

Engineering of Structures and Building Enclosures

Los Angeles

San Francisco

New York

Simpson Gumpertz & Heger Inc. 1828 L Street NW, Suite 950 Washington, DC 20036 main: 202.239.4199 fax: 202.239.4198

Washington, DO

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Erbschloe Consulting Services, Inc.

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14585 Avion Parkway, Suite 150

Chantilly, VA 20151 571.325.5000

Forella Group, LLC. 9495 Silver King Ct., Suite A

Fairfax, VA 22031 703.560.2200

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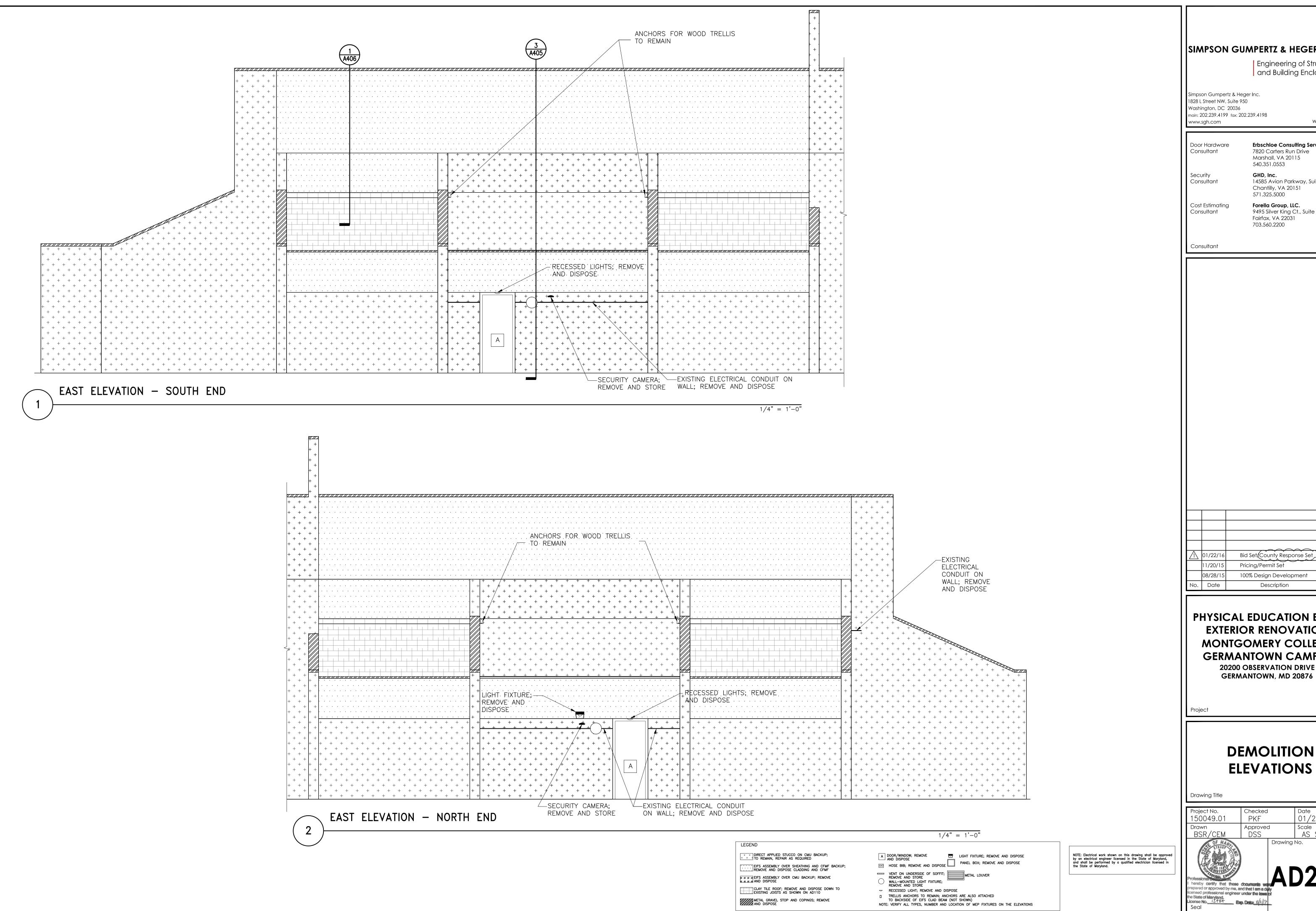
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	11/20/15	Pricing/Permit Set	
	08/28/15	100% Design Development	
No.	Date	Description	Ву
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## PHYSICAL EDUCATION BLDG **EXTERIOR RENOVATION** MONTGOMERY COLLEGE GERMANTOWN CAMPUS 20200 OBSERVATION DRIVE

GERMANTOWN, MD 20876

# **DEMOLITION ELEVATIONS**

150049.01	PKF		01/22/16
Drawn BSR/CEM	Approved DSS	d	Scale AS SHOWN
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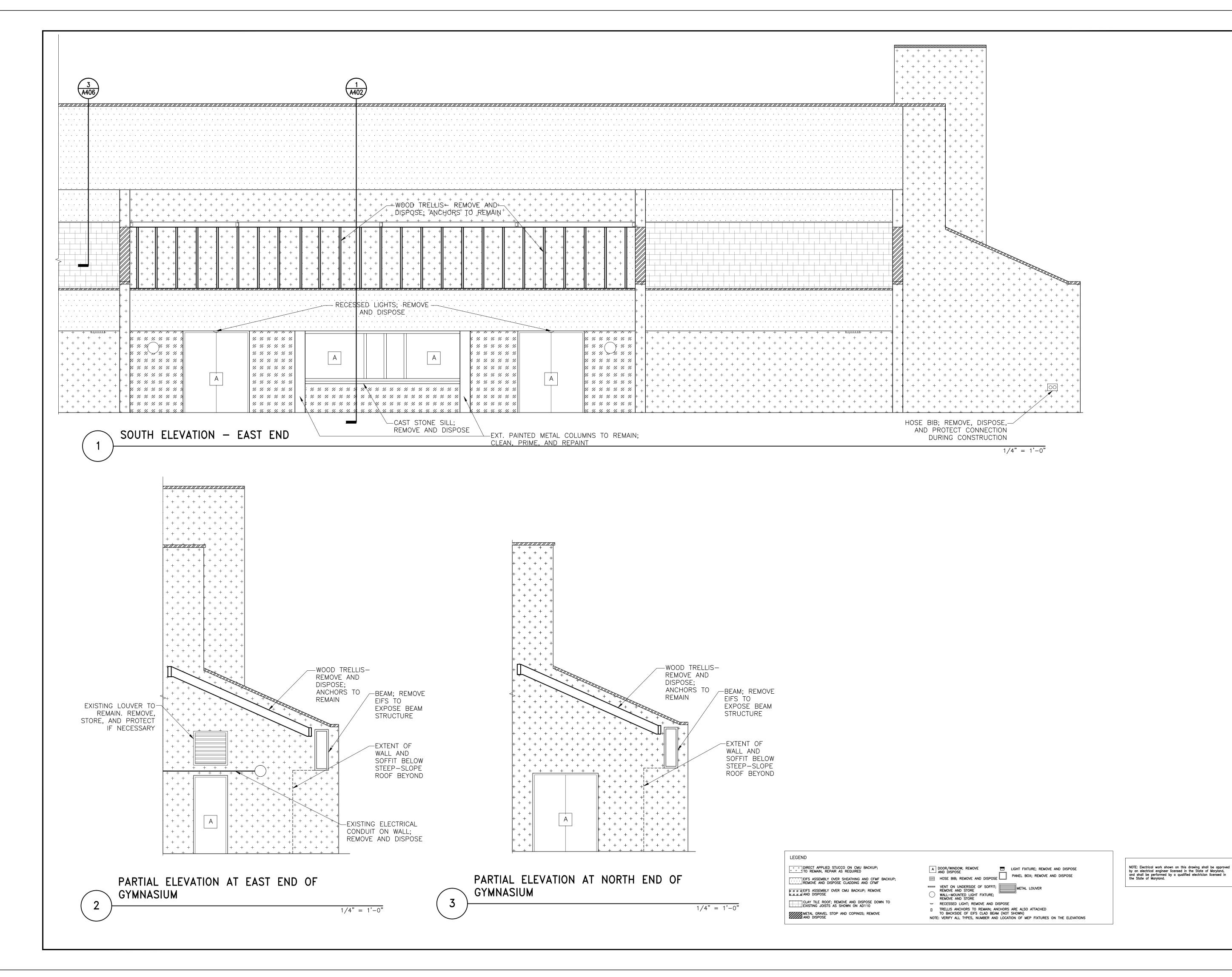
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## PHYSICAL EDUCATION BLDG **EXTERIOR RENOVATION** MONTGOMERY COLLEGE GERMANTOWN CAMPUS 20200 OBSERVATION DRIVE

# **DEMOLITION ELEVATIONS**

Project No. 150049.01	Checked PKF		Date 01/22/16
Drawn BSR/CEM	Approved DSS	b	Scale AS SHOW
OF MAR	•	Drawing	No.

censed professional engineer under the laws



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Consultant

Consultant

Bid Set County Response Set Pricing/Permit Set 100% Design Development

## PHYSICAL EDUCATION BLDG **EXTERIOR RENOVATION** MONTGOMERY COLLEGE **GERMANTOWN CAMPUS** 20200 OBSERVATION DRIVE

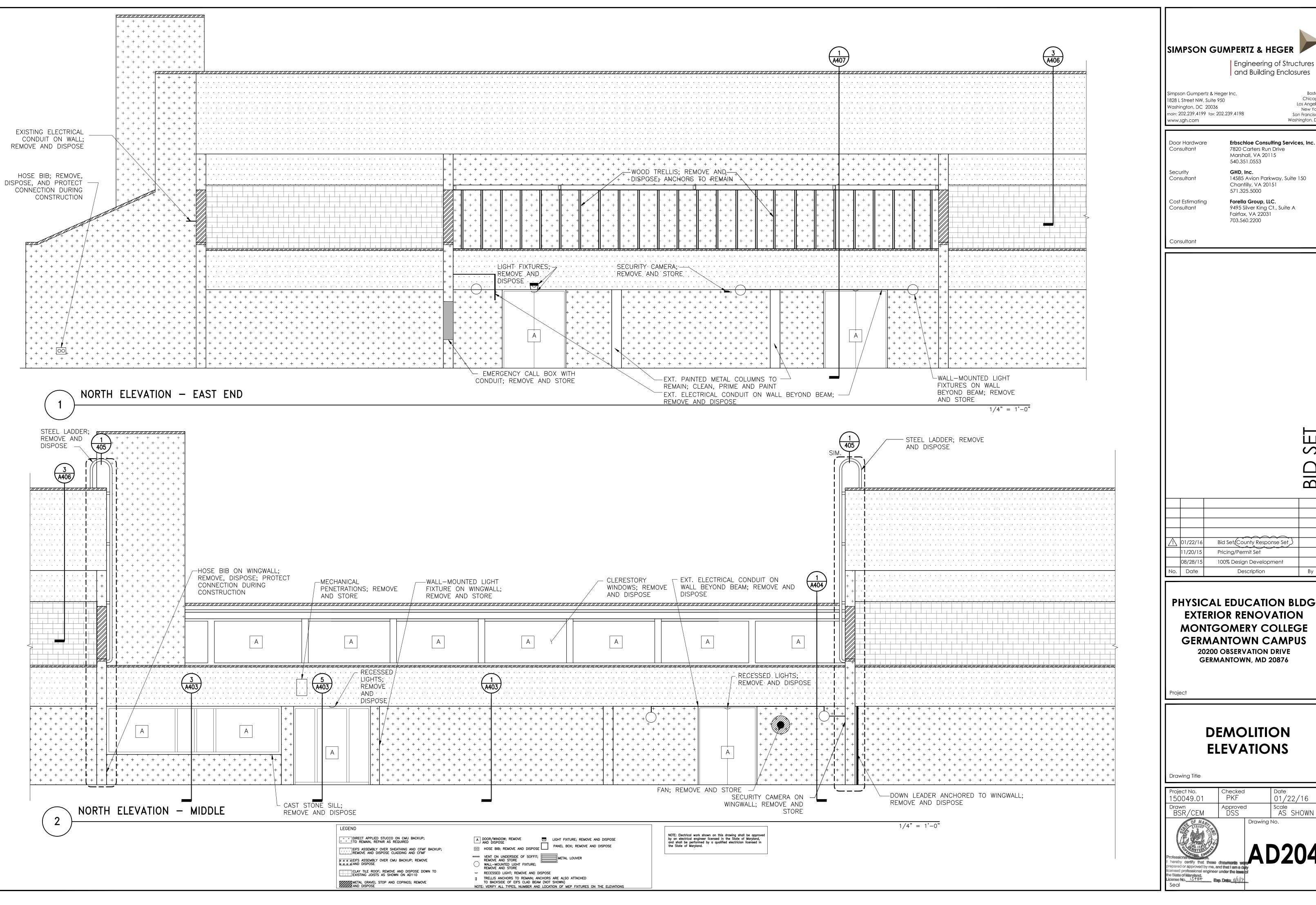
GERMANTOWN, MD 20876

# **DEMOLITION ELEVATIONS**

Drawing Title

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	Project No.	Checked		Date
	150049.01	PKF		01/22/16
	Drawn	Approved	t	Scale
	BSR/CEM	DSS		AS SHOWN
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		150049.01	150049.01 PKF	150049.01         PKF           Drawn         Approved           BSR/CEM         DSS

epared or approved by me, and that I am a duit censed professional engineer under the laws of the State of Maryland. License No. 15+8+ Exp. Date: 8/2/17 Seal



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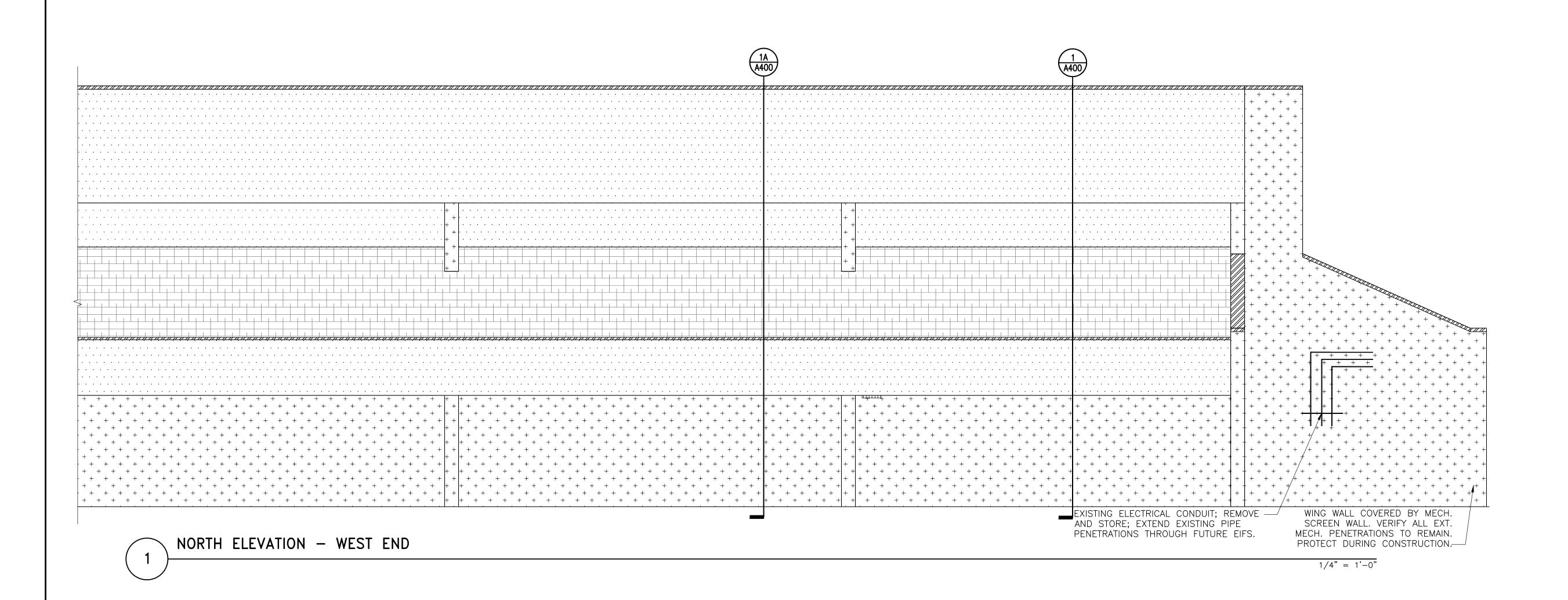
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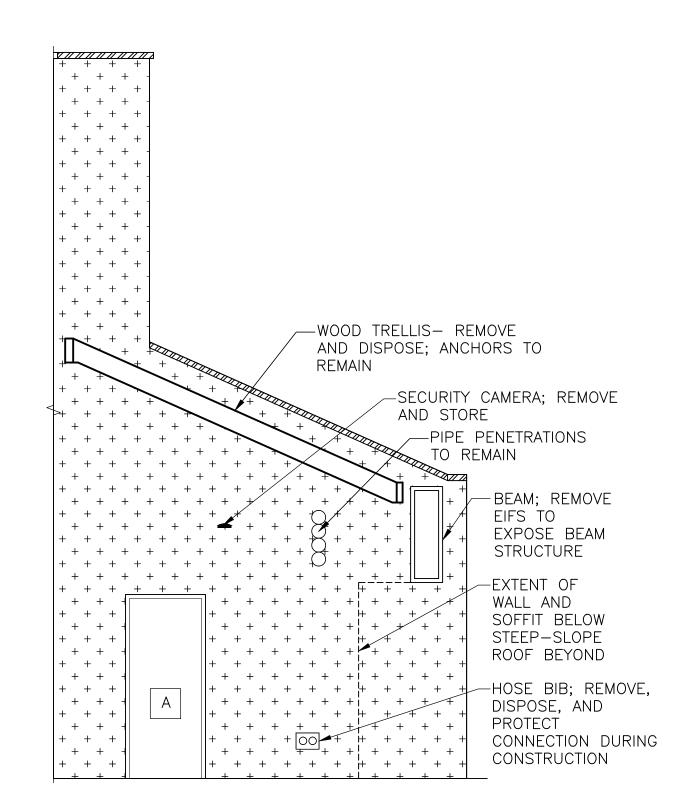
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	11/20/15	Pricing/Permit Set	
	08/28/15	100% Design Development	
No.	Date	Description	Ву

# **EXTERIOR RENOVATION** MONTGOMERY COLLEGE GERMANTOWN CAMPUS

# **DEMOLITION ELEVATIONS**

Project No. 150049.01	Checked PKF		Date 01/2	22/16
Drawn BSR/CEM	Approved DSS	d	Scale AS	SHOWN
OF MARTIN		Drawing	No.	





1/4" = 1'-0"

PARTIAL ELEVATION AT WEST END OF POOL

LEGEND

+ + DIRECT APPLIED STUCCO ON CMU BACKUP;
+ + + TO REMAIN, REPAIR AS REQUIRED

EIFS ASSEMBLY OVER SHEATHING AND CFMF BACKUP;
REMOVE AND DISPOSE CLADDING AND CFMF

8 8 8 8 8 BEFS ASSEMBLY OVER CMU BACKUP; REMOVE
8 8 8 8 8 AND DISPOSE

A DOOR/WINDOW; REMOVE AND DISPOSE

OO HOSE BIB; REMOVE AND DISPOSE

VENT ON UNDERSIDE OF SOFFIT; REMOVE AND STORE

WALL-MOUNTED LIGHT FIXTURE; REMOVE AND STORE

WALL-MOUNTED LIGHT FIXTURE; REMOVE AND STORE

NOTE: VERIFY ALL TYPES, NUMBER AND LOCATION OF MEP FIXTURES ON THE ELEVATIONS

RECESSED LIGHT; REMOVE AND DISPOSE

TRELLIS ANCHORS TO REMAIN; ANCHORS ARE ALSO ATTACHED TO BACKSIDE OF EIFS CLAD BEAM (NOT SHOWN)

NOTE: Electrical work shown on this drawing shall be approved by an electrical engineer licensed in the State of Maryland, and shall be performed by a qualified electrician licensed in the State of Maryland.

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Cost Estimating
Consultant

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Consultant

Consultant

BID SET

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	11/20/15	Pricing/Permit Set	
	08/28/15	100% Design Development	
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# PHYSICAL EDUCATION BLDG EXTERIOR RENOVATION MONTGOMERY COLLEGE GERMANTOWN CAMPUS 20200 OBSERVATION DRIVE

GERMANTOWN, MD 20876

# DEMOLITION ELEVATIONS

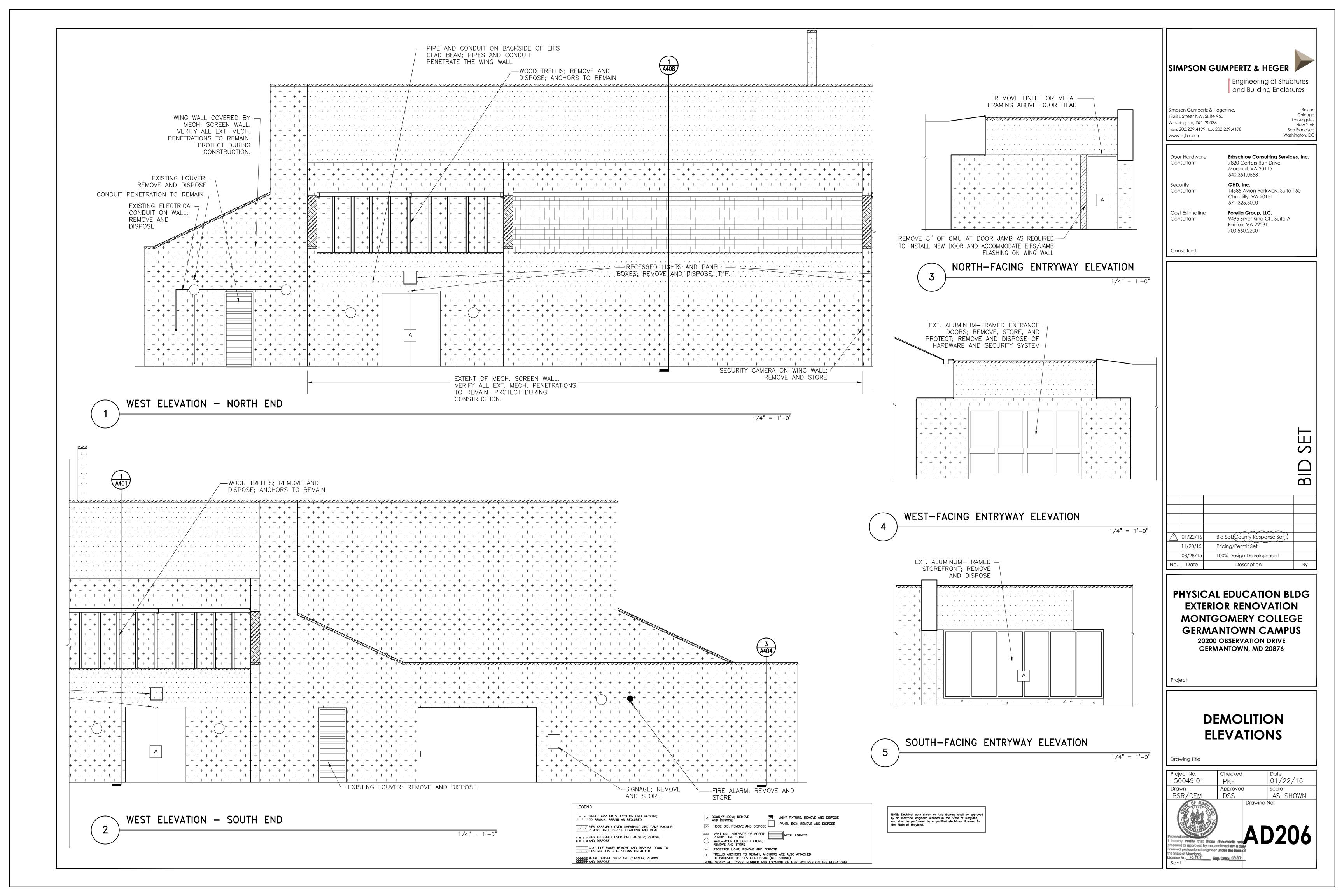
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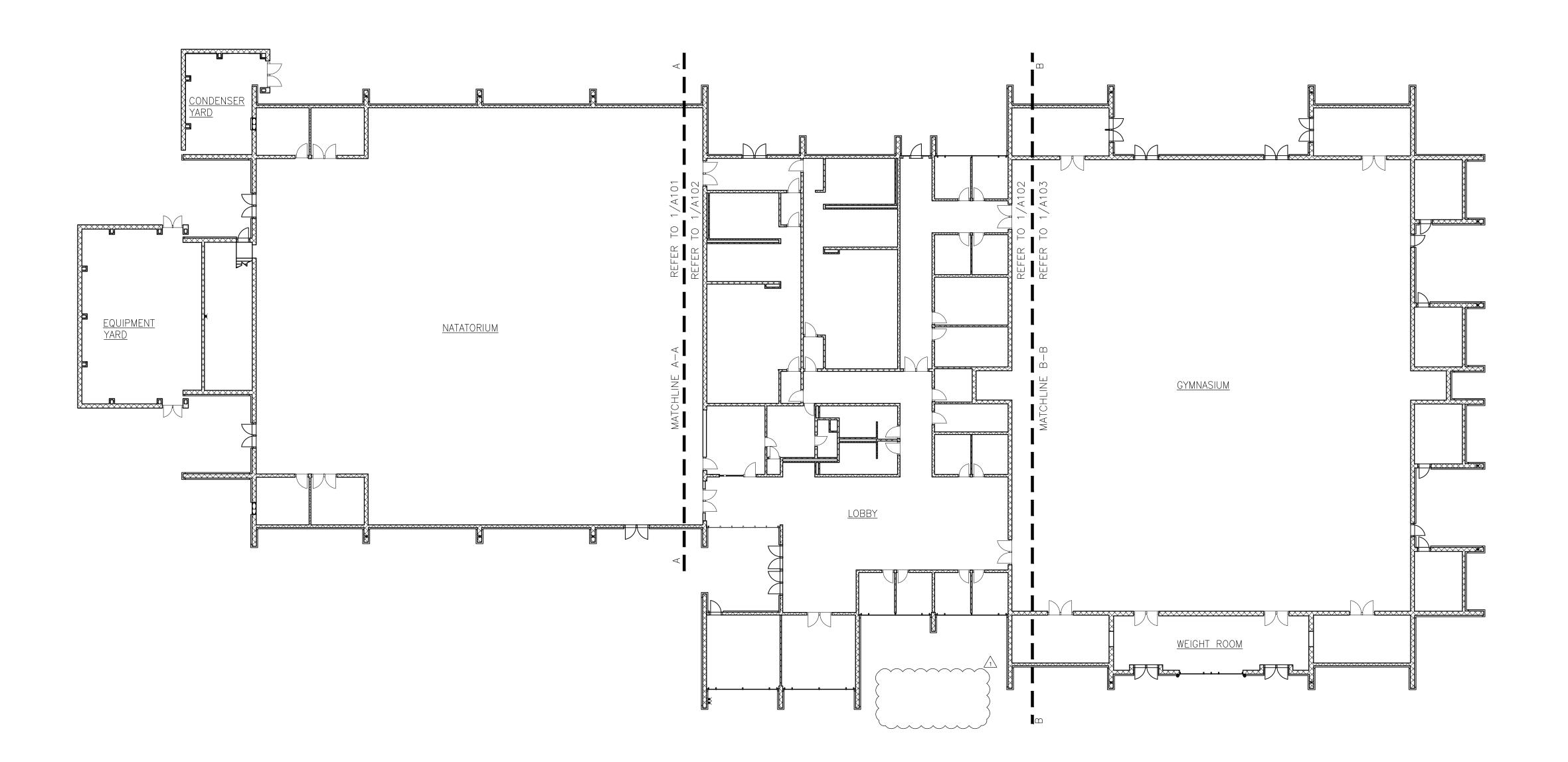
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	150049.01	PKF		01/22/16
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			150049.01 PKF Drawn Approved	150049.01         PKF           Drawn         Approved           BSR/CEM         DSS

Professional Professional engineer under the lews of the State of Maryland.

License No. 15184 Exp. Data 8/2/17

Seal





FIRST FLOOR PLAN — OVERALL NOTE: INTERIOR ASSEMBLIES NOT SHOWN FOR CLARITY 1/16" = 1'-0"

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BID

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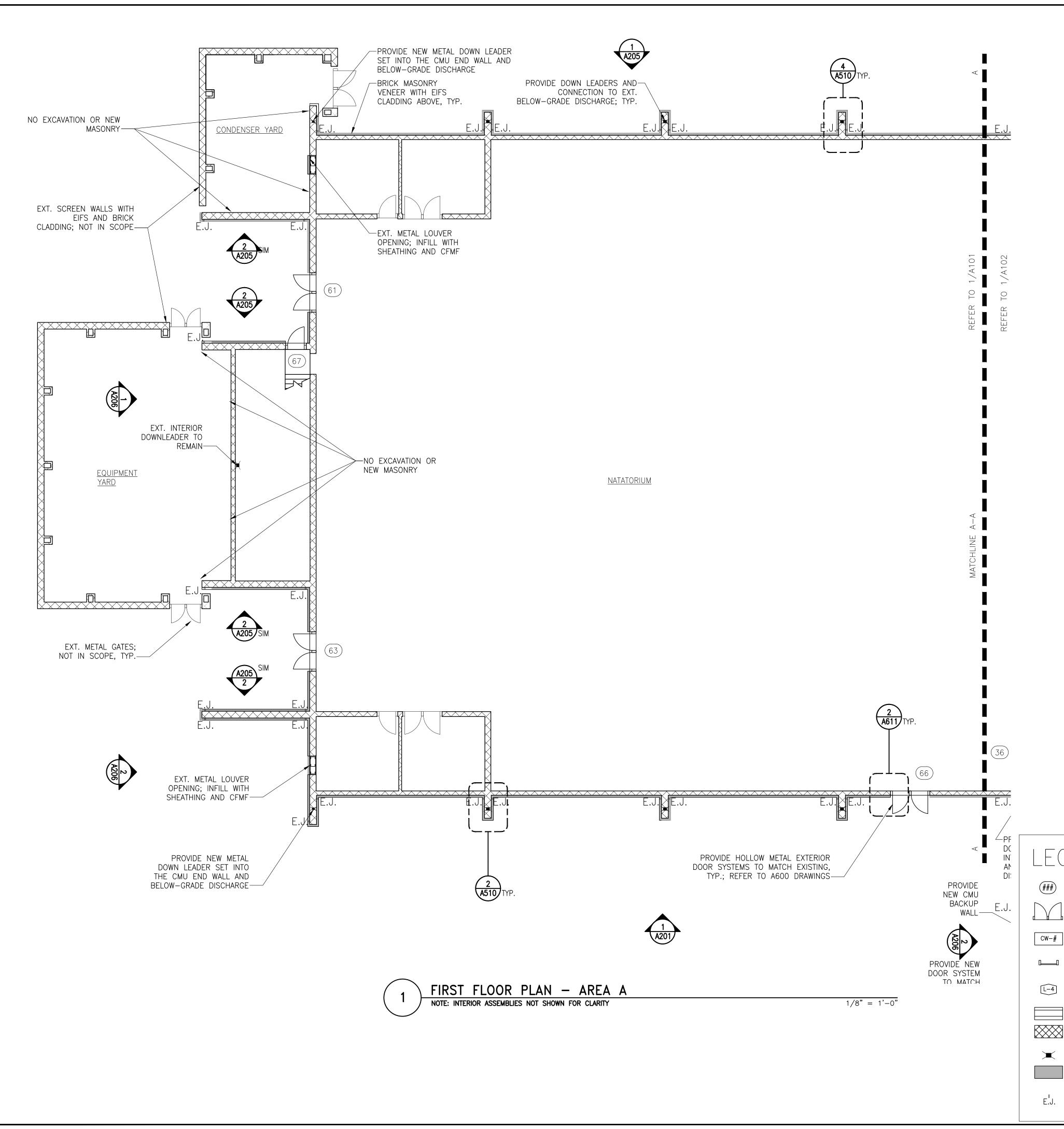
## PHYSICAL EDUCATION BLDG **EXTERIOR RENOVATION** MONTGOMERY COLLEGE GERMANTOWN CAMPUS

20200 OBSERVATION DRIVE GERMANTOWN, MD 20876

# **OVERALL FIRST FLOOR PLAN**

Project No.	Checked	Date
150049.01	PKF	01/22/16
Drawn CEM/BSR	Approved DSS	Scale AS SHOWI
- AND RESIDENCE OF THE PARTY OF		





GENERAL SCOPE OF WORK THIS DRAWING

#### Exterior Walls:

1. Install CMU curb over existing footing below grade.

2. Patch over any areas of delaminated or missing stucco cladding on the CMU walls with a cementitious parge coat to provide a smooth backup wall substrate. Repair all spalled or damaged CMU per structural drawings.

3. Replace the existing downleaders in the CMU wing walls with new downleaders and tie into the existing drainage assembly. Provide new downleaders in the CMU wing walls where shown on the drawings. Patch the CMU wing walls to provide a smooth substrate over the downleaders.

4. Provide new C.F.M.F. and furrings at the upper and lower soffits, and at vertical exterior wall areas where shown on the drawings. locate framing along the underside of the soffits to account for the increased exterior insulation thickness and maintain existing elevation of the soffit finish and window/door

5. Provide new exterior gypsum sheathing over the upper and lower soffit framing and furrings and over framed exterior wall areas.

6. Extend existing electrical, plumbing, and mechanical fixtures and other miscellaneous components out of the wall to accommodate the increased exterior insulation thickness.

7. Provide self—adhered below—grade waterproofing membrane over the base of the existing or repaired exterior stucco on the CMU walls. extend the self—adhered membrane down the wall, over the new curb, and to the top of the existing

8. Provide self-adhered air/vapor barrier membrane over the existing or repaired exterior stucco on the CMU walls. Integrate the air/vapor barrier membrane with the below—grade waterproofing and the roofing assembly to provide a continuous air/vapor barrier system.

9. Extend air/vapor barrier membrane past the soffit cladding and to the top of the CMU wall at all lower soffits below steep—sloped roofs. Provide metal lath and spray foam insulation between the top of the CMU wall and the underside of the steep slope roof sheathing, around the sloped beams, to form a continuous air barrier as shown on the drawings.

10. Wrap the air/vapor barrier membrane around lower soffits not below steep—sloped roofing and around the upper soffits, where shown on the drawings. Integrate the air/vapor barrier membrane with the adjacent self—adhered membrane on the vertical exterior walls and steep—slope roofing assemblies as shown on the drawings to maintain a continuous air, vapor, and water barrier.

11. Install perimeter flashings at all exterior door and window openings as shown on the drawings.

12. Provide new aluminum—framed exterior storefront and entrances, curtain walls, and thermally broken hollow metal doors. integrate the fenestration components with the self-adhered membrane on the exterior walls.

13. Openings at removed exterior doors serving as exit doors must be maintained for appropriate egress; replacement doors must have appropriate panic hardware in accordance with IBC Section 1010.1.9.9 and Section 1010.1.10, as shown on

14. Provide masonry veneer anchors around the bottom perimeter of the first floor

15. Install rigid insulation in the exterior wall cavity between and around the masonry veneer anchors.

16. Provide brick masonry with dedicated through—wall flashing, weeps, mortar net, end dams, and cast stone water table around the base of the exterior walls as

shown on the drawings. 17. Provide EIFS assembly with metal lath and insulation thicknesses as shown in the drawings on the remaining exterior walls above the cast stone water table, around the upper and lower soffits, and other locations shown on the drawings.

Detail EIFS assembly around exterior wall penetrations and other components. 18. Install new metal roof access ladders extending from the low roof up to the pool and gym roofs. Coordinate ladder dimensions with the new cladding thickness. Integrate ladder supports with the new self—adhered membrane as shown in the drawings; do not penetrate the new or existing roofing assemblies

with the ladders. 19. Provide new treated wood-framed trellises. See structural drawings for new structural anchorage configuration.

20. Install new metal copings and gravel edge stops at top of all walls and roof perimeters where shown on the drawings; coordinate this work with the low-slope and steep-slope roofing installation

21. Reinstall the exterior light fixtures, security cameras, fans, louvers and vents, fire alarm and fire department connection, access hatches, electrical conduits, and other miscellaneous components over the EIFS unless otherwise described in the drawings.

(22. Openings at removed exterior doors serving as exit doors must be maintained for appropriate egress; replacement doors must have appropriate panic hardware  $\searrow$  in accordance with IBC Section 1010.1.9.9 and Section 1010.1.10, as shown on  $\nearrow$ 

Maryland.

NOTE: Electrical work shown on this drawing shall

be approved by an electrical engineer licensed in

a qualified electrician licensed in the State of

the State of Maryland, and shall be performed by

KEY PLAN

## SIMPSON GUMPERTZ & HEGER

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Forella Group, LLC. Cost Estimating

Consultant 9495 Silver King Ct., Suite A Fairfax, VA 22031 703.560.2200

Consultant

Security

Consultant

 $\Delta$ Bid Set (County Response Set ) Pricing/Permit Set 08/28/15 100% Design Development Description No. Date

## PHYSICAL EDUCATION BLDG **EXTERIOR RENOVATION** MONTGOMERY COLLEGE **GERMANTOWN CAMPUS**

20200 OBSERVATION DRIVE GERMANTOWN, MD 20876

# **PARTIAL FIRST FLOOR PLAN**

01/22/16 150049.01 Approved AS NOTED Drawing No.



pared or approved by me, and that I am a di censed professional engineer under the lews the State of Maryland. License No. 15184 Exp. Date: 8/2/17

DOOR DESIGNATION

DOOR SWING DIRECTION

CURTAIN WALL DESIGNATION

CURTAIN WALL

LOUVER DESIGNATION

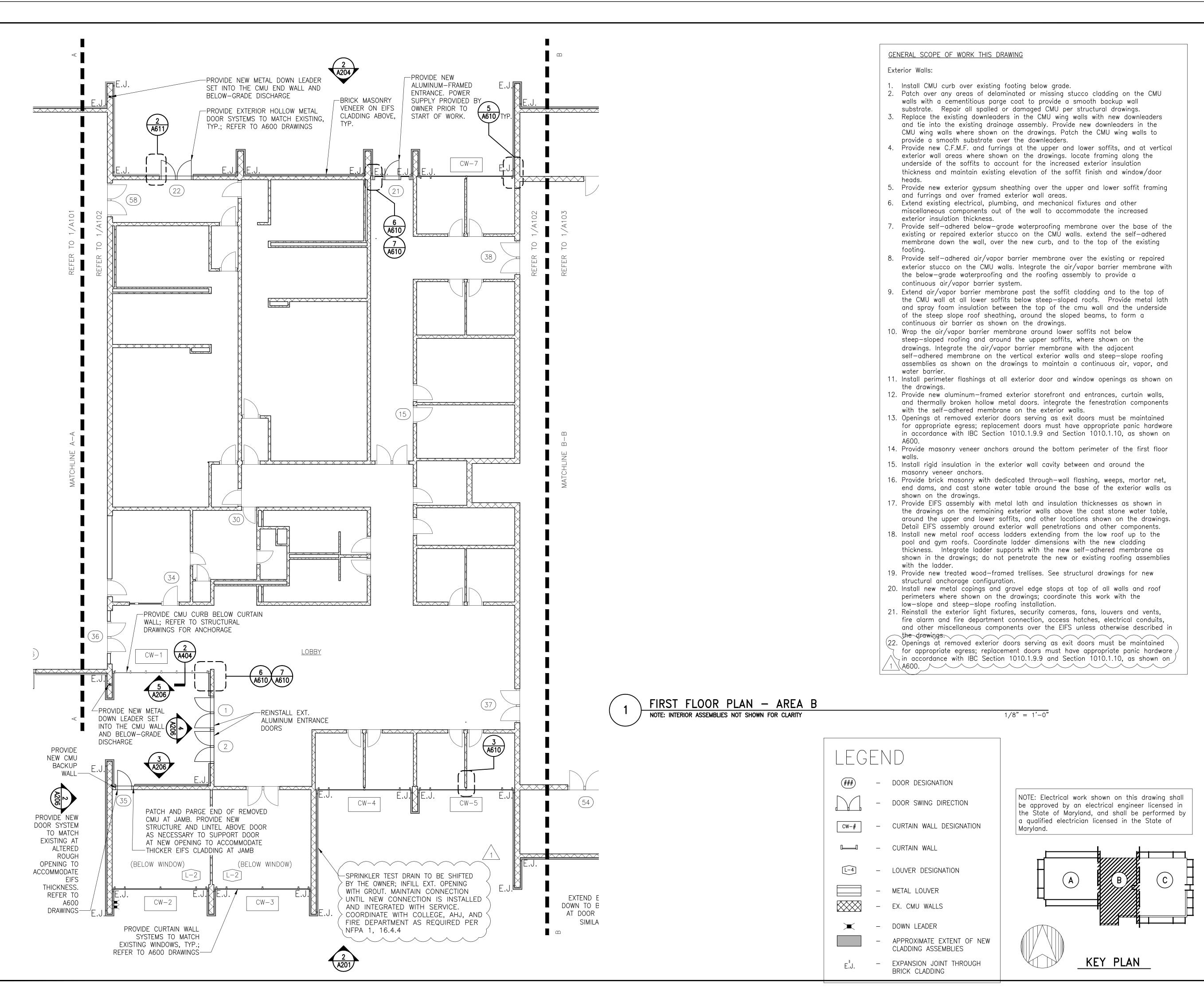
METAL LOUVER

- EX. CMU WALLS

DOWN LEADER

APPROXIMATE EXTENT OF NEW CLADDING ASSEMBLIES

 EXPANSION JOINT THROUGH BRICK CLADDING



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Consultant

Consultant

Security

Consultant

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Bid Set (County Response Set )

100% Design Development

Description

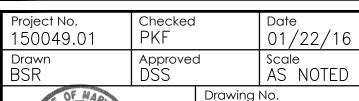
Pricing/Permit Set

20200 OBSERVATION DRIVE GERMANTOWN, MD 20876

08/28/15

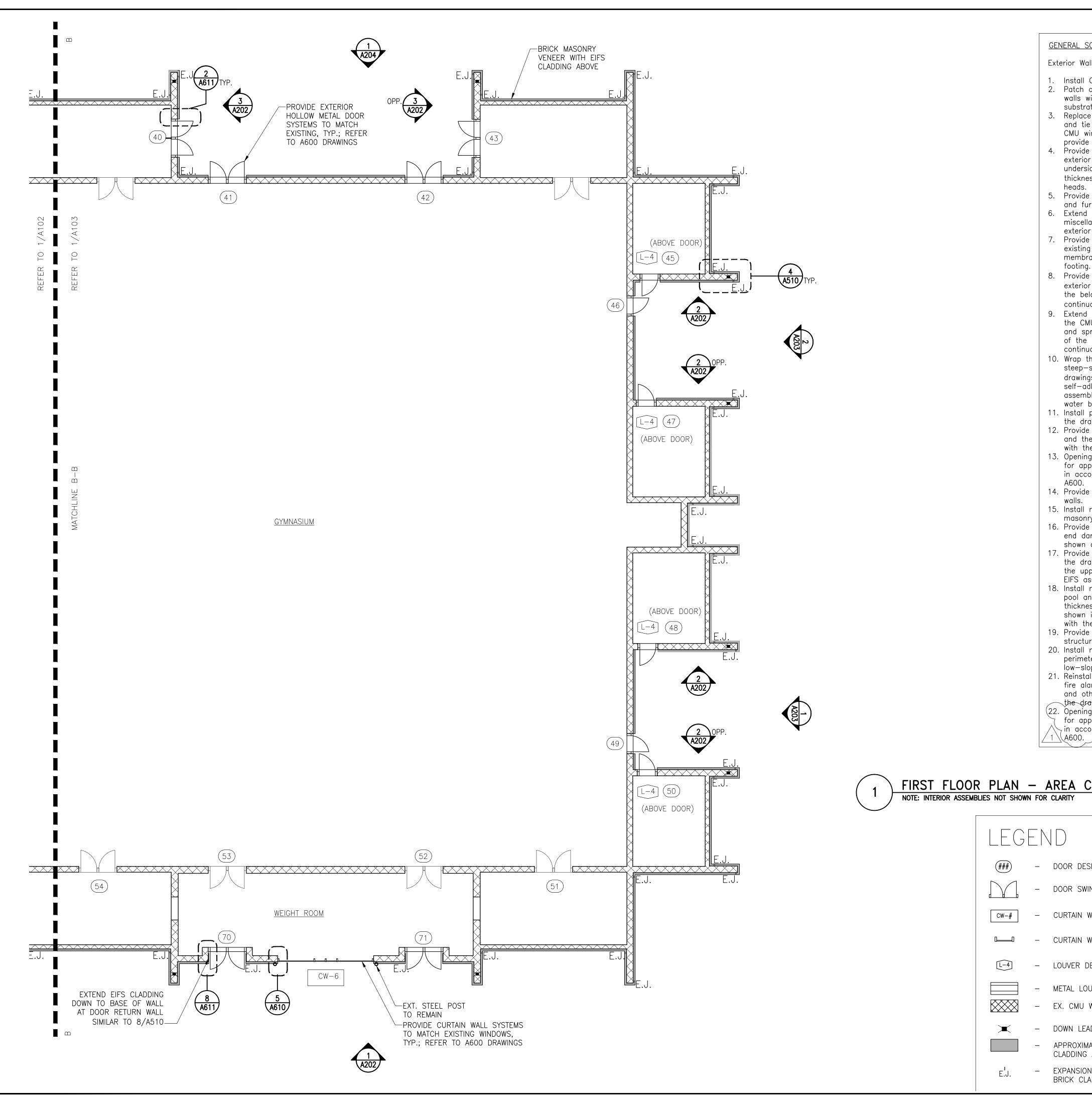
No. Date

# **PARTIAL FIRST FLOOR PLAN**





censed professional engineer under the lews the State of Maryland. License No. 15184 Exp. Date: 8/2/17



GENERAL SCOPE OF WORK THIS DRAWING

#### Exterior Walls:

- 1. Install CMU curb over existing footing below grade.
- 2. Patch over any areas of delaminated or missing stucco cladding on the CMU walls with a cementitious parge coat to provide a smooth backup wall substrate. Repair all spalled or damaged CMU per structural drawings.
- 3. Replace the existing downleaders in the CMU wing walls with new downleaders and tie into the existing drainage assembly. Provide new downleaders in the CMU wing walls where shown on the drawings. Patch the CMU wing walls to provide a smooth substrate over the downleaders.
- 4. Provide new CFMF and furrings at the upper and lower soffits, and at vertical exterior wall areas where shown on the drawings. locate framing along the underside of the soffits to account for the increased exterior insulation thickness and maintain existing elevation of the soffit finish and window/door
- 5. Provide new exterior gypsum sheathing over the upper and lower soffit framing and furrings and over framed exterior wall areas.
- 6. Extend existing electrical, plumbing, and mechanical fixtures and other miscellaneous components out of the wall to accommodate the increased exterior insulation thickness.
- Provide self-adhered below-grade waterproofing membrane over the base of the existing or repaired exterior stucco on the CMU walls. extend the self-adhered membrane down the wall, over the new curb, and to the top of the existing
- 8. Provide self—adhered air/vapor barrier membrane over the existing or repaired exterior stucco on the CMU walls. Integrate the air/vapor barrier membrane with the below-grade waterproofing and the roofing assembly to provide a continuous air/vapor barrier system.
- 9. Extend air/vapor barrier membrane past the soffit cladding and to the top of the CMU wall at all lower soffits below steep—sloped roofs. Provide metal lath and spray foam insulation between the top of the cmu wall and the underside of the steep slope roof sheathing, around the sloped beams, to form a continuous air barrier as shown on the drawings.
- 10. Wrap the air/vapor barrier membrane around lower soffits not below steep—sloped roofing and around the upper soffits, where shown on the drawings. Integrate the air/vapor barrier membrane with the adjacent self—adhered membrane on the vertical exterior walls and steep—slope roofing assemblies as shown on the drawings to maintain a continuous air, vapor, and water barrier.
- 11. Install perimeter flashings at all exterior door and window openings as shown on the drawings.
- 12. Provide new aluminum—framed exterior storefront and entrances, curtain walls, and thermally broken hollow metal doors. integrate the fenestration components with the self-adhered membrane on the exterior walls.
- 13. Openings at removed exterior doors serving as exit doors must be maintained for appropriate egress; replacement doors must have appropriate panic hardware in accordance with IBC Section 1010.1.9.9 and Section 1010.1.10, as shown on
- 14. Provide masonry veneer anchors around the bottom perimeter of the first floor
- 15. Install rigid insulation in the exterior wall cavity between and around the masonry veneer anchors.
- 16. Provide brick masonry with dedicated through—wall flashing, weeps, mortar net, end dams, and cast stone water table around the base of the exterior walls as shown on the drawings.
- 17. Provide EIFS assembly with metal lath and insulation thicknesses as shown in the drawings on the remaining exterior walls above the stone coping, around the upper and lower soffits, and other locations shown on the drawings. Detail EIFS assembly around exterior wall penetrations and other components.
- 18. Install new metal roof access ladders extending from the low roof up to the pool and gym roofs. Coordinate ladder dimensions with the new cladding thickness. Integrate ladder supports with the new self—adhered membrane as shown in the drawings; do not penetrate the new or existing roofing assemblies
- with the ladder. 19. Provide new treated wood-framed trellises. See structural drawings for new structural anchorage configuration.
- 20. Install new metal copings and gravel edge stops at top of all walls and roof perimeters where shown on the drawings; coordinate this work with the
- low-slope and steep-slope roofing installation 21. Reinstall the exterior light fixtures, security cameras, fans, louvers and vents, fire alarm and fire department connection, access hatches, electrical conduits, and other miscellaneous components over the EIFS unless otherwise described in
- the drawings. (22. Openings at removed exterior doors serving as exit doors must be maintained for appropriate egress; replacement doors must have appropriate panic hardware  $\sim$  in accordance with IBC Section 1010.1.9.9 and Section 1010.1.10, as shown on angle

NOTE: INTERIOR ASSEMBLIES NOT SHOWN FOR CLARITY

1/8" = 1'-0"

# LEGEND

DOOR DESIGNATION

DOOR SWING DIRECTION

CURTAIN WALL

LOUVER DESIGNATION

METAL LOUVER



EX. CMU WALLS



DOWN LEADER

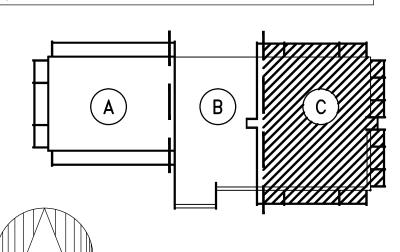
APPROXIMATE EXTENT OF NEW

CURTAIN WALL DESIGNATION



CLADDING ASSEMBLIES EXPANSION JOINT THROUGH BRICK CLADDING

NOTE: Electrical work shown on this drawing shall be approved by an electrical engineer licensed in the State of Maryland, and shall be performed by a qualified electrician licensed in the State of | Maryland.



KEY PLAN

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PHYSICAL EDUCATION BLDG **EXTERIOR RENOVATION** MONTGOMERY COLLEGE **GERMANTOWN CAMPUS** 

Bid Set (County Response Set )

100% Design Development

Description

Pricing/Permit Set

20200 OBSERVATION DRIVE GERMANTOWN, MD 20876

08/28/15

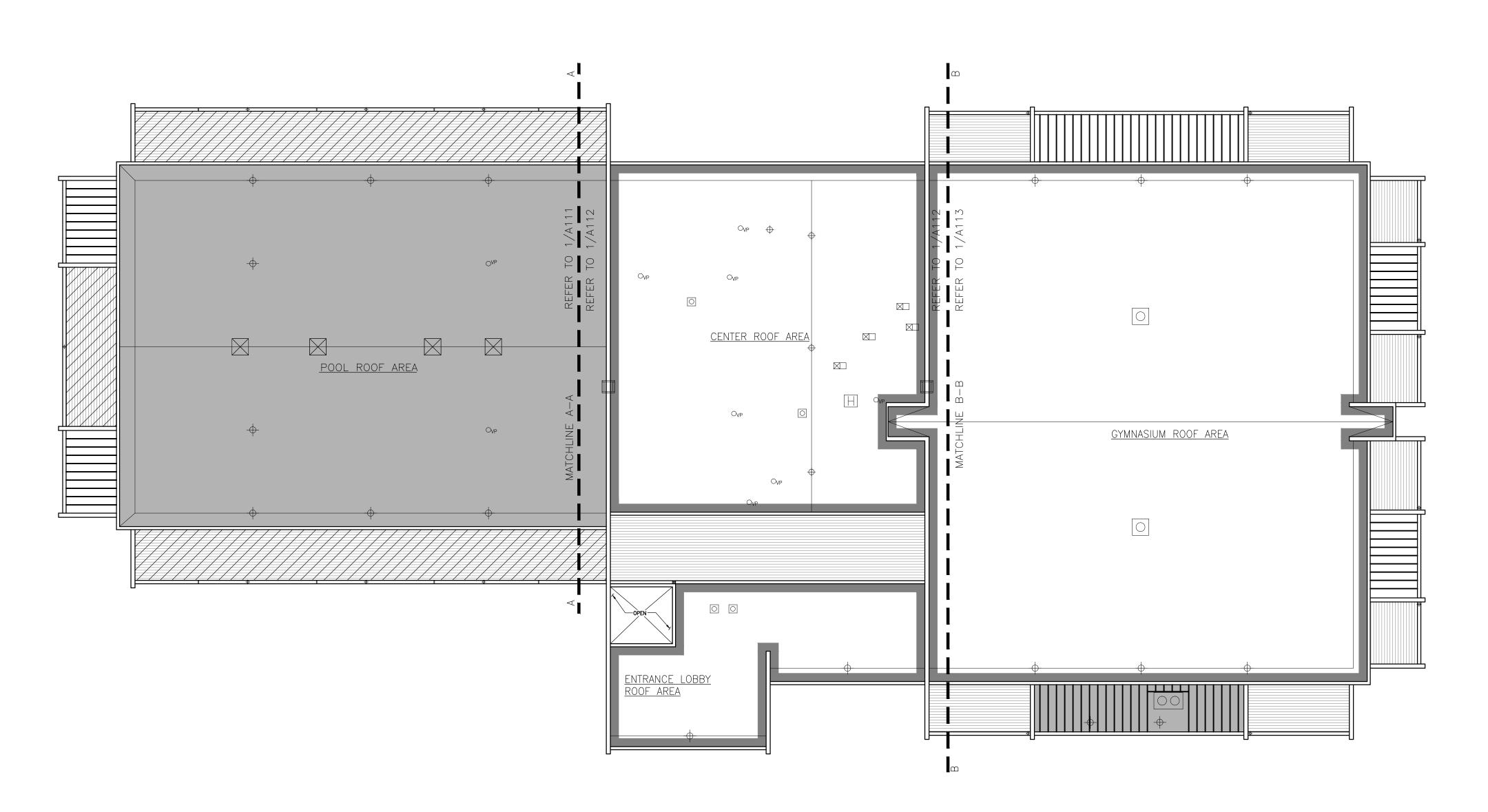
No. Date

# **PARTIAL FIRST FLOOR PLAN**

01/22/16 150049.01 AS NOTED Drawing No.



pared or approved by me, and that I am a du censed professional engineer under the lews the State of Maryland. License No. 15184 Exp. Deta: 8/2/17



1 ROOF PLAN - OVERALL

NOTE: INTERIOR ASSEMBLIES NOT SHOWN FOR CLARITY



1/16" = 1'-0"

# LEGEND

- EXTENT OF NATATORIUM
LOW-SLOPE ROOFING
REPLACEMENT; REFER TO 1/A530

- EXTENT OF LOW-SLOPE ROOFING MEMBRANE AND GRAVEL STOP REPLACEMENT; REFER TO 6/A530

- EXTENT OF STEEP-SLOPE ROOFING REPLACEMENT; REFER TO A531
- EXTENT OF CFMF. BEAM REPLACEMENT AT STEEP-SLOPE ROOFING; ASSUME 20% FOR FULL BEAM REPLACEMENT

- EXTENT OF WOOD TRELLIS; REFER TO STRUCTURAL DRAWINGS

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Consultant

Bid Set/County Response Set

Pricing/Permit Set

# PHYSICAL EDUCATION BLDG EXTERIOR RENOVATION MONTGOMERY COLLEGE GERMANTOWN CAMPUS

100% Design Development

Description

20200 OBSERVATION DRIVE GERMANTOWN, MD 20876

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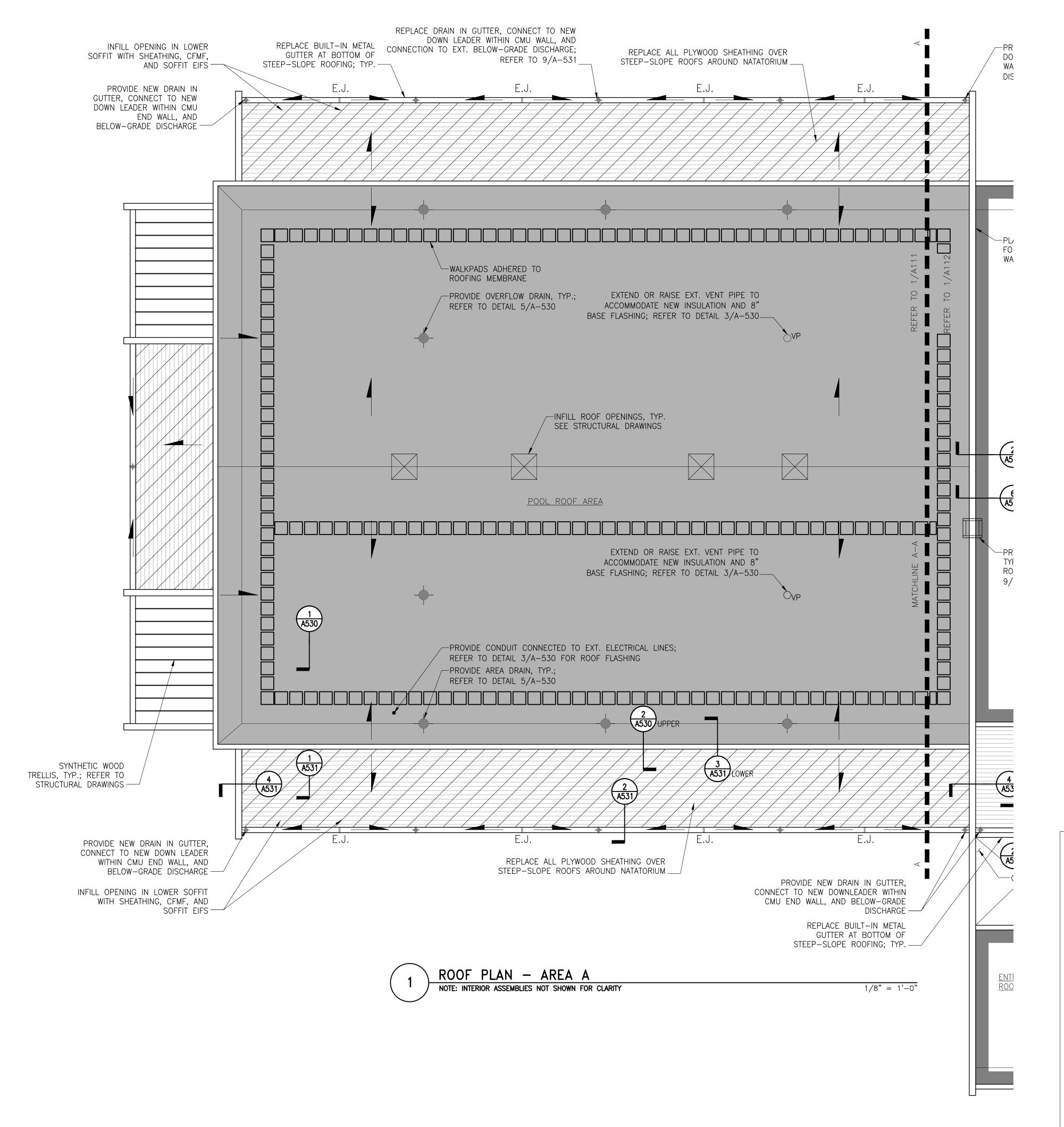
# OVERALL ROOF PLAN

Drawing Title

Project No	) <b>.</b>	Checked		Date
150049	.01	PKF		01/22/1
Drawn	Drawn		Approved	
BSR	****	DSS		AS NOTE
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A110



GENERAL SCOPE OF WORK SHOWN ON THIS DRAWING:

Note: Coordinate this work with the surrounding work, related trades, and miscellaneous mechanical, electrical, and plumbing work required in these documents.

Natatorium Low-Slope Roof:

- 1. Replace in-kind deteriorated portions of the existing wood decking. Assume 520 SF (Approximately 5%) of the Natatorium roof deck will require replacement.
- 2. Provide new blocking around the roof perimeter to support the new roofing assembly.
- 3. Provide new roofing framing and sheathing over existing HVAC curbs and openings; refer to Structural Drawings.
- 4. Install new roof drains with extension flange to elevate drain bowl with new roof surface.
- 5. Provide a self—adhered membrane vapor retarder continuously over the existing roof deck; extend up parapets, penetrations and other curbs. Integrate with typical roof drains, penetrations, and perimeter conditions to
- 6. Provide multiple layers of adhered rigid insulation; build up insulation thickness to obtain R-30 (6 in. thick). Provide additional tapered insulation where required with slope to drain toward internal drains (1/4)in. per ft min.).
- 7. Provide 1/2 in. thick cover board, set in adhesive.
- 8. Provide a 3 ply adhered modified bitumen roofing assembly with a granular cap sheet and base flashings. Integrate with typical roof drains, penetrations, and perimeter conditions to form continuous roofing system and water tight barrier.
- 9. Provide new metal coping and gravel stop around roof perimeter. Provide new metal counterflashings and penetration flashings.
- 10. Provide walkpads where shown on the drawings.

Steep-Slope Roofs

- 1. Replace plywood roof sheathing. Around the Natatorium, replace the bottom section of cold—formed metal framing (CFMF) over the lower soffit at all locations (see Structural Drawings). Assume additional ext. beams will be deteriorated and require complete replacement at 20% of the steep—sloped roof areas in addition to the lower soffits. See Structural Drawings for additional information.
- 2. Replace or provide new unfaced fiberglass batt insulation between the existing CFMF roof rafters (min R—19) where structural repairs are
- Provide new self—adhered membrane underlayment over the plywood decking and in the built—in gutter. Integrate with the surrounding parapets, built—in gutter drain and downleader, backup wall air/vapor barrier on rising walls, and perimeter coping to form a watertight air and vapor barrier.
- 4. Install a structural insulated panel (SIP) with 4 in. minimum insulation laminated to 5/8 in. thick plywood sheathing (R-20 minimum). Mechanically attach SIP panels to the plywood decking over the CFMF beams. Install low—rise closed cell spray foam where required at edges, joints, and voids in the SIP panels to provide a continuous thermal
- 5. Provide self—adhered underlayment and one layer of 15# felt underlayment over the SIP panels; integrate self—adhered membrane and felt underlayment with new perimeter metal flashings at built—in gutter, rising walls, and copings to form a continuous watertight barrier.
- 6. Install new synthetic clay tiles with a minimum 3 in. head lap; provide roof tiles with width and exposure sized to match existing clay tiles in

Proposed Schedule:

Natatorium Walls July 2016 Natatorium Roof (Low-Slope) - August 2016 Natatorium Roof (Steep-Slope) July 2016

- August 2016 Windows Classroom Walls Around Windows — August 2016

Office Walls Around Windows August 2016 October/November 2016 Gymnasium Walls

- December 2016 Gymnasium Roofs Substantial Completion - August 2017

LEGEND

 EXTENT OF NATATORIUM LOW-SLOPE ROOFING REPLACEMENT; REFER TO 1/A530

- EXTENT OF LOW-SLOPE ROOFING MEMBRANE AND GRAVEL STOP REPLACEMENT; REFER TO 6/A530

- EXTENT OF STEEP-SLOPE ROOFING REPLACEMENT; REFER TO A531 - EXTENT OF C.F.M.F. REPLACEMENT AT NATATORIUM STEEP-SLOPE

ROOFING (ASSUME 20%) - PROVIDE NEW ROOF DRAIN AND CONNECTION TO EXT. PLUMBING

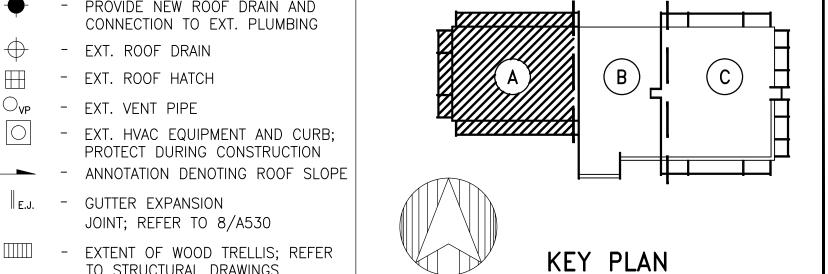
- EXT. ROOF DRAIN

- EXT. ROOF HATCH EXT. VENT PIPE

- EXT. HVAC EQUIPMENT AND CURB: PROTECT DURING CONSTRUCTION

E.J. - GUTTER EXPANSION JOINT: REFER TO 8/A530

- EXTENT OF WOOD TRELLIS; REFER TO STRUCTURAL DRAWINGS



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Security Consultant

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7	01/22/16	Bid Set County Response Set	
	11/20/15	Pricing/Permit Set	
	08/28/15	100% Design Development	
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## PHYSICAL EDUCATION BLDG **EXTERIOR RENOVATION** MONTGOMERY COLLEGE **GERMANTOWN CAMPUS**

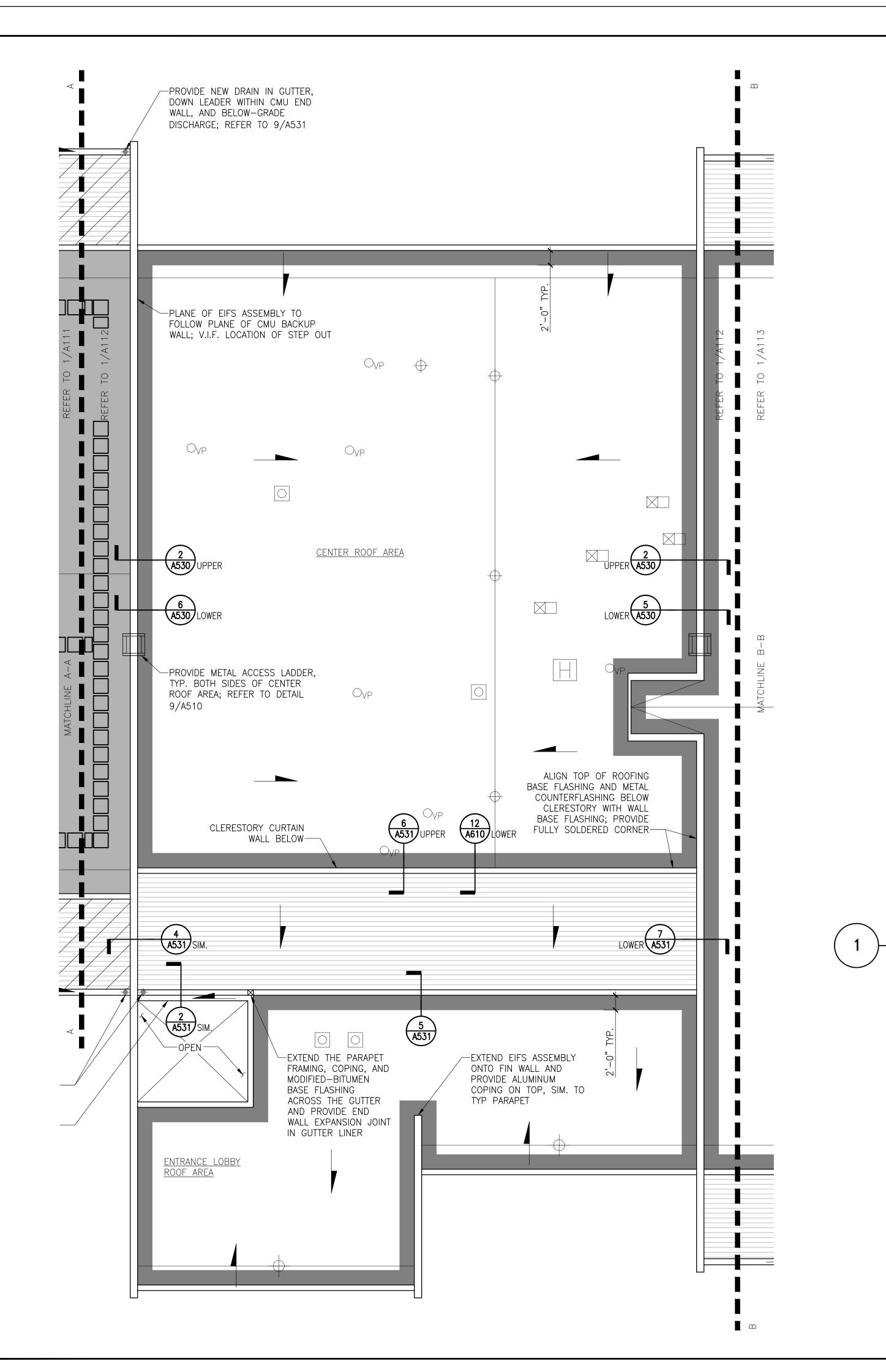
20200 OBSERVATION DRIVE GERMANTOWN, MD 20876

PARTIAL ROOF PLAN

01/22/16 150049.01 AS SHOWN Drawing No.



pared or approved by me, and that I am a du censed professional engineer under the lews the State of Maryland. License No. 15184 Exp. Deta: 8/2/17



GENERAL SCOPE OF WORK SHOWN ON THIS DRAWING:

Note: Coordinate this work with the surrounding work, related trades, and miscellaneous mechanical, electrical, and plumbing work required in these documents.

Central and Gymnasium Roof Areas:

1. Provide new blocking around the roof perimeter to support the new roofing assembly, where necessary.

2. Provide a self—adhered membrane vapor retarder continuously over the existing roof deck; extend up parapets. Integrate with typical roof drains, penetrations, and perimeter conditions to form an air seal.

3. Provide multiple layers of rigid insulation with 1/2 in. thick cover board on top of insulation. Set all layers in adhesive; build up insulation and cover board thickness to match existing insulation thickness with slope to drain toward internal drains (1/4 in. per ft).

4. Provide a 3 ply adhered modified bitumen roofing assembly with a granular cap sheet and base flashings. Integrate with adjacent existing roofing assembly and perimeter conditions to form continuous roofing system and water tight barrier as shown on the Drawings.

5. Provide new metal coping and gravel stop around roof perimeter. Provide new metal counterflashings.

6. Provide new metal roof access ladders from the low roof up to the Natatorium and Gymnasium roofs. Anchor access ladders to the exterior wall; do not penetrate roofing membrane.

#### Steep-Slope Roofs

1. Replace plywood roof sheathing. Around the Natatorium, replace the bottom section of cold-formed metal framing (CFMF) over the lower soffit at all locations (see Structural Drawings). Assume additional ext. beams will be deteriorated and require complete replacement at 20% of the steep—sloped roof areas in addition to the lower soffits. See Structural Drawings for additional information.

2. Replace or provide new unfaced fiberglass batt insulation between the existing CFMF roof rafters (min R—19) where structural repairs are

Provide new self-adhered membrane underlayment over the plywood decking and in the built—in gutter. Integrate with the surrounding parapets, built—in gutter drain and downleader, backup wall air/vapor barrier on rising walls, and perimeter coping to form a watertight air and

4. Install a structural insulated panel (SIP) with 4 in. minimum insulation laminated to 5/8 in. thick plywood sheathing (R-20 minimum). Mechanically attach SIP panels to the plywood decking over the CFMF beams. Install low-rise closed cell spray foam where required at edges, joints, and voids in the SIP panels to provide a continuous thermal

5. Provide self—adhered underlayment and one layer of 15# felt underlayment over the SIP panels; integrate self—adhered and felt underlayment with new perimeter metal flashings at built—in gutter, rising walls, and copings to form a continuous watertight barrier.

Install new synthetic clay tiles with a minimum 3 in. head lap; provide roof tiles with width and exposure sized to match existing clay tiles in

#### Proposed Schedule:

Natatorium Walls July 2016 - August 2016 Natatorium Roof (Low-Slope)

Natatorium Roof (Steep-Slope) July 2016 Windows - August 2016 Classroom Walls Around Windows — August 2016

Office Walls Around Windows August 2016 October/November 2016 Gymnasium Walls

- December 2016 Gymnasium Roofs Substantial Completion - August 2017

ROOF PLAN - AREA B NOTE: INTERIOR ASSEMBLIES NOT SHOWN FOR CLARITY

1/8" = 1'-0"

## LEGEND

- EXTENT OF NATATORIUM LOW-SLOPE ROOFING

REPLACEMENT; REFER TO 1/A530 - EXTENT OF LOW-SLOPE ROOFING MEMBRANE AND GRAVEL STOP REPLACEMENT; REFER TO 6/A530 - EXTENT OF STEEP-SLOPE ROOFING REPLACEMENT; REFER TO A531

- EXTENT OF C.F.M.F. REPLACEMENT AT NATATORIUM STEEP-SLOPE ROOFING (ASSUME 20%) - PROVIDE NEW ROOF DRAIN AND

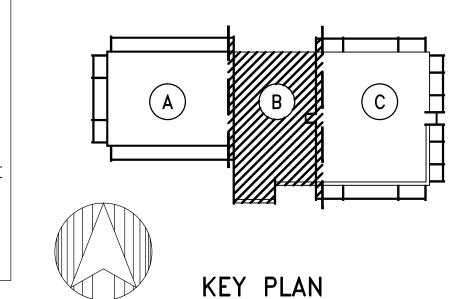
CONNECTION TO EXT. PLUMBING

- EXT. ROOF DRAIN EXT. ROOF HATCH

 EXT. VENT PIPE - EXT. HVAC EQUIPMENT AND CURB;

PROTECT DURING CONSTRUCTION - ANNOTATION DENOTING ROOF SLOPE E.J. - GUTTER EXPANSION JOINT; REFER TO 8/A530

- EXTENT OF WOOD TRELLIS: REFER TO STRUCTURAL DRAWINGS



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Fairfax, VA 22031 703.560.2200

Consultant

Security

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S 

Bid Set (County Response Set ) Pricing/Permit Set 100% Design Development Description

## PHYSICAL EDUCATION BLDG **EXTERIOR RENOVATION** MONTGOMERY COLLEGE GERMANTOWN CAMPUS

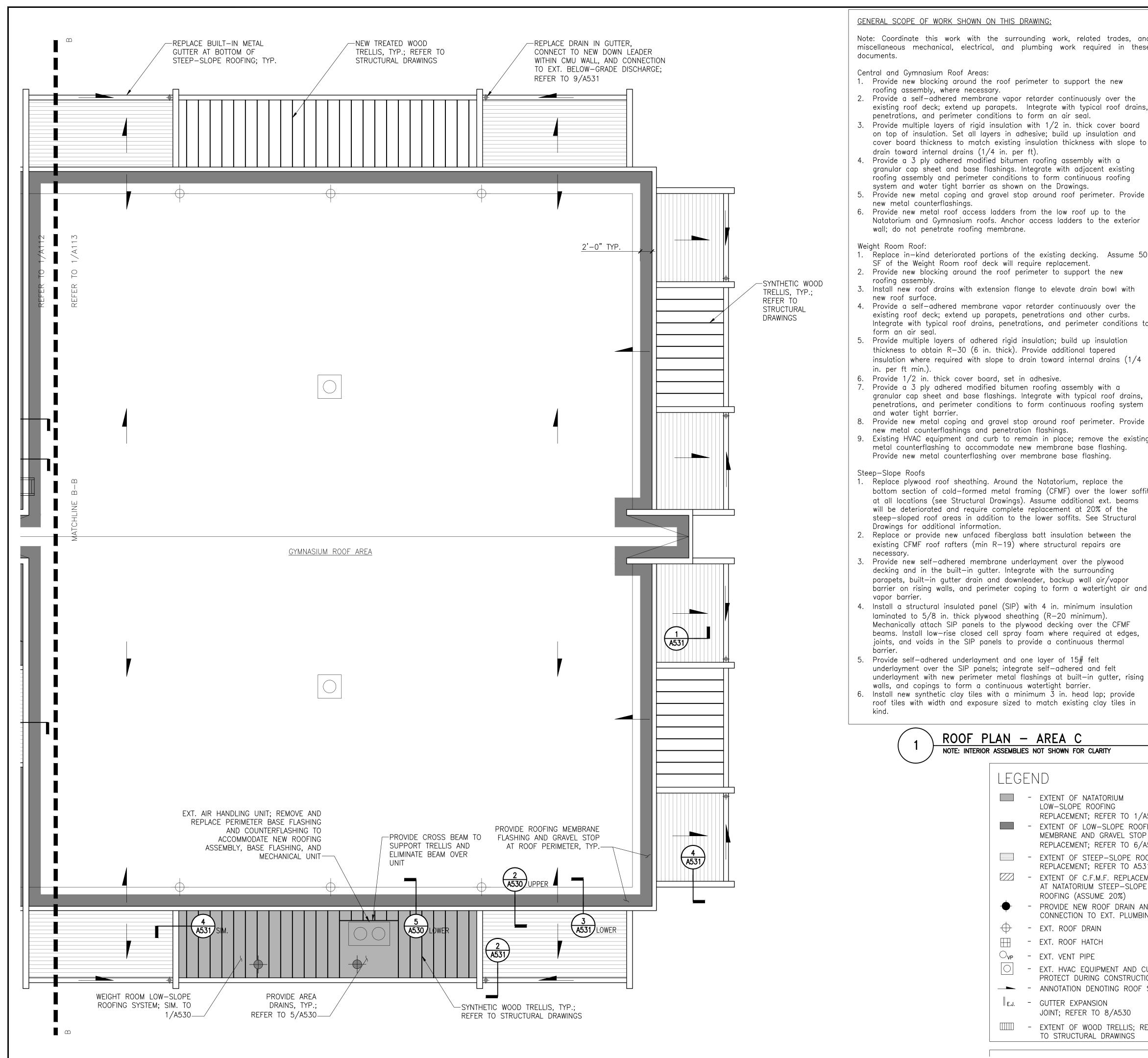
20200 OBSERVATION DRIVE GERMANTOWN, MD 20876

PARTIAL ROOF PLAN

01/22/16 150049.01 Approved AS SHOWN Drawing No.



pared or approved by me, and that I am a du censed professional engineer under the lews the State of Maryland. License No. 15184 Exp. Deta: 8/2/17



#### GENERAL SCOPE OF WORK SHOWN ON THIS DRAWING:

Note: Coordinate this work with the surrounding work, related trades, and miscellaneous mechanical, electrical, and plumbing work required in these documents.

Central and Gymnasium Roof Areas:

1. Provide new blocking around the roof perimeter to support the new roofing assembly, where necessary.

- 2. Provide a self-adhered membrane vapor retarder continuously over the existing roof deck; extend up parapets. Integrate with typical roof drains, penetrations, and perimeter conditions to form an air seal.
- 3. Provide multiple layers of rigid insulation with 1/2 in. thick cover board on top of insulation. Set all layers in adhesive; build up insulation and cover board thickness to match existing insulation thickness with slope to drain toward internal drains (1/4 in. per ft).
- 4. Provide a 3 ply adhered modified bitumen roofing assembly with a granular cap sheet and base flashings. Integrate with adjacent existing roofing assembly and perimeter conditions to form continuous roofing system and water tight barrier as shown on the Drawings.
- new metal counterflashings. 6. Provide new metal roof access ladders from the low roof up to the Natatorium and Gymnasium roofs. Anchor access ladders to the exterior

#### Weight Room Roof:

- 1. Replace in-kind deteriorated portions of the existing decking. Assume 50 SF of the Weight Room roof deck will require replacement. 2. Provide new blocking around the roof perimeter to support the new
- roofing assembly. 3. Install new roof drains with extension flange to elevate drain bowl with new roof surface.
- 4. Provide a self-adhered membrane vapor retarder continuously over the existing roof deck; extend up parapets, penetrations and other curbs. Integrate with typical roof drains, penetrations, and perimeter conditions to form an air seal.
- Provide multiple layers of adhered rigid insulation; build up insulation thickness to obtain R-30 (6 in. thick). Provide additional tapered insulation where required with slope to drain toward internal drains (1/4 in. per ft min.).
- 6. Provide 1/2 in. thick cover board, set in adhesive.
- Provide a 3 ply adhered modified bitumen roofing assembly with a granular cap sheet and base flashings. Integrate with typical roof drains, penetrations, and perimeter conditions to form continuous roofing system and water tight barrier.
- 8. Provide new metal coping and gravel stop around roof perimeter. Provide new metal counterflashings and penetration flashings.
- 9. Existing HVAC equipment and curb to remain in place; remove the existing metal counterflashing to accommodate new membrane base flashing. Provide new metal counterflashing over membrane base flashing.

#### Steep-Slope Roofs

- 1. Replace plywood roof sheathing. Around the Natatorium, replace the bottom section of cold—formed metal framing (CFMF) over the lower soffit at all locations (see Structural Drawings). Assume additional ext. beams will be deteriorated and require complete replacement at 20% of the steep—sloped roof areas in addition to the lower soffits. See Structural Drawings for additional information.
- 2. Replace or provide new unfaced fiberglass batt insulation between the existing CFMF roof rafters (min R-19) where structural repairs are necessary.
- Provide new self—adhered membrane underlayment over the plywood decking and in the built—in gutter. Integrate with the surrounding parapets, built—in gutter drain and downleader, backup wall air/vapor barrier on rising walls, and perimeter coping to form a watertight air and vapor barrier.
- 4. Install a structural insulated panel (SIP) with 4 in. minimum insulation laminated to 5/8 in. thick plywood sheathing (R-20 minimum). Mechanically attach SIP panels to the plywood decking over the CFMF beams. Install low-rise closed cell spray foam where required at edges, joints, and voids in the SIP panels to provide a continuous thermal
- 5. Provide self—adhered underlayment and one layer of 15# felt underlayment over the SIP panels; integrate self-adhered and felt underlayment with new perimeter metal flashings at built-in gutter, rising walls, and copings to form a continuous watertight barrier.
- 6. Install new synthetic clay tiles with a minimum 3 in. head lap; provide roof tiles with width and exposure sized to match existing clay tiles in

#### Proposed Schedule:

Natatorium Walls July 2016 Natatorium Roof (Low-Slope) August 2016 July 2016 Natatorium Roof (Steep-Slope)

- August 2016 Windows Classroom Walls Around Windows — August 2016 Office Walls Around Windows - August 2016 Gymnasium Walls

October/November 2016 Gymnasium Roofs - December 2016 August 2017 Substantial Completion

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Consultant

Bid Set (County Response Set ) Pricing/Permit Set 100% Design Development Description

S

PHYSICAL EDUCATION BLDG **EXTERIOR RENOVATION** MONTGOMERY COLLEGE GERMANTOWN CAMPUS 20200 OBSERVATION DRIVE

GERMANTOWN, MD 20876

1/8" = 1'-0"

PARTIAL ROOF PLAN

Checked PKF 01/22/16 150049.01 Approved AS SHOWN Drawing No.



pared or approved by me, and that I am a du censed professional engineer under the lews the State of Maryland. License No. 15184 Exp. Deta: 8/2/17

ROOF PLAN - AREA C NOTE: INTERIOR ASSEMBLIES NOT SHOWN FOR CLARITY

> LEGEND - EXTENT OF NATATORIUM LOW-SLOPE ROOFING REPLACEMENT; REFER TO 1/A530 - EXTENT OF LOW-SLOPE ROOFING MEMBRANE AND GRAVEL STOP REPLACEMENT; REFER TO 6/A530 - EXTENT OF STEEP-SLOPE ROOFING REPLACEMENT; REFER TO A531 - EXTENT OF C.F.M.F. REPLACEMENT AT NATATORIUM STEEP-SLOPE

ROOFING (ASSUME 20%) - PROVIDE NEW ROOF DRAIN AND CONNECTION TO EXT. PLUMBING

- EXT. ROOF DRAIN

EXT. ROOF HATCH EXT. VENT PIPE

EXT. HVAC EQUIPMENT AND CURB; PROTECT DURING CONSTRUCTION

∥E.J. - GUTTER EXPANSION

- EXTENT OF WOOD TRELLIS; REFER TO STRUCTURAL DRAWINGS

KEY PLAN

- ANNOTATION DENOTING ROOF SLOPE JOINT; REFER TO 8/A530