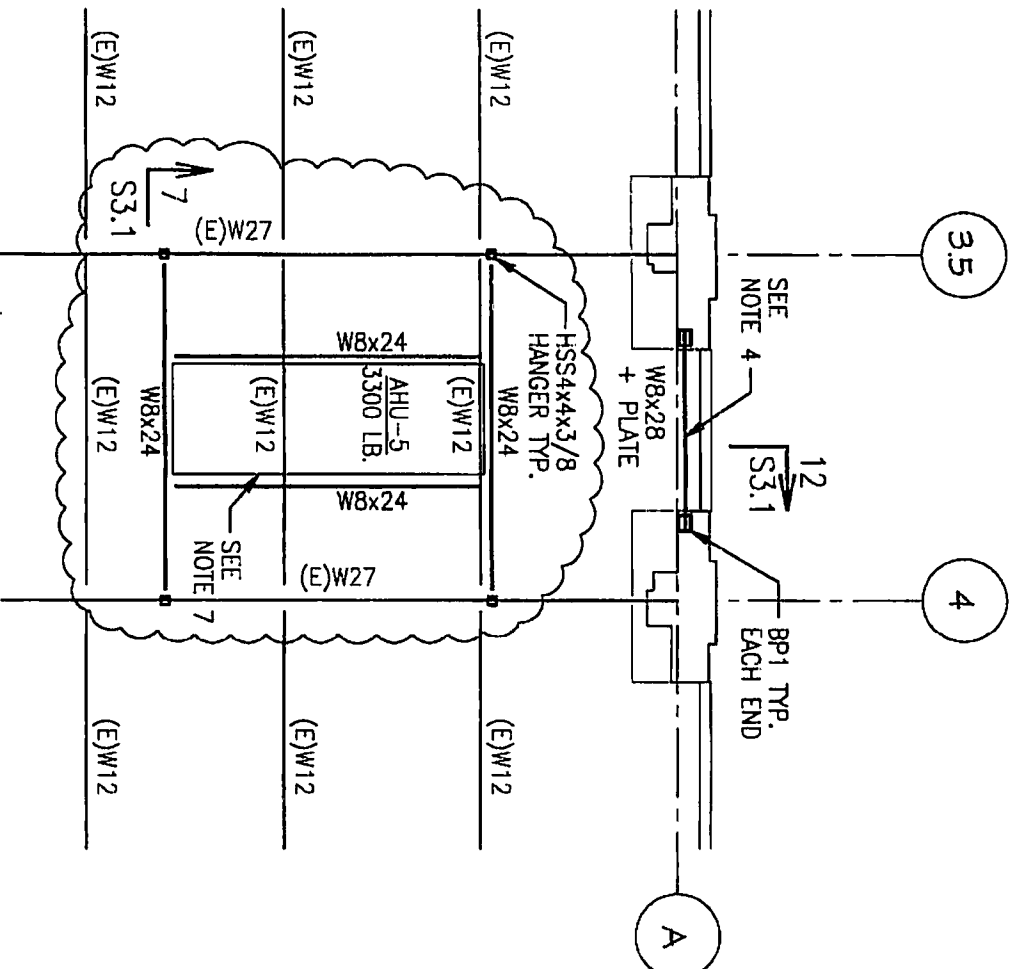
PROJECT NO.
3226

DRAWING NO.
SKS-6



REF. S1.2 & S1.2A

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



REF. S1.2 & S1.2A
 SCALE: 1/8" = 1'-0"

| REVISIONS: | DATE | DESCRIPTION |
|------------|----------|-------------|
| Δ | 10/10/04 | ADDED #2 |
| | | |
| | | |
| | | |
| | | |

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS OF THE EXISTING STRUCTURE PRIOR TO THE START OF CONSTRUCTION. EACH PHASE OF HIS WORK. THIS DRAWING IS AN INSTRUMENT OF SERVICE IS AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT.

© Murray Associates Architects, P.C.

COREL:MMT: STRUCTURAL ENGINEER

HAINERY, BAILEY,
 COX & MAGWAN, LLC

355 N. 26TH STREET, SUITE 100
 CAMP HILL, PA 17011
 717-504-0032

COREL:MMT: H/E/P ENGINEER
 GAITHER & DIEHL, INC.

3100 PARK DRIVE
 HARRISBURG, PA 17109
 717-551-4100



PHASE II
 CCTA
 HARRISBURG AREA
 COMMUNITY COLLEGE
 HARRISBURG, PA

PARTIAL FOUNDATION
 PLAN - SECTION U

CONSTRUCTION DOCUMENTS

| DRAWN BY | CHECKED BY |
|-----------|----------------|
| GMH | TMS |
| PLLOT NO. | DATE |
| | APRIL 17, 2004 |

PROJECT NO.
 3226

DRAWING NO.

SKS-7