BALTIMORE COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
DIVISION OF CONSTRUCTION CONTRACTS ADMINISTRATION
111 WEST CHESAPEAKE AVENUE
TOWSON, MARYLAND 21204

Contract No. 24111 PP0
Project No. 300200006
Wilkens Police Precinct New Building (Leed Silver Certification) –
901 Walker Avenue, Catonsville, Maryland 21228
Catonsville – District 1c1

ADDENDUM NO. 5

DATE: 11/10/2025

Contact: Anthony Crews, 410-887-3531, tcrews@baltimorecountymd.gov

To All Bidders

This addendum is hereby made a part of the Proposal and the Special Provisions, and is hereby incorporated into the Contract. Should this addendum conflict with any portion of the Special Provisions, the Proposal, or any prior addenda, this addendum shall supersede and control.

Please note the attached changes, corrections, and/or information in connection with the contract and submit bids and be otherwise governed accordingly.

For Your Information

Attached are questions and answers.

In the Specifications

Revised and attached to be inserted: Revised pages 44-48, 59-61, 376-385, 524-534, 539-543, 544-552, 745-756, 946-991, 1338-1345, 1346-1367 & 1848-1858. Delete the old pages. Sections are described herein.

In the Proposal

Revised and attached to be inserted: Page 2015, Description of Work, changing the bid date **to** Thursday, November 20, 2025 @ 10:45 A.M. EST. **from** Thursday, November 13, 2025 @ 10:45 A.M. EST. via Webex.

In the Drawings

Revised and attached to be inserted: 63 Revised drawings. Drawing numbers and sheets described herein.

Attachments – 225

Please sign below acknowledging receipt of this addendum and return with your bid.

Company Name _____ **Signature** _____

Murphy & Dittenhafer
ARCHITECTS

Addendum No. 5

November 10, 2025

Wilkens Police Precinct New Building (24111 PP0)

901 Walker Avenue, Catonsville, Maryland 21228.
This Addendum is hereby made part of the 100% Construction Documents dated June 19, 2025 (Project Manual and Drawings) for the above referenced project.

The provisions of this Addendum are intended to supplement and/or supersede the provisions of the Construction Documents only where contrary thereto.

This Addendum contains changes to the requirements of the Project Manual. Such changes shall be incorporated into the Construction Documents and shall apply to work with the same meaning and force as if they had been included in the original Documents. Whenever this Addendum modifies a portion of a paragraph of the Project Manual, the remainder of the paragraph affected shall remain in force.

The conditions and terms of the basic Specifications shall govern work described in this Addendum. Whenever the conditions of work, and the quality or quantity of materials, or workmanship are not fully described in this Addendum, the conditions of work, etc., included in the basic Specifications for similar items of work shall apply to the work described in this Addendum.

If no similar items of work are included in the basic Specifications, the best quality of material and workmanship shall apply and all work shall be subject to the written acceptance of the Architect.

GENERAL ITEMS

Responses to solicitations received prior to the issuance of this addendum are as follows:

1. ***Question:*** *Does the County have a relocation plan for the police precinct including egress to/from old building to new building? If so, please provide and advise does the plan require ADA parking in the temporary parking area?*
   Response: *See attached EX1.00 depicting the ADA parking in the temporary lot.*

2. ***Question:*** *Per Drawing A-407, Fitness Equipment Schedule - please advise if this equipment is OFE or to be provided by GC. If so, please provide specifications.*
   Response: *Fitness Equipment is furnished and installed by Contractor. A-407 is revised to provide BOD information. See attached drawing revisions for model number and brand. Additional specifications will not be provided.*

3. ***Question:*** *The drawings reference door reader/IDH and door contacts as part of security. What security devices (if any) are the GC responsible for providing? Also, what portion of security is GC to provide?*
   Response: *Refer to Item 4, Responsibility Matrix on revised sheet TA002, attached. Provide Infrastructure per TA500 series drawings.*

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4. ***Question:*** *Drawing P001 includes Radon Mitigation System Project Notes stating "Owner/Contractor" shall engage services of a third party radon design consultant …". Who's is responsible for engaging the radon design consultant and costs of engagement? Please confirm costs for engagement, design, and installation of radon mitigation piping, controls, labeling, and documentation will be at the owner's expense, allowance, or change order? If by allowance, please specify amount of allowance.*
Response: *The Contractor is responsible.*

5. ***Question:*** *Note 4 of Drawing AD-100 states "4. CARE SHOULD BE EXERCISED IN THE REMOVAL OF WORK TO PREVENT THE RELEASE OF TOXIC SUBSTANCES. SHOULD TOXIC SUBSTANCES, SUCH AS ASBESTOS BE ENCOUNTERED, THE OWNER AND ARCHITECT SHALL BE NOTIFIED. UPON AUTHORIZATION, THE DISPOSAL OF SAME SHALL CONFORM TO ALL GOVERNING CODES AND REGULATIONS. DISPOSAL SHALL BE DONE ONLY BY CONTRACTORS LICENSED FOR THIS WORK." for the purposes of this bid should we assume asbestos is not present and if encountered, handle as a future change order?*
Response: *No. Refer to the Hazardous Materials Reports in the Appendix C & D that were issued as Addendum 4, dated 10/31/25. Also, refer to spec 02 81 00 Transportation and Disposal of Hazardous Materials.*

6. ***Question:*** *Has an abatement survey been performed? If not, when will a abatement survey be performed and who's responsibility is selection of surveyor and cost of surveyor?*
Response: *Refer to the Hazardous Materials Reports in the Appendix C & D that was issued as Addendum 4, dated 10/31/25.*

7. ***Question:*** *On page 1354, Specification 23 13 00 indicates a concrete above ground fuel oil storage tank as an alternative. Where should we provide this alternate pricing? There is not an alternate line item on the bid form.*
Response: *Specification 23 13 00 is revised to remove this alternate: See attached revised Specification 23 13 00.*

8. ***Question:*** *The CT-2 Finish, Simpatico Cube LWT02 11224CUBG White 12"x24", dropped out per the supplier and is offering a new product that is similar. I have attached both product fliers for your review. Please let us know which one to use.*
Response: *There will be no substitutions evaluated during the Bidding Phase.*

9. ***Question:*** *Is there any petroleum tank related work associated with this procurement?*
Response: *Yes, see Drawings P202 & P705 and 23 12 13 Facility Fuel Oil Pumps & 23 13 00 Facility Fuel Storage Tanks.*

10. ***Question:*** *The Specs call out the appropriate sections for the LV Systems but then the Drawings have a Low Voltage Systems Responsibility Matrix that shows all of those Div 27 and Div 28 Systems will be by owner which is the Baltimore County Government vs the Chosen GC. Is this matrix on the drawings accurate or do those systems like the Structured cabling need to be a part of the submitted bid and if it is by owner how are those systems coming out for bid then?*
Response: *The Matrix is accurate, refer also to TA500 series for Contractor Provided Infrastructure.*

11. ***Question:*** *Please confirm whether the BMS is intended to operate as a standalone system, or if it is designed to be integrated with an existing Baltimore County front-end platform. If integration is possible, kindly specify which system(s) the BMS is compatible with.*
Response: *The BMS shall be integrated with the county central Metasys BMS. Refer to "BAS Connection to County Metasys" on M001.*

12. ***Question:*** *The door hardware specification does not mention the exact model number or manufacturer required for each door. It only states "by HDW contractor." To ensure a fair bid and consistency, please provide the exact model numbers for the hardware required for each door.*
Response: *Door hardware exact model numbers are to be provided by the subcontractor complying with the approved manufacturers under 2.1 and meet requirements under 2.2 Materials, 2.3 Finish, and 2.4 Keys and Keying. The county standard models are listed within the hardware sets, where "By HDW Contractor" the documents expect that the bidder provides a competitive model complying with the requirements in the specifications.*

13. ***Question:*** *On drawing A-604, window elevation W1 is specified with glass type GL-1, with GL-3 noted as an alternate. However, the wall section shows window type W1 as requiring a ballistic rating. Please advise the base bid type for window W1.?*
Response: *W1, the typical second floor window, is base bid GL-1. Add alternate #2, adds LVL5 ballistic rated glazing and frames specified as GL-3.*

14. ***Question:*** *For elevations requiring GL-9 and GL-7 type glass, please confirm the type of framing needed. Can this framing be the same as the interior storefront?*
Response: *See attached revised sheet A605 for interior glazing. The framing for GL-7 and GL-9 are both hollow metal frames. There is a label at the top of this sheet "Hollow Metal Storefront Types", HM frames are typical.*

15. ***Question:*** *On A-604, elevation W3, the storefront requires ballistic resistance, while the storefront on the knee wall is non-ballistic. Does the non-ballistic portion need to use the same system from the ballistic manufacturer, or can there be a separation between the two systems, allowing the use of a regular aluminum storefront system at this location?*
Response: *This glazing elevation can be split into two separate systems.W3 has been broken into W3A and W3B to delineate the ballistic from non-ballistic framing. See attached revised sheet A604.*

16. ***Question:*** *Please provide Attachments C & D for the Hazardous Material Abatement.*
Response: *Refer to Addendum 4, dated 10/31/25.*

17. ***Question:*** *Specifications 08 41 13 – 2.9,10. There is a provision regarding the clear anodized finish for the framing, paragraph, 2.10C, requiring a field testing for the clear anodized finish. This is a proprietary item for YKK and eliminates all other manufacturers. No one else offers this with their anodized finishes. This should be removed from the specifications, unless the architect only wants YKK for the project. Please clarify if this should be removed or not.*
Response: *This paragraph is revised to delete 2.10C from 08 41 13. The intent is to keep the specification open, see attached revised specification.*

18. ***Question:*** *There are two separate bullet resistant specifications sections (084333 and 084333.13), with the similar Section numbers, but with a different name and specifications. Should one of these be eliminated to avoid confusion? If they are both to be part of the documents, which specification section applies to which openings, as both address the same type of openings and the alternate?*
Response: *Specification 08 43 33 is deleted from the project manual, see the attached revised Table of Contents. Related to the first question, paragraph 2.4.C is deleted. See attached revised specification 08 43 33.13.*

19. ***Question:*** *Doors 001 and 100C are contained within the same running opening, see A208, Elevation 1: Wing A Northwest Elevation. Per the door schedule and elevations this opening for the doors and frames are to meet a level 5 rating for the doors and the adjacent sidelites. The transom areas are called out as having standard 1" insulated glass. It is assumed that the intent is for the transom areas to include the bullet resistant framing but glaze it with standard insulated*

glass. See frame elevations for W2 and W3 on drawing A604 for clarification of the elevations and glazing requirements. Please confirm this understanding is correct.
Response: *Doors 001 and 100C are both exterior doors with transom and are to be glazed with GL-4 as base bid, see Add Alternate #1. GL-1 is to be used in the ballistic frame system where shown in the transom. The attached door schedule on A-602 is revised to clarify glazing.*

20. ***Question:*** *For the same openings on Storefront 001 (A604), W2 and W3, the door schedule calls out for the level 5 bullet resistant rating, which requires Type GL-3 glazing, but the elevations indicate the use on Type GL-4 glazing, which is Level 3. Please clarify which type should be used.*
Response: *Doors 001 and 100C, which are both exterior doors are to be glazed with GL-4 as base bid*. See the attached revised *door schedule on A-602, revised to match the base bid drawing A-604. Also note that Alternate #1 will apply to both as noted on A-604*

21. ***Question:*** *Interior entrance 002A – frame Type S1 is shown on the door schedule as standard aluminum storefront, no bullet resistant rating noted. When looking at the door and frame elevation, on drawing A605, it is listed under the hollow metal doors and frame elevations and calls out for a Level 3 bullet resistant rating and being glazed with GL-4 glazing for the doors and adjacent sidelites. The transom area is to be glazed with standard 1" insulated glass. Please provide clarifications for this opening: Is the opening to be aluminum or hollow metal and does it need to be bullet resistant?*
Response: *S-1 is to be glazed with Level 3, GL-4. The transom is to be the standard 1" insulated glazing, GL-1. The frame to be aluminum and was located on the sheet in the wrong area, see revised A-605 attached.*

22. ***Question:*** *The Type W1 windows on the second floor are standard storefront with 1" insulated glazing. Under the alternate, they are being changed to a level 5 bullet resistant rating with GL-3 glazing. Is only the glazing being changed to the level 5 bullet resistant rating, or are the frames also going to change to a level 5 rating. If the frames are changing to a level 5 rated frame, what specification section should be used to determine the framing type to be used? Please provide clarification.*
Response: *The framing also needs to be changed to ballistic for the alternate and is covered under specification 084313.13.*

23. ***Question:*** *Due to the number of questions and RFI's being submitted, I assume there are many, will the owner consider an extension. There is no way the manufacturers will be able to respond with accurate pricing in time to bid the project on the 13th of November based on getting answers to all the RFI's on November 10, 2025, per the documents (addendum #1). I assume I will have more questions as I get further into the project, which is making me nervous with the cut of day for questions on November 3, 2025 @ 2:00*
Response: *The bid opening date has been extended to November 20, 2025 at 10:40am.*

24. ***Question:*** *General Clarification on what is in our Glazing scope, and what is in the Hollow Metal scope.*
Response: *See typical door frames in A-602, A-603, and Interior glazing under the heading "HOLLOW METAL STOREFRONT TYPES" on A-605, see revised on A-605 attached.*

25. ***Question:*** *Sheet A-604; the top notes "All framing to be 3-3/4" depth, unless otherwise noted", we take this to mean Ballistic Lvl 3 as stated on the Glazing Types chart. The ribbon section of W-3 is noted as being "Non-Ballistic" (standard Storefront), but frames W-4, W-5, W-6, and W-1 do not note either. Our assumption (based on glass choice) is that they are to be standard storefront as described in the specifications. Please confirm that this is the case.*
Response: *See revised A604, A605, A606 and revised specifications 084113, & 084333.13 attached.*

26. ***Question:*** *Sheet A-605; The heading states "Hollow Metal Storefront Types". However S-1 appears to be similar to W-2, and our assumption would be to include that under our scope. Please confirm.*
Response: *S-1 is an aluminum system and was located on the sheet in the wrong area; this has been revised on attached sheet A-605.*

27. ***Question:*** *Sheet A-605; What scope has S-2? Our assumption would be the same manufacturer as the rest of the ballistic glazing.*
Response: *See specification 08 56 69- BULLET RESISTANT ALUMINUM TRANSACTION WINDOWS.*

28. ***Question:*** *Bullet-Resistant Aluminum transaction Window Spec; lists "Add alternate No. 1", which calls for upgrading "Exterior" storefront to level 5, does this also include the interior transaction window?*
Response: *Yes, it includes the transaction window.*

29. ***Question:*** *Sheet A-605; frames S-3,4,5,7,8,9 are the glazers providing glass only?*
Response: *These are all hollow metal frames with glass. GC to determine which subs are providing which.*

30. ***Question:*** *Sheet A-605; frames S-6,10,11 (impact security glazing) is glass provided by system manufacturer, and who's scope does this belong to?*
Response: *These are all hollow metal frames with glass. GC to determine which subs are providing which.*

31. ***Question:*** *Sheet A-605 / Aluminum Storefront Spec; Frame S-12, Kawneer 400 is discontinued, 450 would be our recommendation.*
Response: *If Kawneer 400 is not available then 450 is acceptable.*

32. ***Question:*** *Sheet A-602; Door 002A is listed as Alum, while Frame S-1 is under hollow metal. Similarly, Door 003 is listed as HM, while frame W-5 is under alum storefront.*
Response: *None of these doors have glass lites; see attached revised door schedule on A-602.*

33. ***Question:*** *Sheet A-602; Stairwell Doors S01A, S01C, S02A, S02C, do not have door or frame material, DR-1 but do note GL-5, please advise?*
Response: *See attached revised door schedule on A-602.*

34. ***Question:*** *Sheet A-602; Doors with GL-X (glass) in the Comments Column, but door type that doesn't include glass (EX: DR-1): 006, 135A, 136, 140A, 140B, 140C.*
Response: *These are all HM, the information that was missing was added into the schedule, see revised A-602.*

35. ***Question A:*** *Is that vertical slip connection in there because they think we need it for our system? Or is it in there because it is required by the steel system?*
Response A: *Vertical slip connections are required where indicated on the structural drawings. They are used to accommodate differential movement between floors. The RFI question does not provide enough context or specifics to properly evaluate and respond.*

Question B: *The specification called for windborne-debris-impact resistance. Is this required? They would have to modify the steel structure considerably to accommodate this requirement (7' oc.)*
Response B: *This project is not located in a wind-borne debris region as defined by IBC 2021 / ASCE 7-16. Impact-resistance glazing is not necessary to satisfy code. Removed 2.1.E., windborne impact requirements from specification 08 45 13, attached.*

36. ***Question:*** *Section 323119-2 (2.2) DEC FENCES & GATES - Calls for 10' OC Post Spacing The detail on Sheet L1.00 Calls for 8'OC Post Spacing. Please clarify and confirm post spacing.*

Response: *MRA: F2 fence posts should be spaced at max 10' O.C. as outlined in specification 32 31 19 2.2.A, in the hardscape key on L1.01, and in detail 1/L5.04. Please see attached revised sheet L1.00 with post spacing noted as 10' O.C. in the hardscape key.*

37. ***Question:*** *Can you please provide clarification on how the fence posts are to be set in the retaining wall? Details are very vague, and this happens to be very tall fence. Plz ask Engineer to clarify.*
Response: *Contractor to verify embedment depth with manufacturer for in-wall conditions per 5/C4.02. Where fence is at grade, follow detail 1/L5.04.*

38. ***Question:*** *The specifications clearly indicated the basis of design is Kawneer TriFab VG451T (2" X 4-1/2") for exterior locations and Kawneer TriFab 400 (1-3/4" X 4-1/2") for interior locations. Further the description in the specifications call for center set glazing. The detail sheet for the windows, sheet A-606, attached indicates all types of systems ranging from 4" deep to 6" deep, some are indicated as front set and some are detailed as center set. We are requesting for the architect to provide a schedule of what openings are to receive what framing. If a 6" system is required it would be Kawneer TriFab 601T, which has both center set and front set options?*

We cannot complete a take-off and request aluminum and glazing prices until this is rectified. This project is going to need to be extended as we are not going to receive pricing back in time based on all these questions
Response: *See attached revised specification 08 41 13 to clarify the exterior and interior aluminum framing. The requested schedule is now on revised sheet A605, attached. The exterior frames are to all have glazing front set (front plane). See attached revised typical window details on A-606.*

39. ***Question:*** *What is the wage rate for roofers? Or are we exempt? Do not see roofer listed.*
Response: *The roofer would be paid a basic wage of $52.11 and fringe of $14.91.*

40. ***Question:*** *Detention Hardware sets, 08 71 20: Can you clarify what it means "By HDW Contractor" on some parts of individual sets?*
Response: *Door hardware exact model numbers are to be provided by the subcontractor complying with the approved manufacturers under 2.1 and meet requirements under 2.2 Materials, 2.3 Finish, and 2.4 Keys and Keying. The county standard models are listed within the hardware sets, where "By HDW Contractor" the documents expect that the bidder provides a competitive model complying with the requirements in the specifications.*

41. ***Question:*** *Do you have a basis of design or specifications for the Electronic Mixing Station (EMS-1) shown on P701?*
Response: *See revised spec 220503 2.3Y. Basis of design Neptune EMX 075 MS. Comparable products from Watts and Leonard may be submitted for review as a comparable product.*

42. ***Question:*** *On drawing C4-01, drawing number 2024-1329 Sheet #16 of 302 On Site Detail for ADA parking area calls for 5" WHITE PAINTED striped lines. On C5-00 drawing number 2024-1331 sheet #18 of 302 in the striping and signage key letter D calls for 5" wide solid THERMOPLASTIC white line. Can you confirm if it is thermoplastic or paint?*
Response: *See attached Sheets C4.01 and C5.00 which have been revised to call for acrylic-based paint. This now corresponds to one of the options provided in spec section 32 17 23.*

43. ***Question:*** *The specifications for this project reference Appendices A through E as containing important supporting documentation, including the Phase I Environmental Site Assessment (Appendix A), the Geotechnical Report (Appendix B), the Hazardous Materials Reports for both the Main Precinct Building and the Annex Building (Appendices C and D), and the Existing Precinct Building Record Drawings (Appendix E). These documents are cited throughout the specifications as sources of information relevant to demolition, abatement, and coordination activities. Please confirm whether Appendices A through E were intentionally omitted from the*

contract documents. If they were not, could you advise on how we can obtain access to these documents or confirm where they are located?
Response: *Refer to Addendum 4, dated 10/31/25.*

44. ***Question:*** *How many days should be allocated in the project schedule to between the certificate of occupancy on the new building and ability to demolish the old building? Can we get occupancy on a Tuesday for the new and begin demolition the next day? Do these days count against the 669 calendar day durations after starting.*
Response: *Refer to section 1.6.A.6 of 01 10 00 - Summary of Work specification.*

45. ***Question:*** *Please provide specific details on the existing buildings to be demolished. Such as-built drawings, Steel, Masonry, Concrete Foundations, Slab thickness, etc.*
Response: *Refer to Addendum 4, dated 10/31/25.*

46. ***Question:*** *Please confirm when the 669 days project duration starts. Does it start prior to the April 2026 construction start?*
Response: *From the date of Notice to Proceed.*

47. ***Question:*** *Drawing CS-6 notes a temporary parking area and refers to C8.00. C8.00 notes Temp Gravel Parking Area. Please provide details on exact size of area, gravel type and thickness.*
Response: *The temp. gravel parking area is roughly 67' L x 20' W. The gravel shall be washed #57 stone with a minimum uniform thickness of 8" (after compaction).*

48. ***Question:*** *The LOD on C8.03 is shown to be directly adjacent to the front of new building at the main entrance as well as encompassing a large portion of the drive lane and parking lot behind the new building. How will the new building be occupied if the construction LOD is directly adjacent to it and the a large section of the parking lot is within the construction LOD.*
Response: *The LOD shown on C8.03 that is in the rear of the building is already permanently stabilized with pavement and is technically not being disturbed in the phase shown. For permitting purposes, the staging area was required to be shown on-site somewhere or else it would not be allowed on-site at all. The LOD had to be shown encompassing the staging area. If there is a better location within the LOD or offsite, that location can be worked out with the sediment control inspector.*

49. ***Question:*** *Specification 101400 - 5. Type 1: Interior Private Office Sign. Specs indicate to provide two signs per room. Please confirm Qty 1 or Qty 2 signs to be furnished and installed per location for 'Sign Type 1'*
Response: *See attached revised specification 10 14 00 to indicate 1 per room.*

50. ***Question:*** *Specification 101400 - 5. Type 2: Interior Private Office Sign. Specs indicate to provide two signs per room. Please confirm Qty 1 or Qty 2 signs to be furnished and installed per location for 'Sign Type 2'*
Response: *See attached revised specification 10 14 00 to indicate 1 per room.*

51. ***Question:*** *Specification 101400 - 5. Type 6: Wayfinding Blade Sign. Please clarify design intent on sign type 6, as two different sizes are provided.*
Response: *See attached revised specification 10 14 00 to clarify that this is an exit signage, the correct size, and the mounting.*

52. ***Question:*** *Specification 101400 - Please clarify attachment method for "Mounting: Wall"*
Response: *See attached revised specification 10 14 00.3.2 INSTALLATION for wall mounting method.*

53. ***Question:*** *Specification 101400 - 5. Type 6: Wayfinding Blade Sign. Description 9 specifies one mounting location, however, there are Qty 12 of these shown on sign location plan. Please clarify quanity.*

Response: *Provide 12 as indicated on plan.*

54. ***Question:*** *Please confirm quantity of Type 10 signage. Specifications indicate Qty 12, however, plan shows Qty 2.*
Response: *There will be a min. of 8 signs. See attached revised specification. Locations for the 8 are TBD.*

55. ***Question:*** *Please confirm quantity of Type 11A signage. Specification show Qty 4, however, plan shows Qty 3.*
Response: *Provide 4 per the specification. One at each door to the stair.*

56. ***Question:*** *Please confirm quantity of Type 11B signage. Specifications call for Qty 30, while plans show approx. 10.*
Response: *See attached revised specification, reduced to 10.*

57. ***Question:*** *Specification 101400 - 7. Signage type 11C floating tempered glass thickness not specified. Please confirm 3/8" thick non-glare acrylic w/ polished edges or state otherwise.*
Response: *See attached revised specification to note 3/8" tempered glass w/ polished edges.*

58. ***Question:*** *Specifications 101400 - 7-8. Signage types 12-15 do not specify size. Please clarify.*
Response: *See attached revised specification to give the size as 7"x10".*

59. ***Question:*** *Specification 101400 - 8. Please confirm quantity of Type 20 signage. Specifications indicate Qty 13, however, plan shows Qty 9.*
Response: *See attached revised specification to be reduced to 9.*

60. ***Question:*** *Sheet AD-100 indicated the presence of Toxic materials; however, no Hazmat report was found in the bidding documents. Please advise if there is hazmat/Abatement on those 2 floors broken out on the right side of the page. Or if there is any at all on the project.*
Response: *Refer to Addendum 4, dated 10/31/25.*

61. ***Question:*** *Could you please provide the complete specifications for the railings on Sheets A-424 and A-425? These railings appear to be designated for the fire stairs, but a detailed description is currently missing from the documentation.*
Response: *Refer to revised specification 05 73 00 attached.*

62. ***Question:*** *Door Schedule on Sheet A-602 shows several doors as type DR-15 which does not appear to exist in Door Elevations. Looking at some interior elevations, these look like DR-10. Please confirm, and that glass type is ¼" clear tempered at these doors.*
Response: *These are all DR-10 and have been revised on sheet A-602 attached.*

63. ***Question:*** *Please confirm that doors #001, 002A, 003, 100C, 224 are aluminum with aluminum frames and that all others are either hollow metal or wood.*
Response: *These are all aluminum.*

64. ***Question:*** *Please confirm that all frames on sheet A604 are either aluminum storefront or aluminum ballistic, no hollow metal.*
Response: *Confirmed these are all exterior aluminum frames.*

65. ***Question:*** *Please confirm that frames S-1, S-2 & S-12 are the only doors/frames on sheet A605 that are aluminum storefront or aluminum ballistic and that all others are hollow metal/wood storefront or hollow metal/wood ballistic storefront.*
Response: *See attached revised A-605 that clarifies which are hollow metal or aluminum.*

66. ***Question:*** *Door 100A has "Level 3 ballistic panel & GL-8". Does this mean panel at bottom lites and glass at top lites?*

Response: *This is a ballistic door and has ballistic glass. Not only the glass but the whole door and frame.*

67. ***Question:*** *Doors 006, 135A, 135C, 140A, 140B, 140C. is door type DR-1 & Frame type FR-1. No glass in either door or frame. Confirm that the door comment requiring GL-7 does not apply.*
Response: *No, these do not have glazing. See attached revised door schedule on A-602.*

68. ***Question:*** *Confirm that door 148 is to receive GL-2.*
Response: *Confirmed, follow the frame and door panel types where glazing is indicated.*

69. ***Question:*** *Doors S01A, S01C, S02A, and S02C require GL-5 1-hour fire-rated but don't have a frame type. Confirm frame type FR-3.*
Response: *FR-3 is correct, See attached revised door schedule on A-602.*

70. ***Question:*** *Specification section 084113 and section 084333 show 2 different finishes, 3 Coat 70% Kynar at doors and Clear Anodized at frames. Is this intentional?*
Response: *Yes, the intent is to have clear anodized frames, and the doors are to be kynar.*

71. ***Question:*** *In Lobby East (ROOM 2), elevation 4/A-404, AWP3 is listed on the finish schedule but AWP2 is listed on the enlarged plans and elevation. Please clarify.*
Response: *These are specified as AWP-1 with FB-1-4 (fabrics). See attached revised sheets A-404 and A-600 with changes notes to AWP-1.*

72. ***Question:*** *In Processing Area (ROOM 137), the finish schedule is listed for AWP, but the elevations do not show panels. Please clarify if we are to include panels or AWP in that area.*
Response: *No, there is no AWP in this room. See elevations. See revised finishes schedule attached.*

73. ***Question:*** *In Breakroom West (ROOM 209), the finish schedule is listed for AWP2, but AWP1 is on page A-414. Please clarify.*
Response: *See and follow elevations. See revised finishes schedule attached.*

74. ***Question:*** *Please confirm whether the BMS is intended to operate as a standalone system or if it is designed to be integrated with an existing Baltimore County front-end platform. If integration is possible, kindly specify which system(s) the BMS is compatible with.*
Response: *The BMS shall be integrated with the county central Metasys BMS. Refer to "BAS Connection to County Metasys" on M001.*

75. ***Question:*** *Will the striping be done with Acetone paint or Extruded Thermoplastic paint?*
Response: *Paint shall be waterborne acrylic alkyd striping paint. See attached revised sheets C4.01 and C5.00.*

76. ***Question:*** *Can Total Security Solution be used as an alternative product/manufacturer/supplier for bulletproof glass and frame?*
Response: *There will be no substitutions evaluated during the Bidding Phase.*

77. ***Question:*** *There is no DR15 door on the schedule. Please advise*
Response: *See attached revised door schedule that corrects these.*

78. ***Question:*** *S01A, S01C, S02A, S02C is the wrong door type (DR-1) It calls out GL5 glass and the door listed is solid. Does it have a sidelite?*
Response: *No there is not glass in these doors.*

79. ***Question:*** *Some doors say GL-7 glass in the notes but they are solid doors. Pease confirm*
Response: *Follow door panel and frame type elevations and notes regarding glazing.*

80. ***Question:*** *Mirrors are also called tempered, but are also referred to as having film backing. Please clarify. Additionally, please clarify if all mirrors are to get hardware clips or if just frameless mirrors require hardware clips.*
Response: *Specification 08 83 00 Mirrors, 2.2.C will be only applicable where tempered glass is not used. Hardware and mastic are required for fitness room installation. Fitness rooms mirrors may be annealed glass with safety film or tempered glass.*

81. ***Question:*** *The unit price sheet for Haz materials can easily help or hurt the pricing of the project. Unit costs, as we know, are better based on quantities or approx quantities. Can you possibly give some insight on how to provide pricing based on unknown quantities? This would also refer to the quantity of gallons remaining in the 4000 gal UST tank.*
Response: *The Unit Prices are used for known quantities within the Hazmat reports and the unit cost will be used for used for any unknowns above and beyond the reports. See attached revised specification 01 22 00.*

82. ***Question:*** *Based on the schedule, would you have an approx duration when we would remobilize after the Precinct is built to demo the existing precinct?*
Response: *Refer to section 1.6.A.6 of 01 10 00 - Summary of Work specification.*

83. ***Question:*** *Based on the schedule, would you have an approx duration when we would remobilize after the Precinct is built to demo the existing precinct?*
Response: *Refer to section 1.6.A.6 of 01 10 00 - Summary of Work specification.*

84. ***Question:*** *There is a conflict concerning the drawings and the specs on the size of the submersible pumps. 1/3 and ¾? They come with a 5 year warranty.*
Response: *The submersible pumps are 3/4 HP. See attached revised specification 231213 and revised sheet P702.*

85. ***Question:*** *How are two submersible pumps piped into 1 dispenser? Is there any more information on the fuel depot layout?*
Response: *There are two dispensers. See sheets P212 and E100 for information related to the fuel depot.*

86. ***Question:*** *I am reaching out on the Police Precinct project as Rulon is listed for the ACW-1 material. Can I please have a list of GCs that are bidding so I can provide their subcontractors pricing?*
Response: *Refer to Pre-Bid and Site Visit sign-in sheets provided in previous Addendum 4, dated 10/31/25.*

87. ***Question:*** *Please request the Geo Tech report from the County as it is not in the Proposal Book, even though it's listed.*
Response: *The geotechnical report is included in Appendix 'A' of the specification booklet. It was added in Addendum 4, dated 10/31/25.*

88. ***Question:*** *Additionally, please specify the depth and additional parameters/measurements (if they are not the exact size of the building) of the basement of the buildings to be demolished.*
Response: *Refer to Addendum 4, dated 10/31/25 for as-built drawings.*

89. ***Question:*** *Parking space striping, HC symbols, Electric Vehicle symbols, crosshatched ADA no parking zone. The plans call for the parking spaces and crosshatched ADA no parking zone to be Thermoplastic. Specification 32 17 23-1 states latex or acrylic paint. Can the paint be used in lieu of Thermoplastic for these items.*
Response: *See attached revised sheets C4.01 and C5.00 which have been revised to call for acrylic based paint instead of thermoplastic. This now matches the acrylic option in section 32 17 23.*

90. ***Question:*** *The asphalt mixes shown on detail 2 on sheet C4.00 contradicts what is stated in the mixes section in asphalt specification 32 12 16-5. Please clarify what base and surface asphalt mixes are to be used for this project.*
Response: *The mixes shown in detail 2 on C4.00 are consistent with the paving section recommendation found in the Geotech report. See attached revised spec section 32 12 16 which has been revised to match detail 2 on sheet C4.00.*

91. ***Question:*** *The asphalt specification mentions things such as prime coat, herbicide treatment, fog seal, and paving geotextile - all of which are not shown on the asphalt detail 2 on C4.00. Please confirm that these items are not required for the asphalt paving.*
Response: *These items are not required for the asphalt paving and have been struck out in the spec section. See attached revised spec section 32 12 16.*

92. ***Question:*** *The curb and gutter adjacent to the asphalt paving shows 8" of concrete gutter pan with 8" of stone, with a total of a 16" section, while the asphalt paving is 4.5" of asphalt and 5" of stone, with a total of a 9.5" section. This will require the stone base for the curb and gutter adjacent to the asphalt paving to be dug out and placed separately from the stone for the asphalt paving since the section is much thicker. Standard practice is that the stone for the asphalt and curb and gutter adjacent to it are placed uniformly at the same time and the curb and gutter is placed on top of the thickness of stone that is remaining (which in this case would only be 1.5" since the gutter pan is 8" thick and the asphalt section with stone if 9.5" thick). Please confirm these details and thicknesses are correct in which the stone for the curb and gutter will need to be dug out and placed separately after the asphalt paving is complete.*
Response: *All details are shown accurately.*

93. ***Question:*** *Will Recycled Graded Aggregate Base that is MDSHA certified be acceptable to use for the stone base under the asphalt and concrete paving?*
Response: *Recycled concrete may be permitted so long as the gradation and properties meet those outlined in the Baltimore County Standard Specifications for Construction and Materials, Section 901 – Aggregates.*

94. ***Question:*** *Ref Spec Section 231213 – Facility Fuel-Oil Pumps: Spec mentions CC support and mobile trucks, are both of those in play? Spec also mentions old version of FuelMaster software; please clarify if County would want to go cloud-based.*
Response: *Provide as specified and changes can be addressed in construction.*

95. ***Question:*** *Spec section 23-12-13 - 4 mentions our old version of software but I would think they would want to go cloud based so it would be good if they can clarify that.*
Response: *Provide as specified and changes can be addressed in construction.*

96. ***Question:*** *Please provide documents for the Appendix in the Table of Contents Section including the Phase I ESA, Geotechnical Report, Hazardous Materials Report (Main Precinct & Annex), and the Existing Precinct Building Record Drawings*
Response: *Refer to Addendum 4, dated 10/31/25.*

97. ***Question:*** *When is anticipated award and Notice to Proceed?*
Response: *At this time there is not a set date for award and Notice to Proceed.*

98. ***Question:*** *Please confirm testing & inspections by Owner.*
Response: *Testing and inspections are by Contractor, not Owner, per the specifications.*

99. ***Question:*** *Please confirm commissioning by Owner / Design Team.*
Response: *Confirmed, commissioning agent is engaged by Owner and needs to be coordinated with Contractor.*

100. ***Question:*** *Please confirm what MBE forms are due at time of bid, or if specific subcontractor information forms can be submitted later that day.*

Response: *MBE forms are due at time of bid.*

101. ***Question:*** *What is the status of the building permit?*
Response: *It has been issued.*

102. ***Question:*** *In light of the cost increases caused by the current and potential future tariffs, we would like to request that the Owner include a tariff-related cost adjustment clause in the contract, which would allow for compensation based on any price increases directly tied to tariffs. This adjustment could be documented through material cost reports or supplier invoices to ensure transparency. Alternatively, the owner could establish a contingency allowance for all bidders to carry in their bids specifically to address cost fluctuations stemming from tariffs.*
Response: *Cost adjustment clauses and contingencies are not being considered.*

103. ***Question:*** *Please confirm earthwork is unclassified to subgrade.*
Response: *Please see Geotechnical Report in Addendum 4, dated 10/31/25.*

104. ***Question:*** *Please provide the estimated costs of permits the Contractor is responsible for.*
Response: *Contractor is responsible for trade permits and associated costs which are unknown to the owner.*

105. ***Question:*** *ADD #3 Hazmat Price Schedule has hourly asbestos worker rates for 15.0 & 16.0, is that to be an all-inclusive rate with materials and equipment, or labor only?*
Response: *The hourly rates are labor only.*

106. ***Question:*** *On the table of contents in the project manual it shows there to be a Phase 1 ESA, Geotechnical Report, Hazardous Material Report – Main & Annex Building, & Existing Precinct Building Record Drawings but I am not seeing any of these items within the project manual. Please provide appendix information as it is pivotal for pricing.*
Response: *Refer to Addendum 4, dated 10/31/25.*

107. ***Question:*** *E209 & E210 show both sides of the building to be getting PV panels but on A103 it is only showing one side to receive PV panels. Please clarify which drawing is correct.*
Response: *PV to be located on both sides, see attached revised sheet A-103.*

108. ***Question:*** *Please confirm that only Soil Testing will be covered by Baltimore County while all other testing is by the Contractor.*
Response: *ALL testing is by Contractor.*

109. ***Question:*** *Please allow for the bid submission time to be moved to the 2:00pm on November 13th to allow for better price participation from MEP Contractors.*
Response: *The bid opening date has been extended to November 20, 2025 at 10:40am.*

110. ***Question:*** *Please confirm that the total of 669 days listed on the contract proposal form is till substantial completion. Addendum #1 has the contract duration from April 2026 to February 2028 which would account for 729 days total for 22 months.*
Response: *April 2026 to February 2028 was a projected timeframe; 669 days is from Notice to Proceed to Final Completion.*

111. ***Question:*** *Addendum #2 provides a unit pricing schedule show the units to be per CY but in Spec 012200/1.5C shows the rock excavation Unit Cost to be per 100CY. Please confirm which is correct.*
Response: *See attached revised spec 01 22 00 with units revised.*

112. ***Question:*** *Please confirm that unit cost for Class 111 excavation is to be the fixed cost of $130 per CY shown on 012200/1.5A-1 as it is not shown on the updated unit pricing schedule on Addendum #2 as a fixed cost.*

Response: *No, the unit price is not fixed; it is up to each Contractor to submit their own unit price.*

113. ***Question:*** *Spec Section 323219 – Concrete Retaining Wall & Fences does not list a manufacturer for the system. Please provide manufacturer of Gravity Retaining Wall System.*
Response: *It is the responsibility of the contractor to select a product from a manufacturer that meets the performance requirements of the proposed retaining wall shown throughout the plans, as detailed on C4.02, and as outlined in spec section 32 32 19.*

114. ***Question:*** *Spec Section 064023/1.7B-1 calls for the fabricator to hold AWI Quality Certification. We ask that the certification be waived to allow for better participation.*
Response: *This requirement is waived.*

115. ***Question:*** *Should a LEED Certified Plaque be included under the signage specification or not? This is currently not included. Final certification may come later than project completion. Will the owner purchase separately or should their be previsions to include? If so what style of plaque is desired.*
Response: *Owner will purchase the LEED plaque separately.*

116. *This contractor shall provide low GWP refrigerant mechanical equipment. The VRF, DOAS, split systems, and packaged rooftop unit shall be R-32 or R-454b. See revised MEP drawings and specifications attached.*

117. *The contractor will be responsible for providing and maintaining site security at all times. General modifications will be required based on the phasing for the project. All contractor and subcontractor personnel assigned to the project will be required to furnish information for security clearances. Contractors will not be permitted on site until security clearances are approved.*

CHANGES TO THE PROJECT MANUAL, attached as complete Sections
Total number of revised specifications: 11

PROJECT MANUAL	SPEC #	SPECIFICATION NAME & DESCRIPTION	REVISED WITH
	01 01 00	TABLE OF CONTENTS	Addendum 5
		Revises to delete extra specification 08 43 33 BULLET RESISTANT ALUMINUM STOREFRONT	
	01 22 00	UNIT PRICING	Addendum 5
		Units revised.	
	57300	DECORATIVE RAILING SYSTEMS	Addendum 5
		Railing specifications are revised.	
	08 41 13	ALUMINUM-FRAME ENTRANCES & STOREFRONTS	Addendum 5
		Deletes paragraph 2.10.C requirements for finish testing.	
	08 43 33.13	SECUIRTY STOREFRONT BULLET RESISTANT ALUMINUM FRAMING & DOORS	Addendum 5
		Deletes paragraph 2.4.C requirements for finish testing.	
	08 45 13	STRUCTURED-POLYCARBONATE-PANEL ASSEMBLIES	Addendum 5
		Revised to remove windborne debris requirement	

	10 14 00	INTERIOR & EXTERIOR SIGNAGE	Addendum 5
		Multiple Signage qty revisions	
	22 05 03	PIPES AND TUBES FOR PLUMBING PIPING AND EQUIPMENT	Addendum 5
		Revised 2.3.Y to include Basis of design Neptune EMX 075 MS. Comparable products from Watts and Leonard may be submitted for review as a comparable product.	
	23 12 13	FACILITY FUEL-OIL PUMPS	Addendum 5
		Strike 1/3 HP submersible pumps.	
	23 13 00	FACILTY FUEL STORAGE TANKS	Addendum 5
		Strike tank alternate.	
	32 12 16	ASPHALT PAVING	Addendum 5
		Multiple revisions to asphalt and material provisions.	

CHANGES TO THE CONSTRUCTION DRAWINGS, attached

Total number of revised drawings: 63

DWG. NUMBER	SHEET DESIG.	SHEET NAME & DESCRIPTION	REVISED WITH
2024-1329	C4.01	SITE DETAILS	Addendum 5
		References to thermoplastic revised to acrylic	
2024-1331	C5.00	STRIPING AND SINAGE PLAN	Addendum 5
		Revised key notes to call for acrylic instead of thermoplastic	
2024-1361	L1.00	LANDSCAPE - MATERIALS PLAN	Addendum 5
		Update to F2 description in hardscape key	
2024-1385	A-103	ROOF PLAN	Addendum 5
		Revises keynote to clarify extent of PV roof area in architectural roof plan.	
2024-1386	A-104	ENLARGED FIRST FLOOR PLAN - WING A	Addendum 5
		Revises keynote to clarify 10 compartment handgun locker to be surface mounted.	
2024-1387	A-105	ENLARGED FIRST FLOOR PLAN - WING B	Addendum 5
		Revises wall type to accomundate recessed gun lockers	
2024-1389	A-107	ENLARGED SECOND FLOOR PLAN - WING B	Addendum 5
		Added two conditions details, detailing the condition of the Translucent panel at the opening jamb where it transitions to a CMU wall.	
2024-1390	A-108	FIRST FLOOR RCP	Addendum 5
		Added notes identifying the metal deck in the details 6&7..	
2024-1392	A-110	ENLARGED FIRST FLOOR RCP - WING A	Addendum 5
		Revises Legend dimension to the product specified.	

2024-1397	A-201	OVERALL EXTERIOR ELEVATIONS	Addendum 5
		Revises drawing to turns on hidden column grids.	
2024-1398	A-202	OVERALL EXTERIOR ELEVATIONS	Addendum 5
		Revises drawing to turns on hidden column grids.	
2024-1402	A-206	ENLARGED ELEVATIONS	Addendum 5
		Added noted to refer to A-203 for metal panel information.	
2024-1403	A-207	ENLARGED ELEVATIONS	Addendum 5
		Added noted to refer to A-203 for metal panel information.	
2024-1404	A-208	ENLARGED ELEVATIONS	Addendum 5
		Added noted to refer to A-203 for metal panel information.	
2024-1409	A-311	WALL SECTIONS	Addendum 5
		Parapet dimensions adjusted and clarified to dive location from column line to face of stud and face of cmu and dimension for the LSL parapet caps.	
2024-1410	A-312	WALL SECTIONS	Addendum 5
		Parapet dimensions adjusted and clarified to dive location from column line to face of stud and face of cmu and dimension for the LSL parapet caps.	
2024-1411	A-313	WALL SECTIONS	Addendum 5
		Parapet dimensions adjusted and clarified to dive location from column line to face of stud and face of cmu and dimension for the LSL parapet caps.	
2024-1417	A-404	ENLARGED PLANS & ELEVS. - 1ST FLR - LOBBY	Addendum 5
		Revised keynote for AWP-1	
2024-1422	A-409	ENLARGED PLANS & ELEVS. - 1ST FLR - FEMALE HOLDING & INTERVIEW ROOMS	Addendum 5
		Added elevation marker for 12/A-421 show revised location of a gun locker.	
2024-1423	A-410	ENLARGED PLANS & ELEVS. - 1ST FLR - SALLY PORT	Addendum 5
		Added dimensions locating the gun lockers and FEC.	
2024-1432	A-419	ENLARGED PLAN & ELEVS. - 2ND FLR - WOMEN'S LOCKER ROOM	Addendum 5
		Corrects the keynote for WD bench infills in the locker room. Tags missing D2 wall type tag.	
2024-1433	A-420	ENLARGED PLAN & ELEVS. - 2ND FLR - FITNESS RM & IT	Addendum 5
		Provided additional information about the fitness equipment scheduled, adding basis of design manufacture and noted power. Substitutions will not be accepted for the fitness equipment.	
2024-1434	A-421	CORRIDOR PLAN AND ELEVATIONS - 1ST FLR	Addendum 5

		Added an elevation related to relocating a gun locker from south wall to north wall in drawings 1 & 12	
2024-1439	A-426	ENLARGED - RESTROOMS	Addendum 5
		Added dimension to locate the extra framing for mounting an adult changing table.	
2024-1444	A-500	EXTERIOR SECTION DETAILS	Addendum 5
		Added a steel angle to support cast sills for typical windowsill detail.	
2024-1445	A-501	EXTERIOR SECTION DETAILS	Addendum 5
		Revised thru wall flashing and grout in detail.	
2024-1447	A-503	EXTERIOR SECTION DETAILS	Addendum 5
		Multiple details, added structural slip connection note for detail as shown in structural. Added note to seal gap at window opening. Clarified annotation noting the Translucent Unit Panel and not the metal panel. Added to typical parapet detail notes and adjusted detail to add blocking to align stud portion to align with CMU portion.	
2024-1452	A-508	PLAN DETAILS	Addendum 5
		Added two conditions details, detailing the condition of the Translucent panel at the opening jamb where it transitions to a CMU wall.	
2024-1454	A-511	CASEWORK PLANS & ELEVATIONS	Addendum 5
		Clarified refrigerator graphic and note on dimension. Added typical section tag to casework.	
2024-1463	A-600	FIRST FLOOR FINISH PLAN & SCHEDULE	Addendum 5
		Revised Rm 100 to list AWP-1 to match A-404	
2024-1465	A-602	DOOR SCHEDULE	Addendum 5
		Revised Door 001 and 102C to be Level 3 Ballistic. Stair doors missing information have been provided.	
2024-1467	A-604	EXTERIOR GLAZING	Addendum 5
		Add schedule of frames, clarifies frame types	
2024-1468	A-605	INTERIOR GLAZING	Addendum 5
		Add schedule of frames, clarifies frame types	
2024-1469	A-606	WINDOW DETAILS	Addendum 5
		Multiple detail revisions based on questions	
2024-1471	A-608	INTERIOR PARTITION TYPES	Addendum 5
		Addes wall type A.7 with a 8" stud depth to allow recessed gun locker.	
2024-1502	M-002	MECHANICAL COVERSHEET Update ASHRAE 15 calculations for A2L refrigerant.	Addendum #5

2024-1503	M-201	FIRST FLOOR - MECHANICAL - WING A Update branch selector box dimensions based on A2L branch selector box. Add natural ventilation grilles for branch selector boxes.	Addendum #5
2024-1504	M-202	FIRST FLOOR - MECHANICAL - WING B Update branch selector box dimensions based on A2L branch selector box. Add natural ventilation grilles for branch selector boxes.	Addendum #5
2024-1505	M-203	SECOND FLOOR - MECHANICAL - WING A Update branch selector box dimensions based on A2L branch selector box. Add natural ventilation grilles for branch selector boxes.	Addendum #5
2024-1506	M-204	SECOND FLOOR - MECHANICAL - WING B Add natural ventilation grilles for branch selector boxes.	Addendum #5
2024-1507	M-205	FIRST FLOOR - MECHANICAL PIPING AND ATC - WING A Remove third-party refrigerant leak detectors. Manufacturer is now required to provide leak detectors in equipment. Update branch selector box dimensions based on A2L branch selector box.	Addendum #5
2024-1508	M-206	FIRST FLOOR - MECHANICAL PIPING AND ATC - WING B Remove third-party refrigerant leak detectors. Manufacturer is now required to provide leak detectors in equipment. Update branch selector box dimensions based on A2L branch selector box.	Addendum #5
2024-1509	M-207	SECOND FLOOR - MECHANICAL PIPING AND ATC - WING A Remove third-party refrigerant leak detectors. Manufacturer is now required to provide leak detectors in equipment. Update branch selector box dimensions based on A2L branch selector box.	Addendum #5
2024-1510	M-208	SECOND FLOOR - MECHANICAL PIPING AND ATC - WING B Remove third-party refrigerant leak detectors. Manufacturer is now required to provide leak detectors in equipment. Update branch selector box dimensions based on A2L branch selector box.	Addendum #5

2024-1511	M-301	PART PLANS - MECHANICAL Update branch selector box dimensions based on A2L branch selector box.	Addendum #5
2024-1512	M-302	PART PLANS - MECHANICAL Update branch selector box dimensions based on A2L branch selector box. Add natural ventilation grilles for branch selector boxes.	Addendum #5
2024-1513	M-401	REFRIGERANT RISERS Update for A2L indoor units, A2L branch selector boxes, and A2L outdoor units.	Addendum #5
2024-1515	M-602	MECHANICAL CONTROLS Remove third-party refrigerant leak detection and solenoid valves. These are now provided by the VRF manufacturer.	Addendum #5
2024-1520	M-801	MECHANICAL SCHEDULES Add natural ventilation grille for branch selector boxes.	Addendum #5
2024-1521	M-802	MECHANICAL SCHEDULES Update VRF equipment to A2L models.	Addendum #5
2024-1522	M-803	MECHANICAL SCHEDULES Update DOAS, split systems, and packaged rooftop units to A2L models.	Addendum #5
2024-1528	P-205	FIRST FLOOR - PLUMBING - WING B PART 1 Relocate vestibule roof drain.	Addendum #5
2024-1548	P-802	PLUMBING SCHEDULES Corrected fueling pump horsepower.	Addendum #5
2024-1549	E001	ELECTRICAL COVERSHEET Added General Note	Addendum #5
2024-1556	E205	FIRST FLOOR POWER - WING A Added General Note	Addendum #5
2024-1557	E206	FIRST FLOOR POWER - WING B Added General Note, revised panel size	Addendum #5
2024-1558	E207	SECOND FLOOR POWER - WING A Added General Note	Addendum #5
2024-1559	E208	SECOND FLOOR POWER - WING B Added General Note	Addendum #5
2024-1570	E801	HVAC SCHEDULE Revised HVAC Schedule	Addendum #5
2024-1571	E802	PANEL SCHEDULES Revised Panel Schedule	Addendum #5

2024-1591	TA002	LOW VOLTAGE SYSTEMS RESPONSIBILITIES MATRIX	Addendum 5
		revised to remove Whitning Turner, and clarification note added	

END OF ADDENDUM NO. 5

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SECTION 01 22 00 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

B. Related Requirements:

1. Section 012100 “Allowances” for procedures related to providing an allowance for hazardous materials noted in the Hazardous Material Survey Reports.
2. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit, unless otherwise indicated.

B. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

C. List of Unit Prices: A schedule of unit prices is included in the Bid Form. Specification Sections referenced in the schedule contain requirements for materials described under each unit price. Unit prices are fixed.

1.5 SCHEDULE OF UNIT PRICES

A. Unit Price No. 1: Provide unit cost per cubic yard (cu. yd.) of Class III soil excavation and disposal off-site and replacement with select backfill material from off-site, as specified in Section 312000 "Earth Moving."

1. Fixed unit price of $130/cubic yard per Baltimore County Commodity Code: Utility 800020.

B. Unit Price No. 2: Provide unit cost per cubic yard (cu. yd.) of soil excavation and disposal offsite and use of lean concrete in lieu of select backfill as specified in Section 312000 3.9 Unauthorized Excavation in "Earth Moving".

1. Provide unit price.

C. Unit Price No. 3: Provide unit cost per cubic yard (cu. yd.) of Rock excavation and disposal off-site, as specified in Section 312000 "Earth Moving."

1. Provide unit price for ~~100~~ **cubic yards** (cu. yd.)

D. Provide Unit Prices related to removal of Hazardous Materials per the table under PART 4; refer to Hazardous Materials Survey Reports in Appendices C and D.

1. The Unit Prices table in PART 4, in conjunction with the Hazardous Materials Survey Reports in Appendices C and D, is to be used to determine an allowance for known hazardous materials abatement. Refer to spec Section 01 21 00 – Allowances.
2. The Unit Prices provided are to be utilized, where applicable, for additional hazardous materials found above and beyond what is listed within the Hazardous Materials Survey Reports in Appendices C and D.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

PART 4 - HAZMAT MATERIALS UNIT PRICE SCHEDULE

A. To be included with Bid Submission.

Item	Description	Unit	Rate
1.0 Asbestos			
1.1	Tile and Mastic	SF	
1.2	Pipe Insulation	LF	
1.3	Door & Window Caulk	LF	
2.0 Lead Based Paint Evaluation			
2.1	Per Room	SF	
3.0 Dust-Lead Hazards			
3.1	Per Room	SF	
4.0 Hazardous Materials Survey			
4.1	Fluorescent Light Fixtures (Ballasts)	EA	
4.2	4’ Fluorescent Light Tubes	EA	
4.3	Exit Signs (Batteries)	EA	
4.4	Fire Extinguishers	EA	
4.5	Mercury Switch	EA	
5.0 PCB			
5.1	Door & Window Caulk	EA	
6.0 Additional Items – Not Inspected during Hazardous Materials Survey			
6.1	Roofing Materials	SF	
6.2	Fire Doors	EA	
6.3	Ceiling Tiles	SF	
7.0 Additional Hazardous Materials			
~~7.1~~	~~Car Batteries~~	~~EA~~	
7.2	Refrigerants	EA	
7.3	Fire Extinguishers	EA	
7.4	Antifreeze, Cleaners, Chemicals, Oil, Gasoline	~~EA~~ **GAL.**	
~~7.5~~	~~Tires~~	~~EA~~	
15.0	Labor Rate for Certified Asbestos Worker (Straight time)	HR	
16.0	Labor Rate for Certified Asbestos Worker (Over time)	HR	

END OF SECTION

SECTION 05 73 00 – DECORATIVE METAL RAILING SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. Baltimore County Property Management's general requirements included in each bid package shall also apply to this Section. In case of conflict the more stringent document shall take precedence.

1.2 SUMMARY

A. Provide ornamental guardrails and railings where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.

B. Section Includes:

1. Interior railing system for stairs and landings.
2. Exterior railing system for stair in mechanical well.

C. Similar work is specified as follows:

1. Steel pipe and tube handrails and railing systems not attached to metal stairs or to walls adjacent to metal stairs are specified in Division 5 Section Metal Fabrications.

D. Products Furnished but not Installed under this Section:

1. Cast-in-place anchors, inserts, and similar anchorage devices specified under other sections.

E. Related Documents/Sections: Carefully examine the Contract Documents for requirements which affect work of this Section. Documents and specification sections containing requirements which relate to this Section include, but are not necessarily limited to:

1. General and Supplementary Conditions and sections in Division 1 of these Specifications.
2. Division 3 Section - Cast-In-Place Concrete.

1.3 DEFINITIONS

A. Definitions in ASTM E 985 for railing-related terms apply to this Section.

1.4 PERFORMANCE REQUIREMENTS

A. General: In engineering guardrail and railing systems to withstand structural loads indicated, determine allowable design working stresses of materials based on the following:

1. Cold Formed Structural Steel: ANSI "Specifications for the Design of Cold-Formed Steel Structural Members".

B. Structural Performance of Guardrails and Railing Systems: Engineer, fabricate, and install guardrails and railing systems to withstand the following structural loads without exceeding the allowable design

working stress of the materials for guardrails, railing systems, anchors, and connections. Apply each load to produce the maximum stress in each of the respective components comprising guardrails and railing systems.

1. Top Rail of Guardrail Systems: Capable of withstanding the following loads applied as indicated:

    a. Concentrated load of 200 lbf (890 N) applied at any point and in any direction.
    b. Uniform load of 50 lbf per linear foot (730 N/m) applied horizontally and concurrently with uniform load of 100 lbf per linear foot (1460 N/m) applied vertically downward.
    c. Concentrated and uniform loads above need not be assumed to act concurrently.

2. Guardrails Not Serving as Top Rails: Capable of withstanding the following loads applied as indicated:

    a. Concentrated load of 200 lbf (890 N) applied at any point and in any direction.
    b. Uniform load of 50 lbf per linear foot (730 N/m) applied in any direction.
    c. Concentrated and uniform loads above need not be assumed to act concurrently.

3. Infill Area of Guardrail Systems: Capable of withstanding a horizontal concentrated load of 200 lbf (890 N) applied to 1 sq. ft. (0.09 sq. m) at any point in the system, including panels, intermediate rails, balusters, or other elements composing the infill area.

    a. Above load need not be assumed to act concurrently with loads on top rails of railing systems in determining stress on guard.

C. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1.5 SUBMITTALS

A. General:

1. Identify proposed changes, differences, and discrepancies, including verbiage, terms, and definitions, between Contract Documents and submittals.

B. Product Data:

1. For each type of product indicated, submit manufacturer's specifications and other data needed to prove compliance with the specified requirements.

    a. Submit data for mechanically connected guardrails and railing systems, each kind of fitting and paint products.

C. Shop Drawings:

1. Submit drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades.

    a. Show fabrication and installation of guardrails and railing systems including plans, elevations, sections, details of components, and attachments to other units of Work.

b. For installed guardrails and railing systems indicated to comply with certain design loadings, include structural analysis data sealed and signed by the qualified professional engineer who was responsible for their preparation.

D. Samples:

1. Samples for Initial Selection:

a. Samples in the form of short sections of railing or flat sheet metal samples showing available mechanical finishes.

2. Samples for Verification Purposes:

a. Assembled finished sample of railing system, made from full-size components, including top rail, post, guardrail, and infill. Show finishing of members at intersections.
b. 6-inch-long sections of each distinctly different linear railing member, including guardrails, top rails, posts, and intermediate members.
c. Welded connections.
d. Each different fitting and bracket.

E. Quality Control Submittals:

1. Tests:

a. Product test reports from a qualified independent testing agency evidencing compliance of guardrails and railing systems with requirements based on comprehensive testing of current products.

2. Certificates:

a. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
b. Welder certificates signed by Contractor certifying that welders comply with requirements specified under "Quality Assurance" article.

3. Qualification Data:

a. Submit data for firms and persons specified under "Quality Assurance" article to demonstrate their capabilities and experience. Include list of completed projects with project name(s), address(es), names of Architect(s) and Owner(s), plus other specified information. This must be approved by the architect.

4. Manufacturer's Instructions:

a. Submit manufacturer's recommended installation procedures which, when reviewed by the Architect, may become the basis for accepting or rejecting actual installation procedures used on the work.

F. Contract Closeout Submittals:

1. Upon completion of this portion of the Work, and as a condition of its acceptance, deliver to the Architect requisite copies of the following:

a. Project Record Documents.
b. Operation and Maintenance Data.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: To qualify for acceptance, an independent testing agency must demonstrate to Architect's satisfaction, based on evaluation of agency-submitted criteria conforming to ASTM E 699, that it has the experience and capability to satisfactorily conduct the testing indicated without delaying the Work.

B. Single-Source Responsibility: Obtain guardrails and railing systems of each type and material from a single manufacturer.

C. Engineer Qualifications: A professional engineer legally authorized to practice in the jurisdiction where Project is located and experienced in providing engineering services of the kind indicated that have resulted in the installation of guardrails and railing systems similar to this Project in material, design, and extent and that have a record of successful in-service performance.

D. Qualifications for Welding Work: Qualify welding procedures and welding operators in accordance with AWS "Qualification" requirements.

1. Provide certification that welders to be employed in work have satisfactorily passed AWS qualification tests (AWS D1.2) and can document a minimum of five years successful experience in aluminum TIG welding.
2. If recertification of welders is required, retesting will be Contractor's responsibility.

1.7 STORAGE

A. Store guardrails and railing systems inside a well-ventilated area, away from uncured concrete and masonry and protected from weather, moisture, soiling, abrasion, extreme temperatures, and humidity.

1.8 PROJECT CONDITIONS

A. Field Measurements: Where guardrails and railings are indicated to fit to other construction, check actual dimensions of other construction by accurate field measurements before fabrication; show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with fabricating guardrails and railing systems without field measurements. Coordinate other construction to ensure that actual dimensions correspond to guaranteed dimensions.

1.9 SEQUENCING AND SCHEDULING

A. Sequence and coordinate installation of guardrails as follows:

1. Mount guardrails only on completed Work. Do not support guardrails temporarily by any means not satisfying structural performance requirements.

PART 2 - PRODUCTS

2.1 METALS – Addendum #5 11/6/25

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For components exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

C. Steel Tubing: ASTM A 500 (cold formed) or ASTM A 513.

D. Uncoated, Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, either commercial steel, Type B, or structural steel, Grade 25 (Grade 170), unless another grade is required by design loads; exposed.

2.2 FABRICATION, GENERAL – Addendum #5 11/6/25

A. Provide complete stair assemblies, including metal framing, hangers, struts, railings, clips, brackets, bearing plates, and other components necessary to support and anchor stairs and platforms on supporting structure.

1. Join components by welding unless otherwise indicated.
2. Use connections that maintain structural value of joined pieces.

B. Preassembled Stairs: Assemble stairs in shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations.

C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges. Remove sharp or rough areas on exposed surfaces.

D. Weld connections to comply with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. Weld exposed corners and seams continuously unless otherwise indicated.
5. At exposed connections, finish exposed welds to comply with NOMMA's "Voluntary Joint Finish Standards" for Type 1 welds: no evidence of a welded joint.

E. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Locate joints where least conspicuous.

2.3 MANUFACTURERS

A. Railings: Subject to compliance with requirements provide railing systems by one but not limited to equals of the follow of the following:

1. Interior Railing System:

   a. McNichols Company
   9070 Junction Dr. #M
   Annapolis Junction, MD 20701-1141
   Tel: 1.877.884.4653

2. DELETED Addendum #5 11/6/25

3 METAL STAIR RAILINGS Addendum #5 11/6/25

F. Steel Tube Railings: Fabricate railings to comply with requirements indicated for design, dimensions, details, finish, and member sizes, including wall thickness of tube, post spacings, and anchorage, but not less than that needed to withstand indicated loads.

1. Rails: 1-1/2-inch- (38-mm-) diameter.

G. Welded Connections: Fabricate railings with welded connections. Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.

1. Finish welds to comply with NOMMA's "Voluntary Joint Finish Standards" for Type 1 welds: no evidence of a welded joint.

H. Form changes in direction of railings by bending.

I. Form curves by bending members in jigs to produce uniform curvature without buckling.

J. Close exposed ends of railing members with prefabricated end fittings.

K. Provide wall returns at ends of wall-mounted handrails.

L. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, end closures, flanges, miscellaneous fittings, and anchors for interconnecting components and for attaching to other work.

M. Fillers: Provide fillers made from steel plate, or other suitably crush-resistant material, to transfer wall bracket loads through wall finishes. Size fillers to suit wall finish thicknesses.

3.2 STEEL PIPE AND TUBE RAILINGS

A. Steel: Fire Stairs and other Stairs

1. Steel Pipe: ASTM A 53, Type F or Type S, Grade A, standard weight (Schedule 40), unless another grade and weight are required by structural loads.

a. Painted finish, unless otherwise indicated.

2. Steel Tubing: Cold-formed steel tubing, ASTM A 500, Grade A, unless another grade is required by structural loads.

B. Brackets:
1. Fire Stairs (Base Bid), Support Spaces – Julius Blum #622. Painted Steel.

4 MISCELLANEOUS MATERIALS

A. Filler Metal and Electrodes: Provide type and alloy of filler metal and electrodes as recommended by producer of metal to be welded or brazed and as required for color match, strength, corrosion resistance, and compatibility in fabricated items.

5 FASTENERS

A. Fasteners for Anchoring Railings to Other Construction: Select fasteners of the type, grade, and class required to produce connections that are suitable for anchoring railing to other types of construction indicated and capable of withstanding design loadings.

1. Provide fasteners fabricated from type 304 or type 316 stainless steel.

B. Interconnecting Railing Components:

1. Provide structural TIG welds.

C. Cast-in-Place and Postinstalled Anchors: Anchors of type indicated below, fabricated from corrosion-resistant materials with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry and equal to 4 times the load imposed when installed in concrete, as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.

1. Cast-in-place anchors.

D. For steel railings and fittings, use plated fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating.

6 PAINT

A. Bituminous Paint: Cold-applied asphalt mastic complying with SSPC-Paint 12, except containing no asbestos fibers.

B. Shop Primers for Steel: Provide primers complying with applicable requirements of Division 9 Section “Painting”.

7 GROUT AND ANCHORING CEMENT

A. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

B. Products: Subject to compliance with requirements, provide one of the following:

1. B-6 Construction Grout; W. R. Bonsal Co.
2. Euco N-S Grout; Euclid Chemical Co.
3. Masterflow 928 and 713; Master Builders Technologies, Inc.

4. Sonogrout 14; Sonneborn Building Products--ChemRex, Inc.

8 FABRICATION

A. Fabricate guardrails and railing systems to comply with requirements indicated for design, dimensions, details, finish, and member sizes, including wall thickness of hollow members, post spacings, and anchorage, but not less than that required to support structural loads.

B. Assemble railing systems and guardrails by use of structural TIG welds (both shop and field).

1. Obtain fusion without undercut or overlap.

a. Bevel edges as required to allow deep penetration.
b. Provide sufficient weld depth on front and back intersecting surfaces to allow welds to be ground smooth and flush for architectural quality appearance and to maintain structural adequacy.

2. Remove welding flux immediately.
3. Finish exposed welds and surfaces so that no roughness shows after finishing and welded surface matches contours of adjoining surfaces.

C. Form changes in direction of railing members as indicated.

D. Ease exposed edges to a radius of approximately 1/32 inch (1 mm), unless otherwise indicated.

E. Close exposed ends of guardrail and railing members with prefabricated end fittings.

F. Provide wall returns at ends of wall-mounted guardrails, unless otherwise indicated. Close ends of returns unless clearance between end of the railing and wall is 1/4 inch (6 mm) or less.

G. Provide internal weep holes at intersections to allow discharge of moisture.

H. Assemble railing systems in shop to the greatest extent possible to minimize field splicing and assembly.

1. Disassemble units only as necessary for shipping and handling limitations.
2. Clearly mark units for reassembly and coordinated installation.

I. Provide brackets, flanges, miscellaneous fittings, and anchors to connect guardrail and railing members to other construction.

J. Provide inserts and other anchorage devices to connect guardrails and railing systems to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by guardrails and railing systems. Coordinate anchorage devices with supporting structure.

K. For steel railings to be radius bends as shown on the drawings.

9 FINISHES, GENERAL

A. Comply with NAAMM "Metal Finishes Manual" for recommendations relative to applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering prior to shipment.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one half of the range of approved samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved samples and they are assembled or installed to minimize contrast.

D. Finish: shop primed and painted for interior and exterior paint finish systems.

PART 3 - EXECUTION

3.1 PREPARATION

A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installing anchorages, such as sleeves, concrete inserts, anchor bolts, and miscellaneous items having integral anchors, that are to be embedded in concrete as masonry construction. Coordinate delivery of such items to Project site.

3.2 INSTALLATION, GENERAL

A. Fit field connections accurately together to form tight, hairline joints.

B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing guardrails and railings. Set guardrails and railings accurately in location, alignment, and elevation, measured from established lines and levels and free from rack.

1. Do not weld, cut, or abrade surfaces of guardrails and railing components that have been coated or finished after fabrication and are intended for field connection by mechanical or other means without further cutting or fitting.
2. Set posts plumb within a tolerance of 1/4 inch in 12 feet (2 mm in 1 m).
3. Align rails so that variations from level for horizontal members and from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (2 mm in 1 m).

C. Shop and Field Welding:

1. Assemble railing systems and guardrails by use of structural TIG welds (both shop and field).
2. Obtain fusion without undercut or overlap.

    a. Bevel edges as required to allow deep penetration.
    b. Provide sufficient weld depth on front and back intersecting surfaces to allow welds to be ground smooth and flush for architectural quality appearance and to maintain structural adequacy.

3. Remove welding flux immediately.
4. Finish exposed welds and surfaces so that no roughness shows after finishing and welded surface matches contours and color of adjoining surfaces.

D. Adjust guardrails and railing systems prior to anchoring to ensure matching alignment at abutting joints. Space posts at interval indicated but not less than that required by structural loads.

E. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing guardrails and railings systems and for properly transferring loads to in-place construction.

3.3 RAILING CONNECTIONS

A. Welded Connections: Use fully welded joints for permanently connecting railing components by welding. Cope or butt components to provide 100 percent contact, or use fittings designed for this purpose.

3.4 ATTACHING GUARDRAILS TO WALLS

A. Attach guardrails to wall with wall brackets and end fittings. Provide bracket with 1-1/2-inch (38-mm) clearance from inside face of guardrail and finished wall surface.

B. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.

C. Secure wall brackets and wall return fittings to building construction as follows:

3.5 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material.

3.6 PROTECTION

A. Protect finishes of railing systems and guardrails from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at the time of Substantial Completion.

B. Restore finishes damaged during installation and construction period so that no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION 05 73 00

SECTION 08 41 13 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

B. Baltimore County Property Management's general requirements included in each bid package shall also apply to this Section. In case of conflict the more stringent document shall take precedence.

1.1 SUMMARY

A. Section Includes:

1. Interior and exterior storefront framing.
2. Interior and exterior manual-swing entrance doors.

1.2 REFERENCE SPECIFICATIONS

A. 08 43 33 BULLET RESISTANT ALUMINUM STOREFRONT

B. 08 43 33.13 SECURITY STOREFRONT BULLET RESISTANT ALUMINUM FRAMING & DOORS

C. 08 80 00 GLAZING

1.3 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. LEED Submittals:
1. Comply with Section 01 81 13:
   a. MR Credit 2: BPDO – Environmental Product Declarations (EPD): For each product.
   b. MR Credit 3: BPDO – Sourcing of Raw Materials: Corporate sustainability report for each manufacturer.

c. MR Credit 4: BPDO – Material Ingredient Reports and/or Material Ingredient Optimization Reports and Action Plans.
   1) Health Product Declaration (HPD): For each product.

C. Shop Drawings: For aluminum-framed entrances and storefronts. Include plans, elevations, sections, full-size details, and attachments to other work.

1. Include details of provisions for assembly expansion and contraction and for draining moisture occurring within the assembly to the exterior.
2. Show connection to and continuity with adjacent thermal, weather, air, and vapor barriers.
3. Include point-to-point wiring diagrams.

D. Samples for Initial Selection: For units with factory-applied color finishes.

E. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Energy Performance Certificates: For aluminum-framed entrances and storefronts, accessories, and components, from manufacturer.

1. Basis for Certification: NFRC-certified energy performance values for each aluminum-framed entrance and storefront.

C. Sample Warranties: For special warranties.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For aluminum-framed entrances and storefronts to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer and who is certified under the North American Contractor Certification Program (NACC) for Architectural Glass & Metal (AGM) contractors.

B. Product Options: Information on Drawings and Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.

1. Do not change intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If changes are proposed, submit comprehensive explanatory data to Architect for review.

1.8 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of aluminum-framed entrances and storefronts that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including, but not limited to, excessive deflection.
b. Noise or vibration created by wind and thermal and structural movements.
c. Deterioration of metals and other materials beyond normal weathering.
d. Water penetration through fixed glazing and framing areas.
e. Failure of operating components.

2. Warranty Period: 2 years from date of Substantial Completion.

B. Special Finish Warranty: Anodized Finishes: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of anodized finishes within specified warranty period.

1. Warranty Period: 5 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General: Provide glazed aluminum curtain-wall systems, including anchorage, capable of withstanding, without failure, the effects of the following:

1. Structural loads.
2. Thermal movements
3. Movements of supporting structure indicated on Drawings including, but not limited to, story drift, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
4. Dimensional tolerances of building frame and other adjacent construction.
5. Failure includes the following:

a. Deflection exceeding specified limits.
b. Thermal stresses transferred to building structure.
c. Framing members transferring stresses, including those caused by thermal and structural movements, to glazing.
d. Noise or vibration created by wind and thermal and structural movements.
e. Loosening or weakening of fasteners, attachments, and other components.
f. Sealant failure.

B. Structural Loads:
1. As indicated on the structural drawings.

C. Structural-Test Performance: Systems tested according to ASTM E 330 as follows:

1. When tested at positive and negative wind-load design pressures, systems do not evidence deflection exceeding specified limits.
2. When tested at 150 percent of positive and negative wind-load design pressures, systems, including anchorage, do not evidence material failures, structural distress, and permanent deformation of main framing members exceeding 0.2 percent of span.
3. Test Duration: As required by design wind velocity but not less than 60 seconds.

D. Deflection of Framing Members:

1. Deflection Normal to Wall Plane: Limited to 1/175 of clear span for spans up to 13 feet 6 inches and to 1/240 of clear span plus 1/4 inch for spans greater than 13 feet 6 inches or an amount that restricts edge deflection of individual glazing lites to 3/4 inch, whichever is less.

2. Cantilever Deflection: Where framing members overhang an anchor point, limited to 2 times the length of cantilevered member, divided by 175.

E. Air Infiltration: Test according to ASTM E 283 for infiltration as follows:

1. Fixed Framing and Glass Area:

   a. Maximum air leakage of 0.06 cfm/sq. ft. at a static-air-pressure differential of 1.57 lbf/sq. ft.

2. Entrance Doors:

   a. Pair of Doors: Maximum air leakage of 1.0 cfm/sq. ft. at a static-air-pressure differential of 1.57 lbf/sq. ft.
   b. Single Doors: Maximum air leakage of 1.0 cfm/sq. ft. at a static-air-pressure differential of 1.57 lbf/sq. ft.

F. Energy Performance for exterior assemblies: Certify and label energy performance according to NFRC as follows:

1. Thermal Transmittance (U-factor): Fixed glazing and framing areas shall be thermally broken and have maximum u-factor of 0.32 Btu/sq. ft. x h x deg F as determined according to NFRC 100.
2. Thermal Transmittance (U-factor): Entrance doors shall be thermally broken and have a maximum Sytem u-factor of 0.5 Btu/sq. ft. x h x deg F as determined according to NFRC 100.
3. Solar Heat Gain Coefficient: Fixed glazing and framing areas shall have a solar heat gain coefficient (SHGC) of maximum 0.35 as determined according to NFRC 200.
4. Condensation Resistance Factor for Fixed glazing and framing areas: The glass to exterior CRF, when tested to AAMA Specification 1503, shall be 70 (frame) and 69 (glass) minimum.
5. Condensation Resistance Factor for exterior Entrance doors: when tested to AAMA Specification 1503, the CRF shall be 49 (frame) and 68 (glass) minimum.

G. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes:

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2. Thermal Cycling: No buckling; stress on glass; sealant failure; excess stress on framing, anchors, and fasteners; or reduction of performance when tested according to AAMA 501.5.

2.2 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the Work include the following:

1. Kawneer Company, Inc.
2. EFCO Corporation.
3. YKK AP America Inc.
4. Oldcastle Building Envelope.

B. Basis-of-Design Products: Kawneer Company, Inc.

1. Exterior Framing: Trifab VG 451T Storefront System, Size: 2” x 4 1/2”
2. Interior Framing: Trifab 400, Size: 1 ¾” X 4”
3. Exterior Doors: 500T wide stile Insulpour Thermal door with 10” bottom rail
4. Interior Doors: 500 wide stiles with 10” bottom rail

C. Source Limitations: Obtain all components of aluminum-framed entrance and storefront system, including framing and accessories, from single manufacturer.

2.3 FRAMING

A. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.

1. Construction: Thermally broken exterior, non-thermal interior.
2. Glazing System: Retained mechanically with gaskets on four sides.
3. Glazing Plane: Center.
4. Finish: Anodic Finish – Clear Anodized.
5. Fabrication Method: Shop-assembled, Field-fabricated stick system.

B. Backer Plates: Manufacturer's standard, continuous backer plates for framing members, if not integral, where framing abuts adjacent construction.

C. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

D. Materials:

1. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.

a. Sheet and Plate: ASTM B 209.
b. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221.
c. Extruded Structural Pipe and Tubes: ASTM B 429/B 429M.
d. Structural Profiles: ASTM B 308/B 308M.

2.4 ENTRANCE DOOR SYSTEMS

A. Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing operation.

1. NOTE, SEE BALLISTIC

2. Door Construction: 2-1/4-inch or 1-3/4-inch overall thickness, with minimum 0.125-inch-thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.
3. Door Design: Wide stile; 5-inch nominal width.
4. Glazing Stops and Gaskets: Beveled, snap-on, extruded-aluminum stops and preformed gaskets.

2.5 ENTRANCE DOOR HARDWARE

A. Entrance Door Hardware: Hardware not specified in this Section is specified in Division 8 "Door Hardware."

B. General: Provide entrance door hardware and entrance door hardware sets indicated in door and frame schedule for each entrance door to comply with requirements in this Section.

1. Entrance Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and products equivalent in function and comparable in quality to named products.
2. Sequence of Operation: Provide electrified door hardware function, sequence of operation, and interface with other building control systems indicated.
3. Opening-Force Requirements:

a. Egress Doors: Not more than 15 lbf to release the latch and not more than 30 lbf to set the door in motion and not more than 15 lbf to open the door to its minimum required width.
b. Accessible Interior Doors: Not more than 5 lbf to fully open door.

C. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of entrance door hardware are indicated in "Entrance Door Hardware Sets" Article. Products are identified by using entrance door hardware designations as follows:

1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required for the purpose of establishing minimum requirements. Manufacturers' names are abbreviated in "Entrance Door Hardware Sets" Article.
2. References to BHMA Standards: Provide products complying with these standards and requirements for description, quality, and function.

D. Continuous-Gear Hinges: Manufacturer's standard with stainless-steel bearings between knuckles, fabricated to full height of door and frame.

E. Mortise Auxiliary Locks: BHMA A156.5, Grade 1.

F. Manual Flush Bolts: BHMA A156.16, Grade 1.

G. Panic Exit Devices: BHMA A156.3, Grade 1, listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305.

H. Cylinders: As specified in Division 8 "Door Hardware".

I. Strikes: Provide strike with black-plastic dust box for each latch or lock bolt; fabricated for aluminum framing.

J. Operating Trim: BHMA A156.6.

K. Removable Mullions: BHMA A156.3, extruded aluminum.

1. When used with panic exit devices, provide removable mullions listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305. Use only mullions that have been tested with exit devices to be used.

L. Closers: BHMA A156.4, Grade 1, with accessories required for a complete installation, sized as required by door size, exposure to weather, and anticipated frequency of use; adjustable to comply with field conditions and requirements for opening force.

M. Concealed Overhead Holders: BHMA A156.8, Grade 1.

N. Surface-Mounted Holders: BHMA A156.16, Grade 1.

O. Door Stops: BHMA A156.16, Grade 1, floor or wall mounted, as appropriate for door location indicated, with integral rubber bumper.

P. Weather Stripping: Manufacturer's standard replaceable components.

1. Compression Type: Made of ASTM D 2000, molded neoprene, or ASTM D 2287, molded PVC.
2. Sliding Type: AAMA 701/702, made of wool, polypropylene, or nylon woven pile with nylon-fabric or aluminum-strip backing.

Q. Weather Sweeps: Manufacturer's standard exterior-door bottom sweep with concealed fasteners on mounting strip.

R. Silencers: BHMA A156.16, Grade 1.

S. Thresholds: BHMA A156.21, raised thresholds beveled with a slope of not more than 1:2, with maximum height of 1/2 inch

2.6 GLAZING

A. Glazing: Comply with Division 8 "Glazing."

B. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of black, resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.

C. Glazing Sealants: As recommended by manufacturer.

1. Verify sealant has a VOC content of 250 g/L or less.
2. For sealants, indicating compliance with requirements for low-emitting materials.

2.7 ACCESSORIES

A. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.

1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
2. Reinforce members as required to receive fastener threads.
3. Use exposed fasteners with countersunk Phillips screw heads, finished to match framing system.

B. Anchors: Adjustable anchors with minimum adjustment of 1 inch that accommodate fabrication and installation tolerances in material and finish compatible with adjoining materials and recommended by manufacturer.

1. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts complying with ASTM A 123/A 123M or ASTM A 153/A 153M requirements.

C. Concealed Flashing: Manufacturer's standard corrosion-resistant, non-staining, nonbleeding flashing compatible with adjacent materials.

D. Bituminous Paint: Cold-applied asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos, formulated for 30-mil thickness per coat.

2.8 FABRICATION

A. Form or extrude aluminum shapes before finishing.

B. Fabricate components that, when assembled, have the following characteristics:

1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Physical and thermal isolation of glazing from framing members.
4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
5. Provisions for field replacement of glazing.
6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

C. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.

D. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.

1. At exterior doors, provide compression weather stripping at fixed stops.
2. At interior doors, provide silencers at stops to prevent metal-to-metal contact. Install three silencers on strike jamb of single-door frames and two silencers on head of frames for pairs of doors.

E. Entrance Doors: Reinforce doors as required for installing entrance door hardware.

1. At pairs of exterior doors, provide sliding-type weather stripping retained in adjustable strip and mortised into door edge.
2. At exterior doors, provide weather sweeps applied to door bottoms.

F. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.

G. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.9 ALUMINUM DOOR FINISHES

A. Fluoropolymer Three Coat Coating System: Manufacturer's standard three coat, thermo-cured system composed of specially formulated inhibitive primer, fluorocarbon color coat, and a clear fluorocarbon topcoat (applicable with three coat system). Both color coat and clear topcoat shall contain not less than 70% polyvinylidene resin by weight in compliance with AAMA 2605 for testing, performance, and application procedures.

1. Panels shall be chemically etched by an appropriate cleaner in accordance with manufacturer's written instructions.

2. Apply acid resistant primer to cleaned aluminum. Thickness range; 0.20 to 0.30 mils.

3. Apply polyvinylidene fluoride (PVF2) resinated color coat. Thickness range; 0.8 to 1.2 mils.
   a. Kynar 500. Must be applied by certified Kynar coater.

4. Apply clear top coat finish as extra protection, no less then 0.8 mils thick. Comply with AAMA standards.
5. Color: Custom color to match architect's sample, or if none, from manufacturer's standard selection

2.10 ALUMINUM FRAME FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

B. Anodized Finishing: Prepare aluminum surfaces for specified finish; apply shop finish in accordance with the following:
1. Anodic Coating: Electrolytic color coating followed by an organic seal applied in accordance with the requirements of AAMA 612. Aluminum extrusions shall be produced from quality controlled billets meeting AA-6063-T5.
2. Exposed Surfaces shall be free of scratches and other serious blemishes.
3. Extrusions shall be given a caustic etch followed by an anodic oxide treatment and then sealed with an organic coating applied with an electrodeposition process.
4. The anodized coating shall comply with all of the requirements of AAMA 612: Voluntary Specifications, Performance Requirements and Test Procedures for Combined Coatings of Anodic Oxide and Transparent Organic Coatings on Architectural Aluminum. Testing

shall demonstrate the ability of the finish to resist damage from mortar, salt spray, and chemicals commonly found on construction sites, and to resist the loss of color and gloss
5. Overall coating thickness for finishes shall be a minimum of 0.7 mils

C. **DELETED ADDENDUM #5 11/6/25**

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General:

1. Comply with manufacturer's written instructions.
2. Do not install damaged components.
3. Fit joints to produce hairline joints free of burrs and distortion.
4. Rigidly secure nonmovement joints.
5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
6. Seal perimeter and other joints watertight unless otherwise indicated.

B. Metal Protection:

1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with materials recommended by manufacturer for this purpose or by installing nonconductive spacers.
2. Where aluminum is in contact with concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Set continuous sill members and flashing in full sealant bed as specified in Section 079200 "Joint Sealants" to produce weathertight installation.

D. Install components plumb and true in alignment with established lines and grades.

E. Install operable units level and plumb, securely anchored, and without distortion. Adjust weather-stripping contact and hardware movement to produce proper operation.

F. Install glazing as specified in Division 8 "Glazing."

G. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.

1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
2. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

3.3 ERECTION TOLERANCES

A. Erection Tolerances: Install aluminum-framed entrances and storefronts to comply with the following maximum tolerances:

1. Plumb: 1/8 inch in 10 feet; 1/4 inch in 40 feet.
2. Level: 1/8 inch in 20 feet; 1/4 inch in 40 feet
3. Alignment: limit offset from true alignment to 1/16 inch.
4. Location: Limit variation from plane to 1/8 inch in 12 feet; 1/2 inch over total length.

3.4 MAINTENANCE SERVICE

A. Entrance Door Hardware:

1. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of entrance door hardware.
2. Initial Maintenance Service: Beginning at Substantial Completion, provide six months' full maintenance by skilled employees of entrance door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper entrance door hardware operation at rated speed and capacity. Use parts and supplies that are the same as those used in the manufacture and installation of original equipment.

END OF SECTION 08 41 13

SECTION 08 43 33.13 – SECURITY STOREFRONT BULLET RESISTANT ALUMINUM FRAMING AND DOORS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

B. Baltimore County Property Management's general requirements included in each bid package shall also apply to this Section. In case of conflict the more stringent document shall take precedence.

1.1 SECTION INCLUDES

A. Bullet Resistant Aluminum Storefront Framing and Entrance Doors.

B. Bullet Resistant Glazing (insulated & non-insulated).

1.2 ACTION SUBMITTALS

A. Refer to Section 01 33 00 Submittal Procedures.

B. Product Data: For each type of framing and glazing including manufacturer recommended installation instructions.

C. Shop Drawings: Include plans, elevations, sections, details, attachment to other work and glazing details for field-glazed units.

D. Samples: For each exposed finish.

1.3 INFORMATIONAL SUBMITTALS

A. Product Test Reports: Indicating compliance with requirements.

B. Warranty: Sample of finish warranty

1.4 CLOSEOUT SUBMITTALS

A. Refer to Section 01 78 00 Closeout Submittals.

B. Maintenance data.

1.5 QUALITY ASSURANCE

A. Mock-up: Install framing assembly at project site. Obtain Architect's approval prior to proceeding with installation of remaining storefront. Accepted mock-up may remain as portion of final work.

1.6 DELIVERY, STORAGE AND HANDLING

A. Refer to Section 01 60 00 Product Requirements.

1.7 WARRANTY

A. Finish Warranty: Manufacturer's warranty against deterioration of factory finishes for the period of 5 years from the date of Substantial Completion.

B. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer's standard form in which coated-glass manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.

1. Warranty Period: 5 years from date of Substantial Completion.

C. Manufacturer's Special Warranty on Laminated Glass: Manufacturer's standard form in which laminated-glass manufacturer agrees to replace laminated-glass units that deteriorate within specified warranty period. Deterioration of laminated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.

1. Warranty Period: 5 years from date of Substantial Completion.

D. Manufacturer's Special Warranty on Insulating Glass: Manufacturer's standard form in which insulating-glass manufacturer agrees to replace insulating-glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.

1. Warranty Period: 5 years from date of Substantial Completion.

1.8 ALTERNATES

A. Add Alternate No. 1: The Amount to be added to the total contract sum in connection with increasing the base bid level 3 ballistic ratings at the first-floor exterior storefront system and glazing to level 5 ballistic rating, as shown on the architectural drawings.

B Add Alternate No. 2: The Amount to be added to the total contract sum in connection with providing level 5 ballistic rated storefront system and glazing to all second floor Type W-1 windows in lieu of the GL-1 glazing.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

A. Basis of Design: Insulgard HP600/ HP500 Bullet and Resistant Architectural Aluminum Framing and Doors by Insulgard Security Products; Phone 800.624.6315; website www.insulgard.com,

B. Basis of Design: McGrory BallisticDefend Unico Bullet Resistant Framing and Doors by McGrory Glass; Phone 800.220.3749; website www.mcgrory.com

1. Subject to compliance with requirements, manufacturers of products of equivalent design may be acceptable if approved in accordance with Section 01 25 00 Substitution Procedures.

C. Description

1. Factory fabricated framing constructed from either 6105-T5 or 6005-T5 extruded aluminum with integral weep design to allow water to vent to the exterior along horizontal members.
2. Dimensions:

a. Head, Jamb, Sill, Mullion and Intermediate Horizontal Members: 2-1/2 inches by 6 inches.
b. Doors: Bottoms - 10”x3 5/8”, stiles and top rail – 5”x3 5/8”.

2.2 PERFORMANCE CRITERIA

A. Ballistic Resistant: Level 3 & Level 5 in accordance with UL 752 – Testing for Ballistic Resistance for the complete assembly including framing, glazing and panels.

2.3 FABRICATION

A. Tolerances: All joints and connections shall be tight, providing hairline joints and true alignment of adjacent members

2.4 ALUMINUM FRAME FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

B. Anodized Finishing: Prepare aluminum surfaces for specified finish; apply shop finish in accordance with the following:

1. Anodic Coating: Electrolytic color coating followed by an organic seal applied in accordance with the requirements of AAMA 612. Aluminum extrusions shall be produced from quality controlled billets meeting AA-6063-T5.
2. Exposed Surfaces shall be free of scratches and other serious blemishes.
3. Extrusions shall be given a caustic etch followed by an anodic oxide treatment and then sealed with an organic coating applied with an electrodeposition process.
4. The anodized coating shall comply with all of the requirements of AAMA 612: Voluntary Specifications, Performance Requirements and Test Procedures for Combined Coatings of Anodic Oxide and Transparent Organic Coatings on Architectural Aluminum. Testing shall demonstrate the ability of the finish to resist damage from mortar, salt spray, and chemicals commonly found on construction sites, and to resist the loss of color and gloss
5. Overall coating thickness for finishes shall be a minimum of 0.7 mils

C. **DELETED Addendum #5:**

2.5 ALUMINUM DOOR FINISHES

A. Fluoropolymer Three Coat Coating System: Manufacturer's standard three coat, thermo-cured system composed of specially formulated inhibitive primer, fluorocarbon color coat, and a clear fluorocarbon topcoat (applicable with three coat system). Both color coat and clear topcoat shall contain not less than 70% polyvinylidene resin by weight in compliance with AAMA 2605 for testing, performance, and application procedures.

1. Panels shall be chemically etched by an appropriate cleaner in accordance with manufacturer's written instructions.

2. Apply acid resistant primer to cleaned aluminum. Thickness range; 0.20 to 0.30 mils.

3. Apply polyvinylidene fluoride (PVF2) resinated color coat. Thickness range; 0.8 to 1.2 mils.
   a. Kynar 500. Must be applied by certified Kynar coater.

4. Apply clear top coat finish as extra protection, no less then 0.8 mils thick. Comply with AAMA standards.
5. Color: Custom color to match architect's sample, or if none, from manufacturer's standard selection

2.6 Ballistic Glazing

1. GL-3 2.010" Nom. Thickness Insulated Level 5 ballistic glazing SEE 08 43 44.13
   a. Basis of Design: Baluln32 IG, by Insulgard Security products
   b. Thickness: 2.010" Nom.
   c. Light Transmittance: 68%
   d. U-Value: 0.42
   e. SHGC: 0.62
   f. Shading Coefficient: 0.71

2. GL-4 1.717" Nom. Thickness Insulated Level 3 ballistic UL 752SEE 08 43 44.13
   a. Basis of Design: Baluln25 IG, by Insulgard Security products
   b. Thickness: 1.742" Nom.
   c. Light Transmittance: 69%
   d. U-Value: 0.43
   e. SHGC: 0.62

f. Shading Coefficient: 0.71

3. GL-8
   a. Basis of Design: Baluln25, by Insulgard Security products
   b. Thickness: 1.01” Nom.
   c. Light Transmittance: 77%
   d. U-Value: 0.84
   e. SHGC: 0.63
   f. Shading Coefficient: 0.72

4. Allowable Tolerances: Plus or minus 1/4 inch for frame opening width, height, diagonal dimensions, and overall width and height (outside to outside).

2.7 ACCESSORIES

A. Anchors: Fully concealed in accordance with requirements of delegated design requirements

PART 3 - EXECUTION

3.1 PREPARATION

A. Verify field dimensions of opening prior to fabrication of windows.

B. Coordinate structural requirements to ensure proper attachment and support.

3.2 INSTALLATION

A. Install windows in accordance with manufacturer's recommendations and approved shop drawings.

B. Provide required support and securely fasten and set windows plumb, square, and level without twist or bow.

C. Apply sealant in accordance with window and sealant manufacturer's recommendations as indicated in installation instructions. Wipe off excess, and leave exposed sealant surfaces clean and smooth.

3.3 PROTECTION

A. Clean and protect windows from damage during construction operations. If damage occurs, remove and replace as required to provide windows in their original, undamaged condition.

END OF SECTION 08 43 33.13

SECTION 08 45 13 - STRUCTURED-POLYCARBONATE-PANEL ASSEMBLIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. Baltimore County Property Management's general requirements included in each bid package shall also apply to this Section. In case of conflict the more stringent document shall take precedence.

1.2 SUMMARY

A. Section includes aluminum-framed assemblies glazed with translucent polycarbonate panels as follows:

1. Translucent unit panel wall system. Or

2. Translucent wall panel.

1.3 PREINSTALLATION MEETING

A. Discussion topics should include the following: schedule; sequence; coordination of trades; substrate review and acceptance; protection; shop drawings and submittals; interface conditions and details; environmental constraints; mockups; testing requirements; field quality control efforts. Meetings shall be attended by owner, construction manager, sub-contractor, architect, engineers, etc. at the job site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for aluminum components of panel assemblies.

B. Shop Drawings: For panel assemblies.

1. Include plans, elevations, sections, details, and attachments to other work.
2. Include details of provisions for assembly expansion and contraction and for draining moisture within the assembly to the exterior.
3. Shop drawings shall include project-specific interface conditions and depict integration with adjacent exterior wall conditions.

C. Samples: In manufacturer's standard size.

1. For each type of structured-polycarbonate panel.
2. For each type of exposed finish for framing members.

D. Fabrication Samples: Of each framing system intersection and adjacent panels, made from 12-inch (305-mm) lengths of full-size framing members and showing details of the following:

1. Joinery.
2. Anchorage.
3. Expansion provisions.
4. Translucent polycarbonate panels.
5. Flashing and drainage.

E. Submittal: For panel assemblies indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Test Reports: For each translucent polycarbonate-panel assembly, for tests performed by a qualified testing agency.

C. Evaluation Reports: For translucent polycarbonate-panel assemblies from ICC-ES.

D. Field quality-control reports.

E. Sample Warranties: For special warranties.

F. Manufacturer’s installation instructions.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For panel assemblies to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

1. Build mockup of typical panel assemblies as shown on Drawings.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components of panel assemblies that fail in materials or fabrication workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including, but not limited to, excessive deflection.
b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
c. Water leakage.

2. Warranty Period: Five years from date of Substantial Completion.

B. Manufacturer's Special Warranty: Manufacturer agrees to repair or replace translucent polycarbonate panels that exhibit defects in materials or workmanship within specified warranty period.

1. Defects include, but are not limited to, the following:

a. Delamination.
b. Color changes exceeding requirements.
c. Losses in light transmission beyond 6 percent from original when measured after 10 years according to ASTM D 1003.

2. Warranty Period: 10 years from date of Substantial Completion.
3. Warranty Period for Hail Damage: Five years from date of Substantial Completion for hail stone penetration exceeding requirements.

C. Special Aluminum-Finish Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which finishes fail within specified warranty period. Warranty does not include normal weathering.

1. Failures include, but are not limited to, checking, crazing, peeling, chalking, and fading of finishes.
2. Warranty Period: 10 years from date of Substantial Completion.

D. Installer's Warranty: Installer agrees to repair or replace components of panel assemblies that fail in installation workmanship within specified warranty period.

1. Failures include, but are not limited to, installation defects and water leakage.
2. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 01 40 00 "Quality Requirements," to design translucent polycarbonate-panel assemblies.

B. Structural Loads: As indicated on Drawings.

C. Deflection Limits:

1. Vertical Panel Assemblies: Limited to 1/120 of clear span for each assembly component of aluminum framing and panel joint according to the IBC, Table 1604.3 for exterior walls with flexible materials.
2. Overhead Panel Assemblies: Limited to 1/60 of clear span for each assembly component of aluminum framing and panel joint according to the IBC, Table 1604.3, footnote h.

D. Structural-Test Performance: Panel assemblies tested according to ASTM E 330, as follows:

1. When tested at positive and negative wind-load design pressures, assemblies do not show evidence of deflection exceeding specified deflection limits.
2. When tested at 150 percent of positive and negative wind-load design pressures, assemblies, including anchorage, do not show evidence of material failures, structural distress, and permanent deformation of main framing members exceeding 0.2 percent of span.
3. Test Durations: As required by design wind velocity, but not less than 10 seconds.

E. DELETED – Addendum #5 11/6/25

F. Hail-Stone Impact Resistance: Panel assemblies that resist penetration by hail stone smaller than 1-3/16 inches (30 mm) in diameter, impacting panel surface at a final velocity up to 44 fps (13.4 m/s) per ASTM E 822.

G. Panel Clip Performance: Corrosion-resistant clips tested to meet a minimum 90-lb/sq. ft. (4.3-kPa) wind uplift when tested according to ASTM E 330.

H. Panel End Seals: Continuous factory-applied, self-adhered micro-filter tape over open panel cells and factory heat-seal-crimped open panel cells.

I. Panel Performance:

1. Smoke-Developed Index: 450 or less according to ASTM E 84, or 75 or less according to ASTM D 2843.
2. Flame Spread: 25 or less when tested according to ASTM E 84.
3. Combustibility Classification: Class CC1 based on testing according to ASTM D 635.
4. Interior Finish Classification: Class A based on testing according to ASTM E 84.
5. Visible Light Transmittance (VT) Loss: 6 percent maximum over 10 years, measured according to ASTM D 1003.
6. Thermal Aging: When exposed to 300 deg F (149 deg C) for 25 minutes, interior and exterior panels tested according to ASTM D 2244.

    a. Color Retention: 0.75 (Hunter) units ΔE maximum fade.
    b. Color Darkening: 0.3 (Hunter) units ΔL maximum.
    c. Cracking or Crazing: None when exposed to 300 deg F (149 deg C) for 25 minutes.
    d. Delamination: None when exposed to 300 deg F and 0 deg F (plus 149 and minus 17.8 deg C) for 25 minutes.

7. Impact Resistance: No failure at an impact of 500 lbf (677.9 Nm) when tested according to ASTM E 695.
8. Concentrated Loading: No damage while applying a load of 600 lbf (813.5 Nm) over 1 sq. ft. (0.093 sq. m.) when tested according to 29 CFR 1910.23(e)(8); and no damage while

applying a load of 400 lbf (542.3 Nm) over 3 inches (152 mm) in diameter according to ASTM E 661.

9. Basis of Design NFRC Requirements:
   a. CPD#: KLA-M-5-00001-00005
   b. U-factor: 0.29 maximum
   c. SHGC: 0.23 maximum
   d. VT: 0.10 minimum
   e. Condensation Resistance: 40 minimum
   f. Anodized: M006.5 10mm UQ(white Matte)|10mm UQ(White Matte)

J. Water Penetration under Static Pressure: Provide panel assemblies that do not evidence water penetration through fixed glazing and framing areas when tested according to ASTM E 331 at a minimum static-air-pressure difference of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft. (300 Pa).

K. Thermal Movements: Allow for thermal movements from ambient- and surface-temperature changes. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

L. Energy Performance: Provide panel assemblies with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below and certified and labeled according to NFRC.

1. Thermal Transmittance (U-Factor): Fixed panel and mill finish aluminum framing whole assemblies shall have U-factor of not more than 0.29 Btu/sq. ft. x h x deg F (1.59 W/sq. m x K) vertical application and 0.31 Btu/sq. ft. x h x deg F (1.76 W/sq. m x K) sloped application as determined according to NFRC 100.
2. Solar-Heat-Gain Coefficient (SHGC): Panel assembly shall have an SHGC of no greater than 0.23 as determined according to NFRC 200.
3. Visible Light Transmittance (VT): White Matte, 0.10 or greater according to NFRC 202; White matte 0.10, according to ASTM E 972, ASTM E 1084.
4. Air Infiltration: Maximum air leakage through fixed glazing and skylight framing assemblies of 0.30 cfm/sq. ft. (1.50 L/s per sq. m) of fixed wall area as determined according to ASTM E 283 at a minimum static-air-pressure differential of 1.57 lbf/sq. ft. (75 Pa).
5. Air Infiltration: Maximum air leakage through fixed window glazing and framing assemblies of 0.20 cfm/sq. ft. (1.02 L/s per sq. m) of fixed wall area as determined according to ASTM E 283 at a minimum static-air-pressure differential of 1.57 lbf/sq. ft. (75 Pa).
6. Air Infiltration: Maximum air leakage through fixed curtain wall and storefront glazing and framing assemblies of 0.06 cfm/sq. ft. (0.30 L/s per sq. m) of fixed wall area as determined according to ASTM E 283 at a minimum static-air-pressure differential of 1.57 lbf/sq. ft. (75 Pa).

2.2 TRANSLUCENT POLYCARBONATE-PANEL ASSEMBLIES

A. Translucent Polycarbonate-Panel Assemblies: Translucent assemblies that are supported by aluminum framing and glazed with translucent polycarbonate panels.

1. Basis-of-Design Product: Subject to compliance with requirements, provide Kingspan; UniQuad or an approved equal product by one of the following:

    a. Wasco by Velux LumiWal System
    b. Kalwall

2.3 TRANSLUCENT POLYCARBONATE WALL PANELS

A. Translucent, Multiwall Cellular Polycarbonate Panel Thermally Broken Assembly: Consisting of two independent, multiwall cellular cross-section, polycarbonate glazing panels with air-insulated spaces and coextruded UV protection, integrated into a panel assembly with concealed metal connecters consisting of a two-piece male/female battens with built-in silicone gaskets. Unitized panel assembly shall be incorporated into a complete aluminum frame system without exposed mullions. Design panels for exterior panel replacement, independent of interior single panel and without exposing the interior, or compromising weather-tightness, or interfering with the normal working functions of the building.

B. Panel Thickness: Overall assembly minimum 4 inch (102 mm).

C. Perimeter Frame Thermal Break: 0.25-inch- (6.4-mm-) minimum, poured and debridged separation consisting of a two-part chemically curing, high-density polyurethane, which is mechanically and adhesively joined to aluminum framing.

D. UV Resistance: Coextruded on weather-exposed surfaces during glazing panel manufacture.

E. Color: As selected by Architect from manufacturer's full range.

F. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

    1. Sound Transmission Class (STC): Paired-panel assemblies shall have a minimum overall acoustic value of the following STC:
        a. Paired-Panel Assembly; 4 Inches (101 mm) Thick: STC 26.

G. Department of Defense Forced Entry Resistance: Provide "5-Minute-Forced-Entry" certification according to Department of State, SD-STD-01.01, Revision G (Amended), Code 2114 according to UFC 4-020-1, "DOD Security Engineering Planning Manual."

H. Department of Defense Antiterrorism Standard for Buildings: Provide stamped calculations for Project-specific conditions showing compliance according to UFC 4-010-01.

I. Human-Impact Resistance: For human-impact-resistant assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 695; shall withstand impact loading by blunt object of 2000 ft.-lb (271 Nm).

J. Panel Performance:

    1. Color Retention: 3.0 (Hunter) units ΔE, maximum fade as measured according to ASTM D 2244 when tested on minimum of two white color samples after panels have weathered outdoors in Arizona with panels exposed to a minimum 36.78 Langleys (1540 MJ/sq. m).

2. Haze Factor: Greater than 90 percent when tested according to ASTM D 1003.

2.4 ALUMINUM FRAMING SYSTEMS

A. Components: Manufacturer's standard extruded-aluminum members of thickness required and reinforced as required to support imposed loads.

B. Aluminum: Alloy and temper recommended in writing by manufacturer for type of use and finish indicated.

1. Sheet and Plate: ASTM B 209 (ASTM B 209M).
2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
3. Extruded Structural Pipe and Tubes: ASTM B 429 (/B 429M).
4. Structural Profiles: ASTM B 308 (/B 308M).

C. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning skylight components.

D. Fasteners and Accessories: Manufacturer's standard, corrosion-resistant, nonstaining, and nonbleeding fasteners and accessories; compatible with adjacent materials.

1. At closures, retaining caps, or battens, use ASTM A 193 (/A 193M), 300 series stainless-steel screws.
2. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
3. At movement joints, use slip-joint linings, spacers, and sleeves of material and type recommended in writing by manufacturer.

E. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts complying with ASTM A 123 (/A 123M) or ASTM A 153 (/A 153M) requirements.

F. Anchor Bolts: ASTM A 307, Grade A, galvanized steel.

G. Concealed Flashing: Corrosion-resistant, nonstaining, nonbleeding flashing compatible with adjacent materials.

H. Exposed Flashing and Closures: Aluminum sheet not less than 0.040-inch (1.02-mm) thick, finished to match framing.

I. Framing Gaskets: Manufacturer's standard gasket system with low-friction surface treatment designed specifically for retaining translucent polycarbonate panels.

J. Frame-System Sealants: As recommended in writing by manufacturer.

1. Sealant shall have a VOC content of 250 g/L or less.

K. Corrosion-Resistant Coating: Cold-applied asphalt mastic, compounded for 15-mil (0.4-mm) dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

L. White Cover Board over Semi Rigid Insulation, where solid wall.

2.5 FABRICATION

A. Fabricate aluminum components that, when assembled, have the following characteristics:

1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Internal guttering systems or other means to drain water passing through joints and moisture migrating within assembly to exterior.

B. Fabricate aluminum sill closures with weep holes and for installation as continuous component.

C. Reinforce aluminum components as required to receive fastener threads.

2.6 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Comply with manufacturer's written instructions.

1. Do not install damaged components.
2. Fit joints between aluminum components to produce hairline joints free of burrs and distortion.
3. Rigidly secure nonmovement joints.
4. Install anchors with separators and isolators to prevent metal corrosion, electrolytic deterioration, and immobilization of moving joints.
5. Seal joints watertight unless otherwise indicated.

B. Metal Protection: Where aluminum components will contact dissimilar materials, protect against galvanic action by painting contact surfaces with corrosion-resistant coating or by installing nonconductive spacers as recommended in writing by manufacturer for this purpose.

C. Install components plumb and true in alignment with established lines and elevations.

D. Skylight Assemblies: Install continuous aluminum sill closures with weatherproof expansion joints and locked and sealed corners. Install components to drain water passing through joints and moisture migrating within assembly to exterior.

E. Erection Tolerances: Install panel assemblies to comply with the following maximum tolerances:

1. Alignment: Limit offset from true alignment to 1/32 inch (0.8 mm) where surfaces abut in-line, edge-to-edge, at corners, or where a reveal or protruding element separates aligned surfaces by less than 3 inches (76 mm); otherwise, limit offset to 1/8 inch (3.2 mm).
2. Location and Plane: Limit variation from true location and plane to 1/8 inch in 12 feet (3.2 mm in 3.7 m), but no greater than 1/2 inch (12 mm) over total length.

3.3 FIELD QUALITY CONTROL

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

1. Water-Spray Test: Before installation of interior finishes has begun, panel assemblies shall be tested according to AAMA 501.2 and shall not show evidence of water penetration.
2. Water Penetration under Static Pressure: Before installation of interior finishes has begun, areas shall be tested according to ASTM E 1105.

    a. Test Procedures: Test under uniform and cyclic static-air pressure.
    b. Static-Air-Pressure Difference: As indicated on the drawings.
    c. Water Penetration: None.

B. Repair or remove work where test results and inspections indicate that it does not comply with specified requirements.

C. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

D. Prepare test and inspection reports.

END OF SECTION 08 45 13

SECTION 10 14 00 - SIGNAGE

PART 1 - GENERAL

1.1 STIPULATIONS

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

1.2 SUMMARY

A. This Section includes the following:

1. Interior panel signs.
2. Dimensional characters (letters and numbers) for exterior use including backlit and unlit.
3. Signage accessories.

B. Related Sections include the following:

1. Division 23 Section "Mechanical Identification" for labels, tags, and nameplates for mechanical equipment.
2. Division 26 Section "Electrical Identification" for labels, tags, and nameplates for electrical equipment.
3. Division 26 Section "Lighting" for illuminated exit signs.
4. 03 45 00 PRECAST ARCHITECTURAL CONCRETE for recessed signage.

1.3 SUBMITTALS

A. Product Data: profiles and construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of sign.

B. Shop Drawings: Include plans, elevations, and large-scale sections of typical members and other components. Show mounting methods, grounds, mounting heights, layout, spacing, reinforcement, accessories, and installation details.

1. Provide message list for each sign, including large-scale details of wording, lettering, artwork, and braille layout.

C. Samples for Initial Selection: For each type of sign material indicated that involves color selection.

D. Samples for Verification: For each type of sign, include the following Samples to verify color selected:

1. Panel Signs: Full-size Samples of each type of sign required.

E. Qualification Data: For Installer.

F. Maintenance Data: For signage cleaning and maintenance requirements to include in maintenance manuals.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative of the signage manufacturer for installation and maintenance of units required for this Project.

B. Source Limitations: Obtain each sign type through one source from a single manufacturer.

C. Regulatory Requirements: Comply with the Americans with Disabilities Act (ADA) and with code provisions as adopted by authorities having jurisdiction.

1. Interior Code Signage: Provide signage as required by accessibility regulations and requirements of authorities having jurisdiction.

1.5 PROJECT CONDITIONS

A. Field Measurements: Where sizes of signs are determined by dimensions of surfaces on which they are installed, verify dimensions by field measurement before fabrication and indicate measurements on Shop Drawings.

1.6 COORDINATION

A. For signs supported by or anchored to permanent construction, advise installers of anchorage devices about specific requirements for placement of anchorage devices and similar items to be used for attaching signs.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:

1. Interior Panel Signs, Basis-of-Design Product:
   a. Mohawk Sign System MP 200 A Format or equal. The design for each sign is based on the product type named.
   b. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.
2. Exterior Dimensional Lettering, Basis-of-Design Product:
   a. Gemini

2.2 INTERIOR PANEL SIGNS

A. General: Provide panel signs that comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.

1. Produce smooth panel sign surfaces constructed to remain flat under installed conditions within tolerance of plus or minus 1/16 inch measured diagonally.

B. Manufacturers:

1. Basis of Design, Mohawk Sign Systems, Inc.
2. Apco Signs
3. ASI Modulex, Architectural Signage Solutions
4. Best Sign Systems. Inc.
5. InPro Corporation
6. Signature Signs
7. InVision Signs

C. Laminated Sheet Sign. Sandblasted polymer face sheet with raised graphic laminated over subsurface graphics laminated over subsurface graphics to acrylic backing sheet to produce composite. Styles and types shall be as indicated in sketches and shall match Owner's interior signage standard.

D. 'Paper Grabber' at bottom of signs shall be as indicated Type 2 signs in sketches/schedules.

E. 'Finger Hole' access for view panels to allow users to insert and extract paper inserts shall be as indicated in sketches/schedules.

F. Mounting for each sign style and type shall be as indicated in sketches/schedules.

G. Cast-Acrylic Sheet: Manufacturer's standard and as follows:

1. Color: As selected by Architect from manufacturer's full range.
2. 1/16" Horizontal V Groove
3. Thickness:

   a. Static Signs: 1/4" Acrylic
   b. Signs with Acrylic Window: milled edge creating a continuous U-shape frame to engage the acrylic Window.

H. Before specifying, verify availability of plastic-laminate materials in color combinations required.

I. Deleted – Addendum #5 11/6/25.

J. Perimeter: Fabricate edges to profile indicated; comply with the following requirements for materials and corner conditions:

1. Material: Romark or Equivalent.
2. Corner Condition: sharp corners

K. Graphic Content and Style: Provide sign copy that complies with requirements indicated in the Sign Schedule for size, style, spacing, content, mounting height and location, material, finishes, and colors of signage.

L. Graphic Symbols:

1. Owner Provided Graphic for raised pattern header. EPS file available upon request after bidding phase. See Interior Signage drawings.

2. Color: As selected by Architect from Manufacturer's full range

M. Acrylic Sheet Plastic Window: Plexiglass II by Rohm & Hass Co. or equal.

N. Text Fonts: Sans Serif: Gill Sans, ¾ » high

O. Blank Aluminum Sign Panels: To be used as a backer for mounting signs on window areas other than sidelights. At Doors with sidelights, sidelights are considered to be part of the door; sign to be mounted beside sidelight.

P. Tactile and Braille Copy: Manufacturer's standard process for producing copy complying with ADA Accessibility Guidelines and ICC/ANSI A117.1. Text shall be accompanied by Grade 2 Braille. Produce precisely formed characters with square cut edges free from burrs and cut marks.

1. Panel Material: Opaque acrylic sheet
2. Ball Pointed Braille.
3. Raised-Copy Thickness: Not less than 1/32 inch.

Q. Accessories:

1. Mounting Methods: Use concealed fasteners or double-sided vinyl tape fabricated from materials that are not corrosive to sign material and mounting surface.

R. Adhesives: VOC Content of 70 g/L or less.
1. For adhesives, indicating compliance with requirements for low-emitting materials.
2. Verify adhesive complies with the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

S. Copy & Schedule:
1. If there are any inconsistencies between the drawings and schedule
2. Room names shall be changed through the shop drawings. Room number is for drawings and installation scheduling purpose and may not be included in the room signage or be changed.
3. Provide Microsoft excel formatted spreadsheet, organized based on the signage schedule and modified per the mfg. means and methods for their production. This document is to be used to finalize copy with the user group in submittal process.

2.3 INTERIOR PANEL SIGN TYPES (Types are as designated on the Drawings)

A. Type 1: GENERAL ROOM SIGN
1. Provide **one** signs per location indicated in the plan – **Addendum #5 – 11/6/25**
2. Custom Raised Header
3. Text: As indicated in the Sign Schedule.
4. Message: Fixed.
5. Size: 6" x 6"
6. Mounting: Wall.

B. Type 2: INTERIOR PRIVATE OFFICE SIGN with Clear Acrylic Insert Window w/ finger hole and paper grabber.

1. Provide **one** signs per location indicated in the plan – **Addendum #5 – 11/6/25**
2. Custom Raised Header : ROOM NAME (no number).
3. Text: As indicated in the Sign Schedule. Provide laser printed inserts on cardstock.
4. Message: Changeable.
5. Accessory: Satin Silver color paper display gripper 8.5” long.
6. Size: 8.5” x 8.5”
7. Mounting: Wall.

C. Type 3 EGRESS STAIR SIGN –
1. Custom Raised Header
2. Text: As indicated in the Sign Schedule.
3. Message: Fixed.
4. Size: 9.75” x 8.5”
5. Mounting: Wall.
6. Stair Symbol, human figure and fire symbols

D. Type 4, ELEVATOR SIGN (IN CASE OF FIRE…) Elevator Signs in accordance with NFPA
1. Custom Raised Header
2. Text: As indicated in the Sign Schedule.
3. Message: Fixed.
4. Size: 9.75” x 6.75”
5. Mounting: Wall.
6. Universal Pictogram Symbol and Instructional Text.

E. Type 5, EVACUATION PLAN SIGN

1. Text: As indicated in the Sign Schedule.
2. Message: Fixed.
3. Size: 12” x 12”
4. Acrylic Insert Slot, Arch. to provide plan.
5. Mounting: Wall.

F. Type 6, **EXIT WALL & BLADE SIGN** (**wall & blade**) **Addendum #5 11/6/25**

1. Deleted – Addendum #5 11/6/25
2. Text: As indicated in the Sign Schedule.
3. Message: Fixed.
4. Size: 9.75” x 6.75”
5. Mounting: **Wall and Blade depending on location.**
6. Universal Pictogram Symbol for **exit – Addendum #5 11/6/25**
7. Deleted – Addendum #5 11/6/25
8. Deleted – Addendum #5 11/6/25
9. Deleted – Addendum #5 11/6/25

G. Type 7A, NO SMOKING SIGN

1. Universal Pictogram Symbol and Instructional Text.
2. Size: 9.75” x 8.5”
3. Mounting: Wall.

4. Copy: No Smoking within 25 feet of building entrance

H. Type 7B, NO SMOKING SIGN – GLASS DECAL

1. Universal Pictogram Symbol and Instructional Text.
2. Size: 9.75” x 8.5”
3. Mounting: Wall.
4. Copy: No Smoking within 25 feet of building entrance

I. Type 8A: ADA STAFF RESTROOM SIGNS

1. Universal Pictogram Symbol and Instructional Text.
2. Size: 9.75” x 8.5”
3. Mounting: Wall.
4. Pictogram to include Men / Women and ADA
5. COPY: ADA RESTROOM

J. Type 8B: ADA RESTROOM w/ BABY CHANGING ROOM SIGN

1. Universal Pictogram Symbol and Instructional Text.
2. Size: 9.75” x 8.5”
3. Mounting: Wall.
4. Pictogram to include BABY CHANGING STATION
5. Copy: UNISEX RESTROOM WITH BABY CHANGING STATION

K. Type 8C: ADULT CHANGING ROOM SIGN

1. Universal Pictogram Symbol and Instructional Text.
2. Size: 9.75” x 8.5”
3. Mounting: Wall.
4. Pictogram to include Men / Women and ADA
5. Copy: : UNISEX RESTROOM WITH ADULT CHANGING STATION

L. Type 9A, METAL LOCKER DECAL (PROVIDE WITH ADD ALTERNATE #3)
1. Provide 2 (duplicate) for each indicated in plan
2. Custom printed vinyl sticker
3. Size: 4”x5”
4. Copy: LOCKER POWER OUTLETS DO NOT SUPPORT HAIR DRYERS
5. LOCATION: One per every island, bank or row of lockers in the locker rooms only.

M. Type 9B, ADA METAL LOCKER DECAL
1. Provide 1 for each indicated in plan
2. Custom printed vinyl sticker
3. Size: 4”x5”
4. Copy: ADA LOCKER (ADA ICON)
5. LOCATION: One per designated ADA lockers in the locker rooms only.

N. Type 10, LEED INNOVATION SIGNAGE

1. Artwork: Architect to provide artwork and copy with submittal
2. Material: Typical Romark with direct print.
3. Color: Architect to select stock Romark color
4. Size: 16”x20”
5. Mounting: Wall.
6. **QTY: 8 – Addendum #5 11/6/25**

O. Type 11A, LEED STAIR WELLNESS SIGNAGE

1. Artwork: Architect to provide artwork and copy with submittal
2. Material: Typical Romark with direct print.
3. Color: Architect to select stock Romark color
4. Size: 8”x10”
5. Mounting: Wall.
6. QTY: 4

P. Type 11B Mounted frameless glassless photographs

1. ARTWORK: Provided by owner after submittal, proof will be required in separate submittal.
2. Provide 1 full size sample for owner approval
3. Printing: Direct color and black and white printed image on aluminum dibond (or equal substrate).
4. Edge, Back bevel edges
5. Mounting: Aluminum cleat mounting kit
6. Size: 16”x20”
7. **QTY: 10 – Addendum #5 11/6/25**

Q. Type 11C Mounted frameless photograph with floating **3/8” thick** tempered glass on brass 1” standoff mounts**– Addendum #5 11/6/25**

1. ARTWORK: Provided by owner after submittal, proof will be required in separate submittal.
2. Provide 1 full resolution 16x16 size sample print for owner approval.
3. Printing: Direct color and black and white printed image on aluminum dibond (or equal substrate).
4. Edge, Back bevel edges
5. Mounting: Aluminum cleat mounting kit
6. Size: See elevation in community room above casework
7. QTY: 1
8. Location: Community room over sink.

R. Type, 12 Electrical Room Panel Signs

1. Universal Pictogram Symbol and Instructional Text.
2. Mounting: Wall.
3. **Size: 7”x10” – Addendum #5 11/6/25**

S. Type 13, Fire Extinguisher Panel Signs

1. Universal Pictogram Symbol and Instructional Text.
2. Mounting: Wall.
3. **Size: 7”x10” – Addendum #5 11/6/25**

T. Type 14, Danger Electrical Room
1. Provide two signs (duplicates) per locations indicated in the plan.
2. Danger Sign direct print to white romark.
3. Mounting: Door.
4. **Size: 7”x10” – Addendum #5 11/6/25**

U. Type 15, Roof Access Panel Signs -

1. Universal Pictogram Symbol and Instructional Text.
2. Mounting: Wall.
3. **Size: 7”x10” – Addendum #5 11/6/25**

V. Type 20, Restricted Area Sign -
1. ARTWORK: Provided by owner after submittal, pdf. file available.
2. Printing: Direct color and black and white printed image on approx. 3mm aluminum thick.
3. Edge, ease edges round corner.
4. Mounting: bolted at corners to masonry wall for exterior and used typical adhesive for interior
5. Size: 12”x18”
6. Text to read: Restricted Area Authorized Employees Only
7. **QTY: 9 – Addendum #5 11/6/25**
8. Location: SEE PLAN. AT EACH ENTRANCE TO THE BUILDING, PUBLIC AND PRIVATE.

2.4 DIMENSIONAL CHARACTER SIGNS

A. Fabricated Channel Characters: Form exposed faces and sides of characters to produce surfaces free from warp and distortion. Include internal bracing for stability and attachment of mounting accessories. Comply with the following requirements:

1. Aluminum Sheet: Not less than 0.090 inch (2.29 mm) thick.
2. Metal Finishes: Dark Bronze Alloy 5052
3. Standard Thickness 1-1/2” Deep
4. Face Style: Metal Face/ Side Lit L400
5. Mounting: Pin mounted.
6. LED color option: Warm White
7. Finish: Anodized metallic custom color.

B. General: Provide dimensional character signage that comply with requirements indicated for materials, thicknesses, finishes, colors, designs, shapes, sizes, and details of construction.

1. Fabricated Aluminum Channel Letters – Exterior

a. Form exposed faces and sides of characters to produce surfaces free from warp and distortion. Include internal bracing for stability and attachment of mounting accessories.

b. Aluminum Sheet: Not less than 0.090 inch thick

C. Illuminated Backlighted Channel Characters: Manufacturer's standard LED lighting including transformers, insulators, and other components. Make provisions for servicing and concealing connections to building electrical system.

D. Types:

1. Type 16 Exterior Fabricated Metal Pin Lettering w/ Back Lighting – CANOPY ENTRANCE SIGNAGE
   a. Text: As indicated in the drawing 5/A6.40.
   b. Mounting: Through wall penetrations to be coordinated with electrical contractor and signage contractor to seal all penetrations. Pin standoff 1”
   c. Dimensions
      1) Depth: 2”
      2) Height: 18”
   d. Basis of Design: Gemini Dimensional Stainless Steel Halo Lit, fabricated letters or equal
   e. Finish: #4 Brushed Stainless Steel Metal finish. Warm White LED Color – Needs to be coordinated with electrical.
   f. LOCATION: Canopy elevation make call out, dim lettering, tag with type. Indicate with tag in plan outside vest.
   g. COPY: PRECINCT 1 WILKENS POLICE STATION

2. Type 17 Exterior Fabricated Metal Pin Lettering – COMMUNITY MESSAGE BOARD
   a. Text: As indicated in the drawing 5/A6.40.
   b. Mounting: Through wall penetrations to be coordinated with electrical contractor and signage contractor to seal all penetrations. Pin standoff 1”
   c. Dimensions
      1) Depth: 1/4”
      2) Height: 4”
   d. Basis of Design: Gemini Dimensional Stainless Steel , fabricated letters or equal
   e. Finish: Kynar pain system RAL colors to be selected by architect.
   f. LOCATION: Make detail elevation from the vestibule elevation dimension text and elevation from AFF
   g. COPY: PRECINCT 1 WILKENS POLICE STATION

3. Type 18 RECESSED LETTERING CAST INTO PRECAST PANEL – MONUMENTAL SIGNAGE
   a. Text: PRECINCT 1 WILKENS POLICE STATION.
   b. Provided & Coordinated with 03 45 00 PRECAST ARCHITECTURAL CONCRETE and precast installer.
   c. Dimensions
      1) Depth: 1/2” beveled
      2) Height: see elevations
   d. LOCATION: Type 18, Monument sign, is located on 3/L4.03 & indicated as W1 on L1.01"

4. Type 19 RECESSED COUNTY SEAL & LETTERING CAST INTO PRECAST PANEL – CORNERSTONE SIGNAGE
   a. Text: BALTIMORE COUNTY SEAL – POLICE DEPARTMENT - 2025.
   b. Provided & Coordinated with 03 45 00 PRECAST ARCHITECTURAL CONCRETE and precast installer.
   c. Dimensions: see elevations
      1) Depth: 1/2” beveled lettering
      2) Height: see elevations
   d. LOCATION: See elevations

E. Manufacturers:
1. Basis of Design: Gemini Incorporated.
2. Advance Corporation; Braille-Tac Division.
3. A. R. K. Ramos.
4. ASI-Modulex, Inc.
5. Bunting Graphics, Inc.
6. Charleston Industries, Inc.
7. Grimco, Inc.
8. Innerface Sign Systems, Inc.
9. Metal Arts; Div. of L&H Mfg. Co.
10. Mills Manufacturing Company.
11. Mohawk Sign Systems.
12. Nelson-Harkins Industries.
13. Signature Signs, Incorporated.
14. Southwell Company (The).

2.5 FINISHES, GENERAL

A. Protect mechanical finishes on exposed surfaces from damage by applying strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of range of approved Samples. Noticeable variations in same piece are not acceptable. Variations in appearance of other components are acceptable if they are within range of approved Samples and are assembled or installed to minimize contrast.

C. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

2.6 ALUMINUM FINISHES

A. Clear Anodic Finish: Manufacturer's standard clear anodic coating, 0.018 mm or thicker, over a satin directionally textured mechanical finish.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.

B. Verify that items provided under other sections of Work are sized and located to accommodate signs.

C. Examine supporting members to ensure that surfaces are at elevations indicated or required to comply with authorities having jurisdiction and are free from dirt and other deleterious matter.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Locate signs and accessories where indicated, using mounting methods of types described and in compliance with manufacturer's written instructions.

1. Install signs level, plumb, and at heights indicated, with sign surfaces free from distortion and other defects in appearance.
2. Interior Wall Signs: Install signs on walls adjacent to latch side of door where applicable. Where not indicated or possible, such as double doors, install signs on nearest adjacent walls. Locate to allow approach within 3 inches (75 mm) of sign without encountering protruding objects or standing within swing of door.

B. Wall-Mounted Panel Signs: Attach panel signs to wall surfaces using methods indicated below:

1. All room numbers, nameplates, and room identification signs will be adhered to 1/8” thick finish PVC material (Sintra, Celtec, Komacel, Komatex, or equivalent) with 3M VHB Very High Bond Joining Systems #9473 double-sided tape (or equivalent). All signs to be mounted on block wall shall have the entire perimeter of the sign taped with 3M double sided tape #4432 (or equivalent).

C. Dimensional Characters: Attach individual characters to wall surfaces using methods indicated below:

1. Mount characters using standard fastening methods recommended in writing by manufacturer for character form, type of mounting, wall construction, and condition of exposure indicated. Provide heavy paper template to establish character spacing and to locate holes for fasteners.

3.3 CLEANING AND PROTECTION

A. After installation, clean soiled sign surfaces according to manufacturer's written instructions. Protect signs from damage until acceptance by Owner.

END OF SECTION 10 14 00

SECTION 22 05 03
PIPES AND TUBES FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section, and all sections of Division 22.

1.2 SUMMARY

A. Section includes:

A. Domestic Cold, Hot, and Circulating Hot Water (Potable and Non-Potable)
B. Sanitary, Sanitary Vent, and Storm Water
C. Sanitary and Storm Water Sumps and Ejectors Pressure Discharge Piping
D. Air Conditioning Condensate, Equipment Drains, and Overflows
E. Foundation Drains
F. Fuel Oil
G. Underground Pipe Markers
H. Piping Specialties and Accessories.
I. Sleeve Penetration Systems
J. Leak detection and location system.

B. Related Sections: The following Sections contain requirements that relate to this Section:

A. Division 03 Section: “Cast-In-Place Concrete”: Product and execution requirements for formwork, reinforcement, and concrete specified by this section.
B. Division 07 Section: “Firestopping” – For Opening Protection: Product and execution requirements for penetration through fire rated construction, and smoke seal protection specified by the section.
C. Division 07 Section: “Sheet Metal Flashing and Trim: Product and execution requirements for custom fabricated roof and wall flashings and roof drainage systems.
D. Division 08 Section: “Access Doors and Frames” for project requirements for access doors for placement by this section.
E. Division 09 Section: “Painting and Coating”: Product and execution requirements for painting specified by this section.
F. Division 22 Section: “Common Work Results for Plumbing”: Product and execution requirements for common work results for plumbing for placement specified by this section.
G. Division 22 Section: “Hangers and Supports for Plumbing Piping and Equipment”: Product requirements for pipe hangers and supports for placement specified by this section.
H. Division 22 Section: “Plumbing Piping System Cleaning and Treatment”: Product and execution requirements for system cleaning and treatment specified by this section.

I. Division 22 Section: “Vibration and Seismic Controls for Plumbing Piping and Equipment”: Product requirements for vibration isolation for placement specified by this section.
J. Division 22 Section: “Plumbing Insulation”: Product requirements for piping insulation for placement specified by this section.
K. Division 22 Section: “General – Duty Valves for Plumbing Piping”: Product requirements for valves for placement specified by this section.
L. Division 23 Section: “Facility Fuel Storage Tanks”: Product and execution requirements for placement specified by this section.
M. Division 31 Section: “Soils for Earthwork”: Soils for backfill in trenches.
N. Division 31 Section: “Aggregates for Earthwork”: Aggregates for backfill in trenches.
O. Division 31 Section: “Excavation”: Product and execution requirements for excavation and backfill required by this section.
P. Division 31 Section: “Trenching”: Execution requirements for trenching for underground piping systems.
Q. Division 31 Section: “Fill”: Execution requirements for backfilling required by this section.

1.3 DEFINITIONS

A. Point of Delivery is the outlet of the service meter assembly, or the outlet of the service regular (service shutoff valve when no meter is provided).

B. Domestic Water Systems: A system conveying domestic potable or non-potable water, such as Cold Water, Hot Water, Hot Water circulating, etc.

C. Gravity Drainage Systems: A system of gravity fed effluent conveying storm water, sanitary, and laboratory acid waste, etc.

D. Fuel Oil Distribution Piping: Piping which conveys fuel oil from the point of delivery to the points of usage.

E. Lead Free:

A. The pipes, pipe fittings, plumbing fittings or fixtures in plumbing systems that are intended to dispense potable water for human consumption, including drinking and cooking, shall be “lead free”, containing not more than a weighted average of 0.25% lead with respect to the wetted surfaces.
B. Solder and flux for soldered joints in potable water piping shall be “lead free”, containing not more than 0.2% lead free.

F. CPVC Piping: Chlorinated Polyvinyl Chloride thermoplastic pipe is made by the chlorination of PVC resin and extruded into pipe that meets FBC chemical compatibility

1.4 REFERENCES

(Unless otherwise noted, references apply to "latest editions.")

A. ANSI (American National Standards Institute)

A. ANSI B16.39, Malleable Iron Threaded Pipe Unions.
B. ANSI/ASME B1.20.1, Pipe Threads, General Purpose (Inch).
C. ANSI/ASME B16.3, Malleable Iron Threaded Fittings.
D. ANSI/ASME B16.5, Pipe Flanges and Flanged Fittings.
E. ANSI/ASME B16.21, Non-metallic Flat Gaskets for Pipe Flanges.
F. ANSI/ASME B16.22, Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.
G. ANSI/ASME B16.29, Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings (DWV).
H. ANSI/API 600, Bolted Bonnet Steel Gate Valves for Petroleum and Natural Gas Industries.
I. ANSI/AWS B2.1, Standard Specification for Welding Procedure and Performance Qualification.
J. ANSI/AWS D10.12, Guide for Welding Mild Steel Pipe.
K. ANSI/AWWA C104, American National Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water.
L. ANSI/AWWA C110, American National Standard for Ductile-Iron and Gray-Iron Fittings, 3in. Through 48in., for Water and Other Liquids.
M. ANSI/AWWA C111, Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
N. ANSI/AWWA C151, American National Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water.
O. ANSI/AWWA C153, American National Standard for Ductile-Iron Compact Fittings, 3in. Through 24in., and 54in. Through 64in, for Water Service.
P. ANSI / NSF Standard 14 Plastic Piping System Components and related.
Q. ANSI / NSF Standard 61 Drinking Water System Components – Health effects.
R. ANSI / UL 263 Standard for Safety for fire test of Building Construction and materials.
S. NSF/ANSI 14 – Plastic Piping System Components and related materials.
T. NSF/ASNI 14 – Plastic Piping System Components and related materials.
U. NSF 372 – Drinking Water System Components – Lead Content
V. ANSI/ASME B40.1 Pressure Gauges.
W. ANSI/ASME B40.2 Thermometers.

B. ASME (American Society of Mechanical Engineers)

A. ASME A112.1.2, Air Gaps in Plumbing Systems.
B. ASME A112.14.1, Back Water Valves.
C. ASME A112.21.2M, Roof Drains.
D. ASME A112.36.2M, Clean-outs.
E. ASME B16.5, Pipe Flanges and Flanged Fittings.
F. ASME B16.20, Metallic Gaskets for Pipe Flanges- Ring-Joint, Spiral-Wound, and Jacketed.
G. ASME B16.21, Nonmetallic Flat Gaskets for Pipe Flanges.
H. ASME B16.23 - Cast Copper Alloy Solder Joint Drainage Fittings (DWV).
I. ASME B16.24, Cast Copper Alloy Pipe Flanges and Flanged Fittings.
J. ASME B16.26 - Cast Copper Alloy Fittings for Flared Copper Tubes.
K. ASME B18.2.1, Square and Hex Bolts and Screw- Inch Series.
L. ASME B18.10, Track Bolts and Nuts.

M. ASME B31.1, Power Piping.
N. ASME B31.9, Building Services Piping.
O. ASME B40.1, Gauges- Pressure Indicating Dial Type- Elastic Element.
P. ANSI/ASME B1.20.1, Pipe Threads, General Purpose (Inch).
Q. ANSI/ASME B16.3, Malleable Iron Threaded Fittings.
R. ANSI/ASME B16.5, Pipe Flanges and Flanged Fittings.
S. ANSI/ASME B16.18, Cast Copper Alloy Solder Joint Pressure Fittings.
T. ANSI/ASME B16.22, Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.
U. ASME B16.25, Butt-Welding Ends.
V. ANSI/ASME B16.29, Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings (DWV).
W. ASME B36.10M - Welded and Seamless Wrought Steel Pipe.
X. ANSI/AWA C606, Grooved and Soldered Joints.

C. ASSE (American Society of Sanitary Engineers)

A. ASSE 1001, Hose Connection Vacuum Breakers.
B. ASSE 1010, Water Hammer Arresters.
C. ASSE 1013, Reduced Pressure Principle Backflow Preventor.
D. ASSE 1015, Double Check Backflow Prevention Assembly.
E. ASSE 1016, Automatic compensating Valves for Individual Showers and Tub/Shower Combinations.
F. ASSE 1017, Temperature Actuating Mixing Valves for Hot Water Distribution Systems.
G. ASSE 1019, Vacuum Breaker Wall Hydrants, Frost Resistant Automatic Draining Type.
H. ASSE 1022, Dual Check with atmospheric port.
I. ASSE 1069, Automatic Temperature Control Mixing Valves.
J. ASSE 1070, Water Temperature Limiting Devices.
K. ASSE 1071, Temperature Actuated Mixing Valves for Plumbing Emergency Equipment.

D. ASTM (American Society for Testing and Materials)

A. ASTM A36, Standard Specification for Carbon Structural Steel.
B. ASTM A53, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless.
C. ASTM A126, Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings.
D. ASTM A167, Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip.
E. ASTM A182, Standard Specification for Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service.
F. ASTM A183, Standard Specification for Carbon Steel Track Bolts and Nuts.
G. ASTM A193, Standard Specification for Alloy Steel and Stainless Steel Bolting Materials for High-Temperature Service.
H. ASTM A194, Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High-Pressure or High-Temperature Service, or Both.
I. ASTM A216, Standard Specification for Steel Castings, Carbon, Suitable for Fusion Welding, for High-Temperature Service.
J. ASTM A234, Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High-Temperature Service.
K. ASTM A276, Standard Specification for Stainless Steel Bars and Shapes.
L. ASTM A278, Standard Specification for Gray Iron Castings for Pressure Containing Parts.

M. ASTM A351, Standard Specification for Stainless Steel Bars and Shapes.
N. ASTM A395 - Standard Specification for Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures.
O. ASTM A564, Standard Specification for Hot-Rolled and Cold-Finished Age-Hardening Stainless Steel Bars and Shapes.
P. ASTM A582, Standard Specification for Free-Machining Stainless Steel Bars.
Q. ASTM A780, Standard Practice for Repair of Damaged and Un-coated Areas of Hot-Dip Galvanized Coatings.
R. ASTM B16, Standard Specification for Free-Cutting Brass Rod, Bar and Shapes for Use in Screw Machines.
S. ASTM B32, Standard Specification for Soldered Metal.
T. ASTM B42 - Standard Specification for Seamless Copper Pipe, Standard Sizes.
U. ASTM B43 - Standard Specification for Seamless Red Brass Pipe, Standard Sizes.
V. ASTM B62, Standard Specification for Composition Bronze or Ounce Metal Castings.
W. ASTM B75 - Standard Specification for Seamless Copper Tube.
X. ASTM B88, Standard Specification for Seamless Copper Water Tubes.
Y. ASTM B124, Standard Specification for Copper and Copper Alloy Forging Rod, Bar and Shapes.
Z. ASTM B148, Standard Specification for Aluminum-Bronze Sand Castings.
AA. ASTM B251 - Standard Specification for General Requirements for Wrought Seamless Copper and Copper-Alloy Tube.
BB. ASTM B280 - Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service.
CC. ASTM B302 - Standard Specification for Threadless Copper Pipe, Standard Sizes.
DD. ASTM B306, Standard Specification for Copper Drainage Tube (DWV).
EE. ASTM B819, Standard Specification for Seamless Copper Tube for Medical Gas Systems.
FF. ASTM B584, “Standard Specification for Copper Alloy Sand Castings for General Applications.
GG. ASTM C14 - Standard Specification for Concrete Sewer, Storm Drain, and Culvert Pipe.
HH. ASTM C33, Standard Specification for Concrete Aggregates.
II. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
JJ. ASTM C150, Standard Specification for Portland Cement.
KK. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
LL. ASTM C1107, Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Non-shrinking).
MM. ASTM D2321, Standard Practice for Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
NN. ASTM D635, Standard Test Method for Rate of Burning and/or Extent and Time of Burning Plastics in a Horizontal Position.
OO. ASTM D1784 – Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
PP. ASTM D1785 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
QQ. ASTM D2464, Standard Specification for Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings.
RR. ASTM D2466 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
SS. ASTM D2467 - Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80.
TT. ASTM D2564, Standard Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems.

UU. ASTM D2665, Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings.
VV. ASTM D2683 - Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing.
WW. ASTM D2729, Standard Specification for Poly (Vinyl Chloride) PVC) Sewer Pipe and Fittings.
XX. ASTM D2765, Test methods for determination of Gel Content and Swell Ration of Cross-Linked Ethylene Plastics.
YY. ASTM D2855 - Standard Practice for Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.
ZZ. ASTM D2996 - Standard Specification for Filament-Wound Fiberglass (Glass-Fiber-Reinforced Thermosetting Resin) Pipe.
AAA. ASTM D2997 - Standard Specification for Centrifugally Cast Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe.
BBB. ASTM D3034 - Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
CCC. ASTM D3139 - Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals.
DDD. ASTM D3262 - Standard Specification for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe.
EEE. ASTM D3517 - Standard Specification for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pressure Pipe.
FFF. ASTM D3754 - Standard Specification for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer and Industrial Pressure Pipe.
GGG. ASTM D3840 - Standard Specification for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Fittings for Nonpressure Applications.
HHH. ASTM D6394, Specification for Sulfone Plastics (SP).
III. ASTM E1, Standard Specification for ASTM Thermometers.
JJJ. ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials.
KKK. ASTM E119, Standard Test Methods for Fire Tests of Building Construction and Materials.
LLL. ASTM E814, Standard Test Method for Fire Tests of Through-Penetration Fire Stops.
MMM. ASTM F402, Standard Practice for Safe Handling of Solvent Cements, Primers, and Cleaners used for Joining Thermoplastic Pipes and Fittings.
NNN. ASTM F437 - Standard Specification for Threaded Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80.
OOO. ASTM F438 - Standard Specification for Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40.
PPP. ASTM F439 - Standard Specification for Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80.
QQQ. ASTM F441 - Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80.
RRR. ASTM F442 - Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe (SDR-PR).
SSS. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
TTT. ASTM F493, Standard Specification for Solvent Cements for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe and Fittings.
UUU. ASTM F645 - Standard Guide for Selection, Design, and Installation of Thermoplastic Water- Pressure Piping Systems.
VVV. ASTM F656, Standard Specification for Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Pipe and Fittings.

WWW. ASTM F679 - Standard Specification for Poly (Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings.
XXX. ASTM F844, Standard Specification for Washers, Steel, Plain (Flat), Unhardened for
YYY. ASTM F1476 – "Standard Specification for Performance of Gasketed Mechanical Couplings for Use in Piping Applications."
ZZZ. ASTM F1970 – Standard Specification for Special Engineered fittings, Appurtenances or Valves for use in Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Systems.
AAAA. ASTM F2618, Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Fittings for Chemical Waste Drainage Systems.

E. AWS (American Welding Society)

A. AWS A5.8 - Specification for Filler Metals for Brazing and Braze Welding.
B. ANSI/AWS B2.1, Standard Specification for Welding Procedure and Performance Qualification.
C. AWS D1.1, Structural Welding Code- Steel.
D. ANSI/AWS D10.12, Guide for Welding Mild Steel Pipe.

F. AWWA (American Water Works Association)

A. AWWA C600, "Standards for Insulation of Ductile-Iron Water Mains and their Appurtances.
B. AWWA C700, "Standard for Cold-Water Meters- Displacement Type, Bronze Main Case.
C. AWWA C702, "Cold-Water Meters- Compound Type.
D. ANSI/AWWA C104, "American National Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water.
E. AWWA C105 - American National Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems.
F. ANSI/AWWA C110, "American National Standard for Ductile-Iron and Gray-Iron Fittings, 3in. Through 48in., for Water and Other Liquids.
G. ANSI/AWWA C111, "Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
H. ANSI/AWWA C151, "American National Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water.
I. ANSI/AWWA C153, "American National Standard for Ductile-Iron Compact Fittings, 3in. Through 24in., and 54in. Through 64in, for Water Service.
J. ANSI/AWWA C606, "Grooved and Shouldered Joints.
K. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe, 4 in. through 12 in., for Water Distribution.

G. CS (Commercial Standard)

H. CSA (Canadian Standards Association)

I. IEEE (Institute of Electrical and Electronics Engineers)

J. IMC (International Mechanical Code)

K. IPC (International Plumbing Code)

L. Manufacturers Standardization Society of the Valve and Fittings Industry:

A. MSS SP 58 - Pipe Hangers and Supports - Materials, Design and Manufacturer.
B. MSS SP 67 - Butterfly Valves.
C. MSS SP 69 - Pipe Hangers and Supports - Selection and Application.
D. MSS SP 89 - Pipe Hangers and Supports - Fabrication and Installation Practices.
E. MSS SP 110 - Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends.

M. MOSHA (Maryland Occupational Safety and Health Administration)

N. NEC (National Electrical Code)

O. NEMA (National Electrical Manufacturers Association)

P. NFPA (National Fire Protection Association)

A. NFPA 70, National Electrical Code.

Q. OSHA(Occupational Safety and Health Administration)

R. UL (Underwriters' Laboratories)

A. UL 273 – Standard for Test for Surface Burning Characteristics of Building Materials

1.5 SUBMITTALS

A. Division 01 Section: “Submittal Procedures”: Submittal Procedures.

B. Shop Drawings: Indicate layout of piping systems, including equipment, critical dimensions, and sizes.

C. Maintenance data to be included in the operation and maintenance manual specified in Division 01. Include detailed manufacturer's instructions on adjusting, servicing, disassembling, and repairing. Include data for the following:

A. Pipe Materials
B. Flow Measuring Systems
C. Plumbing Specialties

D. Project Record Documents: Record actual locations of piping mains with invert elevations, valves, manholes, and leak detection and location system.

E. Welder certificates signed by Contractor certifying that welders comply with requirements specified under the "Quality Assurance" Article.

F. Certification of compliance with ASTM, ASME and ANSI manufacturing requirements for pipe, fittings, and specialties.

G. Submit flange gasket bolt tightening sequence and torque requirements for review as part of gasket submittals.

H. Product Data: Submit data on each type of pipe material and fittings. Submit manufacturer's catalogue information.

I. Grooved joint couplings and fittings shall be shown on drawings and product submittals and shall be specifically identified with the applicable grooved system manufacturer's style or series number.

J. Welders' Certificate: Include welders' certification of compliance with AWS D1.1.

K. Fuel Piping Specialties: Submit manufacturer's catalog information including capacity, rough-in requirements, and service sizes.

L. Leak Detection and Location System: Submit manufacturer's catalog information for controller, alarm unit, and cable type.

M. CPVC Piping: Submit materials in contact with CPVC piping system that are compatible with CPVC compounds per FBC System Compatibility Program or consult product manufacturer

N. Comply with VOC limitations under section 099100.

O. Submission of all submittals shall be made electronically via email with PDF attachments to bowman_submit@bowman.com

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with ASME B31.9 code for installation of piping systems and ASME Section IX for welding materials and procedures.

B. Furnish shutoff valves complying with ASME B16.33 or ANSI Z21.15

C. Perform work in accordance with Authority Having Jurisdiction requirements

D. ASME (American Society of Mechanical Engineers) Compliance; comply with:

   A. ASME B31.9, Building Services Piping, latest edition.
   B. ASME B31.1, Power Piping, latest edition.

E. Qualify welding processes and welding operators according to AWS D1.1, Structural Welding Code—Steel, “latest edition”.

   A. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.

F. Evaluate leak detection and location system by independent third party according to Third Party Procedures developed according to US EPS's "Standard Test Procedure for Evaluating Leak Detection Methods: Liquid-Phase Out-of-Tank Product Detectors." Evaluation results to verify system manufacturer's claim regarding sensitivity, range and other performance data.

G. All grooved joint couplings, fittings, valves, and specialties shall be the products of a single manufacturer. Grooving tools shall be of the same manufacturer as the grooved components.

   A. All castings used for coupling housings, fittings, valve bodies, etc…shall be date stamped for quality assurance and traceability.

H. Regulatory Requirements: Comply with the requirements of the following additional codes:

   A. International Mechanical Code (IMC).
   B. ANSI/ASHRAE Standard 15: Safety Code for Mechanical Refrigeration.
   C. PHCC - National Standard Plumbing Code, latest edition.
   D. NFPA 31, Standard for the Installation of Oil Burning Equipment for oil piping materials and components, oil piping installation, and inspection, and testing of fuel oil piping systems.
   E. HB 372 Business Occupations and Professions – Plumbers – Lead Free Materials.

I. CPVC Piping: Contractor should have received installation training from pipe/fitting manufacturer within two (2) years of start of this project for all CPVC piping systems.

1.7 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum five years documented experience.

B. Leak Detection Systems: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

C. Installer: Company specializing in performing work of this section with minimum 5 years experience.

1.8 PRE-INSTALLATION MEETINGS

A. Division 01 Section: “Administrative Requirements”: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Division 01 Section: “Product Requirements”: Requirements for transporting, handling, storing, and protecting products.

B. Furnish temporary end caps and closures on piping and fittings. Maintain in place until installation.

C. Protect piping from entry of foreign materials by temporary covers, completing sections of the Work, and isolating parts of completed system.

D. Handling Flammable Liquids: Remove and legally dispose of liquid from drips in existing gas piping and handle cautiously to avoid spillage or ignition. Notify the gas supplier. Handle flammable liquids used by the installer with proper precautions, and do not leave on the premises from the end of one working day to the beginning of the next.

1.10 ENVIRONMENTAL REQUIREMENTS

A. Division 01 Section: “Product Requirements”: Environmental conditions affecting products on site.

B. Do not install underground piping when bedding is wet or frozen.

1.11 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.12 WARRANTY

A. Division 01 Section: “Execution and Closeout Requirements”: Product warranties and product bonds.

B. Furnish five year manufacturer warranty for valves excluding packing.

C. Furnish five year manufacturer warranty for leak detection and location system.

1.13 COORDINATION

A. Division 01 Section: “Administrative Requirements”: Requirements for coordination.

B. Notification of Interruption of Service: Provide notification for all utility outages.

C. Work Interruptions: When interruptions in work occur while repairs or alterations are being made to an existing piping system, leave the system in safe condition.

D. Coordinate installation of buried piping with trenching.

E. Coordinate the installation of pipe sleeves for foundation wall penetrations.

F. Coordinate the size and location of concrete pads. Cast anchor bolt inserts into pad.

G. Coordinate the installation of roof piping support, and roof penetrations.

PART 2 - PRODUCTS

2.1 PIPE AND TUBE MATERIALS AND APPLICATION SCHEDULE

Domestic Cold, Hot, and Circulating Hot Water	**Pipe Material**	**Fitting Material**	**Joint Material**
(Below Grade)	4” and larger: Ductile Iron: AWWA C151 or with AWWA C104 cement mortar lining.	4” and Larger: Ductile Iron: AWWA C 110 or AWWA C153, with AWWA C104 cement mortar lining.	AWWA C111 rubber gasket with rods
	3” and smaller: ASTM B88, Type K, water tube, annealed temper.	ASME B16.18, cast copper, or ASME B16.22, wrought copper.	Brazed, AWS A5.8 BCuP silver/phosphorus/copper alloy with melting range 1190 to 1480 degrees F
(Above Grade)	Copper Tube: ASTM B88, Type L, Seamless, Water Tube, hard-drawn temper.	Copper Tube: ASME B16.22, wrought copper, or copper alloy, solder joint, 150 lb.	ASTM B32, alloy Sb5 (95 percent tin and 5 percent antimony), lead free solder.
	Copper Tube: ASTM B88, Type L, Seamless, Water tube, hard-drawn temper	Copper tube: ASME B16.22, wrought copper, or cast bronze ASME B16.18, 300 psig	Victaulic Style 607H Installation-Ready coupling.

Sanitary, Sanitary Vent, and Storm Water	**Pipe Material**	**Fitting Material**	**Joint Material**

	Poly Vinyl Chloride (PVC); DWV pipe, ASTM D2665, Schedule 40, solid wall plain ends. PVC material shall comply with the material requirements of ASTM D1784 and have a cell classification of 1245 In return air plenums, wrap pipe with plenum wrap complying with material requirements of ASTM E84, NFPA 262, and UL 910.	Socket ASTM D2665. PVC material shall comply with the material requirements of ASTM D1784 and have a cell classification of 12454.	ASTM D2855, solvent weld with ASTM D2564 solvent cement.

Sanitary and Storm Water Sumps and Ejectors Pressure Discharge Piping	**Pipe Material**	**Fitting Material**	**Joint Material**
	Copper Drainage Tube, Type K, ASTM B88	Wrought Copper ASME B16.22	Soldered; ASTM B32, Alloy Sb5 (95% tin and 5% antimony), lead free
	Copper Drainage Tube, Type K, ASTM B88	Copper tube: ASME B16.22, wrought copper, or cast bronze ASME B16.18	Victaulic Style 607 Installation-Ready coupling.

Air Conditioning Condensate, Equipment Drains, and Overflows	**Pipe Material**	**Fitting Material**	**Joint Material**
	PVC Pipe: ASTM D1785, Schedule 40, polyvinyl chloride (PVC) material.	ASTM D2466, Schedule 40, PVC	ASTM D2855, solvent weld with ASTM D2564 solvent cement.

	½" – 24" CPVC: Sch 80; ASTM F441 and ASTM D1784 - minimum cell classification 23447 Pipe. Chlorinated Polyvinyl Chloride (CPVC) material In return air plenums, wrap pipe with plenum wrap complying with material requirements of ASTM E84, NFPA 262, and UL 910.	ASTM F437, ASTM F439, and ASTM F1970 CPVC	Solvent weld with ASTM F493 solvent cement and ASTM F656 primer or Victaulic Company PGS-300 CPVC Piping system. Pipe and fittings cut grooved to Victaulic's PGS-300 groove specification.

Foundation Drains	**Pipe Material**	**Fitting Material**	**Joint Material**
	Perforated Plastic: ASTMD-2729, hole spacing per AASHTOM-252.	Not applicable.	Not applicable.
	CPVC Pipe: ASTM F441, Schedule 80, chlorinated polyvinyl chloride (CPVC) material.	ASTM F439, CPVC, Schedule 80, socket type	solvent weld with ASTM F493 solvent cement and ASTM F656 primer.

Fuel Oil	**Pipe Material**	**Fitting Material**	**Joint Material**
(Protector Pipe)	PVC Pipe: ASTM D1785, Schedule 80, polyvinyl chloride (PVC) material.	ASTM D2467, Schedule 80, PVC Use only long radius elbows.	ASTM D2855, solvent weld with ASTM D2564 solvent cement.
(Above Grade)	Steel Pipe: ASTM A53, Schedule 40, black	ASME B16.3 malleable iron or ASTM A234, wrought carbon steel and alloy steel welding type.	Threaded for pipe 2" and smaller, welded for pipe 2 ½" and larger

A. Alternate Piping System – Domestic Hot Water, Cold Water and Hot Water Circulating Piping.

A. IPS Grooved Copper Tubing System – Victaulic, Grinnell (or comparable acceptable product) roll grooved copper tube couplings, fittings, valves and other grooved components may be used as an option to soldered or brazed methods. All grooved components shall be of one manufacturer, and conform to local code approval and/or as listed by ANSI B31.1, ASME, UL/FM, IAPMO. Grooved end product manufacturer to be ISO-9001 certified. System shall be applicable in systems operating between -30°F and +250°F. See manufacturer's recommendations for gasket selection for services other than water.

B. Installation-ready couplings include a center-leg gasket with pipe stop to ensure proper groove engagement, alignment, and pipe insertion depth.

C. Copper Tube (Type L): ASTM B88 – Roll grooved-ends as appropriate to pipe material, wall thickness, pressures, size and method of joining. Pipe ends to be grooved in accordance with Victaulic, or Grinnell current listed standards conforming to ANSI/AWWA C606.

D. Quality Assurance: To assure uniformity and compatibility of piping components in grooved end piping systems, all grooved products utilized shall be supplied by a single manufacturer. Grooving tools shall be supplied by the same manufacturer as the grooved components.

E. Mechanical Couplings: "Installation Ready" stab-on design, for direct 'stab' installation onto roll grooved copper tube without prior field disassembly and no loose parts. Housings shall be ASTM A536 ductile iron cast rigid design coated with copper-colored enamel. Gasket shall be Grade "EHP" EPDM Suitable for domestic water and oil-free compressed air, or Grade "T" Nitrile suitable for air with oil vapors, and plated steel bolts and nuts. Victaulic Style 607H QuickVic™, Grinnell Style 640 with EHT gaskets (or comparable acceptable product.)

F. Grooved End Fittings: ASME B16.22 wrought copper or ASME B16.18 bronze casing with copper-tube dimensioned grooved ends (flaring of tube and fitting ends to IPS dimensions is not permitted).

G. Installation-Ready™ fittings for grooved end copper tubing shall be manufactured to copper-tube dimensions. Fittings shall be ductile iron conforming to ASTM A-536, Grade 65-45-12, with Installation-Ready™ ends, complete with PVDF (Poly Vinylidene Fluoride) and Grade "EHP" EPDM-HP [Grade 'T' Nitrile] gasket; and ASTM A449 electroplated steel bolts and nuts. System shall be rated to 300 psi (2065 kPa) with Type K or L Copper Tubing.

H. Flange Adapter: ASTM A536 ductile iron coated with copper-colored enamel, flat faced, designed for incorporating flanged components with ANSI Class 125 and 150 bolt-hole patterns to a grooved piping system. Victaulic Style 641 or Grinnell 61.

I. Mechanical-T Bolted Branch Outlet: Manufactured from ASTM A536 ductile iron and ASME B15.18 bronze castings with pressure-responsive, synthetic rubber sealing gasket. Victaulic Style 622 (or approved equal).

J. System shall be UL classified in accordance with ANSI/NSF-61 for potable water service, and shall be certified to the low lead requirements of NSF-372.

B. Alternate Piping System – Chlorinated Polyvinyl Chloride (CPVC) –Air Conditioning Condensate, Equipment Drains, and Overflows.

A. CPVC Copper Tube Size (CTS) SDR 11 tube and fittings ½"-2"

a. Material: FlowGuard Gold pipe compound shall meet cell class 24448 and the fitting compound shall meet cell class 23447 as defined by ASTM D1784. Pipe and fittings

shall meet or exceed requirements of ASTM D 2846, NSF 14, and NSF 61. Solvent cement shall meet or exceed ASTM F493.

b. Plenum rating: pipe and fittings meet the 25/50 flame and smoke requirement and are permitted to be installed in return air plenums per ICC Evaluation Service PMG-1264 and IAPMO Uniform Evaluation Service Evaluation Report UEL-5002.

c. Manufacturers: Charlotte Pipe, NIBCO, BOW Plastics, Sioux Chief, or Cresline

B. CPVC Schedule 80 IPS Piping System ½”-24”

a. Material: Corzan compound shall meet a minimum cell class 23447 as defined by ASTM D1784. Pipe shall meet or exceed the requirements of ASTM F441, NSF 14, and NSF 61. Fittings shall meet or exceed requirements of ASTM F437 and F439, NSF 14, and NSF 61. Solvent cement shall meet or exceed ASTM F493 and primer shall meet or exceed ASTM F656.

b. Plenum rating: Pipe and fittings listed by ICC-ES under PMG 1264. The following models have been tested in accordance to UL 723/ASTM E84 and meet the 25/50 flame spread/smoke developed requirements of the IMC and UMC for installation in ducts and plenums

1) ½” – 6” water filled Corzan® CPVC pipe and fittings have a flame spread index of 0 and a smoke developed index of no more than 20.

2) ½” – 2 dry Corzan® CPVC pipe and fittings for condensate lines have a flame spread index of 0 and a smoke developed index of no more than 20.

c. Manufacturers: Georg Fischer, NIBCO, Sioux Chief, or IPEX

d. Grooved Fittings: Victaulic Company PGS-300 CPVC Piping system. Pipe and fittings cut grooved to Victaulic’s PGS-300 groove specification. Compatibility of gasket lubricant materials with CPVC must be confirmed with the coupling manufacturer.

2.2 UNDERGROUND PIPE MARKERS

A. Furnish materials in accordance with the requirements of the authority having jurisdiction.

B. Plastic Ribbon Tape: Bright colored, continuously printed, minimum 6 inches wide by 4 mil thick, manufactured for direct burial service.

C. Trace Wire: Magnetic detectable conductor, brightly colored plastic covering, imprinted with "Domestic Water Service”, “Fuel Oil Piping”, or “Sewer Service” in large letters.

2.3 PIPING SPECIALTIES

A. Pipe Flange Gasket Materials: Suitable for the chemical and thermal conditions of the piping system contents:

A. ASME B16.21, nonmetallic, flat, asbestos-free, 1/8” maximum thickness, except where thickness or specific material is indicated.

a. Full-Face Type: For flat-face, Class 125 cast-iron and cast bronze flanges.

b. Narrow-Face Type: For raised-face, Class 250 cast-iron and steel flanges.

B. ASME B16.20, for grooved, ring joint, steel flanges.

C. AWWA C110, rubber, flat face, 1/8 inch thick, except where other thickness is indicated; and full-face or ring type, except where type is indicated.

B. Flange Bolts and Nuts:

A. ASME B18.2.1, carbon steel, except where other material is indicated.

C. Plastic Pipe Flange Bolts, Washers and Nuts: Type and material recommended by piping system manufacturer, except where other type or material is indicated. Flat washers must be used under nuts and bolts. Gaskets to be full face, 1/8th inch thick, 70 durometer and of a material recommended for the application by the manufacturer.

D. Unions: Lead Free, ANSI B16.39, Class 150, malleable iron; female pattern; brass to iron seat; ground joint. Threads shall conform to ANSI/ASME B1.20.1. Unions in copper piping shall be sweat fittings with bronze seats designed for 200 psig working pressure.

E. Dielectric Unions: Lead Free, provide dielectric unions with appropriate end connections for the pipe materials in which installed (screwed, soldered, or flanged), which effectively isolate dissimilar metals, prevent galvanic action, and stop corrosion.

F. Dielectric Fittings: Lead Free, provide dielectric fittings with appropriate end connections and piping materials. Dielectric fittings shall be as manufactured by Victaulic Style 47, Legend Valve Company Model T-575 or acceptable comparable product.

G. Dielectric Waterway: Copper silicon casting conforming to UNS C87850 with grooved and/or threaded ends. UL classified in accordance with NSF-61 for potable water service and shall meet the low-lad requirements of NSF-372. Basis of Design: Victaulic Series 647.

H. Strainers – “Y” Type:

A. Strainers shall be lead free and of the basket or "Y" design, as manufactured by Watts, Nibco, Victaulic, Wilkens (A Zurn company), Grinnell, Conbraco Industries; Apollo or an comparable acceptable product. Bodies shall have arrows clearly cast on the sides to show flow direction. Strainers shall be equipped with easily removable covers and standard stainless steel screens. Total area of perforations shall be not less than four times the cross section of the entering pipe.
B. Provide valved blow off connections for all strainers full size of blow off tapping, with capped ends.

I. Expansion Tanks:

A. Provide diaphragm type expansion tank as manufactured by Zurn Model WTTA, Amtrol – Therm-X-trol, Taco Model No. PAX, or Bell and Gosset Model PTA.

B. Size and number as indicated; construct of welded carbon steel for 125 psig working pressure, 375°F maximum operating temperature. Separate air charge from system water to maintain design expansion capacity, by means of a flexible diaphragm securely sealed into tank. Provide taps for air charging fitting, and drain plug. Support vertical tanks with steel legs or base; support horizontal tanks with steel saddles. Tank, with taps and supports, shall be constructed, tested, and labeled in accordance with ASME Pressure Vessel Code, Section VIII, Division 1. Tanks shall be provided with integral base ring for vertical mounting.

J. "Y" type Strainer

A. Strainers shall be lead free as manufactured by Zurn/Wilkins, Mueller, Nibco Metraflex, Watts, Spirax Sarco, or Apollo.
B. 125 psig working pressure: Ductile Iron ASTM A536 main valve body, NSF approved epoxy finish, flanged end connections, bolted access cover, perforated Type 300 Series stainless steel screen, and bottom drain connection

K. Recessed Non-freeze Wall Hydrants:

A. Provide as manufactured by Jay R. Smith, Josam, Watts or Zurn Model No. Z1300.
B. ASME A112.21.3M, or ASSE 1019, cast-bronze, with chrome-plated face hinged locking cover tee handle removable key, automatic draining, vacuum breaker, ¾" inlet, and hose outlet. Bronze casing shall be length to suit wall thickness.

L. Vacuum Breakers:

A. Pipe Applied, Atmospheric Vacuum Breaker shall conform to ASSE 1001, with floating disc and atmospheric vent.
B. Hose connection vacuum breakers shall conform to ASSE Standard 1011, with finish to match hose connection.
C. Laboratory Faucet Vacuum Breakers: ASSE 1035, chrome plated; consisting of primary and secondary checks, intermediate vacuum breaker, threaded ends, 1/4" or 3/8" size as required, for continuous pressure application.
D. Vacuum breakers shall be lead free.

M. Reduced Pressure Backflow Preventers:

A. Reduced pressure type backflow preventers shall be lead free and shall be manufactured by Ames, Conbraco Industries; Apollo, Watts, Zurn/Wilkins, or an acceptable comparable product.
B. Reduced-pressure-principle assembly consisting of shutoff valves on inlet and outlet and strainer on inlet. Assemblies shall include test cocks and pressure-differential relief valve located between 2 positive seating check valves and comply with requirements of ASSE Standard 1013. Shut-off valves shall be provided in accordance with valves as specified in this section.
C. Shut-off and check valves shall be the same model as provided for system in which backflow preventer is being installed.
D. Valve stand shall be manufactured by: Ames, or Watts, or an acceptable comparable product.

a. Valve stands shall be provided in pairs. Stands shall be adjustable to accommodate varying heights.
b. Stands shall be corrosion resistant.
c. Mounting plates and Yokes shall be epoxy coated.
d. Yokes and mounting plates shall be of coated cast iron material. Support cylinders shall be of zinc plated material.

N. Dual Check Valve Backflow Preventer for Carbonated Beverage Machines:

A. Dual Check Valve shall lead free as manufactured by Conbraco Industries; Apollo Model CBBP, WATTS: Model SD-3 or comparable product by Spence, or Zurn/Wilkins.Model 740.
B. Certified to ANSI/NSF Standard18, Manual Food and Beverage Dispensing Equipment.
C. ASSE 1022 approved Dual Check with Atmospheric Vent.
D. 316 Stainless Steel body.
E. All rubber compounds complying with FDA Food Additive regulations.
F. Endurance tested for minimum 500,000 pumping cycle.
G. Atmospheric port shall provide visual indication of second check.
H. Wye pattern strainer for water supply installation.

O. Water Hammer Arresters:

A. Water hammer arresters shall be Zurn Model WH-2950-XL. Comparable products as manufactured by Jay R. Smith, Josam, Precision Plumbing Products, or Watts, may be submitted for review.
B. ASSE 1010, or PDI WH-201, “Water Hammer Arresters,” “latest edition”, bellows or piston type with pressurized cushioning chamber. Sizes are based on water-supply fixture units, sizes “A” through “F” and PDI WH-201, sizes “A” through “F.”
C. Water Hammer Arresters shall be lead free when used with lead-free end user devices and piping that are required by Maryland law to be lead free.

P. Welding Materials: Comply, with Section II, Part C. ASME Boiler and Pressure Vessel Code for welding materials appropriate for the wall thickness and chemical analysis of the pipe being welded.

Q. Drainage System Specialties

A. Horizontal Backwater Valves: ASME A112.14.1, cast iron body, with removable bronze swing check valve, threaded or bolted cover, as manufactured by Jay R. Smith, Josam, Watts, or Zurn.

a. Extension: Full size, service class, cast iron soil pipe extension to field installed cleanout at floor. Extensions shall be Zurn Model Z1095-FC. Comparable products as manufactured by Josam or J.R. Smith may be submitted for review.
B. Vent Caps shall be Zurn Model Z193 cast-iron body with threaded or hub inlet and vandal-proof design. Include vented hood and set-screws to secure to vent pipe. Comparable products as manufactured by Josam or J.R. Smith may be submitted for review.
C. Cleanouts: ASME A112.36.2M, cast-iron body with straight threads and gasket seal or taper threads for plug flashing flange and clamping ring, and a brass closure plug.

Cleanouts for installation in floors not having membrane waterproofing may be furnished without clamping ring.

Cleanouts in Concrete Floors	Zurn Model No. Z-1400-BZ1-BP, or Watts Model C0-200-RX cast iron body, bronze plug to suit floor finish with adjustable round scoriated top. Comparable products as manufactured by J.R. Smith or Josam may be submitted for review.
Cleanouts in Finished Floors	Zurn Model No. ZN-1400-BZ1-BP cast iron body, bronze plug and scoriated adjustable nickel bronze leveling cover. ZN-1400-X-BP cast iron body, bronze plug and recessed nickel bronze top to suit floor finish for vinyl tile or ZN-1400-CM-BP cast iron body, bronze plug with nickel bronze top and carpet marker to suit floor finish for carpet. Comparable products as manufactured by Jay R. Smith, Josam, or Watts may be submitted for review.
Cleanouts in Piping	Zurn Model No. Z-1440-BP, or Watts Model C0-380 epoxy coated cast iron body with bronze plug, comparable products as manufactured by Josam or J.R. Smith may be submitted for review.
Cleanouts in Walls	Zurn Model No. Z-1441-BP-VP, or Watts Model C0-380-RD style to suit wall finish, with epoxy coated cast iron body, bronze plug and vandalproof screws. Comparable products as manufactured by J.R. Smith or Josam may be submitted for review.

D. Floor Drains: Floor drains/sinks shall be as manufactured by Zurn, or Watts. Comparable products as manufactured by Jay R. Smith, Josam, Orion, or Wade may be submitted for review.

   a. Floor Drains (Sanitary Waste):
      1) Zurn Model ZN-415-BZ6-TC-P, or Watts Model FD-103-A6, Dura coated cast iron body and clamp collar with 6” diameter nickel bronze leveling strainer with removable debris cover and trap primer connection.
      2) Zurn Model ZN355-75, N.P.T. trap primer connection, integral trap, anchor flange and adjustable nickel bronze slotted strainer secured with spanner type vandal-proof screws.

E. Deep Seal Traps: Zurn Model Z-1000-P Cast iron or bronze, with inlet and outlet matching connected piping, cleanout where indicated, and trap seal primer valve connection. Comparable products as manufactured by Charlotte Pipe, Jay R. Smith, or Josam may be submitted for review.

   a. 2-Inch Size: 4-inch-minimum water seal.
   b. 2 1/2 Inches and Larger: 5-inch-minimum water seal.

F. Inlet Fittings: Cast iron, with threaded inlet and threaded or spigot outlet, and trap seal primer valve connection.

G. Air Gap Fittings: ASME A112.1.2, cast iron or cast bronze, with fixed air gap, inlet for drain pipe or tube, and threaded or spigot outlet.

H. Roof Drains:

a. Bi-functional roof drain with 45° primary outlet connection. Powder coated cast iron deep sump body with combination membrane flashing clamp/gravel guard, deck plate mount, overflow pipe with standard 5-1/4'' high cast iron dome and 6-1/4'' high cast iron overflow.
   1) Provide as manufactured by Zurn, Model 100C-DP Froet Drain. Comparable products as manufactured by Watts, Jay R. Smith, or Josam may be submitted for review.

I. Downspout nozzle: Zurn Model Z-199, or Watts Model RD-940. Comparable product as manufactured by Jay R. Smith, or Josam may be submitted for review.

J. OIL SEPARATOR

a. Striem Oil Reserve/Tanker oil/sand separator shall be lifetime guaranteed and made in USA of Polyethylene with minimum 3/8" uniform wall thickness.
b. Separator shall be furnished for below grade installation, with field adjustable riser system, built-in flow control and vent connections.
c. Cover shall provide water/gas-tight seal and have traffic rated cover.
d. Separator shall be certified to IAPMO IGC 183-2016 and carry a UPC listing.
e. Add Clean Sweep oil coalescing media for effluent quality of 5ppm (mg/L) oil content.

R. Escutcheons: Manufactured wall, ceiling, and floor plates; deep-pattern type where required to conceal protruding fittings and sleeves.

A. Inside Diameter: Closely fit around pipe, tube, and insulation.
B. Outside Diameter: Completely cover opening.
C. Cast Brass: One-piece, with set-screw.
D. Cast Brass: Split casting, with concealed hinge and set-screw.

a. Finish: Rough brass.
b. Finish: Polished chrome plate.

E. Stamped Steel: One-piece, with set-screw and chrome-plated finish.
F. Stamped Steel: Split plate, with concealed hinge, set-screw, and chrome-plated finish.
G. Cast-Iron Floor Plate: One-piece casting.

S. Dielectric Fittings: Lead free assembly or fitting having insulating material isolating joined dissimilar metals to prevent galvanic action and stop corrosion.

A. Description: Combination of copper alloy and ferrous; threaded, solder, plain, and weld neck end types and matching piping system materials.
B. Insulating Material: Suitable for system fluid, pressure, and temperature.
C. Dielectric Unions: Factory-fabricated, union assembly for 250-psig minimum working pressure at a 180°F temperature.
D. Dielectric Flanges: Factory-fabricated, companion-flange assembly for 150-or 300-psi minimum pressure to suit system pressures.
E. Dielectric-Flange Insulation Kits: Materials for flange isolation kits on pipes containing drinking/potable water (up to 280°F) shall consist of the following components:

a. Isolating and Sealing Gasket:
   1) The full faced, NSF 61 certified, isolating and sealing gasket shall be LineBacker® 61™ Sealing Gasket (LB61) – Type "E", 1/8" thick, G-10 retainer containing a precision tapered groove to accommodate the controlled

compression of a EPDM quad-ring sealing element. Sealing element placement shall accommodate either flat, raised face or RTJ flanges.

2) The quad-ring seal shall be pressure energized. The G-10 retainer shall have a 550 volts/mil dielectric strength and a minimum 50,000 psi compressive strength.

3) The full faced flange isolating gasket (weld-neck) shall be equal to or slightly smaller than the bore of the flange; (slip-on) shall be equal to or smaller than the I.D. of mating pipe.

b. Full Length Bolt Isolating Sleeves:

1) One full length G-10 Sleeve (extending half way into both steel washers) for each flange bolt. The G-10 shall be a 1/32 inch thick tube with a 400 volts/mil dielectric strength and water absorption of 0.10% or less.

c. Washers:

1) Two, 1/8 inch thick, G-10 isolating washers for each bolt. Their compressive strength shall be 50,000 psi, dielectric strength 550 volts/mil and water absorption 0.10% or less.

2) Two, 1/8 inch thick zinc plated, hot rolled steel washers for each bolt. The I.D. of all washers shall fit over the isolating sleeve and both the steel and isolating washers shall have a same I.D. and O.D.

d. Quality:

1) Flange isolating kits shall be manufactured at a facility that has a registered ISO 9001:2008 Quality Management System. Submittals shall include copy of valid ISO registration and NSF 61 certification.

e. Basis of Design:

1) Flange gasket kits shall be manufactured by PSI-Pipeline Seal and Insulator, Inc., Houston, Texas. Comparable products shall be submitted as required under Section Product Requirements for comparable product review. Products should be submitted to engineer 10 days prior to bid due date.

F. Dielectric Couplings: Lead free galvanized-steel coupling, having inert and noncorrosive, thermoplastic lining, with threaded ends and 300-psig minimum working pressure at 225° temperature.

G. Dielectric Nipples: Lead free electroplated steel or ductile nipple, having inert and noncorrosive thermoplastic lining, with combination of plain, threaded, or grooved end types and 300-psig working pressure at 230 °F temperature. Victaulic Style 47 or Grinnell Style 407.

H. Dielectric Waterway: Copper silicon casting conforming to UNS C87850 with grooved and/or threaded ends. UL classified in accordance with NSF-61 for potable water service, and shall meet the low-lead requirements of NSF-372. Basis of Design: Victaulic Series 647.

T. Pipe Guides:

A. Systems greater than 70°F operating temperature: Provide Erico (formerly known as Michigan) Model No. 650, or an acceptable comparable product.

B. Systems less than 70°F operating temperature: Provide Erico (formerly known as Michigan) Model No. 651, or an acceptable comparable product.

C. For CPVC: Shall be chemically compatible with CPVC

U. Pipe Anchors:

A. Steel Shapes and Plates: ASTM A 36/A 36M.

B. Bolts and Nuts: ASME B18.10 or ASTM A 183, steel, hex head.

C. Washers: ASTM F 844, steel, plain, flat washers.
D. Mechanical Fasteners: Insert-wedge-type stud with expansion plug anchor for use in hardened Portland cement concrete, and tension and shear capacities appropriate for application.

a. Stud: Threaded, zinc-coated carbon steel.
b. Expansion Plug: Zinc-coated steel.
c. Washer and Nut: Zinc-coated steel.

E. Chemical Fasteners: Insert-type-stud bonding system anchor for use with hardened Portland cement concrete, and tension and shear capacities appropriate for application.

a. Bonding Material: ASTM C 881, Type IV, Grade 3, 2-component epoxy resin suitable for surface temperature of hardened concrete where fastener is to be installed.
b. Stud: ASTM A 307, zinc-coated carbon steel with continuous thread on stud, unless otherwise indicated.
c. Washer and Nut: Zinc-coated steel.

F. Concrete: Portland cement mix, 3000 psi minimum. Refer to Division 03 Section: “Cast-in-Place Concrete” for formwork, reinforcement, and concrete. Grout: Refer to Division 22 Section: “Common Work Results for Plumbing.”
G. For CPVC: Shall be chemically compatible with CPVC

V. Thermometers, General

A. Scale Range: Temperature ranges indicated in degrees Fahrenheit shall be provided for services listed as follows:

a. Domestic Hot Water: 30 to 180°F, with 2-degree scale divisions.
b. Domestic Cold Water: 0 to 100°F, with 2-degree scale divisions.

B. Accuracy: Plus or minus 1 percent of range span or plus or minus one scale division to maximum of 1.5 percent of range span.

C. Liquid-in-glass Thermometers

1) Provide as manufactured by H.O. Trerice, Weiss Instruments, Weksler Instrument Corp., or Miljoco.
2) Description: ASTM E1, liquid-in-glass thermometer. Delete ASTM E1 as this specification is strictly set aside for engraved glass tube laboratory thermometers. Insert ANSI/B40.2 in its place.
3) Case: High Pressure Die-cast aluminum-finished in baked-epoxy enamel, glass front, spring secured, 9 inches long.
4) Adjustable Joint: Finished to match case, 180° (3.1rad) adjustment in vertical plane, 360° adjustment in horizontal plane, with locking device.
5) Tube: Blue-reading, organic liquid-filled instead of mercury-filled, with magnifying lens.
6) Scale: White coated aluminum with permanently baked bold black markings.
7) Stem: Copper-plated steel, Zamac Alloy, aluminum, or brass for a separable socket of length to suit installation.
8) Thermowell: Brass NSF/ANSI 372 separable socket of suitable length for installation.

W. Pressure Gages, General

A. Provide as manufactured by H.O. Trerice Co., Weiss Instruments, Inc., Weksler Instrument Corp., or Miljoco.

a. Description: ASME B40.1, Grade A phosphor-bronze Bourdon-tube pressure gage, with bottom connection.
b. Case: Drawn steel, brass, or aluminum with 4 1/2 -inch -diameter glass lens.
c. Connector: Brass, 1/4" inch NPS.
d. Scale: White-coated aluminum, with permanently etched markings.
e. Accuracy: Plus or minus 1 percent of range span.
f. Needle Valve: Exceed pressure and temperature rating of installation.

X. Test Plugs:

A. Provide as manufactured by Flow Design, Inc., Peterson Equipment Co., H.O. Trerice, or Miljoco, Weiss.
B. Description: Nickel-plated brass-body test plug in 1/2" inch fitting.
C. Body: Length as required to extend beyond insulation.
D. Pressure Rating: 500 psig minimum.
E. Core Inserts: 2 self-sealing valve types, suitable for inserting a 1/8” inch (3mm) outside-diameter probe from a dial thermometer or pressure gage.
F. Core Material: According to the following for fluid and temperature range:

a. Air, Water, Oil, and Gas: 20°F to 200°F, neoprene rubber.
b. Air and Water: Minus 30°F to 275°F, ethylene-propylene-diene-terpolymer (EPDM) rubber.

G. Test-Plug Cap: Gasketed and threaded cap, with retention chain.
H. Test Kit: Provide test kit consisting of 1 pressure gage and gage adapter with probe, 2 bimetal dial thermometers and a carrying case.
I. Pressure Gage and Thermometer Ranges: Approximately 2 times systems operating conditions.

Y. Domestic Water Mixing Valve **(EMS-1)**

A. Provide Neptune EMX 075 MS Electronic Mixing System (model no. 943608) as manufactured by Lawler. Comparable products manufactured by Watts and Leonard may be submitted for review as a comparable product.
B. Digital Mixing Center Electronic Mixing Valve: stainless steel valve body and fittings; fast reacting acuator; control box; temperature probe; power supply; includes necessary fittings and nipples; ASSE 1017, NSF 372 and cUPC approved.

a. Maximum Inlet Pressure: 150 psi (1034 kPa).
b. Maximum Inlet Temperature: 200 degrees F (93 degrees C).
c. Inlet/Outlet Temperature Differential: 5 degrees F .
d. Performance: Temperature maintained to within ASSE and cUPC guidelines if change in hot or cold water is not more than 30 degrees F (17 degrees C); pressure fluctuations compensated for up to 50 percent drop in inlet supply pressure; water flow reduced if supply or thermostat fails.
e. Capacity: See schedule
f. Minimum Flow: .25 gpm (1 lpm) when properly installed in recirculated system.
g. Finish: Stainless Steel

C. Thermostatic Mixing Valves:

a. Provide Thermostatic Mixing Valves as manufactured by Acorn Controls, Lawler, Leonard or Powers.
b. The thermostatic mixing valve shall be IAPMO lab certified to ASSE 1017 and CSA standards and capable of meeting the control accuracy requirements of these standards at the manufacturers listed minimum flow rates.
c. The valve shall contain an advanced paraffin sensor with a temperature range of 100F to 160F and factory set at 120F with a lock nut to prevent unauthorized temperature changes.
d. Checks and screens are required at both inlets.
e. Maximum inlet pressure is 125 PSI
f. Maximum inlet temperature is 180F
g. Inlet/Outlet temperature differential minimum (approach) is 5F
h. Provide external ball valves at all inlets and outlets
i. Body material to be Lead-Free brass with corrosion resistant internal components.

D. ASSE 1016 Shower Mixing Valves:

a. Provide Acorn Controls model SV16, Hydroguard T/P Series E700 thermostatic tempering valves as manufactured by Powers, comparable products as manufactured by Bradley, or Leonard Valve Company may be submitted for review as a comparable product.
b. Valve shall operate with a non-rising stem and include ceramic shutoffs.
c. Cartridge shall be self-contained.
d. Valves shall be suitable for ½" inlet and ½" NPT top outlet piping connections.
e. Maximum hot water supply temperature of 180°F, minimum hot water supply temperature of 5°F above setpoint.
f. Capacity without checkstops shall be 4 gpm at 45 PSI.
g. Maximum operating pressure of 125 psi.
h. Temperature ranges ASSE 1016 T/P 85° - 115°F to include a field adjustable limit stop factory set at 110F and capable of supplying mixed water temperature within 5F of hot water supply temperature.
i. Valve shall always open through cold water to maximize bather safety.
j. Listing – ASSE 1016-2011.

E. ASSE 1070 Public Hand Washing Mixing Valve:
Provide Acorn Controls model ST70, Watts Series LFUSG – B, Thermostatic Mixing Valve, Leonard Models 170-LF-BP or 170A-LF-BP, Conbraco Industries; Apollo Model 34DLF, or Thermostatic Mixing Valve. Comparable products as manufactured by Bradley or Zurn may be submitted for review as a comparable product.

a. ASSE 1070 and IAPMO cUPC listed to control the temperature of hot water.
b. Lead Free Brass 4 – Port 'H' pattern body or factory supplied tee connection.
c. Include Integral Check Valves, Integral Screens and adjustment nut with locking feature.
d. Ranges
   1) Minimum supply pressure: 30 Psi
   2) Hot Inlet Temperature: 120° - 180°F
   3) Cold Inlet Temperature: 39° - 80°F
   4) Minimum Inlet Temperature Difference: 5°F

5)	Supply Temperature range:	85° - 115°F
6)	Maximum Pressure:	125 Psi
7)	Minimum Flow:	0.25 GPM
8)	Maximum Flow:	4.00 GPM

2.4 SLEEVE PENETRATION SYSTEMS

A. General: Provide protective sheathing or wrapping between metal pipes and sleeves to prevent pipes from corroding.

B. Sleeves shall be provided around all pipes through walls, floors, ceilings, partitions, structure members or other building parts. Sleeves through walls and floors shall be standard weight galvanized iron pipe two sizes larger than the pipe or insulation so that pipe or insulation shall pass through freely with space for movement for all piping which passes through masonry or concrete walls or floors. Provide 20 gauge galvanized steel sheet or galvanized pipe sleeves for all piping passing through frame walls.

C. Sleeves through floors shall be flush with the floor except for sleeves passing through Mechanical Rooms which shall extend ¾" above the floor. Space between the pipe and sleeve shall be caulked. Escutcheon plates shall be constructed to conceal the ends of sleeves.

D. Sleeves through walls and floors shall be sealed.

E. Penetrations through fire rated walls and floors.

A. All plumbing pipe and fixture penetrations through fire rated floors and walls shall be provided and firestopped using UL classified through penetration firestop devices as manufactured by ProSet Systems, Inc. The fire rating of the firestop device shall be equivalent or greater than the fire rating of the floor or wall penetrated. All firestop devices shall be provided in accordance with manufacturer's instructions.

a. Penetrations by hot and cold domestic water lines shall be provided using ProSet System A firestop devices.
b. Penetrations by bathtub drains, water closet openings, shower drains and floor drains shall be provided using ProSet System B firestop devices.

B. All penetrations by fire protection water lines through fire rated floors and walls shall be provided and firestopped using UL classified through penetration firestop devices, System A, as manufactured by ProSet Systems Inc.

a. The fire rating of the firestop device shall be equivalent to or greater than the fire rating of the floor or wall penetrated.
b. All firestop devices shall be provided in accordance with manufacturer's instructions.

C. When using CPVC: Provide caulk, sleeves, mechanical sleeve seals, sealers, etc. used for penetrations that are chemically compatible with CPVC compounds per FBC Compatibility or consult with product manufacturer.

2.5 FUEL OIL LEAK DETECTION AND LOCATION SYSTEM

A. Furnish materials in accordance with Authority Having Jurisdiction requirements

B. Product Description: Microprocessor based monitoring unit, sensor cable, probes, system layout map, and auxiliary equipment to provide continuous monitoring of sensing strings for leaks, shorts, breaks, and probe activation. When any of these conditions occur at any point along cable, alarm sounds, type of condition is identified and location displayed. System monitors interstitial space of double contained piping and trenches. Construct system to meet requirements of UL 913.

C. Performance:

A. Detect and identify location of first leak within 0.1 percent of sensor string length or 5 feet whichever is greater. Identify type of alarm.
B. Sensing String Length: Monitor up to 15,000 feet of cable for each sensor string from single monitoring unit.
C. Multiple Leaks: Detect and locate multiple leaks or additional liquid on sensor cable.
D. Breaks and Shorts: Identify location of breaks and shorts on cable. When faults occur, sound alarm, and display on front of monitoring unit type of fault and location of fault.
E. Liquids Detected: Detect liquids, including aqueous, hydrocarbon, conductive, and nonconductive liquids. Furnish two cables to detect and differentiate between hydrocarbons or solvents and aqueous liquids.
F. Remote Annunciation: Furnish relays for remote indication of alarm conditions. Relays indicate no alarm conditions exist, alarm condition exists but has not yet been acknowledged, and alarm condition exists and has been acknowledged. Communications available via RS-232 and ASCII communication protocols to allow central point monitoring and control via remote computer.
G. Archives: Record significant events in nonvolatile memory with capacity of 900 events. When memory becomes full, recorded events are deleted from memory on first-in-first-out basis. Each recorded event includes time and date event occurred. Archives retrievable through RS-232 and ASCII communication protocols.
H. System Status: Continuously give positive indication of monitoring sensing string and status of sensing string. System clock indicates time and date on LCD of monitoring panel. System clock is programmable. Include time and date indication for events recorded in memory.
I. Security: Assignable password security for varying levels of system access. Minimum of 20 passwords available within system. System to not allow unauthorized modifications to sensing string to be made without causing alarm condition.
J. Sensor Types: Capable of monitoring sensor cables, probe sensors, and switch sensors such as float switches, and pressure switches, from same monitoring panel. English language displays indicate status of sensors.
K. Sensitivity: System to not detect incidental liquid contact. Sensitivity field adjustable to increase or decrease amount of wetted cable needed to cause alarm.

D. Components:

A. Monitoring Unit:

a. Indicates when liquid comes in contact with sensor cable by sounding alarm, actuating output relays, displaying message leak has been detected and giving location of leak on sensing string.
b. Unit furnished with green LED on panel front indicates unit is powered. Furnish two line by forty character backlit LCD visible from front of unit to provide system data. Red LED on panel front indicates alarm condition has occurred. Unit power requirements: 120/240 VAC, 100 VA, 50/60 Hz, single phase. Equip with RS-232 communication port and minimum of one common and one SPDT output relay for each cable, rated for 250 VAC, 10 amp.
c. Enclose in modified NEMA 250 Type 4X enclosure. UL listed to provide connections for intrinsically safe sensor circuits for use in hazardous locations. Ability to locate leak does not depend on battery backed up functions. In event of power failure, store system conditions and parameters in nonvolatile memory allowing unit to automatically resume monitoring, without resetting, upon restoration of power. Furnish on-off switch in panel.

B. Sensor Cable: Coaxial construction consisting of insulated copper center conductor, spacer material, and outer braid. Center conductors not less than 20 AWG for mechanical strength. Cables field repairable.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Division 01 Section: “Administrative Requirements”: Verification of existing conditions before starting work.

B. Verify excavations and trenches are ready to receive piping.

C. Examine piping system for compliance with requirements for installation tolerances and other conditions affecting performance of installed devices. Do not proceed with installation until unsatisfactory conditions have been corrected.

D. Examine mating flange faces for conditions that might cause leakage. Check bolting for proper size, length, and material. Check gasket material for proper size, material composition suitable for service, and freedom from defects and damage.

E. Examine grooved ends for form and cleanliness. Ends shall be clean and free from indentations, projections, and roll marks in the area from valve, fitting, or pipe end to (and including) the groove.

F. Examine substrates and conditions under which pipe expansion joints, pipe alignment guides, and pipe anchors are to be installed. Do not proceed until unsatisfactory conditions have been corrected.

G. Do not enclose, cover, or put into operation any piping system until it has been inspected by the authority having jurisdiction and tested as specified herein.

3.2 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel or groove plain end ferrous pipe.

B. Remove scale and dirt on inside and outside before assembly.

C. Prepare piping connections to equipment with flanges or unions.

D. Unions and flanges for servicing and disconnect are not required in installations using grooved mechanical joint couplings. (The couplings shall serve as disconnect points if required.)

E. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.

F. Preparation For Testing: Prepare water piping and condensate piping in accordance with ASME B31.9, and as follows:

A. Test for leaks and defects in new piping systems and parts of existing systems that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of system tested.
B. Leave joints including welds un-insulated and exposed for examination during the test.
C. Provide temporary restraints for expansion joints, which cannot sustain the reactions due to test pressure. If temporary restraints are not practical, isolate expansion joints from testing.
D. Flush system with clean water. Clean strainers.

a. Open a drain at the low point of the system while replacing the water through the make-up at the same rate.
b. Continue flushing until clean water shows at the drain, but for not less than 24 hours.
c. After flushing, remove strainers and clean and replace them.
d. System shall be drained and flushed before final filling.
e. Flushing pumps are to have fine mesh construction strainers installed and shall be pulled and cleaned after flush.
f. Coordinate with Division 23 Section: “HVAC Piping Systems Cleaning and Treatment”.

E. Isolate equipment that is not to be subjected to the test pressure from the piping. If a valve is used to isolate the equipment, its closure shall be capable of sealing against the test pressure without damage to the valve. Flanged joints at which blinds are inserted to isolate equipment need not be tested.
F. Install relief valve set at a pressure no more than one-third higher than the test pressure, to protect against damage by expansion of liquid or other source of overpressure during the test.

3.3 EXCAVATION

A. Excavation for Utility Trenches

A. Excavate trenches to indicated gradients, lines, cross sections, elevations and subgrades.
B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe.

a. Clearance: 8 inches minimum each side of pipe.

C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, etc. Remove projecting stones and sharp objects along trench subgrade.

a. For pipes and conduit less than 6 inches in nominal diameter and flat-bottomed, hand-excavate trench bottoms and support pipe on an undisturbed subgrade.
b. For pipes 6 inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tampered sand backfill.
c. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

B. Unauthorized Excavation

A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation.

C. Backfill

A. Place and compact backfill in excavations promptly, but not before completing the following:

a. Construction below finish grade including, where applicable, subdrainage, damp proofing, water proofing and perimeter insulation.
b. Surveying locations of underground utilities for Record Documents.
c. Testing and inspecting underground utilities.
d. Removing concrete formwork.
e. Removing trash and debris.
f. Removing temporary shoring and bracing, and sheeting.
g. Installing permanent or temporary horizontal bracing on horizontally supported walls.
h. Place and compact initial backfill of satisfactory soil, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the utility pipe.
1) Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping to avoid damage or displacement of piping. Coordinate backfilling with utilities testing.
i. Backfill voids with satisfactory soil while installing and removing shoring and bracing.
j. Place and compact final backfill of satisfactory soil to final subgrade elevation.
k. Install detectable warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavement and slabs.

D. Compaction of Soil Backfills and Fills

A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:

a. Under structure, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 92 percent.
b. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 92 percent.
c. Under lawn or unpaved areas, scarify and recompact top 6 inches subgrade and compact each layer of backfill or fill soil material at 85 percent.
d. For utility trenches, compact each layer of initial and final backfill soil material at 85 percent.
e. Against foundation walls, scarify and recompact with and operated equipment within 3 feet of wall to avoid overstressing the wall at 95 percent.

3.4 INSTALLATION OF PIPING, GENERAL

Piping

A. Locations and Arrangements: Drawings (plans, schematics, and diagrams) indicate the general location and arrangement of piping systems. Locations and arrangements of piping take into consideration pipe sizing and friction loss, expansion, pump sizing, and other design considerations. So far as practical, install piping as indicated.
B. Install concentric reducers where pipe is reduced in size in the direction of flow, with bottoms of both pipes and reducer flush.
C. Connect branch piping to mains from top of main, unless specific otherwise for specific systems.
D. Install supports in accordance with Division 22 Section: “Hangers and Supports for Plumbing Piping and Equipment”.
E. Make changes in directions and branch connections using fitting, pull tees shall not be permitted.
F. Install flanges, flange kits, and unions in pipes 2 inch and smaller, adjacent to each valve, at final connections each piece of equipment, and elsewhere as indicated. Unions are not required on flanged devices.
G. Install dielectric unions where piping of dissimilar metals are joined.
H. Install flanges on valves, apparatus, and equipment having 2 1/2" inch and larger connections.
I. Unions or flanges for servicing and disconnect are not required in installations using grooved joint couplings.
J. Install flexible connectors at inlet and discharge connections to pumps and other vibration producing equipment.
K. Install strainers on the supply side of each control valve, pressure regulating valve, and elsewhere as indicated. Install ¾” inch NPS nipple and ball valve in blow down connection of strainers. Use same size nipple and valve as blow-off connection of strainer.

L. Anchor piping to ensure proper direction of expansion and contraction. Anchors shall attach to the building structure to prevent pipe movement. Anchors shall be installed in such a manner to prevent damage to the building structure. Anchors shall be securely welded to the piping being anchored. Install expansion loops and joints as indicated on the Drawings.
M. Install pipe sleeves at all wall and floor penetrations. Provide protective sheathing or wrapping between metal pipes and sleeves to prevent pipes from corroding.
N. Seal pipe penetrations of fire separations specified in Division 07 Section: "Joint Firestopping."
O. Hanger supports, and anchors are specified in Division 22 Section: "Hangers and Supports for Plumbing Piping and Equipment."
P. Install drains at low points in mains, risers, and branch lines consisting of a tee fitting, ¾" ball valve, and short ¾" threaded nipple and cap.
Q. Exterior Wall Penetrations: Seal pipe penetrations through exterior walls using sleeves and mechanical sleeve seals. Pipe sleeves smaller than 6 inch shall be steel; pipe sleeves 6 inch and larger shall be sheet metal.
R. Install escutcheons at each wall, floor, and ceiling penetration in exposed finished locations and within cabinets and millwork. Use deep pattern escutcheons where required to conceal protruding pipe fittings.
S. In concealed locations where piping is installed through holes or notches in studs, joists, rafters or similar members less than 1 ½" from the nearest edge of the member, the pipe shall be protected by steel shield plates. The plates shall be made of gage 16 and shall cover the area of the pipe where the member is notched or bored, and shall extend a minimum of 2" above sole plates and below tip plates.
T. CPVC Piping: Ancillary products coming into contact with pipe and fittings must be chemically compatible as per FBC System Compatibility Program. For products not listed on one of these program lists, consult the product manufacturer for compatibility with CPVC.

B. INSTALLATION - ABOVE GROUND PIPING

A. Route piping in orderly manner and maintain gradient. Route parallel and perpendicular to walls.
B. Install piping to maintain headroom without interfering with use of space or taking more space than necessary.
C. Group piping whenever practical at common elevations.
D. Sleeve pipe passing through partitions, walls and floors.
E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
F. Provide clearance in hangers and from structure and other equipment for installation of insulation and access to valves and fittings. Provide access where valves and fittings are not accessible.
G. Install non-conducting dielectric connections wherever jointing dissimilar metals.
H. Establish invert elevations, slopes for drainage to ¼ inch per foot 2 percent minimum. Maintain gradients.
I. Slope piping and arrange systems to drain at low points.
J. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the Work, and isolating parts of completed system.
K. Install piping penetrating roofed areas to maintain integrity of roof assembly.
L. CPVC Piping: Ancillary products coming into contact with pipe and fittings must be chemically compatible as per FBC System Compatibility Program. For products not listed on one of these program lists, consult the product manufacturer for compatibility with CPVC.

C. Joint Construction

A. Threaded Joints: Thread pipe with tapered pipe threads in accordance with ANSI/ASME B1.20.1.

a. Cut threads full and clean using sharp dies.
b. Ream threaded ends to remove burrs and restore full inside diameter.
c. Apply pipe joint lubricant or sealant, suitable for the service for which the pipe is intended, on the male threads at each joint.
d. Tighten joint to leave not more than 3 threads exposed.
e. Note the internal length of threads in fittings or valve ends, and proximity of internal seat or wall, to determine how far pipe should be threaded into joint.
f. Align threads at point of assembly.
g. Apply appropriate tape or thread compound to the external pipe threads.
h. Assemble joint to appropriate thread depth. When using a wrench on valves place the wrench on the valve end into which the pipe is being threaded.
i. Damaged Threads: Do not use pipe with threads which are corroded or damaged.
j. Damaged Threads: Do not use pipe with threads which are corroded or damaged. If a weld opens during cutting or threading operations, that portion of pipe shall not be used.

B. Welded Joints: Weld pipe joints in accordance with ASME B31.9 and ASME B31.1, where required by COMAR.

C. Brazed Joints: For copper tube and fittings, braze joints in accordance with ASME B31, “Standard Code for Pressure Piping” and AWS “Brazing Manual.”

a. Remove stems, seats, and packing of valves and accessible internal parts of valves before brazing.
b. Braze joints in accordance with ASME B31.1.
c. Fill the tubing and fittings during brazing with nitrogen under a continuous purge to prevent formation of scale.
d. Thoroughly clean tube surface and inside surface of the cup of the fittings, using very fine emery cloth, prior to making brazed joints. Wipe tube and fittings clean and apply flux. Flux shall not be used as the sole means for cleaning tube and fitting surfaces.
e. Heat joints to proper and uniform temperature.
f. WARNING: Some filler metals contain compounds which produce highly toxic fumes when heated. Provide adequate ventilation and avoid breathing fumes.

D. Solder Joints: Solder joints shall be made in accordance with ASTM B828. Cut tube ends shall be reamed to the full inside diameter of the tube end. Joint surfaces shall be cleaned. A flux conforming to ASTM B813 shall be applied. The joint shall be soldered with a solder conforming to ASTM B32. The joining of water supply piping shall be made with lead free solder and fluxes.

E. Mechanical Joints: Follow grooved-end mechanical coupling manufacturer's written instructions. The gasket style and elastomeric material (grade) shall be verified as suitable for the intended service as specified. Gaskets shall be molded and produced by the grooved system manufacturer. Grooved end shall be clean and free from indentations, projections, and roll marks in the area from pipe end to groove for proper gasket sealing. A factory-trained field representative shall provide on-site training for contractor’s field personnel in the proper use of grooving tools and installation of grooved

piping products. Factory-trained representative shall periodically review the product installation. Contractor shall remove and replace any improperly installed products.

a. Tongue and recess couplings (required a gap and specific torque value to obtain specified performance) will only be permitted if a torque wrench is used for installation. Required torque shall be in accordance with manufacturer's latest installation instructions and best practices recommendations.

F. Flanged Joints: Align flanges surfaces parallel. Assemble joints by sequencing bolt tightening to make initial contact of flanges and gaskets as flat and parallel as possible. Use suitable lubricants on bolt threads. Tighten bolts gradually and uniformly to appropriate torque specified by the bolt manufacturer.

G. Grooved Joints: Assemble joints in accordance with fitting manufacturers written instructions. The gasket style and elastomeric material (grade) shall be verified as suitable for the intended service as specified. Gaskets shall be molded and produced by the grooved system manufacturer. Grooved end shall be clean and free from indentations, projections, and roll marks in the area from pipe end to groove for proper gasket sealing. A factory-trained field representative shall provide on-site training for contractor's field personnel in the proper use of grooving tools and installation of grooved piping products. Factory-trained representative shall periodically review the product installation. Contractor shall remove and replace any improperly installed products.

H. CPVC Pipe Joint Construction: Assemble joints in accordance to manufacturer's instructions. Cut pipe square, ream interior or pipe, chamfer the exterior of the pipe, wipe/clean filings and other construction debris off of pipe and fitting, solvent cement application per training and either One-Step or Two-Step as required, fully insert pipe into fitting, ¼ turn as inserting, hold for set-time, wipe off excess solvent cement. A factory-trained field representative shall provide on-site training for contractor's field personnel.

3.5 INSTALLATION OF THREADED CONNECTIONS

A. Align threads at point of assembly.

B. Apply appropriate tape or thread compound to the external pipe threads, except where dry seal threading is specified.

C. Assemble joint, wrench tight.

3.6 INSTALLATION OF FLANGED CONNECTIONS

A. Align flange surfaces parallel.

B. Assemble joints by sequencing bolt tightening to make initial contact of flanges and gaskets as flat and parallel as possible. Use suitable lubricants on bolt threads. Tighten bolts gradually and uniformly with a torque wrench.

C. For dead-end service, butterfly valves require flanges both upstream and downstream for proper shutoff and retention.

3.7 INSTALLATION AND TESTING OF PRESS FITTINGS AND COPPER TUBING

A. Press connections: Press-seal fittings, ½-inch – 4-inch bronze, stainless steel or copper: Pipe ends shall be cut on a right angle (square) to the pipe. Pipe ends shall be reamed and chamfered, all grease, oil or dirt shall be removed from the pipe end with a clean rag. Visually examine the fitting sealing element to insure there is no damage, and it is properly seated into the fitting. Insert pipe fully into the fitting. Make a mark with a felt tip pen on the pipe at the face of the fitting. Always examine the tube to insure it is fully inserted into the fitting prior to pressing the joint. Press-seal fittings shall be installed according to the most current edition of the manufactures installation guidelines with manufacture recommended tools. Sealing elements shall be verified for the intended use. Installers shall attend the press-seal fitting manufactures installation training class. After Press fittings have been installed a “two step test” shall be followed. Utilizing air, or dry nitrogen, pressurize the system between .5 psi and 45 psi. Check the pressure gauge for pressure loss. If the system does not hold pressure, walk the system and check for un-pressed fittings. Should any un-pressed fitting/s be identified ensure the pipe is fully inserted into the fitting and properly marked prior to pressing the joint. After appropriate repairs have been made, test the system per local code, or specification requirements, not to exceed 200 psig.

3.8 INSTALLATION OF METERS, GAGES, THERMOMETERS, ETC.

A. Meters/Gages

A. General: Where indicated, install meters and gages of types, sizes, capacities, and with features indicated.
B. Install meters, gages, and accessories according to manufacturers’ written instructions for applications where used.
C. Install thermometers and adjust vertical and tilted positions.
D. Remote-Reading Dial Thermometers: Install in control panels with tubing connecting panel and thermometer bulb supported to prevent kinks. Use minimum tubing length.
E. Thermometer Wells: Install in vertical position in piping tees where thermometers are indicated.

a. Install wells with stem extending minimum of 2 inches into fluid.
b. Install wells with stem extending to center of pipe.
c. Fill wells with oil or graphite and secure caps.

B. Pressure Gages

A. Install pressure gages in piping tee with pressure gage face located on pipe at most readable position.
B. Install in the following locations and elsewhere as indicated:

a. At suction and discharge of each pump.
b. At building water service entrance.
c. On expansion tanks.

C. Needle Valves: Provide ¼" needle valve in piping tee, with snubber.

C. Installation - Test Plug

A. Install test plugs in piping tees where indicated, located on pipe at most readable position. Secure cap.

D. Installation - Flow-measuring System, Flow Element And Meter

A. General: Install flow meters for piping systems located in accessible locations at most readable position.
B. Locations: Install flow measuring elements and meters at discharge of each pump and elsewhere as indicated.
C. Differential-Pressure-Type Flow Elements: Install minimum straight lengths of pipe upstream and downstream from element as prescribed by the manufacturer's installation instructions.
D. Install connection fittings for attachment to portable flow meters in readily accessible locations.
E. Permanently Mounted Meters for Flow Elements: Install meters on walls or brackets in accessible locations.
F. Install connections, tubing, and accessories between flow elements and meters as prescribed by manufacturer's written instructions.

E. Connections - Meters

A. Install meters and gages adjacent to machines and equipment to allow servicing and maintenance.
B. Connect flow-measuring-system elements to meters.
C. Connect flow-meter transmitters to meters.
D. Make electrical connections to power supply and electrically operated meters and devices.

F. Adjusting and Cleaning - Meters

A. Calibrate meters according to manufacturer's written instructions, after installation.
B. Adjusting: Adjust faces of meters and gages to proper angle for best visibility.
C. Cleaning: Clean windows of meters and gages and factory-finished surfaces. Replace cracked and broken windows and repair scratched and marred surfaces with manufacturer's touchup paint.

G. Portable Meters

A. Turn-over portable meters to the Owner upon completion of the project.

3.9 INSTALLATION – FUEL OIL LEAK DETECTION AND LOCATION SYSTEM

A. Install cable in interstitial space in piping system.

B. Install cable on flat surfaces with hold down clips every 8 feet and cable tags every 50 feet.

C. Graphic Locator Map: Provide location map with system reflecting actual installation showing system configuration and sensing string layout. Furnish length along cable as references to locate leaks. Base footage on calibration points.

D. Calibration Points: Record calibration points along sensing string in accordance with manufacturer's procedures. Provide sensor cables not in containment piping with cable tags every 50 feet.

E. Direct Buried of Hydrocarbon Sensing Cable:

   A. Replace cable damaged during installation.
   B. Seal cable ends to prevent moisture ingress.
   C. Install cable so connectors are accessible in junction boxes at grade or in manholes, valve pits or other locations.
   D. Install cable from underground to grade using PVC pipe.
   E. Install on prepared bedding.
   F. Backfill cable with 6 inches of sand placed on top of cable and compacted prior to pipe installation.
   G. Where cable is to be covered by concrete or other structures, install sensor cable in slotted PVC pipe. Install with access points to allow replacing and servicing.

F. Install Work in accordance with Authority Having Jurisdiction requirements

3.10 INSTALLATION OF PIPING SPECIFIC TO FUEL OIL

A. Install supply, return, fill, and vent piping at a uniform grade of 3 inch in ten feet downward in the direction of the storage tank.

3.11 INSTALLATION OF PIPING SPECIFIC TO DRAINAGE AND VENT SYSTEMS

A. Service Entrance Piping

   A. Extend building storm drain piping and connect to building storm sewer piping of size and in location indicated for service entrance to building. Install cleanout and extension to grade at connection of building storm drain and building storm sewer.

B. Extend building sanitary drain piping and connect to sanitary sewer piping of size and in location indicated for service entrance to building. Install cleanout and extension to grade at connection of building sanitary drain and building sanitary sewer.
C. Install sleeve and mechanical sleeve seal at service penetrations through foundation wall for watertight installation.

B. General

A. Make changes in direction for drainage and vent piping using appropriate Y branches, Y branches with 1/8 bends, and long-sweep 1/4, 1/5, 1/6, 1/8, and 1/16 bends. Sanitary tees and short-sweep quarter vends may be used on vertical stacks of drainage lines where change in direction of flow is from horizontal to vertical. Use long-turn double-Y-branch and 1/8-bend fittings where 2 fixtures are installed back to back or side by side and have a common drain. Straight tees, elbows, and crosses may be used on vent lines. Make no change in direction of flow greater than 90°. Where different sizes of drainage pipes and fittings are connected, use proper size standard increasers and reducers. Reduction of the size of drainage piping in the direction of flow is prohibited.
B. Lay buried building drains beginning at low point of each system, true to grades and alignment indicated, with unbroken continuity of invert. Place hub or bell ends of piping facing upstream. Install required gaskets according to manufacturer's recommendations for use of lubricants, cements, and other special installation requirements. Maintain swab or drag in piping and pull past each joint as completed.
C. Install sanitary piping, storm water piping, condensate drain piping, and vent piping at 2% slope, except where another slope is indicated.
D. Install underground PVC drainage piping according to ASTM D2321.

a. Rigid plastic and hubless drainage piping, including offsets and jumps, shall rest on a continuous bed of sand, gravel or crushed stone, a minimum of four (4) inches deep below the pipe; maximum aggregate size shall be three-quarter (3/4) inches (MD #6 and smaller). Bedding material shall be placed on both sides of the pipe equal in depth to the pipe diameter and hand compacted to prevent deformation of pipe from top loading. Piping shall be laid in a trench, except where soil conditions or grade do not permit such practices.
b. Drainage piping above grade and not fully confined within a trench shall rest on bedding material at least thirty (30) inches wide. Horizontal and vertical alignment of piping shall be maintained by three-eighths (3/8) inch minimum diameter steel "J" hooks, "U" hooks or equivalent hold-down devices driven into the ground every eight (8) feet, at changes of direction 45° or more, and at ends of runs. The length of hold-down devices shall be sufficient, depending on soil type, to prevent easy removal, but not less than twenty-four (24) inches long.

E. Sleeves are not required for cast-iron soil pipes passing through concrete slab, without membrane waterproofing, on grade.
F. Install PVC drainage pipe and fittings according to ASTM D2665.
G. Install all buried plastic pipe in accordance with ASTM D2321.
H. Joint Construction

a. Grooved Pipe and Grooved-Pipe Fittings Joints: Assemble joints with coupling, gasket, lubricant, and bolts according to coupling and fitting manufacturer's written instructions.
b. PVC DWV Pipe: Join PVC drainage pipe and fittings according to ASTM D2665.
c. Handling of Solvent Cements, Primers, and Cleaners: Comply with procedures in ASTM F402, for safe handling during joining of plastic pipe and fittings with solvent cements.

I. Pipe Attachments:

a. Riser Clamps: MSS Type 8 or Type 42 for vertical runs.
b. Adjustable Steel Clevis Hangers: MSS Type 1 for individual straight horizontal runs 100 feet and less.
c. Adjustable Roller Hangers: MSS Type 43 for individual straight horizontal runs longer than 100 feet.
d. Spring Cushion Rolls: MSS Type 49, where indicated, for individual straight horizontal runs longer than 100 feet.
e. Pipe Rolls: MSS Type 44 for multiple straight horizontal runs 100 feet or longer. Support pipe rolls on trapeze.
f. Spring Hangers: MSS Type 52 for support of base of vertical runs.

J. Install vent flashing sleeves on stacks passing through roof. Secure over stack flashing according to the manufacturer's written instructions.
K. Install frost-proof vent caps on each vent pipe passing through roof. Maintain 1-inch clearance between vent pipe and roof substrate.
L. Install Sweet Air odor eliminator vent caps on all sanitary vent terminations. Maintain 1-inch clearance between vent pipe and roof substrate.

C. Connections

A. Drainage Runouts to Fixtures: Provide drainage and vent piping runouts, with approved trap, of sizes indicated, but not smaller than required by plumbing code, to plumbing fixtures and drains.
B. Locate drainage piping runouts as close as possible to bottom of floor slab supporting fixtures or drains.
C. Supply Runouts to Fixtures: Install hot- and cold-water supply piping runouts to fixtures of sizes indicated, but not smaller than required by plumbing code.

a. Drainage Runouts to Fixtures: Provide drainage and vent piping runouts to plumbing fixtures and drains, with approved trap, of sizes indicated, but not smaller than required by plumbing code.
b. Locate drainage piping runouts as close as possible to bottom of floor slab supporting fixtures or drains.
c. Interceptor Connections: Connect piping, flow control fittings, and accessories as indicated.
1) Oil Interceptors: Connect inlet, outlet, vent, and gravity drawoff piping to unit; flow control fitting and vent on unit inlet piping; and gravity drawoff and suction piping to oil storage tank.
d. Electrical Connections: Power wiring and disconnect switches are specified in Division 26.
1) Grounding & Bonding for Electrical Systems: Connect unit components to ground according to the National Electrical Code and Specification Section "Grounding."

D. Protection

A. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.
B. Place plugs in ends of uncompleted piping at end of day or when work stops.
C. Exposed PVC Piping: Protect plumbing vents exposed to sunlight with 2 coats of a water-based latex paint.

E. Drainage And Vent System Specialties

A. Install backwater valves in building drain piping as indicated. For interior installation, provide cleanout deck plate (cover) flush with floor and centered over backwater valve cover and of adequate size to remove valve cover for service.
B. Install expansion joints on vertical risers, stacks, and conductors as indicated.
C. Cleanouts

a. Install cleanouts in above-ground piping and building drain piping as indicated, and where not indicated, according to the following:
1) Size same as drainage piping up to 4-inch size. Use 4-inch size for larger drainage piping except where larger size cleanout is indicated.
2) Locate at each change in direction of piping greater than 45°.
3) Locate at minimum intervals of 50 feet for piping 4 inches and smaller and 100 feet for larger piping.
4) Locate at base of each vertical soil or waste stack.
b. Install cleanout deck plates (covers), of types indicated, with top flush with finished floor, for floor cleanouts for piping below floors.
c. Install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall, for cleanouts located in concealed piping.
d. Install flashing flange and clamping device with each stack and cleanout passing through floors having waterproof membrane.

D. Floor Drain Installation

a. Install floor drains according to manufacturer's written instructions, in locations indicated.
b. Install floor drains at low points of surface areas to be drained, or as indicated. Set tops of drains flush with finished floor.
c. Trap drains connected to sanitary building drain. Provide trap primers for all traps.
d. Install drain flashing collar or flange so that no leakage occurs between drain and adjoining flooring. Maintain integrity of waterproof membranes, where penetrated.
e. Position drains for easy accessibility and maintenance.

E. Roof Drain Installation

a. Install roof drains at low points of roof areas, according to the roof membranes manufacturer's installation instructions.
b. Install drain flashing collar or flange so no leakage occurs between roof drain and adjoining roofing. Maintain integrity of waterproof membranes, where penetrated.
c. Position roof drains for easy accessibility and maintenance.

F. Interceptor Installation

a. General: Comply with unit manufacturer's written instructions and with local authority
1) Coordinate oil storage tank and gravity drain with Division 23 Section: "Facility Fuel Storage Tanks."
b. Flush with Floor Installation: Set unit and extension when required, with cover flush with finished floor.
c. Recessed Floor Installation: Set unit in receiver housing having bottom or cradle supports, with receiver housing cover flush with finished floor.

G. Flashing Installation

3.12 FIELD QUALITY CONTROL

A. Division 01 Section: “Quality Requirements”: Field inspecting, testing, adjusting, and balancing.

B. Testing shall be performed by Installer of system being tested in presence of the Owner’s representative. Provide seven (7) day advance notice prior to testing of systems.

C. Inspection of Piping Systems:

A. Do not enclose, cover, or put into operation any piping system until it has been inspected and approved by Owner’s Representative.
B. During progress of installation, notify the authority having jurisdiction seven (7) days prior to time such inspection must be made. Perform tests specified in presence of Owner’s Representative.

a. Roughing-In Inspection: Arrange for inspection of piping system after system roughing-in, before concealing, and prior to setting fixtures.
b. Final Inspection: Arrange for final inspection by Owner’s Representative to observe tests specified below and to ensure compliance with requirements of Owner’s Representative.

C. Re-inspections: Make required corrections and arrange for reinspection by Owner’s Representative when piping system fails to pass test or inspection.
D. Reports: Prepare and submit inspection reports for approval by Owner’s Representative.

D. Test domestic water, sanitary waste, vent, and storm drainage piping systems in accordance with all applicable codes and the local authority having jurisdiction.

E. Field Testing Leak Detection System:

A. Perform tests to demonstrate ability of system to detect and locate breaks, shorts and probes on sensor string.
B. Perform leak testing in accordance with the following procedure to verify operation and ability to work with condensation pools or other static moisture:

a. Wet sensor cable near start of sensor string and acknowledge detection or location alarm and recheck system.
b. Wet sensor cable near end of sensor string with first location still wetted and acknowledge detection or location alarm and recheck system.
c. Wet sensor cable in three additional locations between first and second leak locations with each detection or location alarm being acknowledged and prior leak locations still wetted.

C. Prepare and submit report verifying each leak location and detection accuracy. Furnish history print out of test results from panel. Submit TDR traces for each test run to allow verification of wet locations.

F. Leak Testing

A. Fuel Oil

a. Test oil piping as follows:
   1) After installation and before being covered, or concealed, piping shall be tested for leaks. Piping shall be tested pneumatically with air at not less than 1 1/2 times its maximum working pressure, but not less than 5 psig measured at the highest point of the system.
   2) The test shall be made so as not to impose a pressure of more than 10 psig on any tank connected to the piping.
   3) Pressure shall be maintained for at least 30 minutes or for sufficient time to complete visual inspection of all joints and connections.
   4) Suction lines shall be permitted to be tested under a vacuum of not less than 20 in. Hg maintained for at least 30 minutes.
   5) Where the vertical length of the fill and vent pipes is such that, when filled with liquid, the static head imposed exceeds 10 psig, the piping shall be tested hydrostatically to a pressure equal to the static head thus imposed.

b. General:
   1) Prior to acceptance and initial operation, all piping installations shall be inspected and pressure tested to determine that the materials, design, fabrication, and installation practices comply with the requirements of this specification.
   2) Inspection shall consist of visual examination, during or after fabrication, assembly, or pressure tests as appropriate.
   3) A piping system shall be tested as a complete unit or in sections. Under no circumstances shall a valve in a line be used as a bulkhead between gas in one section of the piping system and test medium in an adjacent section, unless two valves are installed in series with a valved “tell tale” located between these valves. A valve shall not be subjected to the test pressure unless it can be determined that the valve, including the valve closing mechanism, is designed to safely withstand the pressure.

c. Test Medium: The test medium shall be an inert gas. OXYGEN SHALL NEVER BE USED.

d. Test Preparation:
   1) Pipe joints, including welds, shall be left exposed for examination during the test.
   2) Expansion joints shall be provided with temporary restraints, if required, for the additional thrust load under test.
   3) Appliances and equipment that are not to be included in the test shall be either disconnected from the piping or isolated by blanks, blind flanges, or caps. Flanged joints at which blinds are inserted to blank off other equipment during the test shall not be required to be tested.
   4) Where the piping system is connected to appliances, equipment, or equipment components designed for operating pressures of less than the test pressure, such appliances, equipment or equipment components shall be isolated from the piping system by disconnecting them and capping the outlet(s).
   5) Where the piping system is connected to appliances, equipment, or equipment components designed for operating pressures equal to or greater than the test pressure, such appliances and equipment shall be isolated form the piping system by closing the individual equipment shutoff valves(s).
   6) All testing of piping systems shall be done with due regard for the safety of employees and the public during the test. Bulkheads, anchorage, and bracing suitably designed to resist test pressures shall be installed if necessary. Prior to testing, the interior of the pipe shall be cleared of all foreign material.

e. Test Pressure:

1) Test pressure shall be measured with a manometer or with a pressure measuring device designed and calibrated to read, record, or indicate a pressure loss due to leakage during the pressure test period. The source of pressure shall be isolated before the pressure tests are made.
2) The test pressure to be used shall be no less than 12 times the proposed maximum working pressure, but not less than 3 psi and no more than 125 psig.
3) Test duration shall be not less than 4 hours.

f. Detection of Leaks and Defects:
1) The piping system shall withstand the test pressure specified without showing any evidence of leakage or other defects. Any reduction of test pressures as indicated by pressure gauges shall be deemed to indicate the presence of a leak unless such reduction can be readily attributed to some other cause.
2) The leakage shall be located by means of an approved gas detector, a noncorrosive leak detection fluid, or other approved leak detection method. Matches, candles, open flames, or other methods that provide a source of ignition shall not be used.
3) Where leakage or other defects are located, the affected portion of the piping system shall be repaired or replaced and retested.

g. Purging:
1) Removal from Service: When piping is to be opened for servicing, addition, or modification, the section to be worked on shall be turned off from the gas supply at the nearest convenient point and the line pressure vented to the outdoors or to ventilated areas of sufficient size to prevent accumulation of flammable mixtures. The remaining gas in the piping shall be dispersed with an inert gas.

h. Placing in Operation: When piping full of air is placed in operation, the air in the piping shall be displaced with an inert gas, and the inert gas shall then be displaced with fuel.

i. Discharge of Purged Gases: The open end of piping systems being purged shall not discharge into confined spaces or areas where there are sources of ignition unless precautions are taken to perform this operation in a safe manner by ventilation of the space, control or purging rate, and elimination of all hazardous conditions.
Placing Equipment in Operation: After the piping has been placed in operation, all equipment shall be purged and then placed in operation.

B. Water Systems, Condensate Systems

a. Perform tests prior to installation of piping insulation.
b. Use ambient temperature water as the testing medium, except where there is a risk of damage due to freezing. Another liquid may be used if it is safe for workmen and compatible with the piping system components.
c. Use vents installed at high points in the system to release trapped air while filling the system. Use drains installed at low points for complete removal of the liquid.
d. Examine system to see that equipment and parts that cannot withstand test pressures are properly isolated. Examine test equipment to ensure that it is tight and that low pressure filling lines are disconnected.
e. Subject piping system to a hydrostatic test pressure which at every point in the system is not less than 1.5 times the design pressure. The test pressure shall not exceed the maximum pressure for any vessel, pump, valve, or other component in the system under test. Make a check to verify that the stress due to pressure at the bottom of vertical runs does not exceed either 90 percent of specified minimum yield

strength, or 1.7 times the ASE value in Appendix A of ASME B31.9, “Code For Pressure Piping, Building Services Piping.”

f. After the hydrostatic test pressure has been applied for at least 10 minutes, examine piping, joints, and connections for leakage. Eliminate leaks by tightening, repairing, or replacing components as appropriate, and repeat hydrostatic test until there are no leaks.

g. Test backflow preventors in accordance with the local plumbing code and requirements of the authority having jurisdiction.

C. Drainage And Vent Piping Systems

a. Rough Plumbing Test Procedure: Except for outside leaders and perforated or open-jointed drain tile, test piping of plumbing drainage and venting systems on completion of roughing-in piping installation. Tightly close all openings in piping system and fill with water to 10 feet head of water. Water level shall not drop during the period from 15 minutes before inspection starts through completion of inspection. Inspect joints for leaks.

b. Finished Plumbing Test Procedure: After plumbing fixtures have been set and their traps filled with water, test connections and prove gastight and watertight. Plug stack openings on roof and building drain where it leaves the building and introduce air into the system equal to pressure of 1-inch water column. Use a U tube or manometer inserted in the trap of a water closet to measure this pressure. Air pressure shall remain constant without introducing additional air throughout period of inspection. Inspect plumbing fixture connections for gas and water leaks.

c. Repair leaks and defects using new materials and retest system or portion thereof until satisfactory results are obtained.

d. Prepare reports for tests and required corrective action.

3.13 CLEANING (Division 22 Section: “Plumbing Piping System Cleaning and Treatment.”)

3.14 PAINTING

A. Mechanical Room Piping: All piping including insulated systems located in Mechanical Rooms and equipment spaces shall be completely painted. Refer to Division 09 Section: “Painting and Coating”, Colors shall be as selected by the Architect.

B. Touching Up: Clean field welds and abraded areas of paint. Use same materials as used for shop painting. Comply with SSPC-PA 1, “Shop, Field, and Maintenance Painting,” requirements for touching up field painted surfaces.

A. Apply by brush or spray to provide a minimum dry film thickness of 2.0 mils.

C. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A780.

D. Plastic Pipe shall be painted with Exterior Grade Latex Paint. DO NOT USE EPOXY OR OIL BASE PAINTS ON PLASTIC PIPE.

E. CPVC Piping: Paint coming into contact with pipe and fittings must be chemically compatible as per FBC System Compatibility Program. For products not listed on one of these program lists, consult the product manufacturer for compatibility with CPVC.

3.15 MANUFACTURER'S FIELD SERVICES

A. Division 01 Section: “Quality Requirements”: Requirements for manufacturer’s field services.

B. Furnish factory trained representative of system supplier for 16 hours of on-site time during leak detection and location system sensor and electronics installation.

C. Furnish factory trained representative of system supplier for 16 hours of on-site time during final checkout of leak detection and location system.

END OF SECTION

SECTION 23 12 13
FACILITY FUEL-OIL PUMPS

GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 specifications, apply to this section, and the other sections of Division 23.

1.2 SUMMARY

A. Section includes:

1. Fuel oil pumps.
2. Transfer system.

B. Related Sections: The following sections contain requirements that relate to this Section:

1. Division 03 Section: “Cast-In-Place Concrete”: Product requirements for concrete ballast and fill pads for pump inertia bases for placement by this section.
2. Division 23 Section: “Common Work Results for Plumbing.”
3. Division 23 Section: “Common Motor Requirements:” Product requirements for electric motors for placement by this section.
4. Division 23 Section: “Hangers and Supports for HVAC Piping and Equipment”: Product requirements for hangers for placement by this section.
5. Division 23 Section: “Vibration and Seismic Controls for HVAC Piping and Equipment”: Product requirements for vibration isolators for placement by this section.
6. Division 23 Section: “Pipes and Tubes for Plumbing Piping and Equipment:” Product requirements for fuel oil piping connected to oil-fired heaters.
7. Division 26 Section: “Low Voltage Electrical Power Conductors and Cables:” Requirements for electrical wiring and cable connections for units specified in this section.
8. Division 26 Section: “Raceways and Boxes for Electrical Systems:” Requirements of conduits and boxes housing electrical wiring and connections specified by this section.

1.3 REFERENCES

(Unless otherwise noted, references apply to “latest editions.”)

A. National Electrical Manufacturers Association:

1. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).

B. National Fire Protection Association:

1. NFPA 30 - Flammable and Combustible Liquids Code.

2. NFPA 31 - Standard for the Installation of Oil-Burning Equipment.

C. Underwriters Laboratories Inc.:

1. UL 343 - Pumps for Oil-Burning Appliances.

1.4 SUBMITTALS

A. Division 01 Section – "Submittal Procedures": Submittal Procedures.

B. Product Data:

1. Pumps: Submit published pump curves showing performance characteristics with pump and system operating point plotted. Include NPSH curve when applicable. Include electrical characteristics and connection requirements. Submit also, manufacturer model number, dimensions, service sizes, and finishes.

C. Manufacturer's Installation Instructions: Submit data for each type of pump.

D. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.

E. Manufacturer's Field Reports: Submit report of each visit of manufacturer's representative to provide technical assistance during installation.

F. Submission of all submittals shall be made electronically via email with PDF attachments to bowman_submit@bowman.com

1.5 CLOSEOUT SUBMITTALS

A. Division 01 Section – "Execution and Closeout Requirements": Closeout procedures.

B. Project Record Documents: Record actual locations of pumps.

C. Operation and Maintenance Data: Submit spare parts lists for pumps.

1.6 QUALITY ASSURANCE

A. Perform Work in accordance with NFPA 30 and NFPA 31.

B. List and label pumps in accordance with UL 343.

C. Perform Work in accordance with all applicable codes, standards and local authorities having jurisdiction requirements.

1.7 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years experience.

B. Installer: Company specializing in performing Work of this section with minimum three years experience.

1.8 PRE-INSTALLATION MEETINGS

A. Division 01 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum two weeks prior to commencing work of this section.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Division 01 Section – “Product Requirements”: Product storage and handling requirements.

B. Accept pumps on site in shipping containers with labeling in place. Inspect for damage.

1.10 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.11 WARRANTY

A. Division 01 Section – “Execution and Closeout Requirements”: Product warranties and product bonds.

B. Furnish five year manufacturer warranty for pumps.

PART 2 - PRODUCTS

2.1 SUBMERSIBLE PUMP (SP-1)

A. General
1. ⅓ and ¾ Hp fixed speed models are available in variable length and fixed length options.
2. Check valve: 2¾" diameter fluorocarbon seal constructed with cast aluminum body and steel backing washer.
3. Pressure relief valve: available in four pressure relief settings, integral to check valve. Standard model relieves at 40 psi and resets above 35 psi.
4. Syphon: venturi-type syphon primer supplied with every submersible. Syphon check valve and secondary syphon sold separately.
5. Air eliminator: every submersible includes a tank return path with one-way check valve to provide active air elimination.
6. Electrical disconnect: electrical yoke for positive contractor disconnect during service.

B. Approvals

1. cULus listed.
2. Consult factory for applicable approvals.

C. Pump Motor

1. ~~⅓ and~~ ¾ Hp fixed speed, 3450 rpm, two-stage centrifugal type pump motor with integral, automatic thermal overload protection.
2. ~~⅓ Hp models have a max. pressure of 27 psi.~~
3. ¾ Hp models have a max. pressure of 30 psi.

D. Power Requirements

1. ~~⅓ and~~ ¾ hp fixed speed models require single-phase, 208-230 VAC, 60 Hz incoming power.
2. ~~⅓ and~~ ¾ hp fixed speed models incorporate a starting and running capacitor, with internal bleed resistor, rated 370 Volt, 15 microfarad.
3. STP-SCI single-phase Smart Controllers and STP-CBS single-phase control boxes are available for ⅓ and ¾ hp pump control.
4. ~~⅓ hp max. motor draw: 4 Amps.~~
5. ¾ hp max. motor draw: 7 Amps.

E. Liquid Compatibility

1. Max. liquid viscosity: 70 SSU at 60 °F (15 °C).
2. STP variable speed models are UL listed for fuel mixtures containing up to 10% ethanol, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
3. IST/ISTAP variable speed models are UL and cUL listed for fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
4. All variable speed models can also be used with diesel fuels, fuel oils, kerosene, Avgas and jet fuels in a non-gelled pourable state.
5. All wetted elastomers are made of a high grade, fluorocarbon compound.

2.2 FUEL MANAGEMENT SYSTEM (FMS-1)

A. Smart Cards: When used as a proprietary card it has eight (8) discount levels. Smart Cards can be sold as prepaid cards.

B. Interface with FBO Software: FUELMASTER® software provides flat ASCII file for easy interface with FBO management software.

C. Inventory Control/Tank Monitor Interface: The addition of a Tank Monitor Interface kit permits automatic reconciliation of tank levels with FUELMASTER®'s declining balance.

D. Tanker Truck Accountability: Refueling accomplished by tanker trucks may be captured by using a Mobile FUELMASTER® WTF 2600. Designed for the military, this system transmits data up to two miles by radio frequency back to a PC that saves the transactions and provides them to FBO management software.

E. Expandability. The FUELMASTER® system may be expanded to control an almost limitless number of fueling sites. Also, the number of customers and system users is almost limitless.

F. Modular Electronics: Modular design and construction ensures reliability and ease of mainte-nance of your FUELMASTER® Fuel Management System. Site operators can quickly and easily change-out modular components, if necessary, with the assistance of FUELMASTER® technicians.

G. Credit Cards: Activated by both aviation and major credit cards. Up to three-hundred (300) credit cards may be entered with a specific discount for each. Thus, the site operator can provide discounts to frequent customers. Discounts may also be provided to a specific major oil card.

H. Ease of Use: Easy step-by-step instructions to follow.

I. Transactions Capacity: Holds 4000 transactions.

J. Central Controller: The preferred PC is a Pentium III. The modem (internal or external) must be 100% Hayes-compatible. A PC and modem are not included with the base FUELMASTER® system, but may be ordered through Syn-Tech Systems as part of a total package. Please check to determine if an existing PC will adequately support FUELMASTER® software.

K. Warranty: FUELMASTER® is warranted for two years from date of installation or fifteen months from date of shipment.

L. Surge Suppression: The FMU 2550/60 comes with built-in AC and telephone surge protection specifically designed for FUELMASTER®.

M. Customer Satisfaction: Check with FUELMASTER® customers before you buy a fuel management system. You'll find that FUELMASTER®'s rugged construction and ease of maintenance maximizes its benefit to our customers. FUELMASTER® owners, who previously operated other brands of fuel management systems, are our best salespeople.

N. Communication: Internal modems allow for long distance communications with standard voice-grade, analog telephone lines.

O. Operating Temperatures: -60 degrees to +140 degrees F (system includes built-in thermostatically controlled heaters.)

P. Power Requirements: 120 VAC 60 Hz

2.3 GASOLINE DISPENSER (DISP-1)

A. General

1. Provide Gasboy model 9153K high flow with mechanical register gas dispenser system.
2. High-flow rated at 22 gpm
3. 10-vane suction pump with 1 HP motor. Power-operated reset mechanism.
4. Pulser options for interface to site controllers Keytrol option still available

B. Construction

1. Rugged and welded G90 galvanized-steel frame
2. Structural foam bezel with a clear polycarbonate window, and a backscreen polycarbonate dialface
3. Field-wiring junction box for easy installation
4. Replaceable sheathing – painted or optional 304 embossed stainless steel
5. Standard hydraulics – compatible with traditional motor fuels such as Biodiesel (up to B20) and Ethanol (up to E15); custom models are available for E85, B100 or DEF
6. Safety listed and with NTEP CoC for W&M sealing for fuel resale application
7. Optional High Retrievers and Catlow's hanging hardware to complete your fleet fueling equipment

2.4 TANK MONITORING SYSTEM (TMS-1)

A. The TLS-450PLUS Automatic Tank Gauge (ATG) is a powerful tool that allows fueling operations to run at peak efficiency, with an easy to understand navigation, streamlined inventory and compliance reporting, and powerful business analytics. It can monitor up to 64 tanks, or 32 tanks with BIR. Frequent releases of operating software for the TLS-450PLUS tank gauge assures that data is secure and software features are routinely updated and enhanced.

B. General:
1. Operating Temperature +32 to +104°F (0 to +40°C)
2. Storage Temperature -40 to +158°F (-40 to +70°C)
3. Installation Location NEMA 4 or indoors
4. Relative Humidity 0-90% (non-condensing)
5. External Dimensions 18.4" x 11" x 8.8" (46.74cm x 27.94cm x 22.35cm)
6. Construction 16GA (0.060 in/0.1524 cm) powder coated steel
7. Console Power Wiring Requirements AC Power Wiring – Wires carrying 120 or 240 VAC from power panel to the console should be #14 AWG (or larger) wire for line, neutral & chassis ground (3) ; and 4 sq. mm, rated for at least 90C for barrier ground.
8. Probe & Sensor to Console Wiring Requirements
   a. Wire Type – Shielded cable required regardless of conduit material or application. It must be rated less than 100 picofarad per ft manufactured with a suitable material such as Carol C2534 or Belden 88760, 8760, or 8770.
   b. Wire Length – Maximum 1,000ft (304.8m) to meet intrinsic safety requirements. Improper system operation could result for runs over 1,000ft (304.8m).
   c. Wire Gauges – Color coded – shielded cable used in all installations. Wires should be #14 - #18 AWG stranded copper wire and installed as Class 2 circuits. As an alternate method when approved by the local authority having jurisdiction, #22 AWG wire such as 88761 may be suitable with the following requirements: Wire run is less than 750ft (228.6m), Capacitance does not exceed 100 pF/ft; Inductance does not exceed 0.2 uH/ft.
9. System Power Requirements AC Input – Universal AC power supply: 100 to 249 VAC, 50/60Hz, 2A max.
10. Display Specifications 8” (20.32cm) Color WVGA LCD touch screen display

11. Connectivity Methods Ethernet, Web Browser, Modem, Fax, Serial
12. Data Storage Features SD card
13. Software Security Features Centralized Device Management to protect your network of TLS-4XX consoles
14. Custom User Access Front Panel Display control through user specific log-in; User defined roles to restrict access / functionality.
15. Screen permissions can be limited to view, edit, perform
16. System Security
    a. Partitioned Ethernet Ports that can be used to separate user network from the internet
    b. Port availability control: SSH Port (22), HTTPS Port (443), Serial Command Port (10001)
    c. Reassign Port Numbers (i.e., HTTPS on 50443)
    d. System Integrator CVE Scans & Fixes
    e. Periodic System Updates to protect against persistent threats
17. Customized Alarm Features Customizable for all alarms
18. Approvals UL cUL, ATEX, IECEx, NEPSI, FCC, FMC, PESO, ANZEx, ULC, INMETRO, IQC, EAC, NWGLDE, and CEN

PART 3 - EXECUTION

3.1 INSTALLATION - PUMPS

A. Provide pumps to operate at specified system fluid temperatures without vapor binding and cavitation, are non-overloading in parallel or individual operation.

B. Install reducing elbows or reducers between pump and piping. Support piping adjacent to pump so no weight is carried on pump casings. For close coupled or base mounted pumps, install supports under elbows on pump suction and discharge line sizes 4 inches (102 mm) and over.

C. Install pumps on vibration isolators.

D. Install flexible connectors at or near pumps as indicated on the contract drawings.

E. Provide line sized shut-off valve and strainer on pump suction, and line sized check valve, balancing valve, and shut-off valve on pump discharge.

F. Install piping accessories and pressure gages furnished loose with pump package.

G. Provide valving and specialties as indicated on the contract drawings.

H. Check, align, and certify alignment of base mounted pumps prior to start-up.

I. Install prefabricated base mounted pumps on 4” high concrete housekeeping pads, with anchor bolts, set and level, dimensions per contract drawings. Refer to division 03: “Cast In Place Concrete”.

J. Lubricate pumps before start-up.

K. Install Work in accordance with all applicable codes, standards and local authorities having jurisdiction requirements.

3.2 FIELD QUALITY CONTROL

A. Division 01 Section – “Quality Requirements”: Field inspection, testing, adjusting, and balancing.

B. Inspect for alignment of base mounted pumps.

3.3 DEMONSTRATION

A. Division 01 Section – “Execution and Closeout Requirements”: Requirements for demonstration and training.

B. Engage a factory authorized service representative to train Owner’s maintenance personnel to adjust, operate and maintain fuel-oil pumps and/or transfer system.

1. Train Owner’s maintenance personnel on procedures and schedules for starting up and shutting down fuel-oil pumps/transfer systems, trouble shooting, servicing and maintaining fuel-oil pumps and transfer systems. Furnish services of manufacturer’s technical representative for one 8 hour day to instruct Owner’s personnel in operation and maintenance of units.
2. Review data in maintenance manuals.
3. Schedule training with owner at least seven (7) days advance notice.

3.4 COMMISSIONING

A. Provide support for Commissioning Activities and Functional Performance Testing as outlined in specification Division 01 Section “Commissioning”.

B. Contractor shall provide copies of final reports to the Commissioning Agent (CxA) for review and inclusion with final Cx project documentation as applicable

END OF SECTION

SECTION 23 13 00
FACILITY FUEL STORAGE TANKS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and 01 Specification Sections, apply to this Section, and the other sections of Division 23.

1.2 SUMMARY

A. Section includes:

1. Aboveground fuel storage tanks.
2. Aboveground steel secondary containment dike tank.
3. Leak detection and location system.

B. Related Sections: The following sections contain requirements that relate to this section:

1. Division 05 Section: “Metal Fabrications:” Product and execution requirements for bollards for placement by this section.
2. Division 22 Section: “Pipes and Tubes for Plumbing Piping and Equipment” for fuel oil piping, specialties, and accessories inside the building.
3. Division 23 Section: “Facility Fuel Oil Pumps” for above ground fuel pump sets and accessories.
4. Division 26 Section: “Grounding and Bonding for Electrical Systems:” Product and execution requirements for grounding for placement by this section.

1.3 REFERENCES

A. American Petroleum Institute:

1. API 650 - Welded Steel Tanks for Oil Storage.
2. API 2000 - Venting Atmospheric and Low-Pressure Storage Tanks: Nonrefrigerated and Refrigerated.

B. National Electrical Manufacturers Association:

1. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).

C. National Fire Protection Association:

1. NFPA 30 - Flammable and Combustible Liquids Code.

D. Underwriters Laboratories Inc.:

1. UL 142 - Steel Aboveground Tanks for Flammable and Combustible Liquids.

2. UL 567 - Pipe Connectors for Flammable Liquids and Combustible Liquids and LP-Gas.
3. UL 913 - Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous Locations.
4. UL 2085 - Standard for Safety for Insulated Aboveground Tanks Flammable and Combustible Liquids.

1.4 DEFINITIONS

A. The following are industry abbreviations for fuel tanks:

1. AST: Aboveground, fuel-oil storage tank(s).

B. The following are industry abbreviations for plastic materials:

1. PE: Polyethylene plastic.
2. PTFE: Polytetrafluoroethylene plastic.
3. RTRP: Reinforced thermosetting-resin pipe.
4. TFE: Tetrafluoroethylene plastic.

1.5 SYSTEM PERFORMANCE REQUIREMENTS

A. Aboveground fuel-oil distribution piping minimum working pressure rating: 150 psig.

B. Double contained piping carrier pipe minimum working pressure rating: 150 psig.

C. Double contained piping secondary containment conduit minimum working pressure rating: 5 psig.

D. Vent, gage, and fill piping minimum working pressure rating: 100 psig.

E. Minimum test pressure rating for inner tank smaller than 12-foot diameter: 5 psig.

F. Minimum test pressure rating for containment shell smaller than 12-foot diameter: 5 psig

G. Minimum test pressure rating for inner tank, 12-foot and larger diameter: 3 psig

H. Minimum test pressure rating for containment shell, 12-foot and larger diameter: 3 psig

1.6 SUBMITTALS

A. Division 01 Section – “Submittal Procedures”: Submittal Procedures.

B. Shop Drawings:

1. Tanks: Indicate for fuel oil tanks dimensions; number, size, and location of openings; number, size, and location of manholes; number and location of hold down straps, and accessories. Indicate dimensions, reinforcing steel size, and reinforcing steel location of pads.

C. Product Data:

1. Tanks: Submit manufacturer's catalog information including capacity.
2. Leak Detection and Location System: Submit manufacturer's catalog information for controller, alarm unit, and cable type.

D. Test Reports: Submit written test results for tank pressure test.

E. Manufacturer's Installation Instructions: Submit tanks, and leak detection and location system data.

F. Manufacturer's Certificate:

1. Certify Products meet or exceed specified requirements.
2. Submit certificate of evaluation of leak detection and location system by independent third party.

G. Manufacturer's Field Reports: Submit report of each visit of manufacturer's representative to provide technical assistance during installation.

H. Maintenance Data: For accessories and specialties to include in maintenance manuals specified in Division 01.

I. Submission of all submittals shall be made electronically via email with PDF attachments to bowman_submit@bowman.com

J. Satisfy the Maryland Department of the Environment (MDE) tank registration requirements. Complete the registration forms in collaboration with the Baltimore County Department of Public Works (DPW).

1.7 CLOSEOUT SUBMITTALS

A. Division 01 - Execution and Closeout Requirements: Closeout procedures.

B. Project Record Documents: Record actual locations of manholes, tanks, and leak detection and location system.

C. Operation and Maintenance Data: Submit spare parts lists, exploded assembly views for tanks, and leak detection and location system.

1.8 QUALITY ASSURANCE

A. Product Options: Drawings indicate size, profiles, and capacity requirements of fuel-oil distribution components and are based on specific types and models indicated. Other manufacturers' products with equal performance characteristics may be considered.

B. Distribution Components: Listing/approval stamp, label, or other marking by testing agency acceptable to authorities having jurisdiction.

C. Electrical Devices, Components, and Equipment: Listed and labeled according to NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.

D. Comply with ASME B31.1, "Power Piping," for fuel oil piping materials and joining requirements.

E. Comply with NFPA 30, “Flammable and Combustible Liquids Code,” for design and construction, installation, inspection, and testing of fuel-oil distribution system tanks, piping, and other components.

F. Comply with NFPA 70, “National Electrical Code,” for electrical connections between wiring and electrically operated devices.

G. Comply with NFPA 780, “Lightning Protection Systems” standard for the installation of lightning protection systems.

H. Comply with requirements of the EPA and state and local environmental-protection authorities having jurisdiction. Include recording of fuel-oil storage tanks and monitoring of tanks and piping.

I. Evaluate leak detection and location system by independent third party according to Third Party Procedures developed according to US EPS's "Standard Test Procedure for Evaluating Leak Detection Methods: Liquid-Phase Out-of-Tank Product Detectors." Evaluation results to verify system manufacturer's claim regarding sensitivity, range and other performance data.

J. Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX, “Welding and Brazing Qualifications.”

1. Comply with ASME B31 Series, “Code for Pressure Piping.”
2. Certify that each welder has passed AWS qualification tests for welding processes involved and that certification is current.

1.9 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

B. Above Ground Fuel Storage Tanks: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

C. Leak Detection Systems: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

D. Installer: Company specializing in performing Work of this section with minimum three years documented experience approved by manufacturer.

1.10 PRE-INSTALLATION MEETINGS

A. Division 01 - Administrative Requirements: Pre-installation meeting.

B. Convene minimum one week prior to commencing work of this section.

1.11 DELIVERY, STORAGE, AND HANDLING

A. Division 01 Section – “Product Requirements”: Product storage and handling requirements.

B. Lift and support fuel-oil storage tanks only at designated lifting or supporting points, as shown on Shop Drawings. Do not move or lift tanks unless empty.

C. Preparation for Transport: Prepare storage tanks, accessories, valves, and specialties for shipping as follows:

1. Ensure that units are dry and internally protected against rust and corrosion.
2. Protect against damage to threaded ends, flange faces, and weld ends.
3. Set valves and specialties in position for handling that avoids damage to seats and operating parts.

D. Deliver piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent damage and entrance of dirt, debris, and moisture.

E. Store valves an specialties with end protectors in place, unless necessary for inspection; then reinstall for storage.

F. Store valves and specialties indoors and maintain temperature higher than ambient dew-point temperature. Support off ground or pavement in watertight enclosures if outdoor storage is necessary.

G. Protect stored piping from moisture and dirt. Elevate above grade. Do not exceed structural capacity of floor if stored inside.

H. Protect flanges, fittings, and piping specialties from moisture and dirt.

I. Store plastic pipes protected from direct sunlight. Support pipes to prevent sagging and bending.

1.12 PROJECT CONDITIONS

A. Perform site survey, research utility records, and verify existing utility locations. Contact utility-locating service for area where Project is located.

B. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Engineer not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Engineer’s written permission.

C. Do not install tank foundations when bedding is wet or frozen.

1.13 COORDINATION

A. Division 01 Section – “Administrative Requirements”: Requirements for coordination.

B. Coordinate pipe materials, sizes, entry locations, and pressure requirements with building fuel oil piping systems.

C. Coordinate installation and set sleeves in poured-in-place concrete and other structural components as they are constructed.

D. Work Interruptions: Leave fuel-oil distribution piping in safe condition if interruptions in Work occur while alterations or repairs are being made to existing fuel oil piping.

1.14 WARRANTY

A. Division 01 Section – “Execution and Closeout Requirements”: Product warranties and product bonds.

B. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

C. Special Warranty: Written warranty, executed by fuel-oil storage tank manufacturer agreeing to repair or replace tanks that fail in materials or workmanship within specified warranty period, provided tanks are installed according to manufacturer’s written instructions. Failures include structural failures of tanks, including cracking, breakup, and collapse; and failure due to external and internal corrosion if used for storage of fuel oils at temperatures not exceeding 150°F (66°C).

D. Furnish 30 year manufacturer warranty for tanks.

E. Furnish 5 year manufacturer warranty for leak detection and location system.

PART 2 - PRODUCTS

2.1 ABOVE GROUND FUEL OIL STORAGE TANK

A. Tank shall be manufactured, tested and labeled in conformance with Underwriters Laboratories’ UL-2085 Standard for Protected Aboveground Tanks for Flammable and Combustible Liquids, Double-wall Construction. Tank shall be manufactured and labeled in strict accordance with Steel Tank Institute (STI) Fireguard® Thermally Insulated, Double-wall Steel Aboveground Storage Tank standards as applied by a licensee of the STI. Tank shall be subject to the STI’s Quality Assurance program and shall be backed by the STI 30-year limited warranty.

B. The tank shall be a rectangular, horizontal, steel tank intended for the storage of flammable and combustible liquids at atmospheric pressure. Tank shall include integral steel secondary containment and thermal insulation that provides a minimum two-hour fire rating. The tank design shall comply with UL 2085 "Protected" Tank standard having been tested for Ballistics, Impact, Hose Stream, and Pool Fire performance standards.

C. Inner (primary) and outer (secondary) tanks shall be fabricated from mild carbon steel with flat-flanged heads, and lap-welds at all seams and joints. Primary and secondary tanks are air tested at the factory. (Primary tank may need to be retested for tightness at the jobsite prior to commissioning. Consult AHJ for requirements.) Tank shall be supplied with emergency vents for the primary and the secondary containment tanks. Emergency venting by "form of construction" is not equal and will NOT be permitted.

D. Tank shall comply with the latest edition of National Fire Protection Association NFPA 30 Flammable and Combustible Liquids Code. The tank system shall also meet or exceed the requirements of:

a. National Fire Protection Association NFPA 30A Automobile And Marine Service Station Code
b. 1997 Uniform Fire Code (UFC) "Protected" AST criteria as per Appendix II-F, including ballistics protection
c. California Air Resources Board (CARB) testing requirements for air emissions
d. International Fire Code

E. Construction

1. Tank shall be of double-wall construction and provide complete secondary containment of the primary storage tank's contents by an impervious steel outer wall. Inner and outer tanks shall be manufactured in accordance with UL-142 Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids as referenced in UL-2085. Tank shall be fabricated of mild carbon steel with shell seams of continuous lap weld construction.

2. A minimum of 3" of porous, lightweight monolithic thermal insulation material shall be installed at the factory within the interstitial space between the inner and outer wall. Thermal insulating material:
   a. Shall be in accordance with American Society of Testing Materials (ASTM) Standards C-332 and C-495.
   b. Shall allow liquid to migrate through it to the monitoring point.
   c. Shall not be exposed to weathering and shall be protected by the steel secondary containment outer wall (an exterior concrete wall or vault exposed to the elements will NOT be permitted).

3. Each tank shall be delivered as a complete UL-listed assembly including the following fittings and components: (All fittings NPT or flanged, shall be supplied with plastic protectors for shipment)

4. Standard tanks shall include, at a minimum, fittings for normal vent, interstitial monitoring, emergency vent for primary tank, emergency vent for secondary tank, product fill, product pump/supply and liquid level gauge. See standard drawings at www.highlandtank.com for quantity, size and location of fittings on standard tanks. All fittings must be located above the maximum fluid level per UL-2085 / STI Fireguard requirements. Normal vent sizes are equal to, or larger than largest fitting to be used for fill or withdraw from the tank. Emergency vent size is based on the wetted surface area of the tank.

5. Two (2) Welded-on Saddles - Design, size and location determined per STI specifications.

6. Lifting lugs shall be provided at balancing points to facilitate handling and installation.

7. Exterior Protective Coating:
   a. Surface Preparation: Grit blast - SSPC-SP-6 White Blast
   b. Finish: White urethane paint system 5-7 DFT on the shell and heads.

8. Tank shall be supplied with a High-LINK® LevelShield Series P, Level Management System that includes:
   a. One (1) Magnetostrictive probe for continuous monitoring of product and water levels, and product temperature (provides temperature-compensated volume

monitoring).Probe Specs:

1) Probe length: 59″ - Additional probe length required
2) Communication cable 78″ (included) - Additional cable length required
3) RS-485 Communication
4) 2 floats – (1) for product level, (1) for water level
5) Thermocouple for product temperature measurement
6) Measuring accuracy up to +/- 0.02″
7) Resolution +/- .004″
8) 316 Stainless Steel Shaft
9) Polypropylene float material
10) Explosion-proof head
11) ¾" compression fitting
12) ¾" x 2” NPT reducer bushing supplied (minimum 2″ opening required)
13) Compatible with gasoline and diesel (Contact Highland Tank for other chemical/product compatibility)

b. CommBox transmits data from connected sensors/probes to cloud-based High-LINK® software platform.

1) CommBox specs: Note: Maximum of two (2) probes per CommBox.
2) NEMA 4 Enclosure
3) 120VAC with terminals for electrical landing
4) 5A 120VAC breaker
5) Active barrier
6) 12VDC power converter
7) Terminal blocks for probe wire landing
8) 4G cellular technology
9) Two (2) Integrated LED/Horn combinations with dry contacts for audible/visual alarms.

F. Equipment

1. Manway(s) Qty: as shown on drawings
2. Remote fill cabinet as shown on drawing.
3. Internal Ladder(s) per drawing
4. HTLP 1.5” Interstitial Float Switch Sensor for leak detection (Requires HTSC 2″ Pipe Cap)
5. HTF-1 Float Switch Interface Stem Sensor for overfill detection
6. Electronic Alarm Panel. Channel quantity
7. High-LINK FuelShield®, Fuel Management System
8. Additional High-LINK Magnetostrictive probe for LevelShield Inventory System (2 Maximum)

Warranty

1. The tank is warranted by Highland Tank & Mfg. Co. to be free from defects in manufacturing, workmanship and materials. Highland Tank will repair or replace, at its sole discretion F.O.B. factory, within a period of one year after date of shipment, any item of our manufacture. All other items shall be warranted by their respective manufacturers. Liability hereunder is limited, as stated above, and does not include labor, installation costs, indirect or consequential damages of any kind. Tanks must be returned to the factory and if found to be defective upon examination, will be repaired, replaced or credit will be issued at our option.

2. Tank to be manufactured by Highland Tank at one of the following locations: Stoystown, PA; Manheim, PA; Watervliet, NY; Greensboro, NC; Friedens, PA; Clarkston, MI or Mancelona, MI.

~~**2.2 ALTERNATE: CONCRETE ABOVE GROUND FUEL OIL STORAGE TANK**~~

~~A. Manufacturer:~~

~~1. ConVault, Inc.~~

~~B. Furnish materials in accordance with Authority Having Jurisdiction requirements.~~

~~C. Product Description: Tank rated for multiple hazards and constructed of multiple layers consisting of inner steel tank surrounded by insulation, secondary containment tank, and encased in reinforced concrete. The system will provide a multi-hazard rating including 4 hour fire resistance to meet requirements of UL 2085.~~

~~D. The Contractor shall furnish and install a complete above ground fuel system. Coordinate work under this section with all other trades of work, to furnish a complete and working fuel system. The Contractor shall be certified and licensed in the project jurisdiction for being qualified to install fuel storage tank systems as per manufacturer's installation requirements.~~

~~E. General:~~

~~1. All materials shall be compatible for use with No. 2 commercial fuel oil.~~
~~2. The complete fuel system shall be in accordance with NFPA Standards No. 30 and No. 31, EPA, MDE, API and all local regulations. All materials shall be UL listed for use with No. 2 commercial fuel oil.~~
~~3. Fuel piping and testing are specified in Performance Testing and Balancing.~~
~~4. The fuel oil storage system shall be in accordance with NFPA Standards No. 30 and No. 31 and all local regulations. All materials used shall be UL listed and suitable for use with No. 2 commercial fuel oil. The tank size and arrangement shall be as indicated on the contract drawings.~~

~~F. Tank construction:~~

~~1. Primary Steel Tank:~~

~~a. Primary tank vessel shall be rectangular in shape and constructed with a minimum 1/4 inch carbon steel and intended for stationary, atmospheric pressure usages as allowed by and compliant with N.F.P.A 30 and Uniform Fire Code. All welds shall be continuous and conform to the American Welding Society Standard for continuous welds and manufactured in accordance with UL listing requirements and UL 142.~~
~~b. Tank shall be pressure tested at the factory at 5 psi for 48 hours.~~
~~c. The primary steel tank shall be pressurized at 5psig during concrete encasement. The outer surface of the primary steel tank shall be covered by a minimum of ¼" thick Styrofoam insulation panels.~~
~~2. Secondary Containment:~~

a. The secondary containment shall be impervious to corrosion including damage or failure due to microbial infestation. Because steel is known to be affected by microbial influenced corrosion, the secondary containment shall consist of a 30 mil thick high density polyethylene membrane enclosing the steel tank and insulating material.

3. Concrete Vault:

a. The primary steel tank and the secondary containment shall be encased in six inches of monolithic reinforced concrete with a minimum design strength of 4000 psi at 28 days. The concrete design shall include the following for long term durability: air entrainment, water reducing admixture, and steel reinforcement. Concrete encasements with seams will not be approved.
b. The protected and insulated AST system shall be of concrete exterior and a continuous and visually verifiable monolithic (seamless) pour on top, bottom, ends, and sides and contain no cold joints or heat sinks (heat transfer points). The AST must be shop fabricated and tested in accordance with the UL listings. Designs that use two layers of steel with insulating materials between them will not be approved.

4. No steel or insulating material shall come in contact with the concrete or other corrosive material.
5. All openings shall be from top only.
6. All exposed metal with the exception of stainless steel must be powder coated to inhibit corrosion.
7. The protected and insulated AST system shall have a through tank leak detector tube to allow for physical checkup and monitoring capability between the primary and secondary containment.
8. Fire Resistive Properties:

a. The system shall be designed and tested to provide a minimum 4 hour fire protection barrier against rapid-rise temperature fires of 2,000°F. The fire resistance of the system shall be tested in accordance with established procedures of a certified testing facility.

9. Spill Containment and Overfill Protection:

a. Each system shall protect against the hazards of spillage and overfill during filling operations.
b. Spill containment shall consist of a U.L. listed, seven gallon capacity container integral to the primary vessel and internal to the protective vault.
c. Overfill protection shall be one or more of the following:
    1) A positive shut-off device which stops the flow of product into the tank at 95% capacity and which is designed to withstand the delivery pressures common to pump-off delivery vehicles.
    2) An audible/ visual alarm located in close proximity to the fill port
    3) A direct product level gauge located in close proximity to the fill port.

10. Exterior Finish:

a. The protected and insulated AST system shall have a coated and concrete exterior to resist weather and reflect sunlight. Models with steel exteriors will not be approved.

11. Venting:

a. Normal Vent: Furnish each compartment of primary tank with 2 inch updraft venting device exhausting upward at elevation of at least 12 feet aboveground. Size vent in accordance with NFPA 30.

b. Emergency Vent: Furnish each compartment of primary tank with emergency vent sized in accordance with NFPA 30. Do not use access openings for emergency venting purposes.

12. Anti-siphon valve:

a. Where product piping extends below the top of the vault, the piping shall include an anti-siphon valve.
b. The protected and insulated AST system shall have two bolts for connecting grounding conductors cor lightning protection in accordance with NFPA 780.

G. Accessories:

1. Level Gage: Mechanical float activated level gage capable of indicating approximate fluid level in tank reading in feet and inches.
2. Tank Decals: Furnish warning and tank identification signs located prominently on tank following local fire code requirements.
3. Access Steps: Furnish galvanized access platform with working surface of minimum of 24 inches in width, 20 inches in length, and 36 inches below top of tank.
4. Monitor Port: Minimum 2 inch steel pipe with locking cap to be used for detecting leaks between primary and outer tanks.
5. Leak Detector System

H. Capacity:

1. Volume: 10000 gallons
2. Dimensions: inches
3. Overall Length: inches

I. Installation:

1. The tank system shall be installed in strict accordance with the manufacturer's instructions and compliant with all applicable fire codes and environmental regulations. State and local permits shall be obtained by the contractor prior to installation.
2. Tank shall be installed on a reinforced concrete support slab which is designed to support a full tank/vault assembly and full capacity of fuel being stored. Contractor must provide protection to the tank from vehicular impact.
3. Tank shall be clearly marked with "No Smoking" and "Flammable" or "Combustible", as well as identifying the product stored.
4. Electrical connections shall be in accordance with all applicable codes and rated for hazardous area as required based upon the product stored. Dispensing operations shall provide an emergency shut-off switch located per code requirements of NFPA. 70 and each system shall be grounded in accordance with NFPA 78 and the Uniform Fire Code.
5. The fill pipe shall be provided with a fill cap, gasket and lock with 2 sets of keys. The vent pipe shall be provided with a vent cap. Provide a gauge on top of the tank.
6. The entire vaulted assembly shall be listed by Underwriter's Laboratories as U.L. 2085 protected type and Southwest Research Institute as S.W.R.I. 93-01 protected tank.
7. The primary tank shall be tested and provided tight against leakage under a test pressure of not less than 3 psi nor more than 5 psi for 1 hour.
8. Fill the storage tank with fuel oil as directed by the Contractor. Replace any fuel at no expense to the Owner, which was used during testing so that the tank is full when project is completed.
9. Access ladder and platform shall be provided per OSHA requirements.
10. Provide additional accessories as indicated on the contract drawings.

2.3 LEAK DETECTION AND MONITORING SYSTEMS

A. Description: Calibrated, leak-detection and -monitoring system, and liquid-level gage system complying with UL 1238 with probes and other sensors and remote alarm panel for fuel-oil storage tanks and fuel oil piping.

B. General

1. The Specifications under this article cover the furnishing and installing of Tank Monitoring Systems including probes, sensors and accessories for:

   a. Aboveground and underground storage tank systems.
   b. Interstitial space liquid monitoring.
   c. Inventory monitoring.
   d. Access manway/piping sump liquid monitoring.
   e. Overfill alarm horn and light with acknowledgment switch.
   f. Pressurized piping line leak detection and shut down.

2. Governing Standards

   a. Governing Standards for Tank Monitoring Systems including probes, sensors, electronic line leak detection and accessories shall be:
      1) EPA Regulations 40 CFR Part 280, Sub Part D.
      2) Certification by an independent Laboratory using EPA Protocol (#EPA/530/UST-90/006) for annual and monthly tank testing.
      3) Certification by independent Laboratory using EPA Protocol (#EPA/530/UST-90/010) for pipe line leak detection systems. Certification should include approvals for hard pipe and flexible piping systems.

3. Material

   a. General
      1) The entire tank monitoring system including console unit, probes, sensors, line leak detectors, float switches, relays, alarms and associated accessories shall be available from one manufacturer and shall include all necessary conduit and wiring.
   b. Monitoring System Console
      1) The monitoring system console shall be INCON TS-1001/2P, TS-1001/4P, TS-2001 or approved equal. It shall be an integrated design for centralized, single system site monitoring be complete with an integral printer and shall allow for adapting future monitoring devices. The monitoring system shall be approved for use with U/G storage tanks containing gasoline, methanol and ethanol blends, diesel fuel, fuel oils (including #4 & #8 oil, and waste oil. The monitoring system shall be configured to suit the nearest quantity of tanks. The TS-1001/2P shall be used for two tanks or less, the TS-1001/4P shall be used for 3 or 4 tank installations and the TS-2001 series shall be used with 5 to 8 tank applications.
   c. The monitoring system console shall be capable of providing monitoring for the following:
      1) Annual Tank Tightness Testing with 0.1 GPH leak rate and a minimum probability of detection of 99.2%.
      2) Continuous Statistical Leak Detection via TS-SCALD.
      3) Discriminating interstitial space monitoring.

4) Discriminating piping sump monitoring with sump full alarm.
5) Discriminating dispenser sump monitoring.
6) Discriminating turbine sump monitoring with sump full alarm.
7) Discriminating ground water monitoring.
8) Vapor well monitors with water detection.
9) Sump monitoring with non-discriminating float switch sensors.
10) Interstitial space monitoring with non-discriminating Electro-Optic sensor.
11) High level monitoring with a float switch device.
12) Internal fax/data modem capability.
13) Wireless electronic line leak detection interface via TS-TGI.
14) Leak sensor inputs (12) or (16) plus expansion via TS-SEM module.
15) Two programmable output relays plus expansion via TS-ROM module.

d. The monitoring system console shall be capable of reporting:
1) Inventory Control including:
a) Water Level/Volume
b) Shift Reports
c) Leak Tests
d) Leak Test Time Estimate
e) Alarm Report & History
f) Hi-Low Level Status
g) Usage Reports
h) Inventory & Reconciliation
i) Delivery History
j) Alarm Status
k) System Configuration
l) Theft Alarm
m) Line Leak Tests
n) Regulatory Reprots
2) Leak Test reporting with PASS, FAIL, and ABORT indicators including:
a) Leak rate slope data.
b) Hourly data.
c) Beginning and ending level, volume and temperature measurements.
d) Pass/Fail @ 3 GPH, 2 GPH reports for line leak detection (optional for line leak detection using TS-TGI interface module).
3) Enhanced In-Tank Leak Detection including:
a) 0.1 gallons per (GPH) Leak Test at a min. 99.2% Accuracy.
b) Statistical continuous automatic leak detection (SCALD) for monthly monitoring requirements (optional).
4) Leak Test Programming including:
a) Programmable and on-demand test capability.
b) Single and multiple tanks.
c) Selectable test frequency of Annual, Monthly, Weekly, Daily, & Specific Date.
5) Programmable Alarm Features including:
a) Leak alarms for tanks/sensors/lines.
b) Overfill.
c) High Level.
d) Low Inventory.
e) High Water.
f) Theft.
6) Data Communications including:
a) RS-232 & RS-422 serial ports.
b) Internal Fax Modem Model TS-FM1.
c) Remove polling capability with an IBM capable PC.

d) Auto-dialing out of alarms and reports.
e) Auto-dialing capability of up to 4 different phone numbers.

4. Probes

a. The Tank Monitoring System shall include an automatic tank gauge (ATG) Probe for inventory monitoring and annual tank tightness testing in each tank. The ATG probe shall be INCON series TSP-LL2 or approved equal. ATG Probes shall be supplied by the same manufacturer as the Monitoring System Console. The probes shall be of Magnetostrictive technology.
1) ATG Probes Shall Also:
a) Be capable of being installed in 2" or 4" tank openings.
b) Be manufactured with a minimum 6 RTD Temperature sensors.
c) Have 316 stainless steel shafts.
d) Probe installation kit INCON Model TPS-K4A shall be of snap cap design to provide for quick installation and removal of probe from the riser pipe.

5. Sensors

a. The Sensors shall be INCON TSP-Series or approved equal. Sensors shall be supplied by the same manufacturer as the monitoring system console and shall be of the non-discriminating type.
1) Non Discriminating Sensors
a) Above Ground Tank Interstitial
(1) TSP-EIS: Electro-optical style liquid sensors for fiberglass and steel interstitial space, DW piping traps, and AST dikes.

b. All discriminating sensors must be microprocessor based and capable of sending digitally encoded status information to the console. Each discriminating type sensor must be able to generate digitally encoded status data to the console for the following alarms:
1) Water detection
2) Hydrocarbon detection
3) Loss of signal
4) Data error
5) ID error
6) Sync error
7) All sensors must be designed fail safe and with self test capability.

6. Overfill Alarm

a. The Tank Monitoring System shall include an Overfill Alarm for each tank.
b. The Overfill Alarm shall be INCON No. TSRA2 or approved equal. It shall be of the same manufacturer as the monitoring system console and shall activate an alarm horn and light when a potential overfill is detected. It shall be equipped with an Alarm Acknowledgment Switch INCON No. TS-RK for driver intervention. Monitoring panel shall be water and weather tight construction.

C. Construction Methods

1. General

a. The Tank Monitoring System, related wiring and accessories shall be installed according to the manufacturer’s instructions, State and Local Codes and the Contract Drawings.

b. All Tank Level Probe wiring shall be Beiden Shielded cable or equal as noted below. All point sensor wiring shall be AWG 18 Ga. THHN wires. Tank level probe wiring and point sensor wiring can be installed in common conduit.
   1) 0-130 feet = Beiden No. 87760
   2) 0-200 feet = Beiden No. 87761
   3) 0-775 feet = Beiden No. 89182

2. Testing, Start-up and Factory Warranty

   a. The Tank Monitoring System shall be fully tested, calibrated and proved operational to the owner prior to acceptance. Start up and programming of monitoring system shall be performed by factory trained technicians. Complete system shall be provided with a full one year factory parts and labor warranty. All warranty verification forms must be submitted to INCON, Saco, ME for proper warranty registration.

2.4 PIPING SPECIALTIES

A. Tank, Pipe Connectors: Comply with UL 567.

B. Piping, Flexible Connectors: Fabricated from materials suitable for fuel-oil service, including 150-psig minimum working-pressure rating, and having threaded ends for 2-inch NPS (DN50) and smaller and flanged ends for 2-½-inch NPS (DN65) and larger.

1. Bronze-Hose, Flexible Connectors: Corrugated, bronze, inner tubing covered with bronze wire braid. Include copper tube ends or bronze flanged ends, braze welded to hose.
2. Stainless-Steel-Hose, Flexible Connectors: Corrugated, stainless-steel, inner tubing covered with stainless-steel wire braid. Include steel nipples or flanges, welded to hose.

2.5 FUEL-OIL TANK SPECIALTY FITTINGS

A. Fitting Materials: Cast-iron, malleable-iron, brass, or corrosion-resistant metal; suitable for fuel-oil service.

1. Surface, Flush-Mounted Fittings: Waterproof and suitable for fuel-oil truck traffic.
2. Aboveground-Mounted Fittings: Weatherproof.

B. Spill-Containment Fill Boxes: Flush mounting, with drainage feature to drain oil into tank, threaded fill-pipe connection, and wrench operation.

C. Supply and Sounding Drop Tubes: Fuel-oil supply piping or fitting, inside tank, terminating 6 inches above bottom of tank, and with end cut at a 45-degree angle (1:1 slope).

D. Pipe Adapters and Extensions: Compatible with piping and fittings.

E. Suction Strainers, Check Valves, and Overfill Check Valves: Bronze or corrosion-resistant metal components.

F. Foot Valves and Anti-siphon Valves: Poppet-type, bronze or corrosion-resistant metal components.

G. Weatherproof Vent Cap: Increaser fitting with corrosion-resistant wire screen, with free area at least equal to cross-sectional area of connecting pipe and threaded-end connection.

2.6 SOURCE QUALITY CONTROL

A. Perform factory tests, according to UL 142 and STI F911, after fabrication and before shipment.

B. Perform factory test, according to UL 142 and UL 2085, after fabrication and before shipment.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Division 01 - Administrative Requirements: Coordination and project conditions.

B. Verify excavations are to required grade, dry, and not over-excavated.

C. Verify concrete ballast pad and tank foundation are ready for tank installation.

3.2 EARTHWORK

A. Excavation, Trenching, and Backfilling are specified in Division 31 Sections: “Excavation”, “Trenching” and “Fill”

3.3 PIPING APPLICATIONS

A. Use flanges, unions, transition and special fittings, and valves with pressure ratings same or higher than system’s pressure rating in aboveground and containment sump applications, unless otherwise indicated.

B. Aboveground, Fuel Oil Piping and Vent Piping: Use the following:

1. 2-Inch NPS (DN50) and Smaller: Steel pipe, steel welding fittings, and welded joints, or 2-Inch NPS (DN50) and Smaller: Copper tube, copper fittings, and brazed joints.
2. 2-½- to 4-Inch NPS (DN65 to DN100): Steel pipe, steel welding fittings, and welded joints.

3.4 VALVE APPLICATIONS

A. Drawings indicate valve types to be used. Where specific valve types are not indicated, the following requirements apply:

1. Shutoff Duty: Use ball valves.
2. Throttling Duty: Use ball valves.

3.5 JOINT CONSTRUCTION

A. Refer to Section “Utility Materials” for basic piping joint construction.

B. Make bonded joints for RTRP piping with adhesives according to manufacturer’s written instructions.

3.6 FUEL-OIL STORAGE TANK INSTALLATION

A. Install fuel-oil storage tanks according to manufacturer's written instructions and standards specified.

B. Check factory installed equipment and accessories for loosening during transit.

C. Clean and flush tanks prior to delivery to site. Seal until pipe connections are made.

D. Install aboveground tanks on concrete foundation. Secure with hold-down straps and turnbuckles.

E. Install aboveground tank supports and anchor bolts in accordance with authority having jurisdiction requirements.

F. Install grounding for aboveground tanks in accordance with Division 26

G. Protect aboveground tanks by installing pipe bollards.

H. Install tank bases and supports.

I. Set tanks on bases and supports.

J. Install piping connections to tanks with unions and swing joints. Provide venting in accordance with API 2000.

K. Install ground connections.

L. Seal unused tank openings using threaded pipe plugs, flanges, or caps.

M. Tank Accessories:

1. Install tank accessories shipped loose with tank.
2. Install the following tank accessories: anti-siphon devices, overfill shutoff and alarms, vents, gages, and emergency vents
3. Install tank accessories as indicated on Drawings.

N. Install piping connections.

O. Install tank leak-detection and -monitoring devices.

P. Install containment sumps.

Q. Adjust liquid level gages before initial start-up and after filling of tank.

R. Fill tanks completely at Project turnover with appropriate fuel.

3.7 CONCRETE BASES

A. Construct fuel-oil storage tank concrete-ballast and -surface bases according to tank manufacturer's setting templates for anchor bolt and tie locations. Use 3000 psi (20 700 kPa), 28-day compressive-strength concrete.

B. Construct concrete tank and equipment bases according to supported tank and equipment manufacturer's setting templates for anchor bolt and tie locations. Use 3000 psi (20 700 kPa), 28-day compressive-strength concrete.

C. Refer to Division 03 Section: "Cast-in-Place Concrete" for concrete.

3.8 PIPING INSTALLATION

A. Install piping free of sags and bends.

B. Locate groups of pipes parallel to each other, spaced to permit valve servicing.

C. Install fittings for changes in direction and branch connections.

D. Assemble and install bulkhead fittings for pipe penetrations through storage tank sump sidewalls. Follow fitting manufacturer's written instructions and use components required for liquidtight joints.

E. Install reductions in pipe sizes using eccentric reducer fittings. Install fitting with level side down.

F. Install tank, pipe connectors at piping connections to UST.

G. Install piping, flexible connectors at piping connections to vibration-producing equipment. Use according to the following applications:

1. Steel Piping: Stainless-steel-hose, flexible connectors.
2. Copper Tubing: Bronze-hose, flexible connectors.
3. RTRP: Stainless-steel-hose or bronze-hose, flexible connectors.

H. Install double-contained piping according to manufacturer's written instructions for assembly, joining, trench preparation, and installation.

I. Install and terminate double-contained piping at fuel-oil storage tank containment sumps and at building.

3.9 VALVE INSTALLATIONS

A. Install valves in accessible locations. Protect valves from physical damage and install metal tag attached with metal chain indicating fuel oil piping systems.

3.10 CONNECTIONS

A. Connect fuel-oil distribution piping to fuel-oil storage tanks and building fuel oil piping. Use pipe adapters or transition fittings compatible with both piping systems. Refer to Division 22 Section: "Pipes and Tubes for Plumbing Piping and Equipment": for building piping.

B. Connect vent, fill, sounding, gage, and other piping to fittings and specialty devices.

C. Piping Connections: Make piping connections as follows, unless otherwise indicated:

1. Install unions, in piping 2-inch NPS (DN50) and smaller, adjacent to each valve and at final connection to each piece of equipment having threaded pipe connection.
2. Install flanges, in piping 2-½-inch NPS (DN65) and larger, adjacent to flanged valves and at final connection to each piece of equipment having flanged pipe connection.
3. Install dielectric unions to connect piping of dissimilar metals.

D. Make connections to liquid-level gage system.

E. Make connections to fuel-oil storage tank leak-detection system.

F. Make electrical connections to pumps, control panels, liquid-level gages, and leak-detection and -monitoring devices.

G. Electrical wiring, disconnect switches, and motor controls are specified in Division 16.

H. Ground equipment and AST.

I. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3.11 LIQUID-LEVEL GAGE SYSTEM INSTALLATION

A. Install liquid-level gage systems according to manufacturer's written instructions. Locate panel inside building where indicated.

3.12 LEAK-DETECTION AND -MONITORING SYSTEM INSTALLATION

A. Install leak-detection and -monitoring systems according to manufacturer's written instructions. Install alarm panel inside building where indicated.

1. Fuel-Oil Storage Tanks: Install probes or use factory-installed, integral probes in interstitial space of double-wall tanks.
2. Fuel-Oil Double-Contained Piping: Install leak-detection sensor cable probes in interstitial space of double-contained piping.
3. Install liquid-level gage systems according to manufacturer's written instructions.

B. Install cable on flat surfaces with hold down clips every 8 feet and cable tags every 50 feet

C. Graphic Locator Map: Provide location map with system reflecting actual installation showing system configuration and sensing string layout. Furnish length along cable as references to locate leaks. Base footage on calibration points.

D. Calibration Points: Record calibration points along sensing string in accordance with manufacturer's procedures. Provide sensor cables with cable tags every 50 feet.

E. Direct Buried of Hydrocarbon Sensing Cable:

1. Replace cable damaged during installation.
2. Seal cable ends to prevent moisture ingress.
3. Install cable so connectors are accessible in junction boxes at grade or in manholes, valve pits or other locations.
4. Install cable from underground to grade using PVC pipe.
5. Install on prepared bedding.
6. Backfill cable with 6 inches of sand placed on top of cable and compacted prior to pipe installation.
7. Where cable is to be covered by concrete or other structures, install sensor cable in slotted PVC pipe. Install with access points to allow replacing and servicing.

F. Install Work in accordance with authority having jurisdiction requirements.

3.13 LABELING AND IDENTIFYING

A. Equipment: Install engraved, plastic-laminate equipment nameplates and signs on AST and equipment.

1. Text of Signs: In addition to name of identified unit, distinguish between multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations.

B. Piping: Install pipe markers on aboveground piping.

C. Refer to Division 33 Sections: "Utility Identification" and “Identification for Utilities Piping and Equipment”.

D. Warning Tapes: Arrange for installation of continuous, underground, detectable warning tapes during backfilling of trenches for piping. Locate tapes 6 to 8 inches (150 to 200 mm) below finished grade and directly over piping and edges of each fuel-oil storage tank.

3.14 PAINTING

A. Division 09 Section: "Painting" and “Coating”: For field-painting requirements.

B. Use materials and procedures in "Exterior Paint Schedule" Article's "Ferrous Metal" Paragraph and "Full-Gloss, Alkyd-Enamel Finish" Subparagraph in Division 9 Section "Painting," using color selected by Engineer.

C. Paint AST and metal supports, except units with factory-applied paint or protective coating. Restore damaged finish to original condition.

D. Paint aboveground pipe, fittings, valves, and supports.

3.15 FIELD QUALITY CONTROL

A. Division 01 Section – “Quality Requirements”: Field inspection, testing, adjusting, and balancing.

B. Perform pressure test for tightness, with air, inert gas, or water according to NFPA 30 and NFPA 31 on tanks before installation. Apply soap solution to joints and check for leaks. Do not exceed the following:

1. Tanks Smaller Than 12-Foot (3.7-m) Diameter: 5-psig (34.5-kPa) test pressure.
2. Tanks 12-Foot (3.7-m) Diameter and Larger: 3-psig (20.7-kPa) test pressure.

C. Repair or replace defective tanks and retest until there are no leaks.

D. Test fuel-oil distribution piping according to NFPA 30 and NFPA 31. Remake leaks and defects with new materials and retest until there are no leaks.

E. Field Testing Leak Detection System:

1. Perform tests to demonstrate ability of system to detect and locate breaks, shorts and probes on sensor string.
2. Perform leak testing in accordance with the following procedure to verify operation and ability to work with condensation pools or other static moisture:

    a. Wet sensor cable near start of sensor string and acknowledge detection or location alarm and recheck system.
    b. Wet sensor cable near end of sensor string with first location still wetted and acknowledge detection or location alarm and recheck system.
    c. Wet sensor cable in three additional locations between first and second leak locations with each detection or location alarm being acknowledged and prior leak locations still wetted.
3. Prepare and submit report verifying each leak location and detection accuracy. Furnish history print out of test results from panel. Submit TDR traces for each test run to allow verification of wet locations.
4. Test and adjust leak-detection and -monitoring system controls and devices. Replace damaged and malfunctioning controls and devices.

F. Report test results promptly in writing to Engineer and authorities having jurisdiction.

3.16 MANUFACTURER'S FIELD SERVICES

A. Division 01 - Quality Requirements: Requirements for manufacturer’s field services.

B. Furnish factory trained representative for 8 hours of on-site time during tank installation.

C. Furnish factory trained representative of system supplier for 8 hours of on-site time during leak detection and location system sensor and electronics installation.

D. Furnish factory trained representative for 8 hours of on-site time during final checkout of tanks installation.

E. Furnish factory trained representative of system supplier for 8 hours of on-site time during final checkout of leak detection and location system.

3.17 ADJUSTING

A. Adjust controls and safety devices. Replace damaged and malfunctioning controls and safety devices.

3.18 COMMISSIONING

A. Provide support for Commissioning Activities and Functional Performance Testing as outlined in specification Division 01 Section “Commissioning”.

B. Contractor shall provide copies of final reports to the Commissioning Agent (CxA) for review and inclusion with final Cx project documentation as applicable

C. Before activating system, perform these steps:

1. Verify that tests have been performed.
2. Open valves to fully open position.
3. Fill fuel-oil storage tanks with specified grade fuel oil.
4. Check leak-detection and -monitoring systems for proper operation.

3.19 DEMONSTRATION

A. Division 01 Section – “Execution and Closeout Requirements”: Requirements for demonstration and training.

B. Engage a factory-authorized service representative for leak-detection system to train Owner's maintenance personnel to adjust, operate, and maintain systems.

1. Train Owner's maintenance personnel on procedures and schedules for starting up and shutting down, troubleshooting, servicing, and maintaining leak-detection equipment and pumps.
2. Review data in maintenance manuals.
3. Schedule training with Owner with at least seven days' advance notice.

END OF SECTION

SECTION 32 12 16 - ASPHALT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

B. Baltimore County Department of Public Works Standard Details for Construction dated September 2024 and as amended.

C. Maryland Department of Transportation State Highway Administration Standard Specifications for Construction and Materials, dated July, 2024 and as amended.

D. Throughout the specifications, types of materials may be specified by manufacturer's name and catalogue number in order to establish standards of quality and performance and not for the purpose of limiting competition. Alternate methods and/or materials may be submitted to the Architect for consideration. Those judged to be equal to that specified will receive written approval.

1.2 SUMMARY

A. Section Includes:

1. Hot-mix asphalt paving.
2. Hot-mix asphalt overlay.
3. Cold milling of existing asphalt pavement.
4. Hot-mix asphalt patching.
5. Asphalt curbs.
6. Asphalt traffic-calming devices.
7. Asphalt surface treatments.

B. Related Requirements:

1. Section 02 41 19 "Selective Demolition" for demolition and removal of existing asphalt pavement.
2. Section 31 20 00 "Earth Moving" for subgrade preparation, fill material, separation geotextiles, unbound-aggregate subbase and base courses, and aggregate pavement shoulders.
3. Section 32 13 13 "Concrete Paving" for concrete pavement and for separate concrete curbs, gutters, and driveway aprons.
4. Section 32 13 73 "Concrete Paving Joint Sealants" for joint sealants and fillers at pavement terminations.
5. Section 32 14 00 "Unit Paving" for bituminous setting bed for pavers and for stone and precast concrete curbs.
6. Section 32 17 23: "Pavement Markings".

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to hot-mix asphalt paving including, but not limited to, the following:

    a. Review proposed sources of paving materials, including capabilities and location of plant that will manufacture hot-mix asphalt.
    b. Review requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.

1.4 SYSTEM DESCRIPTION

A. Provide hot-mix asphalt pavement according to the materials, workmanship, and other applicable requirements of the Baltimore County Standards and the Standard Specifications for Construction and Materials of the Maryland Department of Transportation, State Highway Administration, latest edition, are hereby by reference made a part of these specifications where applicable with the exception of “Method of Measurement and Basis of Payment”. No adjustments to contract will be made as a result of material escalation.

B. Bituminous concrete pavement shall consist of aggregate asphalt mixed and constructed in accordance with these specifications and placed to the depth, grade, and cross section shown on the Construction Details.

1.5 ACTION SUBMITTALS

A. Product Data: **For each product specified.** Include technical data and tested physical and performance properties.

~~1. Herbicide.~~
~~2. Paving geotextile.~~
~~3. Joint sealant.~~

~~B. Hot-Mix Asphalt Designs:~~

~~1. Certification, by authorities having jurisdiction, of approval of each hot-mix asphalt design proposed for the Work.~~
~~2. For each hot-mix asphalt design proposed for the Work~~

~~C. Samples for Verification: For the following product, in manufacturer's standard sizes unless otherwise indicated:~~

~~1. Paving Geotextile: 12 by 12 inches (304.8 by 304.8 mm) minimum.~~

B. **Qualification Data: For firms and persons specified in the “Quality Assurance” Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.**

C. **Job-Mix Designs: For each job mix proposed for the Work.**

D. **Shope Drawings: Indicate pavement markings, lane separations, and defined parking spaces. Indicate dedicated handicapped spaced with international graphics symbol.**

E. **Material Test Reports: Indicate and interpret test results for compliance of materials with all requirements indicated.**

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For paving-mix manufacturer and testing agency.

~~B. Material Certificates:~~

~~1. Aggregates.~~
~~2. Asphalt binder.~~
~~3. Asphalt cement.~~
~~4. Cutback prime coat.~~
~~5. Emulsified asphalt prime coat.~~
~~6. Tack coat.~~
~~7. Fog seal.~~
~~8. Undersealing asphalt.~~

C. Field quality-control reports.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. The paving-mix manufacturer shall be a registered and approved paving mix manufacturer with the Baltimore County Department of Public Works or with the Maryland State Highway Administration
2. The paving-mix manufacturer shall be registered with and approved by Maryland Department of Transportation State Highway Administration.

B. Installer Qualifications: Engage an experienced installer who has completed hot-mix asphalt paving similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

C. Testing Agency Qualifications: **Independent testing agency having the experience and capability to satisfactorily conduct the testing without delaying the Work.** Qualified in accordance with ASTM D3666 for testing indicated.

D. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of Baltimore County Department of Public Works Standard Details for Construction dated February 2007 and as amended, of for asphalt paving work.

1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

E. Asphalt-Paving Publication: Comply with AI's "The Asphalt Handbook", except where more stringent requirements are indicated.

F. In the event of a discrepancy between the Project Specifications, Construction Documents, Baltimore County Standard Specifications and Details, or other guidelines set forth by the authorities having jurisdiction, the more stringent will apply

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:

1. Prime Coat: Minimum surface temperature of 60 deg F (15.6 deg C).
2. Tack Coat: Minimum surface temperature of 60 deg F (15.6 deg C).
3. Slurry Coat: Comply with weather limitations in ASTM D3910.
4. Asphalt Base Course: Minimum surface temperature of 40 deg F (4.4 deg C) and rising at time of placement.
5. Asphalt Surface Course: Minimum surface temperature of 60 deg F (15.6 deg C) at time of placement.

PART 2 - PRODUCTS

2.1 AGGREGATES

A. General: Use locally available materials and gradation that exhibit a satisfactory record of previous installations. Bituminous concrete shall meet the requirements of the S.H.A. Specifications, Section 904, as later specified herein or as indicated on the drawings.

B. Coarse Aggregate: ASTM D692/D692M, sound; angular crushed stone, crushed gravel, or cured, crushed blast-furnace slag.

C. Fine Aggregate: ASTM D1073, sharp-edged natural sand or sand prepared from stone, gravel, cured blast-furnace slag, or combinations thereof.

1. For hot-mix asphalt, limit natural sand to a maximum of 20 percent by weight of the total aggregate mass.

2.2 ASPHALT MATERIALS

A. Asphalt Binder: ASTM D6373 binder designation PG 64-22.

B. Asphalt Cement: ASTM D3381/D3381M for viscosity-graded material, ASTM D946/D946M for penetration-graded material.

~~C. Emulsified Asphalt Prime Coat: ASTM D977 emulsified asphalt, or ASTM D2397/D2397M cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.~~

D. Tack Coat: ASTM D977 emulsified asphalt, or ASTM D2397/D2397M cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.

~~E. Fog Seal: ASTM D977 emulsified asphalt, or ASTM D2397/D2397M cationic emulsified asphalt, slow setting, factory diluted in water, of suitable grade and consistency for application.~~

F. Water: Potable.

~~G. Undersealing Asphalt: ASTM D3141/D3141M; pumping consistency.~~

2.3 AUXILIARY MATERIALS

~~A. Herbicide: Commercial chemical for weed control, registered by the EPA, and not classified as "restricted use" for locations and conditions of application. Provide in granular, liquid, or wettable powder form.~~

B. Sand: ASTM D1073, Grade No. 2 or No. 3.

~~C. Paving Geotextile: AASHTO M 288 paving fabric; nonwoven polypropylene; resistant to chemical attack, rot, and mildew; and specifically designed for paving applications.~~

~~D. Joint Sealant: ASTM D6690, Type I, hot-applied, single-component, polymer-modified bituminous sealant.~~

2.4 MIXES

A. Hot-Mix Asphalt: Dense-graded, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction and complying with the following requirements:

1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.
2. Base Course: Hot Mix Asphalt Superpave 19.0 mm – PG 70-22 Level 2
3. Surface Course: Hot Mix Asphalt Superpave 9.5 mm – PG 64-22 Level 2.

~~B. Emulsified-Asphalt Slurry: ASTM D3910, Type 1.~~

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.

B. Notify Architect in writing of any unsatisfactory conditions. Do not begin paving installation until these conditions have been satisfactorily corrected.

C. Proceed with paving only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Protection: Provide protective materials, procedures, and worker training to prevent asphalt materials from spilling, coating, or building up on curbs, driveway aprons, manholes, and other surfaces adjacent to the Work.

B. Proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph (4.8 km/h).
2. Proof-roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons (13.6 tonnes).
3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.

3.3 COLD MILLING

A. Clean existing pavement surface of loose and deleterious material immediately before cold milling. Remove existing asphalt pavement, including hot-mix asphalt and as necessary, unbound-aggregate base course, by cold milling to grades and cross sections indicated.

1. Mill to a depth of 2 inches (50.8 mm).
2. Mill to a uniform finished surface free of excessive gouges, grooves, and ridges.
3. Control rate of milling to prevent tearing of existing asphalt course.
4. Repair or replace curbs, driveway aprons, manholes, and other construction damaged during cold milling.
5. Excavate and trim unbound-aggregate base course, if encountered, and keep material separate from milled hot-mix asphalt.
6. Patch surface depressions deeper than 1 inch (25.4 mm) after milling, before wearing course is laid.
7. Handle milled asphalt material in accordance with approved waste management plan required in Section 01 74 19 "Construction Waste Management and Disposal."
8. Keep milled pavement surface free of loose material and dust.
9. Do not allow milled materials to accumulate on-site.

3.4 PATCHING

A. Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches (304.8 mm) into perimeter of adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.

B. Portland Cement Concrete Pavement: Break cracked slabs and roll as required to reseat concrete pieces firmly.

1. Undersealing: Pump hot undersealing asphalt under rocking slab until slab is stabilized or, if necessary, crack slab into pieces and roll to reseat pieces firmly.
2. Remove disintegrated or badly cracked pavement. Excavate rectangular or trapezoidal patches, extending into perimeter of adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Recompact existing unbound-aggregate base course to form new subgrade.

C. Tack Coat: Before placing patch material, apply tack coat uniformly to vertical asphalt surfaces abutting the patch. Apply at a rate of 0.05 to 0.15 gal./sq. yd. (0.23 to 0.68 L/sq. m).

1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

D. Placing Single-Course Patch Material: Fill excavated pavement areas with hot-mix asphalt base mix for full thickness of patch and, while still hot, compact flush with adjacent surface.

E. Placing Two-Course Patch Material: Partially fill excavated pavements with hot-mix asphalt base course mix and, while still hot, compact. Cover asphalt base course with compacted layer of hot-mix asphalt surface course, finished flush with adjacent surfaces.

3.5 REPAIRS

A. Leveling Course: Install and compact leveling course consisting of hot-mix asphalt surface course to level sags and fill depressions deeper than 1 inch (25.4 mm) in existing pavements.

1. Install leveling wedges in compacted lifts not exceeding 3 inches (76.2 mm) thick.

B. Crack and Joint Filling: Remove existing joint filler material from cracks or joints to a depth of 1/4 inch (6.4 mm).

1. Clean cracks and joints in existing hot-mix asphalt pavement.
2. Use emulsified-asphalt slurry to seal cracks and joints less than 1/4 inch (6.4 mm) wide. Fill flush with surface of existing pavement and remove excess.
3. Use hot-applied joint sealant to seal cracks and joints more than 1/4 inch (6.4 mm) wide. Fill flush with surface of existing pavement and remove excess.

3.6 SURFACE PREPARATION

A. Ensure that prepared subgrade has been proof-rolled and is ready to receive paving. Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces.

1. Sweep loose granular particles from surface of unbound-aggregate base course. Do not dislodge or disturb aggregate embedded in compacted surface of base course.

~~B. Herbicide Treatment: Apply herbicide in accordance with manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.~~

~~1. Mix herbicide with prime coat if formulated by manufacturer for that purpose.~~
~~2. Protect primed substrate from damage until ready to receive paving.~~

~~C. Cutback Prime Coat: Apply uniformly over surface of compacted unbound-aggregate base course at a rate of 0.15 to 0.50 gal./sq. yd. (0.68 to 2.3 L/sq. m). Apply enough material to penetrate and seal, but not flood, surface. Allow prime coat to cure.~~

~~1. If prime coat is not entirely absorbed within 24 hours after application, spread sand over surface to blot excess asphalt. Use enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated.~~
~~2. Protect primed substrate from damage until ready to receive paving.~~

~~D. Emulsified Asphalt Prime Coat: Apply uniformly over surface of compacted unbound-aggregate base course at a rate of 0.10 to 0.30 gal./sq. yd. per inch depth (0.45 to 1.36 L/sq. m per 25.4 mm depth). Apply enough material to penetrate and seal, but not flood, surface. Allow prime coat to cure.~~

~~1. If prime coat is not entirely absorbed within 24 hours after application, spread sand over surface to blot excess asphalt. Use enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated.~~
~~2. Protect primed substrate from damage until ready to receive paving.~~

E. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd. (0.23 to 0.68 L/sq. m).

1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

~~3.7 INSTALLATION OF PAVING GEOTEXTILE~~

~~A. Apply tack coat uniformly to existing pavement surfaces at a rate of 0.20 to 0.30 gal./sq. yd. (0.91 to 1.36 L/sq. m).~~

~~B. Place paving geotextile promptly in accordance with manufacturer's written instructions. Broom or roll geotextile smooth and free of wrinkles and folds. Overlap longitudinal joints 4 inches (101.6 mm) and transverse joints 6 inches (152.4 mm).~~

~~C. Protect paving geotextile from traffic and other damage, and place hot-mix asphalt overlay the same day.~~

3.8 HOT-MIX ASPHALT PLACEMENT

A. Bituminous concrete shall not be placed when the ambient air and surface temperature is below 60° F. When the surface temperature falls below these limits, material enroute may be placed at the risk of the Contractor.

B. Apply prime and tack coats when ambient temperature is above 60° F and when temperature has not been below 40° F for 12 hours immediately prior to applications. Do not apply when base is wet or contains an excess of moisture.

C. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand in areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.

1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated.
2. Place hot-mix asphalt surface course in single lift.
3. Spread mix at a minimum temperature of 250 deg F (121.1 deg C).
4. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes unless otherwise indicated.
5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

D. Place paving in consecutive strips not less than 10 feet (3 m) wide unless infill edge strips of a lesser width are required.

1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Overlap mix placement about 1 to 1-1/2 inches (25.4 to 38.1 mm) from strip to strip to ensure proper compaction of mix along longitudinal joints.
2. Complete a section of asphalt base course before placing asphalt surface course.

E. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.9 JOINTS

A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.

1. Clean contact surfaces and apply tack coat to joints.
2. Offset longitudinal joints, in successive courses, a minimum of 6 inches (152.4 mm).
3. Offset transverse joints, in successive courses, a minimum of 24 inches (609.6 mm).
4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method in accordance with AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations."

5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
6. Compact asphalt at joints to a density within 2 percent of specified course density.

B. Longitudinal and transverse joints shall be made in a careful manner.

1. Well bonded and sealed joints are required. If necessary, in order to obtain this result, joints shall be painted with asphalt.
2. Both longitudinal and transverse joints in successive courses shall be staggered so as not to be one above the other.
3. Longitudinal joints shall be staggered a minimum of 6 inches and shall be arranged so that the longitudinal joint in the top course being constructed shall be at the location of the lane dividing the traffic lanes.

C. Joints between old and new pavements, or between successive days' work, shall be carefully made in such a manner as to ensure a thorough and continuous bond between old and new surfaces.

1. In the case of surface courses, the edge of the old and new surface course shall be cut back for its full depth so as to expose a fresh surface.
2. To obtain a well bonded joint, the surface shall be painted with hot asphalt, after which the hot surface mixture shall be placed in contact with it and raked to a proper depth and grade.
3. Before placing the mixture against them, all contact surfaces, of curbs, gutters, headers, manholes, etc., shall be painted with a thin uniform coating of hot asphalt cement or asphalt cement dissolved in Naptha.

3.10 COMPACTION

A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.

1. Complete compaction before mix temperature cools to 185 deg F (85 deg C).

B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.

C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to an in-place density of 92.0 to 97.0 percent of the maximum density.

D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.

E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.

G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.11 ASPHALT CURBS

A. Construct hot-mix asphalt curbs over compacted pavement surfaces. Apply a light tack coat unless pavement surface is still tacky and free from dust. Spread hot-mix asphalt at a minimum temperature of 250 deg F (121.1 deg C).

1. Hot-Mix Asphalt: Same as pavement surface-course mix.

B. Place hot-mix asphalt to curb cross section indicated or, if not indicated, to local standard shapes, by machine or by hand in wood or metal forms. Tamp hand-placed materials and screed to smooth finish. Remove forms after hot-mix asphalt has cooled.

3.12 ASPHALT TRAFFIC-CALMING DEVICES

A. Construct hot-mix asphalt speed bumps over compacted pavement surfaces. Apply a tack coat unless pavement surface is still tacky and free from dust. Spread hot-mix asphalt at a minimum temperature of 250 deg F (121.1 deg C).

1. Tack Coat Application: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd. (0.23 to 0.68 L/sq. m).
2. Hot-Mix Asphalt: Same as pavement surface-course mix.
3. Before installation, mill pavement that will be in contact with bottom of traffic-calming device. Mill to a depth of 1 inch (25.4 mm) from top of pavement to a clean, rough profile.

B. Place and compact hot-mix asphalt to cross section indicated, by machine or by hand in wood or metal forms. Tamp hand-placed materials and screed to smooth finish. Remove forms after hot-mix asphalt has cooled.

3.13 INSTALLATION TOLERANCES

A. Pavement Thickness: Compact each course to produce thickness indicated within the following tolerances:

1. Base Course: Plus or minus 1/2 inch (12.7 mm).
2. Surface Course: Plus 1/4 inch (6.35 mm), no minus.

B. Pavement Surface Smoothness: Compact each course to produce surface smoothness within the following tolerances as determined by using a 10-foot (3-m) straightedge applied transversely or longitudinally to paved areas:

1. Base Course: 1/4 inch (6.35 mm).
2. Surface Course: 1/8 inch (3.18 mm).
3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch (6.35 mm).

C. Asphalt Traffic-Calming Devices: Compact and form asphalt to the shapes indicated and within a tolerance of plus or minus 1/8 inch (3.18 mm) of height indicated above pavement surface.

3.14 SURFACE TREATMENTS

A. Fog Seals: Apply fog seal at a rate of 0.10 to 0.15 gal./sq. yd. (0.45 to 0.68 L/sq. m) to existing asphalt pavement and allow to cure. With fine sand, lightly dust areas receiving excess fog seal.

B. Slurry Seals: Apply slurry coat in a uniform thickness in accordance with ASTM D3910 and allow to cure.

1. Roll slurry seal to remove ridges and provide a uniform, smooth surface.

3.15 FIELD QUALITY CONTROL

A. Testing Agency: Contractor will engage a qualified testing agency to perform tests and inspections.

B. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined in accordance with ASTM D3549/D3549M.

C. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.

D. Asphalt Traffic-Calming Devices: Finished height of traffic-calming devices above pavement will be measured for compliance with tolerances.

E. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement in accordance with ASTM D979/D979M.

1. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered daily to site, prepared in accordance with ASTM D2041/D2041M, and compacted in accordance with job-mix specifications.
2. In-place density of compacted pavement will be determined by testing core samples in accordance with ASTM D1188 or ASTM D2726/D2726M.

a. One core sample will be taken for every 1000 sq. yd. (836 sq. m) or less of installed pavement, with no fewer than three cores taken.
b. Field density of in-place compacted pavement may also be determined by nuclear method in accordance with ASTM D2950/D2950M and coordinated with ASTM D1188 or ASTM D2726/D2726M.

F. Replace and compact hot-mix asphalt where core tests were taken.

G. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

3.16 WASTE HANDLING

A. General: Handle asphalt-paving waste in accordance with approved waste management plan required in Section 017419 "Construction Waste Management and Disposal."

END OF SECTION

S E C T I O N – I V
P R O P O S A L

DESCRIPTION OF WORK

Bid Opening via Teleconference WebEx: Thursday, November 20, 2025 @ 10:45 a.m. EST.
WebEx Phone Number 1-415-655-0001, Access Code Number 2307 029 0314##.

Begin Work Within Fifteen (15) Days After NOTICE TO PROCEED

Calendar Days for Completion: Six Hundred Sixty-Nine (669)

Liquidated and Other Damages: FIFTEEN HUNDRED DOLLARS ($1500.00 PER CALENDAR DAY)

Cost Group "H" ($15,000,001 to $30,000,000) (Prequalified contractors with a Cost Group restriction must bid within the dollar amount stated on their Certificate of Prequalification)

Work Classification: I1 w/ a prequalified I7 subcontractors

TO BALTIMORE COUNTY, MARYLAND: Work includes the construction of a new two-story police precinct building of approximately 33,800 square feet on the existing Wilkens police site. Demolition of free-standing building structures that currently exist on 3-acre site on the south west region will be demolished first to build the new building. The existing police station will be demolished after the completion of the new building. **Catonsville – District 1c1.**

The following listed Drawing Number(s) are collectively the "Drawings", and are hereby incorporated in the Contract.

Workday Number	Drawing Number(s)
300200006	2024-1314 thru 1611 & 2024 – 2096,2099,2100 ,2101

A pre-bid meeting will be held on Wednesday, October 29, 2025 at 10:00 a.m. EST via WebEx. *Phone-In (Audio Only)* – 1-415-655-0001, Meeting Number 2303 230 7730##. *Video Conference* – Meeting Number 2303 230 7730 , **Password**: **sGSYKJsy538,** go to https://signin.webex.com/join,or for the WebEx link go to www.baltimorecountymd.gov/departments/public-works/engineering/contracts/current-solicitations **A site visit is scheduled for Thursday, October 30, 2025 @ 2:00 P.M. EST.**

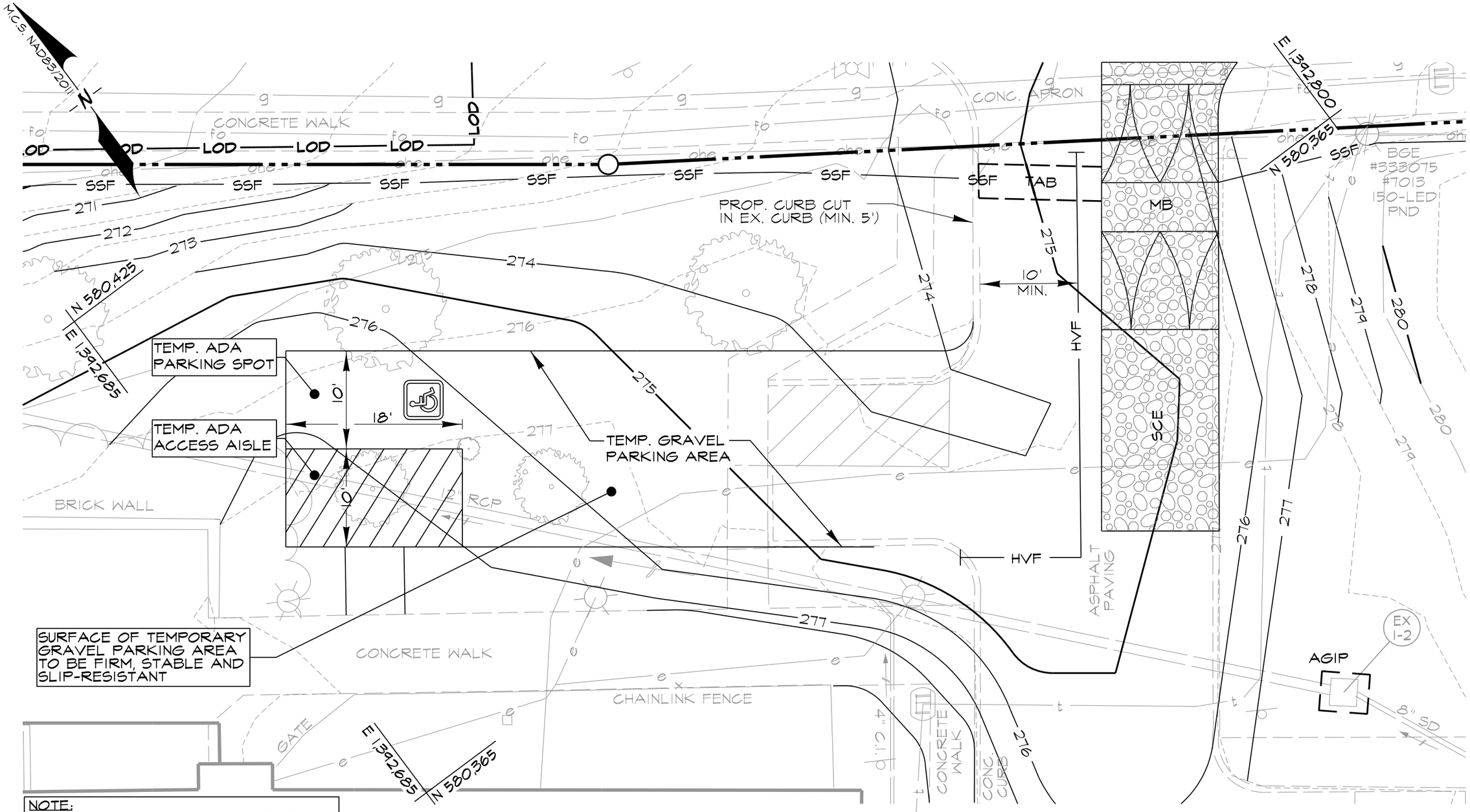
NOTE: No successful bidder may withdraw their bid within NINETY (90) days after the opening thereof.

The Contractor hereby declares that it has carefully examined the solicitation, plans and specifications, form of contract, Special Provisions and Drawings (collectively the "Contract Documents"). The Contractor also hereby declares that it has carefully examined the September 2023 "Standard Specifications for Construction and Materials" and "Standard Details for Contraction", collectively the "Applicable County Law" and any and all Department of Public Works and Transportation revisions thereto as of the date of advertisement. The Contract Documents, the Applicable County Law and the Department of Public Works and Transportation revisions thereto are collectively the "Specifications" and are incorporated herein. Copies of any and all Department of Public Works and Transportation revisions including but not limited to the General Conditions Building Projects, are available online at www.baltimorecountymd.gov/departments/public-works/standards. Also, the Contractor has, to its satisfaction, examined the locality of the proposed work and agrees to furnish all labor, tools, materials, machinery, equipment, and other means of construction called for in the manner provided in the Specifications for the prices shown on the next page(s) and as evidenced by Contractor's signature on the last page thereof.

SCHEDULE OF PRICES

NOTE: The Bidder shall fill out this Proposal, write in the unit prices in clear numerals, and make the extensions.

For complete information concerning these items, see Specifications and contract forms.



TEMPORARY GRAVEL ADA PARKING

SCALE: 1" = 10'

GRAPHIC SCALE
10 5 0 10
(IN FEET) 1 inch = 10 ft.

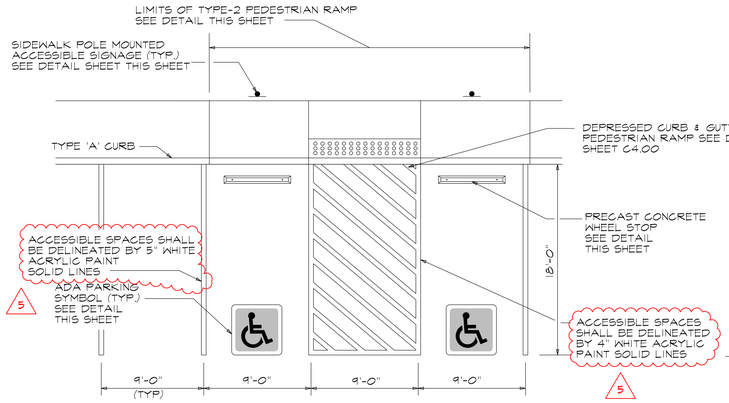
WILKENS POLICE PRECINCT
EX1.00
901 WALKER AVENUE
CATONSVILLE, MARYLAND 21228
OCTOBER 28, 2024

Contract No.24111 PP0
Addendum No.5

mk Consulting Engineers, LLC
1801 Porter Street, Suite 401
Baltimore, MD 21230

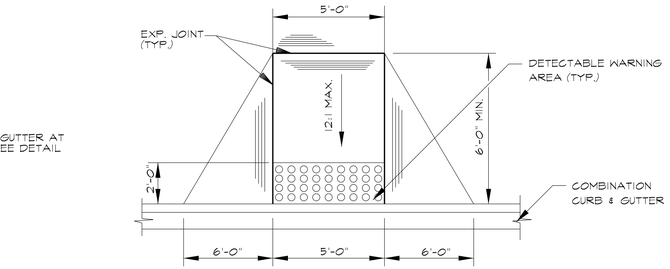
Revised, November 10, 2025

11/6/2025 G:\2022\22017- 300 - Wilkens Police Precinct\Drawings\Exhibits\Temporary ADA Parking Exhibit\EX 1.00 - TEMPORARY GRAVEL ADA PARKING.dgn



NOTE:
SEE GRADING PLAN FOR ELEVATIONS. ACCESSIBLE SPACES AND LOADING AREAS SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION

1 / C4.01 — ADA PARKING AREA
NOT TO SCALE



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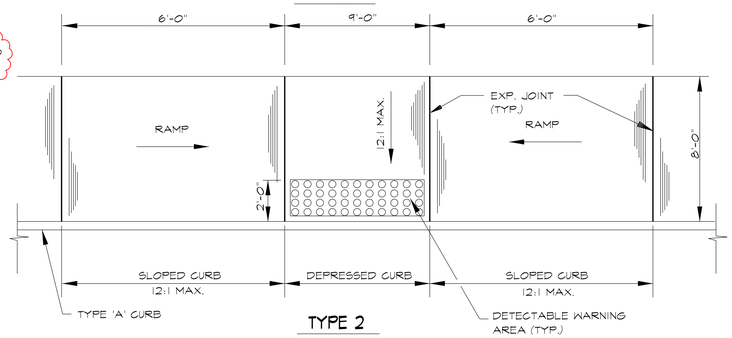

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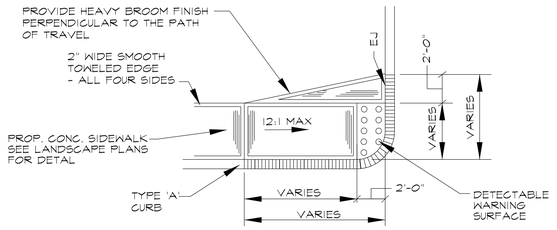
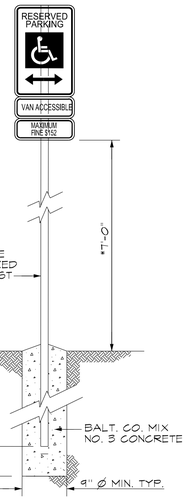


TYPE 3

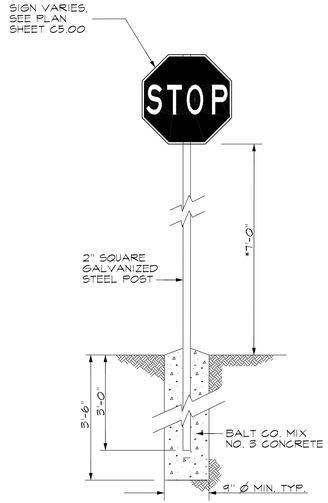
NOTES:
1. SURFACE TEXTURE OF RAMPS SHALL BE COARSE BROOMING OR NON SKID SURFACE.
2. SEE BALTIMORE COUNTY STANDARD DETAIL R-36A FOR ADDITIONAL INFORMATION.
3. DETECTABLE WARNING AREAS SHALL BE SQUARE PATTERN RED MASONRY UNITS, PARALLEL ALIGNMENT. SEE BALTIMORE COUNTY STANDARD DETAIL R-36C FOR ADDITIONAL INFORMATION.
4. SEE DEPRESSED CURB AND GUTTER AT ADA RAMP DETAIL, SEE SHEET C4.00

2 / C4.01 — ADA PEDESTRIAN RAMP
NOT TO SCALE



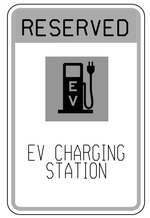
*HEIGHT SHALL BE MEASURED FROM BOTTOM OF WALL, WHERE APPLICABLE. SEE PLANS.

8 / C4.01 — MULTIPLE SIGN MOUNTING
NOT TO SCALE



*HEIGHT SHALL BE MEASURED FROM BOTTOM OF WALL, WHERE APPLICABLE. SEE PLANS.

9 / C4.01 — STANDARD SIGN MOUNTING
NOT TO SCALE

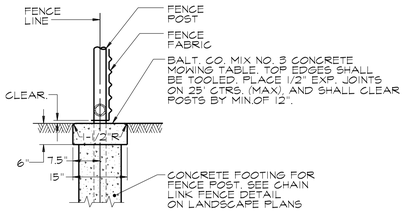


NOTE:
1. PER MUTCD, LATEST EDITION

10 / C4.01 — ELECTRIC VEHICLE CHARGING SIGN
NOT TO SCALE

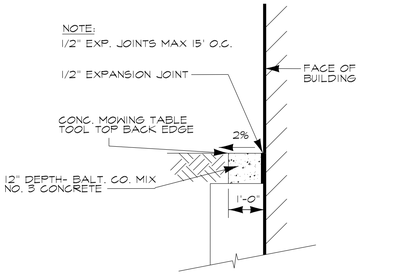
NOTE:
1. PER MUTCD, LATEST EDITION

11 / C4.01 — ADA VEHICLE PARKING SIGN
NOT TO SCALE

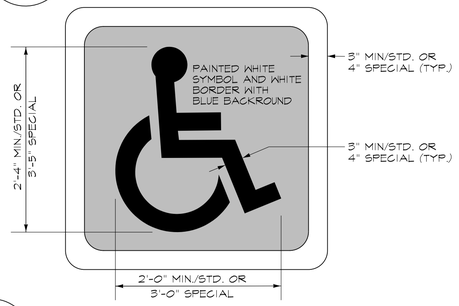


NOTE:
MOW TABLE AT ALL FENCE UNLESS OTHERWISE NOTED.

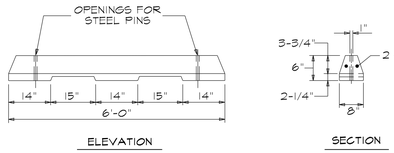
3 / C4.01 — FENCE MOW TABLE
NOT TO SCALE



4 / C4.01 — BUILDING MOW STRIP
NOT TO SCALE



5 / C4.01 — ADA PARKING SYMBOL
NOT TO SCALE

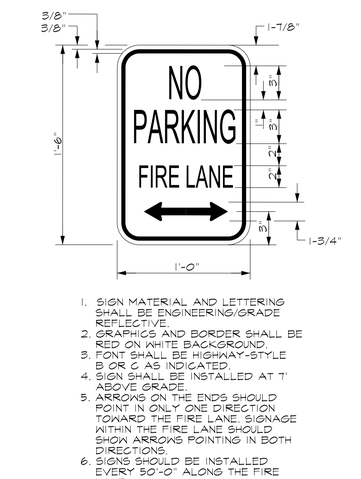


ELEVATION

SECTION

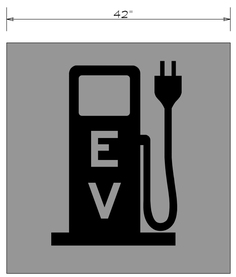
NOTE:
1. CONTRACTOR TO PROVIDE TWO (2) NO.8 REBARS, 16" LONG FOR EACH WHEEL STOP.

6 / C4.01 — PRECAST CONCRETE WHEEL STOP
NOT TO SCALE



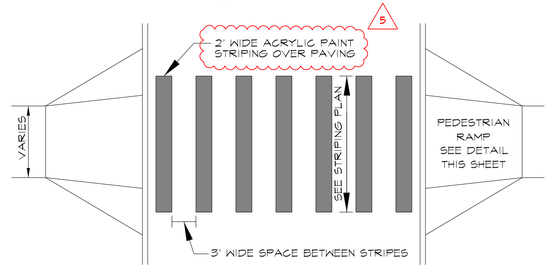
1. SIGN MATERIAL AND LETTERING SHALL BE ENGINEERING/GRADE REFLECTIVE.
2. GRAPHICS AND BORDER SHALL BE RED ON WHITE BACKGROUND.
3. FONT SHALL BE HIGHWAY-STYLE B OR C AS INDICATED.
4. SIGN SHALL BE INSTALLED AT 7' ABOVE GRADE.
5. ARROWS ON THE ENDS SHOULD POINT IN ONLY ONE DIRECTION TOWARD THE FIRE LANE. SIGNAGE WITHIN THE FIRE LANE SHOULD SHOW ARROWS POINTING IN BOTH DIRECTIONS.
6. SIGNS SHOULD BE INSTALLED EVERY 50'-0" ALONG THE FIRE LANE.

7 / C4.01 — FIRE LANE SIGNAGE
NOT TO SCALE



NOTE:
1. PAINTED WHITE SYMBOL & LETTERING WITH "ELECTRIC CAR GREEN" BACKROUND
2. WATERBORNE ACRYLIC PAINT MANUFACTURED BY SHERWIN WILLIAMS OR APPROVED EQUAL

12 / C4.01 — ELECTRIC VEHICLE PARKING SYMBOL
NOT TO SCALE



13 / C4.01 — CROSSWALK STRIPING
NOT TO SCALE

DWG. FILENAME:

SEAL: STATE OF MARYLAND · RYAN J. PRICE · 51066 · PROFESSIONAL ENGINEER
DATE: 11/5/25

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 51066 EXPIRATION DATE: 06/07/2025
ENGINEER: MK CONSULTING ENGINEERS, LLC, 1801 PORTER ST., SUITE 401, BALTIMORE, MD 21230, RYAN PRICE, PHONE: 667-210-2485, EMAIL: RPRICE@MKCENG.COM
AS-BUILT PER RECORD PRINT
BY:
DATE:
DGN BY: RJP
DWN BY: RJP/SJG
CHKD BY: RJP

AS-BUILT / REVISION	BY	DATE
5 ADDENDUM #5	RJP	11.6.25

CONTRACT COMPLETION BOX

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	GSW	14SW19 14SW20 15SW19 15SW20

DRAWING SCALE: PLAN SCALE: AS SHOWN; PROFILE SCALE: AS SHOWN, AS SHOWN

PROPERTY MANAGEMENT
APPROVED BY: PROPERTY MANAGER
DATE:

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

SITE DETAILS

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

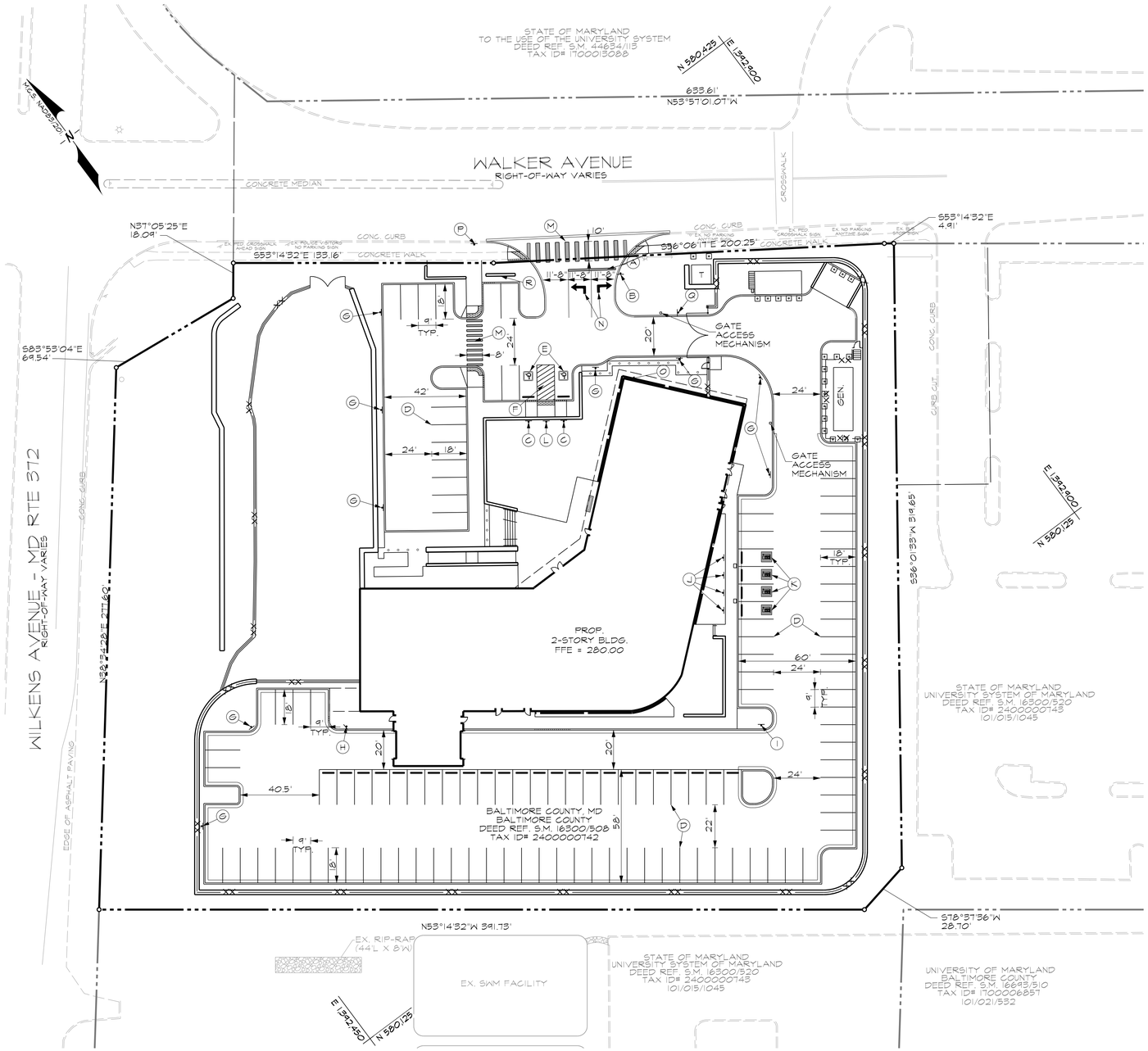
901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
C4.01	24111 PPO
JOB ORDER NUMBER	300200006
SHEET 16 OF 302	
DRAWING NUMBER	2024 - 1329
FILE NO.: 8	

BALTIMORE COUNTY MARYLAND

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



STRIPING AND SIGNAGE PLAN

SCALE: 1" = 30'

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 inch = 30 ft.

LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EASEMENT LINE
- EX. CURB AND GUTTER
- EX. FENCE
- EX. SIGN
- EX. LIGHT POLE
- EX. TREE / BUSH
- PROP. CONCRETE CURB & GUTTER
- PROP. FENCE LINE
- PROP. RETAINING WALL
- PROP. CONCRETE WALK
- PROPOSED PAINTED ADA SYMBOL
- PROPOSED POST MOUNTED SIGN
- PROPOSED PAINTED DIRECTIONAL ARROW
- PROPOSED PAINTED CROSSWALK
- PROPOSED PAINTED EV PARKING SYMBOL

STRIPING AND SIGNAGE KEY

- (A) 24" WIDE ACRYLIC-BASED SOLID WHITE STOP BAR AT 90° TO THE CENTERLINE (5)
- (B) "STOP" SIGN WITH 30"X30" DIMENSIONS (SEE MUTCD DETAIL R1-1)
- (C) "RESERVED PARKING" FOR ADA SIGNAGE, 12" X 18" (SEE DETAIL SHEET C4.01)
- (D) 5" WIDE WHITE SOLID LINE, ACRYLIC-BASED PAINT (5)
- (E) ADA PARKING SYMBOL (SEE DETAIL SHEET C4.01)
- (F) 4" SOLID WHITE LINES (ACRYLIC BASED PAINT) WITH 30" SPACING AT 45° FROM PARKING SPACES / CURB
- (G) "NO PARKING FIRE LANE" SIGN SPACED 50' APART. (SEE DETAIL SHEET C4.01)
- (H) "DO NOT ENTER" SIGN (SEE LEGEND THIS SHEET)
- (I) "ONE WAY" SIGN (SEE LEGEND THIS SHEET)
- (J) "ELECTRIC VEHICLE PARKING ONLY" SIGN (SEE SHEET C4.01)
- (K) ELECTRIC VEHICLE PARKING SYMBOL (SEE SHEET C4.01)
- (L) "NO PARKING IN ACCESS AISLE" (SEE LEGEND THIS SHEET)
- (M) CROSSWALK STRIPING (SEE SHEET C4.01)
- (N) DIRECTIONAL ARROWS PER MUTCD FIGURE 3B-24
- (O) "FDC" SIGN (SEE FIRE PROTECTION PLANS FOR FINAL LOCATION)
- (P) RELOCATED "POLICE VISITORS & NO PARKING ANY TIME" SIGN (SEE LEGEND THIS SHEET)
- (Q) "AUTHORIZED VEHICLES ONLY" SIGN (SEE LEGEND THIS SHEET)
- (R) MONUMENTAL BUILDING SIGN (SEE LANDSCAPE PLANS FOR DETAILS)

STRIPING AND SIGNAGE NOTES

1. ALL SITE SIGNAGE SHALL BE ACCORDANCE WITH "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS", 2009 EDITION WITH REVISION NUMBERS 1 & 2 INCORPORATED, OR AS INTENDED.
2. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ALL WORK SHOWN ON THESE DRAWINGS UNLESS OTHERWISE NOTED.
3. SEE SHEET C4.01 FOR SIGN MOUNTING DETAILS.

SIGN LEGEND

SIGN SYMBOL	NUMBER OF SIGNS	MUTCD SIGN DESIGNATION
RESERVED PARKING / VAN ACCESSIBLE / MAXIMUM FINE $500	2	R7-8, R7-8a
STOP	1	R1-1
DO NOT ENTER	1	R5-1
ONE WAY	1	R6-1L
NO PARKING FIRE LANE	9	12" x 18"
NO PARKING IN ACCESS AISLE	1	R8-1(2)
RESERVED / EV CHARGING STATION	4	12" x 18"
FDC	1	18" x 12"
AUTHORIZED VEHICLES ONLY	1	R5-11
POLICE VISITORS ONLY / NO PARKING ANY TIME	1	12" x 18", R7-1

SEAL: RYAN J. PIKE — STATE OF MARYLAND — 51066 — PROFESSIONAL ENGINEER
DATE: 11/5/25

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 51066 EXPIRATION DATE: 06/07/2025

ENGINEER: MK CONSULTING ENGINEERS, LLC, 1001 PONTIUS AVE, SUITE 401, BALTIMORE, MD 21225, RYAN PIKE, PE, PHONE: 667-210-2485, EMAIL: RPIKE@MKCENG.COM

AS-BUILT PER RECORD PRINT

BY: DATE:

AS-BUILT / REVISION	BY	DATE
5 ADDENDUM #5	RJP	11.6.25
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	
R.O.W NO.	GSW	14SW19 14SW20 15SW19 15SW20	PLAN SCALE:	1"=30'
			PROFILE SCALE:	N/A
				N/A

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

DSN BY: RJP | DRW BY: RJP/SJG | CHKD BY: RJP

PROPERTY MANAGEMENT

APPROVED BY: _____ PROPERTY MANAGER
DATE: _____

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

STRIPING AND SIGNAGE PLAN

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

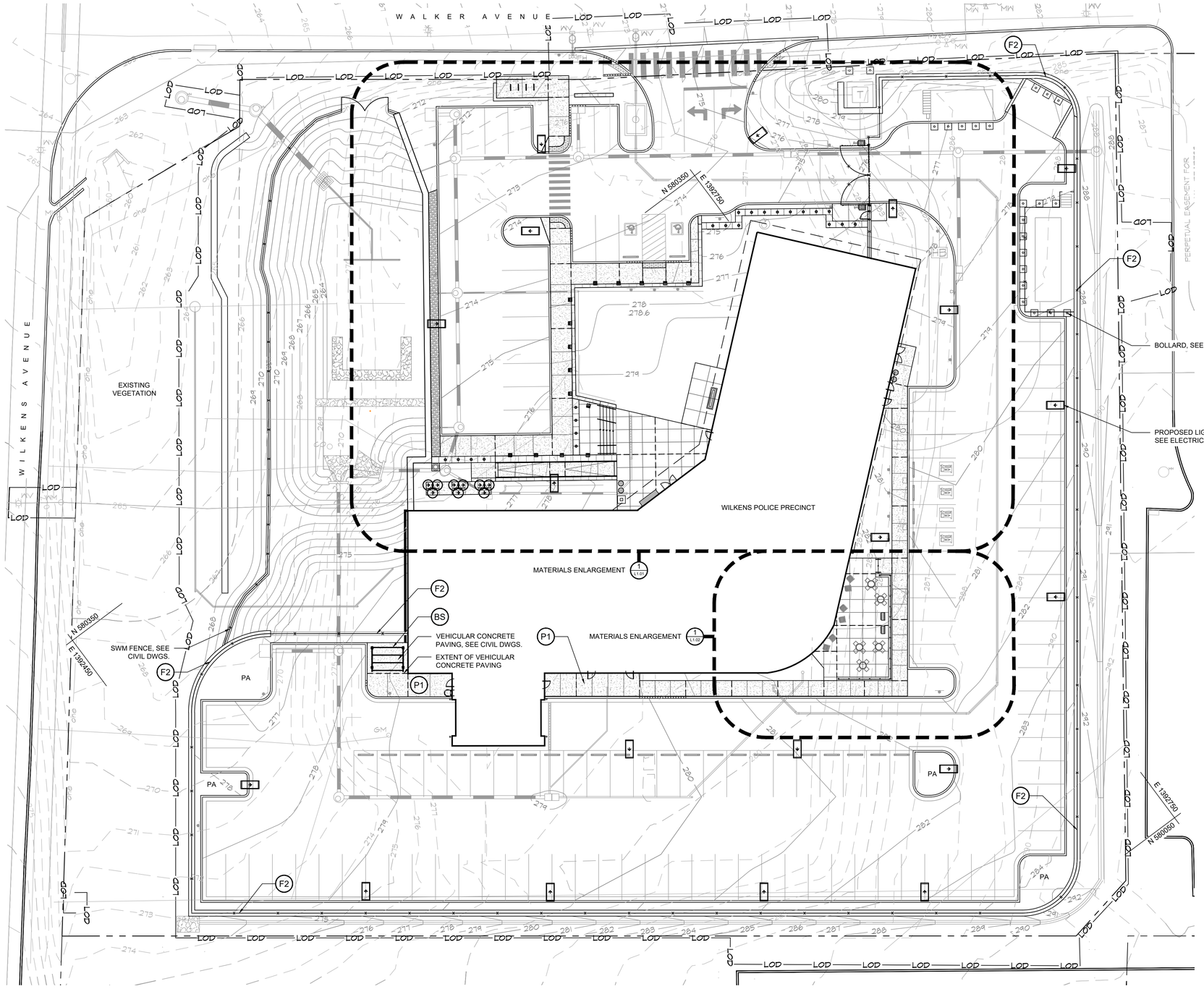
901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
C5.00	24111 PPO
JOB ORDER NUMBER	300200006
SHEET 18 OF 302	
DRAWING NUMBER	2024 - 1331
FILE NO.: 8	

DWG. FILENAME:

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



HARDSCAPE KEY

PAVING

- P1 — 1 / L5.01 — CIVIL — PEDESTRIAN CONCRETE PAVEMENT

SITE AMENITIES

- BS — 5 / L5.10 — 32 33 00 — BIKE SHELTER
- F2 — 1 / L5.04 — 32 31 19 — PERIMETER FENCE
  STANDARD 10' HT. CHAIN LINK FENCE W/ BARBED WIRE W/ POSTS @ MAX 10' O.C. 2-3/8" Ø INTERMEDIATE POSTS, 2-7/8" Ø TERMINAL POSTS

- PA — PLANTING AREA, SEE SHEET L7.01
- ½" WIDE EXPANSION JOINT, TYP. (20' O.C. UNLESS NOTED OTHERWISE)
- LOD — LIMIT OF DISTURBANCE
- PROPERTY BOUNDARY

NOTES:

1. SEED/SOD ALL DISTURBED AREAS NOT RECEIVING HARDSCAPE OR PLANTINGS UNLESS NOTED OTHERWISE
2. LANDSCAPE SITE LIGHTING AND LANDSCAPE ACCENT LIGHTING TO BE COORDINATED ON LIGHTING CONSULTANT DRAWINGS
3. ROAD, GRADING, CURB, CURB RAMPS, SIDEWALK LAYOUT & TOW - REFER TO CIVIL DRAWINGS.
4. ALL SURFACE AND SUB-SURFACE DRAINAGE, WATER CALCULATIONS ETC. - SEE MEP & CIVIL DRAWINGS.
5. ALL SITE WALLS OVER 3'-0" HT. TO BE REVIEWED AND DESIGNED BY STRUCTURAL ENGINEER.
6. REFER TO CIVIL DWGS. FOR BIORETENTION SOILS & DETAILS.

1 MATERIALS PLAN
1" = 20'

0 10' 20' 40' N

DWG. FILENAME:

SEAL
STATE OF MARYLAND — MARK E. PELUSI, JR. — 1152 — LANDSCAPE ARCHITECT
DATE: June 19, 2025

PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 1152 EXPIRATION DATE: 09/18/2026		⚠5 ADDENDUM #5	MNQ	11/6/25		GSW	14SW19	PLAN SCALE: 1" = 20'	APPROVED BY: PROPERTY MANAGER
					R.O.W. NO.		14SW20	PROFILE SCALE:	DATE:
		CONTRACT COMPLETION BOX							

LANDSCAPE ARCHITECT: Mark E. Pelusi, Jr.	DGN BY: MP	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
AS-BUILT PER RECORD PRINT	DWN BY: LE/MQ	REVIEWED BY:							
BY: DATE:	CHKD BY: MP	DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

LANDSCAPE - MATERIALS PLAN

NEW BUILDING DESIGN

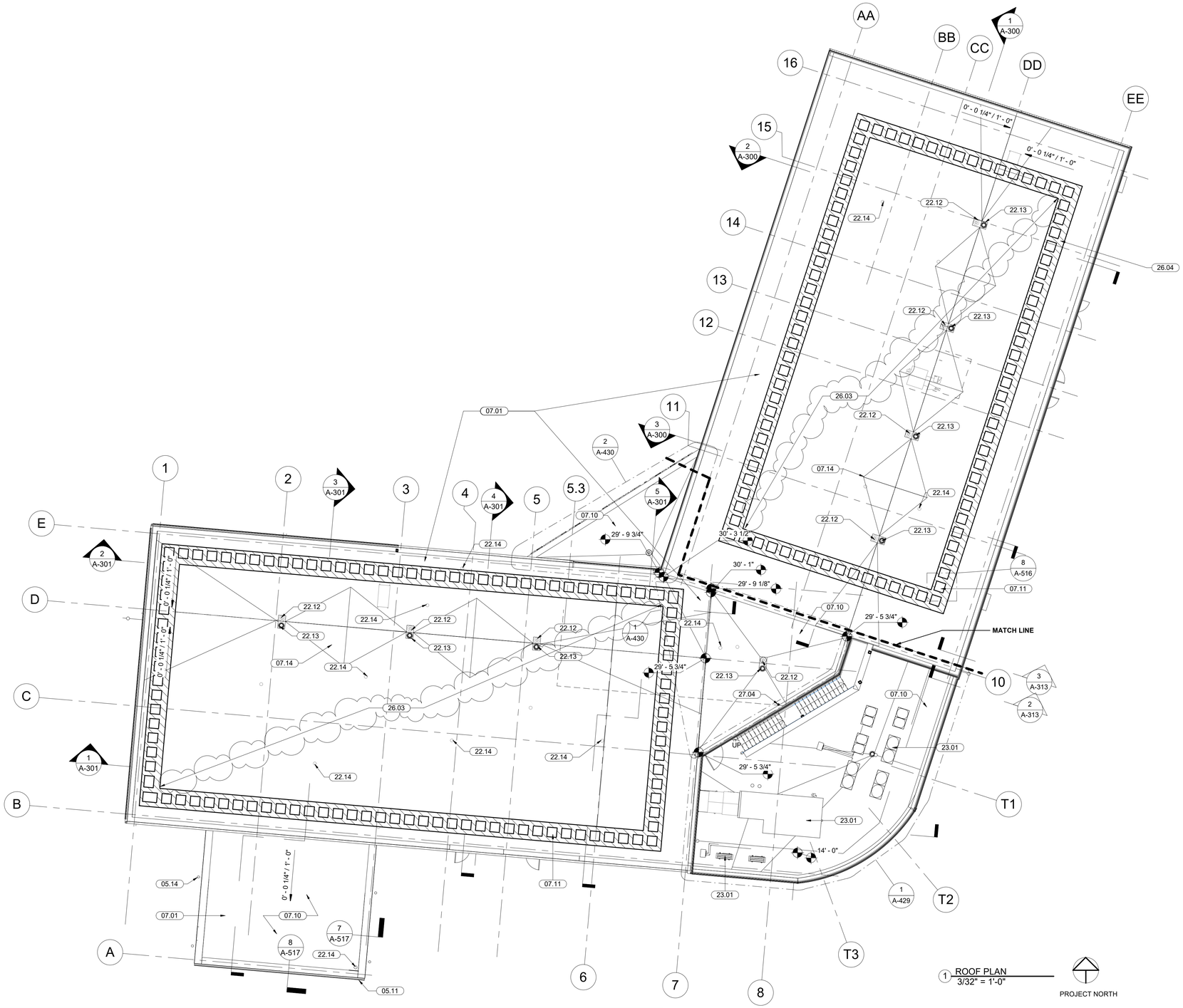
901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
L1.00	24111 PPO
JOB ORDER NUMBER	300200006
SHEET 48 OF 302	
DRAWING NUMBER	2024-1361
FILE NO.: 8	REV. 5

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



1 ROOF PLAN
3/32" = 1'-0"

PROJECT NORTH

KEYNOTE LEGEND	
TAG	DESCRIPTION
07.01	TPO SINGLE-PLY MEMBRANE ROOF.
07.10	TAPERED INSULATION.
07.11	ADHERED WALK PAD TYP.
07.14	TAPERED ROOF CRICKET
22.12	ROOF DRAIN, SEE PLUMBING.
22.13	OVERFLOW ROOF DRAIN, SEE PLUMBING.
22.14	SAN. VENT, SEE PLUMBING.
23.01	MECHANICAL EQUIP., SEE MECHANICAL.
26.03	PHOTOVOLTAIC PANEL & BALLAST SYS., SEE ELECTRICAL.
26.04	PVs CLEARANCE SERVICE AREA.
27.04	OWNER-PROVIDED 800mHz ROOFTOP ANTENNA. CONTRACTOR TO PROVIDE 2" OD GALV PIPE MAST w/ CAP MOUNTED TO BLOCKING IN PARAPET PER ANTENNA MFG REQ. EXTENDING 4' ABOVE TOP OF PARAPET, AND 4" CONDUIT FROM PARAPET TO IT ROOM 223.

C:\Users\jat\Documents\22130A1 New Wilkens Police Precinct_jatDtzZVG.rvt

SEAL

DATE : 11/6/2025 2:28:10 PM

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 , EXPIRATION DATE 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

BY: DATE:

DGN BY: JAT
DRN BY: DWG/ AWU
CHKD BY: RLM

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.
ADDENDUM #5	RLM	11/06/25	
			R.O.W NO.
CONTRACT COMPLETION BOX			

KEY SHEET: GSW

POSITION SHT: 14SW19, 14SW20, 15SW19, 15SW20

DRAWING SCALE
PLAN SCALE: 3/32" = 1'-0"
PROFILE SCALE:

PROPERTY MANAGEMENT
APPROVED BY: PROPERTY MANAGER
DATE:

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ROOF PLAN

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

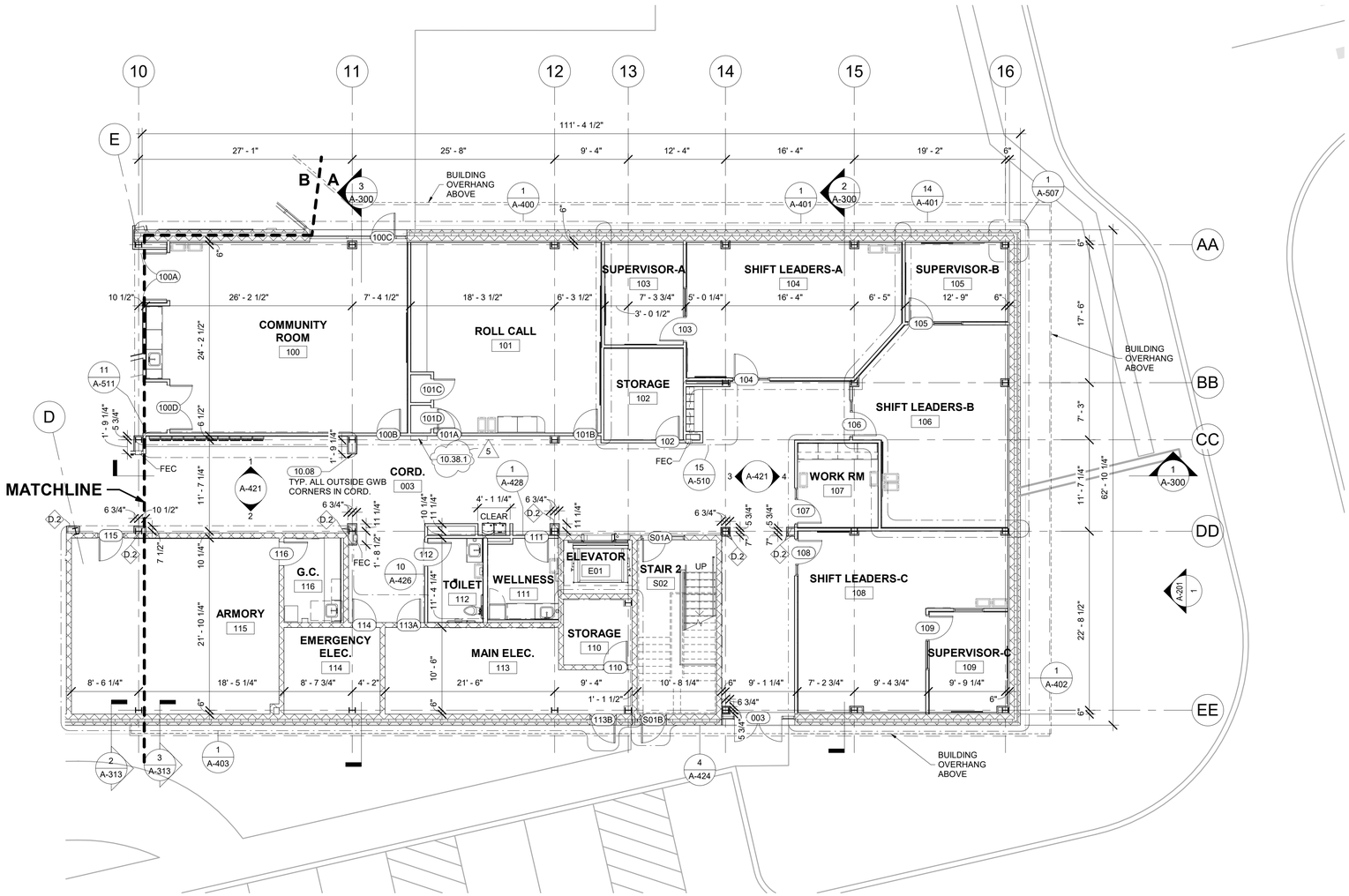
ELECTION DIST. NO.: 01C1

Murphy & Dittenhafer ARCHITECTS
805 North Charles Street, Baltimore, Maryland 21201 410-625-4622 voice 410-625-4674 fax
228 West Market Street, York, Pennsylvania 17401 717-848-8627 voice 717-843-2448 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-103	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 72 OF 302
	DRAWING NUMBER
	2024-1385
	FILE NO.: 8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

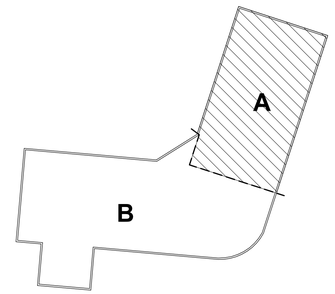
KEYNOTE LEGEND	
TAG	DESCRIPTION
10.08	ALUM. CORNER GAURD, 4'-0" SEE WALL PROTECTION
10.38.1	10 COMPARTMENT PISTOL LOCKER - SURFACE MOUNT.



1 AREA PLAN A - FIRST FLOOR
1/8" = 1'-0"

(NOTE: SEE ENLARGED PLANS FOR WALL TYPE TAGS)

BUILDING NORTH



KEY PLAN - A

C:\Users\jat\Documents\22130A1 New Wilkens Police Precinct_jatDtZ7G.rvt

SEAL	PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607, EXPIRATION DATE 06/13/2027		ADDENDUM #5	RLM	11/06/25		GSW	14SW19 14SW20 15SW19 15SW20	PLAN SCALE: As indicated PROFILE SCALE:	APPROVED BY: PROPERTY MANAGER DATE:
			CONTRACT COMPLETION BOX			R.O.W. NO.				
	ARCHITECT: Frank Elwood Dittenhafer, II	DGN BY: JAT	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
	AS-BUILT PER RECORD PRINT	DRN BY: DWG/ AWU	REVIEWED BY:							
DATE : 11/6/2025 2:28:11 PM	BY: DATE:	CHKD BY: RLM	DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ENLARGED FIRST FLOOR PLAN - WING A

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

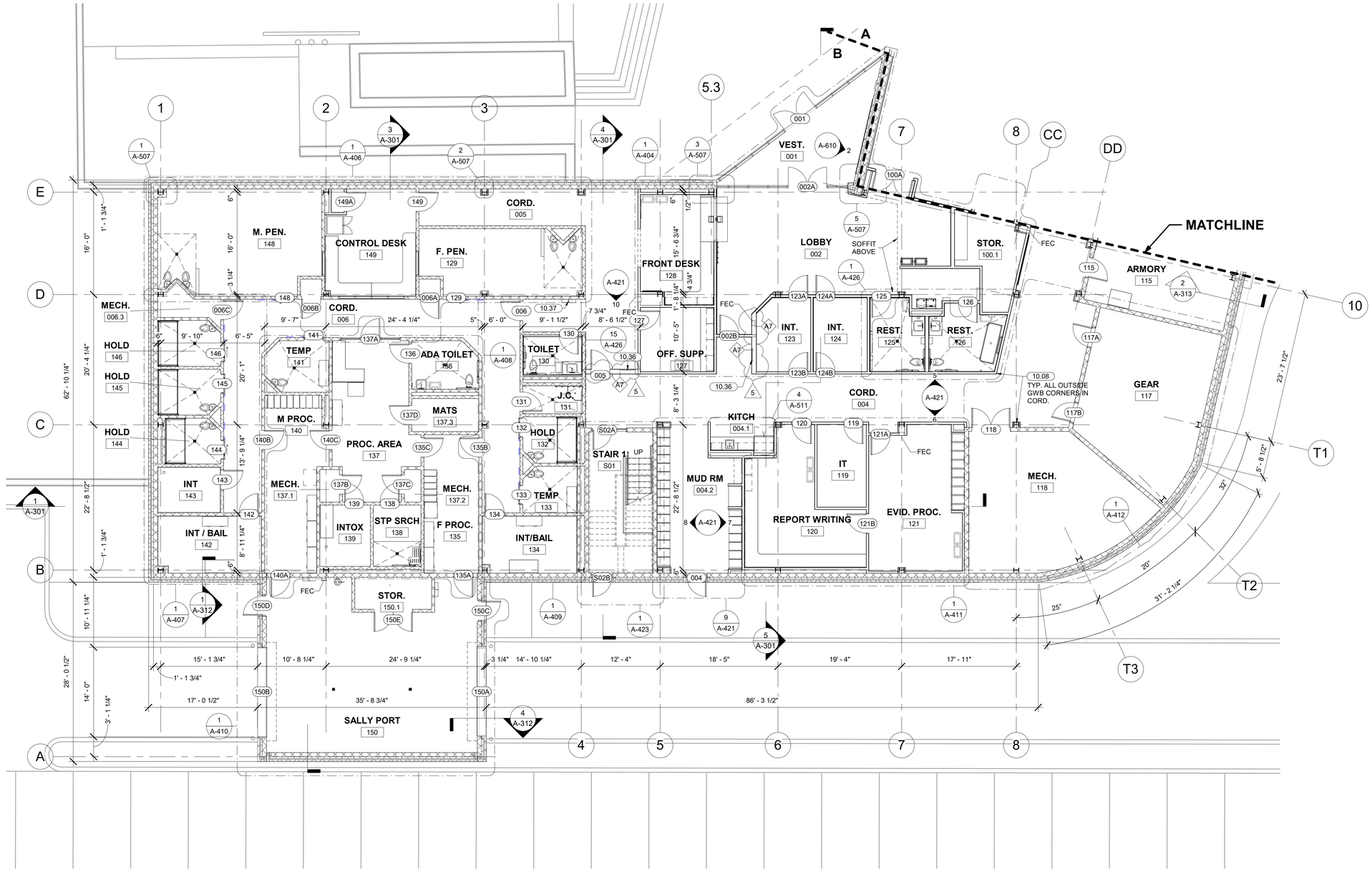
ELECTION DIST. NO.: 01C1

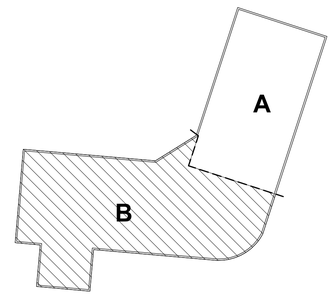
Murphy & Dittenhafer ARCHITECTS
805 North Charles Street, Baltimore, Maryland 21201 410-625-4622 voice 410-625-4674 fax
228 West Market Street, York, Pennsylvania 17401 717-848-8627 voice 717-843-2448 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-104	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 73 OF 302
	DRAWING NUMBER
	2024-1386
	FILE NO.: 8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

KEYNOTE LEGEND	
TAG	DESCRIPTION
10.08	ALUM. CORNER GAURD, 4'-0" SEE WALL PROTECTION
10.36	6 COMPARTMENT PISTOL LOCKER - FLUSH MOUNT.
10.37	6 COMPARTMENT PISTOL LOCKER - SURFACE MOUNT.





KEY PLAN - B

1 AREA PLAN B - FIRST FLOOR
1/8" = 1'-0"

(NOTE: SEE ENLARGED PLANS FOR WALL TYPE TAGS)

BUILDING NORTH

C:\Users\jat\Documents\22130A1 New Wilkens Police Precinct_jatDKZAYC.rvt

Murphy & Dittenhafer ARCHITECTS

305 North Charles Street, Baltimore, Maryland 21201 410-625-4823 voice 410-625-4874 fax
228 West Market Street, York, Pennsylvania 17401 717-848-8827 voice 717-843-2446 fax

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607, EXPIRATION DATE: 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

DATE: 11/6/2025 2:28:13 PM

AS-BUILT / REVISION	BY	DATE
ADDENDUM #5	RLM	11/06/25
CONTRACT COMPLETION BOX		

P.W.A. NO.: R.O.W. NO.: KEY SHEET: GSW

POSITION SHT: 14SW19, 14SW20, 15SW19, 15SW20

DRAWING SCALE: PLAN SCALE: As indicated; PROFILE SCALE:

PROPERTY MANAGEMENT: APPROVED BY: PROPERTY MANAGER; DATE:

DGN BY: JAT	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
DRN BY: DWG/ AWU	REVIEWED BY:							
CHKD BY: RLM	DATE REVIEWED:							

BY: DATE:

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ENLARGED FIRST FLOOR PLAN - WING B

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

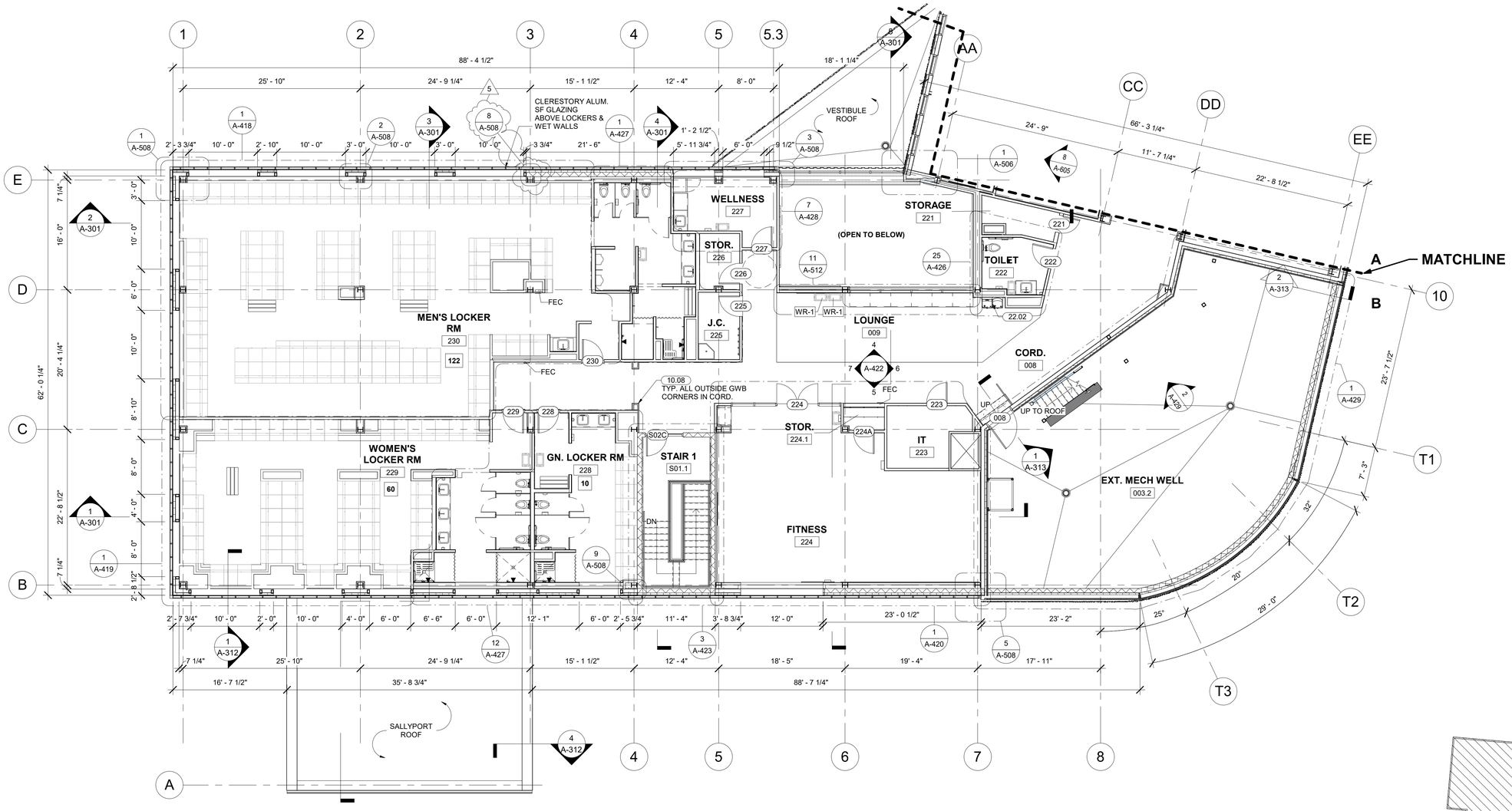
SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-105	24111 PPO
JOB ORDER NUMBER	300200006
SHEET 74 OF 302	
DRAWING NUMBER	2024-1387
FILE NO.: 8	REV. 10.22

Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025

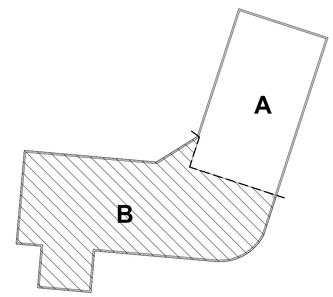
KEYNOTE LEGEND	
TAG	DESCRIPTION
10.08	ALUM. CORNER GAURD, 4'-0" SEE WALL PROTECTION
22.02	DRINKING FOUNTAIN W/BOTTLE FILLER STATION - REFER TO PLUMBING DRAWINGS FOR DTL'S.



1 AREA PLAN B - SECOND FLOOR
1/8" = 1'-0"

(NOTE: SEE ENLARGED PLANS FOR WALL TYPE TAGS)

BUILDING NORTH



KEY PLAN - B

C:\Users\jat\Documents\2219(A1 New Wilkens Police Precinct_jatDGZVC.rvt

Murphy & Dittenhafer ARCHITECTS

805 North Charles Street, Baltimore, Maryland 21201 410-625-4023 voice 410-625-4813 fax

226 West Market Street, York, Pennsylvania 17401 717-848-8827 voice 717-843-2448 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-107	24111 PPO

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

DATE : 11/6/2025 2:28:17 PM

BY:
DATE:

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
ADDENDUM #5	RLM	11/06/25		GSW	14SW19 14SW20 15SW19 15SW20
			R.O.W NO.		
CONTRACT COMPLETION BOX					

DRAWING SCALE: PLAN SCALE: As indicated; PROFILE SCALE:

PROPERTY MANAGEMENT: APPROVED BY: PROPERTY MANAGER; DATE:

DGN BY: JAT	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
DWN BY: DWG/ AWU	REVIEWED BY:							
CHKD BY: RLM	DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ENLARGED SECOND FLOOR PLAN - WING B

NEW BUILDING DESIGN

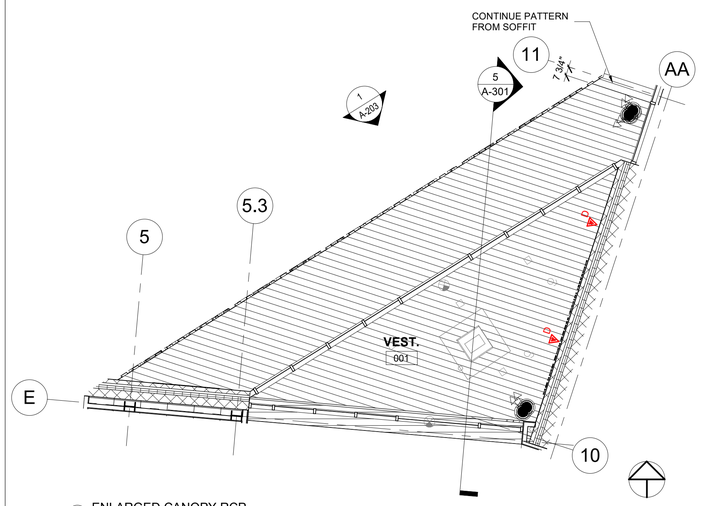
901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

JOB ORDER NUMBER	300200006
SHEET	76 OF 302
DRAWING NUMBER	2024-1389
FILE NO.:	8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



2 ENLARGED CANOPY RCP
3/16" = 1'-0"

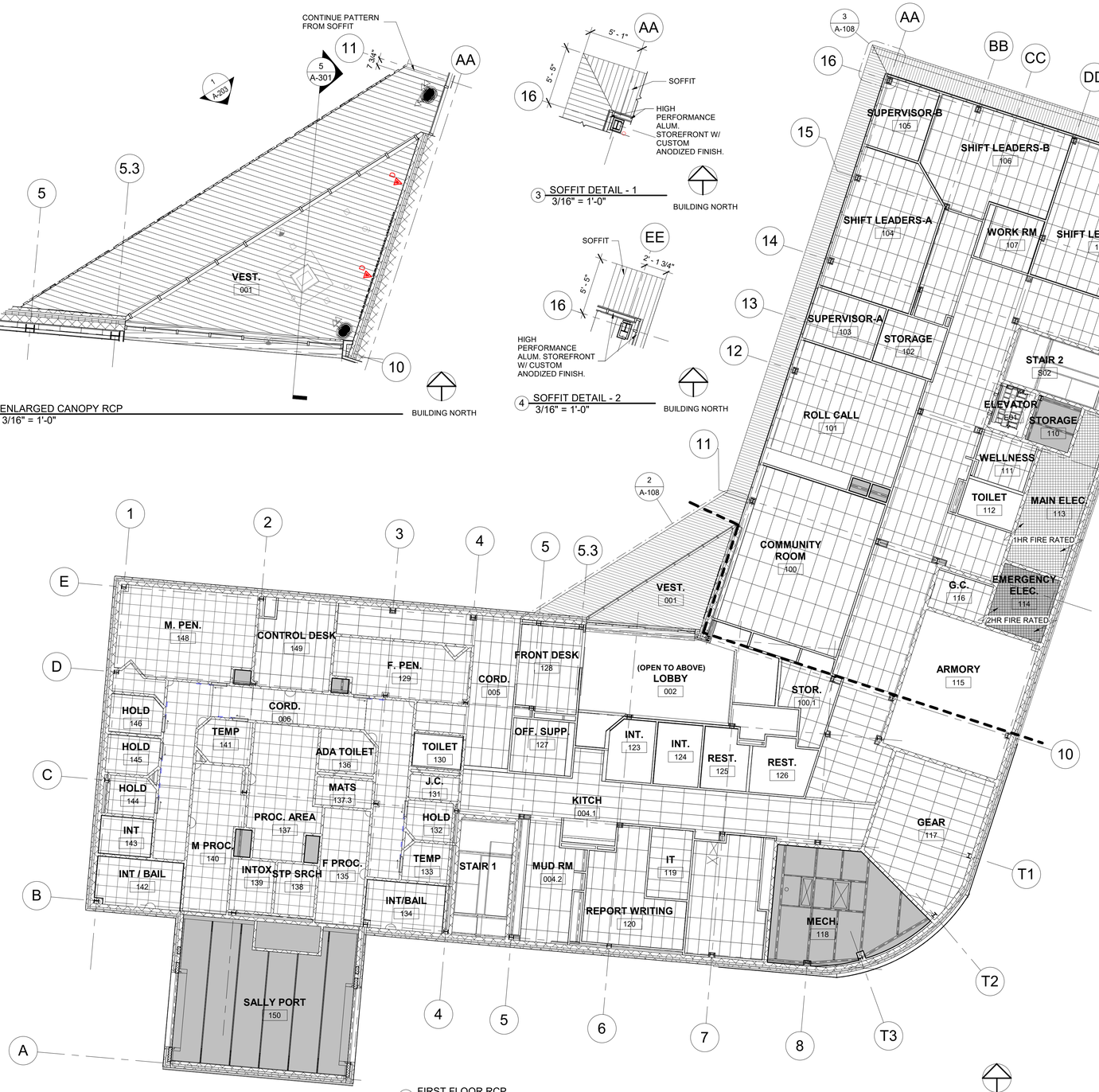
BUILDING NORTH

3 SOFFIT DETAIL - 1
3/16" = 1'-0"

BUILDING NORTH

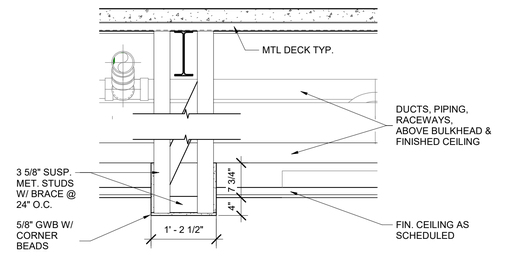
4 SOFFIT DETAIL - 2
3/16" = 1'-0"

BUILDING NORTH

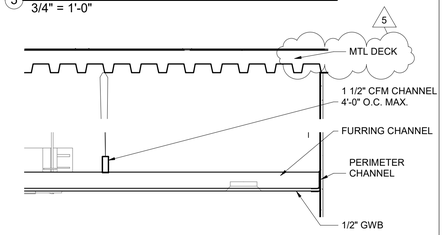


1 FIRST FLOOR RCP
3/32" = 1'-0"

BUILDING NORTH



5 TYPICAL CEILING DETAIL - CORRIDOR BULKHEAD
3/4" = 1'-0"

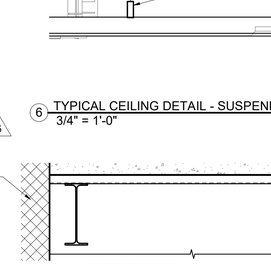


6 TYPICAL CEILING DETAIL - SUSPENDED GWB CEILING
3/4" = 1'-0"

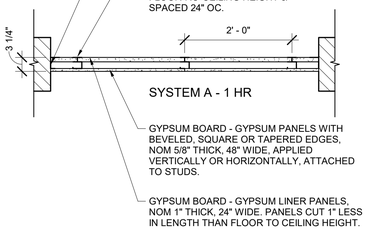
CEILING LEGEND

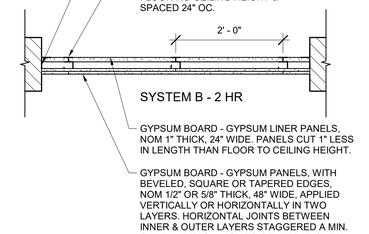
- 2' X 4' - ACT
- 2' X 2' - ACT
- 30" X 54" - ACT
- U415 SYSTEM A - 1 HR GWB
- U415 SYSTEM B - 2HR GWB
- SUSP. GWB - PAINT
- PAINTED EXPOSED CEILING
- WOOD LOOK PANEL CEILING (ORIENTATION AS SHOWN ON PLAN)

NOTE: CEILING TYPES & A.F.F. ELEVATIONS ARE PROVIDED ON ENLARGED CEILING PLANS



7 TYPICAL CEILING DETAIL - ACT 5
3/4" = 1'-0"





8 UL415 SYSTEM A & B
3/4" = 1'-0"

C:\Users\jat\Documents\23190A1 New Wilkens Police Precinct_jatDGZVC.rvt

Murphy & Dittenhafer ARCHITECTS

805 North Charles Street, Baltimore, Maryland 21201 410-625-4623 voice 410-625-4674 fax

226 West Market Street, York, Pennsylvania 17401 717-848-9827 voice 717-845-2449 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-108	24111 PPO

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE: 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

DATE: 11/6/2025 2:28:23 PM

AS-BUILT / REVISION	BY	DATE
ADDENDUM #5	JAT	11/06/25
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	GSW	14SW19 14SW20 15SW19 15SW20

DRAWING SCALE: PLAN SCALE: As indicated. PROFILE SCALE:

PROPERTY MANAGEMENT: APPROVED BY: PROPERTY MANAGER DATE:

DGN BY: JAT DWN BY: DWG/ AWU CHKD BY: RLM

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BY: DATE:

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

FIRST FLOOR RCP

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

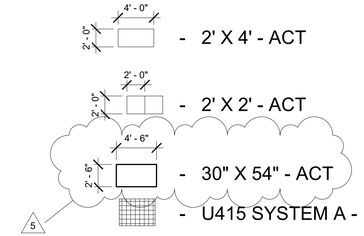
ELECTION DIST. NO.: 01C1

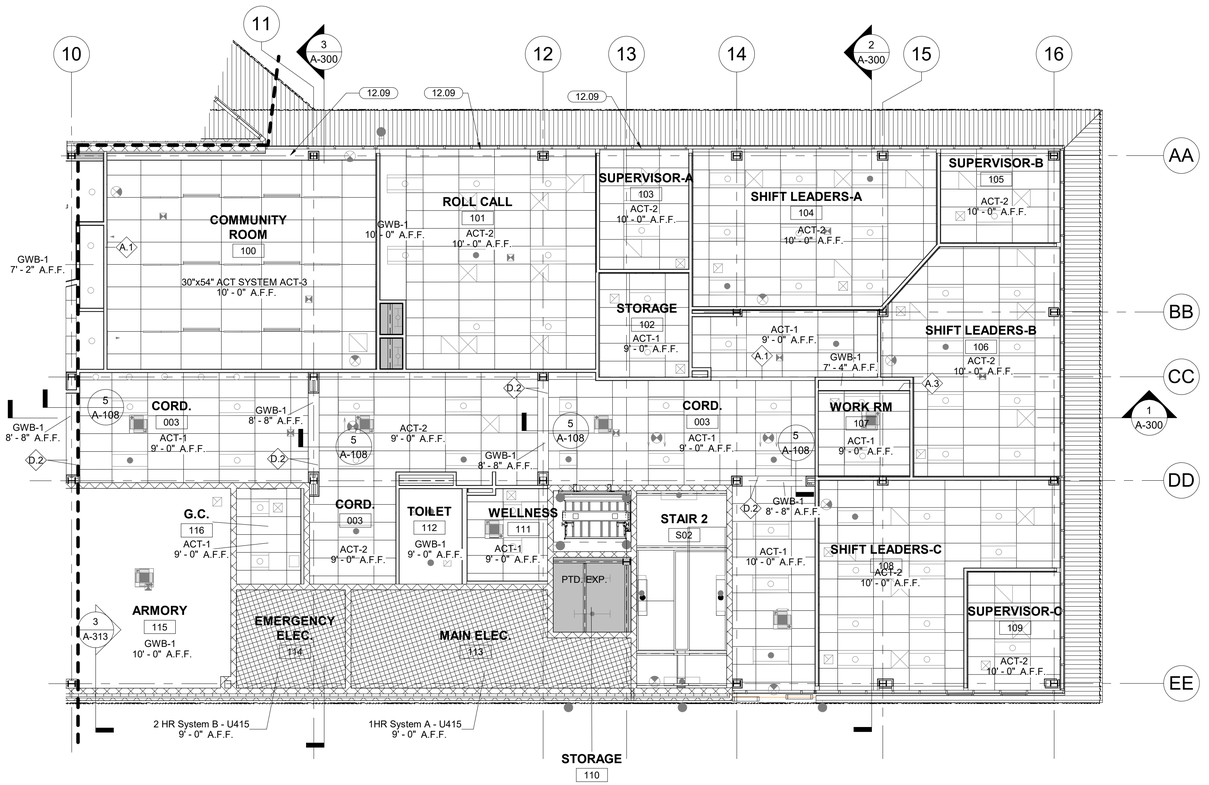
JOB ORDER NUMBER	300200006
SHEET	77 OF 302
DRAWING NUMBER	2024-1390
FILE NO.:	8

Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025

KEYNOTE LEGEND	
TAG	DESCRIPTION
12.09	TYP. MANUAL RECESSED ROLLER SHADE.

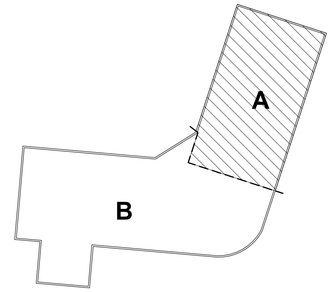
CEILING LEGEND





1 ENLARGED FIRST FLOOR RCP - WING A
1/8" = 1'-0"

BUILDING NORTH



KEY PLAN - A

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Murphy & Dittenhafer ARCHITECTS
800 North Charles Street, Baltimore, Maryland 21201 410-625-4623 voice 410-625-4674 fax
226 West Market Street, York, Pennsylvania 17401 717-845-8627 voice 717-843-3448 fax

SEAL	PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE		PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607, EXPIRATION DATE: 06/13/2027			RLM		R.O.W. NO.	GSW	14SW19 14SW20 15SW19 15SW20	PLAN SCALE: As indicated		APPROVED BY: PROPERTY MANAGER
			CONTRACT COMPLETION BOX						PROFILE SCALE:		DATE:
	ARCHITECT: Frank Elwood Dittenhafer, II	DGN BY: JAT	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	
	AS-BUILT PER RECORD PRINT	DRN BY: DWG/ AWU	REVIEWED BY:								
DATE : 11/6/2025 2:28:27 PM	BY: DATE:	CHKD BY: RLM	DATE REVIEWED:								

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ENLARGED FIRST FLOOR RCP - WING A

NEW BUILDING DESIGN

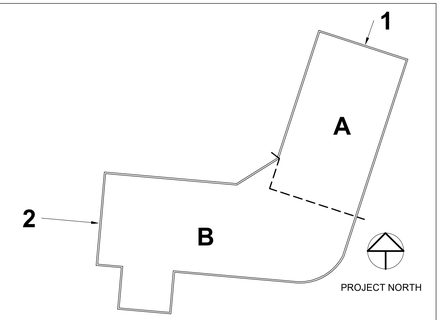
SUBDIVISION: WILKENS

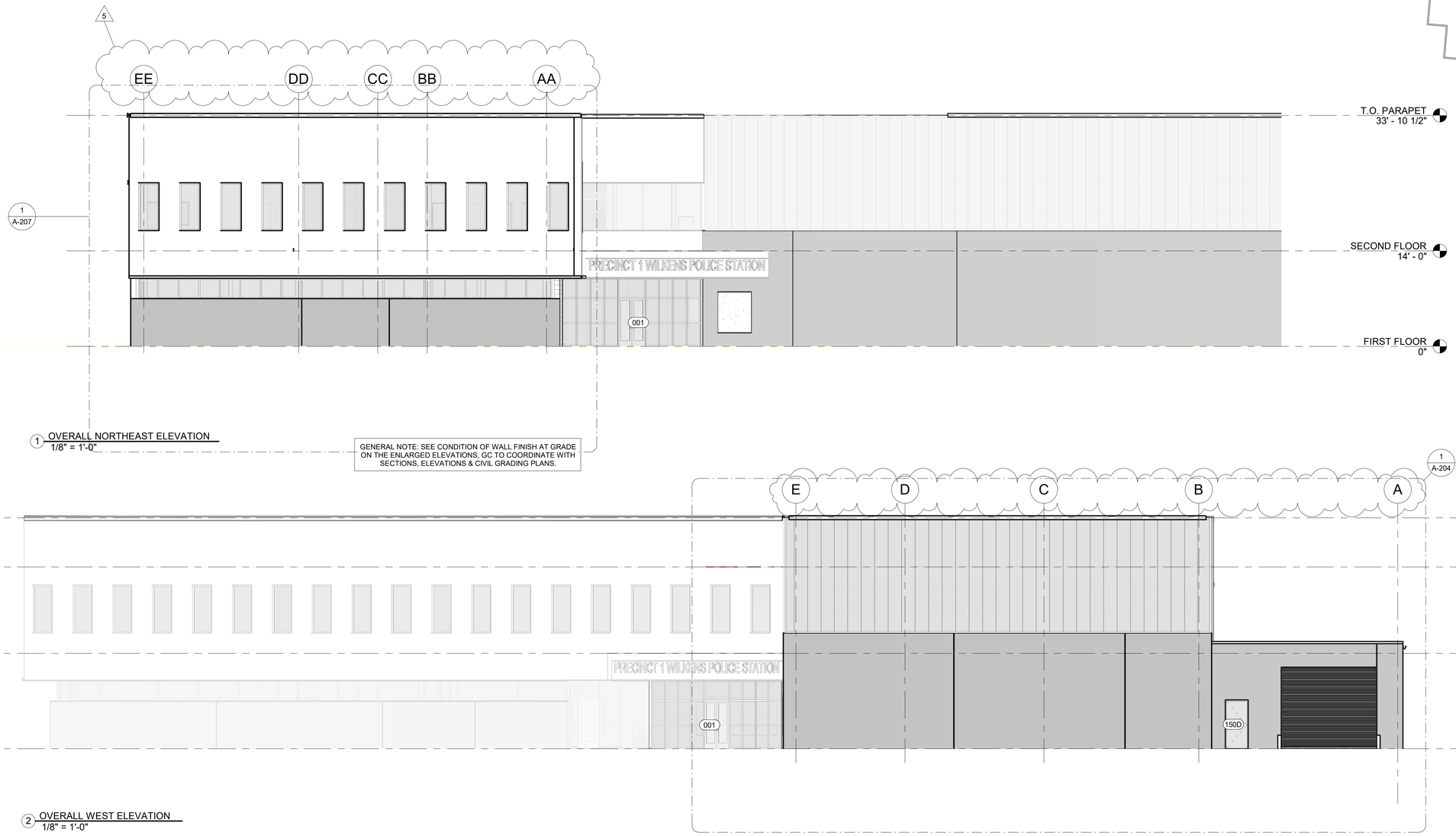
901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-110	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 79 OF 302
	DRAWING NUMBER
	2024-1392
	FILE NO.: 8

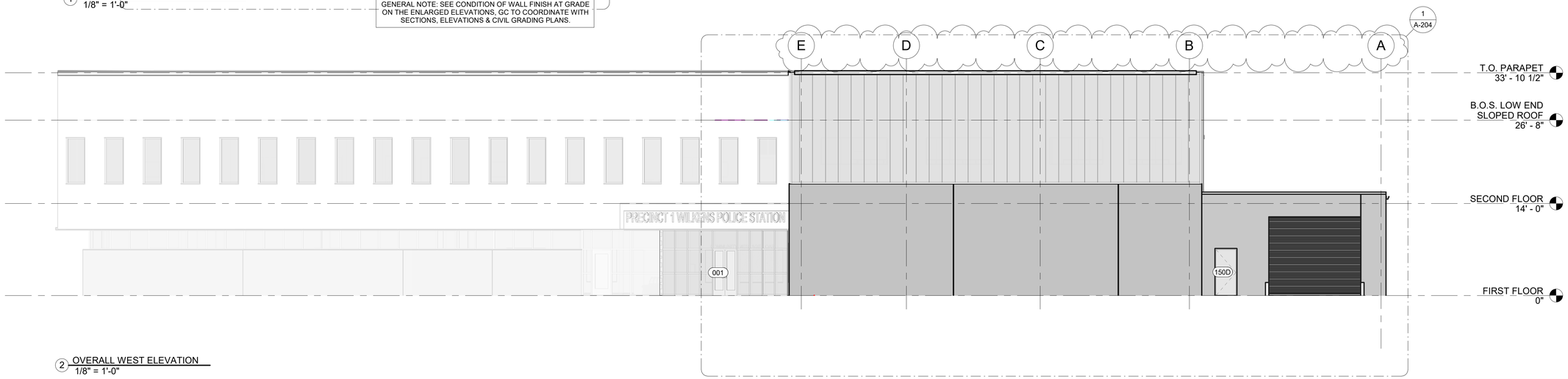
Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025





1 OVERALL NORTHEAST ELEVATION
1/8" = 1'-0"

GENERAL NOTE: SEE CONDITION OF WALL FINISH AT GRADE ON THE ENLARGED ELEVATIONS, GC TO COORDINATE WITH SECTIONS, ELEVATIONS & CIVIL GRADING PLANS.



2 OVERALL WEST ELEVATION
1/8" = 1'-0"

C:\Users\jat\Documents\22130A1 New Wilkens Police Precinct_jatDtZVG.rvt

SEAL

DATE : 11/6/2025 2:28:38 PM

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 , EXPIRATION DATE: 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

BY: DATE:

DGN BY: JAT
DRN BY: DWG/ AWU
CHKD BY: RLM

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
ADDENDUM #5	RLM	11/06/25		GSW	14SW19 14SW20 15SW19 15SW20
CONTRACT COMPLETION BOX			R.O.W NO.		

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

DRAWING SCALE
PLAN SCALE: As indicated
PROFILE SCALE:

PROPERTY MANAGEMENT
APPROVED BY: PROPERTY MANAGER
DATE:

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

OVERALL EXTERIOR ELEVATIONS

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

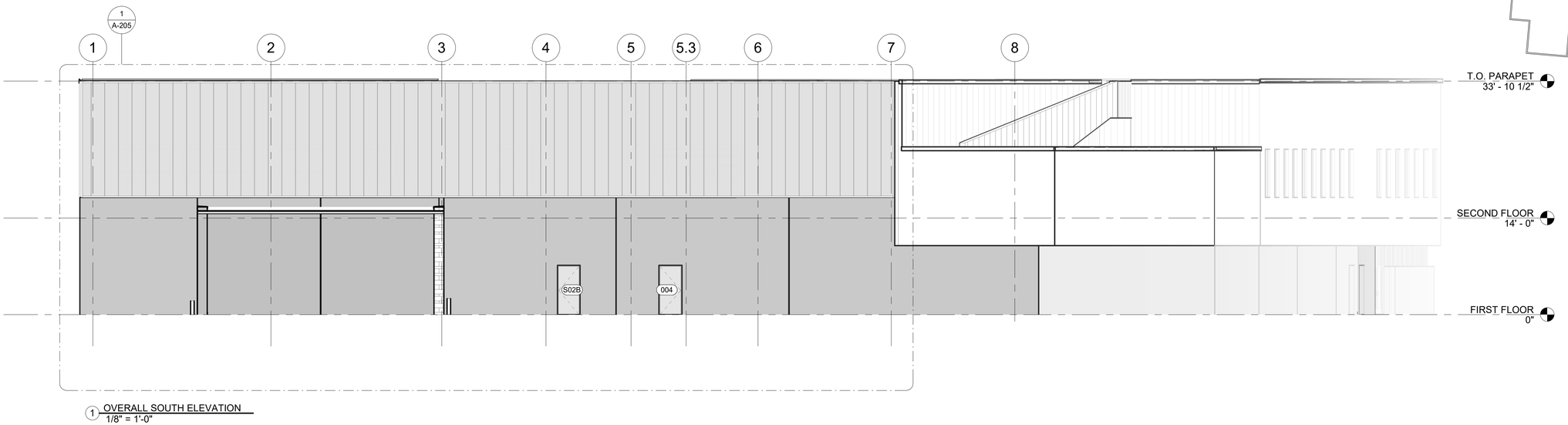
SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

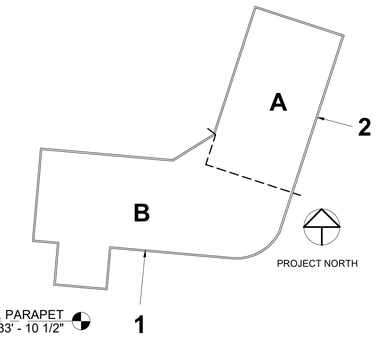
Murphy & Dittenhafer ARCHITECTS
605 North Charles Street, Baltimore, Maryland 21201 410-625-4622 voice 410-625-4674 fax
226 West Market Street, York, Pennsylvania 17401 717-846-9627 voice 717-843-2446 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-201	24111 PPO
JOB ORDER NUMBER	300200006
SHEET 84 OF 302	
DRAWING NUMBER	2024-1397
FILE NO.: 8	REV. 07/22

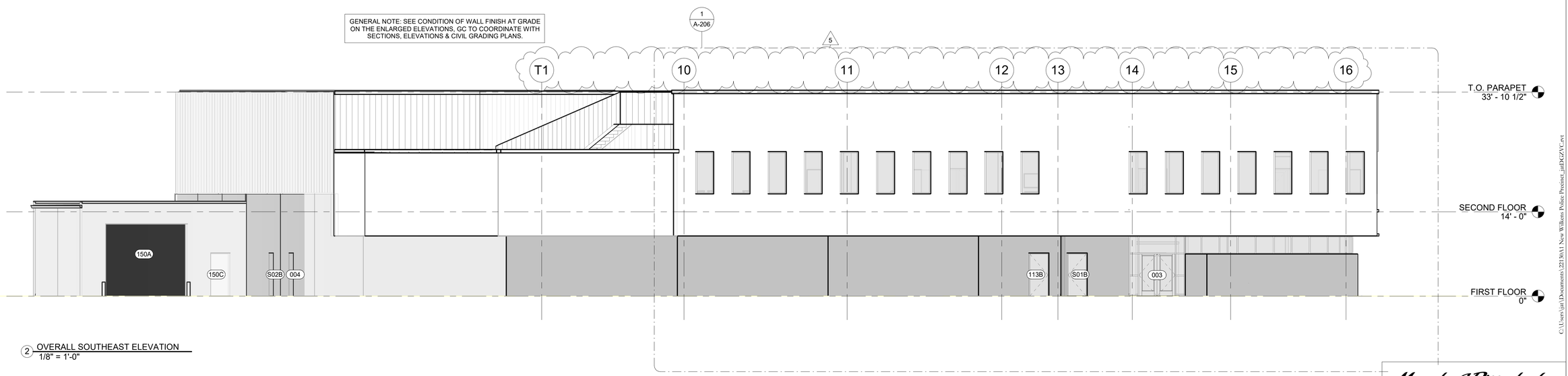
Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



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



GENERAL NOTE: SEE CONDITION OF WALL FINISH AT GRADE ON THE ENLARGED ELEVATIONS. GC TO COORDINATE WITH SECTIONS, ELEVATIONS & CIVIL GRADING PLANS.



2 OVERALL SOUTHEAST ELEVATION
1/8" = 1'-0"

C:\Users\jat\Documents\23190A1 New Wilkens Police Precinct_jatDGZVC.rvt

Murphy & Dittenhafer
ARCHITECTS

805 North Charles Street, Baltimore, Maryland 21201
410-625-4623 voice 410-625-4674 fax

226 West Market Street, York, Pennsylvania 17401
717-848-9827 voice 717-845-2449 fax

SEAL

DATE : 11/6/2025 2:28:47 PM

PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE		PROPERTY MANAGEMENT
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607, EXPIRATION DATE: 06/13/2027		ADDENDUM #5	RLM	11/06/25		GSW	14SW19 14SW20 15SW19 15SW20	PLAN SCALE: As indicated		APPROVED BY: PROPERTY MANAGER
					R.O.W NO.			PROFILE SCALE:		DATE:
		CONTRACT COMPLETION BOX								
ARCHITECT: Frank Elwood Dittenhafer, II	DGN BY: JAT	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	
AS-BUILT PER RECORD PRINT	DWN BY: DWG/ AWU	REVIEWED BY:								
BY: DATE:	CHKD BY: RLM	DATE REVIEWED:								

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

OVERALL EXTERIOR ELEVATIONS

NEW BUILDING DESIGN

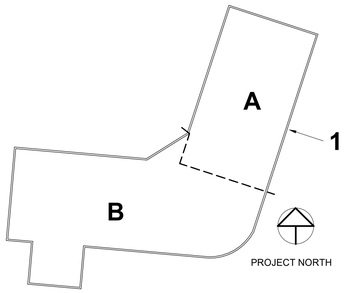
SUBDIVISION: WILKENS

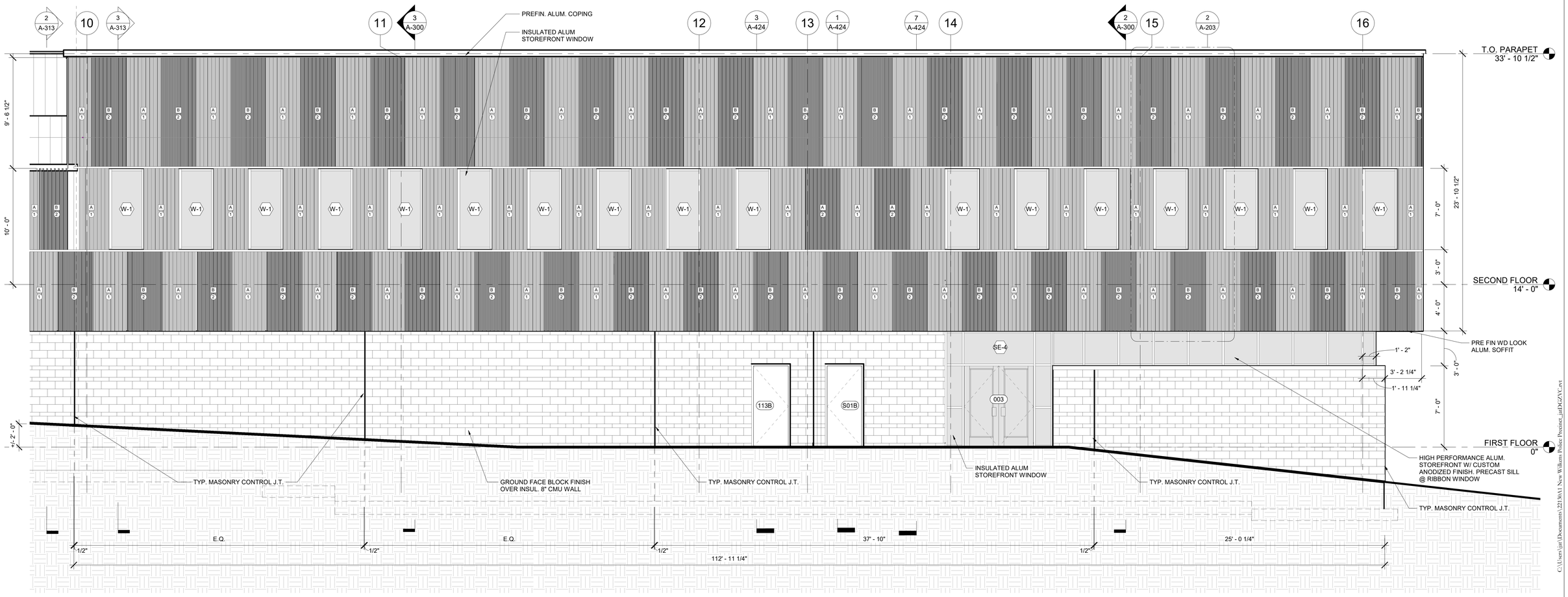
901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-202	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 85 OF 302
	DRAWING NUMBER
	2024-1398
	FILE NO.: 8

Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025





1 WING A - SOUTHEAST ENLARGED ELEVATION
1/4" = 1'-0"

NOTE: REFER TO A-203 FOR METAL PANEL INFORMATION

C:\Users\jat\Documents\221304A1 New Wilkens Police Precinct_catDGZVG.rvt

Murphy & Dittenhafer ARCHITECTS

805 North Charles Street, Baltimore, Maryland 21201
410-625-4623 voice 410-625-4613 fax

226 West Market Street, York, Pennsylvania 17401
717-848-8627 voice 717-843-2448 fax

SEAL

PROFESSIONAL CERTIFICATION

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ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

BY: DATE:

DATE : 11/6/2025 2:28:52 PM

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	RLM				14SW19	PLAN SCALE: As indicated	APPROVED BY: PROPERTY MANAGER
			R.O.W. NO.	GSW	14SW20 15SW19	PROFILE SCALE:	DATE:
CONTRACT COMPLETION BOX					15SW20		

DGN BY: JAT
DWN BY: DWG/ AWU
CHKD BY: RLM

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ENLARGED ELEVATIONS

NEW BUILDING DESIGN

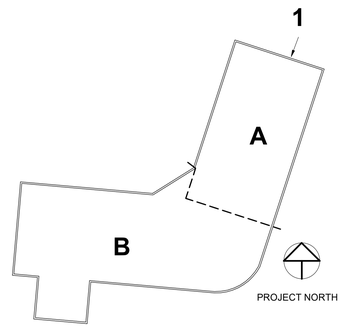
SUBDIVISION: WILKENS

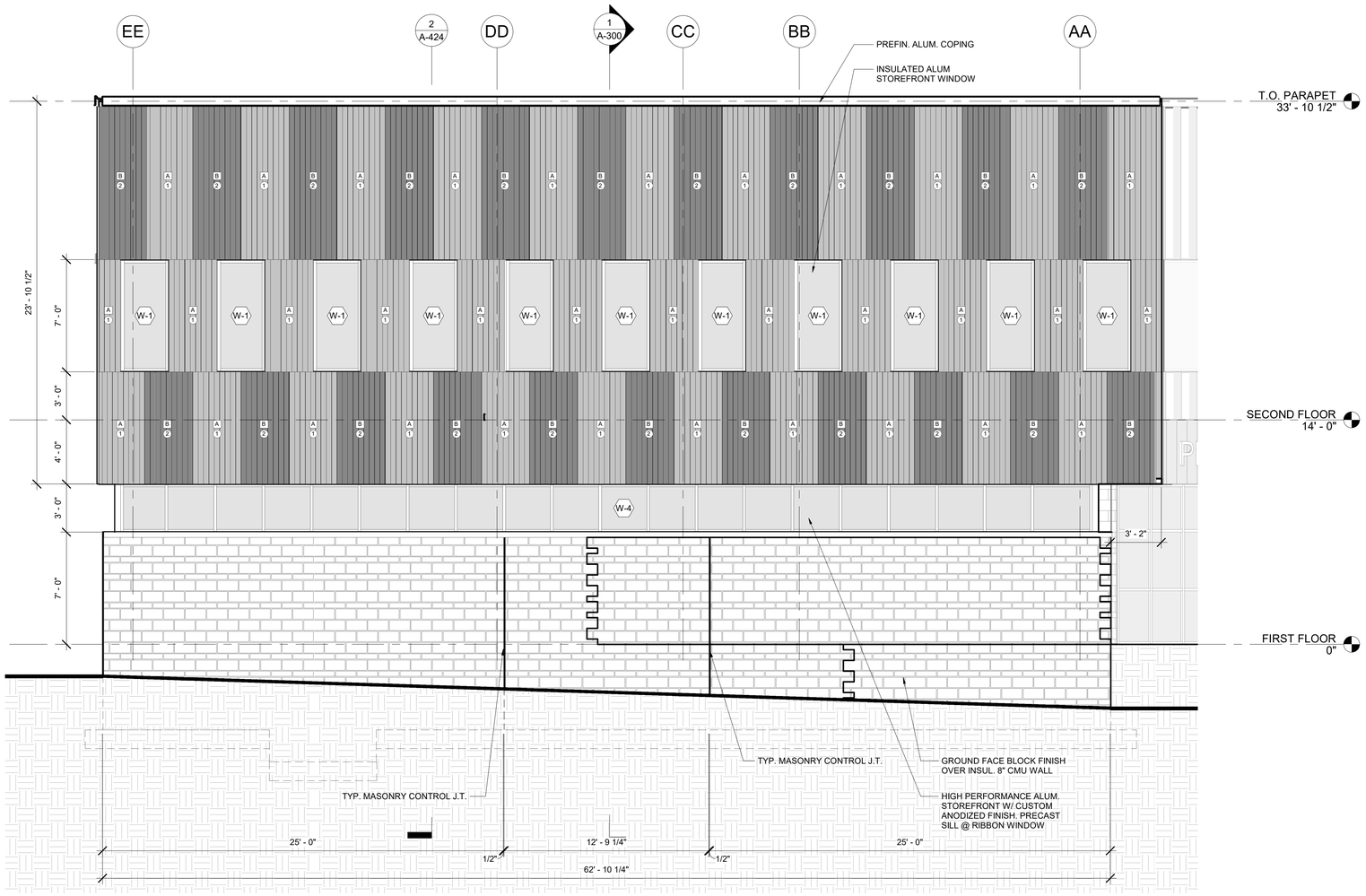
901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-206	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 89 OF 302
	DRAWING NUMBER
	2024-1402
	FILE NO.: 8

Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025





1 WING A - NORTHEAST ENLARGED ELEVATION
1/4" = 1'-0"

NOTE: REFER TO A-203 FOR METAL PANEL INFORMATION

C:\Users\jat\Documents\2213\A1 New Wilkens Police Precinct_jatDtzZVC.rvt

SEAL

DATE : 11/6/2025 2:28:58 PM

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607, EXPIRATION DATE 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

BY: DATE:

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
	RLM			GSW	14SW19 14SW20 15SW19 15SW20
CONTRACT COMPLETION BOX			R.O.W NO.		

DRAWING SCALE	
PLAN SCALE:	As indicated
PROFILE SCALE:	

PROPERTY MANAGEMENT

APPROVED BY: PROPERTY MANAGER

DATE:

DGN BY: JAT
DWN BY: DWG/ AWU
CHKD BY: RLM

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ENLARGED ELEVATIONS

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

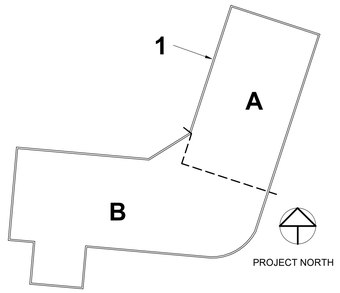
SUBDIVISION: WILKENS

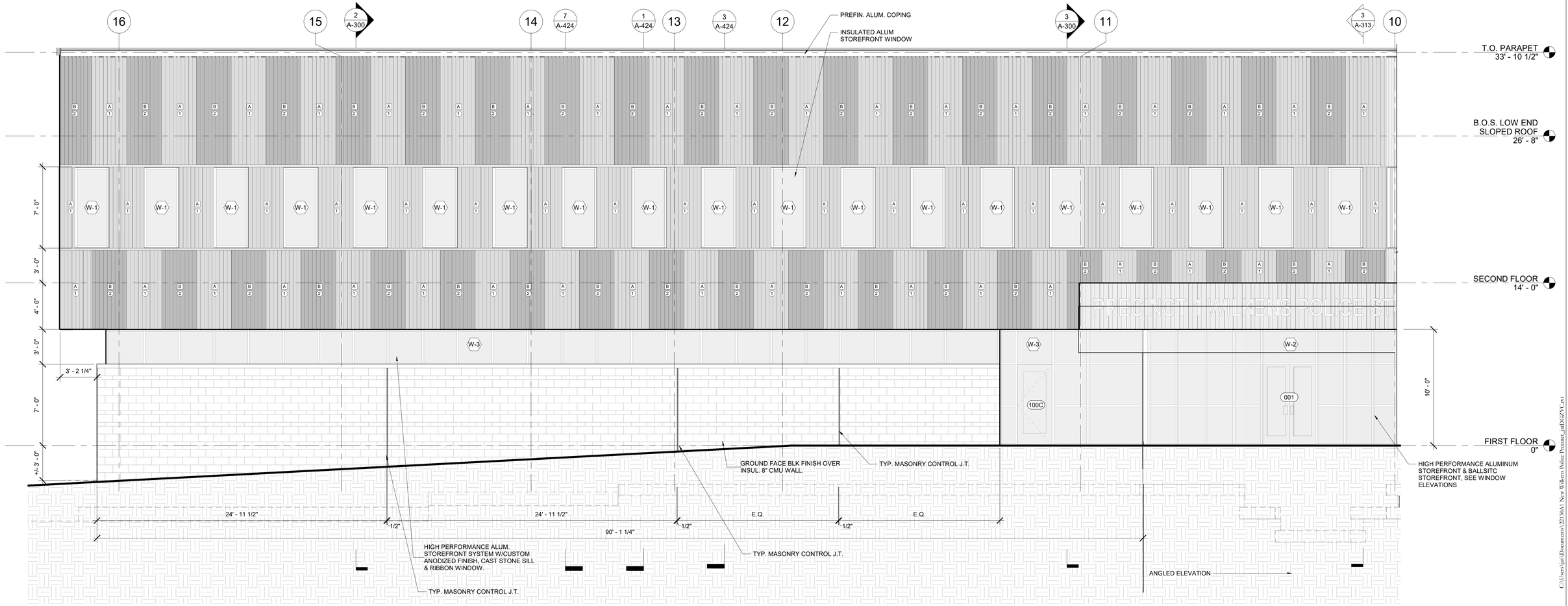
ELECTION DIST. NO.: 01C1

Murphy & Dittenhafer ARCHITECTS
805 North Charles Street, Baltimore, Maryland 21201
410-625-4633 voice 410-625-4674 fax
228 West Market Street, York, Pennsylvania 17401
717-848-8627 voice 717-843-2448 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-207	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 90 OF 302
	DRAWING NUMBER
	2024-1403
	FILE NO.: 8

Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025





C:\Users\jat\Documents\22130A1 New Wilkens Police Precinct_jatDtGZVC.rvt

1 WING A - NORTHWEST ENLARGED ELEVATION
1/4" = 1'-0"

NOTE: REFER TO A-203 FOR METAL PANEL INFORMATION

Murphy & Dittenhafer ARCHITECTS
305 North Charles Street, Baltimore, Maryland 21201 410-625-4623 voice 410-625-4674 fax
226 West Market Street, York, Pennsylvania 17401 717-848-9827 voice 717-843-2448 fax

SEAL	PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607, EXPIRATION DATE 06/13/2027			RLM		R.O.W NO.	GSW	14SW19 14SW20 15SW19 15SW20	PLAN SCALE: As indicated PROFILE SCALE:	APPROVED BY: PROPERTY MANAGER DATE:
	ARCHITECT: Frank Elwood Dittenhafer, II	DGN BY: JAT	CONTRACT COMPLETION BOX							
	AS-BUILT PER RECORD PRINT	DRN BY: DWG/ AWU	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
DATE : 11/6/2025 2:30:29 PM	BY: DATE:	CHKD BY: RLM	REVIEWED BY:							
			DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ENLARGED ELEVATIONS

NEW BUILDING DESIGN

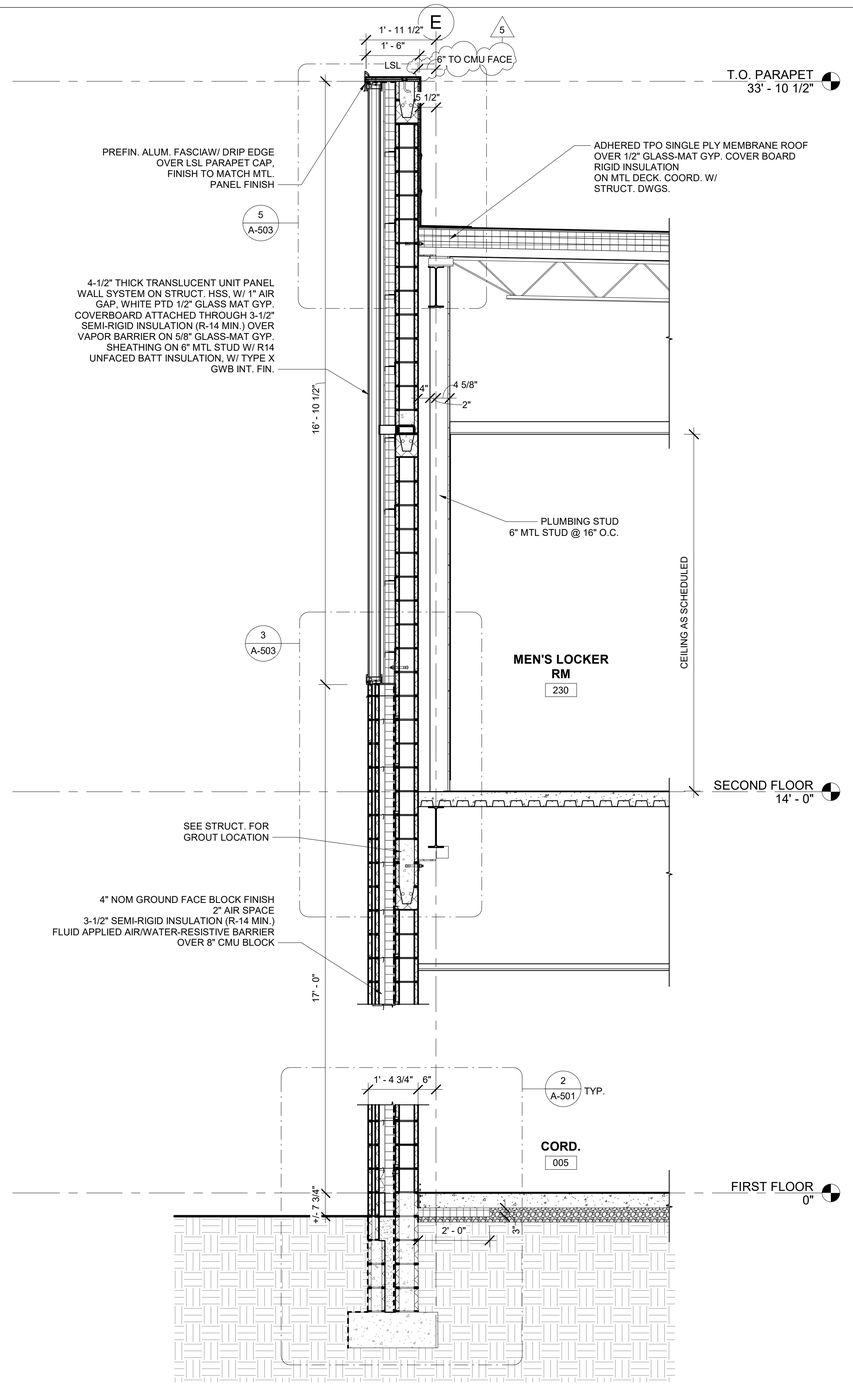
SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

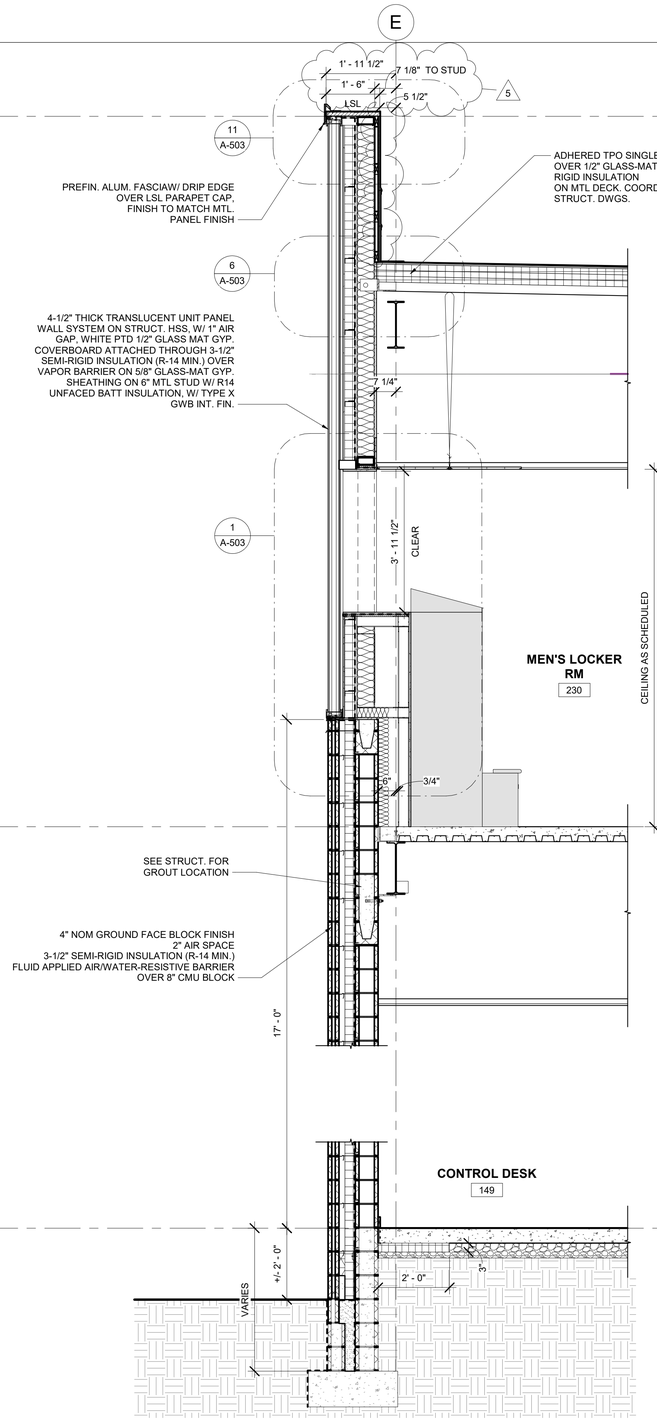
ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-208	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 91 OF 302
	DRAWING NUMBER
	2024-1404
	FILE NO.: 8 REV. 01.12

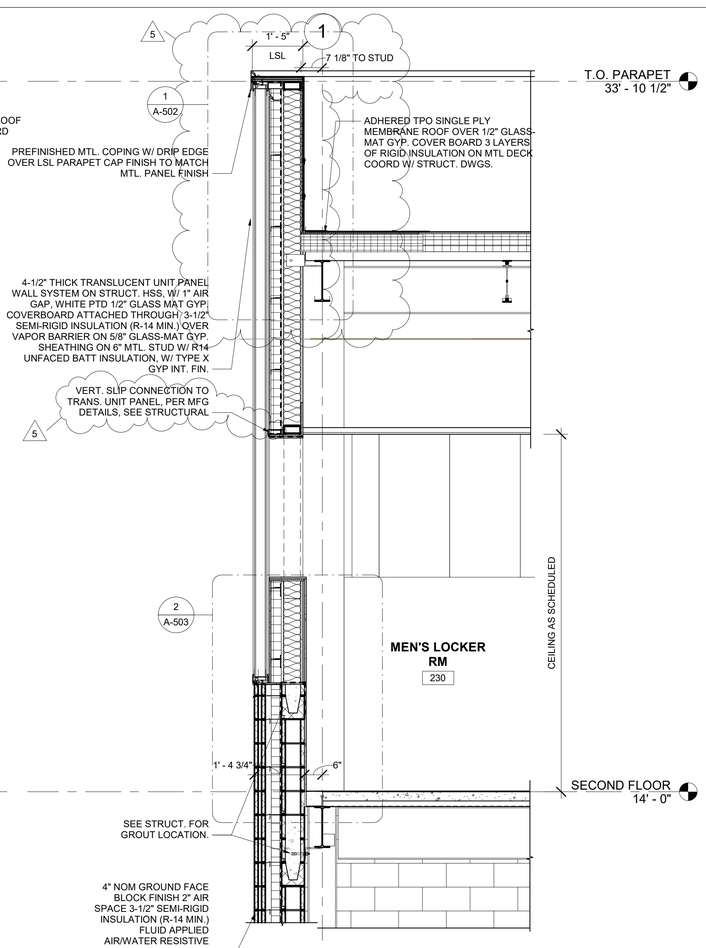
Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



1 TYPICAL WALL SECTION @ TRANSLUCENT UNIT PANEL SYSTEM
1/2" = 1'-0"



2 TYPICAL WALL SECTION @ TRANSLUCENT UNIT PANEL SYSTEM WALL OPENING
1/2" = 1'-0"



3 TYPICAL WALL SECTION @ TRANSLUCENT UNIT PANEL SYSTEM WALL OPENING W/ FURRING
1/2" = 1'-0"

C:\Users\jat\Documents\22130A1 New Wilkens Police Precinct_jatDKZ3VC.rvt

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE		PROPERTY MANAGEMENT	
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE: 06/13/2027	ADDENDUM #5	RLM	11/06/25	R.O.W. NO.	GSW	14SW19 14SW20 15SW19 15SW20	PLAN SCALE:	1/2" = 1'-0"	APPROVED BY: PROPERTY MANAGER	
	ARCHITECT: Frank Elwood Dittenhafer, II	CONTRACT COMPLETION BOX						PROFILE SCALE:		DATE:	
	AS-BUILT PER RECORD PRINT	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER		
DATE : 11/6/2025 2:30:31 PM	BY: DATE:	REVIEWED BY:									
	DGN BY: JAT DRN BY: DWG/ AWU CHKD BY: RLM	DATE REVIEWED:									

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

WALL SECTIONS

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

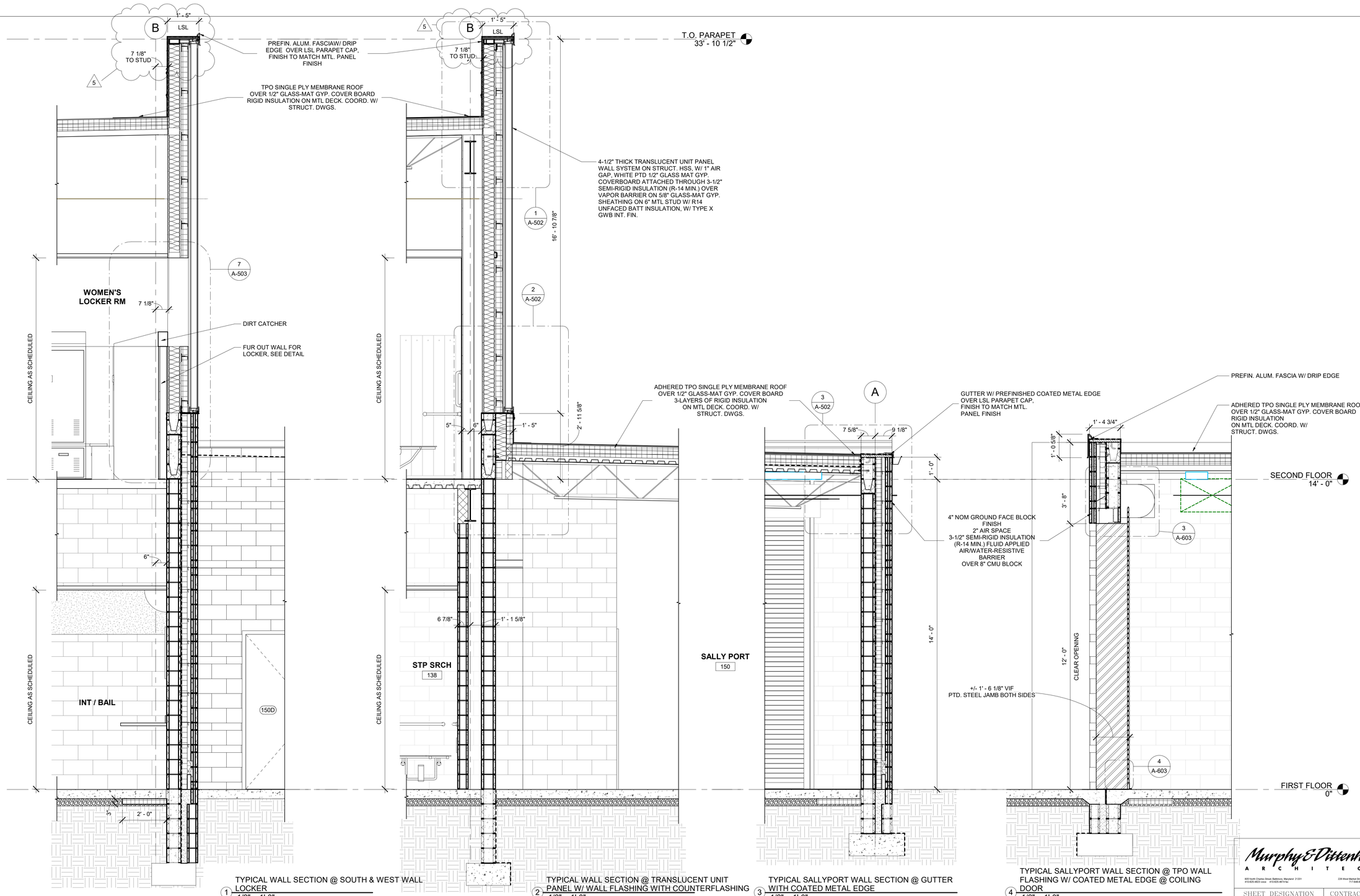
901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

Murphy & Dittenhafer ARCHITECTS
305 North Charles Street, Baltimore, Maryland 21201 410-625-4633 voice 410-625-4674 fax
228 West Market Street, York, Pennsylvania 17401 717-848-8827 voice 717-843-2486 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-311	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 96 OF 302
	DRAWING NUMBER
	2024-1409
	FILE NO.: 8 REV. 01.22

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



1 TYPICAL WALL SECTION @ SOUTH & WEST WALL LOCKER
1/2" = 1'-0"

2 TYPICAL WALL SECTION @ TRANSLUCENT UNIT PANEL W/ WALL FLASHING WITH COUNTERFLASHING
1/2" = 1'-0"

3 TYPICAL SALLYPORT WALL SECTION @ GUTTER WITH COATED METAL EDGE
1/2" = 1'-0"

4 TYPICAL SALLYPORT WALL SECTION @ TPO WALL FLASHING W/ COATED METAL EDGE @ COILING DOOR
1/2" = 1'-0"

C:\Users\jat\Documents\22130A1 New Wilkens Police Precinct_jatDGZVC.rvt

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE: 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

BY:
DATE:

DATE : 11/6/2025 2:30:33 PM

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
ADDENDUM #5	RLM	11/06/25		GSW	14SW19 14SW20 15SW19 15SW20
			R.O.W NO.		
CONTRACT COMPLETION BOX					

DRAWING SCALE	
PLAN SCALE:	1/2" = 1'-0"
PROFILE SCALE:	

PROPERTY MANAGEMENT

APPROVED BY: _____ PROPERTY MANAGER

DATE: _____

DGN BY: JAT
DWN BY: DWG/ AWU
CHKD BY: RLM

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

WALL SECTIONS

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

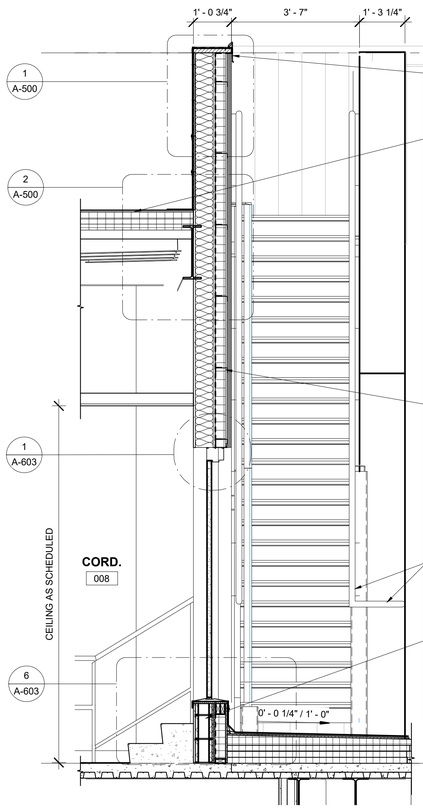
SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

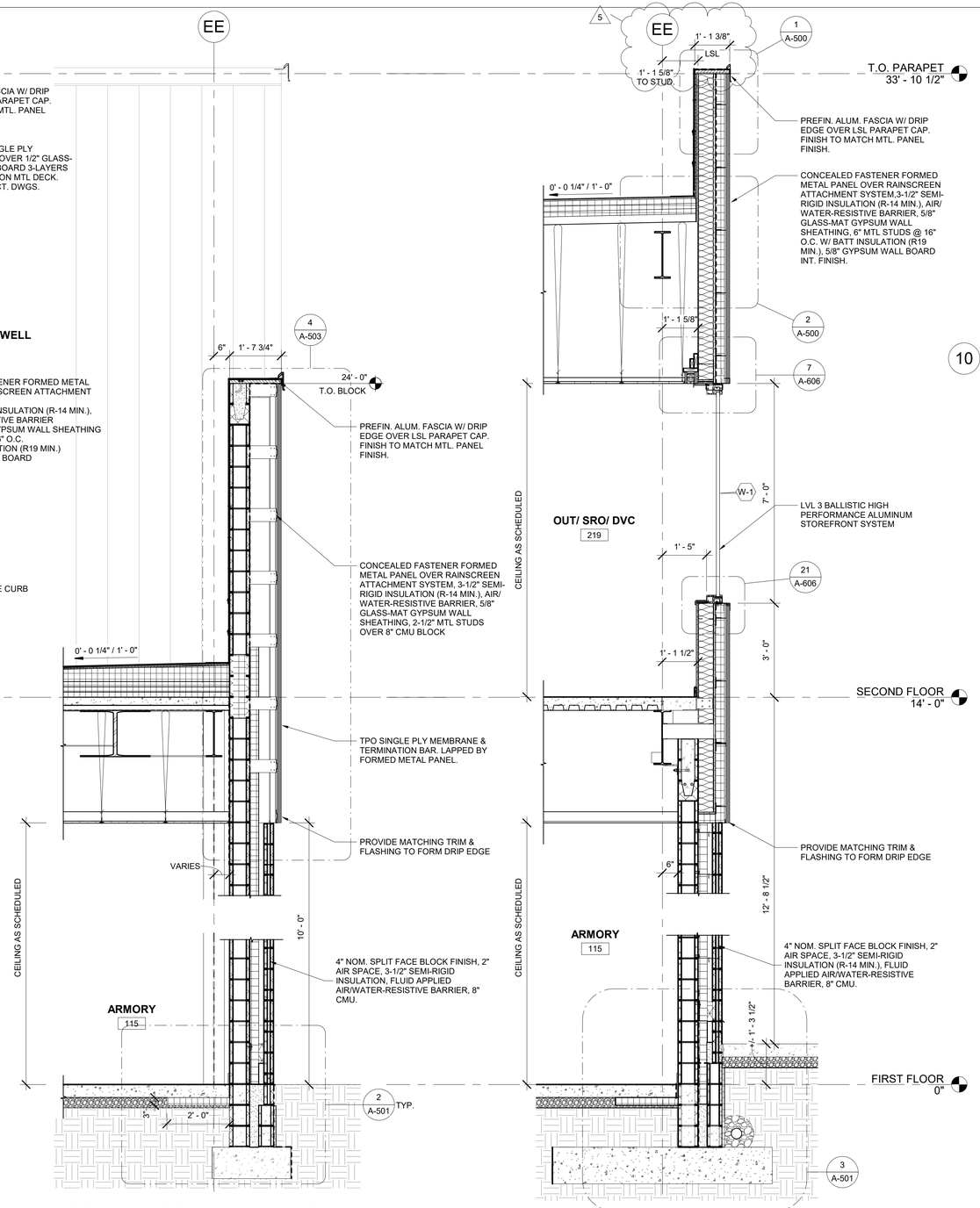
Murphy & Dittenhafer ARCHITECTS
800 North Charles Street, Baltimore, Maryland 21201
410-625-4023 voice 410-625-4813 fax
226 West Market Street, York, Pennsylvania 17401
717-848-8827 voice 717-843-2448 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-312	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 97 OF 302
	DRAWING NUMBER
	2024-1410
	FILE NO.: 8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

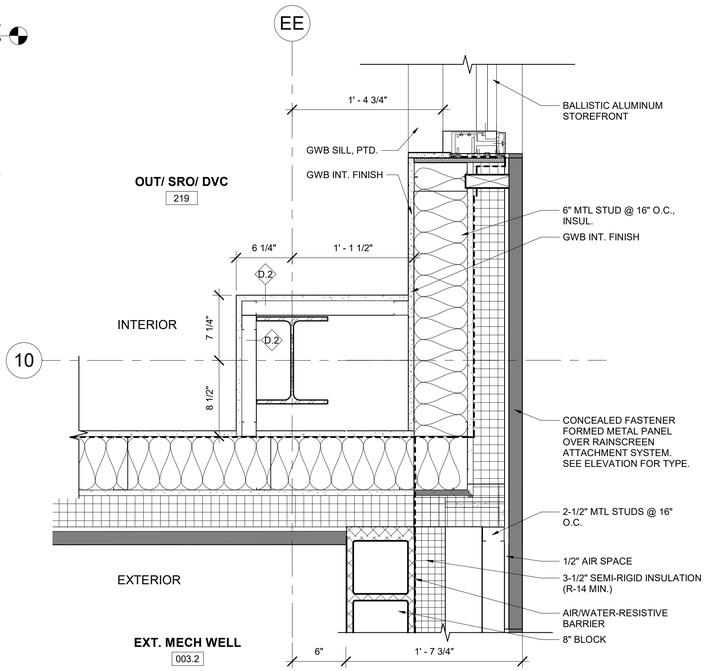


TYPICAL WALL SECTION @ MECHANICAL WELL FORMED METAL PANEL RAINSCREEN ATTACHMENT SYSTEM
1 1/2" = 1'-0"



TYPICAL WALL SECTION @ MECHANICAL WELL FORMED METAL PANEL RAINSCREEN ATTACHMENT SYSTEM OVER CMU BLOCK
2 1/2" = 1'-0"

TYPICAL WALL SECTION, WHERE EXTERIOR GRADE IS ABOVE FINISHED FLOOR
3 1/2" = 1'-0"



TYPICAL PLAN DETAIL @ FORMED METAL PANEL RAINSCREEN ATTACHMENT SYSTEM TRANSITION
4 1 1/2" = 1'-0"

C:\Users\jat\Documents\23130A1 New Wilkens Police Precinct_jatDGZ_VC.rvt

Murphy & Dittenhafer ARCHITECTS
805 North Charles Street, Baltimore, Maryland 21201 410-625-4633 voice 410-625-4674 fax
226 West Market Street, York, Pennsylvania 17401 717-848-8837 voice 717-843-2448 fax

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE 06/13/2027	ADDENDUM #5	RLM	11/06/25		GSW	14SW19 14SW20 15SW19 15SW20	PLAN SCALE: As indicated	APPROVED BY: PROPERTY MANAGER
		CONTRACT COMPLETION BOX			R.O.W. NO.			PROFILE SCALE:	DATE:
	ARCHITECT: Frank Elwood Dittenhafer, II	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
	AS-BUILT PER RECORD PRINT	REVIEWED BY:							
DATE : 11/6/2025 2:30:35 PM	BY: DATE:	DATE REVIEWED:							

DGN BY: JAT
DWN BY: DWG/ AWU
CHKD BY: RLM

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

WALL SECTIONS

NEW BUILDING DESIGN

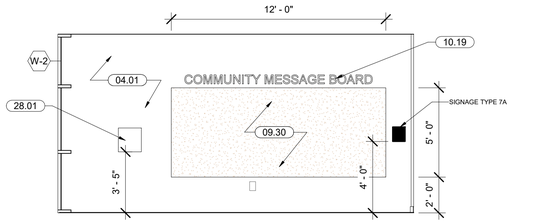
901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

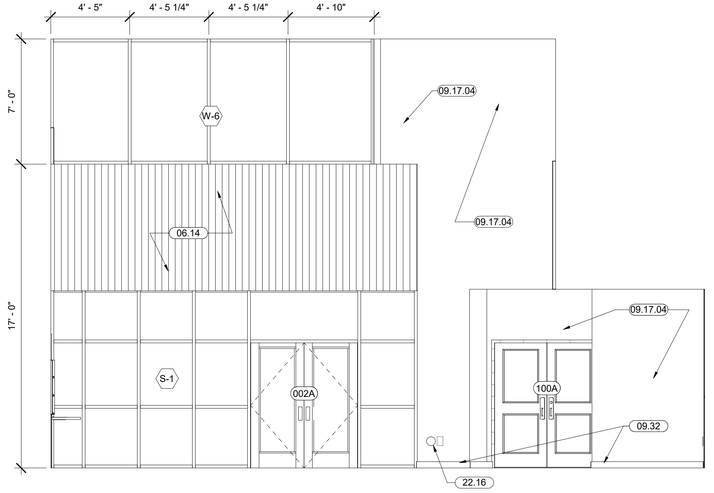
ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-313	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 98 OF 302
	DRAWING NUMBER
	2024-1411
	FILE NO.: 8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

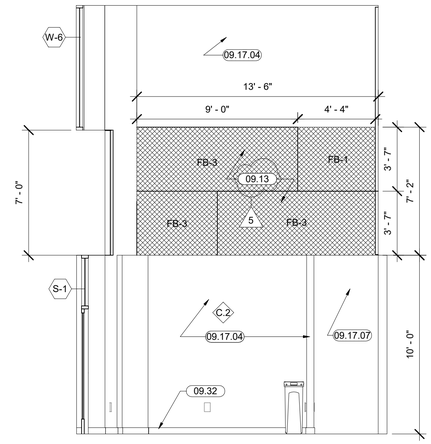


2 VESTIBULE - E - COMMUNITY MESSAGE BOARD
1/4" = 1'-0"



3 LOBBY - N
1/4" = 1'-0"

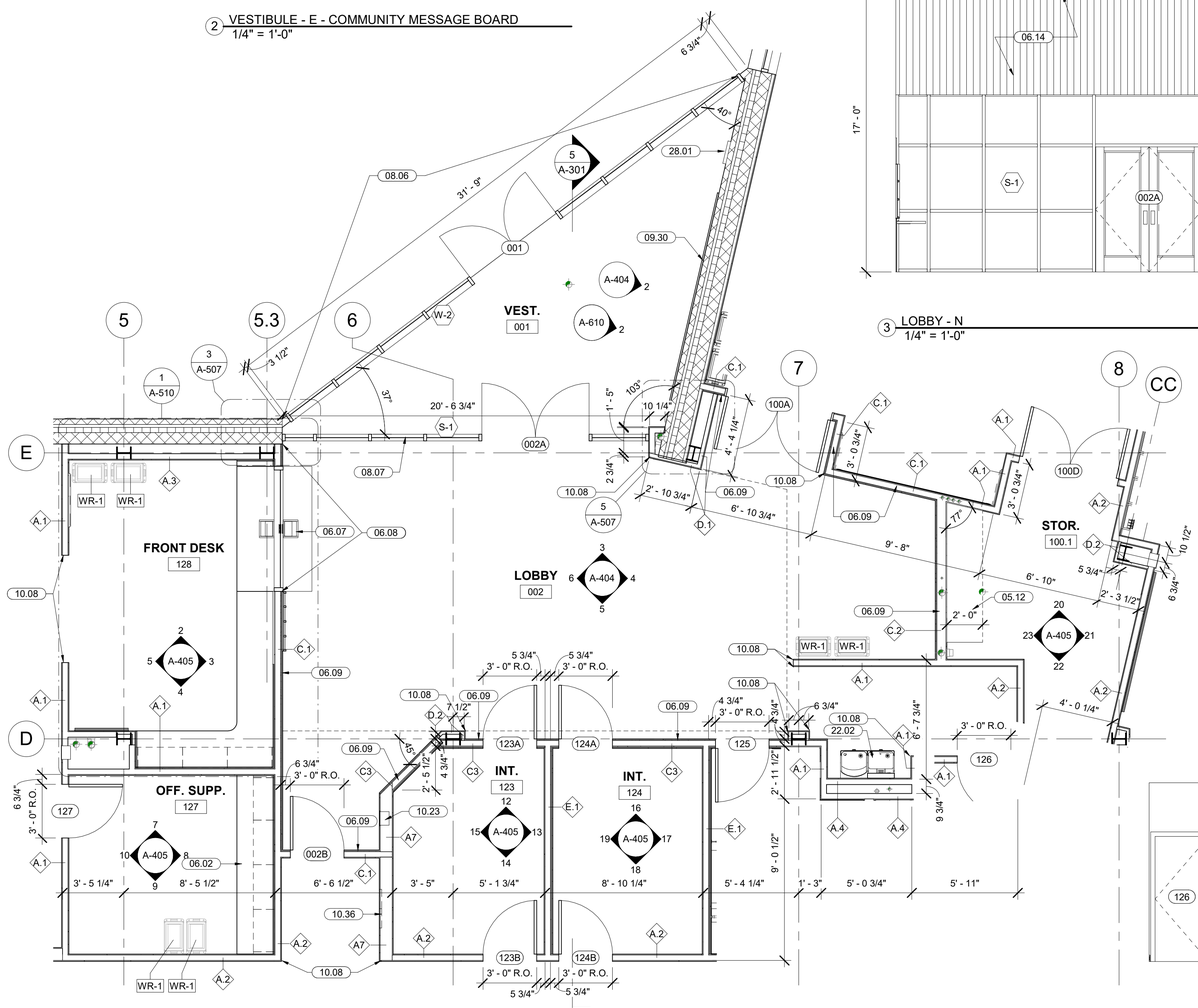
NOTE: PROVIDE LEVEL 5 GWB FINISH



4 LOBBY - E
1/4" = 1'-0"

NOTE: PROVIDE LEVEL 5 GWB FINISH

KEYNOTE LEGEND	
TAG	DESCRIPTION
04.01	GROUND FACE BLK.
05.12	WIRE SHELVING (NO ROD).
06.02	SSM COUNTERTOP. REFER TO INTERIOR ELEVATIONS FOR DTL'S.
06.07	SSM COUNTERTOP ON CONCEALED METAL BRACKET W/ LEVEL 3 BALLISTIC RATED TRANSACTION WINDOW, RECESSED COUNTER DEAL TRAY & SPEAKER HOLE.
06.08	LVL 3 KEVLAR PANELS UNDER COUNTER.
06.09	LVL 3 KEVLAR PANELS UP TO 6'.
06.14	WD-1 V-RIB SOLID WD PANELING W/ 1 1/2" x 2" WD CAP, STAINED.
06.23	WOOD AND ACRYLIC BROCHURE DISPLAY.
08.06	LVL. 5 BALLISTIC GLAZING.
08.07	TYP. STOREFRONT GLAZING.
09.13	AWP-1.
09.17.01	PT-1.
09.17.03	PT-3.
09.17.04	PT-4.
09.17.07	PT-7.
09.30	BB-1, TACKABLE WALL COVERING. PROVIDE ALUM TRIM.
09.31	DRYWALL REVEAL MOLDING 1/2" x 1/2" NON VENTED.
09.32	4" RB-1.
10.03	PHOTOWALL/COMMUNITY ART, SEE SIGNAGE SHEETS.
10.08	ALUM. CORNER GAURD, 4'-0" SEE WALL PROTECTION
10.19	6" CAST ALUM. PIN LETTERING IN BLOCK.
10.23	FIRE CAB. FOR SOLVENT STORAGE (NIC).
10.36	6 COMPARTMENT PISTOL LOCKER - FLUSH MOUNT.
22.02	DRINKING FOUNTAIN W/BOTTLE FILLER STATION - REFER TO PLUMBING DRAWINGS FOR DTL'S.
22.16	ACCESS CAP. SEE PLUMBING CALL-OUT.
28.01	FIRE ALARM PANEL.



1 ENLARGED PLAN - LOBBY AREA
1/4" = 1'-0"

5 LOBBY - S
1/4" = 1'-0"

NOTE: PROVIDE LEVEL 5 GWB FINISH

6 LOBBY - W
1/4" = 1'-0"

NOTE: PROVIDE LEVEL 5 GWB FINISH

BUILDING NORTH

FIRST FLOOR

Murphy & Dittenhafer
ARCHITECTS
605 North Charles Street, Baltimore, Maryland 21201
410-625-4622 voice 410-625-4674 fax
228 West Market Street, York, Pennsylvania 17401
717-848-9627 voice 717-843-2448 fax

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607, EXPIRATION DATE 06/13/2027	ADDENDUM #5	RLM	11/06/25			14SW19	PLAN SCALE: As indicated	APPROVED BY: PROPERTY MANAGER
					R.O.W. NO.	GSW	14SW20		
		CONTRACT COMPLETION BOX					15SW19	PROFILE SCALE:	DATE:
							15SW20		

ARCHITECT: Frank Elwood Dittenhafer, II	DGN BY: JAT
AS-BUILT PER RECORD PRINT	DRN BY: DWG/ AWU
BY: DATE:	CHKD BY: RLM

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

DATE : 11/6/2025 2:30:39 PM

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ENLARGED PLANS & ELEVS. - 1ST FLR - LOBBY

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

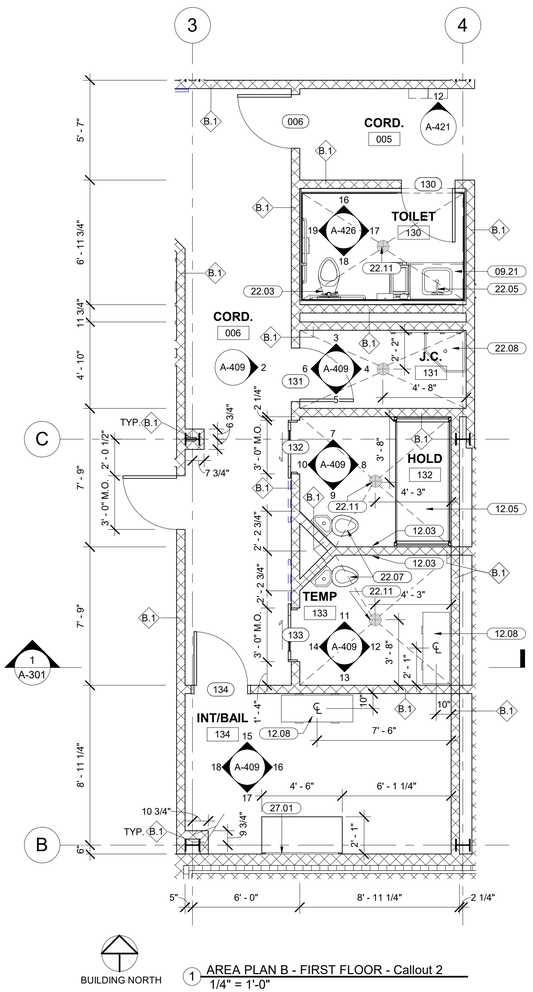
ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-404	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 104 OF 302
	DRAWING NUMBER
	2024-1417
	FILE NO.: 8

C:\Users\jat\Documents\2213\0A1 New Wilkens Police Precinct_catDtZYG.rvt

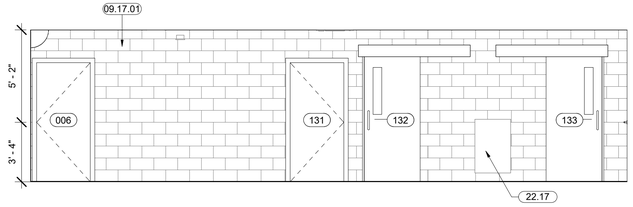
Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

KEYNOTE LEGEND	
TAG	DESCRIPTION
09.11	SS-1.
09.14	AWP-2.
09.17.01	PT-1.
09.17.07	PT-7.
09.21	SSM-4.
10.12	MOP AND BROOM HOLDER.
12.03	TLT. PAPER HOLDER ANTI-LIGATURE (WALL RECESSED). REFER TO ELEVATIONS FOR MOUNTING HEIGHTS.
12.05	FIXED S.S. BENCH WITH CUFF BARS.
12.08	DETENTION-GRADECUFF BENCH.
22.03	LAVATORY - REFER TO PLUMBING DRAWINGS FOR DETAILS
22.05	SINK - REFER TO PLUMBING DWG'S FOR DTL'S.
22.07	TLT. & SINK COMBO.
22.08	MOP SINK.
22.11	FLOOR DRAIN - REFER TO PLUMBING DRAWINGS.
22.17	ACCESS PANEL. SEE PLUMBING CALL-OUT.
27.01	AV EQUIPMENT, SEE TA DWG'S.

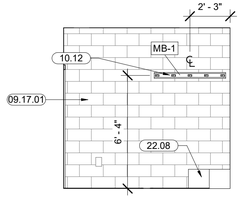


1 AREA PLAN B - FIRST FLOOR - Callout 2
1/4" = 1'-0"

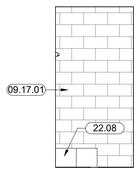
BUILDING NORTH



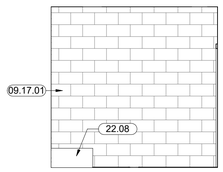
2 HOLDING CORRIDOR - E
1/4" = 1'-0"



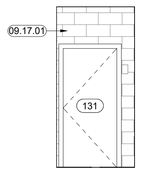
3 J.C. 131 - N
1/4" = 1'-0"



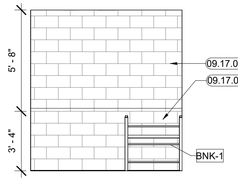
4 J.C. 131 - E
1/4" = 1'-0"



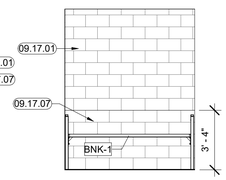
5 J.C. 131 - S
1/4" = 1'-0"



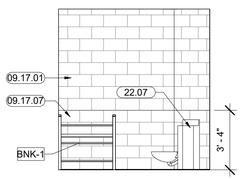
6 J.C. 131 - W
1/4" = 1'-0"



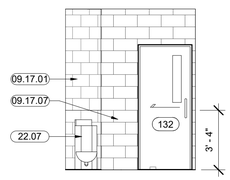
7 F HLD - N
1/4" = 1'-0"



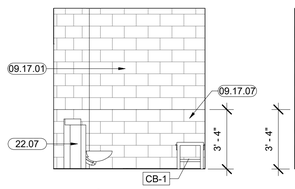
8 F HLD - E
1/4" = 1'-0"



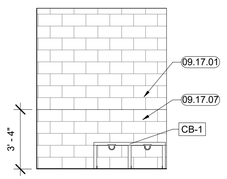
9 F HLD - S
1/4" = 1'-0"



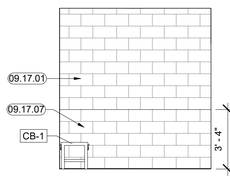
10 F HLD - W
1/4" = 1'-0"



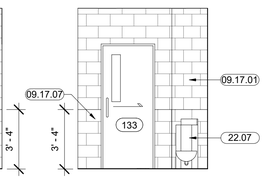
11 TEMPORARY HLD B - N
1/4" = 1'-0"



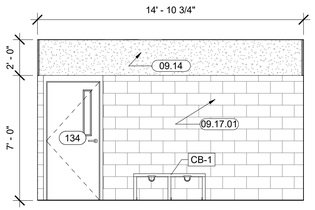
12 TEMPORARY HLD B - E
1/4" = 1'-0"



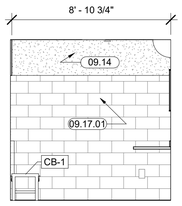
13 TEMPORARY HLD B - S
1/4" = 1'-0"



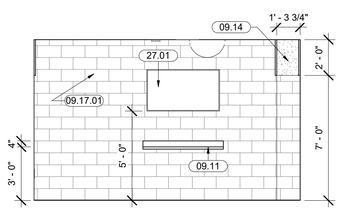
14 TEMPORARY HLD B - W
1/4" = 1'-0"



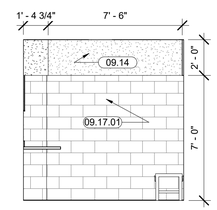
15 F INT/BAIL RM - N
1/4" = 1'-0"



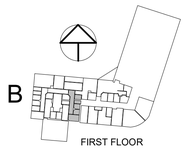
16 F INT/BAIL RM - E
1/4" = 1'-0"



17 F INT/BAIL RM - S
1/4" = 1'-0"



18 F INT/BAIL RM - W
1/4" = 1'-0"



C:\Users\jat\Documents\22130A1 New Wilkens Police Precinct_jatDGZVC.rvt

Murphy & Dittenhafer ARCHITECTS
305 North Charles Street, Baltimore, Maryland 21201 410-625-4633 voice 410-625-4674 fax
228 West Market Street, York, Pennsylvania 17401 717-848-8607 voice 717-843-2446 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-409	24111 PPO

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE: 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

DATE : 11/6/2025 2:30:46 PM

AS-BUILT / REVISION	BY	DATE
	RLM	
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W. NO.	GSW	14SW19 14SW20 15SW19 15SW20

DRAWING SCALE	
PLAN SCALE:	As indicated
PROFILE SCALE:	

PROPERTY MANAGEMENT
APPROVED BY: PROPERTY MANAGER
DATE:

DGN BY: JAT	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
DRN BY: DWG/ AWU	REVIEWED BY:							
CHKD BY: RLM	DATE REVIEWED:							

BY:
DATE:

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ENLARGED PLANS & ELEVS. - 1ST FLR - FEMALE HOLDING & INTERVIEW ROOMS

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

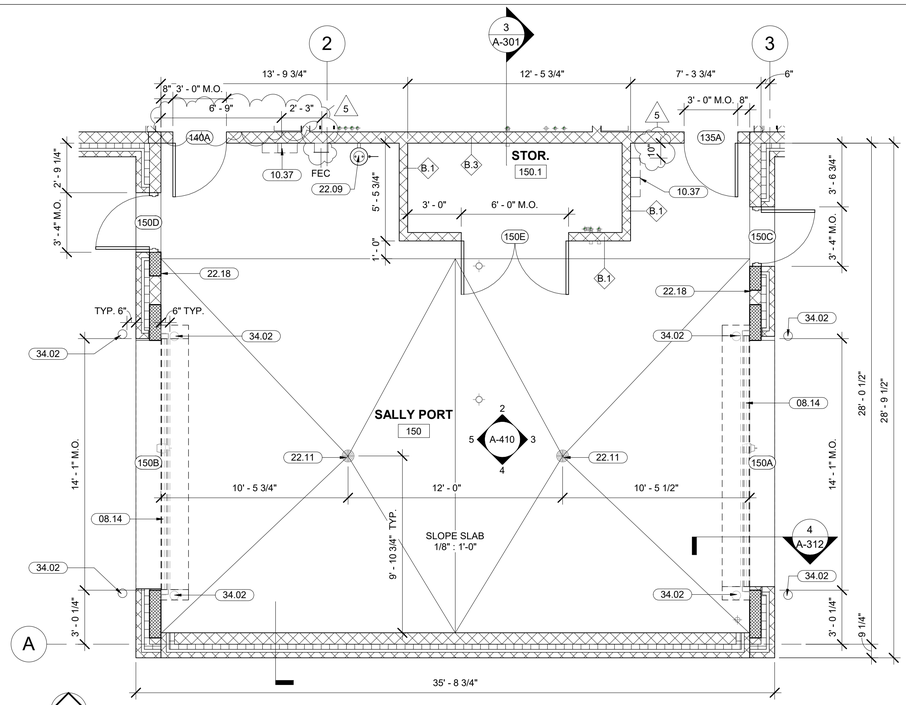
901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

JOB ORDER NUMBER	
300200006	
SHEET 109 OF 302	
DRAWING NUMBER	
2024-1422	
FILE NO.: 8	REV. 10.7.22

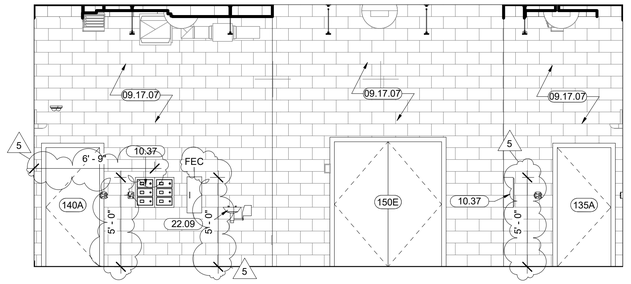
Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025

KEYNOTE LEGEND	
TAG	DESCRIPTION
08.14	OVERHEAD COILING DOOR.
09.17.07	PT-7.
09.32	4" RB-1.
10.37	6 COMPARTMENT PISTOL LOCKER - SURFACE MOUNT.
22.09	EYE WASH STATION.
22.11	FLOOR DRAIN - REFER TO PLUMBING DRAWINGS.
22.18	HOSE BIB, REFER TO PLUMBING DWG'S.
34.02	6" STEEL CONC. FILLED BOLLARD WITH PLASTIC COVER.

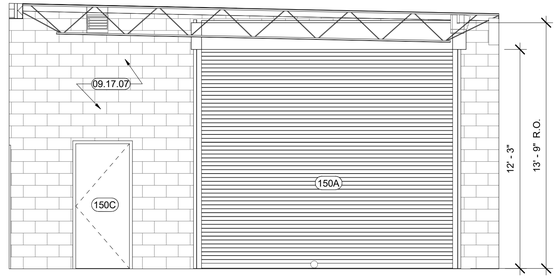


BUILDING NORTH

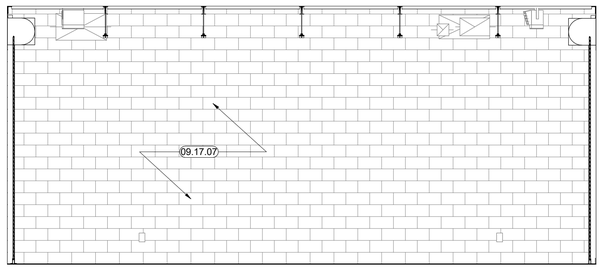
1 ENLARGED PLAN - SALLY PORT
1/4" = 1'-0"



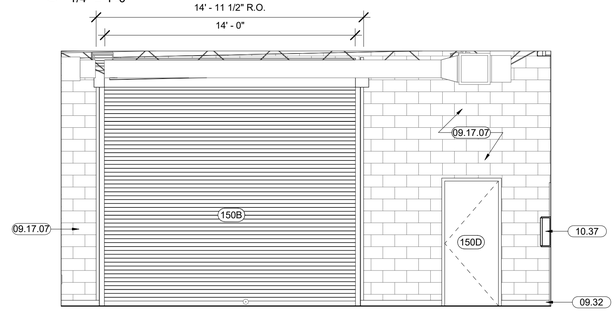
2 SALLY PORT - N
1/4" = 1'-0"



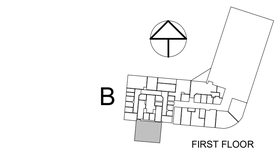
3 SALLY PORT - E
1/4" = 1'-0"



4 SALLY PORT - S
1/4" = 1'-0"



5 SALLY PORT - W
1/4" = 1'-0"



C:\Users\jat\Documents\2219(A) New Wilkens Police Precinct_jatDGZVC.rvt

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

BY:
DATE: 11/6/2025 2:30:49 PM

AS-BUILT / REVISION	BY	DATE
ADDENDUM #5	RLM	11/06/25
CONTRACT COMPLETION BOX		

P.W.A. NO.
R.O.W NO.
KEY SHEET: GSW

POSITION SHT: 14SW19, 14SW20, 15SW19, 15SW20

DRAWING SCALE
PLAN SCALE: As indicated
PROFILE SCALE:

PROPERTY MANAGEMENT
APPROVED BY: PROPERTY MANAGER
DATE:

DGN BY: JAT
DWN BY: DWG/ AWU
CHKD BY: RLM

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ENLARGED PLANS & ELEVS. - 1ST FLR - SALLY PORT

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

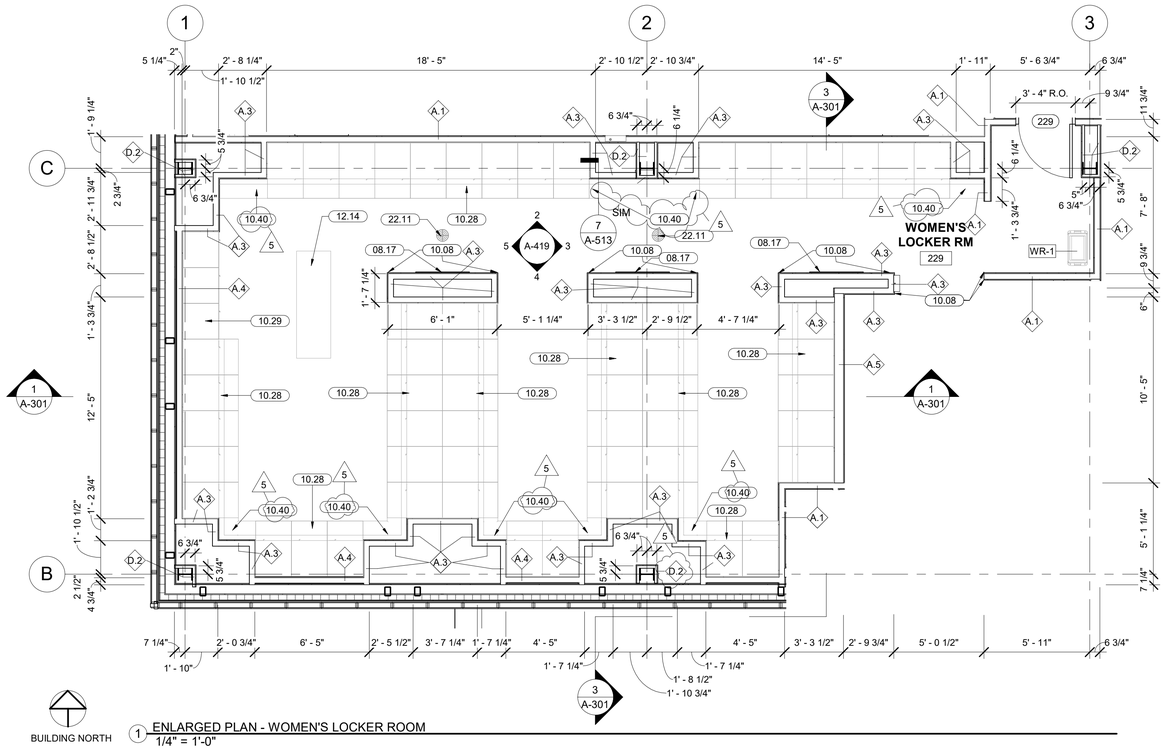
901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

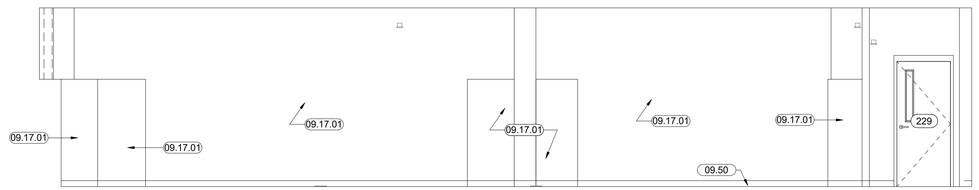
Murphy & Dittenhafer ARCHITECTS
800 North Charles Street, Baltimore, Maryland 21201 410-625-4623 voice 410-625-4813 fax
226 West Market Street, York, Pennsylvania 17401 717-848-8827 voice 717-843-3448 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-410	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 110 OF 302
	DRAWING NUMBER
	2024-1423
	FILE NO.: 8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

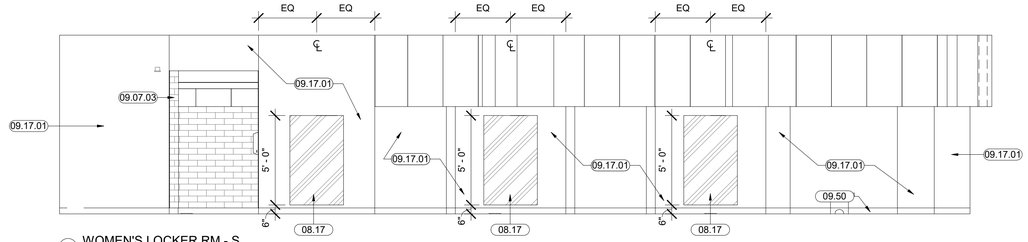


1 ENLARGED PLAN - WOMEN'S LOCKER ROOM
1/4" = 1'-0"

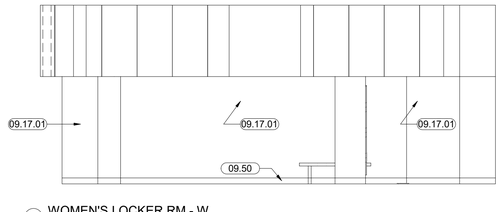


2 WOMEN'S LOCKER RM - N
1/4" = 1'-0"

3 WOMEN'S LOCKER RM - E
1/4" = 1'-0"

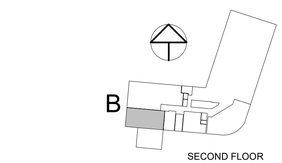


4 WOMEN'S LOCKER RM - S
1/4" = 1'-0"



5 WOMEN'S LOCKER RM - W
1/4" = 1'-0"

KEYNOTE LEGEND	
TAG	DESCRIPTION
08.17	MIRROR.
09.07.03	CT-3
09.17.01	PT-1.
09.50	INTEGRAL COVE POURED EPOXY BASE MATCHING FLOOR.
10.08	ALUM. CORNER GAURD, 4'-0" SEE WALL PROTECTION
10.28	WELDED METAL PERSONAL STORAGE LOCKER W/ BUILT-IN BENCH DRAWER.
10.29	WELDED METAL PERSONAL STORAGE LOCKER.
10.40	SOLID WD LOCKER BENCH INFILL BY LOCKER MFG.
12.14	ADA BENCH.
22.11	FLOOR DRAIN - REFER TO PLUMBING DRAWINGS.



SECOND FLOOR

C:\Users\jat\Documents\223 9041 New Wilkens Police Precinct_jatDGZVC.rvt

Murphy & Dittenhafer ARCHITECTS

805 North Charles Street, Baltimore, Maryland 21201 410-625-4623 voice 410-625-4674 fax

226 West Market Street, York, Pennsylvania 17401 717-848-9827 voice 717-845-2449 fax

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE		PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE: 06/13/2027	ADDENDUM #5	RLM	11/06/25		GSW	14SW19 14SW20 15SW19 15SW20	PLAN SCALE: As indicated	APPROVED BY: PROPERTY MANAGER	
					R.O.W NO.			PROFILE SCALE:	DATE:	
		CONTRACT COMPLETION BOX								
	ARCHITECT: Frank Elwood Dittenhafer, II	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	
	AS-BUILT PER RECORD PRINT	REVIEWED BY:								
DATE : 11/6/2025 2:30:52 PM	BY: DATE:	DATE REVIEWED:								

DGN BY: JAT
DWN BY: DWG/ AWU
CHKD BY: RLM

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ENLARGED PLAN & ELEVS. - 2ND FLR - WOMEN'S LOCKER ROOM

NEW BUILDING DESIGN

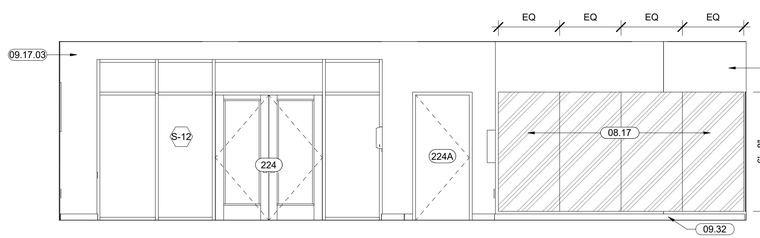
SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

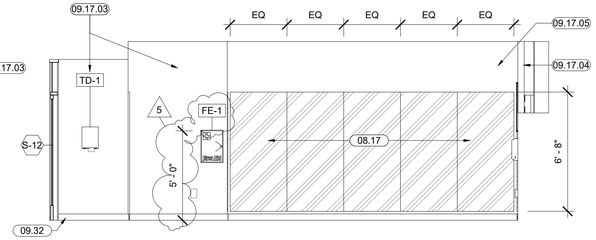
ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-419	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 119 OF 302
	DRAWING NUMBER
	2024-1432
	FILE NO.: 8 REV. 0.2.02

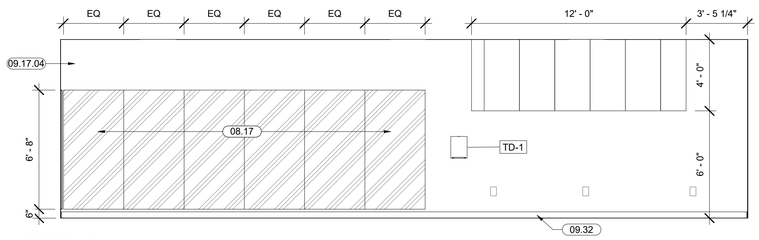
Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025



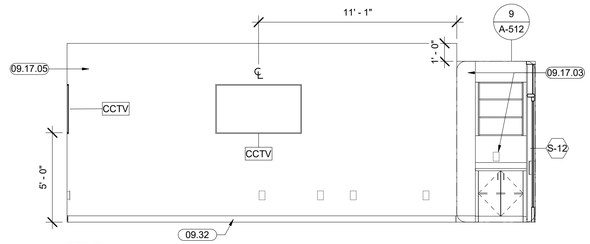
2 FITNESS - N
1/4" = 1'-0"



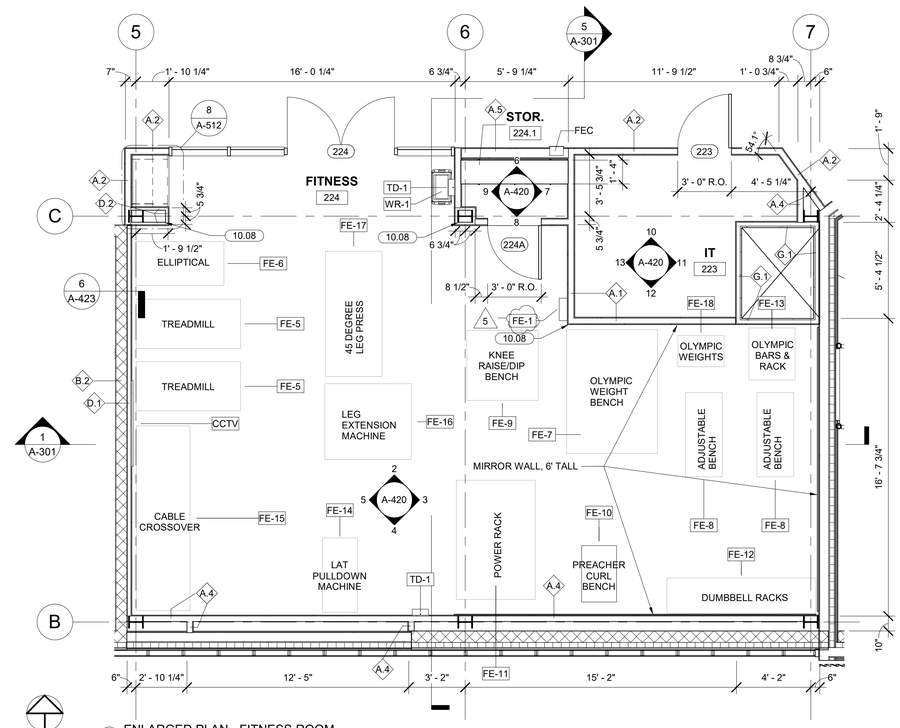
3 FITNESS - E
1/4" = 1'-0"



4 FITNESS - S
1/4" = 1'-0"



5 FITNESS - W
1/4" = 1'-0"



1 ENLARGED PLAN - FITNESS ROOM
1/4" = 1'-0"

KEYNOTE LEGEND	
TAG	DESCRIPTION
06.19	ADJUSTABLE WALL SHELVING.
08.17	MIRROR.
09.17.01	PT-1.
09.17.03	PT-3.
09.17.04	PT-4.
09.17.05	PT-5.
09.32	4" RB-1.
10.08	ALUM. CORNER GAURD, 4'-0" SEE WALL PROTECTION

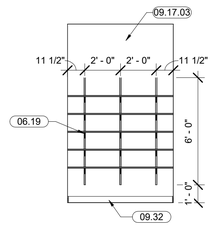
FITNESS EQUIPMENT SCHEDULE

MARK	EQUIPMENT TYPE	QUANTITY	MODEL NUMBER	POWER	BASIS OF DESIGN - MFG
FE-1	FIRST AID KIT; WALL MOUNTED BOX	1	SKU 746000-021		AED Brands
FE-5	COMMERCIAL TREADMILLS	2	VMTL29818	120v	FREEMOTION
FE-6	COMMERCIAL ELLIPTICAL	1	FMEL84418	120v	FREEMOTION
FE-7	OLYMPIC WEIGHT BENCH	1	F202		FREEMOTION
FE-8	ADJUSTABLE BENCH	2	F203		FREEMOTION
FE-9	KNEE RAISE/DIP BENCH	1	F207		FREEMOTION
FE-10	PREACHER CURL BENCH	1	F205		FREEMOTION
FE-11	POWER RACK	1	FMDY704004		FREEMOTION
FE-12	DUMBBELL RACK	1	EF209		FREEMOTION
FE-13	OLYMPIC BARBELL RACK	1	F210		FREEMOTION
FE-14	LAT PULLDOWN MACHINE	1	F620		FREEMOTION
FE-15	CABLE CROSSOVER TOWER	1	G424		FREEMOTION
FE-16	LEG EXTENSION MACHINE	1	ES801		FREEMOTION
FE-17	45 DEGREE LEG PRESS/HIP SLED	1	ES804		FREEMOTION
FE-18	OLYMPIC WEIGHT	1	F219		FREEMOTION

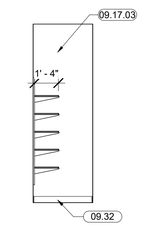
5

ACCESSORIES FITNESS

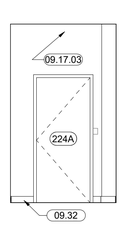
MARK	DESCRIPTION	MODEL NUMBER	MOUNTING	MOUNTING HEIGHT	FURNISHED BY	INSTALLED BY	Manufacturer
TD-1	SANITARY TOWEL DISPENSER	#46253	SURFACE	48" MAX TO TOP OF OPERABLE PART	CONTRACTOR	CONTRACTOR	Scotts Essential
WR-1	TRASH CANS	# H-1197BL	FLOOR	FLOOR	CONTRACTOR	CONTRACTOR	Rubbermaid 25 gallon domed trash can with push-top



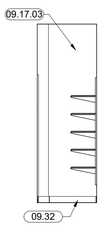
6 GYM STORAGE - N
1/4" = 1'-0"



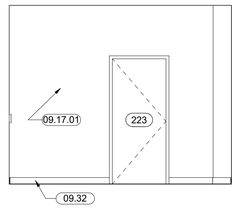
7 GYM STORAGE - E
1/4" = 1'-0"



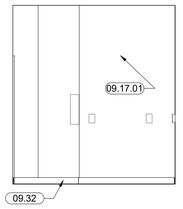
8 GYM STORAGE - S
1/4" = 1'-0"



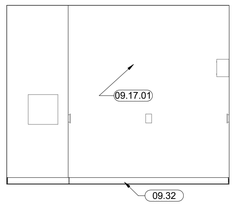
9 GYM STORAGE - W
1/4" = 1'-0"



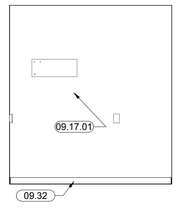
10 IT B - N
1/4" = 1'-0"



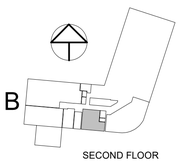
11 IT B - E
1/4" = 1'-0"



12 IT B - S
1/4" = 1'-0"



13 IT B - W
1/4" = 1'-0"



SECOND FLOOR

C:\Users\jat\Documents\2213001 New Wilkens Police Precinct_jatDKZVC.rvt

Murphy & Dittenhafer ARCHITECTS
800 North Charles Street, Baltimore, Maryland 21201 410-625-4633 voice 410-625-4674 fax
226 West Market Street, York, Pennsylvania 17401 717-848-5827 voice 717-843-3446 fax

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE: 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

DATE : 11/6/2025 2:30:58 PM

AS-BUILT / REVISION	BY	DATE
ADDENDUM #5	RLM	11/06/25
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	GSW	14SW19 14SW20 15SW19 15SW20

DRAWING SCALE: PLAN SCALE: As indicated. PROFILE SCALE:

PROPERTY MANAGEMENT: APPROVED BY: PROPERTY MANAGER DATE:

DESIGN BY: JAT	DRN BY: DWG/ AWU	CHKD BY: RLM

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ENLARGED PLAN & ELEVS. - 2ND FLR - FITNESS RM & IT

NEW BUILDING DESIGN

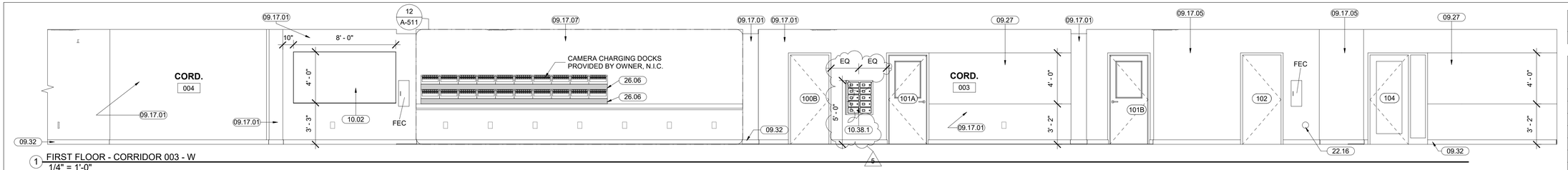
901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

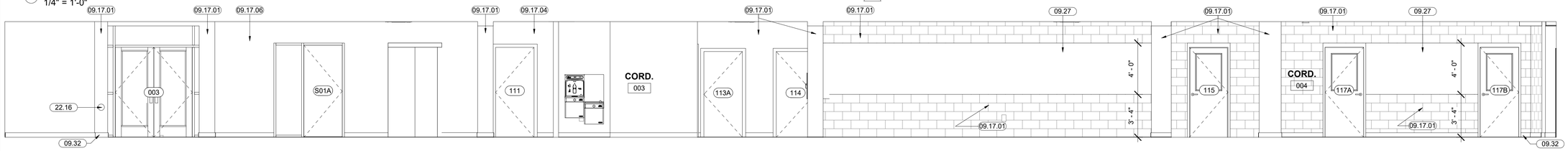
ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-420	24111 PPO
JOB ORDER NUMBER	300200006
SHEET 120 OF 302	
DRAWING NUMBER	2024-1433
FILE NO.: 8	REV. 0 OF 10

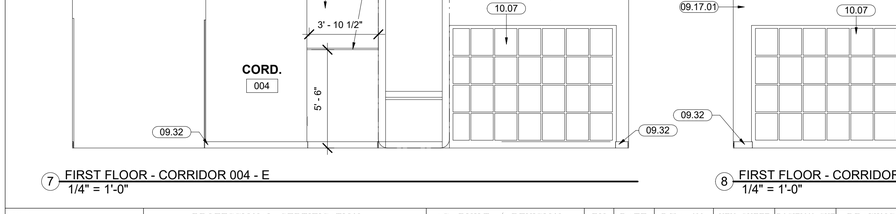
Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025



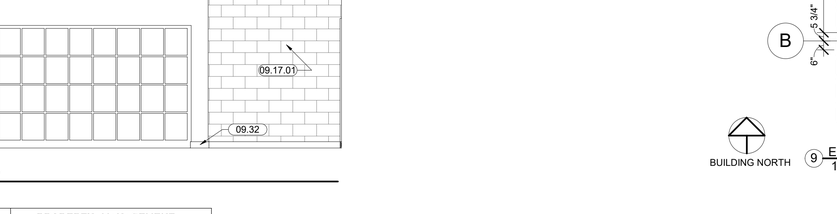
1 FIRST FLOOR - CORRIDOR 003 - W
1/4" = 1'-0"



2 FIRST FLOOR - CORRIDOR 003 - E
1/4" = 1'-0"



3 FIRST FLOOR - CORRIDOR 003 - S
1/4" = 1'-0"



4 FIRST FLOOR - CORRIDOR 003 - N
1/4" = 1'-0"

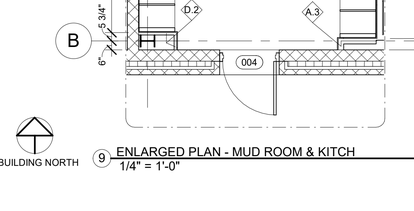
5 FIRST FLOOR - CORRIDOR 004 - N
1/4" = 1'-0"

10 FIRST FLOOR - CORRIDOR 005 - S
1/4" = 1'-0"

6 FIRST FLOOR - CORRIDOR 004 - S
1/4" = 1'-0"

7 FIRST FLOOR - CORRIDOR 004 - E
1/4" = 1'-0"

8 FIRST FLOOR - CORRIDOR 004 - W
1/4" = 1'-0"



12 CORRIDOR 005 - N - GUN LOCKER
1/4" = 1'-0"

9 ENLARGED PLAN - MUD ROOM & KITCH
1/4" = 1'-0"

KEYNOTE LEGEND	
TAG	DESCRIPTION
06.02	SSM COUNTERTOP. REFER TO INTERIOR ELEVATIONS FOR DTL'S.
08.21	FINISHED BULKHEAD.
09.17.01	PT-1.
09.17.04	PT-4.
09.17.05	PT-5.
09.17.06	PT-6.
09.17.07	PT-7.
09.27	BB-1, TACKABLE WALL COVERING.
09.32	4" RB-1.
10.02	MARKER BOARD. REFER TO ELEVS. FOR DETAILS, SEE VISUAL DISPLAY SPEC.
10.07	WELDED METAL LOCKERS, SEE A-500 SHEETS FOR DETAILS.
10.08	ALUM. CORNER GAURD, 4'-0" SEE WALL PROTECTION
10.20	PHOTO/ART. SEE SIGNAGE.
10.22	MAIL SORTER, N.I.C. SEE FF&E.
10.31	COAT HANGER ROD.
10.36	6 COMPARTMENT PISTOL LOCKER - FLUSH MOUNT.
10.37	6 COMPARTMENT PISTOL LOCKER - SURFACE MOUNT.
10.38.1	10 COMPARTMENT PISTOL LOCKER - SURFACE MOUNT.
21.01	FIRE EXTINGUISHER CABINET.
22.16	ACCESS CAP. SEE PLUMBING CALL-OUT.
26.06	ELECTRIC & DATA WIREMOLD, SEE ELECTRICAL & TA.

C:\Users\jat\Documents\22130A1 New Wilkens Police Precinct_jatDCZVC.rvt

Murphy & Dittenhafer ARCHITECTS
305 North Charles Street, Baltimore, Maryland 21201 410-625-4633 voice 410-625-4674 fax
226 West Market Street, York, Pennsylvania 17401 717-846-9627 voice 717-843-3448 fax

SEAL

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE: 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II
AS-BUILT PER RECORD PRINT
DATE : 11/6/2025 2:31:04 PM

DGN BY: JAT
DRN BY: DWG/ AWU
BY:
DATE:
CHKD BY: RLM

AS-BUILT / REVISION	BY	DATE
ADDENDUM #5	RLM	11/06/25
CONTRACT COMPLETION BOX		

P.W.A. NO.
R.O.W. NO.
KEY SHEET: GSW
POSITION SHT: 14SW19, 14SW20, 15SW19, 15SW20

DRAWING SCALE
PLAN SCALE: As indicated
PROFILE SCALE:

PROPERTY MANAGEMENT
APPROVED BY: PROPERTY MANAGER
DATE:

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

CORRIDOR PLAN AND ELEVATIONS - 1ST FLR

NEW BUILDING DESIGN

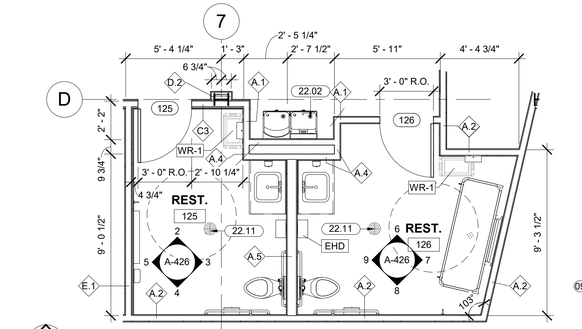
901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

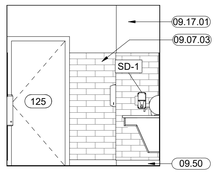
SHEET DESIGNATION	CONTRACT NUMBER
A-421	24111 PPO
JOB ORDER NUMBER	
300200006	
SHEET 121 OF 302	
DRAWING NUMBER	
2024-1434	
FILE NO.: 8	REV. 11-10-25

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

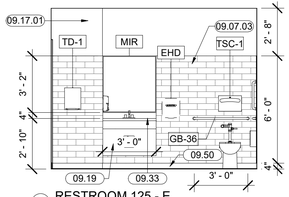


BUILDING NORTH

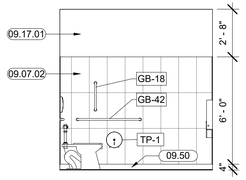
1 ENLARGED PLAN - LOBBY RESTROOMS
1/4" = 1'-0"



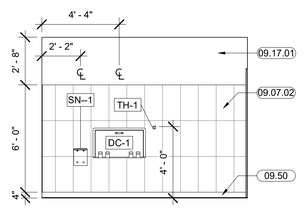
2 RESTROOM 125 - N
1/4" = 1'-0"



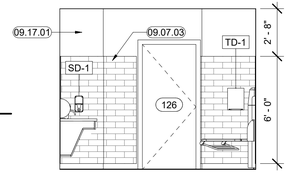
3 RESTROOM 125 - E
1/4" = 1'-0"



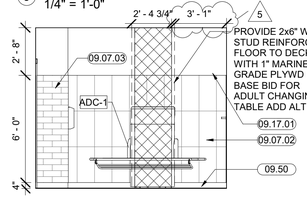
4 RESTROOM 125 - S
1/4" = 1'-0"



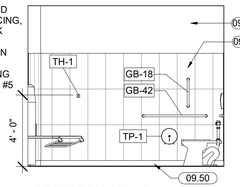
5 RESTROOM 125 - W
1/4" = 1'-0"



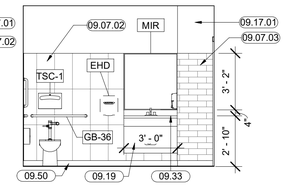
6 RESTROOM 126 - N
1/4" = 1'-0"



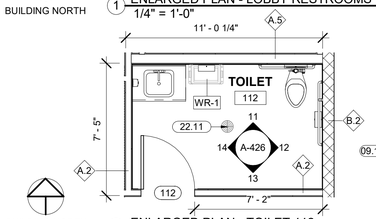
7 RESTROOM 126 - E
1/4" = 1'-0"



8 RESTROOM 126 - S
1/4" = 1'-0"

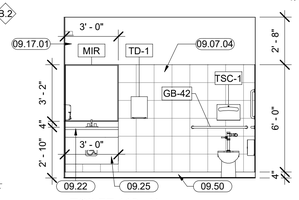


9 RESTROOM 126 - W
1/4" = 1'-0"

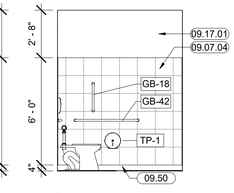


BUILDING NORTH

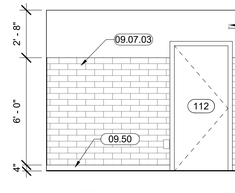
10 ENLARGED PLAN - TOILET 112
1/4" = 1'-0"



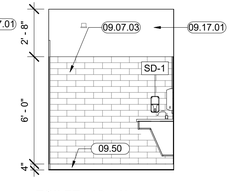
11 TOILET 112 - N
1/4" = 1'-0"



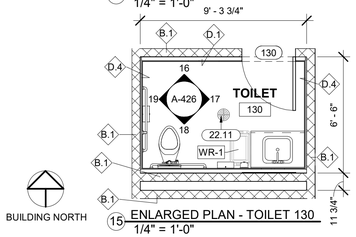
12 TOILET 112 - E
1/4" = 1'-0"



13 TOILET 112 - S
1/4" = 1'-0"

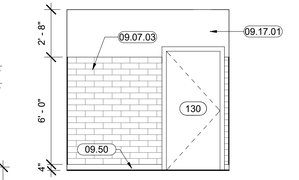


14 TOILET 112 - W
1/4" = 1'-0"

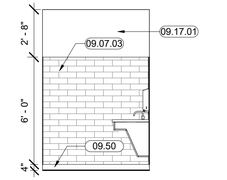


BUILDING NORTH

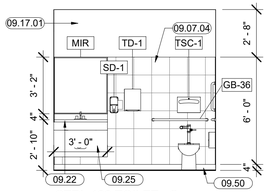
15 ENLARGED PLAN - TOILET 130
1/4" = 1'-0"



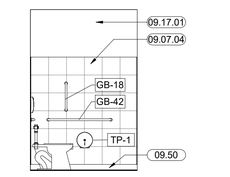
16 CTRL 130 TOILET - N
1/4" = 1'-0"



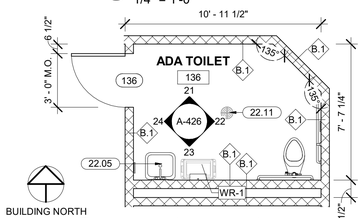
17 CTRL 130 TOILET - E
1/4" = 1'-0"



18 CTRL 130 TOILET - S
1/4" = 1'-0"

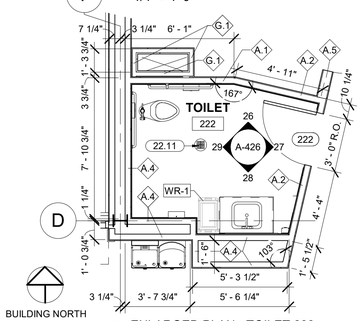


19 CTRL 130 TOILET - W
1/4" = 1'-0"



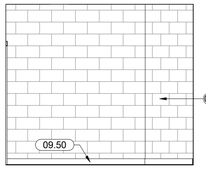
BUILDING NORTH

20 ENLARGED PLAN - TOILET 136
1/4" = 1'-0"

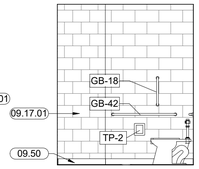


BUILDING NORTH

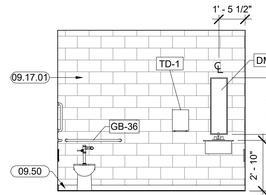
25 ENLARGED PLAN - TOILET 222
1/4" = 1'-0"



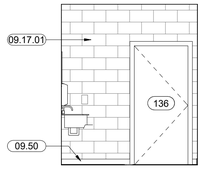
21 DETENTION ADA TOILET 136 - N
1/4" = 1'-0"



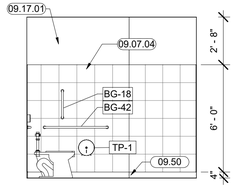
22 DETENTION ADA TOILET 136 - E
1/4" = 1'-0"



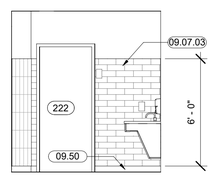
23 DETENTION ADA TOILET 136 - S
1/4" = 1'-0"



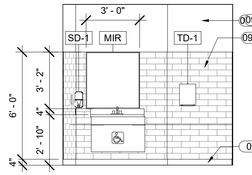
24 DETENTION ADA TOILET 136 - W
1/4" = 1'-0"



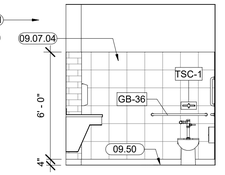
26 TOILET 222 - N
1/4" = 1'-0"



27 TOILET 222 - E
1/4" = 1'-0"

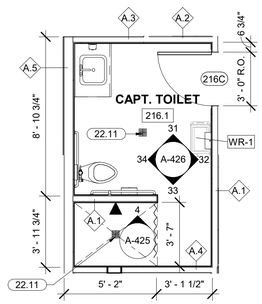


28 TOILET 222 - S
1/4" = 1'-0"



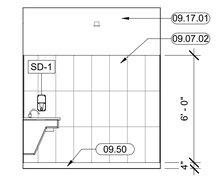
29 TOILET 222 - W
1/4" = 1'-0"

KEYNOTE LEGEND	
TAG	DESCRIPTION
09.07.02	CT-2
09.07.03	CT-3
09.07.04	CT-4
09.17.01	PT-1.
09.19	PLAM-2.
09.22	SSM-5.
09.25	PLAM-5.
09.33	SSM-2.
09.50	INTEGRAL COVE POURED EPOXY BASE MATCHING FLOOR.
22.02	DRINKING FOUNTAIN W/BOTTLE FILLER STATION - REFER TO PLUMBING DRAWINGS FOR DTL'S.
22.05	SINK - REFER TO PLUMBING DWG'S FOR DTL'S.
22.11	FLOOR DRAIN - REFER TO PLUMBING DRAWINGS.

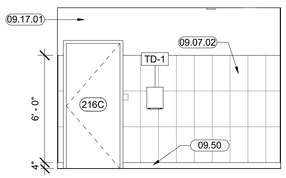


BUILDING NORTH

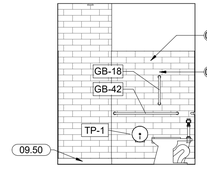
30 ENLARGED PLAN - CAPTAIN'S RESTROOM
1/4" = 1'-0"



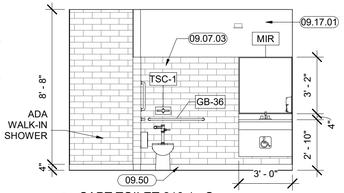
31 CAPT TOILET 216.1 - W
1/4" = 1'-0"



32 CAPT TOILET 216.1 - N
1/4" = 1'-0"



33 CAPT TOILET 21601 - E
1/4" = 1'-0"



34 CAPT TOILET 216.1 - S
1/4" = 1'-0"

C:\Users\jat\Documents\221306\1 New Wilkens Police Precinct_jatDGZVC.rvt

Murphy & Dittenhafer ARCHITECTS

805 North Charles Street, Baltimore, Maryland 21201 410-625-4623 voice 410-625-4674 fax
229 West Market Street, York, Pennsylvania 17401 717-848-9827 voice 717-843-2449 fax

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE: 06/13/2027	ADDENDUM #5	RLM	11/06/25	R.O.W. NO.	GSW	14SW19 14SW20 15SW19 15SW20	PLAN SCALE: 1/4" = 1'-0" PROFILE SCALE:	APPROVED BY: PROPERTY MANAGER DATE:
		CONTRACT COMPLETION BOX							

ARCHITECT: Frank Elwood Dittenhafer, II	DGN BY: JAT	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
AS-BUILT PER RECORD PRINT	DWN BY: DWG/ AWU	REVIEWED BY:							
BY: DATE:	CHKD BY: RLM	DATE REVIEWED:							

DATE : 11/6/2025 2:31:16 PM

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ENLARGED - RESTROOMS

NEW BUILDING DESIGN

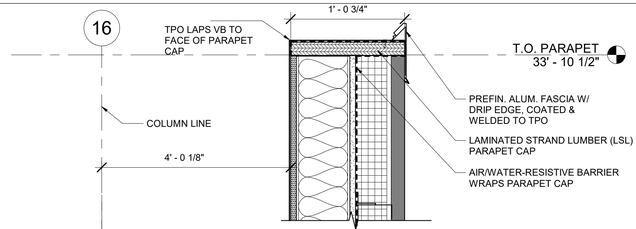
SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

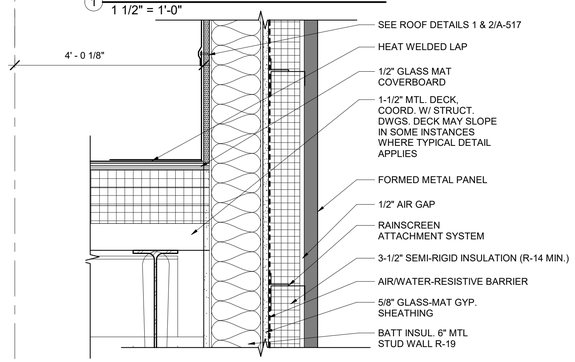
ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-426	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 126 OF 302
	DRAWING NUMBER
	2024-1439
	FILE NO.: 8

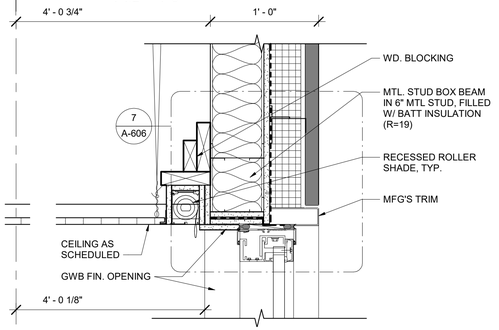
Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025



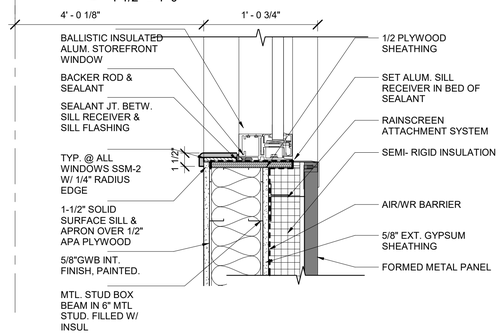
TYPICAL PARAPET COPING DETAIL @ MTL STUD & FORMED METAL PANEL
1 1 1/2" = 1'-0"



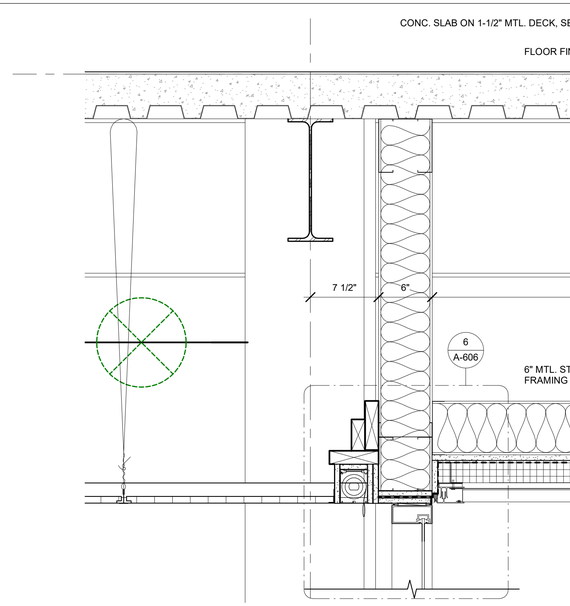
TYPICAL PARAPET ROOF DETAIL @ MTL STUD & FORMED METAL PANEL
2 1 1/2" = 1'-0"



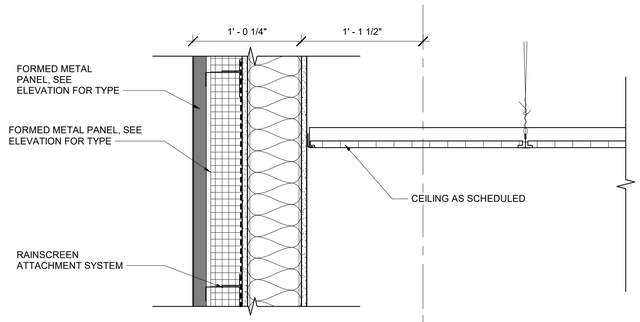
TYPICAL WINDOW HEAD DETAIL @ MTL STUD & FORMED METAL PANEL
3 1 1/2" = 1'-0"



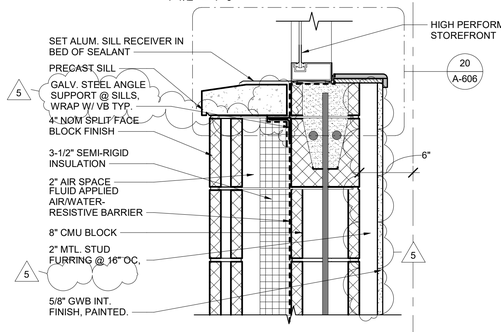
TYPICAL WINDOW SILL DETAIL @ MTL STUD & FORMED METAL PANEL
4 1 1/2" = 1'-0"



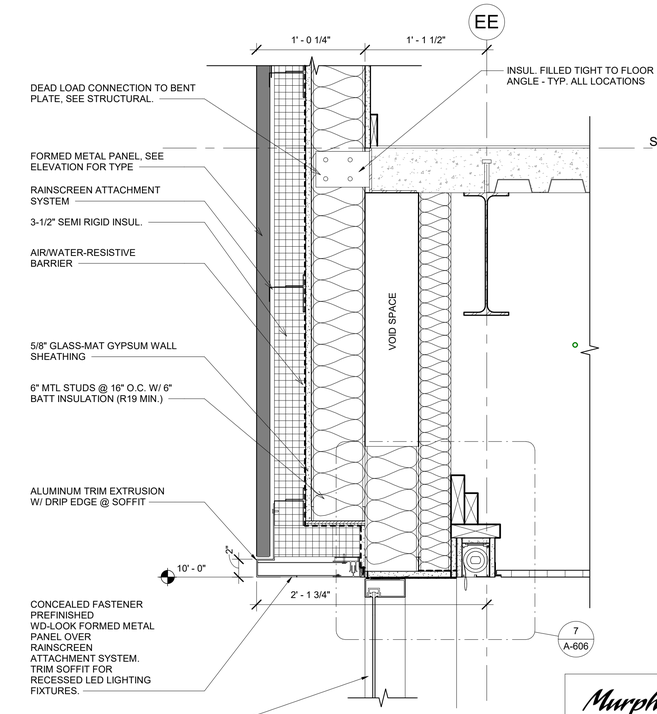
TYPICAL CANTILEVER & SOFFIT @ MTL. STUD & FORMED METAL PANEL
5 1 1/2" = 1'-0"



TYPICAL FORMED METAL PANEL DETAIL @ METAL STUD & FORMED METAL PANEL WALL
6 1 1/2" = 1'-0"



TYPICAL RIBON WINDOW SILL DETAIL @ BLOCK WALL
7 1 1/2" = 1'-0"



TYPICAL SOFFIT @ MTL STUD & FORMED METAL PANEL
8 1 1/2" = 1'-0"

C:\Users\jat\Documents\23190A1 New Wilkens Police Precinct_jatDGZVC.rvt

Murphy & Dittenhafer ARCHITECTS
805 North Charles Street, Baltimore, Maryland 21201 410-625-4623 voice 410-625-4674 fax
226 West Market Street, York, Pennsylvania 17401 717-848-9827 voice 717-845-2449 fax

SEAL	PROFESSIONAL CERTIFICATION	AS–BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE: 06/13/2025	ADDENDUM #5	JAT	11/06/25	R.O.W. NO.	GSW	14SW19 14SW20 15SW19 15SW20	PLAN SCALE: 1 1/2" = 1'-0" PROFILE SCALE:	APPROVED BY: PROPERTY MANAGER DATE:
		CONTRACT COMPLETION BOX							

ARCHITECT: Frank Elwood Dittenhafer, II	DGN BY: JAT	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
AS-BUILT PER RECORD PRINT	DWN BY: DWG/ AWU	REVIEWED BY:							
BY:	CHKD BY: RLM	DATE REVIEWED:							

DATE : 11/6/2025 2:31:19 PM

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

EXTERIOR SECTION DETAILS

NEW BUILDING DESIGN

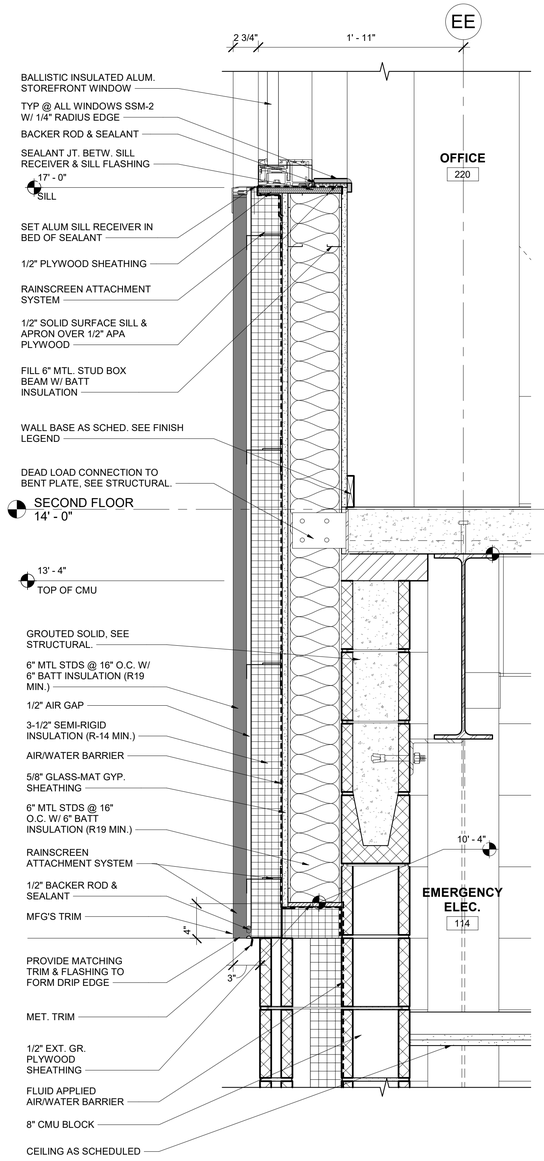
901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

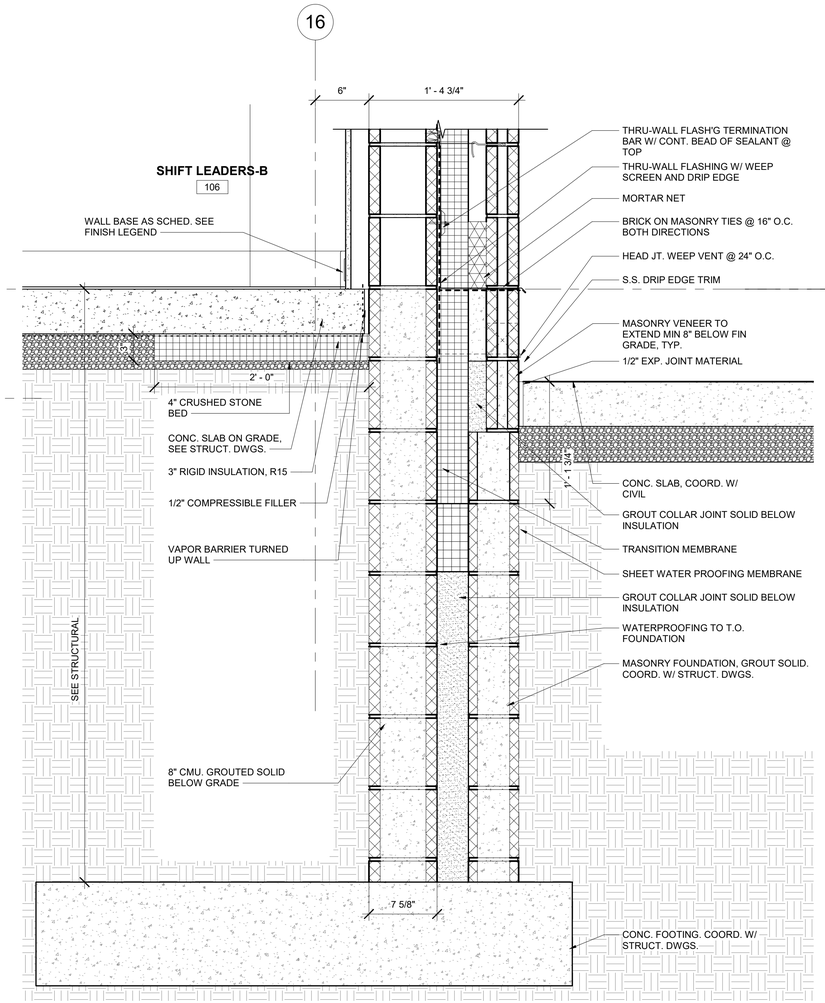
ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-500	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 131 OF 302
	DRAWING NUMBER
	2024-1444
	FILE NO.: 8

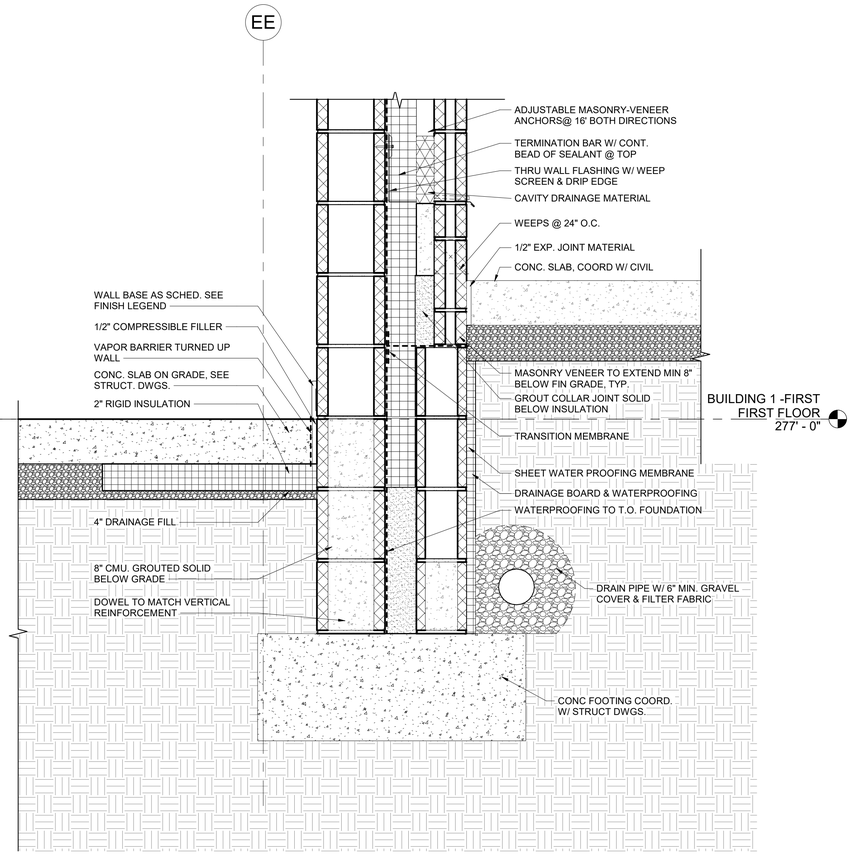
Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025



1 OFFICE FORMED MTL. PANEL SCREEN WALL
1 1/2" = 1'-0"



2 TYPICAL CMU FOUNDATION DETAIL, BELOW OR @ GRADE
1 1/2" = 1'-0"



3 TYPICAL CMU FOUNDATION DETAIL, WHERE EXTERIOR GRADE IS ABOVE FINISHED FLOOR
1 1/2" = 1'-0"

C:\Users\jat\Documents\23130A1 New Wilkens Police Precinct_jatDGZVC.rvt

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE: 06/13/2027		RLM		R.O.W NO.	GSW	14SW19 14SW20 15SW19 15SW20	PLAN SCALE: 1 1/2" = 1'-0" PROFILE SCALE:	APPROVED BY: PROPERTY MANAGER DATE:
		CONTRACT COMPLETION BOX							
	ARCHITECT: Frank Elwood Dittenhafer, II	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
	AS-BUILT PER RECORD PRINT	REVIEWED BY:							
DATE: 11/6/2025 2:31:21 PM	BY: DATE:	DATE REVIEWED:							

DGN BY: JAT
DWN BY: DWG/ AWU
CHKD BY: RLM

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

EXTERIOR SECTION DETAILS

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

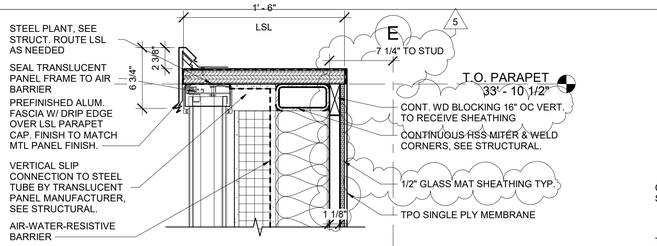
SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

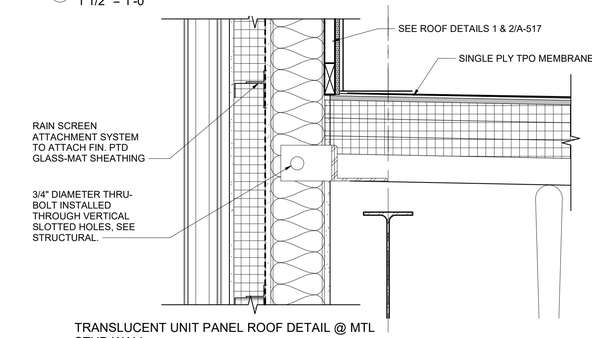
Murphy & Dittenhafer ARCHITECTS
805 North Charles Street, Baltimore, Maryland 21201 410-625-4623 voice 410-625-4674 fax
226 West Market Street, York, Pennsylvania 17401 717-848-9827 voice 717-845-2449 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-501	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 132 OF 302
	DRAWING NUMBER
	2024-1445
	FILE NO.: 8

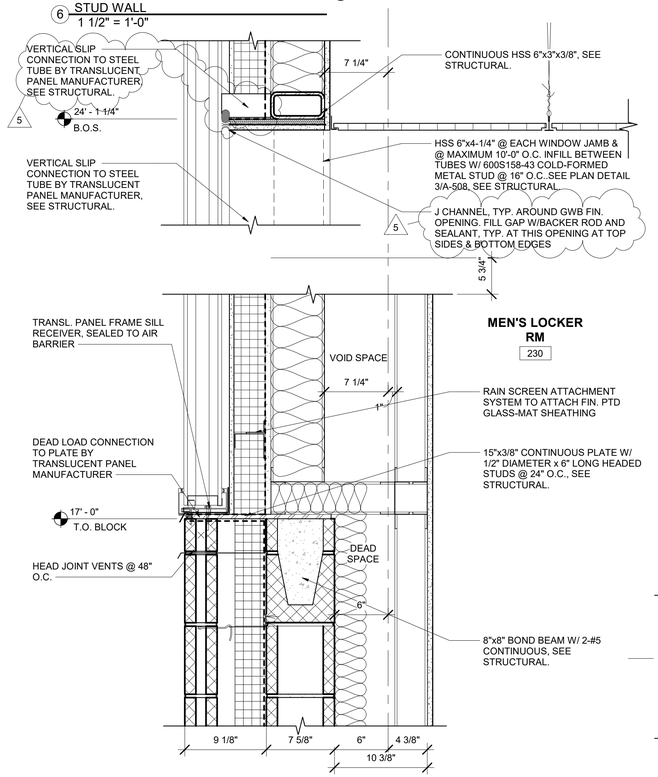
Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



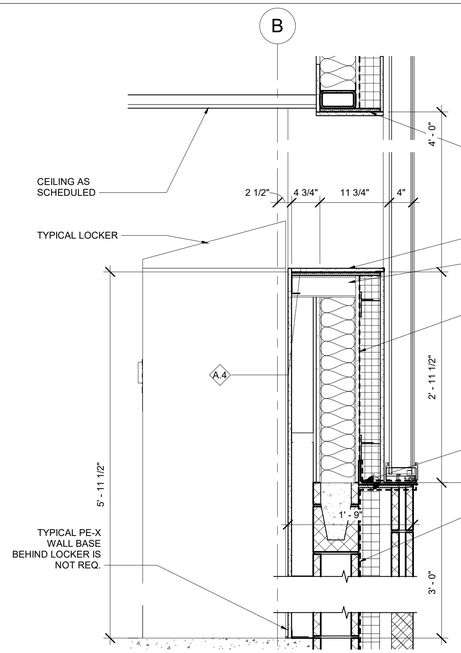
TRANSLUCENT UNIT PANEL HEAD & PARAPET DETAIL @ MTL STUD WALL
11 1 1/2" = 1'-0"



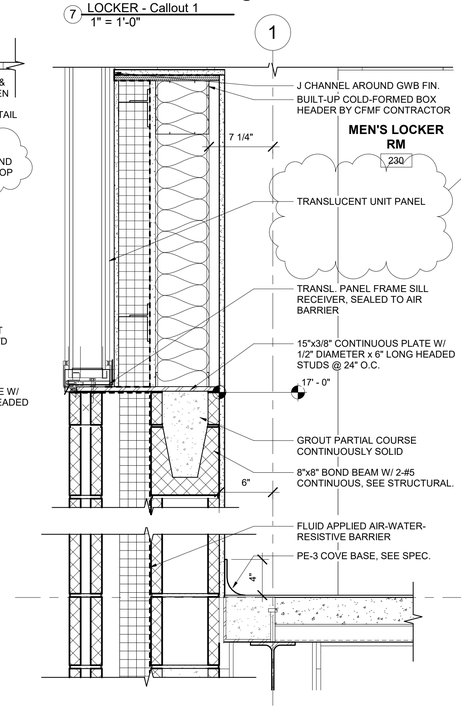
TRANSLUCENT UNIT PANEL ROOF DETAIL @ MTL STUD WALL
6 1 1/2" = 1'-0"



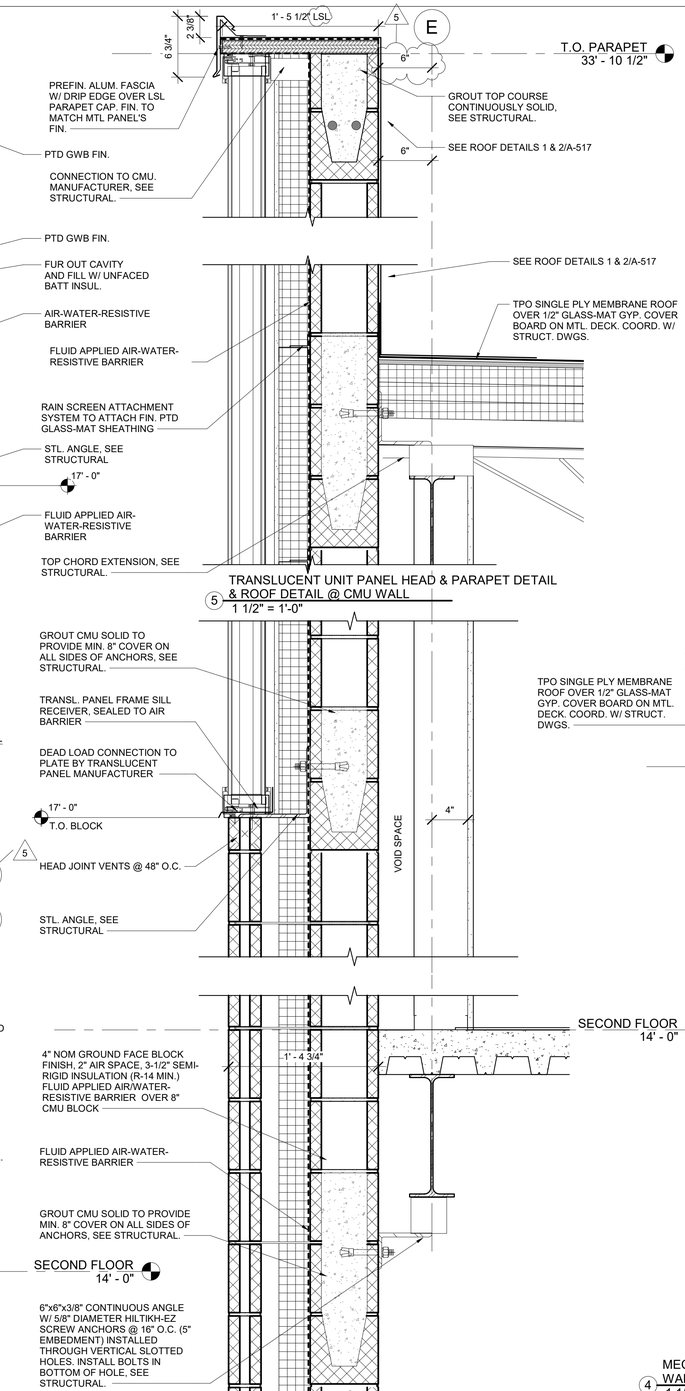
TRANSLUCENT UNIT PANEL SILL DETAIL @ MTL STUD WALL FURRED OUT
1 1 1/2" = 1'-0"



TYPICAL WALL SECTION @ SOUTH & WEST WALL LOCKER - Callout 1
7 1" = 1'-0"

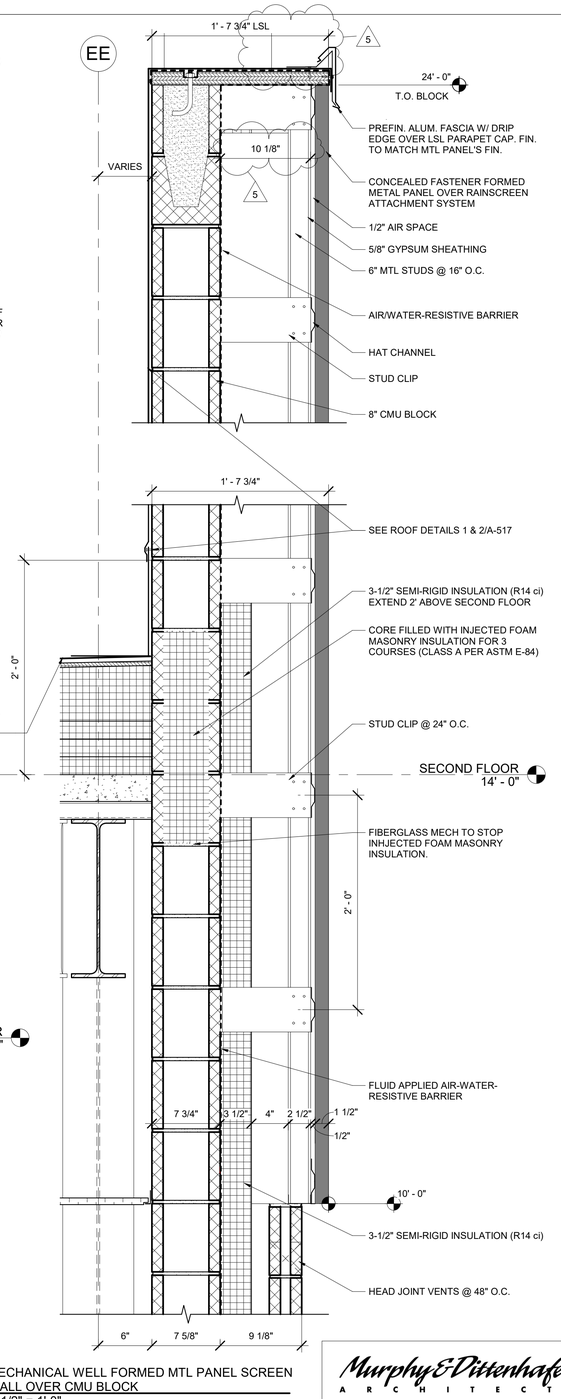


TRANSLUCENT UNIT PANEL SILL DETAIL @ MTL STUD WALL
2 1 1/2" = 1'-0"



TRANSLUCENT UNIT PANEL HEAD & PARAPET DETAIL & ROOF DETAIL @ CMU WALL
5 1 1/2" = 1'-0"

TRANSLUCENT UNIT PANEL SILL DETAIL @ MTL STUD WALL FURRED OUT
3 1 1/2" = 1'-0"



MECHANICAL WELL FORMED MTL PANEL SCREEN WALL OVER CMU BLOCK
4 1 1/2" = 1'-0"

TPO SINGLE PLY MEMBRANE ROOF OVER 1/2" GLASS-MAT GYP. COVER BOARD ON MTL. DECK. COORD. W/ STRUCT. DWGS.

C:\Users\jat\Documents\2213OA1 New Wilkens Police Precinct_jatDGZVC.rvt

Murphy & Dittenhafer ARCHITECTS
805 North Charles Street, Baltimore, Maryland 21201 410-625-4623 voice 410-625-4615 fax
226 West Market Street, York, Pennsylvania 17401 717-848-8827 voice 717-843-3448 fax

SEAL.

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

DATE : 11/6/2025 2:31:24 PM BY: DATE:

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
ADDENDUM #5	RLM	11/06/25		GSW	14SW19 14SW20 15SW19 15SW20
CONTRACT COMPLETION BOX			R.O.W. NO.		

DRAWING SCALE	
PLAN SCALE:	As indicated
PROFILE SCALE:	

PROPERTY MANAGEMENT
APPROVED BY: PROPERTY MANAGER
DATE:

DGN BY: JAT	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
DWN BY: DWG/ AWU	REVIEWED BY:							
CHKD BY: RLM	DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

EXTERIOR SECTION DETAILS

NEW BUILDING DESIGN

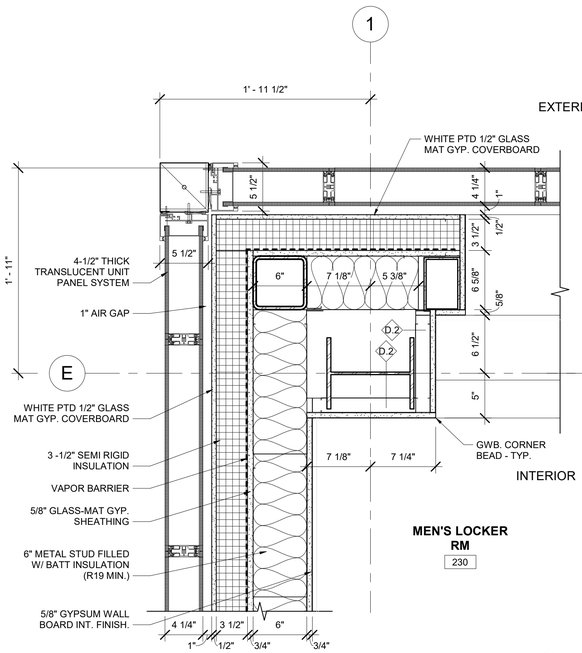
901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

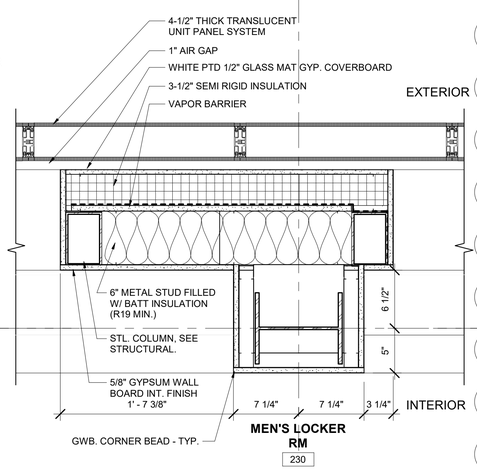
ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-503	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 134 OF 302
	DRAWING NUMBER
	2024-1447
	FILE NO.: 8

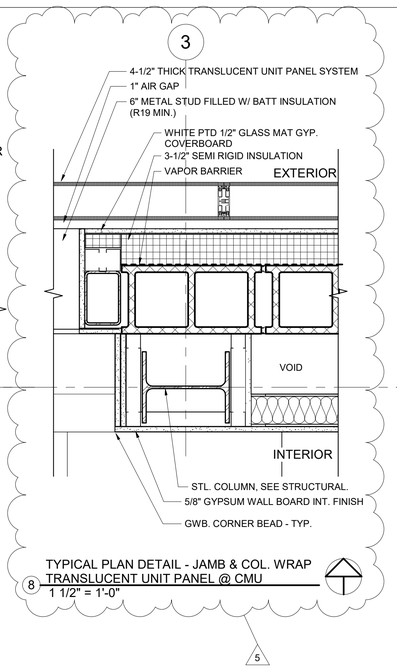
Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



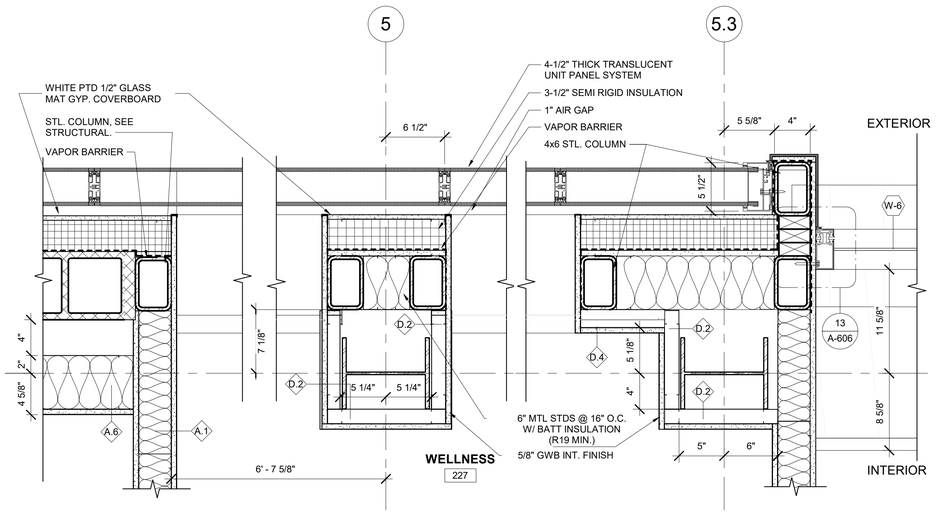
1 TYPICAL PLAN DETAIL - OUTSIDE CORNER TRANSLUCENT UNIT PANEL @ METAL STUD
1 1/2" = 1'-0"



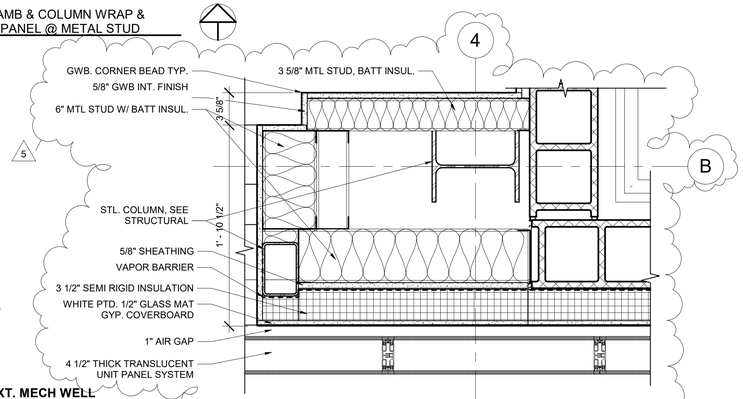
2 TYPICAL PLAN DETAIL - JAMB & COLUMN WRAP TRANSLUCENT UNIT PANEL @ METAL STUD
1 1/2" = 1'-0"



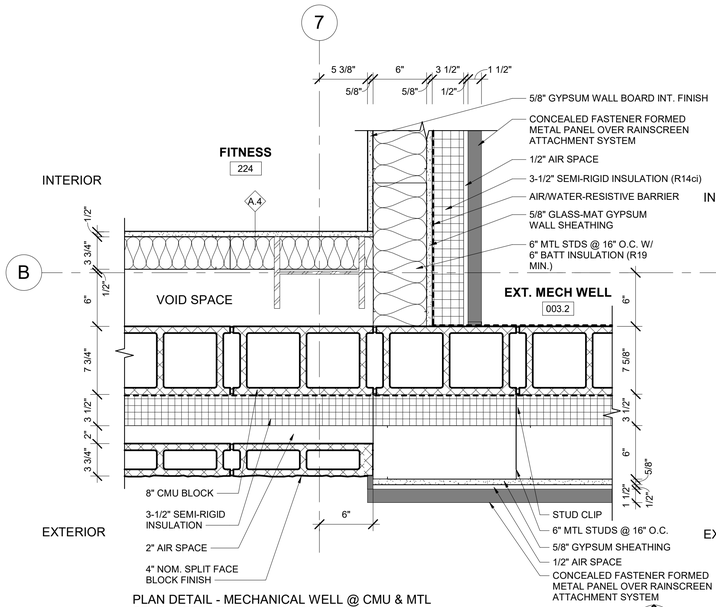
8 TYPICAL PLAN DETAIL - JAMB & COL. WRAP TRANSLUCENT UNIT PANEL @ CMU
1 1/2" = 1'-0"



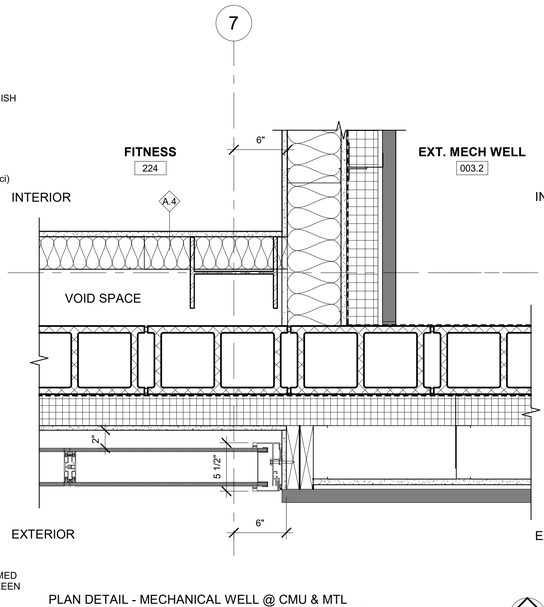
3 TYPICAL PLAN DETAIL - JAMB & COLUMN WRAP & END TRANSLUCENT UNIT PANEL @ METAL STUD
1 1/2" = 1'-0"



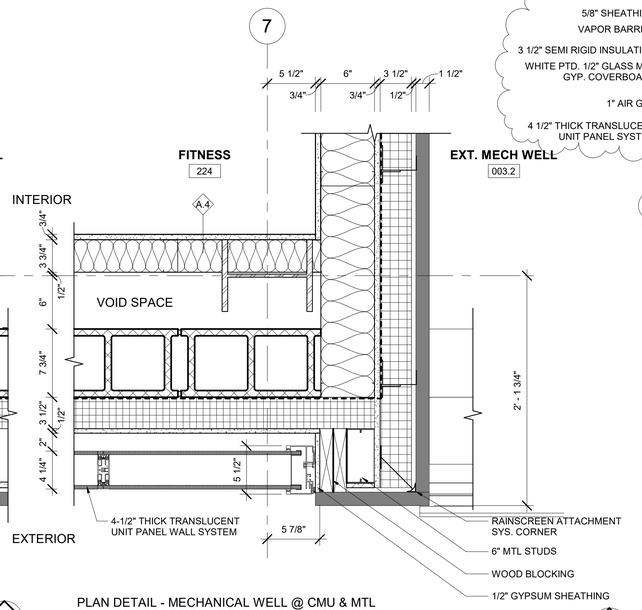
9 PLAN DETAIL - JAMB & COL. WRAP TRANSLUCENT UNIT PANEL @ CMU
1 1/2" = 1'-0"



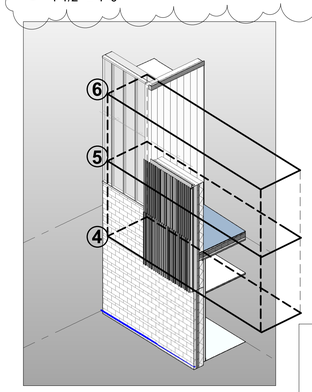
4 PLAN DETAIL - MECHANICAL WELL @ CMU & MTL STUD INTERSECTION - BLOCK VENEER
1 1/2" = 1'-0"



5 PLAN DETAIL - MECHANICAL WELL @ CMU & MTL STUD INTERSECTION - TRANSLUCENT PANEL & WELL
1 1/2" = 1'-0"



6 PLAN DETAIL - MECHANICAL WELL @ CMU & MTL STUD INTERSECTION - TRANSLUCENT UNIT PANEL
1 1/2" = 1'-0"



7 MECHANICAL WELL AXON - 1

Murphy & Dittenhafer ARCHITECTS
805 North Charles Street, Baltimore, Maryland 21201
410-625-4623 voice 410-625-4674 fax
226 West Market Street, York, Pennsylvania 17401
717-846-9627 voice 717-845-2449 fax

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE: 06/13/2027	ADDENDUM #5	RLM	11/06/25	R.O.W. NO.	GSW	14SW19 14SW20 15SW19 15SW20	PLAN SCALE: 1 1/2" = 1'-0"	APPROVED BY: PROPERTY MANAGER
		CONTRACT COMPLETION BOX						PROFILE SCALE:	DATE:
	ARCHITECT: Frank Elwood Dittenhafer, II	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
	AS-BUILT PER RECORD PRINT	REVIEWED BY:							
DATE: 11/6/2025 2:31:31 PM	BY: DATE:	DATE REVIEWED:							

DGN BY: JAT
DWN BY: DWG/ AWU
CHKD BY: RLM

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

PLAN DETAILS

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

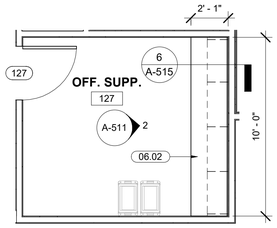
901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-508	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 139 OF 302
	DRAWING NUMBER
	2024-1452
	FILE NO.: 8

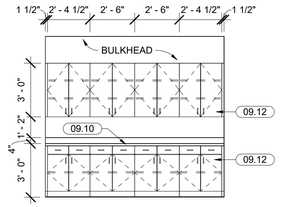
C:\Users\jat\Documents\23130A1 New Wilkens Police Precinct_jatDGZVC.rvt

Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025

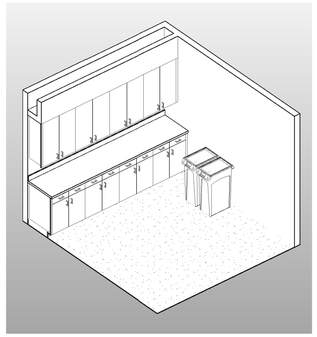


1 #127 - CASEWORK PLAN - OFFICE SUPPLIES A
1/4" = 1'-0"

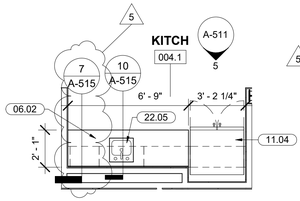
BUILDING NORTH



2 #127 - OFFICE SUPPLIES A - E - CASEWORK
1/4" = 1'-0"

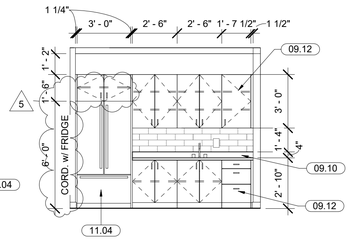


3 #127 - OFFICE SUPPLIES AXON - A

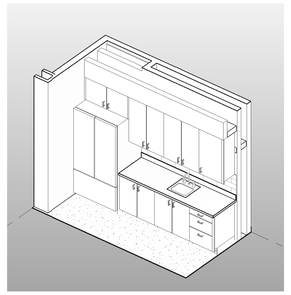


4 #004.1 - CASEWORK PLAN - KITCHENETTE
1/4" = 1'-0"

BUILDING NORTH

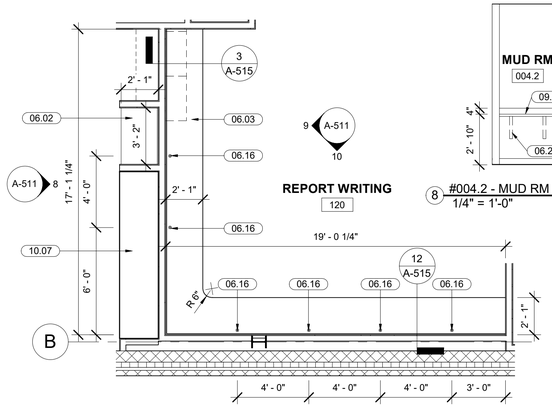


5 #004.1 - KITCHENETTE - CASEWORK
1/4" = 1'-0"



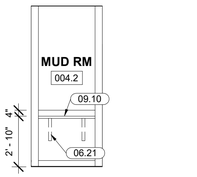
6 #004.1 - KITCHENETTE AXON

KEYNOTE LEGEND	
TAG	DESCRIPTION
06.01	S.S. COUNTERTOP. REFER TO INTERIOR ELEVATIONS FOR DTL'S.
06.02	SSM COUNTERTOP. REFER TO INTERIOR ELEVATIONS FOR DTL'S.
06.03	SSM COUNTERTOP w. GROMMETS. REFER TO INTERIOR ELEVATIONS FOR DTL'S.
06.16	2 1/2" MTL GROMMET.
06.21	CONCEALED METAL BRACKET.
06.22	EXPOSED METAL BRACKET.
09.10	SSM-1.
09.11	SS-1.
09.12	PLAM-1.
09.23	PLAM-3.
09.33	SSM-2.
10.07	WELDED METAL LOCKERS, SEE A-500 SHEETS FOR DETAILS.
10.27	OWNER ART.
11.04	REF. WITH ICE MAKER.
11.12	FINGERPRINT MACHINE.
12.08	DETENTION-GRADECUFF BENCH.
22.05	SINK - REFER TO PLUMBING DWG'S FOR DTL'S.
26.06	ELECTRIC & DATA WIREMOLD, SEE ELECTRICAL & TA.

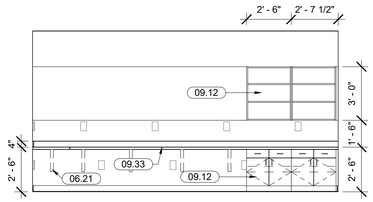


7 CASEWORK PLAN - #120 - REPORT WRITING & MUD ROOM
1/4" = 1'-0"

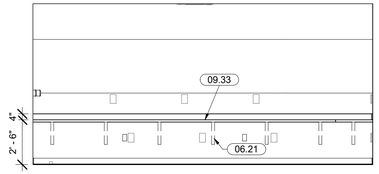
BUILDING NORTH



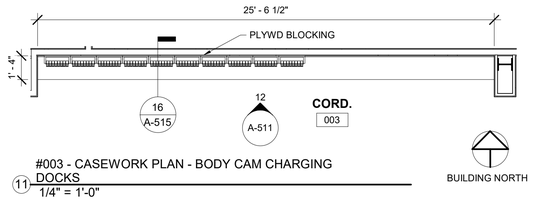
8 #004.2 - MUD RM - E CASEWORK
1/4" = 1'-0"



9 #120 - REPORT WRITING - W - CASEWORK
1/4" = 1'-0"

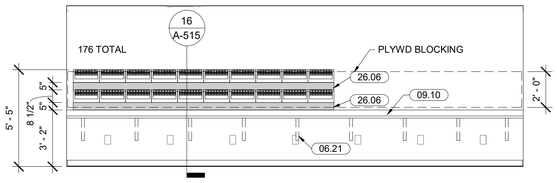


10 #120 - REPORT WRITING - S - CASEWORK
1/4" = 1'-0"

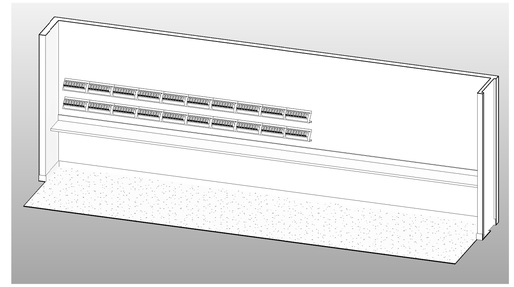


11 #003 - CASEWORK PLAN - BODY CAM CHARGING DOCKS
1/4" = 1'-0"

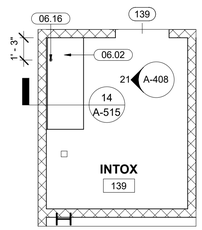
BUILDING NORTH



12 #003 - BODY CAMS - CASEWORK
1/4" = 1'-0"

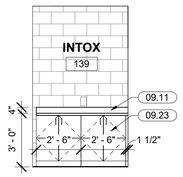


13 #003 - BODY CAMS ALT LOCATION AXON

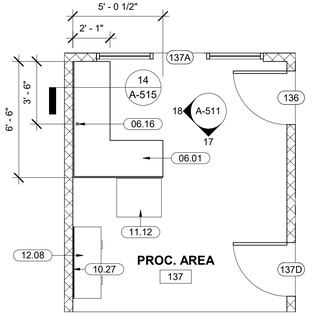


14 CASEWORK PLAN - INTOX
1/4" = 1'-0"

BUILDING NORTH

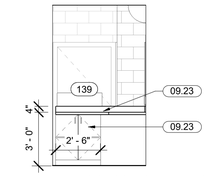


15 INTOX - W - CASEWORK
1/4" = 1'-0"

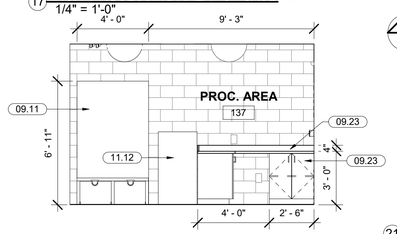


16 CASEWORK PLAN - #137 - PROCESSING AREA
1/4" = 1'-0"

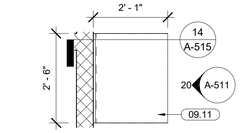
BUILDING NORTH



17 #137 - PROCESSING AREA - S - CASEWORK
1/4" = 1'-0"

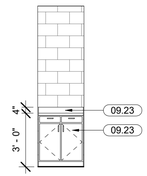


18 #137 - PROCESSING AREA W - CASEWORK
1/4" = 1'-0"

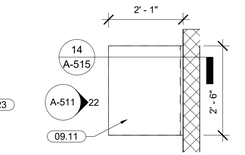


19 #137 - CASEWORK PLAN - F. PROC.
1/2" = 1'-0"

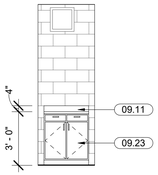
BUILDING NORTH



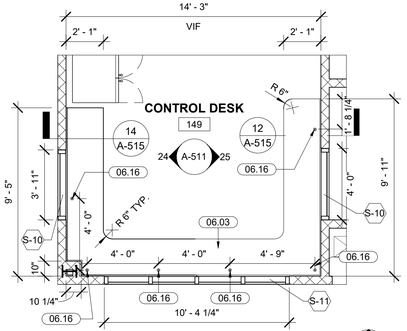
20 #137 - F PROC. - W - CASEWORK
1/4" = 1'-0"



21 #137 - CASEWORK PLAN - M. PROC.
1/2" = 1'-0"

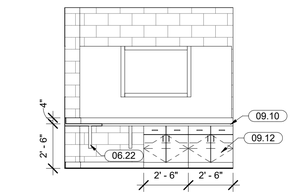


22 #137 - M PROC. - E - CASEWORK
1/4" = 1'-0"

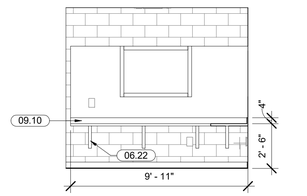


23 #149 - CASEWORK PLAN - CONTROL DESK
1/4" = 1'-0"

BUILDING NORTH



24 #149 - CONTROL DESK - W - CASEWORK
1/4" = 1'-0"



25 #149 - CONTROL DESK - E - CASEWORK
1/4" = 1'-0"

C:\Users\jat\Documents\22130A1 New Wilkens Police Precinct_jatDGZVC.rvt

Murphy & Dittenhafer
ARCHITECTS
805 North Charles Street, Baltimore, Maryland 21201
410-625-4822 voice 410-625-4674 fax
226 West Market Street, York, Pennsylvania 17401
717-848-8827 voice 717-843-3446 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-511	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 141 OF 302
	DRAWING NUMBER
	2024-1454
	FILE NO.: 8

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607, EXPIRATION DATE: 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

DATE: 11/6/2025 2:31:41 PM BY: DATE:

DGN BY: JAT
DRN BY: DWG/ AWU
CHKD BY: RLM

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.
ADDENDUM #5	RLM	11/06/25	
CONTRACT COMPLETION BOX			R.O.W. NO.

KEY SHEET: GSW
POSITION SHT: 14SW19, 14SW20, 15SW19, 15SW20

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

DRAWING SCALE: PLAN SCALE: As indicated; PROFILE SCALE:

PROPERTY MANAGEMENT: APPROVED BY: PROPERTY MANAGER; DATE:

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

CASEWORK PLANS & ELEVATIONS

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025

ROOM FLOOR FINISH LEGEND

- CPT-1
- CPT-2
- CPT-3 WALK OFF MAT
- LVT-1
- LVT-2
- PE-1
- PE-2
- RT-2, RT-3, LVT-1,
- SEALED CONC
- TRZ-1

1 FIRST FLOOR FINISH PLAN
1/16" = 1'-0"

PROJECT NORTH

FIRST FLOOR - ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	WALLS NORTH FINISH	WALLS EAST FINISH	WALLS SOUTH FINISH	WALLS WEST FINISH	CEILING FINISH	REMARKS
001	VEST.	CPT-3 WALK OFF MAT	RB-1	--	MASONRY	--	--	AWC-1	CONT. EXTERIOR GROUND FACED MASONRY PATTERN
002	LOBBY	TRZ-1	RB-1	GWB/ PT-1, PT-4	AWP-1, GWB/ PT-1, PT-4	AWP-1, GWB/PT-1, PT-7	WD-1, AWP-1, GWB/PT-1	AWC-1	SEE ELEVATIONS
003	CORD.	LVT-1 & LVT-2	RB-1	GWB/ PT-1, PT-4	GWB/PT-1, PT-4, PT-6	GWB/PT-1, PT-4, PT-7	GWB/PT-1, PT-4	ACT-2	LVT-1 FIELD W/ LVT-2 ACCENT. SEE PLANS
003.1	CORD.	CPT-3 WALK OFF MAT	RB-1	GWB/PT-1, PT-5	ASF-1	GWB/PT-1, PT-5	ASF-1	ACT-2	
004	CORD.	LVT-1 & LVT-2	RB-1	GWB/PT-1, PT-4, PT-7	GWB/PT-1, PT-4	GWB/PT-1, PT-4, PT-5, PT-6, PT-7	GWB/PT-1, PT-4	ACT-2	LVT-1 FIELD W/ LVT-2 ACCENT. SEE PLANS
004.1	KITCH	LVT-1	RB-1	PLAM-1	PLAM-1	PLAM-1	PLAM-1	GWB-1	
004.2	MUD RM	CPT-3 WALK OFF MAT	RB-1	GWB/PT-1, PT-4	GWB/PT-1, PT-4	GWB/PT-1	GWB/PT-1	ACT-1	
005	CORD.	LVT-1	RB-1	GWB/PT-1	GWB/PT-1	GWB/PT-1	GWB/PT-1	ACT-1	LVT-1 FIELD W/ LVT-2 ACCENT. SEE PLANS
006	CORD.	PE-1	PE-3 COVE	GWB/PT-1	GWB/PT-1	GWB/PT-1	GWB/PT-1	ACT-1	LVT-1 FIELD W/ LVT-2 ACCENT. SEE PLANS
006.1	MECH.	SEALED CONC	RB-1	GWB/PT-1	GWB/PT-1	GWB/PT-1	GWB/PT-1	PTD. EXP.	FCU closet
006.2	MECH.	SEALED CONC	RB-1	GWB/PT-1	GWB/PT-1	GWB/PT-1	GWB/PT-1	PTD. EXP.	FCU closet
006.3	MECH.	PE-1	PE-1 COVE	GWB/PT-1	GWB/PT-1	GWB/PT-1	GWB/PT-1	PTD. EXP.	
100	COMMUNITY ROOM	CPT-2	RB-1	PT-1, PT-3, PT-4	PT-1, PT-3, PT-4	PT-1, PT-3, PT-4	PT-1, PT-3, PT-4	ACT-3	SEE PLAN AND SPECS FOR CPT PATTERN.
100.1	STOR.	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	
101	ROLL CALL	LVT-1	RB-1	PT-1, PT-4	PT-1, PT-7	PT-3, PT-7	PT-1, PT-5, PT-7	ACT-2	
101.1	MECH.	SEALED CONC	RB-1	PT-1	PT-1	PT-1	PT-1	PTD. EXP.	
101.2	MECH.	SEALED CONC	RB-1	PT-1	PT-1	PT-1	PT-1	PTD. EXP.	
102	STORAGE	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-2	
103	SUPERVISOR-A	CPT-1	RB-1	PT-7	PT-1	PT-1	PT-1	ACT-2	
104	SHIFT LEADERS-A	CPT-1	RB-1	PT-1	PT-1	PT-7	PT-1	ACT-2	
105	SUPERVISOR-B	CPT-1	RB-1	PT-1	PT-7	PT-7	PT-1	ACT-2	
106	SHIFT LEADERS-B	CPT-1	RB-1	PT-1	PT-1	PT-1, PT-7	PT-7	ACT-2	
107	WORK RM	LVT-1	RB-1	PT-1, PT-3	PT-1	PT-1	PT-1	ACT-1	LVT-1 FIELD W/ LVT-2 ACCENT. SEE PLANS
108	SHIFT LEADERS-C	CPT-1	RB-1	PT-1, PT-7	PT-1, PT-7	PT-1	PT-1	ACT-2	
109	SUPERVISOR-C	CPT-1	RB-1	PT-1	PT-1	PT-7	PT-7	ACT-2	
110	STORAGE	SEALED CONC	RB-1	PT-1	PT-1	PT-1	PT-1	PTD. EXP.	
111	WELLNESS	LVT-1	RB-1	PT-1	VWC-1	PT-1	PT-1	ACT-1	
112	TOILET	PE-2	PE-2 COVE	PT-1, CT-4	PT-1, CT-4	PT-1, CT-3	PT-1, CT-3	GWB-1	EPOXY PAINT FOR WET ROOM
113	MAIN ELEC.	SEALED CONC	RB-1	PT-1	PT-1	PT-1	PT-1	PTD. RATED GWB	
114	EMERGENCY ELEC.	SEALED CONC	RB-1	PT-1	PT-1	PT-1	PT-1	PTD. RATED GWB	
115	ARMORY	SEALED CONC	RB-1	PT-1	PT-1	PT-1	PT-1	GWB-1	
116	G.C.	SEALED CONC	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	
117	GEAR	SEALED CONC	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	
118	MECH.	SEALED CONC	RB-1	PT-1	PT-1	PT-1	PT-1	PTD. EXP.	
119	IT	SEALED CONC	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	
120	REPORT WRITING	CPT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-2	
121	EVID. PROC.	CPT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-2	
123	INT.	CPT-1	RB-1	PT-1	PT-1	PT-1	PT-1	GWB-1	PROVIDE SPRAY ACOUSTICAL COATING ON THE CEILING
124	INT.	CPT-1	RB-1	PT-1	PT-1	PT-1	PT-1	GWB-1	PROVIDE SPRAY ACOUSTICAL COATING ON THE CEILING
125	REST.	PE-1	PE-2 COVE	PT-1, CT-3	PT-1, CT-2	PT-1, CT-2	PT-1, CT-2	GWB-1	EPOXY PAINT FOR WET ROOM
126	REST.	PE-1	PE-2 COVE	PT-1, CT-3	PT-1, CT-2	PT-1, CT-2	PT-1, CT-2	GWB-1	EPOXY PAINT FOR WET ROOM
127	OFF. SUPP.	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	
128	FRONT DESK	CPT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	
129	F. PEN.	PE-1	PE-1 COVE	PT-1, PT-7	PT-1, PT-7	PT-1, PT-7	PT-1, PT-7	ACT-5	
130	TOILET	PE-2	PE-1 COVE	CT-3,PT-1	CT-3, PT-1	CT-4,PT-1	CT-4, PT-1	GWB-1	EPOXY PAINT FOR WET ROOM
131	J.C.	PE-1	PE-1 COVE	PT-1	PT-1	PT-1	PT-1	ACT-5	EPOXY PAINT FOR WET ROOM
132	HOLD	PE-1	PE-1 COVE	AWP-2, PT-1, PT-7	AWP-2, PT-1, PT-7	AWP-2, PT-1, PT-7	AWP-2, PT-1, PT-7	ACT-5	
133	TEMP	PE-1	PE-1 COVE	PT-1, PT-7	PT-1, PT-7	PT-1, PT-7	PT-1, PT-7	ACT-5	
134	INT/BAIL	PE-1	PE-1 COVE	AWP-2, PT-1, PT-7	AWP-2, PT-1, PT-7	AWP-2, PT-1, PT-7	AWP-2, PT-1, PT-7	ACT-5	
135	F PROC.	PE-1	PE-1 COVE	PT-1	PT-1	PT-1	PT-1	ACT-5	
136	ADA TOILET	PE-1	PE-1 COVE	PT-1	PT-1	PT-1	PT-1	ACT-5	EPOXY PAINT FOR WET ROOM
137	PROC. AREA	PE-1	PE-1 COVE	PT-1	PT-1	PT-1	PT-1	ACT-5	
137.1	MECH.	SEALED CONC	RB-1	PT-1	PT-1	PT-1	PT-1	PTD. GWB	FCU closet
137.2	MECH.	SEALED CONC	RB-1	PT-1	PT-1	PT-1	PT-1	PTD. GWB	FCU closet
137.3	MATS	PE-1	PE-1 COVE	PT-1	PT-1	PT-1	PT-1	ACT-5	
138	STP SRCH	PE-1	PE-1 COVE	PT-1	PT-1	PT-1	PT-1	ACT-5	EPOXY PAINT FOR WET ROOM
139	INTOX	PE-1	PE-1 COVE	PT-1	PT-1	PT-1	PT-1	ACT-5	
140	M PROC.	PE-1	PE-1 COVE	PT-1	PT-1	PT-1	PT-1	ACT-5	
141	TEMP	PE-1	PE-3 COVE	AWP-2	AWP-2	AWP-2	AWP-2	ACT-5	
142	INT / BAIL	PE-1	PE-1 COVE	AWP-2, PT-1, PT-7	AWP-2, PT-1, PT-7	AWP-2, PT-1, PT-7	AWP-2, PT-1, PT-7	ACT-5	
143	INT	PE-1	PE-1 COVE	AWP-2, PT-1, PT-7	AWP-2, PT-1, PT-7	AWP-2, PT-1, PT-7	AWP-2, PT-1, PT-7	ACT-5	
144	HOLD	PE-1	PE-3 COVE	CMU/PT-1, PT-7	CMU/PT-1, PT-7	CMU/PT-1, PT-7	AWP-2, CMU/PT-1, PT-7	ACT-5	
145	HOLD	PE-1	PE-3 COVE	PT-1	PT-1	PT-1	PT-1	ACT-5	
146	HOLD	PE-1	PE-3 COVE	PT-1	PT-1	PT-1	PT-1	ACT-5	
148	M. PEN.	PE-1	PE-3 COVE	PT-1, PT-7	PT-1, PT-7	PT-1, PT-7	PT-1, PT-7	ACT-5	
149	CONTROL DESK	CPT-1	RB-1	GWB/PT-5, PT-7	GWB/PT-5, PT-7	GWB/PT-5, PT-7	GWB/PT-5, PT-7	ACT-2	
149.1	MECH.	SEALED CONC	RB-1	GWB/PT-1	GWB/PT-1	GWB/PT-1	GWB/PT-1	PTD. GWB	
150	SALLY PORT	SEALED CONC	RB-1	GWB/PT-7	GWB/PT-7	GWB/PT-7	GWB/PT-7	PTD. EXP.	
150.1	STOR.	SEALED CONC	PE-1 COVE	GWB/PT-1	GWB/PT-1	GWB/PT-1	GWB/PT-1	GWB-1	
E01	ELEVATOR	LVT-1		--	--	--	--	SEE SPEC.	
S01	STAIR 1	RT-2, RT-3, LVT-1,	RB-1	PT-1	PT-1	PT-1	PT-1	PTD. GWB	LVT-1 ON FOOR, RT-2 ON LANDINGS & RT-3 ON STAIR TREADS
S02	STAIR 2	RT-2, RT-3, LVT-1,	RB-1	PT-1	PT-1	PT-1	PT-1	PTD. GWB	LVT-1 ON FOOR, RT-2 ON LANDINGS & RT-3 ON STAIR TREADS

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SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

BY: DATE:

DATE : 11/6/2025 2:31:47 PM

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
ADDENDUM #5	RLM	11/06/25		GSW	14SW19 14SW20 15SW19 15SW20
CONTRACT COMPLETION BOX			R.O.W NO.		

DGN BY: JAT
DWN BY: DWG/ AWU
CHKD BY: RLM

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

DRAWING SCALE
PLAN SCALE: 1/16" = 1'-0"
PROFILE SCALE:

PROPERTY MANAGEMENT
APPROVED BY: PROPERTY MANAGER
DATE:

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

FIRST FLOOR FINISH PLAN & SCHEDULE

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

Murphy & Dittenhafer ARCHITECTS
805 North Charles Street, Baltimore, Maryland 21201 410-625-4623 voice 410-625-4674 fax
226 West Market Street, York, Pennsylvania 17401 717-848-8837 voice 717-843-3448 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-600	24111 PPO
JOB ORDER NUMBER	300200006
SHEET 150 OF 302	
DRAWING NUMBER	2024-1463
FILE NO.: 8	REV. 07/22

Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025

DOOR SCHEDULE

MARK	DOOR SIZE WIDTH	HEIGHT	THICKNESS	DOOR TYPE	MATERIAL	FINISH	FRAME TYPE	MATERIAL	FINISH	CONSTRUCTION DETAILS HEAD	JAMB	SILL	FUNCT.	HDW Set	FIRE RATING	COMMENTS & GLAZING. IF NOT NOTED GLAZING TO BE GL-6
001	6' - 0"	7' - 0"	1 3/4"	DR-5	ALUM.	PTD ALUM	FR-1	ALUM	ALUM.	H5	J6	S3		1		Storefront. Level 3 Ballistic Glazing, GL-4. CR on ext. side controlled by front desk.
002A	6' - 0"	7' - 0"	1 3/4"	DR-5	ALUM	PTD ALUM	FR-1	ALUM	ALUM.	H5	J6	S3		1		Storefront. CR on ext. side controlled by front desk.
002B	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S1	OF	11.4		Access Control, CR to Lobby 002. - Level 3 BALLISTIC PANEL
003	6' - 0"	7' - 0"	1 3/4"	DR-5	ALUM	PTD ALUM	FR-1	HM	ALUM.	H5	J6	S3	OF	1.2		Storefront. Access Control, CR to Exterior. Sound Gasketing.
004	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H8	J7	S1	OF	1.2		Access Control, Exterior CR
005	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S1	IS	11		Access Control, CR on Exterior & Interior.
006	3' - 0"	6' - 8"	1 3/4"	DR-1	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	IS	11		Access Control, CR on Exterior & Interior, Sound Gasketing
006A	3' - 0"	6' - 8"	1 3/4"	DR-1	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	ST	9		Louvered, Mechanical Keyed for Facilities. Sound Gasketing.
006B	3' - 0"	6' - 8"	1 3/4"	DR-1	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	ST	9		Louvered, Mechanical Keyed for Facilities. Sound Gasketing.
006C	3' - 0"	6' - 8"	1 3/4"	DR-1	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	ST	9.1		Storage Closet Keyed. Sound Gasketing. Precinct Key Copy.
008	4' - 0"	7' - 0"	1 3/4"	DR-1	IHM	PTD HM	FR-1	HM	PTD HM	H10	J11	S6	ST	9.5		SILL UP ON 7" CURB. ACCESS CONTROL. CR from Mech. Well 003.2. Sound Gasketing.
100A	6' - 0"	7' - 0"	1 3/4"	DR-7	WD	PTD HM	FR-1	HM	PTD HM	H4	J4	S1	ST	11.5		CR from Lobby. Level 3 Ballistic Panel & GL-8. Locked from Lobby. CR on ext. side controlled by front desk.
100B	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S1	ST	11.1		Access Control, CR Int. Side of Community Room 100.
100C	3' - 0"	7' - 0"	1 3/4"	DR-6	ALUM	PTD ALUM	FR-1	ALUM	ALUM.	H7	J6	S3	EO	1.5		Storefront. Level 3 Ballistic Panel & Glazing. Sound Gasketing.
100D	5' - 8"	7' - 0"	1 3/4"	DR-2	WD	WD-1	FR-1	HM	PTD HM	H4	J4	S1	PA	8.1		
101A	3' - 0"	7' - 0"	1 3/4"	DR-3	WD	PTD HM	FR-1	HM	PTD HM	H3	J3	S1	PA	7		Sound Gasketing.
101B	3' - 0"	7' - 0"	1 3/4"	DR-3	WD	PTD HM	FR-1	HM	PTD HM	H3	J3	S1	PA	7		Sound Gasketing.
101C	2' - 8"	7' - 0"	1 3/4"	DR-1	WD	PTD HM	FR-1	HM	PTD HM	H3	J3	S1	ST	9.4		Louvered, Mechanical Keyed for Facilities
101D	2' - 8"	7' - 0"	1 3/4"	DR-1	WD	PTD HM	FR-1	HM	PTD HM	H3	J3	S1	ST	9.4		Louvered, Mechanical Keyed for Facilities
102	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S1	ST	8.1		Sound Gasketing.
103	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-4	HM	PTD HM	H3	J3, J5	S1	OF	6		HM STOREFRONT. Sound Gasketing.
104	3' - 0"	7' - 0"	1 3/4"	DR-10	WD	WD-1	FR-5	HM	PTD HM	H3	J3, J5	S3	OF	5		HM STOREFRONT. Sound Gasketing.
105	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-4	HM	PTD HM	H3	J3, J5	S1	OF	6		HM STOREFRONT. Sound Gasketing.
106	3' - 0"	7' - 0"	1 3/4"	DR-10	WD	WD-1	FR-5	HM	PTD HM	H4	J4, J5	S3	OF	5		HM STOREFRONT. Sound Gasketing.
107	3' - 0"	7' - 0"	1 3/4"	DR-10	WD	WD-1	FR-5	HM	PTD HM	H4	J4, J5	S3	PA	7		Sound Gasketing.
108	3' - 0"	7' - 0"	1 3/4"	DR-10	WD	WD-1	FR-5	HM	PTD HM	H3	J3, J5	S3	OF	5		HM STOREFRONT. Sound Gasketing.
109	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-4	HM	PTD HM	H3	J3, J5	S1	OF	6		HM STOREFRONT. Sound Gasketing.
110	3' - 0"	6' - 8"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H1	J1	S1	ST	8	1 HOUR	Sound Gasketing.
111	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S1	PR	2		Sound Gasketing. Indicator deadbolt mortises.
112	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S1	PR	2		Sound Gasketing. Indicator deadbolt mortises.
113A	3' - 0"	6' - 8"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H1	J1	S1	ST	9.2	45 MIN	Sound Gasketing.
113B	3' - 0"	7' - 0"	1 3/4"	DR-1	IHM	PTD HM	FR-1	IHM	PTD HM	H8	J7	S1	EO	9.3		Insulated door Sound Gasketing.Panic Bar.
114	3' - 0"	6' - 8"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H1	J1	S1	ST	9.2	90 MIN	Sound Gasketing.
115	3' - 0"	7' - 0"	1 3/4"	DR-3	HM	PTD HM	FR-1	HM	PTD HM	H1	J1	S1	ST	11.2		Access Control, CR from 003. Sound Gasketing.
116	3' - 0"	6' - 8"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H1	J1	S1	PA	7.1		Closer Required for LEED
117A	3' - 0"	7' - 0"	1 3/4"	DR-3	HM	PTD HM	FR-1	HM	PTD HM	H1	J1	S1	ST	8		Sound Gasketing.
117B	3' - 0"	7' - 0"	1 3/4"	DR-3	HM	PTD HM	FR-1	HM	PTD HM	H1	J1	S1	ST	8		Sound Gasketing.
118	6' - 0"	6' - 8"	1 3/4"	DR-2	HM	PTD HM	FR-1	HM	PTD HM	H1	J1	S1	ST	11.6		CR to Mechanical 118, Sound Gasketing.
119	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S1	ST	3		Access Control, Sound Gasketing.
120	3' - 0"	7' - 0"	1 3/4"	DR-3	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S1	PA	7		Sound Gasketing.
121A	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S1	OF	4		CR on Corr. Side, Sound Gasketing.
121B	3' - 0"	7' - 0"	1 3/4"	DR-8	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S1	OF	4		CR on RM 120 side, Sound Gasketing
123A	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S3	TBD	11.4		CR on exterior side. Level 3 Ballistic Panel. Sound Gasketing.
123B	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S3	IS	11		Access Control, CR on both sides. Sound Gasketing.
124A	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S3	TBD	11.4		CR on exterior side. Level 3 Ballistic Panel. Sound Gasketing.
124B	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S3	IS	11		Access Control, CR on both sides. Sound Gasketing.
125	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S3	PR	2		Level 3 Ballistic Panel. Sound Gasketing. Occupancy Indicator, kick plate
126	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S3	PR	2		Level 3 Ballistic Panel. Sound Gasketing. Occupancy Indicator, kick plate
127	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S1	PA	7		
129	3' - 0"	7' - 0"	1 3/4"	DR-9	DHM	PTD HM	FR-2	DHM	PTD HM	H9	J8	S4	IS	10		Detention sliding door, remotely released
130	3' - 0"	6' - 8"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H2	J2	S2	PR	2		Occup. indicator. Sound Gasketing. Frame to account for furring
131	3' - 0"	6' - 8"	1 3/4"	DR-1	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	ST	9.1		Detention Grade HDW, keyed. Sound Gasketing. Door Closer Required by LEED
132	3' - 0"	7' - 0"	1 3/4"	DR-9	DHM	PTD HM	FR-2	DHM	PTD HM	H9	J8	S4	IS	10		Detention sliding door, remotely released. GL-2
133	3' - 0"	7' - 0"	1 3/4"	DR-9	DHM	PTD HM	FR-2	DHM	PTD HM	H9	J8	S4	IS	10		Detention sliding door, remotely released. GL-2

DOOR SCHEDULE

MARK	DOOR SIZE WIDTH	HEIGHT	THICKNESS	DOOR TYPE	MATERIAL	FINISH	FRAME TYPE	MATERIAL	FINISH	CONSTRUCTION DETAILS HEAD	JAMB	SILL	FUNCT.	HDW Set	FIRE RATING	COMMENTS & GLAZING. IF NOT NOTED GLAZING TO BE GL-6
134	3' - 0"	6' - 8"	1 3/4"	DR-8	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	IS	10.1		CR on both sides. Detention Grade HDW, keyed, to be discussed. Sound Gasketing. GL-2
135A	3' - 0"	6' - 8"	1 3/4"	DR-1	DHM	PTD HM	FR-1	DHM	PTD HM	H1	J1	S2	IS	10.2		Access Control, CR to Sally Port 150, Intercom, remote buzzer release. Sound Gasketing. GL-7
135B	3' - 0"	6' - 8"	1 3/4"	DR-1	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	PA	10.3		Sound Gasketing. Detention Grade HDW. No
135C	3' - 0"	6' - 8"	1 3/4"	DR-1	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	PA	10.3		Sound Gasketing. Detention Grade HDW. GL-7
136	3' - 0"	6' - 8"	1 3/4"	DR-1	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	PA	10.3		Detention Grade HDW, No
137A	3' - 0"	6' - 8"	1 3/4"	DR-3	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	IS	10.4		Storefront. Access Control, CR on Exterior & Interior, Sound Gasketing. GL-7
137B	3' - 0"	6' - 8"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H2	J2	S2	ST	9		Louvered, Mechanical Keyed for Facilities. Sound Gasketing.
137C	3' - 0"	6' - 8"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H2	J2	S2	ST	9		Louvered, Mechanical Keyed for Facilities. Sound Gasketing.
137D	3' - 0"	6' - 8"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H2	J2	S2	ST	8		
138	3' - 0"	6' - 8"	1 3/4"	DR-1	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	ST	10.5		Detention Grade HDW, keyed, to be discussed. Sound Gasketing. Door stop.
139	3' - 0"	6' - 8"	1 3/4"	DR-1	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	ST	10.5		Detention Grade HDW, keyed, to be discussed. Sound Gasketing. Door stop.
140A	3' - 0"	6' - 8"	1 3/4"	DR-1	DHM	PTD HM	FR-1	DHM	PTD HM	H1	J1	S2	IS	10.2		Access Control, CR to Sally Port 150, Intercom, remote buzzer release. Sound Gasketing. GL-7
140B	3' - 0"	6' - 8"	1 3/4"	DR-1	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	PA	10.3		Sound Gasketing. Detention Grade HDW. GL-7
140C	3' - 0"	6' - 8"	1 3/4"	DR-1	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	PA	10.3		Sound Gasketing. Detention Grade HDW. GL-7
141	3' - 0"	7' - 0"	1 3/4"	DR-9	DHM	PTD HM	FR-2	DHM	PTD HM	H9	J8	S4	IS	10		Detention sliding door, remotely released. GL-2
142	3' - 0"	6' - 8"	1 3/4"	DR-8	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	IS	10.1		CR on both sides. Detention Grade HDW, keyed, to be discussed. Sound Gasketing. GL-2
143	3' - 0"	6' - 8"	1 3/4"	DR-8	DHM	PTD HM	FR-1	DHM	PTD HM	H2	J2	S2	IS	10.1		CR on both sides. Detention Grade HDW, keyed, to be discussed. Sound Gasketing. GL-2
144	3' - 0"	7' - 0"	1 3/4"	DR-9	DHM	PTD HM	FR-2	DHM	PTD HM	H9	J8	S4	IS	10.1		Detention sliding door, remotely released. GL-2
145	3' - 0"	7' - 0"	1 3/4"	DR-9	DHM	PTD HM	FR-2	DHM	PTD HM	H9	J8	S4	IS	10.1		Detention sliding door, remotely released. GL-2
146	3' - 0"	7' - 0"	1 3/4"	DR-9	DHM	PTD HM	FR-2	DHM	PTD HM	H9	J8	S4	IS	10.1		Detention sliding door, remotely released. GL-2
148	3' - 0"	7' - 0"	1 3/4"	DR-9	DHM	PTD HM	FR-2	DHM	PTD HM	H9	J8	S4	IS	10.1		Detention sliding door, remotely released
149	3' - 0"	6' - 8"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H2	J2	S2	OF	6		
149A	3' - 0"	6' - 8"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H4	J4	S1	PA	7		Sound Gasketing.
150A	14' - 0"	12' - 0"	0"	DR-11	INSUL. MTL	-	FR-1	MTL	-	H10	J10	S5	OHD AC	1.3		Remote open from front desk, Coiling O.H.D.
150B	14' - 0"	12' - 0"	0"	DR-11	INSUL. MTL	-	FR-1	MTL	-	H10	J10	S5	OHD AC	1.3		Remote open from front desk, Coiling O.H.D.
150C	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H8	J7	S2	DL	1.1		CR on Exterior & Interior, Intercom, remote buzzer release
150D	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H8	J7	S1	DL	1.1		CR on Exterior & Interio, Intercom, remote buzzer release
150E	6' - 0"	7' - 0"	1 3/4"	DR-2	HM	PTD HM	FR-1	HM	PTD HM	H2	J2	S1	ST	8		
201	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S3	ST	8.1		
202	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-4	HM	PTD HM	H3	J3, J5	S1	OF	5		HM STOREFRONT. Sound Gasketing.
203	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-3	HM	PTD HM	H3	J3, J5	S1	OF	6		HM STOREFRONT. Sound Gasketing.
204	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-4	HM	PTD HM	H3	J3, J5	S1	OF	6		HM STOREFRONT. Sound Gasketing.
206	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S3	OF	6		
207A	3' - 0"	7' - 0"	1 3/4"	DR-10	WD	WD-1	FR-5	HM	PTD HM	H3	J3	S3	OF	5		HM STOREFRONT. Sound Gasketing.
207B	2' - 6"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S3	PA	7		
208	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-3	HM	PTD HM	H3	J3	S3	OF	6		HM STOREFRONT. Sound Gasketing.
209A	3' - 0"	7' - 0"	1 3/4"	DR-10	WD	WD-1	FR-5	HM	PTD HM	H3	J3	S3	PA	7		
209B	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S3	PA	7		
210A	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H4	J4	S4	OF	5		HM STOREFRONT. Sound Gasketing.
210B	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S3	PA	5		HM STOREFRONT. Sound Gasketing.
211	3' - 0"	7' - 0"	1 3/4"	DR-10	WD	WD-1	FR-5	HM	PTD HM	H3	J3, J5	S3	OF	5		HM STOREFRONT. Sound Gasketing.
213	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-4	IHM	PTD HM	H3	J3	S1	OF	6		HM STOREFRONT. Sound Gasketing.
215	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	S-5	HM	PTD HM	H4	J4	S4	PA	5		HM STOREFRONT. Sound Gasketing.
216A	3' - 0"	7' - 0"	1 3/4"	DR-10	WD	WD-1	FR-5	HM	PTD HM	H3	J3	S3	OF	6		HM STOREFRONT. Sound Gasketing.
216B	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S1	PA	7		Sound Gasketing.
216C	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S1	PR	2.1		Sound Gasketing. No indicator.
217A	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-3	HM	PTD HM	H3	J3	S3	OF	5		HM STOREFRONT. Sound Gasketing.
217B	6' - 0"	7' - 0"	1 3/4"	DR-2	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S1	PA	7		
217C	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H6	J9	S1	PA	7		
218	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-3	HM	PTD HM	H3	J3	S1	OF	6		HM STOREFRONT. Sound Gasketing.
219A	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-3	HM	PTD HM	H6	J9	S1	OF	5		HM STOREFRONT. Sound Gasketing.
219B	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S1	PA	7		Sound Gasketing.
220	3' - 0"	7' - 0"	1 3/4"	DR-6	WD	WD-1	FR-3	HM	PTD HM	H6	J9	S3	OF	6		HM STOREFRONT. Sound Gasketing.
221	2' - 6"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J4	S1	ST	8.1		
222	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J4	S1	PR	2.1		Sound Gasketing. Indicator.
223	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H3	J3	S1	ST	3		Sound Gasketing. IT access control CR.
224	6' - 0"	7' - 0"	1 3/4"	DR-5	ALUM	PTD ALUM	FR-1	ALUM	ALUM.	H7	J6	S3	PA	7		Storefront.
224A	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S1	PA	7		
225	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S1	ST	8.1		Door Closer required by LEED
226	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S1	ST	8.1		
227	3' - 0"	7' - 0"	1 3/4"	DR-1	WD	WD-1	FR-1	HM	PTD HM	H3	J3	S1	PR	2.1		Sound Gasketing. Indicator.
228	3' - 0"	7' - 0"	1 3/4"	DR-8	WD	WD-1	FR-1	HM	PTD HM	H4	J4	S1	PA	7		Sound Gasketing
229	3' - 0"	7' - 0"	1 3/4"	DR-8	HM	WD-1	FR-1	HM	PTD HM	H4	J4	S1	PA	7		Sound Gasketing
230	3' - 0"	7' - 0"	1 3/4"	DR-8	WD	WD-1	FR-1	HM	PTD HM	H4	J4	S1	PA	7		Sound Gasketing.
S01A	3' - 0"	7' - 2"	1 3/4"	DR-1	HM - 1hr	PTD HM	FR-3	HM	PTD HM	H8	J7	S1	PA	7	1 HOUR	GL-5 1hr rated.
S01B	3' - 0"	7' - 0"	1 3/4"	DR-1	HM	PTD HM	FR-1	HM	PTD HM	H8	J7	S1	EO	1.4		Access Control, Exterior CR.
S01C	3' - 0"	7' - 2"	1 3/4"	DR-1	HM - 1hr	PTD HM	FR-3	HM	PTD HM	H8	J7	S1	PA	7	1 HOUR	GL-5 1hr rated.
S02A	3' - 0"	7' - 2"	1 3/4"	DR-1	HM - 1hr	PTD HM	FR-3	HM	PTD HM	H8	J7	S1	PA	7	1 HOUR	GL-5 1hr rated.
S02B	3' - 0"	7' - 0"	1 3/4"	DR-1	IHM	PTD HM	FR-1	HM	PTD HM	H8	J7	S1	EO	11.3		Access Control, Exterior CR. Sound Gasketing.
S02C	3' - 0"	7' - 2"	1 3/4"	DR-1	HM - 1hr	PTD HM	FR-3	HM	PTD HM	H8	J7	S1	PA	7	1 HOUR	GL-5 1hr rated.

GENERAL NOTES - DOORS

- GC SHALL ONLY PROVIDE INFRASTRUCTURE FOR ACCESS CONTROL DEVICES. CONTRACTOR SHALL COORDINATE INSTALLATION WITH OWNER'S IT/ AV CONTRACTOR. CR DEVICES ARE NOTED IN DOOR SCHEDULE & TA DWG. SEE TA DWG. FOR WIRING DIAGRAMS. CONTRACTOR SHALL PROVIDE ALL OTHER DOOR HDW, INCLUDING ELECTRIC STRIKES.
- ALL INT. HM FRAMES TO RECEIVE SF1 PTD COLOR TO BE SELECTED BY ARCH.
- ALL EXT. HM FRAMES TO RECEIVE SF2 PTD COLOR TO BE SELECTED BY ARCH.
- FINISH FOR INTERIOR DOORS AND FF3 FINISH FOR EXTERIOR DOORS. SEE FINISH SPEC.
- DOORS ARE 1-3/4" THICK UNLESS NOTED OTHERWISE.
- DOORS TO HAVE A 3/4" UNDERCUT UNLESS NOTED OTHERWISE.
- BOTTOM 10" MIN. OF PUSH SIDE OF DOOR TO BE A SMOOTH SINGLE PLANE.
- BOTTOM EDGE OF VISION LITES TO BE NO HIGHER THAN 43" ABOVE FINISHED FLOOR TO VIEWING SURFACE.
- HOLLOW METAL FRAMES TO HAVE A 2" FACE UNLESS NOTED OTHERWISE.

INSTALLATION:

- DOOR SWINGS TO MATCH INDICATION ON PLANS.
- PLAN DIMENSIONS ARE LOCATING THE EDGE OF THE DOOR PANEL.

HARDWARE:

- ALL EXTERIOR DOORS TO BE WEATHER-STRIPPED.
- ALL RATED DOORS TO HAVE SMOKE SEALS.
- DOOR HANDLES SHALL BE THE LEVER TYPE AND MEET ANSI 404.2.6
- HARDWARE LOCATIONS AND REINFORCEMENT TO BE PER SDI.

ABBREVIATIONS LEGEND:

DOOR MATERIAL:
HM HOLLOW METAL(INSUL ON EXT)
IM INSULATED METAL
AL ALUMINUM (INSUL ON EXT)
WD STAIN-GRADE WOOD
SS STAINLESS STEEL

FRAME MATERIAL:
HM HOLLOW METAL (INSUL ON EXT)
IM INS. METAL/ THERMAL BREAK
SF STOREFRONT (INSUL ON EXT)
FL FRAMELESS

GLASS:
FSG FIRE RATED SAFETY GLAZING
ISG INSULATED SAFETY GLAZING
SSG SINGLE SAFETY GLAZING
IVG INSULATED VISION GLAZING
SPG INSULATED SPANDREL PANEL
SG SPECIAL GLAZING
PF PRIVACY FILM

FINISHES:
SF1 SITE APPLIED PAINT OVER FACTORY PRIME
SF2 SITE APPLIED PAINT OVER FACTORY GALVANIZED
SF3 SITE APPLIED STAIN
FF1 FACTORY STAIN
FF2 FACTORY PAINT
FF3 FACTORY PAINT & GALVANIZED
FF4 ANODIZED COATING

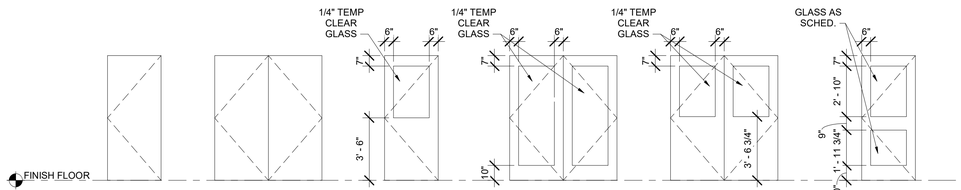
DOOR CONTROL:
OC OVERHEAD CLOSER
OH OVERHEAD HOLDER
OPP ADA AUTO OPERATOR

LATCHING:
PD PANIC DEVICE
LS LATCH SET
PP PUSH-PULL

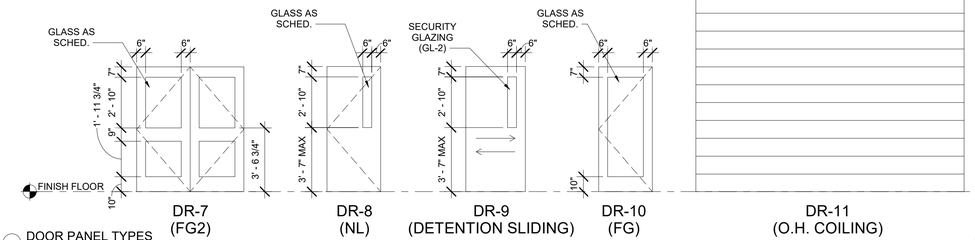
FUNCTION:
EO EXIT ONLY
PA PASSAGE
PR PRIVACY
OF OFFICE/ENTRY
CL CLASSROOM
ST STORE ROOM
IS INSTITUTIONAL

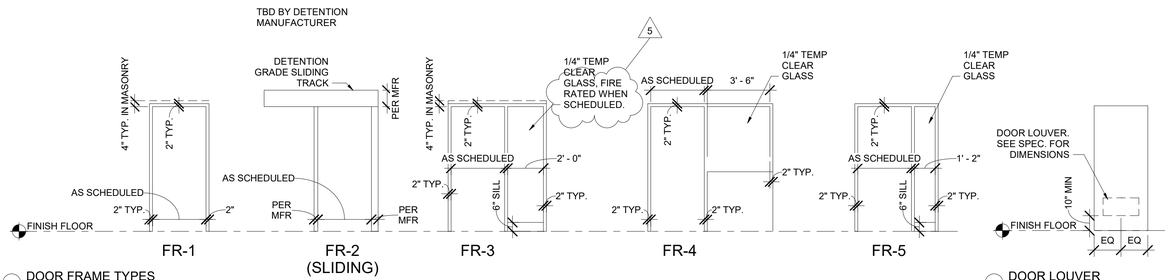
ELECTRONIC:
HO HOLD OPEN
MO MOTOR OPERATED

SECURITY:
CR CARD READER/ IDH
DC DOOR CONTACT
AL ALARMED



DOOR PANEL TYPES
1/4" = 1'-0"





DOOR FRAME TYPES
1/4" = 1'-0"

DOOR LOUVER
1/4" = 1'-0"

Murphy & Dittenhafer ARCHITECTS
305 North Charles Street, Baltimore, Maryland 21201 410-625-4622 voice 410-625-4671 fax
228 West Market Street, York, Pennsylvania 17401 717-848-3827 voice 717-843-2448 fax

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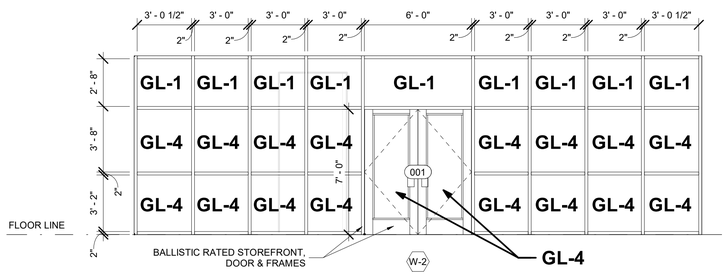
SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE 06/13/2027	ADDENDUM #5	RLM	11/06/25		GSW	14SW19 14SW20 15SW19 15SW20	PLAN SCALE: 1/4" = 1'-0"	APPROVED BY: PROPERTY MANAGER
		CONTRACT COMPLETION BOX			R.O.W. NO.			PROFILE SCALE:	DATE:
	ARCHITECT: Frank Elwood Dittenhafer, II	DGN BY: JAT	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
	AS-BUILT PER RECORD PRINT	DRN BY: DWG/ AWU	REVIEWED BY:							
DATE : 11/6/2025 2:31:48

EXTERIOR STOREFRONT TYPES

ADD ALTERNATE #1: INCREASE ALL FIRST-FLOOR GLAZING SHOWN ON W-2 AND W-3 AS LVL 3 BALLISTIC RATING (GL-4) TO LVL 5 BALLISTIC RATING (GL-3)

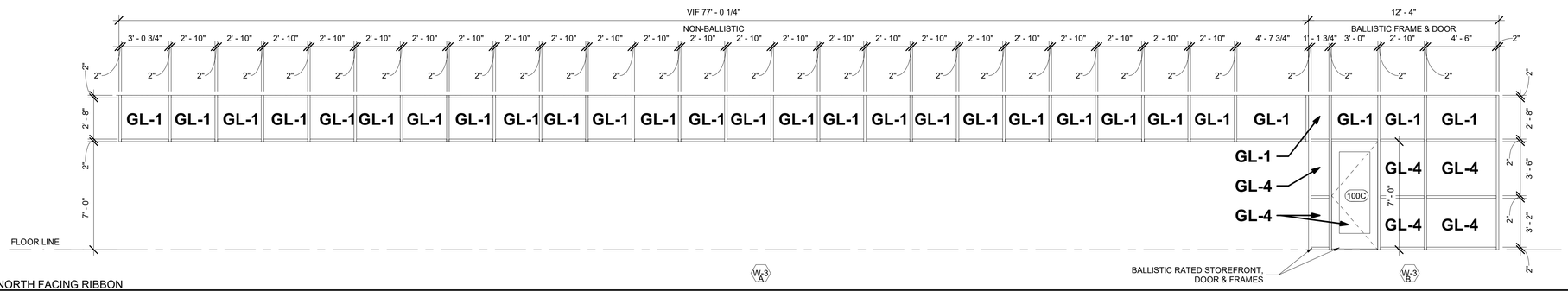


STOREFRONT 001

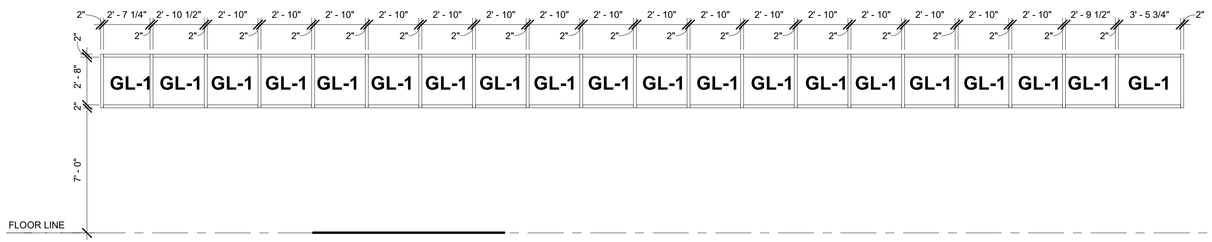
EXTERIOR FRAMING SYSTEMS			
TAG	**TYPE OF FRAME**	**DIMENSION**	**B.O.D. SYS.**
W-1	Exterior Insulated Alum.	2" x 4 1/2"	Trifab VG 451T
W-2	Ext. Ballistic Rated Alum	2" x 6"	InsulgaurdHP600
W-3A	Exterior Insulated Alum.	2" x 4 1/2"	Trifab VG 451T
W-3B	Ext. Ballistic Rated Alum	2" x 6"	InsulgaurdHP600
W-4	Exterior Insulated Alum.	2" x 4 1/2"	Trifab VG 451T
W-5	Exterior Insulated Alum.	2" x 4 1/2"	Trifab VG 451T
W-6	Exterior Insulated Alum.	2" x 4 1/2"	Trifab VG 451T

GLAZING TYPES	
GL-1	1" INSULATED LOW E TEMPERED GLASS
GL-2	0.74" NOM. THICKNESS IMPACT SECURITY GLAZING: CLEAR 20-MINUTES OF FORCED ENTRY / PHYSICAL ATTACK PROTECTION
GL-3	INSULATED LEVEL 5 BALLISTIC UL 752.
GL-4	INSULATED LEVEL 3 BALLISTIC UL 752.
GL-5	3/16" 1 HR FIRE RATING GLASS
GL-6	0'-1/4" CLEAR TEMPERED GLASS.
GL-7	0.57" NOM. THICKNESS IMPACT SECURITY GLAZING: CLEAR 10-MINUTES OF FORCED ENTRY / PHYSICAL ATTACK PROTECTION
GL-8	LEVEL 3 BALLISTIC GLAZING UL 752
GL-9	0.74" NOM. THICKNESS IMPACT SECURITY GLAZING: ONE-WAY-VISION INTERLAYER FILM IN CLEAR 20-MINUTES OF FORCED ENTRY / PHYSICAL ATTACK PROTECTION

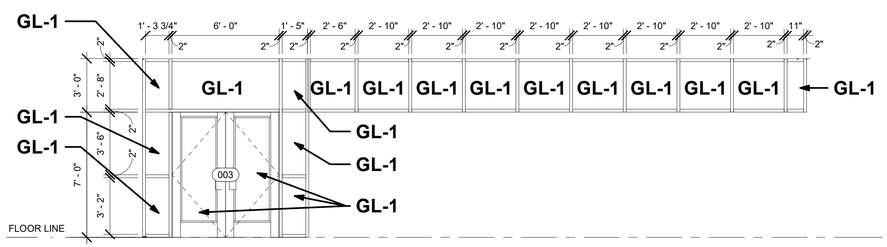
NOTE: INTERIOR GLAZING TO HAVE GLAZING TAPE - BOTH SIDES.



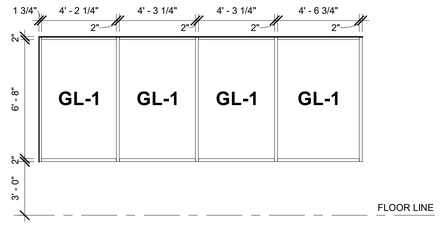
NORTH FACING RIBBON



EAST FACING RIBBON



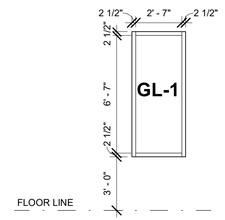
SOUTH FACING RIBBON



LOBBY WINDOW DOUBLE HEIGHT

WINDOW TYPE

ADD ALTERNATE #2: PROVIDE LVL 5 BALLISTIC RATING AT ALL SECOND FLOOR WINDOWS, GL-3



TYP. SECOND FLOOR WINDOW

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SEAL	PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE		PROPERTY MANAGEMENT		
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	AS-BUILT PER RECORD PRINT	DWN BY: DWG/ AWU	REVIEWED BY:										
DATE : 11/6/2025 2:31:49 PM	BY: DATE:	CHKD BY: RLM	DATE REVIEWED:										

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

EXTERIOR GLAZING

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

Murphy & Dittenhafer ARCHITECTS
305 North Charles Street, Baltimore, Maryland 21201 410-625-4623 voice 410-625-4674 fax
226 West Market Street, York, Pennsylvania 17401 717-848-9827 voice 717-843-2449 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-604	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 154 OF 302
	DRAWING NUMBER
	2024-1467
	FILE NO.: 8 REV. 0

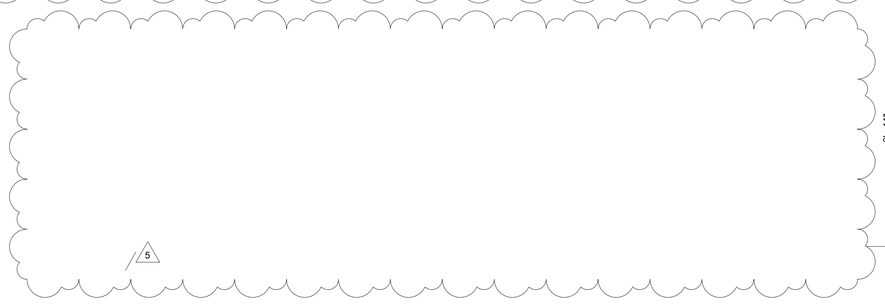
Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025

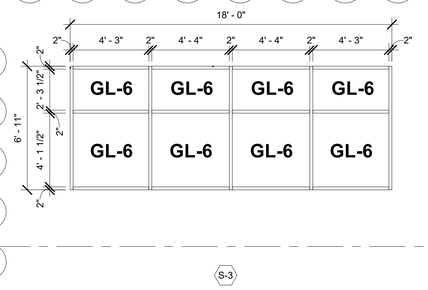
INTERIOR FRAMING SYSTEMS			
TAG	TYPE OF FRAME	DIMENSION	B.O.D. SYS.
S-1	Interior Ballistic Alum.	2" x 6"	InsulgaurdHP600
S-2	BULLET RESISTANT ALUMINUM TRANSACTION WINDOWS	1.5" x 5"	Armortex
S-3	Hollow Metal	2" x 4 5/8"	Curries 747
SI-4	Hollow Metal	2" x 4 5/8"	Curries 747
SI-5	Hollow Metal	2" x 4 5/8"	Curries 747
S-6	Hollow Metal	2" x 4 5/8"	Curries 747
S-7	Hollow Metal	2" x 4 5/8"	Curries 747
S-8	Hollow Metal	2" x 4 5/8"	Curries 747
S-9	Hollow Metal	2" x 4 5/8"	Curries 747
S-10	Hollow Metal	2" x 4 5/8"	Curries 747
S-11	Hollow Metal	2" x 4 5/8"	Curries 747
S-12	Interior Alum.	2" x 4 1/2"	Trifab 450

GLAZING TYPES	
GL-1	1" INSULATED LOW E TEMPERED GLASS
GL-2	0.74" NOM. THICKNESS IMPACT SECURITY GLAZING: CLEAR 20-MINUTES OF FORCED ENTRY / PHYSICAL ATTACK PROTECTION
GL-3	INSULATED LEVEL 5 BALLISTIC UL 752.
GL-4	INSULATED LEVEL 3 BALLISTIC UL 752.
GL-5	3/16" 1 HR FIRE RATING GLASS
GL-6	0'-1/4" CLEAR TEMPERED GLASS.
GL-7	0.57" NOM. THICKNESS IMPACT SECURITY GLAZING: CLEAR 10-MINUTES OF FORCED ENTRY / PHYSICAL ATTACK PROTECTION
GL-8	LEVEL 3 BALLISTIC GLAZING UL 752
GL-9	0.74" NOM. THICKNESS IMPACT SECURITY GLAZING: ONE-WAY-VISION INTERLAYER FILM IN CLEAR 20-MINUTES OF FORCED ENTRY / PHYSICAL ATTACK PROTECTION

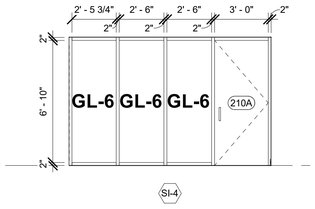
NOTE: INTERIOR GLAZING TO HAVE GLAZING TAPE - BOTH SIDES.

HOLLOW METAL STOREFRONT TYPES

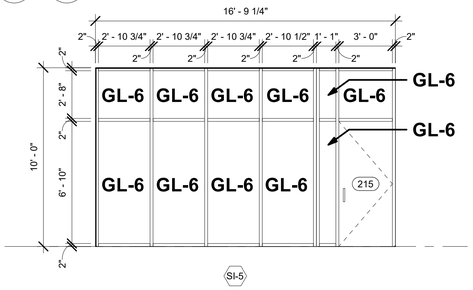




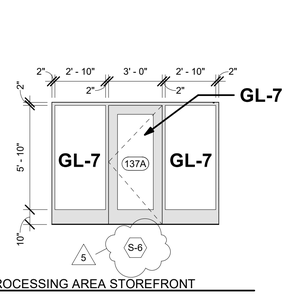
LOUNGE GLAZING



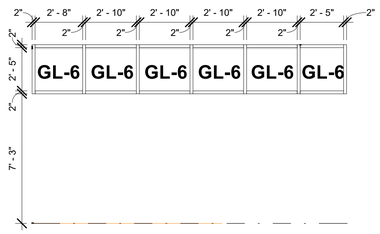
CONFERENCE/FLEX STOREFRONT CORRIDOR SIDE



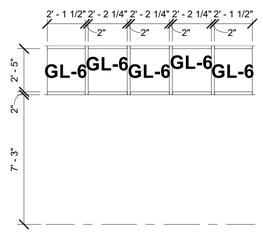
CONFERENCE STOREFRONT



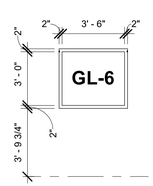
PROCESSING AREA STOREFRONT



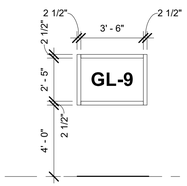
CONFERENCE/FLEX MUNION



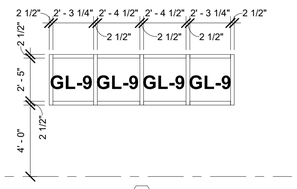
LT OFFICE MUNION



SHIFT C WINDOW

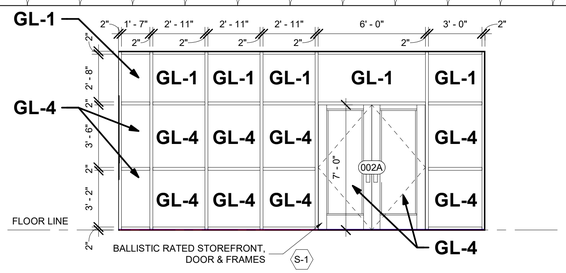


CONTROL ROOM - OBSERVATION WINDOWS

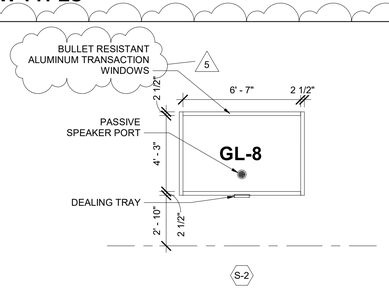


CONTROL ROOM - OBSERVATION WINDOW

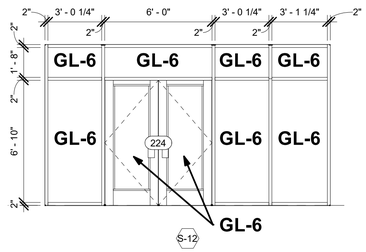
INTERIOR ALUM. STOREFRONT & WINDOW TYPES



VESTIBULE INTERIOR STOREFRONT



FRONT DESK WINDOW



FITNESS - GLAZING

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE: 06/13/2027	ADDENDUM #5	RLM	11/06/25	R.O.W. NO.	GSW	14SW19 14SW20 15SW19 15SW20	PLAN SCALE: 1/4" = 1'-0" PROFILE SCALE:	APPROVED BY: PROPERTY MANAGER DATE:
		CONTRACT COMPLETION BOX							

ARCHITECT: Frank Elwood Dittenhafer, II	DGN BY: JAT	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
AS-BUILT PER RECORD PRINT	DRN BY: DWG/ AWU	REVIEWED BY:							
BY: DATE:	CHKD BY: RLM	DATE REVIEWED:							

DATE : 11/6/2025 2:31:49 PM

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

INTERIOR GLAZING

NEW BUILDING DESIGN

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SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

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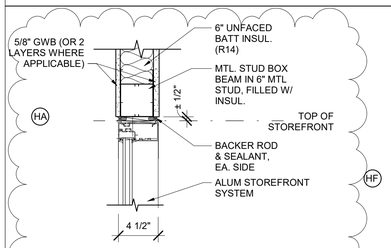
228 West Market Street, York, Pennsylvania 17401 717-848-8827 voice 717-843-2448 fax

SHEET DESIGNATION	CONTRACT NUMBER
A-605	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 155 OF 302
	DRAWING NUMBER
	2024-1468
	FILE NO.: 8

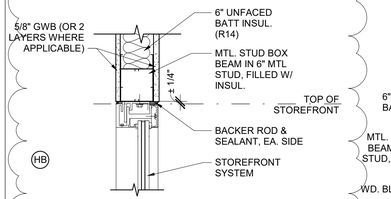
C:\Users\jat\Documents\22130A1 New Wilkens Police Precinct_jatDKZAVC.rvt

Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025

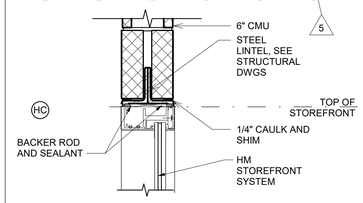
STOREFRONT HEAD TYPES



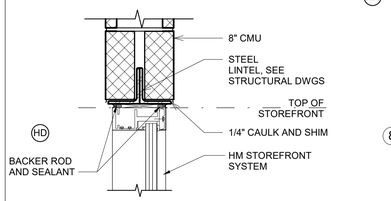
1 ALUM. EXT. GLAZING S.F. HEAD
1 1/2" = 1'-0"



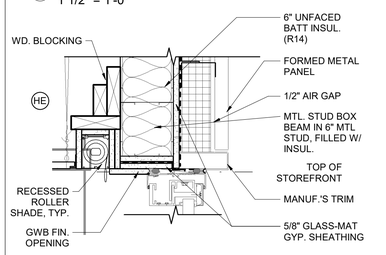
2 GLAZING S.F. HEAD
1 1/2" = 1'-0"



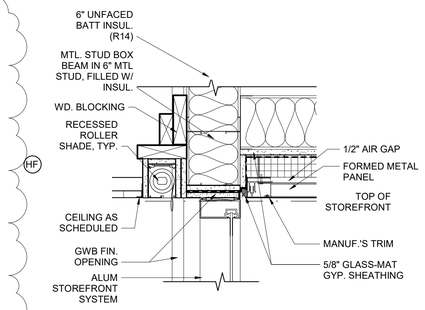
3 GLAZING S.F. HEAD CMU 6"
1 1/2" = 1'-0"



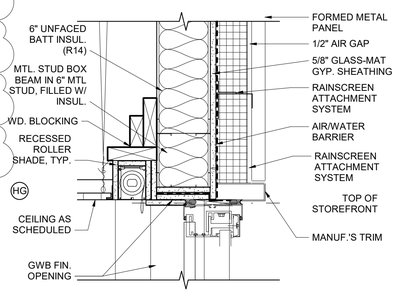
4 GLAZING S.F. HEAD CMU 8"
1 1/2" = 1'-0"



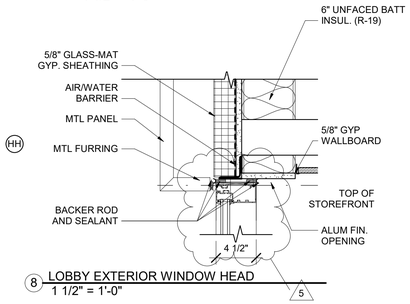
5 GLAZING S.F. SECOND FLOOR LOBBY WINDOW HEAD
1 1/2" = 1'-0"



6 S.F GLAZING CLERESTORY WINDOW HEAD
1 1/2" = 1'-0"

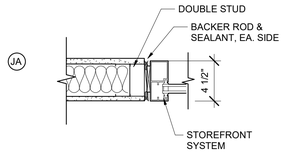


7 SECOND FLOOR WINDOW HEAD
1 1/2" = 1'-0"

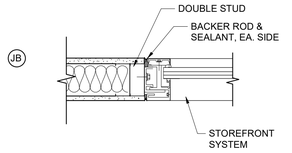


8 LOBBY EXTERIOR WINDOW HEAD
1 1/2" = 1'-0"

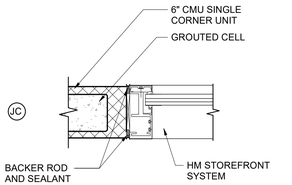
STOREFRONT JAMB TYPES



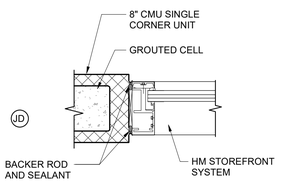
9 GLAZING S.F. ALUM JAMB
1 1/2" = 1'-0"



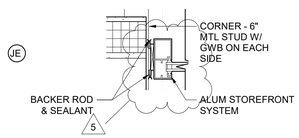
10 GLAZING S.F. HM JAMB
1 1/2" = 1'-0"



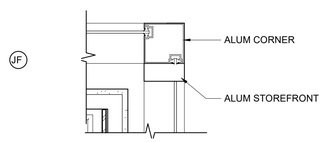
11 GLAZING S.F. JAMB CMU 6"
1 1/2" = 1'-0"



12 GLAZING S.F. JAMB CMU 8"
1 1/2" = 1'-0"

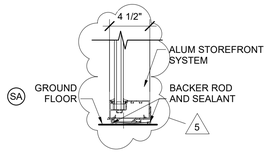


13 GLAZING S.F EXTERIOR WINDOW JAMB
1 1/2" = 1'-0"

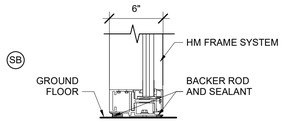


14 S.F. RIBBON CORNER DETAIL
1 1/2" = 1'-0"

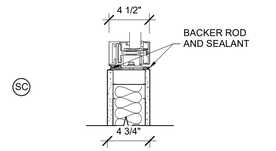
STOREFRONT SILL TYPES



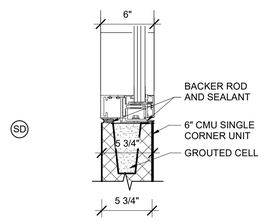
15 ALUM GLAZING S.F. SILL
1 1/2" = 1'-0"



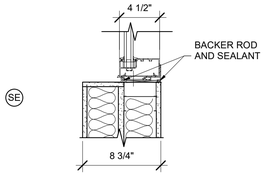
16 HM GLAZING S.F. SILL
1 1/2" = 1'-0"



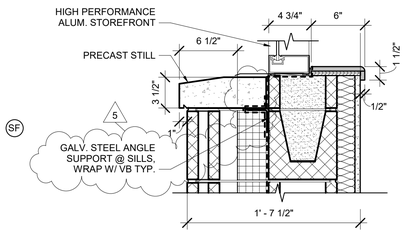
17 GLAZING S.F. ELEVATED SILL STUD
1 1/2" = 1'-0"



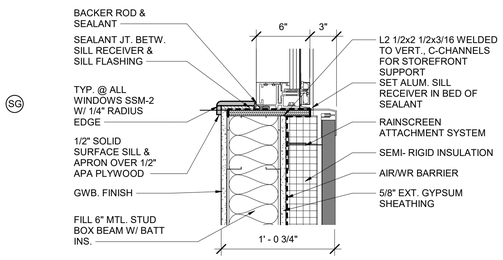
18 GLAZING S.F. ELEVATED SILL 6" CMU
1 1/2" = 1'-0"



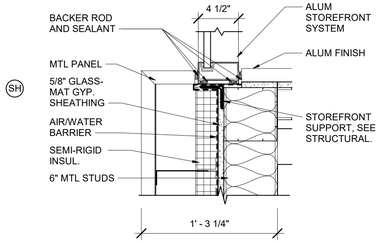
19 2ND FLOOR LOUNGE EXTERIOR WINDOW SILL
1 1/2" = 1'-0"



20 CLERESTORY SILL
1 1/2" = 1'-0"

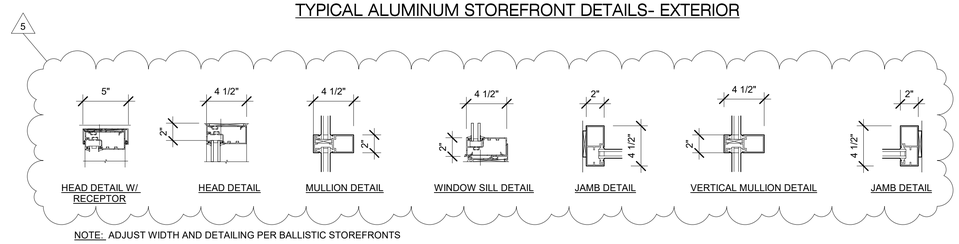


21 SECOND FLOOR WINDOW SILL
1 1/2" = 1'-0"



22 LOBBY EXTERIOR WINDOW SILL
1 1/2" = 1'-0"

TYPICAL ALUMINUM STOREFRONT DETAILS- EXTERIOR



NOTE: ADJUST WIDTH AND DETAILING PER BALLISTIC STOREFRONTS

C:\Users\jat\Documents\22130A1 New Wilkens Police Precinct_catDtZYG.rvt

SEAL

DATE : 11/6/2025 2:31:53 PM

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 , EXPIRATION DATE 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II

AS-BUILT PER RECORD PRINT

BY: DATE:

DGN BY: JAT
DRN BY: DWG/ AWU
CHKD BY: RLM

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
ADDENDUM #5	RLM	11/06/25		GSW	14SW19 14SW20 15SW19 15SW20
CONTRACT COMPLETION BOX			R.O.W. NO.		

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

DRAWING SCALE: PLAN SCALE: 1 1/2" = 1'-0" ; PROFILE SCALE:

PROPERTY MANAGEMENT: APPROVED BY: PROPERTY MANAGER ; DATE:

Murphy & Dittenhafer ARCHITECTS
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228 West Market Street, York, Pennsylvania 17401 717-846-9627 voice 717-843-2446 fax

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

WINDOW DETAILS

NEW BUILDING DESIGN

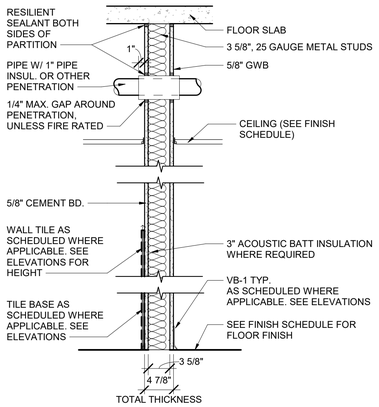
901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-606	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 156 OF 302
	DRAWING NUMBER
	2024-1469
	FILE NO.: 8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

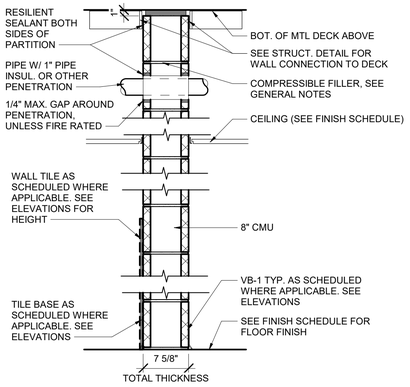


A SERIES - MTL STUDS

A.1 AS SHOWN - **MIN. STC RATING = 45**
A.2 AS SHOWN, BUT **WITH** SOUND BATT, & TYPE XP GWB ON CORRIDOR SIDE.
A.3 AS SHOWN, BUT **WITHOUT** SOUND BATT, GWB ON ONE SIDE ONLY.
A.4 AS SHOWN, BUT **WITH** SOUND BATT, GWB ON ONE SIDE ONLY.
A.5 AS SHOWN, BUT 6" STUD.
A.6 AS SHOWN, BUT 6" STUD WITH GWB ON ONE SIDE ONLY.
A.7 AS SHOWN, BUT 8" STUD.

5

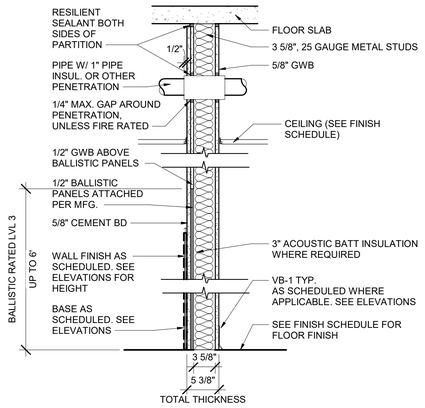
A.F AS SHOWN, BUT 1-HR FIRE RATED PER UL #U419 WITH THESE MODIFICATIONS:TYPE C OR TYPE X GWB ON BOTH SIDES.



B SERIES - CONCRETE MASONRY UNITS

B.1 AS SHOWN ABOVE - BUT 6" CMU HOLLOW - **MIN. STC 45**
B.2 AS SHOWN ABOVE - 8" CMU HOLLOW.
B.3 AS SHOWN ABOVE - 8" CMU GROUTED.
B.4 AS SHOWN ABOVE - 8" CMU HOLLOW, BUT WITH 2 1/2" MTL. FURRING WITH ONE LAYER OF TYPE X 5/8" GWB.
B.5 AS SHOWN ABOVE - 8" CMU GROUTED, BUT WITH 2 1/2" MTL. FURRING WITH ONE LAYER OF TYPE X 5/8" GWB.

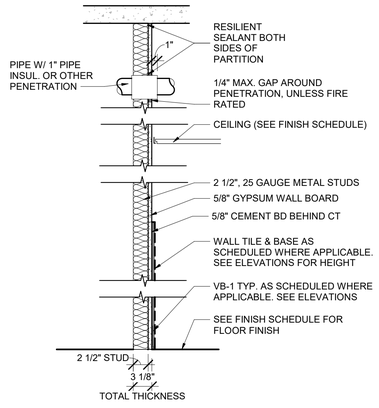
NOTE: REFER TO CODE PLANS AND DETAILS FOR LOCATION OF PARTITIONS REQUIRING A FIRE-RESISTANCE RATING. CONTRACTOR SHALL PROVIDE CMU UNITS WITH AGGREGATE MIXTURES CONFORMING TO THE REQUIRED EQUIVALENT THICKNESSES PER IBC TABLE 722.3.1 AND TABLE 722.3.2.



C SERIES - MTL STUDS, BALLISTIC

C.1 AS SHOWN ABOVE - 3 5/8" MTL STUD WITH BALLISTIC LVL 3.
C.2 AS SHOWN ABOVE - BUT 6" MTL STUD WITH BALLISTIC LVL 3.

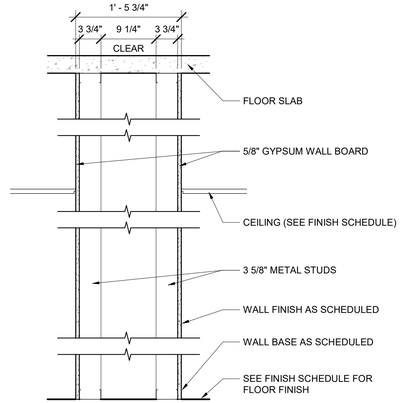
ADD ALTERNATE #1: PROVIDE LVL 5 BALLISTIC RATING AT C SERIES PARTITIONS



D SERIES - FURRING:

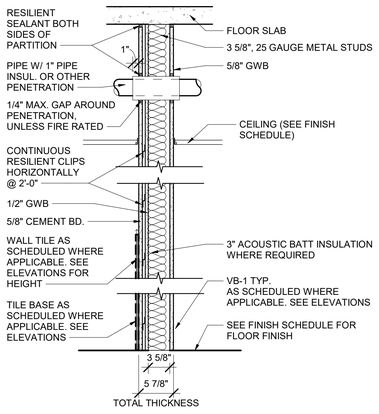
D.1 AS SHOWN ABOVE.
D.2 AS SHOWN ABOVE, BUT WITH 1 5/8" MTL STUD.
D.3 AS SHOWN ABOVE, BUT WITH 1 5/8" MTL STUD & 2 LAYERS OF GWB.
D.4 AS SHOWN ABOVE, BUT WITH 7/8" HAT CHANNELS ATTACHED TO SUBSTRATE

D.F AS SHOWN WITH THIS MODIFICATION: TYPE C OR TYPE X GWB FOR UL DESIGN #X528



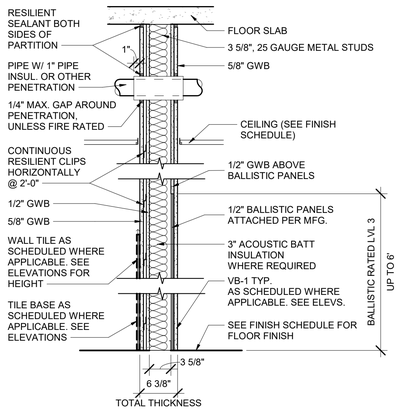
H SERIES - PLUMBING CHASE WALLS:

H.1 AS SHOWN ABOVE.
H.2 AS SHOWN ABOVE, BUT 4 3/4" CLEAR BETWEEN STUDS.



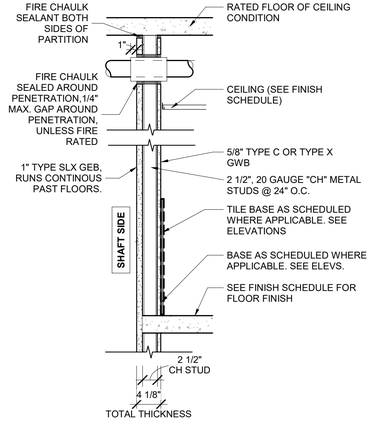
E SERIES - MTL STUDS

E.1 AS SHOWN, **MIN. STC RATING = 55.**
E.2 AS SHOWN, BUT 6" STUD, **MIN. STC RATING = 55.** 8 1/4" THICK.



F SERIES - MTL STUDS, BALLISTIC

F.1 AS SHOWN, **MIN. STC RATING = 55.**
F.2 AS SHOWN, BUT 6" STUD, **MIN. STC RATING = 55.** 8 3/4" THICK.



G SERIES - SHAFT WALLS:

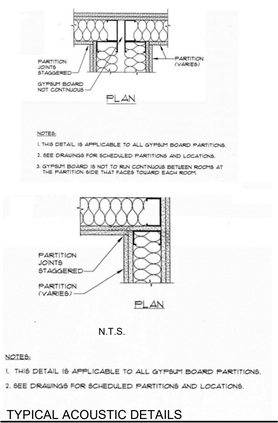
G.1 AS SHOWN, **1 HR FIRE RATED AS PER UL# U415**

GWB TYPES - SEE SPECIFICATION 09 29 00 GYPSUM BOARD

A. GYPSUM BOARD: ASTM C 1396/C 1396M.
   1. THICKNESSES: 5/8 INCH & 1/2 INCH
B. GYPSUM BOARD, TYPE X: ASTM C 1396/C 1396M.
   1. THICKNESS: 5/8 INCH.
C. GYPSUM CEILING BOARD: ASTM C 1396/C 1396M.
   1. THICKNESS: 1/2 INCH.
   2. SEE REFLECTED CEILING PLANS
D. HI-ABUSE-RESISTANT GYPSUM BOARD:
   1. CORE: 5/8 INCH (15.9 MM), TYPE XP
   2. ON ALL CORRIDOR WALLS
E. MOLD-RESISTANT GYPSUM BOARD:
   1. CORE: 5/8 INCH (15.9 MM), TYPE X.
   2. USED IN ALL RESTROOMS WALLS WHERE NO TILE FIN.

TILE BACKING PANELS
A. CEMENTITIOUS BACKER UNITS:
   1. THICKNESS: 5/8 INCH (15.9 MM).
   2. REPLACES WALL TYPE GWB LAYER WHEN TILE FIN. IS USED.

LEVEL 5 FINISH GWB:
ALL PANEL SURFACE THAT WILL BE EXPOSED TO VIEW WALLS IN THE LOBBY RM 002 & COMMUNITY RM 100. ALL OTHERS ARE LEVEL 4 & COVERED IN 09 29 00 GYPSUM BOARD.



TYPICAL ACOUSTIC DETAILS

NOTES FOR PARTITION AND WALL TYPES

1. SEE WALL SECTIONS & DETAILS FOR INFORMATION ON CONSTRUCTION OF FIRE WALLS & EXTERIOR WALLS.
2. PARTITION & WALL TYPES SHOWN ARE GENERIC IN NATURE & DO NOT COVER EVERY CONDITION THAT MAY OCCUR IN THE BUILDING - SEE WALL SECTIONS & DETAILS FOR ADDITIONAL INFORMATION.
3. PARTITION & WALL TYPES SHOWN DO NOT SHOW LATERAL BRACING OR VERTICAL WALL REINFORCING - SEE STRUCTURAL DRAWINGS.
4. PROVIDE CONTINUOUS HORIZONTAL MASONRY REINFORCING AT 16" O.C. (VERTICAL) SPACING) AT ALL CMU WALLS (RATED AND NON-RATED).
5. SEE FINISH SCHEDULE FOR FINISHES TO BE APPLIED TO PARTITIONS & WALLS.
6. ALL FIRE RESISTANCE RATED PARTITIONS & WALLS SHALL BE BUILT IN STRICT ACCORDANCE WITH THE REQUIREMENTS LISTED IN THE LATEST EDITION OF THE UNDERWRITERS LABORATORIES (UL) FIRE RESISTANCE DIRECTORY FOR THE SPECIFIC UL DESIGN NUMBER REFERENCED.
7. ALL FURRING CHANNELS & STUDS SHALL BE SPACED AT 16" O.C. UNLESS OTHERWISE NOTED.
8. IN ALL PARTITIONS & WALLS REQUIRING ACOUSTIC INSULATION OR AN STC RATING, OUTLETS, SWITCHES, ETC. SHALL NOT BE LOCATED BACK TO BACK; THEY SHALL BE OFFSET AT LEAST 16", SHALL NOT OCCUPY THE SAME STUD CAVITY, AND SHALL BE SEALED. PROVIDE ACOUSTIC PUTTY PADS PER SPEC SECTION 26 05 33 FOR PARTITIONS WITH AN STC RATING. PERIMETERS OF PARTITIONS & WALLS (AT ADJACENT WALLS, COLUMNS, CEILINGS, ETC.) & ALL PENETRATIONS SHALL BE SEALED WITH AN APPROVED ACOUSTIC SEALANT.
9. ALL PARTITIONS & WALLS SHALL EXTEND FULL HEIGHT TO THE FLOOR OR ROOF DECK ABOVE UNLESS SPECIFICALLY NOTED OTHERWISE. PROVIDE HOR. WALL BRACING FOR STUDS OVER 8' HIGH.
10. ALL FIRE RESISTANCE RATED PARTITIONS & WALLS SHALL EXTEND FULL HEIGHT TO THE FLOOR OR ROOF DECK ABOVE & BE SEALED WITH AN APPROVED, NON-COMBUSTIBLE FIRE STOP MATERIAL OR SYSTEM FIRE-RATED FOR THE SAME DURATION AS THE WALL 'F' AND 'T' RATINGS AS REQUIRED BY THE INTERNATIONAL BUILDING CODE. REFER TO CODE PLANS FOR LOCATIONS OF FIRE-RATED PARTITIONS.
11. PROVIDE SLIP-TRACK SYSTEM FOR DEFLECTION OF BEAMS, JOISTS, & STEEL DECK AT TOP OF ALL PARTITIONS & WALLS THAT EXTEND TO THE DECK ABOVE. FILL GAP WITH NON-COMBUSTIBLE , COMPRESSIBLE FILLER AT NON-RATED PARTITIONS & WALLS.
12. SEE DETAILS FOR CONDITIONS WHERE STRUCTURAL MEMBERS PREVENT THE PARTITION OR WALL FROM EXTENDING FULL HEIGHT TO THE FLOOR OR ROOF DECK ABOVE. WHERE A RATED WALL TERMINATES AT THE UNDERSIDE OF A BEAM, THE BEAM SHALL BE FIRE-RATED & FIRESTOPPED.
13. PROVIDE APPROVED STEEL PLATES OR FLAT-STRAP BRACES SECURED TO METAL STUD PARTITIONS AS REQUIRED TO SECURE ITEMS SUCH AS LOCKERS, CASEWORK, SHELVING, LIGHTS, ELECTRICAL DEVICES, TOILET ACCESSORIES, ETC. TO THE PARTITION. PROVIDE PARTITION REINFORCEMENT AS REQUIRED.
14. USE MOISTURE-RESISTANT GYPSUM BOARD ON ALL METAL STUD PARTITIONS LOCATED BEHIND WATER CLOSETS, LAVATORIES, SINKS, & ALL OTHER PLUMBING FIXTURES.
15. SEE STRUCTURAL DRAWINGS FOR INFORMATION ON THICKENED SLABS AND FOUNDATIONS REQUIRED UNDER PARTITIONS AND WALLS.
16. ALL NON-BEARING MASONRY WALLS SHALL EXTEND FULL HEIGHT TO THE FLOOR DECK OR ROOF DECK ABOVE WITH A 1" GAP. FILL GAP WITH A NON-COMBUSTIBLE, COMPRESSIBLE FILLER AT NON-RATED PARTITIONS. FILL GAP WITH AN APPROVED, NON-COMBUSTIBLE FIRE STOP MATERIAL AT RATED WALLS UNLESS NOTED OTHERWISE. REFER TO STRUCTURAL DETAIL FOR ATTACHMENT TO DECK.
17. ALL GYPSUM BOARD LAYERS ARE TO RUN VERTICALLY UNLESS OTHERWISE REQUIRED FOR A UL-LISTING. ALL BOARD JOINTS ARE TO OCCUR AT STUDS. TAPE OUTER JOINTS ONLY. STAGGER JOINTS OF BOARD LAYERS A MINIMUM OF 12" APART WHERE MULTIPLE LAYERS OCCUR. DO NOT GLUE MULTIPLE LAYERS OF GYPSUM BOARD.
18. DUCT, PIPES & OTHER PENETRATING EQUIPMENT ARE NOT TO MAKE RIGID CONTACT WITH GWB OR STUDS.
19. PROVIDE HANGERS TO SUPPORT PIPES. DO NOT CARRY PIPE WEIGHT ON PARTITIONS. CENTER PIPES IN PARTITION OPENINGS.
20. USE GWB FILLER PIECES TO CLOSE OFF LARGE OPENINGS AROUND PIPES.
21. SEAL ALL PENETRATIONS WITH RESILIENT SEALANT TO CLOSE GAPS. USE FIRE SEALANT AT RATED PARTITIONS.

C:\Users\jat\Documents\2213030A1 New Wilkens Police Precinct_jatDGZVC.rvt

Murphy & Dittenhafer ARCHITECTS
800 North Charles Street, Baltimore, Maryland 21201 410-625-4023 voice 410-625-4813 fax
226 West Market Street, York, Pennsylvania 17401 717-848-6827 voice 717-843-2448 fax

SEAL

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 6607 EXPIRATION DATE 06/13/2027

ARCHITECT: Frank Elwood Dittenhafer, II
AS-BUILT PER RECORD PRINT
BY:
DATE:
DATE : 11/6/2025 2:31:54 PM

AS-BUILT / REVISION | BY | DATE | P.W.A. NO. | KEY SHEET | POSITION SHT
CONTRACT COMPLETION BOX | RLM | | R.O.W NO. | GSW | 14SW19, 14SW20, 15SW19, 15SW20

DRAWING SCALE: PLAN SCALE: As indicated; PROFILE SCALE:

PROPERTY MANAGEMENT: APPROVED BY: PROPERTY MANAGER; DATE:

DGN BY: JAT
DWN BY: DWG/ AWU
CHKD BY: RLM

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

INTERIOR PARTITION TYPES

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
A-608	24111 PPO
JOB ORDER NUMBER	300200006
SHEET	158 OF 302
DRAWING NUMBER	2024-1471
FILE NO.:	8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
#	DRAWING NOTE
#	HVAC EQUIPMENT CONNECTION SCHEDULE REFERENCE
#	ELECTRICAL FEEDER SCHEDULE REFERENCE
	EXISTING OR FUTURE EQUIPMENT, AS NOTED THIN/SOLID
	EXISTING EQUIPMENT TO BE REMOVED, HEAVY/DASHED
	NEW EQUIPMENT, AS NOTED HEAVY/SOLID
A a 1	LIGHT FIXTURE, CAPITAL LETTER INDICATES FIXTURE TYPE, LOWER CASE INDICATES SWITCHING, NUMBER (WHERE SHOWN) INDICATES CIRCUIT
	SURFACE OR RECESSED MOUNTED LIGHT FIXTURE
	RECESSED LIGHT FIXTURE; WALL WASH TYPE
	WALL MOUNTED LIGHT FIXTURE
	STRIP OR INDUSTRIAL FIXTURE, CEILING MOUNTED; WALL MOUNTED
	POLE MOUNTED LIGHT FIXTURE
	EMERGENCY OR NITE-LITE FIXTURE, AS NOTED
,	DIRECT/ INDIRECT LIGHT FIXTURE
	JUNCTION BOX
,	EXIT SIGN, CEILING OR WALL MOUNTED - DARKENED PORTION INDICATES THE FACE OF EXIT SIGN AND THE ARROW INDICATES DIRECTIONAL FACE
S_a, S^3, S^4	20 AMP SWITCH - LINE VOLTAGE, SINGLE POLE; 3-WAY; 4-WAY. SUBSCRIPT IDENTIFIES FIXTURE CONTROLLED
S^K	KEYED SWITCH - LINE VOLTAGE; M.H. 48" AFF
S^{LD}	DIGITAL SWITCH, DIMMING, FOR USE WITH DIGITAL OCCUPANCY SENSORS. M.H. 48" AFF
$S^{LD}_{a,b,c,d}$	DIGITAL 5 BUTTON DIMMER SWITCH; M.H. 48" AFF, SUBSCRIPTS IDENTIFY LIGHT FIXTURES CONTROLLED
U,IR,DT,CU a , U,IR,DT,CU	DIGITAL OCCUPANCY SENSOR, CEILING MOUNTED; WALL MOUNTED (U = ULTRASONIC, IR = INFRARED, DT = DUAL TECHNOLOGY, CU = CORRIDOR LONG RANGE ULTRASONIC); SUBSCRIPT INDICATES FIXTURE CONTROLLED
WDTD	DIGITAL WALL SWITCH OCCUPANCY SENSOR, DUAL TECHNOLOGY, 0-10V DIMMING, M.H. 48" AFF
WU,WDT,WIR	WALL SWITCH LINE VOLTAGE OCCUPANCY SENSOR; M.H. 48" AFF (WU = ULTRASONIC, WDT = DUAL TECHNOLOGY, WIR = INFRARED)
WIRD	WALL SWITCH LINE VOLTAGE OCCUPANCY SENSOR, INFRARED, 0-10V DIMMING, M.H. 48" AFF
	PHOTOSENSOR FOR DAYLIGHT HARVESTING (DIMMING); FOR USE WITH DIGITAL LIGHTING CONTROLS
,	NEMA 5-20R RECEPTACLE; M.H. 18"; M.H. COUNTERTOP OUTLET 6" ABOVE COUNTER HEIGHT TO BOTTOM OF OUTLET
	DOUBLE DUPLEX NEMA 5-20R RECEPTACLE. M.H. 18"
GFI	GFI TYPE RECEPTACLE; GFI ONLY WHERE NOTED MAY BE PROTECTED BY UPSTREAM GFI PROTECTION. MH 18" AFF
USB	DUPLEX NEMA 5-20R WITH 2 USB PORTS. MH 18" AFF
OS OS , OS OS	PLUG-LOAD CONTROLLED NEMA 5-20R DUPLEX RECEPTACLE; HALF SWITCHED; ABOVE COUNTER HALF SWITCHED; DOUBLE DUPLEX WITH ONE DUPLEX SWITCHED; DUPLEX, WHOLLY SWITCHED; ALL PLUG LOAD SWITCHING CONTROLLED BY OCCUPANCY SENSOR & WALL SWITCH LOCATED IN SAME ROOM AS DEVICE
AV	NEMA 5-20R RECEPTACLE FOR DIGITAL DISPLAY. MOUNTING HEIGHT SHALL BE COORDINATED WITH TA SERIES DRAWINGS.
TR	DUPLEX NEMA 5-20R TAMPER RESISTANT RECEPTACLE. MH 18" AFF
L6-20R	CEILING MOUNTED RECEPTACLE; NEMA TYPE AS NOTED
#D #V	CEILING MOUNTED LOW VOLTAGE OUTLETS AS SHOWN; D = DATA, V = VOICE, # INDICATES QUANTITY OF EACH PORT
6-30R	SPECIAL RECEPTACLE; NEMA TYPE AS NOTED. M.H. 18" UNLESS NOTED
	FLUSH FLOOR OUTLET WITH NEMA 5-20R DUPLEX/QUAD RECEPTACLE OR AS NOTED
	FLUSH COMBINATION FLOOR OUTLET; POWER & LOW VOLTAGE OUTLETS AS SHOWN
	PUSHBUTTON, FUNCTION AS NOTED; M.H. 48" AFF U.N.O.
	PLYWOOD EQUIPMENT BACKBOARD. DIMENSIONS AS NOTED, FIRE RETARDANT
C	CONTACTOR, TYPE AS NOTED
TC	TIME CLOCK
M	METER SOCKET, AS NOTED
	DISTRIBUTION PANELBOARD
,	BRANCH CIRCUIT PANELBOARD; SURFACE MOUNTED, FLUSH MOUNTED
, CB	ENCLOSED CIRCUIT BREAKER
SPD	SURGE PROTECTIVE DEVICE; TYPE PER SPEC
,	DISCONNECT SWITCH - 3P-30A UNLESS OTHERWISE NOTED; FUSED, NON-FUSED
,	MAGNETIC MOTOR STARTER; COMBINATION STARTER/DISCONNECT

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	TRANSFORMER (INTERIOR)
	TRANSFORMER ON CONCRETE PAD (EXTERIOR)
ATS , G	TRANSFER SWITCH, AUTOMATIC AS INDICATED; PLAN; RISER
G	EMERGENCY GENERATOR
EGS	GENERATOR EMERGENCY STOP BUTTON
M	MOTOR - HP AS NOTED
	GROUND CONNECTION
	DUCTBANK - CONCRETE ENCASED RACEWAYS
HH	HANDHOLE, SIZE AS NOTED
	CONDUIT OR CONDUIT AND WIRE ROUTED IN GRADE OR BELOW SLAB
DB	DIRECT BURIED UNDERGROUND CABLE OR CONDUIT AS NOTED
	CONDUIT AND WIRE OR CABLE ROUTED WITHIN WALLS OR CEILING SPACE OR ROUTED EXPOSED ON WALLS OR CEILINGS. CROSSLINES INDICATE THE NUMBER OF CONDUCTORS IF MORE THAN TWO (NOT INCLUDING GROUND)
	HOMERUN TO PANELBOARD. NUMBER OF ARROWS INDICATES THE NUMBER OF CIRCUITS
	SURFACE METAL RACEWAY, TYPE AS NOTED. SQUARES INDICATE DUPLEX OUTLETS (OR SIMPLEX OUTLETS FOR PLUGMOLD)
/	CONDUIT ENTRANCE FROM ABOVE, FROM BELOW

ELECTRICAL ABBREVIATIONS

A	AMPERE	HWH	HOT WATER HEATER
AFF	ABOVE FINISHED FLOOR	IDC	INITIATING DEVICE CIRCUIT
AF	AMPERE FRAME	IMC	INTERMEDIATE METAL CONDUIT
AFG	ABOVE FINISHED GRADE	KV	KILOVOLTS
AIC	AMPS INTERRUPTING CURRENT	KVA	KILOVOLT-AMPERE
AT	AMPERE TRIP	KW	KILOWATT
ATS	AUTOMATIC TRANSFER SWITCH	MAX	MAXIMUM
AWG	AMERICAN WIRE GAUGE	MFG	MANUFACTURER
BLDG	BUILDING	MIN	MINIMUM
C	CONDUIT	MOD	MOTOR OPERATED DAMPER
CAT	CATEGORY	MTD	MOUNTED
CB	CIRCUIT BREAKER	NAC	NOTIFICATION APPLIANCE CIRCUIT
CKT	CIRCUIT	No.	NUMBER
CLG	CEILING	N.C.	NORMALLY CLOSED
CONC	CONCRETE	N.O.	NORMALLY OPEN
CR	CONTROL RELAY	NFSS	NON-FUSED SAFETY SWITCH
DWG	DRAWING	P	POLE
EF	EXHAUST FAN	PF	POWER FACTOR
EMERG	EMERGENCY	PNL	PANEL
EMR	ELEVATOR MACHINE ROOM	PR	PAIR
EMT	ELECTRICAL METALLIC TUBING	PVC	POLYVINYL CHLORIDE (SCHEDULE 40)
ENCL	ENCLOSURE	PRI	PRIMARY
EWC	ELECTRIC WATER COOLER	Ø	PHASE
EX	EXISTING	QTY	QUANTITY
FAAP	FIRE ALARM ANNUNCIATOR PANEL	RGS	RIGID GALVANIZED STEEL
FACP	FIRE ALARM CONTROL PANEL	RM	ROOM
FLEX	FLEXIBLE	SW	SWITCH
FSS	FUSED SAFETY SWITCH	TEMP	TEMPERATURE
GA	GAUGE	TYP	TYPICAL
GEN	GENERATOR	UH	UNIT HEATER
GFI	GROUND FAULT INTERRUPTING	UTP	UNSHIELDED TWISTED PAIR
GFP	GROUND FAULT PROTECTION	V	VOLTS
GND	GROUND	VAC	VOLTS - ALTERNATING CURRENT
HOA	HAND-OFF-AUTOMATIC (SWITCH)	W	WIRE
HP	HORSEPOWER	WP	WEATHERPROOF
HTR	HEATER	XFMR	TRANSFORMER

GENERAL PROJECT DEMOLITION NOTES

1. INFORMATION SHOWN ON THIS DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM EXISTING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE ACTUAL EXISTING CONDITIONS IN DETAIL OR DIMENSION. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL CONDITIONS AND EFFECT ON HIS WORK PRIOR TO FABRICATION, ROUGHIN, MATERIAL ORDERS OR PERFORMANCE OF THE WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED, IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING FOR DIRECTION BEFORE PROCEEDING WITH THE WORK.
2. REMOVE ALL EQUIPMENT INDICATED, INCLUSIVE OF ASSOCIATED CONDUIT, WIRING, BOXES, SUPPORTS, ETC. BACK TO SOURCE OR LAST REMAINING DEVICE ON SAME CIRCUIT, UNLESS NOTED OTHERWISE.
3. EXISTING CIRCUITS INTERRUPTED BY DEMOLITION OR RELOCATION WORK, BUT SERVING ITEMS INDICATED TO REMAIN, SHALL BE MADE CONTINUOUS.
4. DEMOLITION SHALL INCLUDE REMOVAL OF ELECTRICAL EQUIPMENT AND ASSOCIATED COMPONENTS AND MATERIALS. DO NOT ABANDON IN PLACE ANY ITEMS UNLESS NOTED ON THE DRAWINGS. EQUIPMENT REMOVED SHALL BE OFFERED TO THE OWNER PRIOR TO DISPOSAL, AND IF DESIRED, SHALL BE STORED ON SITE, WHERE INSTRUCTED. ALL MATERIALS NOT TO BE RETAINED BY OWNER SHALL BE REMOVED FOR OFF-SITE, LEGAL DISPOSAL
5. UNLESS NOTED OTHERWISE, ELECTRICAL ITEMS SHOWN HEAVY/DASHED (- - - - -) SHALL BE REMOVED AND/OR RELOCATED. ELECTRICAL ITEMS SHOWN LIGHT/SOLID (_____) ARE EXISTING TO REMAIN. ELECTRICAL ITEMS SHOWN HEAVY/SOLID (_____) REPRESENTS NEW WORK.
6. THE EXISTING FACILITY SHALL REMAIN IN OPERATION DURING CONSTRUCTION. ALL INTERRUPTIONS TO UTILITIES OR SERVICES MUST BE COORDINATED WITH THE OWNER OR USING AGENCY TO MINIMIZE DISRUPTIONS. PROVIDE NOTICE TO THE FACILITY AND OWNER 15 DAYS IN ADVANCE OF PLANNED OUTAGES.
7. REFER TO PROJECT PHASING DRAWINGS AND/OR REQUIREMENTS FOR COORDINATION OFALL DEMOLITION WORK WITH OVERALL PROJECT PHASING.
8. WHENEVER THE BUILDING IS OCCUPIED DURING THE WORK, EXISTING FIRE ALARM AND LIFE SAFETY SYSTEMS SHALL BE KEPT IN OPERATION.
9. NOTIFY OWNER OF ANY DAMAGED OR NON-WORKING ITEMS PRIOR TO REMOVAL. ANY EQUIPMENT DAMAGED DURING REMOVAL AND/OR RELOCATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE WITH EQUIPMENT EQUAL TO EXISTING.
10. WHERE SITE DEMOLITION WORK REQUIRES REMOVAL OF LIGHT POLES, PAD MOUNTED EQUIPMENT, ETC., REMOVE ASSOCIATED POLE BASES, CONCRETE PADS, ETC. DOWN TO 36 INCHES BELOW FINAL FINISHED GRADE.
11. ANY OPENINGS LEFT IN CEILINGS/WALLS SHALL BE PATCHED AND FINISHED TO MATCH EXISTING ADJACENT SURFACES. WHERE DEVICES ARE REMOVED FROM CEILING TILES, PROVIDE REPLACEMENT TILE(S) TO MATCH EXISTING.
12. DISCONNECT AND REMOVE ALL ASSOCIATED ELECTRICAL CONNECTIONS FOR EXISTING HVAC AND PLUMBING EQUIPMENT BEING REMOVED, INCLUDING: CONDUIT, WIRING, OUTLETS, DISCONNECTING MEANS, STARTERS, SWITCHES, ETC. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.

GENERAL PROJECT NOTES

1. DRAWINGS ARE DIAGRAMMATIC AND GENERALLY REPRESENTATIVE OF THE WORK REQUIRED. VERIFY ALL WORK ON SITE AND REPORT ANY CONFLICTS TO THE ENGINEER FOR REVIEW PRIOR TO PROCEEDING WITH WORK OR CHANGES.
2. REFER TO ARCHITECTURAL OR PHASING DRAWINGS FOR OVERALL PROJECT PHASING. PLAN AND COORDINATE THE WORK, AS REQUIRED.
3. PROVIDE NEW TYPED CIRCUIT DIRECTORIES FOR ALL NEW PANELBOARDS AND ANY EXISTING PANELS IN WHICH CIRCUITS WERE MODIFIED.
4. ALL PANELBOARD AND SWITCHBOARD SCHEDULES ARE BASED ON COPPER CONDUCTORS. ALUMINUM CONDUCTORS ARE NOT PERMITTED.
5. ALL CONDUIT, BOXES, CABLE TRAY, ETC. SHALL GENERALLY BE INSTALLED A MINIMUM OF 12" ABOVE CEILINGS. COORDINATE WITH OTHER TRADES PRIOR TO INSTALLATION.
6. ALL CEILING MOUNTED DEVICES, INCLUDING FIRE STROBES, SMOKE DETECTORS, SPEAKERS, OCCUPANCY SENSORS, ETC. SHALL BE CENTERED IN 2X2 CEILING TILES, OR IN HALF OF 2X4 TILES, AS APPLICABLE.
7. WHERE AREAS HAVE NO FINISHED CEILINGS, INSTALL FIRE STROBES, EXIT LIGHTS, OCCUPANCY SENSORS, ETC. AT A HEIGHT EQUAL TO THE BOTTOM OF TH E GENERAL LIGHTING FIXTURES, OR DUCTWORK, AS APPLICABLE SO THAT SUCH DEVICES ARE VISIBLE TO OCCUPANTS AND NOT BLOCKED BY OTHER EQUIPMENT.
8. ALL PROJECT CONDUIT AND CABLING SHALL BE INSTALLED ABOVE FINISHED CEILINGS, WHERE POSSIBLE TO MINIMIZE VISIBILITY OF SUCH ITEMS IN AREAS WITH EXPOSED STRUCTURE. ALL CABLING INSTALLED IN EXPOSED STRUCTURE AREAS, SHALL BE IN EMT CONDUIT INSTALLED TIGHT TO DECK ABOVE, EXCEPT FOR SHORT FINAL CONNECTIONS TO FIRE ALARM DEVICES, LIGHT FIXTURES, ETC. MC CABLE SHALL BE PERMITTED WHERE INSTALLED ABOVE FINISHED CEILINGS OR CONCEALED IN PARTITION WALLS.
9. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES, FINISHES, ETC. COORDINATE ALL LIGHT FIXTURE MOUNTING, FRAME KITS, ETC. AS REQUIRED.
10. MAKE MINOR ADJUSTMENTS TO LIGHT FIXTURE LOCATIONS AND/OR ELEVATIONS IN UTILITY ROOMS, TO COORDINATE WITH FINAL INSTALLED PIPING, CONDUITS, AND LARGE EQUIPMENT. DO NOT INSTALL LIGHTS ABOVE PIPING OR EQUIPMENT.
11. ALL LOW VOLTAGE CABLING INSTALLED ABOVE CEILINGS AND NOT IN RACEWAYS SHALL BE PLENUM RATED.
12. ALL BRANCH CIRCUITS SHALL UTILIZE INDIVIDUAL NEUTRAL CONDUCTORS. SHARED NEUTRALS AND MULTI-WIRE CIRCUITS ARE NOT PERMITTED.
13. ALL BRANCH CIRCUITS AND FEEDERS SHALL INCLUDE AN EQUIPMENT GROUNDING CONDUCTOR. CONDUIT IS NOT PERMITTED AS THE SOLE GROUND PATH.
14. ALL EMERGENCY AND EGRESS LIGHTING FIXTURES SHALL BE CONNECTED TO LIFE SAFETY EMERGENCY SYSTEM BRANCH CIRCUITS AHEAD OF ALL SWITCHING, UNLESS INDICATED OTHERWISE.
15. WHERE EMERGENCY LIGHTING IS SWITCHED, UL-924 LISTED COMPONENTS IN CONJUCTION WITH THE LIGHTING CONTROLS SHALL BE PROVIDED TO BRING LIGHTING TO FULL BRIGHTNESS UNDER EMERGENCY/LOSS OF POWER CONDITION.
16. LIGHTING CONTROLS SHOWN ON PLAN ARE LIMITED TO PLACEMENT AND QUANTITY OF SWITCHING AND OCCUPANCY SENSORS. ADDITIONAL COMPONENTS CONTAINING BUT NOT LIMITED TO CONTROLLERS, RELAYS AND LOW VOLTAGE CABLING, ETC. ARE REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM. REFER TO SPECIFICAITIONS FOR ADDITIONAL INFORMATION.
17. PROVIDE ACCESS PANELS FOR ALL DUCT SMOKE DETECTORS, JUNCTION BOXES, AND OTHER EQUIPMENT REQUIRING ACCESS OR ADJUSTMENT, AND LOCATED ABOVE HARD CEILINGS OR BEHIND WALL PARTITIONS, IN CHASES, ETC.
18. THIS PROJECT REQUIRES SPECIFIC SEISMIC SWAY BRACING AND SUPPORTING OF SELECTED EQUIPMENT AND SYSTEMS. REFER TO SPEC SECTION 26 05 48.
19. UNLESS LARGER GAUGE IS INDICATED ON PANEL SCHEDULES, BRANCH CIRCUIT WIRING SHALL COMPENSATE FOR VOLTAGE DROP, AS FOLLOWS:
    a. 120V, 0-90LF: #12AWG 277V, 0-150LF: #12 AWG
    b. 120V, 91-140LF:#10 AWG 277V, 151-240LF: #10 AWG
    c. 120V, >140LF: #8 AWG 277V, >240LF: #8 AWG
20. UNLESS NOTED OTHERWISE, ALL WIRING & CONDUIT/CABLING SHOWN ON FLOOR PLANS IS FOR DIAGRAMMATIC PURPOSES ONLY. COORDINATE EXACT INSTALLATION REQUIREMENTS WITH FIELD CONDITIONS AND INSTALL PER SPECIFICATIONS.
21. MINIMUM INTERIOR RIGID CONDUIT SIZE SHALL BE ¾" UNLESS NOTED OTHERWISE.
22. ALL RECEPTACLES INSTALLED IN KITCHENS, BREAK ROOMS AND WITHIN 6 FT OF SINKS, ETC. SHALL HAVE GFI PROTECTION PER NEC. DO NOT INSTALL GFCI OUTLETS BEHIND RANGES, REFRIGS, FREEZERS, DISHWASHERS, BUILT-IN MICROWAVES, AND SIMILAR INACCESSIBLE LOCATIONS. SUCH CIRCUITS SHALL USE GFCI BREAKERS.
23. PROVIDE RECEPTACLES AND LOW-VOLTAGE CONNECTION BOXES BEHIND ALL WALL-MOUNTED VIDEO MONITORS, FLAT SCREEN TV'S, ETC. LOW VOLTAGE SHALL INCLUDE A MINIMUM OF 2-GANG BOX WITH EMPTY 1-1/4" EMT CONDUIT TO CEILING CAVITY, UNLESS NOTED OTHERWISE. MOUNT RECEPTACLE AND LV BOX SIDE BY SIDE AT SAME ELEVATION, CONCEALED BEHIND THE TV OR MONITOR. COORDINATE OUTLET LOCATIONS WITH ARCH DETAILS AND MOUNTING HARDWARE/SUPPORT BRACKET FOR TV.
24. ALL ELECTRIC WATER COOLERS SHALL BE PROVIDED WITH GFCI PROTECTION PER NEC. WHERE RECEPTACLES INSTALLED FOR CORD/PLUG CONNECTED WATER COOLERS ARE CONCEALED BEHIND ACCESS PANEL OR SIMILAR INACCESSIBLE LOCATION, USE STANDARD OUTLET AND PROVIDE GFCI BRANCH BREAKER FOR PROTECTION.
25. REFRIGERATOR & FREEZER RECEPTACLES SHALL BE MOUNTED AT 42" AFF AND 6" FROM ADJACENT COUNTER, WHERE APPLICABLE.
26. MULTIPLE SWITCHES IN THE SAME LOCATION SHALL USE A SINGLE MULTI-GANG DEVICE BOX AND COVER PLATE.
27. PROVIDE WIRE BALL GUARDS FOR ALL EXIT SIGNS INSTALLED IN GYMNASIUMS OR MULTIPURPOSE ROOMS. CONCEAL ALL CONDUIT AND BACKBOXES, AS PRACTICABLE.
28. THE PROJECT INCLUDES PERFORMANCE SPECIFICATIONS (SECTION 27 60 00) TO PROVIDE AN EMERGENCY RESPONDER SYSTEM PER IFC 510. SYSTEM DESIGNER/INSTALLER SHALL SUBMIT ALL SYSTEM INFORMATION, DESIGN, ETC. TO THE FIRE DEPARTMENT AND LOCAL BUILDING PERMIT/INSPECTION DEPARTMENT FOR REVIEW AND APPROVAL.
29. THE PROJECT INCLUDES PERFORMANCE SPECIFICATIONS (SECTION 26 31 00) TO PROVIDE PHOTOVOLTAIC SYSTEM. SYSTEM DESIGNER/INSTALLER SHALL SUBMIT ALL SYSTEM INFORMATION, DESIGN, ETC. FOR REVIEW AND APPROVAL
30. PROVIDE A COMPLETE UL MASTER LABEL LIGHTNING PROTECTION SYSTEM (LPS) FOR THE ENTIRE BUILDING AND ALL ASSOCIATED ROOFTOP EQUIPMENT, EXTENSIONS, FLUES, VENTS, ETC. PER SPECIFICATION SECTION 13100 (26 41 13) AND NFPA 780.
31. NOTIFY MISS UTILITY OR NATIONAL "811" MINIMUM OF 48 HOURS PRIOR TO DIGGING. ON SITES WHERE SUCH SERVICES ARE NOT APPLICABLE, PROVIDE SERVICES OF AN UNDERGROUND UTILTY LOCATING CONTRACTOR TO LOCATE AND MARK ALL BURIED UTILITIES IN THE REGION WHERE EXCAVATION IS TO OCCUR.
32. EXISTING PUBLIC AND PRIVATE UTILITIES SHOWN HEREIN REFLECT AVAILABLE DATA, AND MAY NOT REPRESENT AS-BUILT CONDITIONS. LOCATE AND PROTECT ALL UTILITIES WHICH ARE TO REMAIN IN USE, WHETHER SHOWN OR NOT. PROVIDE AMPLE COVER AND PROTECTION OF ALL INSTALLED UTILITIES DURING THE CONSTRUCTION OF THIS PROJECT.
33. CONFORM TO ALL FEDERAL, STATE AND LOCAL REQUIREMENTS FOR STORM WATER AND SEDIMENT & EROSION CONTROL, AS APPLICABLE TO THE SITE WORK OF THIS CONTRACT, INCLUDING ALL EXCAVATION AND TRENCHING.
34. ALL DEBRIS CREATED AS A RESULT OF TRENCHING OR SITE UTILITY INSTALLATION SHALL BE LEGALLY DISPOSED OF OFF-SITE.
35. TRENCHING WORK SHALL BE LIMITED TO A MAXIMUM OF 100LF OF OPEN TRENCH AT ANY TIME. EXCEPTIONS CAN ONLY BE APPROVED BY THE STATE'S DEPARTMENT OF THE ENVIRONMENT UPON SUBMISSION OF A SEDIMENT AND EROSION CONTROL PLAN.
36. ALL UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC, DIRECT BURIED OR CONCRETE ENCASED, AS INDICATED. MINIMUM BURIAL DEPTHS SHALL BE PER NEC.
37. ALL UNDERGROUND SITE LIGHTING CONDUITS SHALL BE SCHEDULE 40, DIRECT BURIED, MINIMUM 1" UNLESS NOTED OTHERWISE. MINIMUM BURIAL DEPTHS SHALL BE PER NEC.
38. ALL BURIED CABLES/CONDUIT/DUCTBANKS, HANDHOLES, MANHOLES, EQUIPMENT PADS, LIGHT POLE FOUNDATIONS, ETC. SHALL BE COORDINATED WITH FINAL GRADES PRIOR TO INSTALLATION.
39. ALL LIGHT POLES SHALL BE LOCATED A MINIMUM OF 18" FROM SIDEWALK OR PAVEMENT.
40. FOR OUTDOOR GENERATORS, COORDINATE DIRECTION OF RADIATOR AND EXHAUST DISCHARGE TO BE AWAY FROM BUILDINGS, STRUCTURES, ETC. AS INDICATED ON PLANS. MAINTAIN MINIMUM 10 FT FRONT CLEARANCE AT RADIATOR DISCHARGE.
41. REMOVE ALL EXISTING ELECTRICAL EQUIPMENT, AS INDICATED, INCLUDING ASSOCIATED CONCRETE PADS, FOUNDATIONS, AND CONDUIT DOWN TO A DEPTH OF 48" BELOW FINAL FINISHED GRADE.

5 42. WHERE MASONRY WALLS HAVE BEEN FURRED OUT CONTRACTOR SHALL PROVIDE 1 1/2" DEEP ELECTRICAL BOXES IN THESE LOCATIONS FOR RECEPTACLES TO BE FLUSH IN WALL. COORDINATE EXACT LOCATIONS WITH ARCHITECT.

ELECTRICAL DRAWING INDEX

Sheet Number	Sheet Name
E001	ELECTRICAL COVERSHEET
E002	LIGHT FIXTURE SCHEDULE
E100	ELECTRICAL SITE PLAN
E201	FIRST FLOOR LIGHTING - WING A
E202	FIRST FLOOR LIGHTING - WING B
E203	SECOND FLOOR LIGHTING - WING A
E204	SECOND FLOOR LIGHTING - WING B
E205	FIRST FLOOR POWER - WING A
E206	FIRST FLOOR POWER - WING B
E207	SECOND FLOOR POWER - WING A
E208	SECOND FLOOR POWER - WING B
E209	ROOF PLAN - ELECTRICAL - WING A
E210	ROOF PLAN - ELECTRICAL - WING B
E301	PART PLANS - ELECTRICAL
E501	ELECTRICAL POWER RISER DIAGRAM
E502	ELECTRICAL METER RISER DIAGRAMS
E601	ELECTRICAL DETAILS
E602	ELECTRICAL DETAILS
E603	ELECTRICAL DETAILS
E604	ELECTRICAL DETAILS
E605	ELECTRICAL DETAILS
E801	HVAC SCHEDULE
E802	PANEL SCHEDULES
E803	PANEL SCHEDULES

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SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 51627, EXPIRATION DATE 12/06/2026

ENGINEER:

AS-BUILT PER RECORD PRINT

BY:

DATE:

DATE : 11/6/2025 3:23:11 PM

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
5 ADDENDUM #5	MRS	11.6.25		GSW	14SW19	PLAN SCALE: 12" = 1'-0"	APPROVED BY:
			R.O.W NO.		14SW20	PROFILE SCALE:	PROPERTY MANAGER
CONTRACT COMPLETION BOX							DATE:

DGN BY: KEC
DRN BY: KEC
CHKD BY: DJT

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

ELECTRICAL COVERSHEET

NEW BUILDING DESIGN

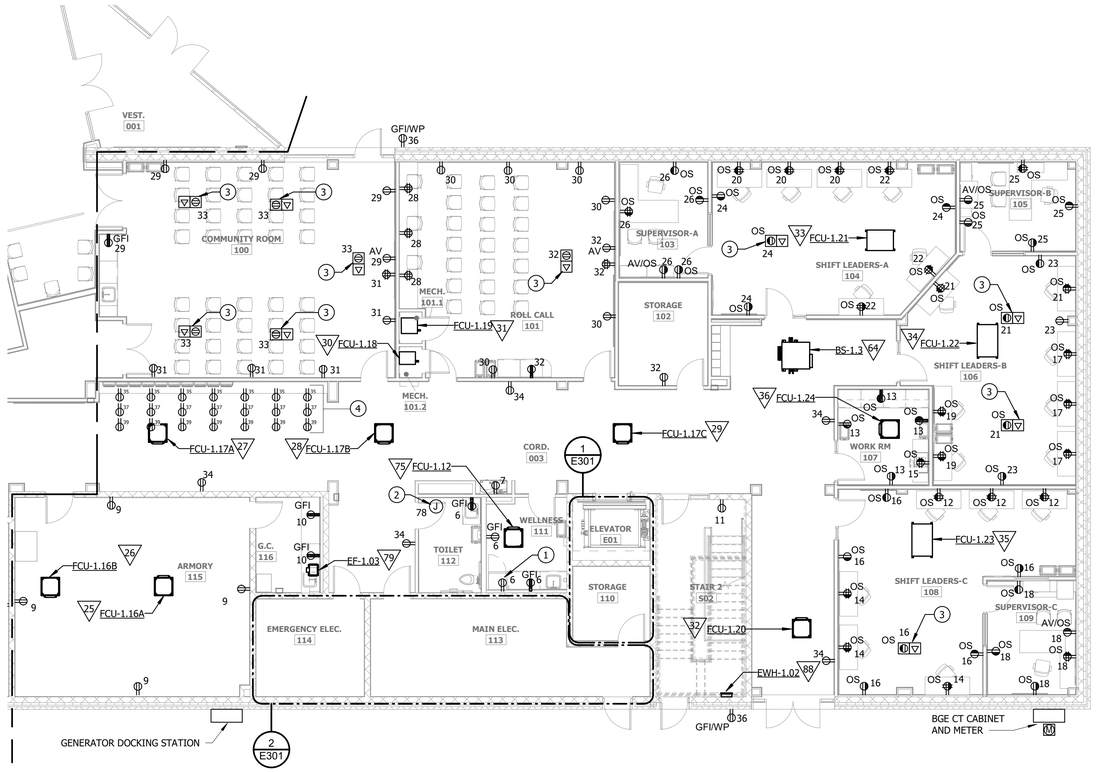
901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
E001	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 236 OF 302
	DRAWING NUMBER
	2024 - 1549
	FILE NO.: 8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



FIRST FLOOR POWER - WING A

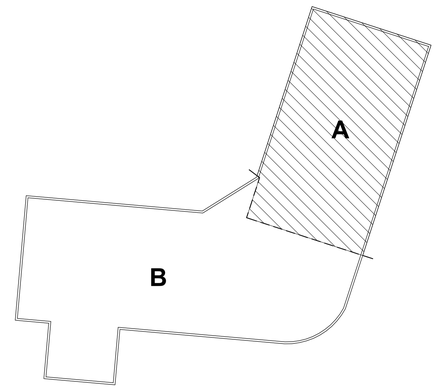
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. UNLESS NOTED OTHERWISE, ALL DEVICES SHOWN ON THIS SHEET SHALL BE CONNECTED TO PANEL RP1, CIRCUIT ADJACENT DEVICE.
2. ALL FLOOR BOXES ON THIS SHEET SHALL BE FLUSH IN FLOOR TYPE. COORDINATE ALL FLOOR BOX LOCATIONS WITH ARCHITECT AND FURNITURE PRIOR TO ROUGH-IN.
3. COORDINATE ALL 'AV' RECEPTACLES HEIGHTS AND LOCATIONS WITH LOW VOLTAGE CONSULTANT PRIOR TO ROUGH-IN.
4. REFER TO LOW VOLTAGE DRAWINGS FOR LOCATIONS OF DATA OUTLETS. WHERE RECEPTACLE AND DATA ARE ADJACENT, PROVIDE A COMBINATION LOW VOLTAGE/LINE VOLTAGE JUNCTION BOX AND COVER PLATE.
5. ALL SWITCHED RECEPTACLES (WITH 'OS' SUBSCRIPT) SHALL BE CONTROLLED BY LOCAL LIGHTING CONTROLS IN SAME ROOM OR AREA.
6. IN AREAS WHERE MASONRY WALLS HAVE BEEN FURRED OUT CONTRACTOR SHALL PROVIDE 1 1/2" DEEP ELECTRICAL BOXES IN THESE LOCATIONS FOR RECEPTACLES TO BE FLUSH IN WALLS. COORDINATE EXACT AREAS WITH ARCHITECT.

DRAWING NOTES

1. CONNECT DOWNSTREAM OF GFI RECEPTACLE ON SAME CIRCUIT.
2. PROVIDE JUNCTION BOX ABOVE CEILING FOR CONNECTION OF REST ROOM SINK AND LAV SENSOR TRANSFORMER. TRANSFORMER PROVIDED BY MECHANICAL. EC SHALL CONNECT TRANSFORMER AND PROVIDE ALL LOW VOLTAGE WIRING DOWN TO PLUMBING FIXTURE SENSORS FOR A COMPLETE SYSTEM. COORDINATE ALL SENSOR LOCATIONS WITH MECHANICAL.
3. PROVIDE FLUSH IN FLOOR COMBINATION FOUR COMPARTMENT BOX RATED FOR INSTALLATION IN CONCRETE (WIREMOLD RFB4 SERIES OR EQUAL). DEVICE SHALL INCLUDE DUPLEX RECEPTACLE AND DATA CONNECTION PORTS (COORDINATE WITH IT). COORDINATE EXACT LOCATIONS WITH OWNER, ARCHITECT AND FURNITURE SUPPLIER PRIOR TO ROUGH-IN OF DEVICE IN CONCRETE FLOOR. EXTEND 1 1/4" EMPTY CONDUIT TO NEAREST WALL AND UP TO CEILING CAVITY FOR ROUTING OF DATA CABLING BACK TO IT ROOM. ROUTE 3/4" CONDUIT TO WALL FOR CONNECTION TO NEXT RECEPTACLE ON SAME CIRCUIT. PROVIDE PULL CORD IN ALL CONDUITS.
4. PROVIDE V4000 SERIES DUAL CHANNEL WIREMOLD WITH DUPLEX RECEPTACLES LOCATED IN WIREMOLD BETWEEN EACH BODY CAM CHARGING STATIONS (2 STATIONS PER RECEPT). LOCATE WIREMOLD RUNS ON FACE OF EACH BODY CAM SHELF END TO END BETWEEN WING WALLS. COORDINATE EXACT LOCATIONS WITH OWNER AND ARCHITECT. COORDINATE LOW VOLTAGE OUTLET LOCATIONS WITH SHEET TA103.



KEY PLAN - A

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

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

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SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 51627, EXPIRATION DATE 12/06/2026	5 ADDENDUM #5	MRS	11.6.25		GSW	14SW19	PLAN SCALE: 1/8" = 1'-0"	APPROVED BY: PROPERTY MANAGER
					R.O.W NO.		14SW20	PROFILE SCALE:	DATE:
	ENGINEER:	CONTRACT COMPLETION BOX							
	DGN BY: KEC	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
	AS-BUILT PER RECORD PRINT DRN BY: KEC	REVIEWED BY:							
DATE : 11/6/2025 3:26:30 PM	BY: DATE: CHKD BY: DJT	DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

FIRST FLOOR POWER - WING A

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
E205	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 243 OF 302
	DRAWING NUMBER
	2024 – 1556
	FILE NO.: 8

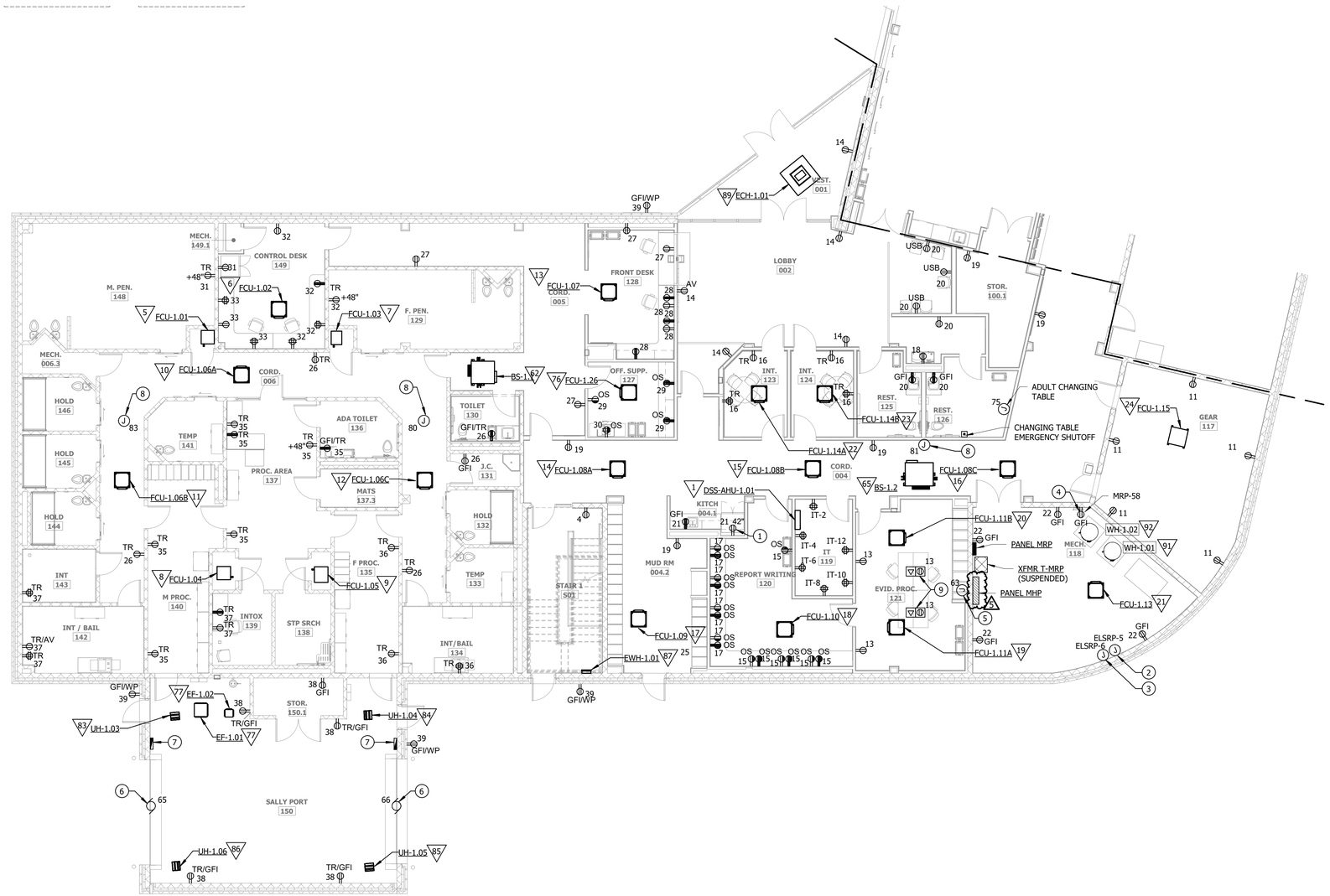
Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

GENERAL NOTES

1. UNLESS NOTED OTHERWISE, ALL DEVICES SHOWN ON THIS SHEET SHALL BE CONNECTED TO PANEL RP2, CIRCUIT ADJACENT DEVICE.
2. COORDINATE ALL FLOOR BOX LOCATIONS WITH ARCHITECT AND FURNITURE PRIOR TO ROUGH-IN.
3. COORDINATE ALL 'AV' RECEPTACLES HEIGHTS AND LOCATIONS WITH LOW VOLTAGE CONSULTANT PRIOR TO ROUGH-IN.
4. REFER TO LOW VOLTAGE DRAWINGS FOR LOCATIONS OF DATA OUTLETS. WHERE RECEPTACLE AND DATA ARE ADJACENT, PROVIDE A COMBINATION LOW VOLTAGE/LINE VOLTAGE JUNCTION BOX AND COVER PLATE.
5. ALL SWITCHED RECEPTACLES (WITH 'OS' SUBSCRIPT) SHALL BE CONTROLLED BY LOCAL LIGHTING CONTROLS IN SAME ROOM OR AREA.
6. ALL FLOOR BOXES ON THIS SHEET SHALL BE FLUSH IN FLOOR TYPE.
7. ALL DEVICES, BOXES, COVERS, ETC. ACCESSIBLE TO INMATES SHALL BE SECURED TO THE WALL/CEILING WITH TAMPERPROOF HARDWARE.
5. 8. IN AREAS WHERE MASONRY WALLS HAVE BEEN FURRED OUT CONTRACTOR SHALL PROVIDE 1 1/2" DEEP ELECTRICAL BOXES IN THESE LOCATIONS FOR RECEPTACLES TO BE FLUSH IN WALLS. COORDINATE EXACT AREAS WITH ARCHITECT.

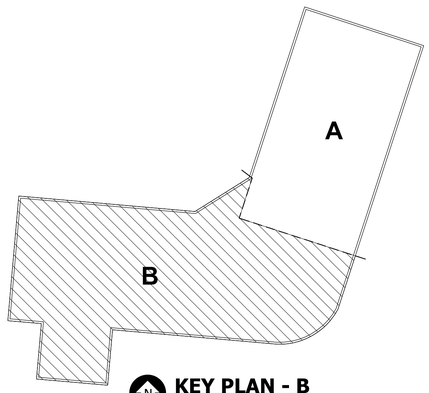
DRAWING NOTES

1. CONNECT DOWNSTREAM OF GFI RECEPTACLE ON SAME CIRCUIT.
2. FOR PRE-ACTION SYSTEM. REFER TO F/FA SERIES DRAWINGS FOR FINAL LOCATION AND CONNECTION REQUIRMENTS.
3. FOR FIRE PROTECTION SYSTEM AIR COMPRESSOR (1/4HP, 120V/1Ø). PROVIDE A SINGLE POLE THERMAL DISCONENCT SWITCH. REFER TO F/FA SERIES DRAWINGS FOR FINAL LOCATION AND CONNECTION REQUIRMENTS.
4. TRAP PRIMER CONTROL PANEL. COORDINATE FINAL LOCATION WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
5. FOR LOCKER INTEGRAL POWER CONNECTION. COORDINATE QUANTITY OF WIRES, BREAKER SIZE, AND CONNECTION WITH APPROVED SHOP DRAWINGS PRIOR TO ROUGH-IN.
6. OVERHEAD DOOR MOTOR (1HP, 208V/3Ø). CONNECT TO GARAGE DOOR CONTROL PANEL PER MANUFACTURER'S REQUIREMENTS.
7. OVERHEAD DOOR MOTOR CONTROL PANEL. COORDINATE FINAL LOCATION IN FIELD PRIOR TO ROUGH-IN. PROVIDE A 3/4" EMPTY CONDUIT WITH PULL STRING TO INTERIOR ACCESSIBLE CEILING FOR REMOTE CONTROLS. COORDINATE WITH OWNER AND LOW VOLTAGE CONSULTANT. PROVIDE ALL ADDITIONAL WIRING/CONDUIT BETWEEN CONTROL PANEL AND DOOR MOTOR AS REQUIRED BY MANUFACTURER.
8. PROVIDE JUNCTION BOX ABOVE CEILING FOR CONNECTION OF REST ROOM SINK AND LAV SENSOR TRANSFORMERS. TRANSFORMERS PROVIDED BY MECHANICAL. EC SHALL CONNECT TRANSFORMER AND PROVIDE ALL LOW VOLTAGE WIRING DOWN TO PLUMBING FIXTURE SENSORS FOR A COMPLETE SYSTEM. COORDINATE ALL SENSOR LOCATIONS WITH MECHANICAL.
9. PROVIDE FLUSH IN FLOOR COMBINATION FOUR COMPARTMENT BOX RATED FOR INSTALLATION IN CONCRETE (WIREMOLD RFB4 SERIES OR EQUAL). DEVICE SHALL INCLUDE DUPLEX RECEPTACLE AND DATA CONNECTION PORTS (COORDINATE WITH IT). COORDINATE EXACT LOCATIONS WITH OWNER, ARCHITECT AND FURNITURE SUPPLIER PRIOR TO ROUGH-IN OF DEVICE IN CONCRETE FLOOR. EXTEND 1 1/4" EMPTY CONDUIT TO NEAREST WALL AND UP TO CEILING CAVITY FOR ROUTING OF DATA CABLING BACK TO IT ROOM. ROUTE 3/4" CONDUIT TO WALL FOR CONNECTION TO NEXT RECEPTACLE ON SAME CIRCUIT. PROVIDE PULL CORD IN ALL CONDUITS.



FIRST FLOOR POWER - WING B

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



KEY PLAN - B

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

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

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SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 51627, EXPIRATION DATE 12/06/2026.	5 ADDENDUM #5	MRS	11.6.25		GSW	14SW19	PLAN SCALE: 1/8" = 1'-0"	APPROVED BY: PROPERTY MANAGER
					R.O.W. NO.		14SW20	PROFILE SCALE:	DATE:
		CONTRACT COMPLETION BOX							
	ENGINEER: KEC	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
	DGN BY: KEC	REVIEWED BY:							
	AS-BUILT PER RECORD PRINT	DRN BY: KEC							
DATE: 11/6/2025 3:56:07 PM	BY: DATE:	CHKD BY: DJT	DATE REVIEWED:						

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

FIRST FLOOR POWER - WING B

NEW BUILDING DESIGN

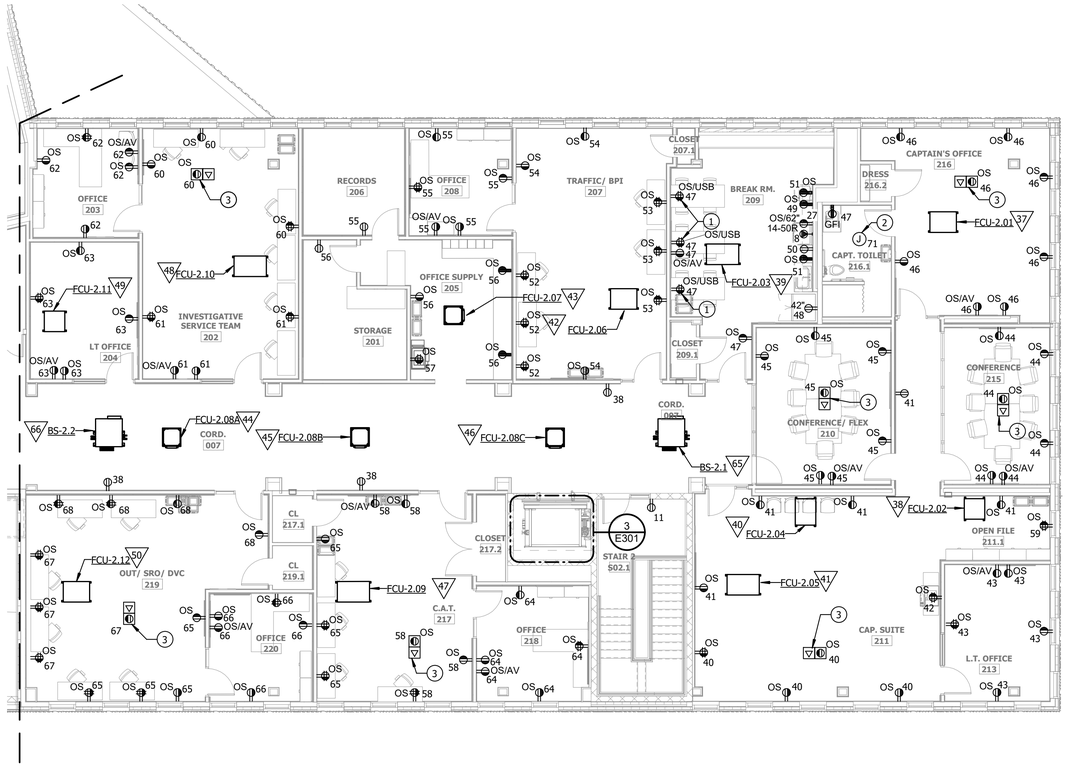
SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

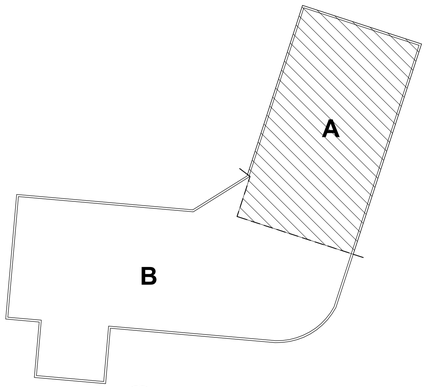
SHEET DESIGNATION	CONTRACT NUMBER
E206	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 244 OF 302
	DRAWING NUMBER
	2024 - 1557
	FILE NO.: 8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



SECOND FLOOR POWER - WING A

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



KEY PLAN - A

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

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

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DWG. FILENAME: C:\Users\dlwardlaw\Documents\REVIT User Files\REVIT 2021 User Files\290601-Wilkens Police Precinct-Central-R21_dlwardlaw.rvt

GENERAL NOTES

1. UNLESS NOTED OTHERWISE, ALL DEVICES SHOWN ON THIS SHEET SHALL BE CONNECTED TO PANEL RP1, CIRCUIT ADJACENT DEVICE.
2. COORDINATE ALL FLOOR BOX LOCATIONS WITH ARCHITECT AND FURNITURE PRIOR TO ROUGH-IN.
3. COORDINATE ALL 'AV' RECEPTACLES HEIGHTS AND LOCATIONS WITH LOW VOLTAGE CONSULTANT PRIOR TO ROUGH-IN.
4. REFER TO LOW VOLTAGE DRAWINGS FOR LOCATIONS OF DATA OUTLETS. WHERE RECEPTACLE AND DATA ARE ADJACENT, PROVIDE A COMBINATION LOW VOLTAGE/LINE VOLTAGE JUNCTION BOX AND COVER PLATE.
5. ALL SWITCHED RECEPTACLES (WITH 'OS' SUBSCRIPT) SHALL BE CONTROLLED BY LOCAL LIGHTING CONTROLS IN SAME ROOM OR AREA.
6. ALL FLOOR BOXES ON THIS SHEET SHALL BE POKE-THRU TYPE.
5. 7. IN AREAS WHERE MASONRY WALLS HAVE BEEN FURRED OUT CONTRACTOR SHALL PROVIDE 1 1/2" DEEP ELECTRICAL BOXES IN THESE LOCATIONS FOR RECEPTACLES TO BE FLUSH IN WALLS. COORDINATE EXACT AREAS WITH ARCHITECT.

DRAWING NOTES

1. ONE OCCUPANCY SENSOR CONTROLLED RECEPTACLE (WHOLE DEVICE SWTICHED) & ONE USB TYPE RECEPTACLE (UNSWITCHED).
2. PROVIDE JUNCTION BOX ABOVE CEILING FOR CONNECTION OF REST ROOM SINK AND LAV SENSOR TRANSFORMERS. TRANSFORMERS PROVIDED BY MECHANICAL. EC SHALL CONNECT TRANSFORMER AND PROVIDE ALL LOW VOLTAGE WIRING DOWN TO PLUMBING FIXTURE SENSORS FOR A COMPLETE SYSTEM. COORDINATE ALL SENSOR LOCATIONS WITH MECHANICAL.
3. PROVIDE FLUSH IN FLOOR POKE THROUGH DEVICE. DEVICE SHALL INCLUDE DUPLEX RECEPTACLE AND DATA CONNECTION PORTS (COORDINATE WITH IT). COORDINATE EXACT LOCATIONS WITH OWNER, ARCHITECT AND FURNITURE SUPPLIER PRIOR TO CORE DRILLING CONCRETE FLOOR. EXTEND 1 1/4" EMPTY CONDUIT TO NEAREST WALL AND UP TO CEILING CAVITY FOR ROUTING OF DATA CABLING BACK TO IT ROOM. PROVIDE PULL CORD IN EMPTY CONDUIT.

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 51627, EXPIRATION DATE 12/06/2026

ENGINEER:

AS-BUILT PER RECORD PRINT

BY:

DATE: 11/6/2025 3:31:01 PM

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.
5 ADDENDUM #5	MRS	11.6.25	
			R.O.W. NO.
CONTRACT COMPLETION BOX			

KEY SHEET	POSITION SHT
GSW	14SW19
	14SW20

DRAWING SCALE	
PLAN SCALE:	1/8" = 1'-0"
PROFILE SCALE:	

PROPERTY MANAGEMENT

APPROVED BY: PROPERTY MANAGER

DATE:

DGN BY: KEC

DRN BY: KEC

CHKD BY: DJT

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

SECOND FLOOR POWER - WING A

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
E207	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 245 OF 302
	DRAWING NUMBER
	2024 - 1558
	FILE NO.: 8

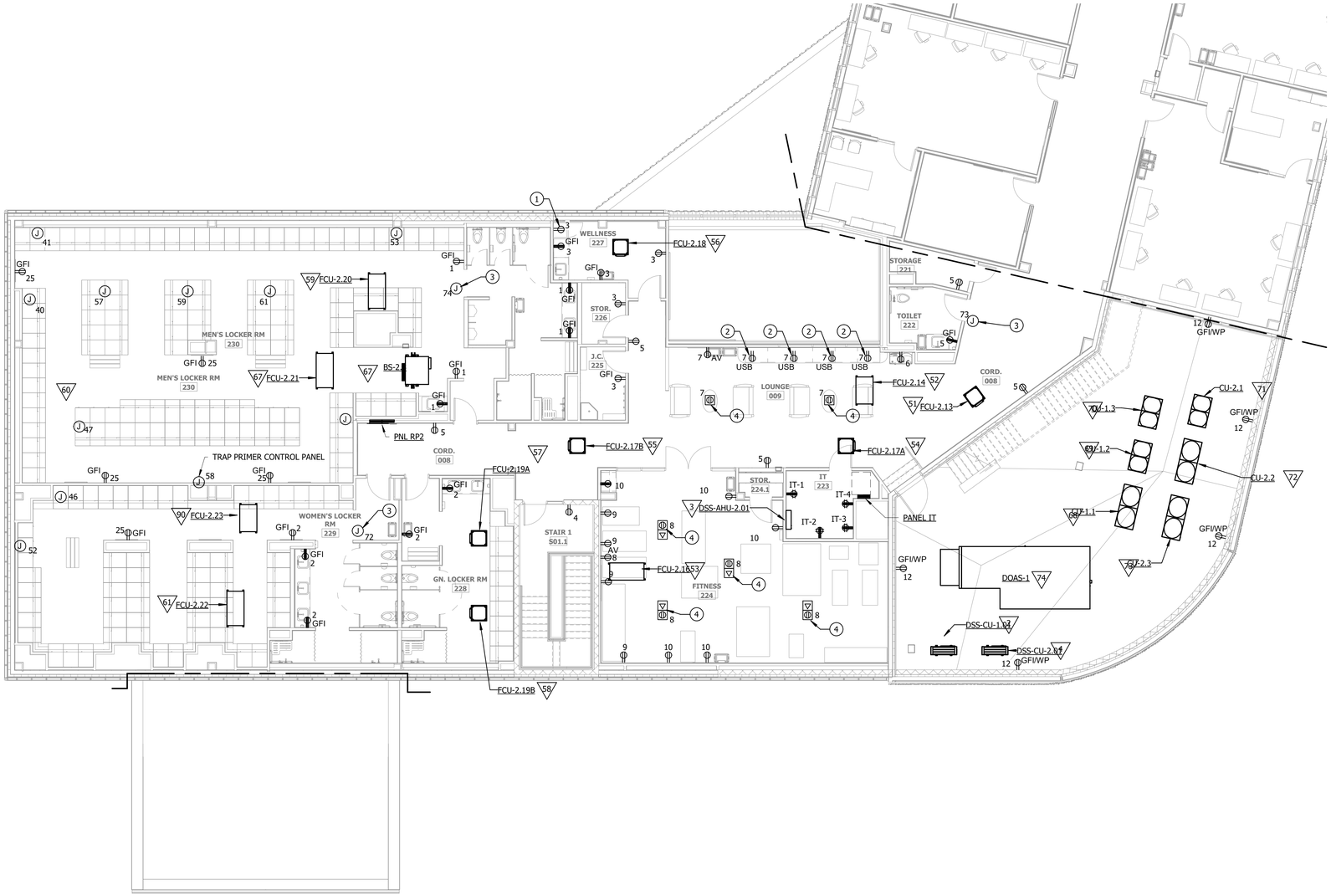
Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

GENERAL NOTES

1. UNLESS NOTED OTHERWISE, ALL DEVICES SHOWN ON THIS SHEET SHALL BE CONNECTED TO PANEL RP2, CIRCUIT ADJACENT DEVICE.
2. COORDINATE ALL FLOOR BOX LOCATIONS WITH ARCHITECT AND FURNITURE PRIOR TO ROUGH-IN.
3. COORDINATE ALL 'AV' RECEPTACLES HEIGHTS AND LOCATIONS WITH LOW VOLTAGE CONSULTANT PRIOR TO ROUGH-IN.
4. REFER TO LOW VOLTAGE DRAWINGS FOR LOCATIONS OF DATA OUTLETS. WHERE RECEPTACLE AND DATA ARE ADJACENT, PROVIDE A COMBINATION LOW VOLTAGE/LINE VOLTAGE JUNCTION BOX AND COVER PLATE.
5. ALL SWITCHED RECEPTACLES (WITH 'OS' SUBSCRIPT) SHALL BE CONTROLLED BY LOCAL LIGHTING CONTROLS IN SAME ROOM OR AREA.
6. ALL DEVICES, BOXES, COVERS, ETC. ACCESSIBLE TO INMATES SHALL BE SECURED TO THE WALL/CEILING WITH TAMPERPROOF HARDWARE.
7. ALL FLOOR BOXES ON THIS SHEET SHALL BE POKE-THRU TYPE.
5. 8. IN AREAS WHERE MASONRY WALLS HAVE BEEN FURRED OUT CONTRACTOR SHALL PROVIDE 1 1/2" DEEP ELECTRICAL BOXES IN THESE LOCATIONS FOR RECEPTACLES TO BE FLUSH IN WALLS. COORDINATE EXACT AREAS WITH ARCHITECT.

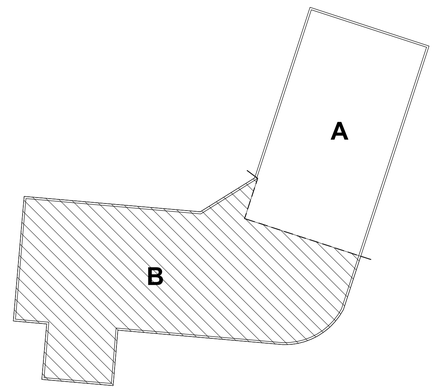
DRAWING NOTES

1. CONNECT DOWNSTREAM OF GFI RECEPTACLE ON SAME CIRCUIT.
2. POP UP DUPLEX TAMPER RESISTANT RECEPTLE WITH INTEGRAL (1) USB A AND (1) USB C OUTLET, LEW ELECTRIC PUFP-CT-SS-AC-PB, OR EQUAL. PROVIDE HARWIRED CONNECTION PER MANUFACTUER REQUIREMENT.
3. PROVIDE JUNCTION BOX ABOVE CEILING FOR CONNECTION OF REST ROOM SINK AND LAV SENSOR TRANSFORMERS. TRANSFORMERS PROVIDED BY MECHANICAL. EC SHALL CONNECT TRANSFORMER AND PROVIDE ALL LOW VOLTAGE WIRING DOWN TO PLUMBING FIXTURE SENSORS FOR A COMPLETE SYSTEM. COORDINATE ALL SENSOR LOCATIONS WITH MECHANICAL.
4. PROVIDE FLUSH IN FLOOR POKE THROUGH DEVICE. DEVICE SHALL INCLUDE DUPLEX RECEPTACLE AND DATA CONNECTION PORTS (COORDINATE WITH IT). COORDINATE EXACT LOCATIONS WITH OWNER, ARCHITECT AND FURNITURE SUPPLIER PRIOR TO CORE DRILLING CONCRETE FLOOR. EXTEND 1 1/4" EMPTY CONDUIT TO NEAREST WALL AND UP TO CEILING CAVITY FOR ROUTING OF DATA CABLING BACK TO IT ROOM. PROVIDE PULL CORD IN EMPTY CONDUIT.



SECOND FLOOR POWER - WING B

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



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

8 0 8 16

DWG. FILENAME: C:\Users\dlwandas\Documents\REVIT User Files\REVIT 2021 User Files\280601 Wilkens Police Precinct-Central-R21_dlwandas.rvt

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 51627 EXPIRATION DATE 12/06/2026	5 ADDENDUM #5	MRS	11.6.25					APPROVED BY:
					R.O.W NO.	GSW	14SW19	PLAN SCALE: 1/8" = 1'-0"	PROPERTY MANAGER
		CONTRACT COMPLETION BOX					14SW20	PROFILE SCALE:	DATE:
	ENGINEER: DGN BY: KEC	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
	AS-BUILT PER RECORD PRINT DRN BY: KEC	REVIEWED BY:							
DATE : 11/6/2025 3:29:03 PM	BY: DATE: CHKD BY: DJT	DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

SECOND FLOOR POWER - WING B

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
E208	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 246 OF 302
	DRAWING NUMBER
	2024 - 1559
	FILE NO.: 8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

HVAC ELECTRICAL CONNECTION SCHEDULE

#	DESCRIPTION	SIZE	VOLT/ø	STARTER				SEPARATE DISC. SWITCH		FUSE SIZE	THERMAL SWITCH	NEMA ENCL.	CIRCUIT #	EMERG. POWER	COMMENTS	DWG. NO.
				SIZE	HOA	AUX. CONT.	COMB. FUSED SW.	NON FUSED	FUSED							
1	DSS-AHU-1.01	1MCA	208V/1ø	-	-	-	-	-	-	-	X	1	-		INDOOR UNIT POWERED FROM OUTDOOR UNIT	E206
2	DSS-CU-1.01	25MCA	208V/1ø	-	-	-	-	2P-60A	-	-	-	3R	MRP-1			
3	DSS-AHU-2.01	1MCA	208V/1ø	-	-	-	-	-	-	-	X	1	-		INDOOR UNIT POWERED FROM OUTDOOR UNIT	E208
4	DSS-CU-2.01	25MCA	208V/1ø	-	-	-	-	2P-60A	-	-	-	3R	MRP-2			
5	FCU-1.01	4.13MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-5			E206
6	FCU-1.02	.28MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-5			E206
7	FCU-1.03	3MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-5			E206
8	FCU-1.04	4.13MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-6			E206
9	FCU-1.05	5.63MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-6			E206
10	FCU-1.06A	.29MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-9			E206
11	FCU-1.06B	.29MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-9			E206
12	FCU-1.06C	.29MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-9			E206
13	FCU-1.07	.35MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-9			E206
14	FCU-1.08A	.24MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-9			E206
15	FCU-1.08B	.24MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-9			E206
16	FCU-1.08C	.24MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-9			E206
17	FCU-1.09	.28MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-9			E206
18	FCU-1.10	.29MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-9			E206
19	FCU-1.11A	.24MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-10			E206
20	FCU-1.11B	.24MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-10			E206
21	FCU-1.13	.92MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-10			E206
22	FCU-1.14A	.28MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-10			E206
23	FCU-1.14B	.28MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-10			E206
24	FCU-1.15	2.13MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-10			E206
25	FCU-1.16A	.28MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-10			E205
26	FCU-1.16B	.28MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-10			E205
27	FCU-1.17A	.28MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-13			E205
28	FCU-1.17B	.28MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-13			E205
29	FCU-1.17C	.28MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-13			E205
30	FCU-1.18	3MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-13			E205
31	FCU-1.19	4.13MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-13			E205
32	FCU-1.20	.29MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-13			E205
33	FCU-1.21	2.94MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-14			E205
34	FCU-1.22	2.88MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-14			E205
35	FCU-1.23	2.88MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-14			E205
36	FCU-1.24	.24MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-14			E301
37	FCU-2.01	2.88MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-17			E207
38	FCU-2.02	2.88MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-17			E207
39	FCU-2.03	2.88MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-17			E207
40	FCU-2.04	2.94MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-18			E207
41	FCU-2.05	2.7MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-18			E207
42	FCU-2.06	2.94MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-18			E207
43	FCU-2.07	.28MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-21			E207
44	FCU-2.08A	.24MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-21			E207
45	FCU-2.08B	.24MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-21			E207
46	FCU-2.08C	.24MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-21			E207
47	FCU-2.09	2.88MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-21			E207
48	FCU-2.10	2.88MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-21			E207
49	FCU-2.11	1.75MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-21			E207
50	FCU-2.12	2.94MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-22			E207
51	FCU-2.13	.28MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-22			E208
52	FCU-2.14	2.88MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-22			E208
53	FCU-2.16	4.25MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-22			E208
54	FCU-2.17A	.29MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-25			E208
55	FCU-2.17B	.29MCA	208V/1ø	-	-	-	-	-	-	-	X	1	MRP-25			E208

HVAC ELECTRICAL CONNECTION SCHEDULE

#	DESCRIPTION	SIZE	VOLT/Ø	STARTER				SEPARATE DISC. SWITCH		FUSE SIZE	THERMAL SWITCH	NEMA ENCL.	CIRCUIT #	EMERG. POWER	COMMENTS	DWG. NO.
				SIZE	HOA	AUX. CONT.	COMB. FUSED SW.	NON FUSED	FUSED							
56	FCU-2.18	.29MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	MRP-25			E208
57	FCU-2.19A	.28MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	MRP-25			E208
58	FCU-2.19B	.28MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	MRP-25			E208
59	FCU-2.20	4.38MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	MRP-25			E208
60	FCU-2.21	4.38MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	MRP-26			E208
61	FCU-2.22	4.25MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	MRP-26			E208
62	BS-1.1	1.19MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	-		CONNECT TO ASSOCIATED FCU BRANCH CIRCUIT	E206
63	BS-1.2	1.19MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	-		CONNECT TO ASSOCIATED FCU BRANCH CIRCUIT	E206
64	BS-1.3	1.19MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	-		CONNECT TO ASSOCIATED FCU BRANCH CIRCUIT	E205
65	BS-2.1	.83MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	-		CONNECT TO ASSOCIATED FCU BRANCH CIRCUIT	E208
66	BS-2.2	1.19MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	-		CONNECT TO ASSOCIATED FCU BRANCH CIRCUIT	E208
67	BS-2.3	.83MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	-	5	CONNECT TO ASSOCIATED FCU BRANCH CIRCUIT	E207
68	CU-1.1	31MCA	480V/3Ø	-	-	-	-	-	3P-60A	35A	-	3R	MHP-2			E207
		31MCA	480V/3Ø	-	-	-	-	-	3P-60A	35A	-	3R	MHP-31			
69	CU-1.2	27MCA	480V/3Ø	-	-	-	-	-	3P-60A	30A	-	3R	MHP-7			E207
70	CU-1.3	31MCA	480V/3Ø	-	-	-	-	-	3P-60A	35A	-	3R	MHP-8			E207
71	CU-2.1	27MCA	480V/3Ø	-	-	-	-	-	3P-60A	30A	-	3R	MHP-13			E207
72	CU-2.2	31MCA	480V/3Ø	-	-	-	-	-	3P-60A	35A	-	3R	MHP-14			E207
73	CU-2.3	31MCA	480V/3Ø	-	-	-	-	-	3P-60A	35A	-	3R	MHP-19			E207
74	DOAS-1	158.1MCA	480V/3Ø	-	-	-	-	3P-200A	-	-	-	3R	MHP-1			E207
75	FCU-1.12	.24MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	MRP-13			E207
76	FCU-1.26	.24MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	MRP-9			E207
77	EF-1.01	.25 HP	120V/1Ø	-	-	-	-	-	-	-	X	1	MRP-30			E205
78	EF-1.02	.25 HP	120V/1Ø	-	-	-	-	-	-	-	X	1	MRP-32			E205
79	EF-1.03	12 W	120V/1Ø	-	-	-	-	-	-	-	X	1	-		CONNECT TO LOCAL RECEPTACLE CIRCUIT	E205
80	EF-1.04	110 W	120V/1Ø	-	-	-	-	-	-	-	X	1	MRP-33			E301
81	UH-1.01	3.1 KW	208V/1Ø	-	-	-	-	2P-30A	-	-	-	1	MRP-34			E301
82	UH-1.02	3.1 KW	208V/1Ø	-	-	-	-	2P-30A	-	-	-	1	MRP-35			E206
83	UH-1.03	3.1 KW	208V/1Ø	-	-	-	-	2P-30A	-	-	-	1	MRP-38			E206
84	UH-1.04	3.1 KW	208V/1Ø	-	-	-	-	2P-30A	-	-	-	1	MRP-39			E206
85	UH-1.05	3.1 KW	208V/1Ø	-	-	-	-	2P-30A	-	-	-	1	MRP-42			E206
86	UH-1.06	3.1 KW	208V/1Ø	-	-	-	-	2P-30A	-	-	-	1	MRP-55			E206
87	EWH-1.01	3 KW	208V/1Ø	-	-	-	-	2P-30A	-	-	-	1	MRP-46			E206
88	EWH-1.02	3 KW	208V/1Ø	-	-	-	-	2P-30A	-	-	-	1	MRP-47			E205
89	ECH-1.01	4 KW	208V/1Ø	-	-	-	-	2P-30A	-	-	-	1	MRP-43			E206
90	FCU-2.23	2.88MCA	208V/1Ø	-	-	-	-	-	-	-	X	1	MRP-25			
91	WH-1.01	27 KW	480V/3Ø	-	-	-	-	3P-60	-	-	-	1	MHP-20			
92	WH-1.02	27 KW	480V/3Ø	-	-	-	-	3P-60	-	-	-	1	MHP-25			
93	RTU-1	20.6MCA	208V/1Ø	-	-	-	-	2P-30A	-	-	-	3R	MRP-29			
94	RP-1 H.W.RECIRC	.167 HP	120V/1Ø	-	-	-	-	-	-	-	X	1	MRP-51			
95	SP-1 GASOLINE	.75 HP	208V/1Ø	-	-	-	-	2P-30A	-	-	-	3R	MRP-50			
96	SP-2 GASOLINE	1 HP	208V/1Ø	-	-	-	-	2P-30A	-	-	-	3R	MRP-54			
97	SP-3 ELEVATOR SUMP	.5 HP	120V/1Ø	-	-	-	-	-	-	-	X	1	MRP-53			

DWG. FILENAME: C:\Users\dwardin\Documents\RIVIT User Files\RIVIT 2021 User Files\280660.Wilkens Police Precinct-Central-R21_dwardin.rvt

SEAL

DATE : 11/6/2025 4:39:53 PM

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE _____

ENGINEER: _____

AS-BUILT PER RECORD PRINT

BY: DATE:

DGN BY: Designer

DWN BY: Author

CHKD BY: Checker

AS-BUILT / REVISION	BY	DATE
5 ADDENDUM #5	MRS	11.6.25
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
	GSW	14SW19
R.O.W NO.		14SW20

DRAWING SCALE

PLAN SCALE: 12" = 1'-0"

PROFILE SCALE:

PROPERTY MANAGEMENT

APPROVED BY: _____ PROPERTY MANAGER

DATE: _____

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

HVAC SCHEDULE

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
E801	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 257 OF 302
	DRAWING NUMBER
	2024 – 1570
	FILE NO.: 8 REV. 07.22

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

CKT QTY		DEMAND	NON/ CONT	PNL KVA	SUBPNL KVA	DEMAND KVA	TOTAL KVA
	Lighting [L]	1	C		15.2	15.2	19.0
	Receptacles [R] *	0.5	N		124.5	67.3	67.3
1	Motors [M]	1	<M/H>	14.8	184.5	199.3	199.3
	Motors (alternate) [M2]	1	<M/H>				
	Multimotor/Combination [MM]	1	<M/H>		107.2	107.2	107.2
	Heating [H] **	1	<M/H>		88.6	88.6	88.6
	Air Conditioning [A] **	1	<M/H>		**	**	**
2	Other (appliances, etc.) [O]	1	N	0.3	83.1	83.4	83.4
	Auxiliary [X]	1	C		24.8	24.8	31.0
	Kitchen [X]	0.65	N				
3	CIRCUITS						

PANEL CONNECTED LOAD	643.1 KVA
PANEL DEMAND LOAD	585.8 KVA
TOTAL PANEL LOAD	595.8 KVA
	716.6 AMPS
SPARE CAPACITY =	401.9 KVA
(BASED ON CB)	483.4 AMPS
	40.3 %

@ 1200 AMPS
997.7 CB MAX KVA

FOR CONT. LOADS (C), TOTAL KVA=DEMAND KVA*1.25; FOR NONCONT. (N) & MOTOR/HEATING <M/H> LOADS, TOTAL KVA=DEMAND KVA
* IF RECEPTACLE LOAD IS >10KVA, RECEPTACLE DEMAND LOAD IS (CONNECTED LOAD - 10KVA) * .5 + 10KVA
** INDICATES GREATER OF HEATING OR COOLING. GREATEST SEASONAL LOAD = HEATING

PROVIDE I-LINE STYLE PANELBOARD
SURFACE MOUNTED PANEL MDP 277/480 VOLT 3 PHASE 4 WIRE 1200 AMP BUS 1200 AMP MAIN BREAKER 25,000 A.I.C.

TYPE	KVA	HP
	112.5	
M	14.8	

GENERAL MECHANICAL PROJECT NOTES

1. ALL DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.
2. PROVIDE ACCESS DOORS (SIZE AS SPECIFIED) IN DUCTWORK FOR EVERY FIRE DAMPER, FIRE/SMOKE DAMPER, ETC. WHETHER SHOWN OR NOT. COORDINATE ACCESS TO VOLUME DAMPERS.
3. COORDINATE THE LOCATION OF ALL AIR DEVICES WITH LIGHT FIXTURES AND THE ARCHITECT'S REFLECTED CEILING PLANS, AND DOCUMENTS.
4. COORDINATE DUCT ROUTING WITH STRUCTURAL DRAWINGS.
5. COORDINATE MOTORS AND OTHER ELECTRICAL EQUIPMENT FURNISHED UNDER MECHANICAL DIVISIONS WITH ELECTRICAL DIVISION. PROVIDE EQUIPMENT COORDINATION TABLE AS A SHOP DRAWING FOR REVIEW. TABLE SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING INFORMATION:
   a. EQUIPMENT POWER REQUIREMENTS INCLUDING AMPS AND VOLTAGES.
   b. DISCONNECTING MEANS AND OVER CURRENT PROTECTION REQUIREMENTS.
   c. CONTROL REQUIREMENTS.
7. COORDINATE THE INSTALLATION OF LIGHTING FIXTURES WITH PIPING, DUCTWORK, AIR DEVICES, SPRINKLERS, AND EQUIPMENT BEING INSTALLED IN THE FACILITY SUCH THAT PIPING, DUCTWORK, AIR DEVICES, AND EQUIPMENT DO NOT BLOCK OR IMPEDE LIGHTING.
8. INSTALL DUCTWORK SO THAT VOLUME DAMPERS, FANS, ETC., ARE ACCESSIBLE. PROVIDE ACCESS PANELS PER SPECIFICATION REQUIREMENTS.
9. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF AND CEILING CONSTRUCTION TYPES AND DETAILS. REFER TO STRUCTURAL DRAWINGS FOR STEEL SIZES AND LOCATIONS.
10. LOCATE ALL EQUIPMENT WHICH MUST BE SERVICED, OPERATED, AND MAINTAINED IN A FULLY ACCESSIBLE POSITION. EQUIPMENT SHALL INCLUDE, BUT NOT BE LIMITED TO VALVES, TRAPS, MOTORS, CONTROLLERS, DRAIN POINTS, ETC. IF REQUIRED FOR ACCESSIBILITY, FURNISH ACCESS DOORS FOR THIS PURPOSE. COORDINATE LOCATION OF ACCESS DOORS WITH ARCHITECT. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ALLOW FOR BETTER ACCESSIBILITY.
11. COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF THERMOSTATS, HUMIDITY SENSORS, REFRIGERANT LEAK DETECTORS, ETC., SERVING EQUIPMENT WITH THE OWNER(S) AND/OR ARCHITECT.
12. FIRE STOP ALL PIPING AND DUCT PENETRATIONS THRU FIRE WALLS, PARTITIONS, AND FLOORS. PROVIDE LISTED FIRE DAMPERS IN ALL DUCTS THAT PASS THROUGH FIRE BARRIERS AND PARTITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATED WALL, FLOOR, PARTITION AND BARRIER LOCATIONS.
13. ALL FIRE DAMPERS SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL AND SHALL BE INSTALLED SO THEY ARE FULLY ACCESSIBLE.
14. REPLACE FILTERS SERVING AIR HANDLING UNIT EQUIPMENT PRIOR TO FINAL BALANCING OF AIR DISTRIBUTION SYSTEMS.
15. PREPARE COORDINATION DRAWINGS FOR ALL INTERIOR BUILDING SYSTEMS. DRAWINGS SHALL BE ¼" = 1" - 0" SCALE. SHOW THE RELATIONSHIP OF COMPONENTS SHOWN ON SEPARATE SHOP DRAWINGS. INDICATE REQUIRED INSTALLATION SEQUENCES. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
16. PROVIDE FLEXIBLE DUCT CONNECTIONS AT ALL DUCTED ROOFTOP TOP UNITS, AIR HANDLING UNITS, FAN COIL UNITS, AND EXHAUST FAN INLET AND OUTLET CONNECTIONS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
17. PROVIDE WEATHER TIGHT WALL AND ROOF DUCT AND PIPING PENETRATIONS. ALL SEALING MATERIALS TO BE APPROVED BY ARCHITECT.
18. ROUTE DOMESTIC WATER PIPING, SPRINKLER PIPING, HVAC PIPING, ETC., IN PIPE CHASES, IN FURRED OUT WALLS AND ABOVE CEILINGS, NO PIPING SHALL BE EXPOSED UNLESS APPROVED BY THE ARCHITECT OR OWNER(S).
19. PROVIDE A BALANCING DAMPER ON ALL BRANCH DUCTS SERVING SUPPLY AIR DEVICES AND RETURN AIR DEVICES WHETHER SHOWN ON PLANS OR NOT.
20. THE DRAWINGS ARE DIAGRAMMATIC AND DO NOT INDICATE EVERY COMPONENT AND/OR ACCESSORY REQUIRED FOR A COMPLETE INSTALLATION. PROVIDE NECESSARY AND REQUIRED COMPONENTS AND ACCESSORIES TO ENSURE THAT THE ENTIRE SYSTEM IS FUNCTIONAL AND IN COMPLIANCE WITH APPLICABLE CODES, ACCEPTED INDUSTRY STANDARDS, AND MANUFACTURER'S INSTALLATION REQUIREMENTS/RECOMMENDATIONS UPON COMPLETION OF WORK.
21. ALL DUCTWORK AND PIPING SHALL RUN AS HIGH AS POSSIBLE AND ABOVE FINISHED CEILINGS UNLESS OTHERWISE NOTED.
22. ALL OUTSIDE AIR LOUVERS (INTAKE OR EXHAUST) SHALL BE FITTED WITH ½" MESH BIRD SCREENS MOUNTED BEHIND LOUVERS. ALL UNUSED PORTIONS OF OUTSIDE AIR LOUVERS (INTAKE OR EXHAUST) SHALL BE BLANKED OFF AIRTIGHT WITH 22-GAUGE GALVANIZED SHEET METAL AND 2 INCH RIGID INSULATION. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
23. INSTALL FAN COIL UNITS IN ACCESSIBLE LOCATIONS. PROVIDE ACCESS PANELS PER SPECIFICATIONS.
24. DO NOT RELEASE ANY CFC OR HCFC BASED REFRIGERANT INTO THE ATMOSPHERE DURING INSTALLATION, START-UP, OR SERVICING OF NEW OR EXISTING HVAC EQUIPMENT EITHER DIRECTLY OR INDIRECTLY. UTILIZE AN APPROPRIATE REFRIGERANT PURIFICATION/RECLAMATION SYSTEM THAT IS CAPABLE OF SEPARATION AND REMOVAL OF OIL AND RESIDUAL MOISTURE, AND DOT-APPROVED CONTAINMENT OF RECOVERED REFRIGERANT.
25. ALL REFRIGERANT RELIEF DEVICES OR FUSIBLE PLUGS ON ALL SYSTEMS HAVING A REFRIGERANT CHARGE OF 100 LBS. OR GREATER SHALL DISCHARGE TO THE OUTSIDE OF THE BUILDING IN ACCORDANCE WITH APPLICABLE CODES. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
26. ALL REFRIGERANT PIPING SHALL BE SIZED AND SUPPORTED/INSTALLED IN ACCORDANCE WITH APPLICABLE CODES. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
27. UNLESS OTHERWISE NOTED ON THE CONTRACT DOCUMENTS, STATIC PRESSURE SENSORS SERVING: AIR HANDLING EQUIPMENT, EXHAUST FANS OR RETURN FANS SHALL BE LOCATED AS FOLLOWS:
   a. AIR HANDLING EQUIPMENT- LOCATE 2/3 DOWNSTREAM FROM THE DISCHARGE OF THE SUPPLY FAN.
   b. EXHAUST / RETURN FANS- LOCATE SENSORS ON THE EXHAUST / RETURN DUCTWORK - 2/3 FROM THE INLETS OF EXHAUST / RETURN FANS.

LEED PROJECT NOTES

1. THIS PROJECT REQUIRES LEED SILVER CERTIFICATION UNDER LEED V4 BD+C: NEW CONSTRUCTION.
2. ALL DENSELY OCCUPIED SPACES ARE PROVIDED WITH CARBON DIOXIDE SENSORS INTERLOCKED WITH THE BAS FOR MONITORING AND ALARMS. SPACES PROVIDED WITH CARBON DIOXIDE SENSORS ARE AS FOLLOWS:
   - COMMUNITY ROOM [100]
   - ROLL CALL [101]
   - CONFERENCE/FLEX [210]
   - CONFERENCE [215]
   - FITNESS [224]

LOW GWP REFRIGERANT

5

1. ALL MECHANICAL EQUIPMENT SHALL BE LOW GWP. R-410A IS NOT ACCEPTABLE.
2. PRESENT ANY DEVIATIONS IN FINAL EQUIPMENT PERFORMANCE, PHYSICAL SIZE, ELECTRICAL REQUIREMENTS, ETC., TO A/E FOR REVIEW.
3. COORDINATION DRAWINGS REQUIRED BY THE CONTRACT DOCUMENTS SHALL INCLUDE FINAL EQUIPMENT CHARACTERISTICS AND INSTALLATION REQUIREMENTS. THIS COORDINATION SHALL BE AT NO ADDITIONAL COST.
4. MECHANICAL EQUIPMENT SPECIFIED ON THE CONTRACT DOCUMENTS IS BASED ON INFORMATION CURRENTLY AVAILABLE FROM THE MANUFACTURER. FURTHER ENGINEERING REVISIONS FROM THE MANUFACTURER SHALL BE INCORPORATED AT THE TIME OF SHOP DRAWINGS AT NO ADDITIONAL COST.

MECHANICAL LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
10x8		RECTANGULAR DUCT
10"ø		ROUND DUCT
R		DUCT RISING UP
D		DUCT DROPPING DOWN
		FLEXIBLE CONNECTION DUCTWORK
	S.L.D.	DUCTWORK WITH SOUND LINING
		TURNING VANES
		SIDE WALL REGISTER
	SA	SUPPLY AIR DUCT; UP, DOWN
	RA	RETURN AIR DUCT; UP, DOWN
	EA	EXHAUST AIR DUCT; UP, DOWN
		SUPPLY AIR DIFFUSER
		RETURN AIR REGISTER OR GRILLE
		EXHAUST AIR REGISTER OR GRILLE
B	BDD	BACK DRAFT DAMPER - GRAVITY
M	MOD	MOTOR OPERATED DAMPER
	VD	VOLUME DAMPER
SD	SD	SMOKE DETECTOR - DUCT MOUNTED
CAR	CAR	CONSTANT AIRFLOW REGULATOR
	FD	FIRE DAMPER
R	CRD	CEILING RADIATION DAMPER
	UH	UNIT HEATER
UC		UNDER CUT DOOR
T		TEMPERATURE SENSOR
H		HUMIDITY SENSOR
SP		SPACE PRESSURE SENSOR
T#		TEMPERATURE SENSOR - UNIT NO. CONTROLLED
H#		HUMIDITY SENSOR - UNIT NO. CONTROLLED
CO		CARBON MONOXIDE SENSOR
NO2		NITROGEN DIOXIDE SENSOR
OCC		OCCUPANCY SENSOR
ø	DIA.	DIAMETER
#	NO.	NUMBER
	CFM	CUBIC FEET PER MINUTE
A / 150		AIR DEVICE REFERENCE SYMBOL SIZE CFM
A / X		SECTION MARKER SECTION LETTER SHEET WHERE SECTION IS SHOWN
XX		DRAWING NOTE REFERENCE SYMBOL
XX		REVISION REFERENCE SYMBOL
RL	RL	REFRIGERANT LINE
RS	RS	REFRIGERANT SUCTION
	DP, DN	ELBOW DOWN OR DROP
	UP	ELBOW UP OR RISE
		PIPE CONTINUES
		FLOW IN DIRECTION OF ARROW
		RISE OR DROP IN PIPE
		SIDE PIPE CONNECTION
		BOTTOM PIPE CONNECTION
		TOP PIPE CONNECTION

MECHANICAL LEGEND

ABBREVIATION	DESCRIPTION
A/C	AIR CONDITIONING
ADJ.	ADJUSTABLE
ALT.	ALTERNATE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
APD	AIR PRESSURE DROP
AHU	AIR HANDLING UNIT
BAS	BUILDING AUTOMATION SYSTEM
BLDG.	BUILDING
BS	BIRD SCREEN
CONT.	CONTINUATION
CU	CONDENSING UNIT
CONN.	CONNECTION
CLG.	CEILING
DTL.	DETAIL
DB	DRY BULB
DWG.	DRAWING
DN.	DOWN
EA	EXHAUST AIR
DTL.	DETAIL
DB	DRY BULB
DWG.	DRAWING
DN.	DOWN
EA	EXHAUST AIR
ESP	EXTERNAL STATIC PRESSURE
EAT	ENTERING AIR TEMPERATURE
ELEV.	ELEVATION
FCU	FAN COIL UNIT
FFE	FINISHED FLOOR ELEVATION
FLR.	FLOOR
HP	HORSE POWER
LF	LINEAR FEET
LAT	LEAVING AIR TEMPERATURE
MFGR.	MANUFACTURER
MBH	ONE THOUSAND BTU PER HOUR
MAX.	MAXIMUM
MIN.	MINIMUM
NO	NORMALLY OPENED
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OED	OPEN END DUCT
OA	OUTSIDE AIR
RA	RETURN AIR
REQ'D	REQUIRED
DOAS	DEDICATED OUTDOOR AIR SUPPLY
SA	SUPPLY AIR
SF	SQUARE FEET
SHT.	SHEET
SPEC.	SPECIFICATIONS
SLP	SLOPE
TYP.	TYPICAL
TAG	TRANSFER AIR GRILLE
UNO	UNLESS NOTED OTHERWISE
V/ø/HZ	VOLTS/PHASE/HERTZ
VERT.	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
WB	WET BULB

APPLICABLE CODES

YEAR	CODE
2021	INTERNATIONAL BUILDING CODE
2021	INTERNATIONAL PLUMBING CODE
2021	INTERNATIONAL MECHANICAL CODE
2021	INTERNATIONAL ENERGY CONSERVATION CODE
2021	INTERNATIONAL FIRE CODE
2021	NATIONAL FIRE PROTECTION ASSOCIATION CODES
2019	ASHRAE 62.1

CONTRACTOR COMMISSIONING

1. INDEPENDENT COMMISSIONING
   a. ASSIST WITH COMMISSIONING EFFORTS AS REQUIRED BY THE COMMISSIONING PLAN AND COMMISSIONING SPECIFICATIONS. REFER TO THESE DOCUMENTS FOR DETAILED INFORMATION, ROLES, AND RESPONSIBILITIES, ETC.

BAS CONNECTION TO COUNTY METASYS

1. CONTRACTOR SHALL PROVIDE CONNECTION BETWEEN BUILDING AND COUNTY CENTRAL JCI METASYS SYSTEM.
2. CONTRACTOR SHALL INCLUDE THE SERVICES OF JCI FOR THIS CONNECTION.
3. ALL POINTS SEEN THROUGH THE BUILDING AUTOMATION SYSTEM SHALL BE VISIBLE AND ADJUSTABLE THROUGH THE METASYS.

BAS COMPUTER

1. CONTROL CONTRACTOR TO WORK WITH BCPM TO OBTAIN ON-SITE COMPUTER FOR BAS SYSTEM.

MINIMUM REFRIGERANT CONTRACTOR EXPERIENCE

1. MANUFACTURER: COMPANY SPECIALIZING IN MANUFACTURING PRODUCTS SPECIFIED IN THIS SECTION WITH MINUMUM THREE YEARS DOCUMENTED EXPERIENCE.
2. FABRICATOR OR INSTALLER: COMPANY SPECIALIZING IN PERFORMING WORK OF THIS SECTION WITH MINIMUM THREE YEARS DOCUMENTED EXPERIENCE APPROVED BY MANUFACTURER.
3. DESIGN PIPING SYSTEM AND HANGERS AND SUPPORTS UNDER DIRECT SUPERVISION OF PROFESSIONAL ENGINEER EXPERIENCED IN DESIGN OF THIS WORK AND LICENSED AT PROJECT LOCATION.

VRF MANUFACTURER TRAINING

1. VRF MANUFACTURER SHALL PROVIDE (40) HOURS OF TRAINING FOR 4 MEMBERS OF OWNER'S MAINTENANCE STAFF.

SEISMIC REQUIREMENTS

1. PROVIDE SEISMIC BRACING FOR ALL MECHANICAL, PLUMBING, AND LIFE-SAFETY SYSTEMS. THIS INCLUDES FIRE PROTECTION SYSTEMS; DUCTWORK, PIPING, EQUIPMENT, ETC.

SUBSTANTIAL COMPLETION

1. MECHANICAL AND ELECTRICAL SYSTEMS ARE NOT SUBSTANTIALLY COMPLETE UNTIL ALL SYSTEMS ARE STARTED, TESTED, BALANCED, AND O&M'S ARE RECEIVED BY THE OWNER.
2. THESE ITEMS NOTED ABOVE MUST BE COMPLETE IN TIME FOR THE SYSTEMS DEMONSTRATIONS TO OWNER WITH ALL O&M'S MANUALS IN HAND AT TIME OF DEMONSTRATION.
3. PROVIDE SYSTEM DEMONSTRATION AND TRAINING FOR OWNER PERSONNEL FOR EACH SYSTEM. PROVIDE 8 HOURS OF SYSTEM DEMONSTRATION AND 8 HOURS OF OPERATIONS TRAINING FOR EACH SYSTEM.
4. PUNCHLIST ITEMS SHALL BE COMPLETED PRIOR TO SUBSTANTIAL COMPLETION.
5. ON SEASON COMMISSIONING SHALL BE COMPLETED PRIOR TO SUBSTANTIAL COMPLETION.
6. START OF ALL WARRANTIES TO BEGIN ON DATE OF SUBSTANTIAL COMPLETION.

MECHANICAL DRAWING INDEX

Sheet Number	Sheet Name
M001	MECHANICAL COVERSHEET
M002	MECHANICAL COVERSHEET
M201	FIRST FLOOR - MECHANICAL - WING A
M202	FIRST FLOOR - MECHANICAL - WING B
M203	SECOND FLOOR - MECHANICAL - WING A
M204	SECOND FLOOR - MECHANICAL - WING B
M205	FIRST FLOOR - MECHANICAL PIPING AND ATC - WING A
M206	FIRST FLOOR - MECHANICAL PIPING AND ATC - WING B
M207	SECOND FLOOR - MECHANICAL PIPING AND ATC - WING A
M208	SECOND FLOOR - MECHANICAL PIPING AND ATC - WING B
M301	PART PLANS - MECHANICAL
M302	PART PLANS - MECHANICAL
M401	REFRIGERANT RISERS
M601	MECHANICAL CONTROLS
M602	MECHANICAL CONTROLS
M603	MECHANICAL CONTROLS
M701	MECHANICAL DETAILS
M702	MECHANICAL DETAILS
M703	MECHANICAL DETAILS
M801	MECHANICAL SCHEDULES
M802	MECHANICAL SCHEDULES
M803	MECHANICAL SCHEDULES

DWG. FILENAME: C:\Users\mscott\Documents\28060f-Wilkens Police Precinct-Central-R21_mscottR83PQP.rvt

SEAL

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. _____, EXPIRATION DATE: _____
ENGINEER: _____
AS-BUILT PER RECORD PRINT
BY: DATE:
DATE: 11/7/2025 2:27:18 PM

DGN BY:	MRS
DRN BY:	MRS
CHKD BY:	AL

AS-BUILT / REVISION

BY	DATE
5 ADDENDUM #5	MRS 11.6.25

CONTRACT COMPLETION BOX

P.W.A. NO. | R.O.W NO. | KEY SHEET: GSW | POSITION SHT: 14SW19, 14SW20

DRAWING SCALE: PLAN SCALE: NONE; PROFILE SCALE:

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

PROPERTY MANAGEMENT
APPROVED BY: _____ PROPERTY MANAGER
DATE: _____

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

MECHANICAL COVERSHEET

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M001	24111 PPO
JOB ORDER NUMBER	300200006
SHEET 188 OF 302	
DRAWING NUMBER	2024 – 1501
FILE NO.: 8	

Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025

Wilkens Police Precinct Ventilation Table (DOAS-1)

ASHRAE 62.1-2019 Ventilation Rate Procedure Calculation

1A	1B	1C	1D	1E	1F	1G	1H	2A	2B	2C	2D	2E	4A	4B
		ASHRAE 62.1 Table 6-1						OA					EA Min (Table 6-2)	
			Rp	Ra		Az	Pz			Vbz	Ez	Voz		
Space #	Space Name	Occupancy Category	CFM/ Person	CFM/ SF	People/ 1000 SF	Area (SF)	People	People CFM	Area CFM	Breathing Zone CFM	Air Dist.	Space OA CFM	CFM/ SF	Space EA CFM
[001]	Vest. [001]													
[002]	Lobby [002]	Public Assembly: Lobby	5	0.06	10	748	8	40	45	85	0.8	110	0.00	0
[003]	Cord. [003]	General: Corridor	0	0.06	0	1446	0	0	87	87	0.8	110	0.00	0
[004]	Cord. [004]	General: Corridor	0	0.06	0	1178	0	0	71	71	0.8	90	0.00	0
[005]	Cord. [005]	General: Corridor	0	0.06	0	316	0	0	19	19	0.8	30	0.00	0
[006]	Cord. [006]	General: Corridor	0	0.06	0	685	0	0	42	42	0.8	60	0.00	0
[007]	Cord. [007]	General: Corridor	0	0.06	0	1188	0	0	72	72	0.8	90	0.00	0
[008]	Cord. [008]	General: Corridor	0	0.06	0	1156	0	0	70	70	0.8	90	0.00	0
[009]	Lounge [009]	General: Break Room	5	0.06	25	370	10	50	23	73	0.8	100	0.00	0
[100.1]	Furn. Stor. [100.1]	Office: Occupiable Storage, Dry	5	0.06	2	110	1	5	7	12	0.8	20	0.00	0
[100]	Community Room [100]	Education: Class Room (Age 9+)	10	0.12	35	812	29	290	98	388	0.8	490	0.00	0
[101]	Roll Call [101]	Education: Class Room (Age 9+)	10	0.12	35	602	22	220	73	293	0.8	370	0.00	0
[102]	Storage [102]	Office: Occupiable Storage, Dry	5	0.06	2	126	1	5	8	13	0.8	20	0.00	0
[103]	Supervisor [103]	Office: Office Space	5	0.06	5	148	1	5	9	14	0.8	20	0.00	0
[104]	Shift Leaders [104]	Office: Office Space	5	0.06	5	474	3	15	29	44	0.8	60	0.00	0
[105]	Supervisor [105]	Office: Office Space	5	0.06	5	149	1	5	9	14	0.8	20	0.00	0
[106]	Shift Leaders [106]	Office: Office Space	5	0.06	5	509	3	15	31	46	0.8	60	0.00	0
[107]	File/Worm Rm [107]	Office: Office Space	5	0.06	5	118	1	5	8	13	0.8	20	0.00	0
[108]	Shift Leaders [108]	Office: Office Space	5	0.06	5	477	3	15	29	44	0.8	60	0.00	0
[109]	Supervisor [109]	Office: Office Space	5	0.06	5	148	1	5	9	14	0.8	20	0.00	0
[110]	Storage [110]													
[111]	Wellness [111]	Office: Office Space	5	0.06	5	70	1	5	5	10	0.8	20	0.00	0
[112]	Toilet [112]	Restroom	0	0	0	82	0	0	0	0	0.8	0	0.00	75
[113]	Main Elec. [113]													
[114]	Emergency Elec. [114]													
[115]	Armory [115]	Office: Occupiable Storage, Dry	5	0.06	2	628	2	10	38	48	0.8	60	0.00	0
[116]	G.C. [116]	Office: Office Space	5	0.06	5	93	1	5	6	11	0.8	20	0.00	0
[117]	Gear [117]	Office: Occupiable Storage, Dry	5	0.06	2	498	1	5	30	35	0.8	50	0.00	0
[118]	Mech [118]						0	0	0	0	1	0	0.00	0
[119]	IT [119]													
[120]	Report Writing [120]	Office: Office Space	5	0.06	5	332	2	10	20	30	0.8	40	0.00	0
[121]	Eviden. Proc. [121]	Office: Office Space	5	0.06	5	259	2	10	16	26	0.8	40	0.00	0
[123]	Int. [123]	General: Conference/Meeting	5	0.06	50	113	6	30	7	37	0.8	50	0.00	0
[124]	Int. [124]	General: Conference/Meeting	5	0.06	50	101	6	30	7	37	0.8	50	0.00	0
[125]	Rest. [125]	Restroom	0	0	0	88	0	0	0	0	0.8	0	0.00	75
[126]	Rest. [126]	Restroom	0	0	0	115	0	0	0	0	0.8	0	0.00	75
[127]	Off. Supply [127]	Office: Occupiable Storage, Dry	5	0.06	5	107	1	5	7	12	0.8	20	0.00	0
[128]	Front Desk [128]	Office: Office Space	5	0.06	5	231	2	10	14	24	0.8	30	0.00	0
[129]	F. Pen. [129]	Correctional Facility: Cell	5	0.12	25	274	7	35	33	68	0.8	90	0.00	150
[130]	Toilet [130]	Restroom	0	0	0	67	0	0	0	0	0.8	0	0.00	75
[131]	J.C. [131]	Restroom	0	0	0	72	0	0	0	0	0.8	0	1.00	80
[132]	Hold [132]	Correctional Facility: Cell	5	0.12	25	73	2	10	9	19	0.8	30	1.00	80
[133]	Temp [133]	Correctional Facility: Cell	5	0.12	25	73	2	10	9	19	0.8	30	1.00	80
[134]	Int [134]	Correctional Facility: Cell	5	0.12	25	129	4	20	16	36	0.8	50	0.00	0
[135]	F Proc. [135]	Correctional Facility: Cell	5	0.12	25	257	7	35	31	66	0.8	90	0.00	0
[136]	ADA Toilet [136]	Restroom	0	0	0	111	0	0	0	0	0.8	0	0.00	100
[137]	Proc. Area [137]	Correctional Facility: Cell	5	0.12	25	290	8	40	35	75	0.8	100	0.00	0
[137.3]	Mats [137.3]	Office: Occupiable Storage, Dry	5	0.06	5	107	1	5	7	12	0.8	20	0.00	0
[138]	Stp Srch [138]	Correctional Facility: Cell	5	0.12	25	93	3	15	12	27	0.8	40	1.00	100
[139]	Intox [139]	Correctional Facility: Cell	5	0.12	25	100	3	15	12	27	0.8	40	1.00	100
[140]	M Proc [140]	Correctional Facility: Cell	5	0.12	25	245	7	35	30	65	0.8	90	0.00	0
[141]	Temp [141]	Correctional Facility: Cell	5	0.12	25	100	3	15	12	27	0.8	40	1.00	100
[142]	Int [142]	Correctional Facility: Cell	5	0.12	25	126	4	20	16	36	0.8	50	0.00	0
[143]	Int [143]	Correctional Facility: Cell	5	0.12	25	82	3	15	10	25	0.8	40	0.00	0
[144]	Hold [144]	Correctional Facility: Cell	5	0.12	25	78	2	10	10	20	0.8	30	1.00	80
[145]	Hold [145]	Correctional Facility: Cell	5	0.12	25	78	2	10	10	20	0.8	30	1.00	80
[146]	Hold [146]	Correctional Facility: Cell	5	0.12	25	57	2	10	7	17	0.8	30	1.00	60
[148]	M. Pen. [148]	Correctional Facility: Cell	5	0.12	25	452	12	60	55	115	0.8	150	0.00	150
[149]	Control Desk [149]	Office: Office Space	5	0.06	5	242	2	10	15	25	0.8	40	0.00	0
[201]	Storage [201]	Office: Occupiable Storage, Dry	5	0.06	2	132	1	5	8	13	0.8	20	0.00	0
[202]	Investigative Service [202]	Office: Office Space	5	0.06	5	455	3	15	28	43	0.8	60	0.00	0
[203]	Office [203]	Office: Office Space	5	0.06	5	153	1	5	10	15	0.8	20	0.00	0
[204]	Office [204]	Office: Office Space	5	0.06	5	151	1	5	10	15	0.8	20	0.00	0
[205]	Office Supply [205]	Office: Office Space	5	0.06	5	202	2	10	13	23	0.8	30	0.00	0
[206]	Records [206]	Office: Occupiable Storage, Dry	5	0.06	2	155	1	5	10	15	0.8	20	0.00	0
[207]	Traffic/BPI [207]	Office: Office Space	5	0.06	5	478	3	15	29	44	0.8	60	0.00	0
[208]	Office [208]	Office: Office Space	5	0.06	5	192	1	5	12	17	0.8	30	0.00	0
[209]	Break Rm. [209]	General: Break Room	5	0.06	25	439	11	55	27	82	0.8	110	0.30	140
[210]	Conference/Flex [210]	General: Conference/Meeting	5	0.06	50	252	13	65	16	81	0.8	110	0.00	0
[211]	Cap. Suite [211]	Office: Office Space	5	0.06	5	659	4	20	40	60	0.8	80	0.00	0
[213]	Office [213]	Office: Office Space	5	0.06	5	166	1	5	10	15	0.8	20	0.00	0
[215]	Conference [215]	General: Conference/Meeting	5	0.06	50	296	15	75	18	93	0.8	120	0.00	0
[216]	Captain's Office [216]	Office: Office Space	5	0.06	5	481	3	15	29	44	0.8	60	0.00	0
[216.1]	Capt. Toilet [216.1]	Restroom	0	0	0	156	0	0	0	0	0.8	0	0.00	75
[217]	C.A.T. [217]	Office: Office Space	5	0.06	5	460	3	15	28	43	0.8	60	0.00	0
[218]	Office [218]	Office: Office Space	5	0.06	5	173	1	5	11	16	0.8	20	0.00	0
[219]	Out./SRO/DVC [219]	Office: Office Space	5	0.06	5	522	3	15	32	47	0.8	60	0.00	0
[220]	Office [220]	Office: Office Space	5	0.06	5	148	1	5	9	14	0.8	20	0.00	0
[221]	Storage [221]	Office: Occupiable Storage, Dry	5	0.06	2	36	1	5	3	8	0.8	10	0.00	0
[222]	Toilet [222]	Restroom	0	0	0	81	0	0	0	0	0.8	0	0.00	75
[223]	IT [223]													
[224]	Fitness [224]	Sports: Health Club/Weight Room	20	0.06	10	832	9	180	50	230	0.8	290	0.00	0
[225]	J.C. [225]	Janitor Closet	0	0	0	53	0	0	0	0	0.8	0	1.00	60
[226]	Stor. [226]	Office: Occupiable Storage, Dry	5	0.06	2	81	1	5	5	10	0.8	20	0.00	0
[227]	Wellness [227]	Office: Office Space	5	0.06	5	94	1	5	6	11	0.8	20	0.00	0
[228]	Gend. Locker Rm [228]	Locker Room	5	0.06	5	388	2	10	24	34	0.8	50	0.50	200
[229]	Women's Locker Rm [229]	Locker Room	5	0.06	5	1302	7	35	79	114	0.8	150	0.50	660
[230]	Men's Locker Rm [230]	Locker Room	5	0.06	5	2261	12	60	136	196	0.8	250	0.50	1140
T	Total					27381	212			2441		3340		3810

6A	6B	6C	6E	7E
	Balancing Schedule			
Space #	Space Name	Design OA CFM	Design EA CFM	Notes
[001]	Vest. [001]	0	0	
[002]	Lobby [002]	110	0	
[003]	Cord. [003]	110	0	
[004]	Cord. [004]	90	0	
[005]	Cord. [005]	30	0	w/ Front Desk [128]
[006]	Cord. [006]	60	0	
[007]	Cord. [007]	90	0	
[008]	Cord. [008]	90	0	
[009]	Lounge [009]	100	0	
[100.1]	Furn. Stor. [100.1]	20	40	
[100]	Community Room [100]	490	400	
[101]	Roll Call [101]	370	300	
[102]	Storage [102]	20	40	
[103]	Supervisor [103]	20	20	
[104]	Shift Leaders [104]	60	40	
[105]	Supervisor [105]	20	20	
[106]	Shift Leaders [106]	60	60	
[107]	File/Worm Rm [107]	20	0	
[108]	Shift Leaders [108]	60	50	
[109]	Supervisor [109]	20	20	
[110]	Storage [110]	0	0	
[111]	Wellness [111]	20	0	
[112]	Toilet [112]	50	100	
[113]	Main Elec. [113]	200	200	
[114]	Emergency Elec. [114]	100	100	
[115]	Armory [115]	60	100	
[116]	G.C. [116]	20	0	
[117]	Gear [117]	50	50	
[118]	Mech [118]	0	0	
[119]	IT [119]	0	0	
[120]	Report Writing [120]	40	40	
[121]	Eviden. Proc. [121]	40	100	
[123]	Int. [123]	50	50	
[124]	Int. [124]	50	50	
[125]	Rest. [125]	50	100	
[126]	Rest. [126]	50	100	
[127]	Off. Supply [127]	20	0	
[128]	Front Desk [128]	30	0	w/ Cord. [005]
[129]	F. Pen. [129]	90	150	
[130]	Toilet [130]	50	100	
[131]	J.C. [131]	50	100	
[132]	Hold [132]	36	100	FCU-1.05, Mixed Air
[133]	Temp [133]	36	100	FCU-1.05, Mixed Air
[134]	Int [134]	80	0	FCU-1.05, Mixed Air
[135]	F Proc. [135]	160	0	FCU-1.05, Mixed Air
[136]	ADA Toilet [136]	50	100	
[137]	Proc. Area [137]	180	0	FCU-1.05, Mixed Air
[137.3]	Mats [137.3]	20	0	FCU-1.05, Mixed Air
[138]	Stp Srch [138]	40	100	FCU-1.05, Mixed Air
[139]	Intox [139]	42	100	FCU-1.04, Mixed Air
[140]	M Proc [140]	178	0	FCU-1.04, Mixed Air
[141]	Temp [141]	42	100	FCU-1.04, Mixed Air
[142]	Int [142]	84	0	FCU-1.04, Mixed Air
[143]	Int [143]	42	0	FCU-1.04, Mixed Air
[144]	Hold [144]	42	100	FCU-1.04, Mixed Air
[145]	Hold [145]	42	100	FCU-1.04, Mixed Air
[146]	Hold [146]	42	100	FCU-1.04, Mixed Air
[148]	M. Pen. [148]	150	150	
[149]	Control Desk [149]	40	0	
[201]	Storage [201]	20	40	
[202]	Investigative Service [202]	60	50	
[203]	Office [203]	20	20	
[204]	Office [204]	20	20	
[205]	Office Supply [205]	30	0	
[206]	Records [206]	20	20	
[207]	Traffic/BPI [207]	60	60	
[208]	Office [208]	20	20	
[209]	Break Rm. [209]	110	140	
[210]	Conference/Flex [210]	90	90	
[211]	Cap. Suite [211]	80	0	
[213]	Office [213]	20	0	
[215]	Conference [215]	120	100	
[216]	Captain's Office [216]	60	0	
[216.1]	Capt. Toilet [216.1]	50	100	
[217]	C.A.T. [217]	60	80	
[218]	Office [218]	20	20	
[219]	Out./SRO/DVC [219]	60	60	
[220]	Office [220]	20	20	
[221]	Storage [221]	20	0	
[222]	Toilet [222]	50	100	
[223]	IT [223]	0	0	
[224]	Fitness [224]	290	250	
[225]	J.C. [225]	50	100	
[226]	Stor. [226]	20	0	
[227]	Wellness [227]	20	0	
[228]	Gend. Locker Rm [228]	180	260	9 Lockers
[229]	Women's Locker Rm [229]	580	640	56 Lockers
[230]	Men's Locker Rm [230]	900	1190	124 Lockers
		7000	6760	

	Calculated

Design OA CFM	Design EA CFM
7000	6760

VRF System CU-1.2 - ASHRAE 15 EDVC Calculation

FCU-#	Space Name	Unit Arrangement	Releasable Charge (lb)	Refrigerant Concentration Limit (lb / Cubic Ft)	Occ. Factor	Area (SF)	Height (Ft)	Total Volume (Cubic Ft)	Effective Dispersal Volume Charge (lb)	Compliance (Yes/No)
FCU-1.08A/B/C	Cord. [004]	Ceiling Cassette	6.4	0.0048	1	1327	9	11943	57.3264	Yes
FCU-1.09	Mud Rm. [004.2]	Ceiling Cassette	2.32	0.0048	1	1327	9	11943	57.3264	Yes
FCU-1.10	Report Writing [120]	Ceiling Cassette	3.98	0.0048	1	291	9	2619	12.5712	Yes
FCU-1.11A/B	Evid. Proc. [121]	Ceiling Cassette	5.76	0.0048	1	327	9	2943	14.1264	Yes
FCU-1.13	Mech. [118]	Ceiling Cassette	10.77	0.0048	1	511	12	6132	29.4336	Yes
FCU-1.14A/B	Int. [123]	Ceiling Cassette	2.8	0.0048	1	102	9	918	4.4064	Yes
	Int. [124]	Ceiling Cassette	2.98	0.0048	1	93	9	837	4.0176	Yes
FCU-1.15	Gear [117]	Ceiling Concealed	4.44	0.0048	1	465	9	4185	20.088	Yes
FCU-1.16A/B	Armory [115]	Ceiling Cassette	7.47	0.0048	1	589	10	5890	28.272	Yes

VRF System CU-1.1 - ASHRAE 15 EDVC Calculation

FCU-#	Space Name	Unit Arrangement	Releasable Charge (lb)	Refrigerant Concentration Limit (lb / Cubic Ft)	Occ. Factor	Area (SF)	Height (Ft)	Total Volume (Cubic Ft)	Effective Dispersal Volume Charge (lb)	Compliance (Yes/No)
FCU-1.01	M. Pen. [148]	Vertical Ducted	8.83	0.0048	0.5	406	10	4060	9.744	Yes
FCU-1.02	Control Desk [149]	Ceiling Cassette	2.98	0.0048	1	223	9	2007	9.6336	Yes
FCU-1.03	F. Pen [129]	Vertical Ducted	6.95	0.0048	0.5	298	10	2980	7.152	Yes
FCU-1.04	Intox [139]	Vertical Ducted	9.9	0.0048	0.5	76	9	684	17.496	Yes
	M Proc. [140]					242	9	2178		
	Temp [141]					76	9	684		
	Int/Bail [142]					147	9	1323		
	Int [143]					71	9	639		
	Hold [144]					60	9	540		
	Hold [145]					69	9	621		
	Hold [146]					69	9	621		
FCU-1.05	Hold [132]	Vertical Ducted	10.44	0.0048	0.5	60	9	540	17.4528	Yes
	Temp [133]					60	9	540		
	Int/Bail [134]					133	9	1197		
	F Proc. [135]					186	9	1674		
	Proc. Area [137]					297	9	2673		
	Stp Srch [138]					72	9	648		
FCU-1.06A/B/C	Cord. [006]	Ceiling Cassette	9.61	0.0048	1	610	8.5	5185	24.888	Yes
FCU-1.07	Front Desk [128]	Ceiling Cassette	3.42	0.0048	1	480	10	4800	23.04	Yes
FCU-1.26	Off. Supply [127]	Ceiling Cassette	2.61	0.0048	1	115	9	1035	4.968	Yes

VRF System CU-1.3 - ASHRAE 15 EDVC Calculation

FCU-#	Space Name	Unit Arrangement	Releasable Charge (lb)	Refrigerant Concentration Limit (lb / Cubic Ft)	Occ. Factor	Area (SF)	Height (Ft)	Total Volume (Cubic Ft)	Effective Dispersal Volume Charge (lb)	Compliance (Yes/No)
FCU-1.12	Wellness [111]	Ceiling Cassette	3.27	0.0048	1	90	10	900	4.32	Yes
FCU-1.17A/B/C	Cord. [003]	Ceiling Cassette	7.04	0.0048	1	1386	9	12474	59.8752	Yes
FCU-1.18	Community Rm [100]	Vertical Ducted	7.04	0.0048	1	753	10	7530	36.144	Yes
FCU-1.19	Roll Call [101]	Vertical Ducted	8.01	0.0048	1	558	10	5580	26.784	Yes
FCU-1.20	Cord. [003.1]	Ceiling Cassette	9.47	0.0048	1	1386	10	13860	66.528	Yes
FCU-1.21	Shift Leaders-A [104]	Ceiling Concealed	3.7	0.0048	1	573	10	5730	27.504	Yes
	Supervisor [103]									
FCU-1.22	Supervisor [105]	Ceiling Concealed	5.58	0.0048	1	570	10	5700	27.36	Yes
	Shift Leaders-B [106]									
FCU-1.23	Shift Leaders-C [108]	Ceiling Concealed	6.52	0.0048	1	601	10	6010	28.848	Yes
	Supervisor [109]									
FCU-1.24	Work Rm [107]	Ceiling Cassette	2.51	0.0048	1	109	10	1090	5.232	Yes

VRF System CU-2.1 - ASHRAE 15 EDVC Calculation

FCU-#	Space Name	Unit Arrangement	Releaseable Charge (lb)	Refrigerant Concentration Limit (lb / Cubic Ft)	Occ. Factor	Area (SF)	Height (Ft)	Total Volume (Cubic Ft)	Effective Dispersal Volume Charge (lb)	Compliance (Yes/No)
FCU-2.01	Captain's Office [216]	Ceiling Concealed	5.19	0.0048	1	389	10	3890	18.672	Yes
FCU-2.02	Conference [215]	Ceiling Concealed	5.1	0.0048	1	212	10	2120	10.176	Yes
FCU-2.03	Break Rm [209]	Ceiling Concealed	8.01	0.0048	1	386	10	3860	18.528	Yes
FCU-2.04	Conference/Flex [210]	Ceiling Concealed	6.34	0.0048	1	267	10	2670	12.816	Yes
FCU-2.05	Cap. Suite [211]	Ceiling Concealed	9.69	0.0048	1	954	10	9540	45.792	Yes
	Office [213]									
FCU-2.06	Traffic/BPI [207]	Ceiling Concealed	5.68	0.0048	1	626	10	6260	30.048	Yes
	Office [208]									
FCU-2.07	Office Supply [209]	Ceiling Cassette	2.42	0.0048	1	1137	10	11370	54.576	Yes

VRF System CU-2.2 - ASHRAE 15 EDVC Calculation

FCU-#	Space Name	Unit Arrangement	Releasable Charge (lb)	Refrigerant Concentration Limit (lb / Cubic Ft)	Occ. Factor	Area (SF)	Height (Ft)	Total Volume (Cubic Ft)	Effective Dispersal Volume Charge (lb)	Compliance (Yes/No)
FCU-2.08A/B/C	Cord. [007]	Ceiling Cassette	7.04	0.0048	1	1137	10	11370	54.576	Yes
FCU-2.09	C.A.T. [217]	Ceiling Concealed	8.23	0.0048	1	575	10	5750	27.6	Yes
	Office [218]									
FCU-2.10	Invest. Service [202]	Ceiling Concealed	7.59	0.0048	1	780	10	7800	37.44	Yes
	Office [203]									
	Records [206]									
FCU-2.11	Lt Office [204]	Ceiling Concealed	3.22	0.0048	1	186	10	1860	8.928	Yes
FCU-2.12	Out./SRO/DVC [219]	Ceiling Concealed	5.87	0.0048	1	677	10	6770	32.496	Yes
	Office [220]									
FCU-2.13	Cord. [008]	Ceiling Cassette	2.51	0.0048	1	978	9	8802	42.2496	Yes
FCU-2.14	Lobby [002]	Ceiling Concealed	7.77	0.0048	1	684	25	17100	82.08	Yes
FCU-2.16	Fitness [224]	Ceiling Concealed	9.69	0.0048	1	832	10	8320	39.936	Yes

VRF System CU-2.3 - ASHRAE 15 EDVC Calculation

FCU-#	Space Name	Unit Arrangement	Releasable Charge (lb)	Refrigerant Concentration Limit (lb / Cubic Ft)	Occ. Factor	Area (SF)	Height (Ft)	Total Volume (Cubic Ft)	Effective Dispersal Volume Charge (lb)	Compliance (Yes/No)
FCU-2.17A/B	Cord. [008]	Ceiling Cassette	6.69	0.0048	1	978	9	8802	42.2496	Yes
FCU-2.18	Wellness [227]	Ceiling Cassette	4.36	0.0048	1	134	10	1340	6.432	Yes
FCU-2.19A/B	Gn. Locker Rm [228]	Ceiling Cassette	4.69	0.0048	1	343	10	3430	16.464	Yes
FCU-2.20	Men Locker Rm [230]	Ceiling Concealed	8.52	0.0048	1	2172	10	21720	104.256	Yes
FCU-2.21	Men Locker Rm [230]	Ceiling Concealed	8.52	0.0048	1	2172	10	21720	104.256	Yes
FCU-2.22	Wom. Lock. Rm [229]	Ceiling Concealed	7.98	0.0048	1	1112	10	11120	53.376	Yes
FCU-2.23	Wom. Lock. Rm [229]	Ceiling Concealed	6.73	0.0048	1	1112	10	11120	53.376	Yes

5

DWG. FILENAME: C:\Users\mscott\Documents\290601-Wilkens Police Precinct-Central-R21_mscottBRNP.rvt

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE: _____

ENGINEER: _____

AS-BUILT PER RECORD PRINT

BY: _____ DATE: _____

DATE : 11/5/2025 5:00:56 PM

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
5 ADDENDUM #5	MRS	11.6.25		GSW	14SW19
			R.O.W. NO.		14SW20
CONTRACT COMPLETION BOX					

DRAWING SCALE: PLAN SCALE: NONE; PROFILE SCALE: _____

PROPERTY MANAGEMENT: APPROVED BY: _____ PROPERTY MANAGER; DATE: _____

DGN BY: MRS; DRN BY: MRS; CHKD BY: AL

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

MECHANICAL COVERSHEET

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

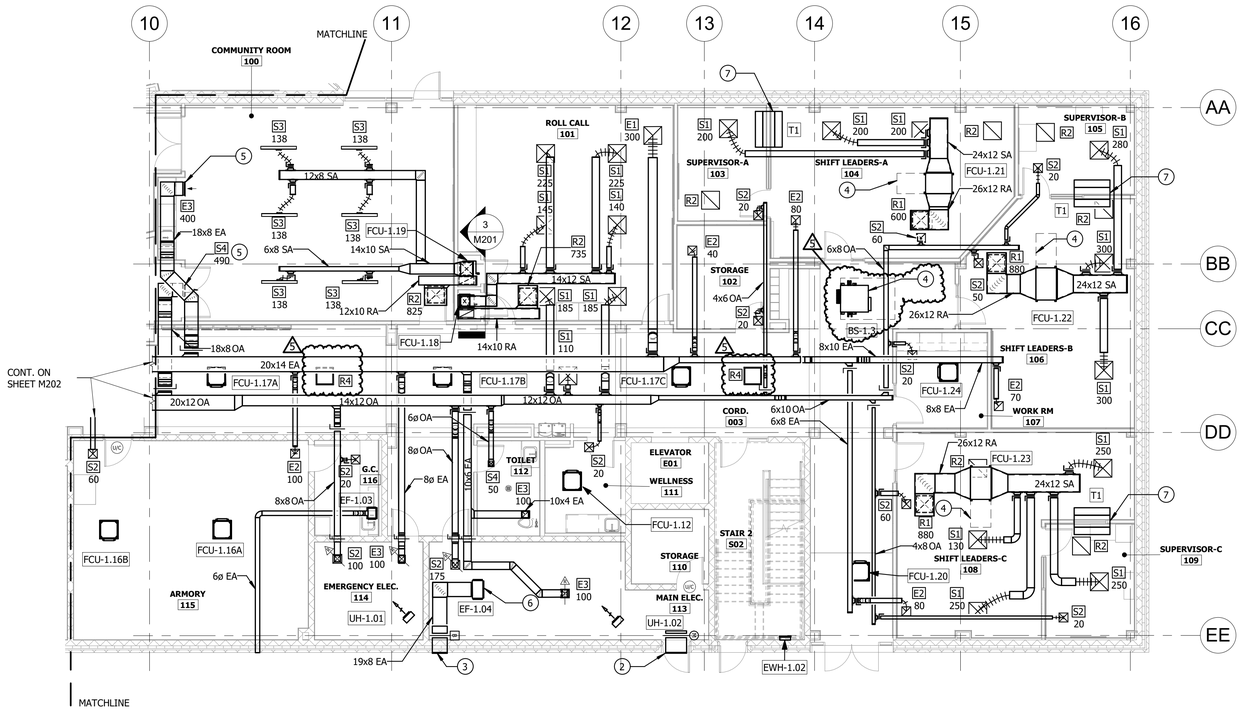
ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M002	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 189 OF 302
	DRAWING NUMBER
	2024 - 1502
	FILE NO.: 8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

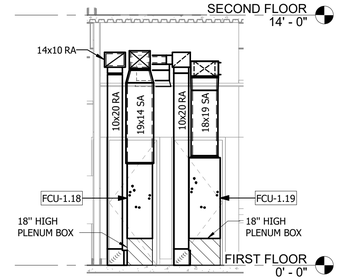
DRAWING NOTES:

1. SIDEWALL AIR DEVICE MOUNTED 10'-0" AFF TO BOTTOM OF DEVICE.
2. 28x24x18 FULLY INSULATED INTAKE LOUVER WITH FULL SIZE PLENUM. PROVIDE THERMALLY BROKEN MOTOR OPERATED DAMPER.
3. 20x24x18 FULLY INSULATED EXHAUST LOUVER WITH FULL SIZE PLENUM. PROVIDE THERMALLY BROKEN BACKDRAFT DAMPER.
4. PROVIDE MANUFACTURER RECOMMENDED CLEARANCE FOR MAINTENANCE OF MECHANICAL EQUIPMENT.
5. SIDEWALL AIR DEVICE MOUNTED 9'-0" AFF TO BOTTOM OF DEVICE. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND ELEVATION.
6. EXHAUST FAN MOUNTED BELOW FINISHED CEILING.
7. TRANSFER SILENCER, REFER TO MECHANICAL SCHEDULE FOR ADDITIONAL INFORMATION.



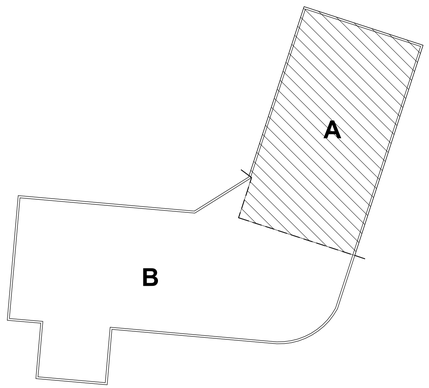
FIRST FLOOR - MECHANICAL - WING A

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



FCU-1.18 AND FCU-1.19 ELEVATION

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



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

4 0 4 8

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

8 0 8 16

DWG. FILENAME: C:\Users\mscott\Documents\280601 Wilkens Police Precinct-Central R21_mscottRSPQP.rvt

SEAL	PROFESSIONAL CERTIFICATION		AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE		PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE: _____		5 ADDENDUM #5	MRS	11.6.25			14SW19	PLAN SCALE:	As indicated	APPROVED BY: _____ PROPERTY MANAGER
						R.O.W. NO.	GSW	14SW20	PROFILE SCALE:		DATE:
	ENGINEER: _____	DGN BY: MRS	CONTRACT COMPLETION BOX								
		DRN BY: MRS	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	
	AS-BUILT PER RECORD PRINT BY:	CHKD BY: AL	REVIEWED BY:								
DATE: 11/5/2025 5:00:59 PM	DATE:		DATE REVIEWED:								

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

FIRST FLOOR - MECHANICAL - WING A

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

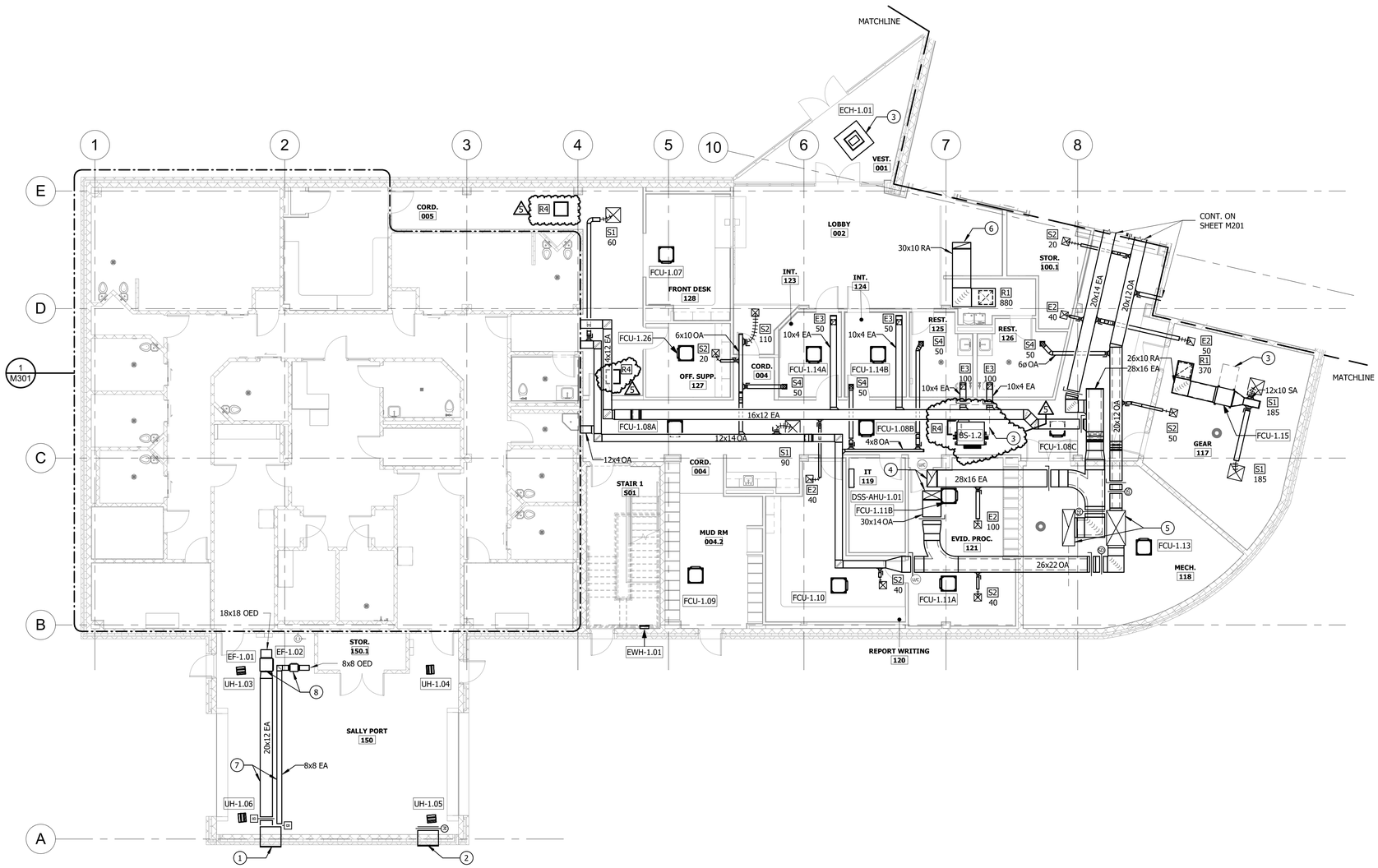
ELECTION DIST. NO.: 01C1

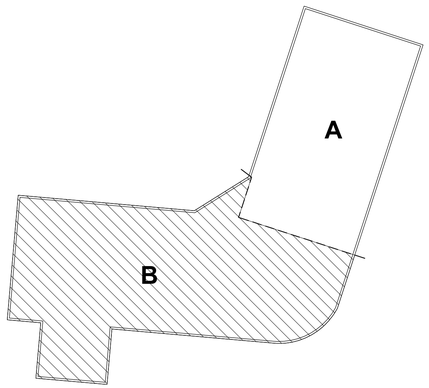
SHEET DESIGNATION	CONTRACT NUMBER
M201	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 190 OF 302
	DRAWING NUMBER
	2024 – 1503
	FILE NO.: 8

Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025

DRAWING NOTES:

1. 34x16x18 EXHAUST AIR LOUVER WITH FULL SIZE PLENUM BOX.
2. 34x16x18 INTAKE AIR LOUVER WITH FULL SIZE PLENUM BOX. INTERLOCK MOTOR OPERATED DAMPER WITH EF-1.01 [EMERGENCY GARAGE EXHAUST]. REFER TO EF-1.01 SEQUENCE OF OPERATIONS.
3. PROVIDE MANUFACTURER RECOMMENDED CLEARANCE FOR MAINTENANCE OF MECHANICAL EQUIPMENT.
4. OUTSIDE AIR, EXHAUST AIR UP IN CHASE TO SERVE SECOND FLOOR.
5. OUTSIDE AIR, EXHAUST AIR UP TO DOAS-1. TRANSITION DUCTS TO SIZE OF UNIT OPENING.
6. RETURN AIR UP TO FCU-2.12.
7. DUCT ROUTED BETWEEN JOISTS.
8. MOUNT EXHAUST FAN UNDER JOISTS. MAINTAIN ALL MANUFACTURER REQUIRED CLEARANCES.





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

8 0 8 16

FIRST FLOOR - MECHANICAL - WING B

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

DWG. FILENAME: C:\Users\mscott\Documents\280601-Wilkens Police Precinct-Central-R21_mscottRBNQP.rvt

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE _____	5 ADDENDUM #5	MRS	11.6.25		GSW	14SW19	PLAN SCALE: As indicated	APPROVED BY: _____ PROPERTY MANAGER
		CONTRACT COMPLETION BOX			R.O.W NO.		14SW20	PROFILE SCALE:	DATE:
	ENGINEER: _____ DGN BY: MRS	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
	AS-BUILT PER RECORD PRINT DWN BY: MRS	REVIEWED BY:							
DATE : 11/5/2025 5:01:00 PM	BY: DATE: CHKD BY: AL	DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

FIRST FLOOR - MECHANICAL - WING B

NEW BUILDING DESIGN

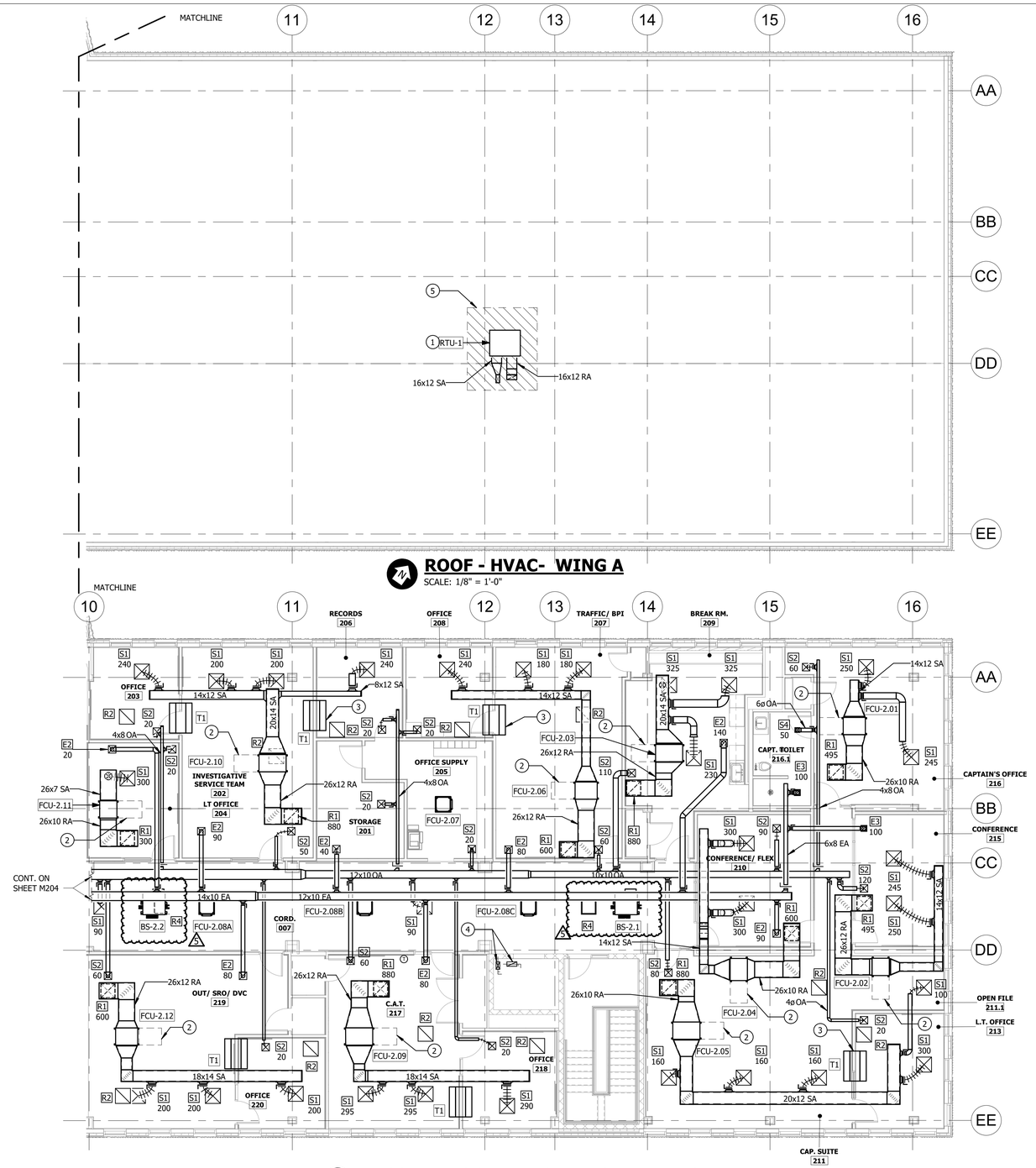
SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M202	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 191 OF 302
	DRAWING NUMBER
	2024 – 1503
	FILE NO.: 8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



ROOF - HVAC- WING A

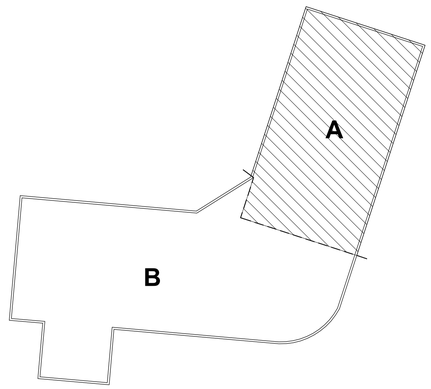
SCALE: 1/8" = 1'-0"

SECOND FLOOR - MECHANICAL - WING A

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

DRAWING NOTES:

1. ROOFTOP UNIT TO SERVE ELEVATOR SHAFT, REFER TO SCHEDULE AND SPECIFICATIONS FOR REQUIREMENTS. COORDINATE WITH SOLAR VENDOR LAYOUT. PROVIDE POINTS FOR STATUS AND ALARM IN BAS.
2. PROVIDE MANUFACTURER RECOMMENDED CLEARANCE FOR MAINTENANCE OF MECHANICAL EQUIPMENT.
3. TRANSFER SILENCER, REFER TO MECHANICAL SCHEDULE FOR ADDITIONAL INFORMATION.
4. 6x12 SA, 8x16 RA UP THROUGH ROOF.
5. PROVIDE 3'-0" SERVICE CLEARANCE AROUND ROOFTOP UNIT. COORDINATE WITH SOLAR PANEL LAYOUT.



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

8 0 8 16

DWG. FILENAME: C:\Users\mscott\Documents\280601 Wilkens Police Precinct-Central-R21_mscottBKNP.rvt

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE: _____

ENGINEER: _____

AS-BUILT PER RECORD PRINT

BY: _____ DATE: _____

DATE : 11/5/2025 5:01:04 PM

DGN BY:	MRS
DRN BY:	MRS
CHKD BY:	AL

AS-BUILT / REVISION	BY	DATE
5 ADDENDUM #5	MRS	11.6.25

CONTRACT COMPLETION BOX

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W. NO.	GSW	14SW19
		14SW20

DRAWING SCALE	
PLAN SCALE:	As indicated
PROFILE SCALE:	

PROPERTY MANAGEMENT

APPROVED BY: _____ PROPERTY MANAGER

DATE: _____

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

SECOND FLOOR - MECHANICAL - WING A

NEW BUILDING DESIGN

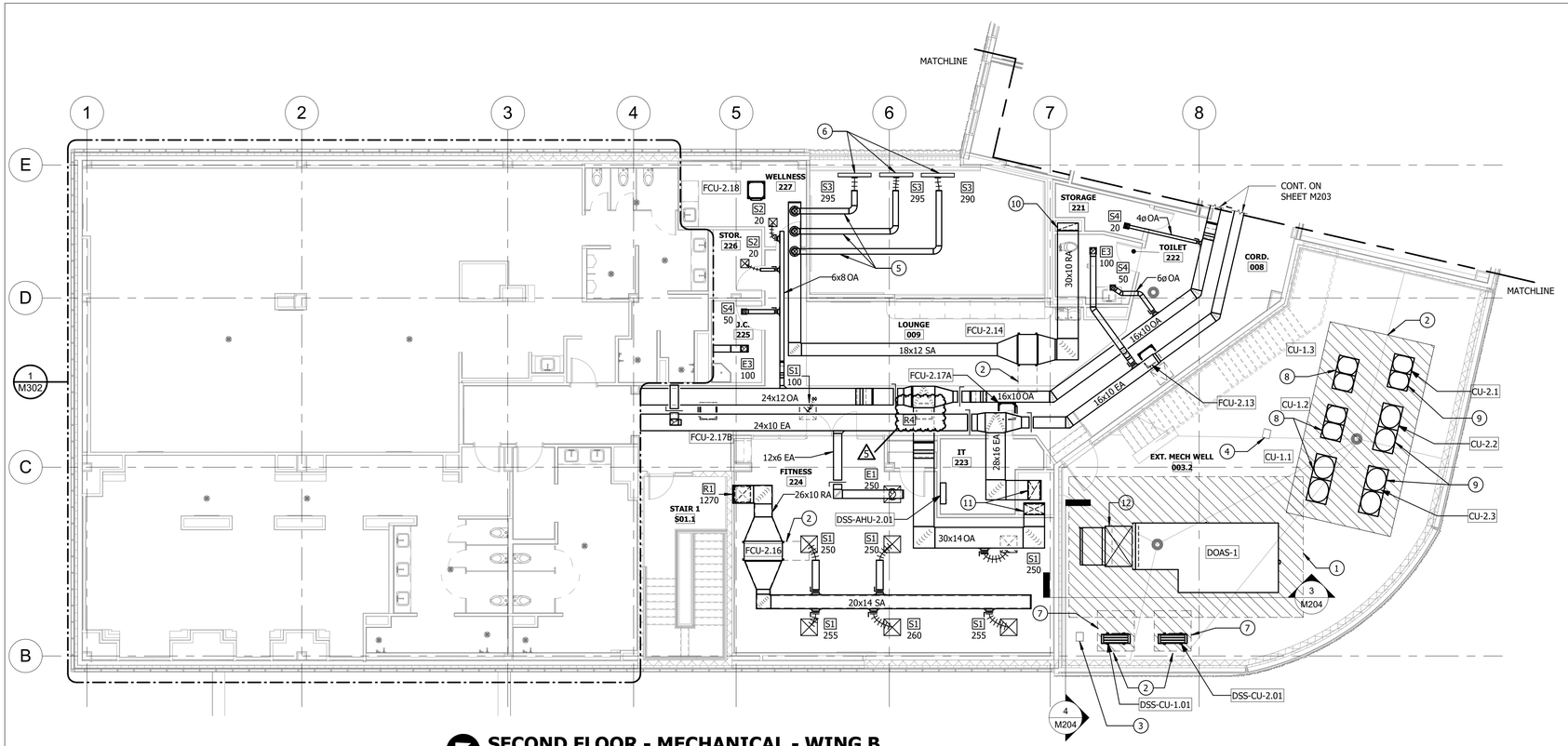
SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M203	24111 PPO
JOB ORDER NUMBER	300200006
SHEET 192 OF 302	
DRAWING NUMBER	2024 – 1505
FILE NO.: 8	REV. 0

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

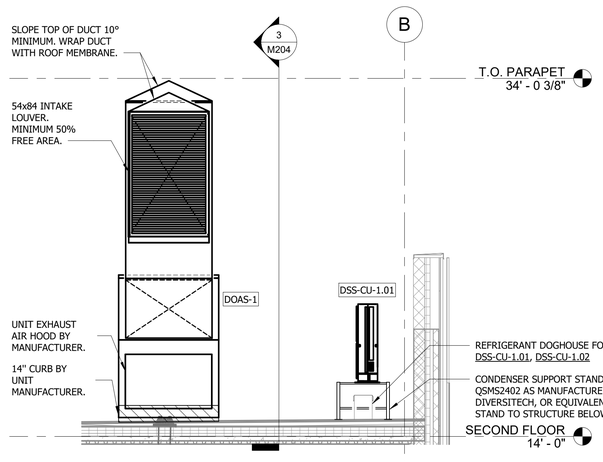


SECOND FLOOR - MECHANICAL - WING B

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

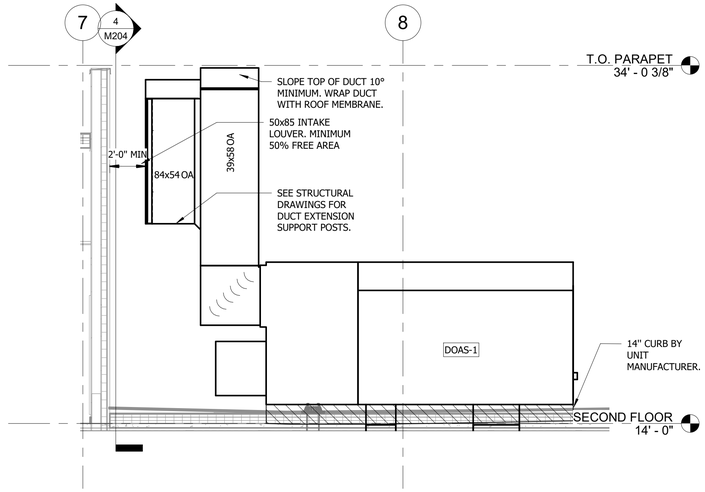
DRAWING NOTES:

1. DOAS-1 SERVICE CLEARANCE.
2. CONDENSING UNIT SERVICE CLEARANCE.
3. REFRIGERANT DOGHOUSE FOR DSS-CU-1.01, DSS-CU-1.02.
4. REFRIGERANT DOGHOUSE FOR CU-1.1, CU-1.2, CU-1.3.
5. ROUTE 8"Ø SA THROUGH OPEN WEB JOISTS. REFER TO STRUCTURAL DRAWINGS FOR JOIST LOCATIONS AND SIZES.
6. LOCATE MANUFACTURER PLENUM BOX BETWEEN OPEN WEB JOISTS. REFER TO STRUCTURAL DRAWINGS FOR JOIST LOCATIONS AND SIZES. MINIMUM VERTICAL DIFFUSER THROW = 25'-0". ALIGN DIFFUSER WITH WOOD SLAT LAYOUT. DIFFUSER COLOR POWDER COAT COLOR TO BE SELECTED BY ARCHITECT.
7. ROOF MOUNTED CONDENSING UNIT, PROVIDE CONDENSER STAND MODEL NO. QSMS2402 AS MANUFACTURED BY DIVERSITECH, OR EQUIVALENT.
8. PROVIDE PRE-ENGINEERED THREE MODULE VRF EQUIPMENT STAND FOR CU-1.1, CU-1.2, CU-1.3 W/ BASE FRAME MODEL NO. B9731-1-BF AS MANUFACTURED BY BIG FOOT SYSTEMS (OR EQUIVALENT) AND ALL REQUIRED EXTENSION KITS. ADJUST STAND HEIGHT TO MAXIMUM HEIGHT; 24", TOP OF CONDENSING UNITS SHALL BE NO MORE THAN 12" BELOW TOP OF ROOF WELL EXTERIOR WALL. COORDINATE WITH VENDOR.
9. PROVIDE PRE-ENGINEERED THREE MODULE VRF EQUIPMENT STAND FOR CU-2.1, CU-2.2, CU-2.3 W/ BASE FRAME MODEL NO. B9731-1-BF AS MANUFACTURED BY BIG FOOT SYSTEMS (OR EQUIVALENT) AND ALL REQUIRED EXTENSION KITS. ADJUST STAND HEIGHT TO MAXIMUM HEIGHT; 24", TOP OF CONDENSING UNITS SHALL BE NO MORE THAN 12" BELOW TOP OF ROOF WELL EXTERIOR WALL. COORDINATE WITH VENDOR.
10. 30x10 RA DOWN.
11. 28x16 EA, 30x14 SA DOWN.
12. DOAS-1 OUTSIDE AIR DUCT EXTENSION, REFER TO ELEVATIONS FOR ADDITIONAL INFORMATION.



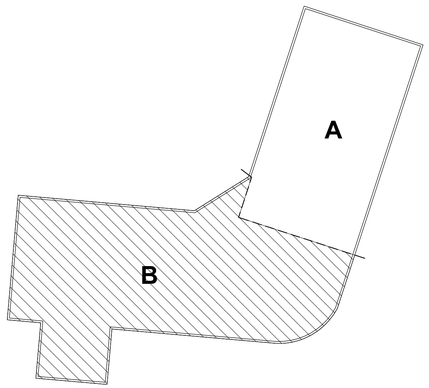
4 M204 **DOAS-1 ELEVATION ONE**

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



3 M204 **DOAS-1 - ELEVATION TWO**

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



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

8 0 8 16

DWG. FILENAME: C:\Users\mscott\Documents\280601 Wilkens Police Precinct-Central-R21_mscottRSPQP.rvt

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE: _____	5 ADDENDUM #5	MRS	11.6.25				PLAN SCALE: As indicated	APPROVED BY: _____ PROPERTY MANAGER
					R.O.W. NO.	GSW	14SW19		
		CONTRACT COMPLETION BOX					14SW20	PROFILE SCALE: _____	DATE: _____

ENGINEER: _____	DGN BY: MRS	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
AS-BUILT PER RECORD PRINT	DRN BY: MRS	REVIEWED BY:							
BY:	CHKD BY: AL	DATE REVIEWED:							

DATE : 11/5/2025 5:01:07 PM

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

SECOND FLOOR - MECHANICAL - WING B

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M204	24111 PPO
JOB ORDER NUMBER	
300200006	
SHEET 193 OF 302	
DRAWING NUMBER	
2024 – 1506	
FILE NO.: 8	REV. 0

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

GENERAL NOTES:

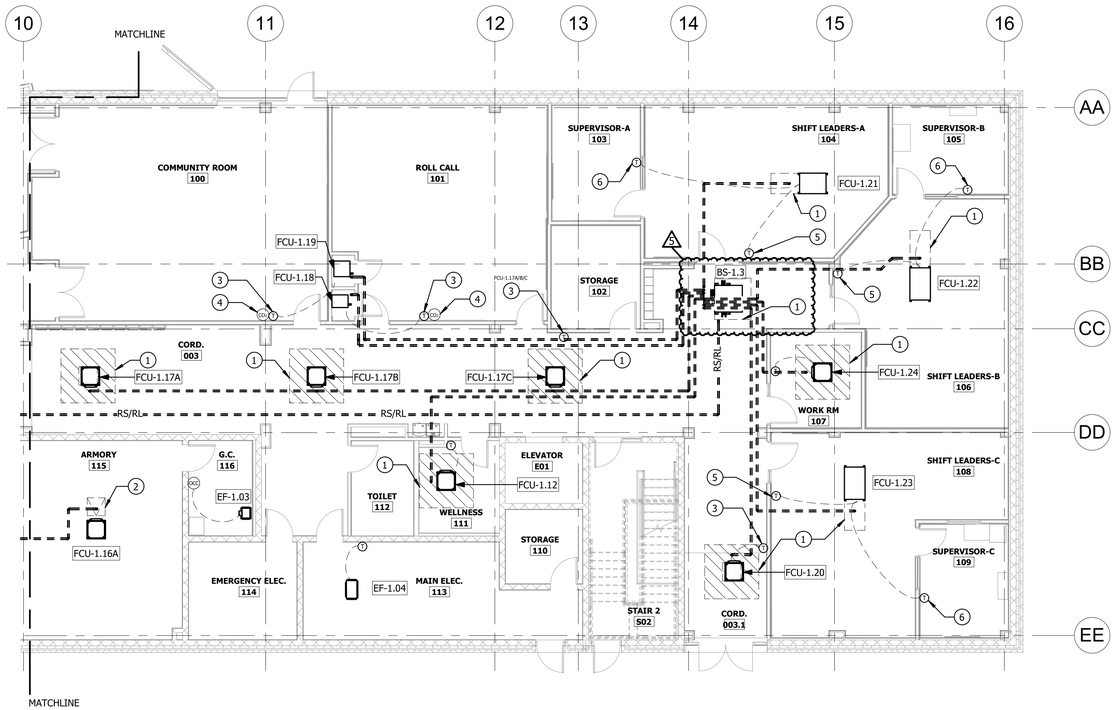
1. INSTALLER SHALL BE RESPONSIBLE FOR VERIFICATION OF PIPE RUNS AND SIZES WITH VRF SYSTEM MANUFACTURER IN ADDITION TO ANY CHANGES AS A RESULT OF USING A SUBSTITUTE MANUFACTURER.

2. FOR CLARITY, SINGLE LINE REPRESENTS PAIR OF PIPES; REFRIGERANT LIQUID LINE, AND REFRIGERANT SUCTION LINE.

△5

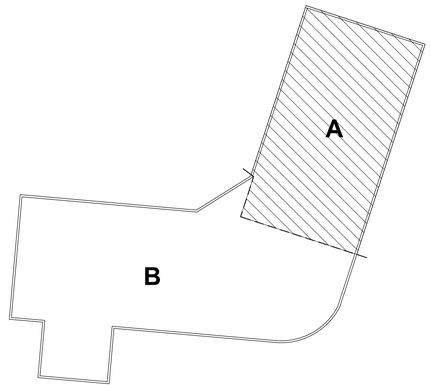
DRAWING NOTES:

1. PROVIDE MANUFACTURER RECOMMENDED CLEARANCE FOR MAINTENANCE OF MECHANICAL EQUIPMENT.
2. 2'-0" x 2'-0" ACCESS PANEL.
3. WALL MOUNTED TEMPERATURE SENSOR.
4. CARBON DIOXIDE SENSOR. INTERLOCK WITH BAS FOR MONITORING AND ALARM.
5. MAIN THERMOSTAT IN MAIN-SUB CONFIGURATION, SEE SEQUENCE OF OPERATIONS.
6. SUB THERMOSTAT IN MAIN-SUB CONFIGURATION, SEE SEQUENCE OF OPERATIONS.



FIRST FLOOR - MECHANICAL PIPING AND ATC - WING A

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



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

8 0 8 16

DWG. FILENAME: C:\Users\mscott\Documents\280601-Wilkens Police Precinct-Central-R21_mscott83PQP.rvt

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. _____, EXPIRATION DATE: _____

ENGINEER: _____

AS-BUILT PER RECORD PRINT
BY:
DATE:

DATE: 11/5/2025 5:01:08 PM

AS-BUILT / REVISION	BY	DATE
5 ADDENDUM #5	MRS	11.6.25
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W NO.	GSW	14SW19
		14SW20

DRAWING SCALE	
PLAN SCALE:	As indicated
PROFILE SCALE:	

PROPERTY MANAGEMENT
APPROVED BY: _____ PROPERTY MANAGER
DATE: _____

DESIGN BY: MRS	DRN BY: MRS	CHKD BY: AL

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

FIRST FLOOR - MECHANICAL PIPING AND ATC - WING A

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M205	24111 PPO
JOB ORDER NUMBER	300200006
SHEET 194 OF 302	
DRAWING NUMBER	2024 – 1507
FILE NO.: 8	REV. 0/0/20

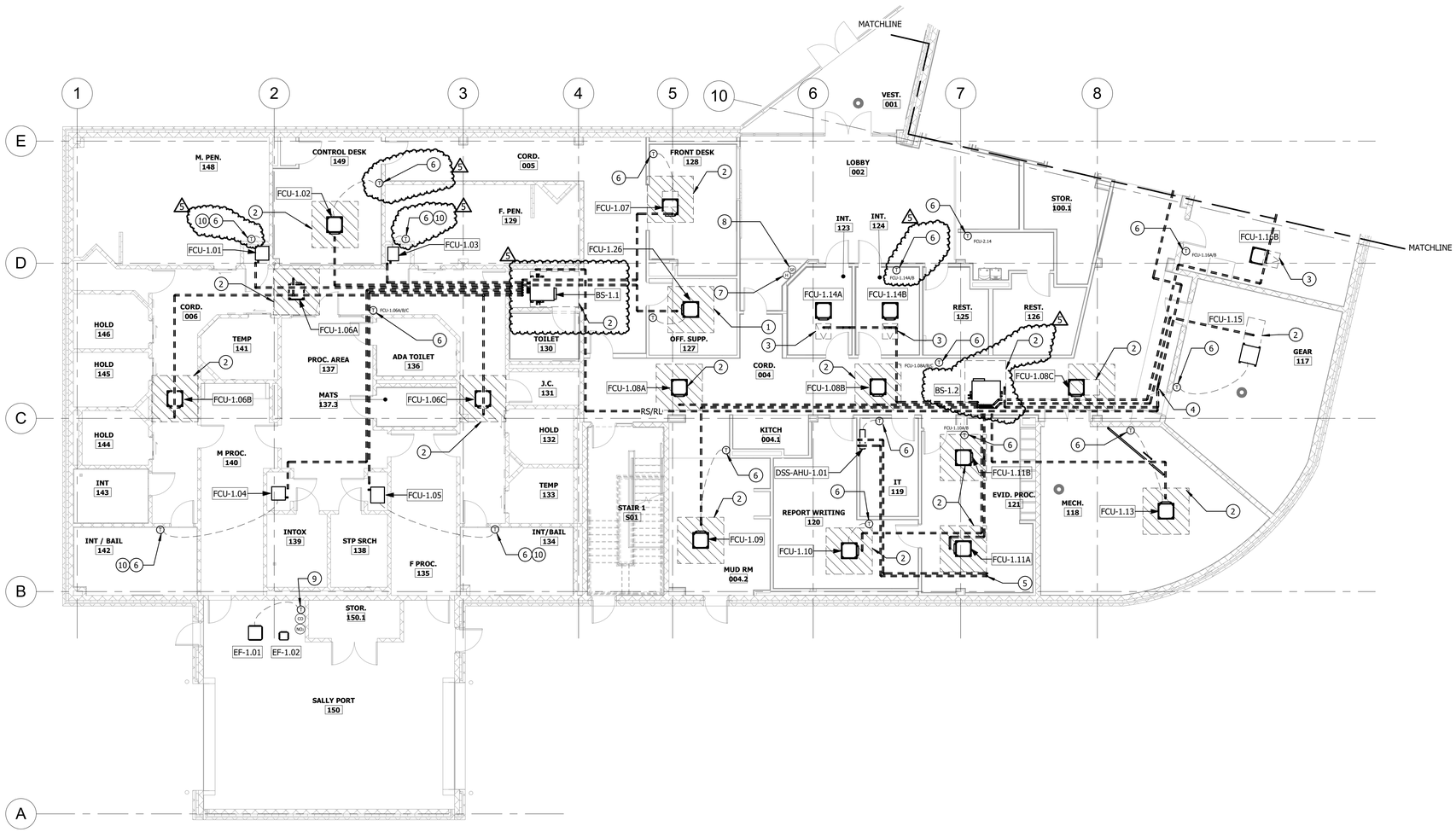
Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025

GENERAL NOTES:

1. INSTALLER SHALL BE RESPONSIBLE FOR VERIFICATION OF PIPE RUNS AND SIZES WITH VRF SYSTEM MANUFACTURER IN ADDITION TO ANY CHANGES AS A RESULT OF USING A SUBSTITUTE MANUFACTURER.
2. FOR CLARITY, SINGLE LINE REPRESENTS PAIR OF PIPES; REFRIGERANT LIQUID LINE, AND REFRIGERANT SUCTION LINE.

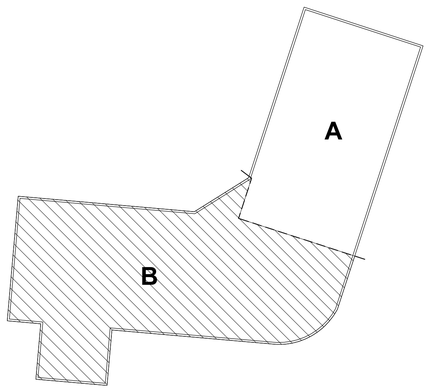
DRAWING NOTES:

1. NOT USED.
2. PROVIDE MANUFACTURER RECOMMENDED CLEARANCE FOR MAINTENANCE OF MECHANICAL EQUIPMENT.
3. 2'-0" x 2'-0" ACCESS PANEL.
4. RS/RL UP TO REFRIGERANT DOGHOUSE ON ROOF. REFER TO REFRIGERANT PIPING DIAGRAMS FOR MANUFACTURER REQUIRED SIZES FOR VRF PIPING.
5. RS/RL UP TO REFRIGERANT DOGHOUSE ON ROOF.
6. WALL MOUNTED TEMPERATURE SENSOR.
7. DOAS-1 ZONE HUMIDITY SENSOR (READ ONLY BY ATC).
8. DOAS-1 SPACE PRESSURE SENSOR (READ ONLY BY ATC).
9. CARBON MONOXIDE AND NITROGEN DIOXIDE DETECTORS PROVIDED IN ACCORDANCE WITH IMC SECTION 404. DETECTORS SHALL BE LISTED IN ACCORDANCE WITH UL 2075 AND INSTALLED IN ACCORDANCE WITH THEIR LISTING AND MANUFACTURER'S INSTRUCTIONS.
10. PROVIDE ANTI-LIGATURE THERMOSTAT COVER AS MANUFACTURED BY ARSCO, OR EQUIVALENT.



FIRST FLOOR - MECHANICAL PIPING AND ATC - WING B

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



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

8 0 8 16

DWG. FILENAME: C:\Users\mscott\Documents\280901-Wilkens Police Precinct-Central-R21_mscottR85PQP.rvt

SEAL	PROFESSIONAL CERTIFICATION	AS–BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE: _____	5 ADDENDUM #5	MRS	11.6.25		GSW	14SW19	PLAN SCALE: As indicated	APPROVED BY: _____ PROPERTY MANAGER
					R.O.W NO.		14SW20	PROFILE SCALE: _____	DATE: _____
	ENGINEER: _____ DGN BY: MRS	CONTRACT COMPLETION BOX							
	AS–BUILT PER RECORD PRINT DRN BY: MRS	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
DATE: 11/5/2025 5:01:10 PM	BY: DATE: CHKD BY: AL	REVIEWED BY:							
		DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

FIRST FLOOR - MECHANICAL PIPING AND ATC - WING B

NEW BUILDING DESIGN

SUBDIVISION: WILKENS — 901 Walker Ave Catonsville, Maryland, 21228 — ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M206	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 195 OF 302
	DRAWING NUMBER
	2024 – 1508
	FILE NO.: 8

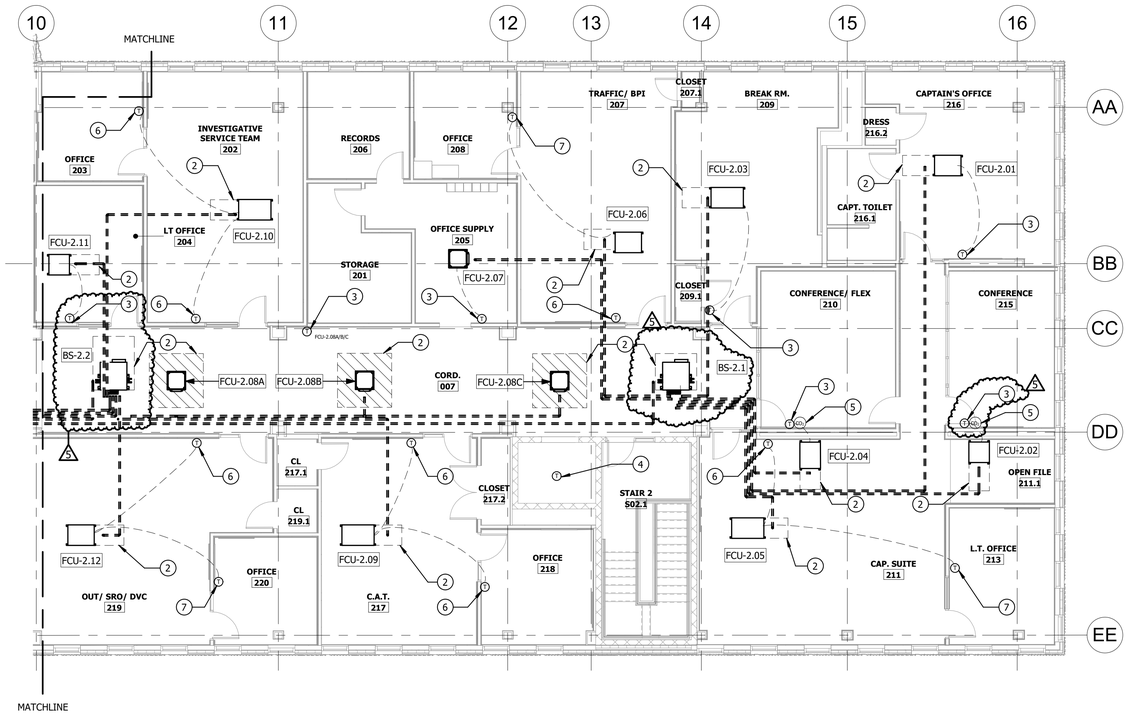
Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

GENERAL NOTES:

1. INSTALLER SHALL BE RESPONSIBLE FOR VERIFICATION OF PIPE RUNS AND SIZES WITH VRF SYSTEM MANUFACTURER IN ADDITION TO ANY CHANGES AS A RESULT OF USING A SUBSTITUTE MANUFACTURER.
2. FOR CLARITY, SINGLE LINE REPRESENTS PAIR OF PIPES; REFRIGERANT LIQUID LINE, AND REFRIGERANT SUCTION LINE.

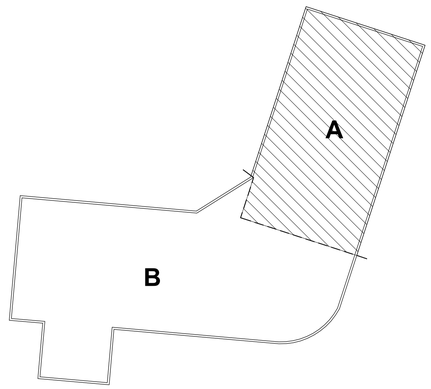
DRAWING NOTES:

1. NOT USED.
2. PROVIDE MANUFACTURER RECOMMENDED CLEARANCE FOR MAINTENANCE OF MECHANICAL EQUIPMENT.
3. WALL MOUNTED TEMPERATURE SENSOR.
4. PROVIDE WIRED REMOTE TEMPERATURE SENSOR LOCATED IN RTU-1 RETURN DUCT. THE CORRESPONDING THERMOSTAT SHALL BE LOCATED IN THE CONTROLS PORTION OF A WEATHERPROOFED AREA IN THE ROOFTOP UNIT FOR ACCESSIBILITY.
5. CARBON DIOXIDE SENSOR. INTERLOCK WITH BAS FOR MONITORING AND ALARM.
6. MAIN THERMOSTAT IN MAIN-SUB CONFIGURATION, SEE SEQUENCE OF OPERATIONS.
7. SUB THERMOSTAT IN MAIN-SUB CONFIGURATION, SEE SEQUENCE OF OPERATIONS.



SECOND FLOOR - MECHANICAL PIPING AND ATC - WING A

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



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

8 0 8 16

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SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE		PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE: _____	5 ADDENDUM #5	MRS	11.6.25		GSW	14SW19	PLAN SCALE:	As indicated.	APPROVED BY: _____ PROPERTY MANAGER
		CONTRACT COMPLETION BOX			R.O.W. NO.		14SW20	PROFILE SCALE:		DATE:

ENGINEER:	DGN BY: MRS	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
AS-BUILT PER RECORD PRINT	DRN BY: MRS	REVIEWED BY:							
BY:	CHKD BY: AL	DATE REVIEWED:							

DATE : 11/5/2025 5:01:12 PM

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

SECOND FLOOR - MECHANICAL PIPING AND ATC - WING A

NEW BUILDING DESIGN

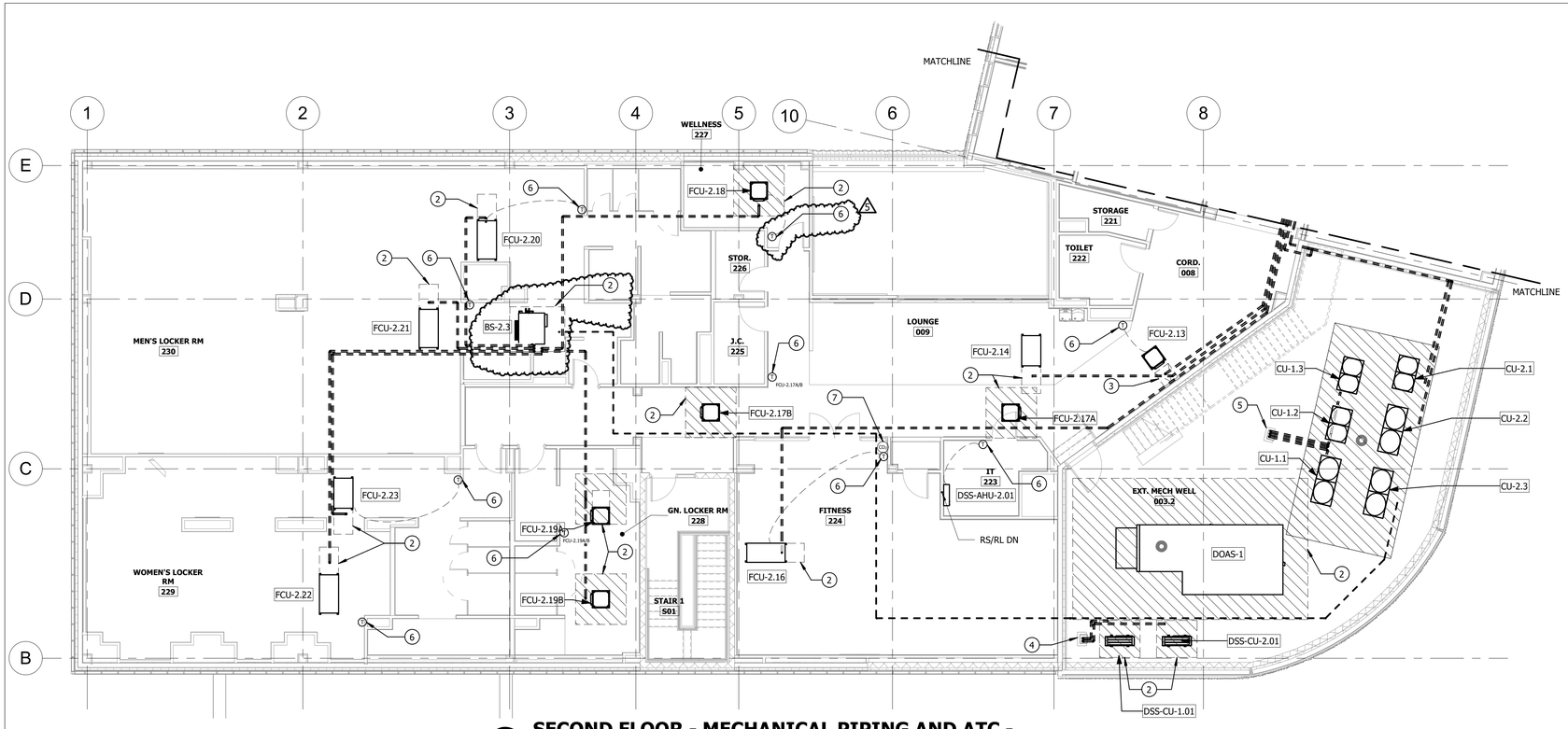
SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M207	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 196 OF 302
	DRAWING NUMBER
	2024 – 1509
	FILE NO.: 8 REV: 0

Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025



SECOND FLOOR - MECHANICAL PIPING AND ATC - WING B

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

GENERAL NOTES:

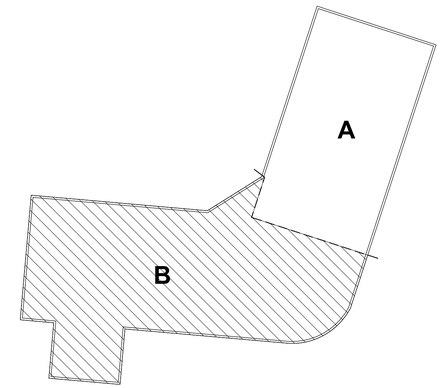
1. INSTALLER SHALL BE RESPONSIBLE FOR VERIFICATION OF PIPE RUNS AND SIZES WITH VRF SYSTEM MANUFACTURER IN ADDITION TO ANY CHANGES AS A RESULT OF USING A SUBSTITUTE MANUFACTURER.
2. FOR CLARITY, SINGLE LINE REPRESENTS PAIR OF PIPES; REFRIGERANT LIQUID LINE, AND REFRIGERANT SUCTION LINE.

5

DRAWING NOTES:

5

1. NOT USED.
2. PROVIDE MANUFACTURER RECOMMENDED CLEARANCE FOR MAINTENANCE OF MECHANICAL EQUIPMENT.
3. 2'-0" x 2'-0" ACCESS PANEL.
4. REFRIGERANT DOGHOUSE FOR DSS-CU-1.01, DSS-CU-1.02.
5. REFRIGERANT DOGHOUSE FOR CU-1.1, CU-1.2, CU-1.3.
6. WALL MOUNTED TEMPERATURE SENSOR.
7. CARBON DIOXIDE SENSOR. INTERLOCK WITH BAS FOR MONITORING AND ALARM.



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SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE _____.

ENGINEER: _____

AS-BUILT PER RECORD PRINT

BY: _____
DATE: _____

DATE : 11/5/2025 5:01:14 PM

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	
5 ADDENDUM #5	MRS	11.6.25		GSW	14SW19	PLAN SCALE:	As indicated
			R.O.W NO.		14SW20	PROFILE SCALE:	
CONTRACT COMPLETION BOX							

PROPERTY MANAGEMENT

APPROVED BY: _____ PROPERTY MANAGER
DATE: _____

DGN BY: MRS	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
DRN BY: MRS	REVIEWED BY:							
CHKD BY: AL	DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

SECOND FLOOR - MECHANICAL PIPING AND ATC - WING B

NEW BUILDING DESIGN

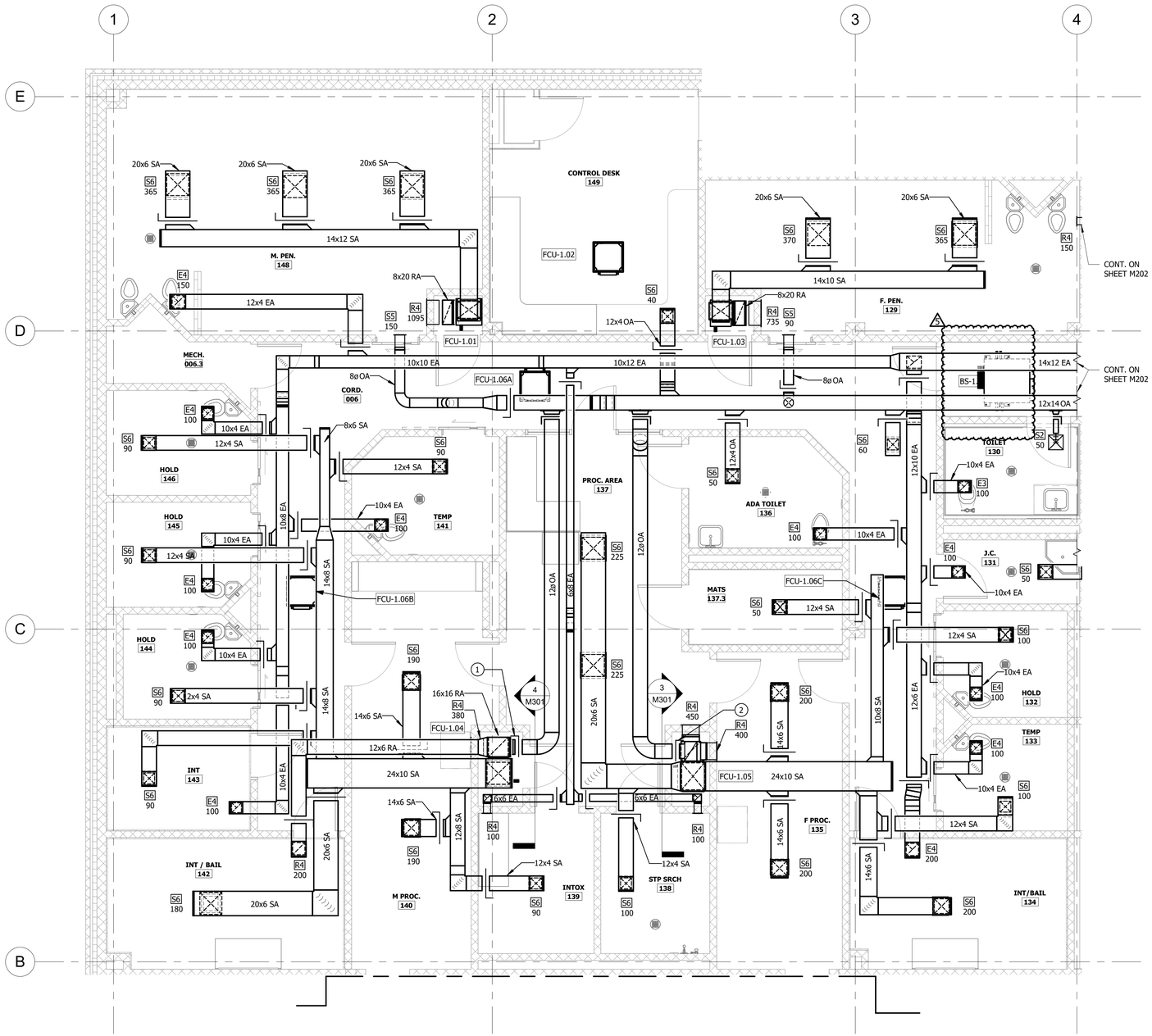
SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M208	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 197 OF 302
	DRAWING NUMBER
	2024 – 1510
	FILE NO.: 8 REV. 0.0.0

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



1 M301 FIRST FLOOR - MECHANICAL - WING B - HOLDING

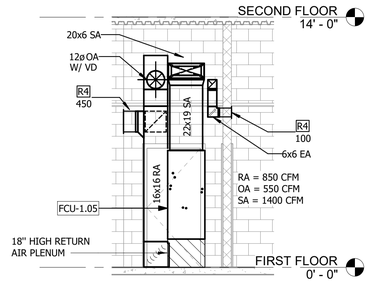
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. PROVIDE LINTELS AT DUCT PENETRATIONS OF INTERIOR BLOCK WALLS. REFER TO STRUCTURAL DRAWINGS.

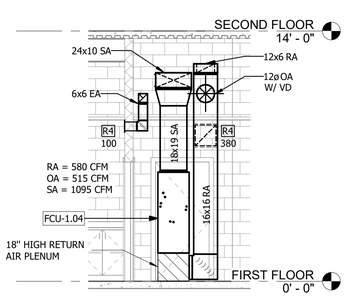
DRAWING NOTES:

1. BALANCE VOLUME DAMPER TO 550 CFM. FCU-1.04 SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS.
2. BALANCE VOLUME DAMPER TO 415 CFM. FCU-1.05 SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS.



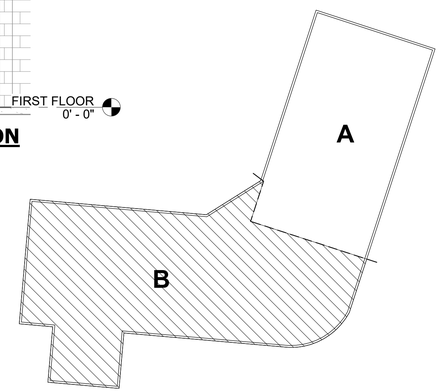
3 M301 FCU-1.05 ELEVATION

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



4 M301 FCU-1.04 ELEVATION

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



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

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SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE: _____

ENGINEER: _____ DGN BY: MRS

AS-BUILT PER RECORD PRINT DRN BY: MRS

BY: CHKD BY: AL

DATE: 11/5/2025 5:01:17 PM DATE:

AS-BUILT / REVISION	BY	DATE
5 ADDENDUM #5	MRS	11.6.25

CONTRACT COMPLETION BOX

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W. NO.	GSW	14SW19
		14SW20

DRAWING SCALE: PLAN SCALE: As indicated. PROFILE SCALE:

PROPERTY MANAGEMENT: APPROVED BY: _____ PROPERTY MANAGER DATE: _____

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

PART PLANS - MECHANICAL

NEW BUILDING DESIGN

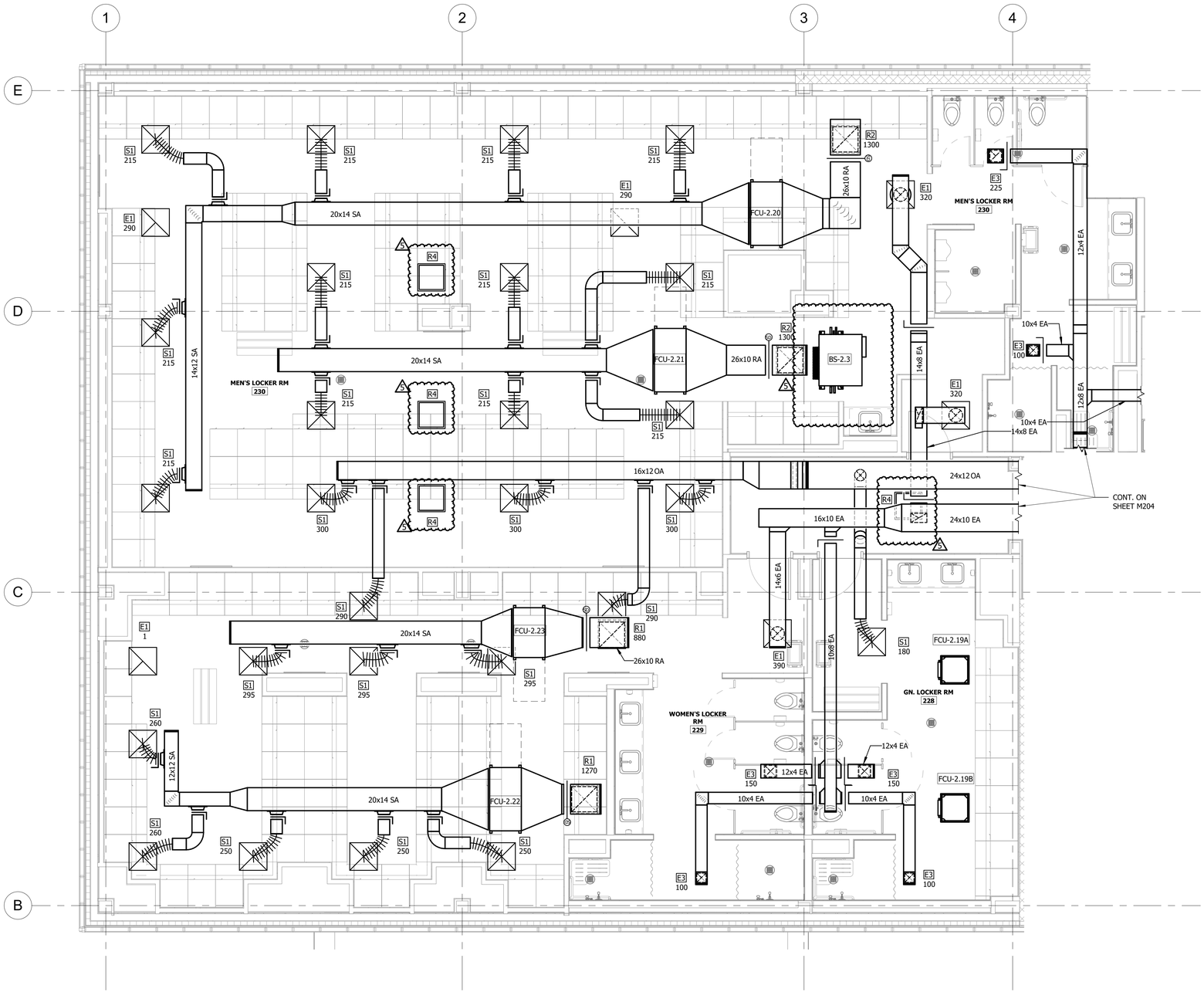
901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

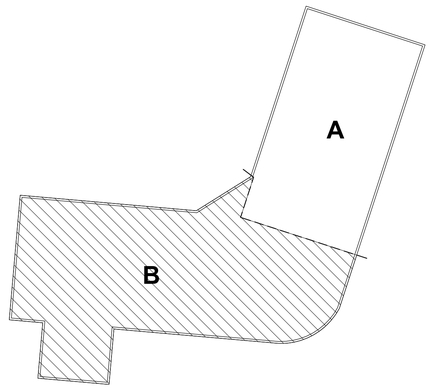
SHEET DESIGNATION	CONTRACT NUMBER
M301	24111 PPO
JOB ORDER NUMBER	300200006
SHEET 198 OF 302	
DRAWING NUMBER	2024 - 1511
FILE NO.: 8	REV. 0.0.0.0

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



1 M302 **SECOND FLOOR - MECHANICAL - WING B - LOCKERS**

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



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

4 0 4 8

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SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE: _____

ENGINEER: _____

AS-BUILT PER RECORD PRINT

BY: _____ DATE: _____

DATE : 11/5/2025 5:01:18 PM

AS-BUILT / REVISION	BY	DATE
5 ADDENDUM #5	MRS	11.6.25
CONTRACT COMPLETION BOX		

P.W.A. NO.	KEY SHEET	POSITION SHT
R.O.W. NO.	GSW	14SW19
		14SW20

DRAWING SCALE

PLAN SCALE: As indicated

PROFILE SCALE: _____

PROPERTY MANAGEMENT

APPROVED BY: _____ PROPERTY MANAGER

DATE: _____

DGN BY: MRS	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
DRN BY: MRS	REVIEWED BY:							
CHKD BY: AL	DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

PART PLANS - MECHANICAL

NEW BUILDING DESIGN

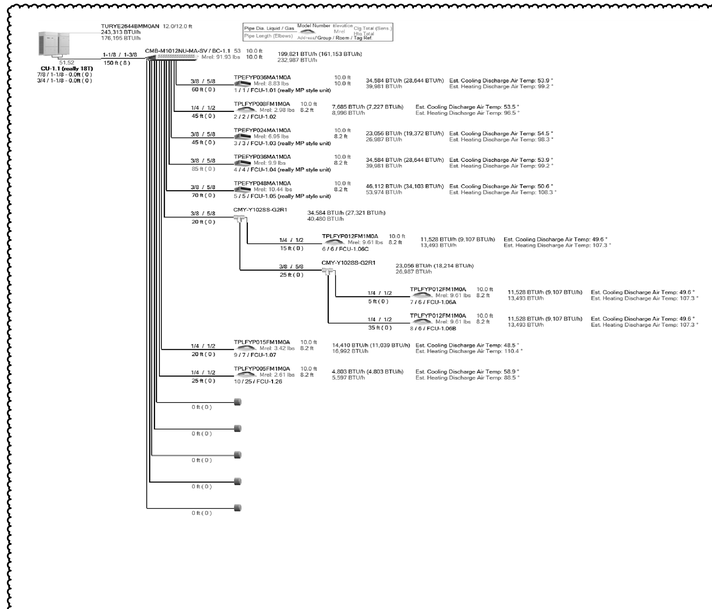
901 Walker Ave Catonsville, Maryland, 21228

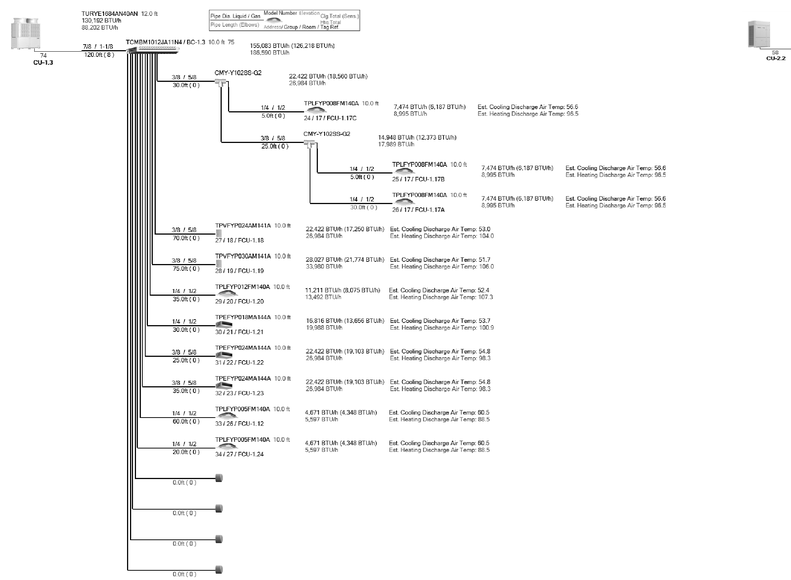
SUBDIVISION: WILKENS

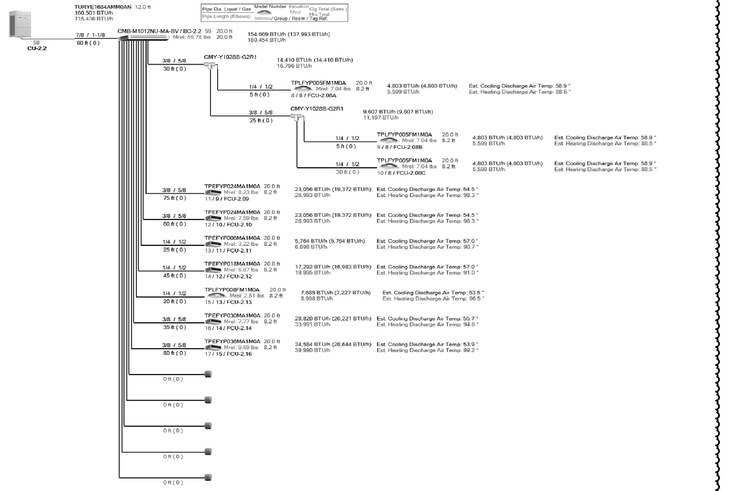
ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M302	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 199 OF 302
	DRAWING NUMBER
	2024 - 1512
	FILE NO.: 8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025







GENERAL NOTES

1. INSTALLER SHALL BE RESPONSIBLE FOR VERIFICATION OF PIPE RUNS AND SIZES WITH VRF SYSTEM MANUFACTURER IN ADDITION TO ANY CHANGES AS A RESULT OF USING A SUBSTITUTE MANUFACTURER.
2. REFRIGERANT RISERS FROM BASIS OF DESIGN MANUFACTURER, MITSUBISHI.

DWG. FILENAME: C:\Users\mscott\Documents\2806691 Wilkens Police Precinct-Central-R21_mscott83PQ.rvt

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE: _____	5 ADDENDUM #5	MRS	11.6.25					APPROVED BY: _____ PROPERTY MANAGER
					R.O.W. NO.	GSW	14SW19	PLAN SCALE: 12" = 1'-0"	
		CONTRACT COMPLETION BOX					14SW20	PROFILE SCALE:	DATE:

ENGINEER:	DGN BY: MRS	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
AS-BUILT PER RECORD PRINT	DRN BY: MRS	REVIEWED BY:							
BY:	CHKD BY: AL	DATE REVIEWED:							

DATE: 11/5/2025 5:01:19 PM

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

REFRIGERANT RISERS

NEW BUILDING DESIGN

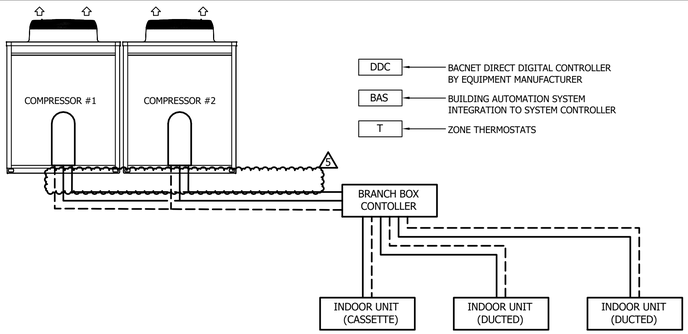
901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M401	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 200 OF 302
	DRAWING NUMBER
	2024 – 1513
	FILE NO.: 8

Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025



AIR COOLED VARIABLE REFRIGERANT FLOW CONTROL DIAGRAM

SCALE: NONE

AIR COOLED VARIABLE REFRIGERANT FLOW SEQUENCE OF OPERATION AND POINTS LIST

A. General
1. The building automation system (BAS) shall be capable of energizing and de-energizing the Variable Refrigerant Flow System (VRF) per a time of day schedule or operator override.

B. Unoccupied Mode
1. When the VRF is in the unoccupied mode the indoor unit shall be in Auto-Mode and the fan shall be set to Auto. If the zone temperature falls outside of the unoccupied temperature set point, the unit shall modulate to maintain the unoccupied zone temperature set point.

C. Occupied Mode
1. General
   a. VRF shall be in occupied mode automatically based on an occupancy schedule programmed into the BAS or manually through an operator override.
   b. The unit shall be set to control to space temperature set point not return air temperature setpoint.
   c. When the VRF is in the occupied mode, the indoor unit shall be in Auto-Mode and the fan shall be set to Auto.

D. Refrigerant Leak Detection (by VRF manufacturer)
1. General
   a. Refrigerant Leak Detectors are provided by the equipment manufacturer.
   b. Release mitigation controls are provided by the VRF manufacturer in accordance with ASHRAE 15-2024 7.3.4.4.
2. System Solenoid Valves (by VRF manufacturer)
   a. System solenoid valves are provided by the manufacturer.
   b. Release mitigation controls are provided by the VRF manufacturer in accordance with ASHRAE 15-2024 7.3.4.4.
3. Provide an alarm to the BAS upon detection of a refrigerant leak.

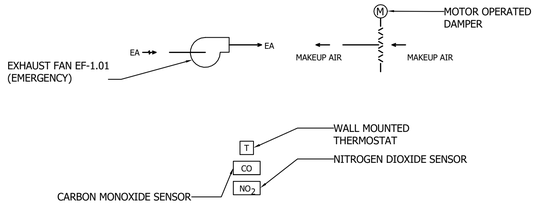
5

BAS POINTS LIST

TYPE	POINT	POINT ABBREVIATION	UNITS	TREND	ALARM	READ/WRITE	PROVIDER
AI	OPERATION MODE STATUS	MODE-S	AUTO/HEAT/COOL	X	X	READ	MFR.
AI	SYSTEM ERROR CODE	ERROR-CODE	ERROR CODE #		X	READ	MFR.
AI	SET ZONE TEMPERATURE STATUS	ZN-SP	DEG F			READ	MFR.
AI	SET UPPER ZONE TEMPERATURE	ZNSP-HIGH	DEG F	X		READ/WRITE	MFR.
AI	SET LOWER ZONE TEMPERATURE	ZNSP-LOW	DEG F	X		READ/WRITE	MFR.
AI	FAN SPEED STATUS	FANSPEED-S	LO-MED-HI-AUTO	X		READ	MFR.
AO	OPERATION MODE	OPERMODE-C	AUTO/HEAT/COOL	X		READ/WRITE	MFR.
AO	FAN SPEED COMMAND	FANSPEED-C	LO-MED-HI-AUTO			READ/WRITE	MFR.
AI	ZONE TEMPERATURE	ZN-T	DEG F	X	X	READ	MFR.
BI	SYSTEM STATUS	SYSTEM-S	ON/OFF	X		READ	MFR.
BI	GENERAL ALARM	GEN-A	NORMAL/ALARM		X	READ	MFR.
BI	CONDENSATE ALARM	COND-A	NORMAL/ALARM		x	READ	BAS
BO	SYSTEM COMMAND	SYSTEM-C	ON/OFF	X		READ/WRITE	MFR.
BO	LOCK LOCAL COMMAND	LL-C	ENABLE/DISABLED			READ/WRITE	MFR.
BO	LOCK LOCAL MODE	LL-MODE	ENABLE/DISABLED			READ/WRITE	MFR.
BO	LOCK LOCAL FAN SPEED	LL-FS	ENABLE/DISABLED			READ/WRITE	MFR.
BO	LOCK LOCAL TEMPERATURE SETTING	LL-SP	ENABLE/DISABLED			READ/WRITE	MFR.

PROVIDER ABBREVIATION: MFR. = EQUIPMENT MANUFACTURER, MECH. = MECHANICAL CONTRACTOR, BAS = CONTROL CONTRACTOR, ELEC. = ELECTRICAL CONTRACTOR

PROVIDE ALL SOFTWARE POINTS TO ACCOMPLISH SEQUENCE OF OPERATION.



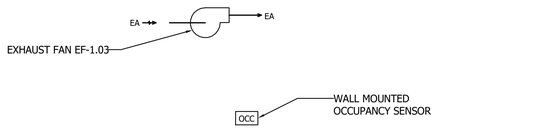
EXHAUST FAN - CONSTANT AIR VOLUME (EF-1.01 & EF-1.02) CONTROL DIAGRAM

SCALE: NONE

General: The primary garage exhaust fan EF-1.02 shall operate continuously. The cooling/emergency exhaust fan EF-1.01 shall be controlled by the Carbon Monoxide and Nitrogen Dioxide Detection Systems. There shall be no central building automation system.

1. Operation:
   A. The set points levels shall be:
      1) Carbon Monoxide: 25 parts per million.
      2) Nitrogen Dioxide: 1 part per million.
   B. Upon the Carbon Monoxide or the Nitrogen Dioxide sensors detecting the gas they monitor for, the motor operated damper shall open, and exhaust fan EF-1.01 shall energize and run continuously.
   C. Upon the Carbon Monoxide or the Nitrogen Dioxide sensors detecting the gas they monitor for has fallen below the threshold, the motor operated damper shall close, and exhaust fan EF-1.01 shall de-energize.
   D. Cooling: Upon the thermostat detecting a temperature above the set point of 85°F., the outdoor air damper shall open and exhaust fan EF-1.01 shall energize and run continuously. Upon the indoor thermostat detecting the referenced set point has been restored, the exhaust fan shall de-energize and the outdoor air damper and exhaust air damper shall close.

EXHAUST FAN - CONSTANT AIR VOLUME (EF-1.01 & EF-1.02) SEQUENCE OF OPERATIONS



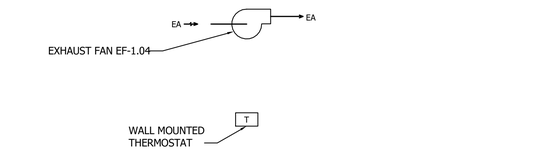
EXHAUST FAN - CONSTANT AIR VOLUME (EF-1.03) CONTROL DIAGRAM

SCALE: NONE

General: The exhaust fan shall be controlled by a wall mounted occupancy sensor. There shall be no central building automation system.

1. Operation:
   A. When the occupancy sensor indicates that the space is occupied, EF-1.03 shall energize and run continuously.
   B. When the occupancy sensor indicates that the space is no longer occupied, EF-1.03 shall de-energize.

EXHAUST FAN - CONSTANT AIR VOLUME (EF-1.03) SEQUENCE OF OPERATIONS



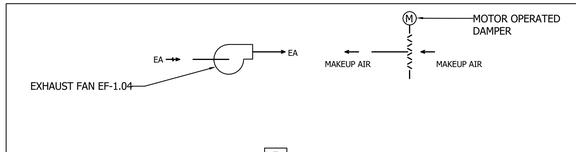
EXHAUST FAN - CONSTANT AIR VOLUME (EF-1.04) CONTROL DIAGRAM

SCALE: NONE

General: The exhaust fan shall be controlled by a wall mounted thermostat. There shall be no central building automation system.

1. Operation:
   A. Cooling: Upon the thermostat detecting a temperature above the set point of 85°F., the outdoor air damper shall open and exhaust fan EF-1.04 shall energize and run continuously. Upon the indoor thermostat detecting the referenced set point has been restored, the exhaust fan shall de-energize and the outdoor air damper and exhaust air damper shall close.

EXHAUST FAN - CONSTANT AIR VOLUME (EF-1.04) SEQUENCE OF OPERATIONS



EXHAUST FAN - CONSTANT AIR VOLUME (EF-1.04) CONTROL DIAGRAM

SCALE: NONE

General: The exhaust fan shall be controlled by a wall mounted thermostat. There shall be no central building automation system.

1. Operation:
   A. Cooling: Upon the thermostat detecting a temperature above the set point of 85°F., the outdoor air damper shall open and exhaust fan EF-1.04 shall energize and run continuously. Upon the indoor thermostat detecting the referenced set point has been restored, the exhaust fan shall de-energize and the outdoor air damper and exhaust air damper shall close.

EXHAUST FAN - CONSTANT AIR VOLUME (EF-1.04) SEQUENCE OF OPERATIONS

DWG. FILENAME: C:\Users\mscott\Documents\280601-Wilkens Police Precinct-Central-R21_mscottR8PQP.rvt

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE		PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE _____	5 ADDENDUM #5	MRS	11.6.25		GSW	14SW19	PLAN SCALE:	NONE	APPROVED BY: _____ PROPERTY MANAGER
					R.O.W NO.		14SW20	PROFILE SCALE:		DATE: _____
	ENGINEER: _____ DGN BY: MRS	CONTRACT COMPLETION BOX								
	AS-BUILT PER RECORD PRINT DRN BY: MRS	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER	
DATE: 11/5/2025 5:01:19 PM	BY: CHKD BY: AL	REVIEWED BY:								
	DATE:	DATE REVIEWED:								

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

MECHANICAL CONTROLS

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M602	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 202 OF 302
	DRAWING NUMBER
	2024 - 1515
	FILE NO.: 8

ELECTRIC WALL/CEILING HEATER SCHEDULE

HEATER DESIGNATION	AREA SERVED	MOUNTING TYPE	CAPACITY (BTUH)	ELECTRICAL CHARACTERISTICS		THERMOSTAT TYPE	BASIS OF DESIGN		NOTES
				WATTS/KW	V/Ø/HZ	INTEGRAL/ REMOTE	MFGR.	MODEL	
ECH-1.01	VESTIBULE [001]	CRM	13.7	4 kW	208/1/60	I	BERKO	FFCH548	1,2,3,4,5
EWH-1.01	STAIR 1 [S02]	WSM	13.7	3 kW	208/1/60	I	QMARK	AWH4404F	1,2,3,4,5
EWH-1.02	STAIR 2 [S01]	WSM	13.7	3 kW	208/1/60	I	QMARK	AWH4404F	1,2,3,4,5

NOTES:
1: REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND ACCESSORIES ASSOCIATED WITH HEATERS.
2: COORDINATE FINAL MOUNTING HEIGHT OF WALL HEATER WITH ARCHITECT.
3: UNIT SHALL BE PROVIDED WITH THERMAL OVERLOAD PROTECTION.
4: PROVIDE COLOR CHART FOR ARCHITECT SELECTION.
5: PROVIDE INTEGRAL DISCONNECT SWITCH.

WALL MOUNTING TYPE:
WSM = WALL SURFACE MOUNTED

CEILING MOUNTED TYPE:
CRM = CEILING RECESSED MOUNTED

THERMOSTAT TYPE:
I = INTERGRAL
R = REMOTE

ELECTRIC UNIT HEATER SCHEDULE

UNIT HEATER DESIGNATION	AREA SERVED	DISCHARGE TYPE	FAN			ELECTRICAL CHARACTERISTICS				THERMOSTAT TYPE	BASIS OF DESIGN		NOTES
		VERTICAL/ HORIZONTAL	CFM	WATTS	MOTOR RPM	HEATER KW	MCA	MOCP	V/Ø/HZ		MFGR.	MODEL	
UH-1.01	EMER. ELEC. [114]	HORIZONTAL	270	6	1350	3.1	18.5	-	208/1/60	I	QMARK	MWUH5004	1,2,3,4,5,6
UH-1.02	MAIN ELEC. [113]	HORIZONTAL	270	6	1350	3.1	18.5	-	208/1/60	I	QMARK	MWUH5004	1,2,3,4,5,6
UH-1.03,04,05,06	SALLYPORT	HORIZONTAL	270	6	1350	3.1	18.5	-	208/1/60	I	QMARK	MWUH5004	1,2,3,4,5,6

NOTES:
1: REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND ACCESSORIES ASSOCIATED WITH ELECTRIC UNIT HEATER.
2: PROVIDE WITH THERMOSTAT, TYPE AS INDICATED ON SCHEDULE ABOVE.
3: PROVIDE DISCHARGE AS INDICATED ON SCHEDULE ABOVE.
4: SUPPORT UNIT HEATER FROM CEILING OR WALL STRUCTURE UTILIZING UNIT HEATER MANUFACTURER'S RECOMMENDED SUPPORT METHODS & HARDWARE.
5: UNIT SHALL BE PROVIDED WITH THERMAL OVERLOAD PROTECTION.
6: PROVIDE INTEGRAL DISCONNECT SWITCH.

THERMOSTAT TYPE:
I = INTEGRAL
R = REMOTE

EXHAUST FAN SCHEDULE

FAN DESIGNATION	AREA SERVED	CFM	ESP (IN H20)	DRIVE	FAN TYPE	HP (WATTS)	BHP	FAN RPM	SOUND LEVEL (SONES)	ELEC. (V/Ø/HZ)	BASIS OF DESIGN		ACCESSORIES	NOTES
				BELT (BD) / DIRECT (DD)							MFGR.	MODEL		
EF-1.01	SALLY PORT [150]	750	0.40	DD	I.L.	0.25	0.17	1140	6.4	115/60/1	GREENHECK	SQ-130-VG	A-G, J	1
EF-1.02	SALLY PORT [150]	57	0.26	DD	I.L.	0.25	0.01	1300	2.4	115/60/1	GREENHECK	SQ-70	A-G, I	1
EF-1.03	G.C. [116]	110	0.48	DD	CLG.	(12)	-	960	3	115/60/1	GREENHECK	SP-A90-130-VG	A-D, H	1
EF-1.04	MAIN ELEC. [113]	750	0.25	DD	I.L.	(110)	0.15	959	1.3	115/60/1	GREENHECK	CSP-A1050-VG	A-G	1

ACCESSORIES:
A: DISCONNECT SWITCH
B: BACKDRAFT DAMPER
C: BIRDSCREEN
D: HANGING BRACKET WITH VIBRATION ISOLATOR
E: WALL MOUNTED THERMOSTAT
F: WL WALL LOUVER DISCHARGE
G: MOTOR SIDE FAN GUARD
H: WALL MOUNTED OCCUPANCY SENSOR
I: FAN SHALL RUN CONTINUOUSLY
J: CO, NO2 SENSOR - REFER TO SEQUENCE OF OPERATIONS

FAN TYPES:
I.L. = IN LINE
CLG. = CEILING

NOTES:
1: REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION, AND ACCESSORIES ASSOCIATED WITH FAN.

TRANSFER SILENCER SCHEDULE

TYPE	DUTY	CFM RANGE		HEIGHT	LENGTH	WIDTH	THICKNESS	MAX PD (IN WG)	MAX NECK VELOCITY	NOISE REDUCTION (dB @ Hz)							BASIS OF DESIGN		NOTES
		MIN	MAX							63	125	250	500	1k	2k	4k	8k	MFGR.	MODEL	
T1	TRANSFER	0	460	10"	36"	48"	7"	0.04	200	13	11	17	28	39	40	32	26	PRICE	XTU	1,2,3

NOTES:
1: PROVIDE FIBERGLASS LINER.
2: TESTED IN ACCORDANCE WITH ASTM E477-20.
3: VELOCITY BASED ON CROSS-SECTIONAL AREA (THICKNESS x WIDTH).

AIR DEVICE SCHEDULE

TYPE	DUTY	CFM RANGE		INLET NECK SIZE	FACE SIZE	MAX N.C.	MAX PD (IN WG)	MAX NECK VELOCITY	BASIS OF DESIGN		NOTES
		MIN	MAX						MFGR.	MODEL	
S1	SUPPLY	0	135	6"Ø	24x24	<20	0.03	700	PRICE	SPD	1,2,3,4,5,6
		136	240	8"Ø		<20	0.03				
		241	375	10"Ø		<20	0.03				
S2		0	40	4"Ø	12x12	<20	0.03	500			
		41	100	6"Ø		<20	0.03				
		101	175	8"Ø		<20	0.03				
S3		0	140	2 - 3/4" SLOT - 7"Ø INLET	4'-0"	<20	0.090	-	PRICE	SDS W/ SDB	1,2,3,4,5,6
		280	295	3 - 3/4" SLOT - 8"Ø INLET	4'-0"	31	0.140	-		PLENUM	1,2,3,4,5,6,7
S4		0	100	6x6	8x8	<20	0.03	500	PRICE	510	1,2,3,4,5,6
		101	250	8x8	10x10	<20	0.03				
		251	400	18x8	20x10	<20	0.03				
S5		125	200	8x8	10x10	<20	0.13	500	PRICE	MSPG	1,2,3,4,5,6,7
S6		0	100	9x9	12.25x12.25	<20	0.05	300	PRICE	MSRRCD	1,2,3,4,5,6,7
		101	200	12x12	15.25x15.25	<20	0.08				
		201	500	18x18	21.25x21.25	<20	0.05				
R1	FILTERED RETURN	0	1300	22x22	24x24	<20	0.2 W/ FILTER	375	PRICE	10FF	1,2,3,5,6
R2	RETURN	0	880	22x22	24x24	<20	0.03	200	PRICE	10	1,2,3,5,6,9
R3	RETURN	0	880	20x22	24x24	<20	0.03	200	PRICE	530	1,2,3,5,6
R4	RETURN			22x22	24x24	-	-	-	PRICE	85	1,2,3,5,9
E1	EXHAUST	175	275	10"Ø	24x24	<20	0.05	500	PRICE	PDDR	1,2,3,5,6
		276	400	12"Ø		<20	0.05				
E2		0	100	6"Ø	12x12	<20	0.05	500			
		101	175	8"Ø		<20	0.05				
E3	EXHAUST	0	150	8x8	9-3/4x9-3/4	<20	0.05	500	PRICE	530	1,2,3,5,6
		151	250	10x10	11-3/4x11-3/4	<20	0.05				
		251	400	18x8	19-3/4x9-3/4	<20	0.05				
E4/R4	EXHAUST/RETURN	0	100	8x8	10x10	<20	0.10	300	PRICE	MSPG	1,2,3,5,6,7
		101	200	10x10	12x12	<20	0.06				
		201	500	14x14	16x16	<20	0.10				
		251	1095	20x20	22x22	<20	0.06				

NOTES:
1: REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION, AND ACCESSORIES ASSOCIATED WITH AIR DEVICE.
2: REFER TO ARCHITECTURAL DRAWINGS FOR EXACT CEILING TYPES.
3: ALL SUPPLY, RETURN, EXHAUST, TRANSFER, AND RELIEF GRILLES SHALL BE CENTERED IN THE CEILING TILE CLOSEST TO THE LOCATION INDICATED ON PLANS.
4: ALL SUPPLY AIR DIFFUSERS ARE 4-WAY BLOW UNLESS OTHERWISE NOTED.
5: AIR DEVICE SHALL BE ALUMINUM CONSTRUCTION IN SHOWER/LOCKER ROOM AREAS.
6: MAXIMUM STATIC PRESSURE FOR SUPPLY AIR DIFFUSERS AND RETURN/EXHAUST AIR DEVICES SHALL NOT EXCEED 0.08 INCHES OF H20 UNLESS OTHERWISE NOTED.
7: MINIMUM VERTICAL THROW = 25'-0".
8: MAXIMUM SECURITY.
9: PROVIDE MANUFACTURER RETURN AIR CANOPY.

DWG. FILENAME: C:\Users\mscott\Documents\280601-Wilkens Police Precinct-Central-R21_mscottR85PQP.rvt

SEAL

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE _____.

ENGINEER: _____
AS-BUILT PER RECORD PRINT
BY: _____ DATE: _____

DATE : 11/5/2025 5:01:20 PM

DGN BY: MRS
DRN BY: MRS
CHKD BY: AL

AS-BUILT / REVISION

BY	DATE	P.W.A. NO.
MRS	11.6.25	
		R.O.W NO.

5 ADDENDUM #5

CONTRACT COMPLETION BOX

KEY SHEET	POSITION SHT
GSW	14SW19
	14SW20

DRAWING SCALE
PLAN SCALE: NONE
PROFILE SCALE:

PROPERTY MANAGEMENT
APPROVED BY: _____ PROPERTY MANAGER
DATE: _____

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

MECHANICAL SCHEDULES

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M801	24111 PPO
JOB ORDER NUMBER	
300200006	
SHEET 207 OF 302	
DRAWING NUMBER	
2024 - 1520	
FILE NO.: 8	REV. 07/22

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

VRF SYSTEM SCHEDULE

UNIT DESIGNATION	UNIT LOCATION	UNIT ARRANGEMENT	INDOOR UNIT: SUPPLY FAN DESIGN CFM	SUPPLY FAN ESP (IN H2O)	COOLING TOTAL MBH	COOLING SENSIBLE MBH	COOLING EAT DB (°F)	COOLING EAT WB (°F)	HEAT PUMP HEATING (AT 43°F) MBH	OCTAVE SOUND BAND (DB) 63	125	250	500	1k	2k	4k	8k	TOTAL INDOOR UNIT ELECTRICAL MCA	MOP (A)	(V/Ø/HZ)	BASIS OF DESIGN MFGR.	MODEL	BRANCH BOX SELECTOR DESIGNATION	ELECTRICAL MCA	ELECTRICAL (V/Ø/HZ)	MODEL #	OUTDOOR UNIT: UNIT DESIGNATION	COOLING CAPACITY (AT 95°F) NOMINAL (MBH)	COOLING CAPACITY (AT 95°F) ACTUAL (MBH)	HEATING CAPACITY (AT 0°F) NOMINAL (MBH)	HEATING CAPACITY (AT 0°F) ACTUAL (MBH)	UNIT EFF. EER	TOTAL OUTDOOR UNIT ELECTRICAL # OF POWER CONNECTIONS	MCA	MOCP	V/Ø/HZ	WEIGHT (LBS)	BASIS OF DESIGN MFGR.	MODEL	NOTES
FCU-1.01	M. PEN.	MULTI-POSITION AIR HANDLER	1095	0.8	33.6	25.9	75.0	62.5	40.0	50	53	47	42	37	35	30	28	4.13	15																				1 THRU 12
FCU-1.02	CONTROL DESK	CEILING-CASSETTE (FOUR-WAY)	315	N/A	7.5	6.2	75.0	62.5	9.0	40	36	36	31	27	21	15	10	0.28	15																				1 THRU 12
FCU-1.03	F. PEN.	MULTI-POSITION AIR HANDLER	735	0.8	22.4	17.3	75.0	62.5	27.0	45	49	42	40	35	31	29	25	3	15																				1 THRU 12
FCU-1.04	PROC. AREA	MULTI-POSITION AIR HANDLER	1095	0.8	33.6	25.9	75.0	62.5	40.0	50	53	47	42	37	35	30	28	4.13	15																				1 THRU 12
FCU-1.05	PROC. AREA	MULTI-POSITION AIR HANDLER	1400	0.8	44.8	33.8	75.0	62.5	54.0	56	49	46	40	42	36	36	31	5.63	15																				1 THRU 12
FCU-1.06A/B/C	CORD.	CEILING-CASSETTE (FOUR-WAY)	335	N/A	11.2	8.1	75.0	62.5	13.5	40	37	37	33	28	22	16	11	0.29	15																				1 THRU 12
		CEILING-CASSETTE (FOUR-WAY)	335	N/A	11.2	8.1	75.0	62.5	13.5	40	37	37	33	28	22	16	11	0.29	15	208/1/60	MITSUBISHI	TPVFYP036AM1M0A	BS-1.1	1.19	208/1/60	CMB-M1012NU-MA-SV	CU-1.1	216.0	196.0	243.0	113.0	11.2	2	22.0	35.0	460/3/60	918.0	MITSUBISHI	TURYE2164BMM0AN	1 THRU 12
		CEILING-CASSETTE (FOUR-WAY)	335	N/A	11.2	8.1	75.0	62.5	13.5	40	37	37	33	28	22	16	11	0.29	15			TPLFYP012FM1M0A																	1 THRU 12
FCU-1.07	FRONT DESK	CEILING-CASSETTE (FOUR-WAY)	390	N/A	14.0	9.9	75.0	62.5	17.0	53	53	42	40	34	25	21	16	0.35	15			TPLFYP015FM1M0A																	1 THRU 12
FCU-1.26	OFF. SUPP.	CEILING-CASSETTE (FOUR-WAY)	280	N/A	4.7	4.3	75.0	62.5	5.6	41	35	33	29	22	16	12	10	0.24	15			TPLFYP005FM1M0A																	1 THRU 12
FCU-1.08A/B/C	CORD.	CEILING-CASSETTE (FOUR-WAY)	280	N/A	4.7	4.3	75.0	62.5	5.6	41	35	33	29	22	16	12	10	0.24	15			TPLFYP005FM1M0A																	1 THRU 12
		CEILING-CASSETTE (FOUR-WAY)	280	N/A	4.7	4.3	75.0	62.5	5.6	41	35	33	29	22	16	12	10	0.24	15			TPLFYP005FM1M0A																	1 THRU 12
		CEILING-CASSETTE (FOUR-WAY)	280	N/A	4.7	4.3	75.0	62.5	5.6	41	35	33	29	22	16	12	10	0.24	15			TPLFYP005FM1M0A																	1 THRU 12
FCU-1.09	MUD RM/COATS	CEILING-CASSETTE (FOUR-WAY)	315	N/A	7.5	6.2	75.0	62.5	9.0	40	36	36	31	27	21	15	10	0.28	15			TPLFYP008FM1M0A																	1 THRU 12
FCU-1.10	REPORT WRITING	CEILING-CASSETTE (FOUR-WAY)	335	N/A	11.2	8.1	75.0	62.5	13.5	40	37	37	33	28	22	16	11	0.29	15			TPLFYP012FM1M0A																	1 THRU 12
FCU-1.11A/B	EVID. PROC.	CEILING-CASSETTE (FOUR-WAY)	280	N/A	4.7	4.3	75.0	62.5	5.6	41	35	33	29	22	16	12	10	0.24	15			TPLFYP005FM1M0A																	1 THRU 12
		CEILING-CASSETTE (FOUR-WAY)	280	N/A	4.7	4.3	75.0	62.5	5.6	41	35	33	29	22	16	12	10	0.24	15	208/1/60	MITSUBISHI	TPLFYP005FM1M0A	BS-1.2	1.19	208/1/60	CMB-M1012NU-MA-SV	CU-1.2	120.0	102.7	120.0	74.0	13.2	1	27.0	45.0	460/3/60	657.0	MITSUBISHI	TURYE1204AMM0AN	1 THRU 12
FCU-1.13	MECH.	CEILING-CASSETTE (FOUR-WAY)	1095	N/A	33.6	25.0	75.0	62.5	40.0	60	60	51	46	41	31	24	21	0.92	15			TPLFYP036EM1M0A																	1 THRU 12
FCU-1.14A/B	INT	CEILING-CASSETTE (FOUR-WAY)	315	N/A	7.5	6.2	75.0	62.5	9.0	40	36	36	31	27	21	15	10	0.28	15			TPLFYP008FM1M0A																	1 THRU 12
		CEILING-CASSETTE (FOUR-WAY)	315	N/A	7.5	6.2	75.0	62.5	9.0	40	36	36	31	27	21	15	10	0.28	15			TPLFYP008FM1M0A																	1 THRU 12
FCU-1.15	GEAR	CEILING-CONCEALED (DUCTED)	370	0.6	11.2	8.3	75.0	62.5	13.5	53	51	40	36	34	24	18	15	2.13	15			TPEFYP012MA1M0A																	1 THRU 12
FCU-1.16A/B	ARMORY	CEILING-CASSETTE (FOUR-WAY)	315	N/A	7.5	6.2	75.0	62.5	9.0	40	36	36	31	27	21	15	10	0.28	15			TPLFYP008FM1M0A																	1 THRU 12
		CEILING-CASSETTE (FOUR-WAY)	315	N/A	7.5	6.2	75.0	62.5	9.0	40	36	36	31	27	21	15	10	0.28	15			TPLFYP008FM1M0A																	1 THRU 12
FCU-1.17A/B/C	CORD.	CEILING-CASSETTE (FOUR-WAY)	315	N/A	7.5	6.2	75.0	62.5	9.0	40	36	36	31	27	21	15	10	0.28	15			TPLFYP008FM1M0A																	1 THRU 12
		CEILING-CASSETTE (FOUR-WAY)	315	N/A	7.5	6.2	75.0	62.5	9.0	40	36	36	31	27	21	15	10	0.28	15			TPLFYP008FM1M0A																	1 THRU 12
		CEILING-CASSETTE (FOUR-WAY)	315	N/A	7.5	6.2	75.0	62.5	9.0	40	36	36	31	27	21	15	10	0.28	15			TPLFYP008FM1M0A																	1 THRU 12
FCU-1.18	ROLL CALL	MULTI-POSITION AIR HANDLER	735	0.8	22.4	17.3	75.0	62.5	27.0	45	49	42	40	35	31	29	25	3	15			TPVFYP024AM1M0A																	1 THRU 12
FCU-1.19	COMMUNITY ROOM	MULTI-POSITION AIR HANDLER	875	0.8	28.0	21.8	75.0	62.5	34.0	48	51	44	40	35	33	28	26	4.13	15			TPVFYP030AM1M0A																	1 THRU 12
FCU-1.20	CORD.	CEILING-CASSETTE (FOUR-WAY)	335	N/A	11.2	8.1	75.0	62.5	13.5	40	37	37	33	28	22	16	11	0.29	15	208/1/60	MITSUBISHI	TPLFYP012FM1M0A	BS-1.3	1.19	208/1/60	CMB-M1012NU-MA-SV	CU-1.3	144.0	134.8	160.0	88.6	12.3	1	31.0	50.0	460/3/60	715.0	MITSUBISHI	TURYE1444AMM0AN	1 THRU 12
FCU-1.21	SHIFT LEADERS-A	CEILING-CONCEALED (DUCTED)	600	0.6	16.8	13.7	75.0	62.5	20.0	55	55	43	42	37	27	22	17	2.94	15			TPEFYP018MA1M0A																	1 THRU 12
FCU-1.22	SHIFT LEADERS-B	CEILING-CONCEALED (DUCTED)	880	0.6	22.4	19.1	75.0	62.5	27.0	56	53	48	42	39	31	25	21	2.88	15			TPEFYP024MA1M0A																	1 THRU 12
FCU-1.23	SHIFT LEADERS-C	CEILING-CONCEALED (DUCTED)	880	0.6	22.4	19.1	75.0	62.5	27.0	56	53	48	42	39	31	25	21	2.88	15			TPEFYP024MA1M0A																	1 THRU 12
FCU-1.24	WORK RM	CEILIING-CASSETTE (FOUR-WAY)	280	N/A	4.7	4.3	75.0	62.5	5.6	41	35	33	29	22	16	12	10	0.24	15			TPLFYP005FM1M0A																	1 THRU 12
FCU-1.12	WELLNESS	CEILING-CASSETTE (FOUR-WAY)	280	N/A	4.7	4.3	75.0	62.5	5.6	41	35	33	29	22	16	12	10	0.24	15			TPLFYP005FM1M0A																	1 THRU 12
FCU-2.01	CAPTAIN'S OFFICE	CEILING-CONCEALED (DUCTED)	495	0.6	14.0	11.3	75.0	62.5	17.0	53	53	42	40	34	25	21	16	2.88	15			TPEFYP015MA1M0A																	1 THRU 12
FCU-2.02	CONFERENCE	CEILING-CONCEALED (DUCTED)	495	0.6	14.0	11.3	75.0	62.5	17.0	53	53	42	40	34	25	21	16	2.88	15			TPEFYP015MA1M0A																	1 THRU 12
FCU-2.03	BREAK ROOM	CEILING-CONCEALED (DUCTED)	880	0.6	22.4	19.1	75.0	62.5	27.0	56	53	48	42	39	31	25	21	2.88	15			TPEFYP024MA1M0A																	1 THRU 12
FCU-2.04	CONFERENCE/FLEX	CEILING-CONCEALED (DUCTED)	600	0.6	16.8	13.7	75.0	62.5	20.0	55	55	43	42	37	27	22	17	2.94	15	208/1/60	MITSUBISHI	TPEFYP018MA1M0A	BS-2.1	0.83	208/1/60	CMB-M108NU-MA-SV	CU-2.1	120.0	108.4	135.0	108.4	13.2	1	27.0	45.0	460/3/60	657.0	MITSUBISHI	TURYE1204AMM0AN	1 THRU 12
FCU-2.05	CAP. SUITE	CEILING-CONCEALED (DUCTED)	880	0.6	28.0	20.7	75.0	62.5	34.0	56	53	48	42	39	31	25	21	2.7	15			TPEFYP030MA1M0A																	1 THRU 12
FCU-2.06	TRAFFIC/BPI	CEILING-CONCEALED (DUCTED)	600	0.6	16.8	13.7	75.0	62.5	20.0	55	55	43	42	37	27	22	17	2.94	15			TPEFYP018MA1M0A																	1 THRU 12
FCU-2.07	OFFICE SUPPLY	CEILING-CASSETTE (FOUR-WAY)	315	N/A	7.5	6.2	75.0	62.5	9.0	40	36	36	31	27	21	15	10	0.28	15			TPLFYP008FM1M0A																	1 THRU 12
FCU-2.08A/B/C	CORD.	CEILING-CASSETTE (FOUR-WAY)	280	N/A	4.7	4.3	75.0	62.5	5.6	41	35	33	29	22	16	12	10	0.24	15			TPLFYP005FM1M0A																	1 THRU 12
		CEILING-CASSETTE (FOUR-WAY)	280	N/A	4.7	4.3	75.0	62.5	5.6	41	35	33	29	22	16	12	10	0.24	15			TPLFYP005FM1M0A																	1 THRU 12
		CEILING-CASSETTE (FOUR-WAY)	280	N/A	4.7	4.3	75.0	62.5	5.6	41	35	33	29	22	16	12	10	0.24	15			TPLFYP005FM1M0A																	1 THRU 12
FCU-2.09	C.A.T.	CEILING-CONCEALED (DUCTED)	880	0.6	22.4	19.1	75.0	62.5	27.0	56	53	48	42	39	31	25	21	2.88	15			TPEFYP024MA1M0A																	1 THRU 12
FCU-2.10	INVESTIGATIVE SERVICE TEAM	CEILING-CONCEALED (DUCTED)	880	0.6	22.4	19.1	75.0	62.5	27.0	56	53	48	42	39	31	25	21	2.88	15			TPEFYP024MA1M0A																	1 THRU 12
FCU-2.11	LT OFFICE	CEILING-CONCEALED (DUCTED)	300	0.6	5.6	5.6	75.0	62.5	6.7	40	36	36	31	27	21	15	10	1.75	15			TPEFYP006MA1M0A																	1 THRU 12
FCU-2.12	OUT./SRO/DVC	CEILING-CONCEALED (DUCTED)	600	0.6	16.8	13.7	75.0	62.5	20.0	55	55	43	42	37	27	22	17	2.94	15			TPEFYP018MA1M0A																	1 THRU 12
FCU-2.13	CORD.	CEILING-CASSETTE (FOUR-WAY)	315	N/A	7.5	6.2	75.0	62.5	9.0	40	36	36	31	27	21	15	10	0.28	15			TPLFYP008FM1M0A																	1 THRU 12
FCU-2.14	LOUNGE	CEILING-CONCEALED (DUCTED)	880	0.6	28.0	21.5	75.0	62.5	34.0	56	53	48	42	39	31	25	21	2.88	15			TPEFYP030MA1M0A																	1 THRU 12
FCU-2.16	FITNESS	CEILING-CONCEALED (DUCTED)	1270	0.6	33.6	28.2	75.0	62.5	40.0	60	60	51	46	41	31	24	21	4.25	15			TPEFYP036MA1M0A																	1 THRU 12
FCU-2.17A/B	CORD.	CEILING-CASSETTE (FOUR-WAY)	335	N/A	11.2	8.1	75.0	62.5	13.5	40	37	37	33	28	22	16	11	0.29	15			TPLFYP012FM1M0A																	1 THRU 12
		CEILING-CASSETTE (FOUR-WAY)	335	N/A	11.2	8.1	75.0	62.5	13.5	40	37	37	33	28	22	16	11	0.29	15			TPLFYP012FM1M0A																	1 THRU 12
FCU-2.18	WELLNESS	CEILING-CASSETTE (FOUR-WAY)	335	N/A	11.2	8.1	75.0	62.5	13.5	40	37	37	33	28	22	16	11	0.29	15			TPLFYP012FM1M0A																	1 THRU 12
FCU-2.19A/B	GN. LOCKER RM	CEILING-CASSETTE (FOUR-WAY)	315	N/A	7.5	6.2	75.0	62.5	9.0	40	36	36	31	27	21	15	10	0.28	15			TPLFYP008FM1M0A																	1 THRU 12
		CEILING-CASSETTE (FOUR-WAY)	315	N/A	7.5	6.2	75.0	62.5	9.0	40	36	36	31	27	21	15	10	0.28	15	208/1/60	MITSUBISHI	TPLFYP008FM1M0A	BS-2.3	0.83	208/1/60	CMB-M108NU-MA-SV	CU-2.3	192.0	168.5	215.0	99.1	11.75	1	31.0	50.0	460/3/60	918.0	MITSUBISHI	TURYE1924AMM0AN	1 THRU 12
FCU-2.20	MEN'S LOCKER RM	CEILING-CONCEALED (DUCTED)	1300	0.6/0.6	44.8	33.5	75.0	62.5	54.0	60	58	49	45	40	31	26	23	4.38	15			TPEFYP048MA1M0A																	1 THRU 12
FCU-2.21	MEN'S LOCKER RM	CEILING-CONCEALED (DUCTED)	1300	0.6/0.6	44.8	33.5	75.0	62.5	54.0	60	58	49	45	40	31	26	23	4.38	15			TPEFYP048MA1M0A																	1 THRU 12
FCU-2.22	WOMEN'S LOCKER RM	CEILING-CONCEALED (DUCTED)	1270	0.6/0.6	33.6	28.2	75.0	62.5	40.0	60	60	51	46	41	31	24	21	4.25	15			TPEFYP036MA1M0A																	1 THRU 12
FCU-2.23	WOMEN'S LOCKER RM	CEILING-CONCEALED (DUCTED)	880	0.6/0.6	22.4	19.1	75.0	62.5	27.0	56	53	48	42	39	31	25	21	2.88	15			TPEFYP024MA1M0A																	1 THRU 12

NOTES:

1. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND ACCESSORIES ASSOCIATED WITH UNIT.
2. PROVIDE VARIABLE CAPACITY INVERTER COMPRESSORS.
3. MANUFACTURER SHALL BE CERTIFIED WITH ANSI/AHRI-1230 AND MEET ASHRAE 90.1 REQUIREMENTS.
4. MANUFACTURER MUST MEET THE SCHEDULED PERFORMANCE, TAKING INTO ACCOUNT FOR ALL PIPING DE-RATES AND OPERATING AMBIENT DE-RATES.
5. PROVIDE DUCTED INDOOR UNIT WITH FILTERED RETURN GRILLE.
6. PROVIDE MANUFACTURER RECOMMENDED CONDENSATE PUMP OPTION.
7. ALL UNITS TO BE BALANCED TO HIGH SPEED FOR FANS.
8. PROVIDE ELECTRICAL SELECTOR DISTRIBUTION BOX.
9. PROVIDE NECESSARY CONTROL CARDS FOR COMMUNICATION WITH BUILDING AUTOMATION SYSTEM.
10. SYSTEM TO BE ON EMERGENCY POWER.
11. PROVIDE CONDENSING UNIT VIBRATION ISOLATION.
12. PROVIDE THERMOSTAT MODEL NO. TAC-YT53CRAU-J.

5

DWG. FILENAME: C:\Users\mscott\Documents\280601-Wilkens Police Precinct-Central-R21_mscott80PQP.rvt

SEAL

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE _____

ENGINEER: _____

AS-BUILT PER RECORD PRINT

BY: _____

DATE: _____

DATE : 11/6/2025 4:25:14 PM

DGN BY:	MRS
DRN BY:	MRS
CHKD BY:	AL

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.
5 ADDENDUM #5	MRS	11.6.25	
CONTRACT COMPLETION BOX			R.O.W NO.

KEY SHEET	POSITION SHT
GSW	14SW19
	14SW20

DRAWING SCALE	
PLAN SCALE:	12" = 1'-0"
PROFILE SCALE:	

PROPERTY MANAGEMENT

APPROVED BY: _____ PROPERTY MANAGER

DATE: _____

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

MECHANICAL SCHEDULES

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M802	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 208 OF 302
	DRAWING NUMBER
	2024 - 1521
	FILE NO.: 8

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

SPLIT SYSTEM HEAT PUMP SCHEDULE

INDOOR UNIT												OUTDOOR UNIT										NOTES
UNIT DESIGNATION	UNIT LOCATION	SUPPLY FAN DESIGN CFM MIN	SUPPLY FAN DESIGN CFM MAX	HEAT PUMP COOLING TOTAL MBH	HEAT PUMP COOLING SENSIBLE MBH	HEAT PUMP HEATING (@ 17°F AMB.) MBH	TOTAL INDOOR UNIT ELECTRICAL MCA	TOTAL INDOOR UNIT ELECTRICAL FLA	TOTAL INDOOR UNIT ELECTRICAL V/Ø/HZ	BASIS OF DESIGN MFGR.	BASIS OF DESIGN MODEL	UNIT DESIGNATION	UNIT LOCATION	UNIT EER/SEER	DESIGN AMB. TEMP (°F)	NUMBER OF COMRESSORS	TOTAL OUTDOOR UNIT ELECTRICAL MCA	TOTAL OUTDOOR UNIT ELECTRICAL MOCP	TOTAL OUTDOOR UNIT ELECTRICAL V/Ø/HZ	WEIGHT (LBS)	BASIS OF DESIGN MFGR.	BASIS OF DESIGN MODEL	
DSS-AHU-1.01	IT [119]	705	920	36	25.2	25.9	1.0	0.57	POWERED BY OUTDOOR UNIT	MITSUBISHI	PUZ-AK36NL	DSS-CU-1.01	ROOF MECHANICAL WELL	10.8/18.8	0 (COOLING)	1.0	34.0	35.0	208/1/60	214.0	MITSUBISHI	PUZ-AK36NL	1 THRU 4
DSS-AHU-2.01	IT [223]	705	920	36	25.2	25.9	1.0	0.57				DSS-CU-2.01		10.8/18.8	0 (COOLING)	1.0	34.0	35.0	208/1/60	214.0			1 THRU 4

NOTES:
1: PROVIDE WIND BAFFLE ACCESSORY FOR LOW AQMBIENT COOLING.
2: REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION, AND ACCESSORIES ASSOCIATED WITH UNIT.
3: REFRIGERANT PIPING SHALL BE SIZED, ROUTED, AND SUPPORTED PER MANUFACTURER'S RECOMMENDATIONS.
4: PROVIDE MODA SECONDARY DRAIN KIT AS MANUFACTURED BY OATEY.

PACKAGED ROOF TOP UNIT SCHEDULE (WITH DX COOLING & HEAT PUMP HEAT)

UNIT DESIGNATION	AREA SERVED	UNIT TYPE CAV/VAV	SUPPLY FAN DESIGN CFM MIN	SUPPLY FAN DESIGN CFM MAX	ESP (IN H2O)	MOTOR HP	VFD (Y/N)	MIN CFM	MAX CFM	ECONOMIZER (Y/N)	DX COOLING COIL TOTAL MBH	DX COOLING COIL NUMBER OF COMPRESSORS	HEAT PUMP HEAT MBH (43° F AMB)	HEAT PUMP HEAT MBH (17 °F AMB)	HEAT PUMP HEAT INPUT KW	UNIT TOTAL ELECTRICAL MCA	UNIT TOTAL ELECTRICAL MOCP	UNIT TOTAL ELECTRICAL ELEC. CHAR. (V/Ø/HZ)	REQ'D MIN. SEER2	WEIGHT (LBS)	BASIS OF DESIGN MFGR.	BASIS OF DESIGN MODEL	NOTES
RTU-1	ELEVATOR SHAFT	CAV	760	760	0.3	0.5	N	0.0	0.0	N	23.8	1.0	23.2	14.7	1.95	20.6	30.0	208/1/60	13.4	402.0	TRANE	5WCC4024E	1,2,3,4

NOTES:
1: REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND ACCESSORIES ASSOCIATED WITH ROOF TOP UNIT.
2: PROVIDE ROOF TOP UNIT WITH FACTORY FURNISHED ROOF CURB, MODEL BAYCURB050.
3: PROVIDE LOW AMBIENT COOLING KIT, MODEL BAYLOAM105A.
4: PROVIDE WIRED REMOTE TEMPERATURE SENSOR LOCATED IN ELEVATOR SHAFT. THE CORRESPONDING THERMOSTAT SHALL BE LOCATED IN THE CONTROLS PORTION OF A WEATHERPROOFED AREA IN THE ROOFTOP UNIT FOR ACCESSIBILITY.

UNIT TYPE:
CAV = CONSTANT AIR VOLUME
VAV = VARIABLE AIR VOLUME

DEDICATED OUTDOOR AIR UNIT SCHEDULE (w/DX COOLING/HOT GAS REHEAT/HEAT PUMP PRIMARY HEAT/ELECTRIC AUX. HEAT/ENERGY RECOVERY WHEEL

UNIT DESIGNATION	UNIT TYPE CAV / VAV	SUPPLY FAN DESIGN CFM	SUPPLY FAN ESP (IN H2O)	SUPPLY FAN TSP (IN H20)	SUPPLY FAN MOTOR BHP	SUPPLY FAN MOTOR RPM	SUPPLY FAN VFD (Y/N)	EXHAUST FAN DESIGN CFM	EXHAUST FAN ESP (IN H2O)	EXHAUST FAN TSP (IN H20)	EXHAUST FAN MOTOR BHP	EXHAUST FAN MOTOR RPM	EXHAUST FAN VFD (Y/N)	OUTSIDE AIR CFM	DX COOLING COIL TOTAL MBH	DX COOLING COIL SENSIBLE MBH	DX COOLING COIL EAT DB (°F)	DX COOLING COIL EAT WB (°F)	DX COOLING COIL LAT DB (°F)	DX COOLING COIL LAT WB (°F)	DX COOLING COIL NUMBER OF COMPRESSORS	HOT GAS REHEAT EAT DB (°F)	HOT GAS REHEAT EAT WB (°F)	HOT GAS REHEAT LAT (UNIT) DB (°F)	HOT GAS REHEAT LAT (UNIT) WB (°F)	HEAT PUMP HEAT (17 °F AMB) CAPACITY (MBH)	HEAT PUMP HEAT (17 °F AMB) EAT DB (°F)	HEAT PUMP HEAT (17 °F AMB) LAT DB (° F)	AUX ELEC HEAT CAPACITY (KW)	AUX ELEC HEAT EAT DB (°F)	AUX ELEC HEAT LAT DB (°F)	UNIT TOTAL ELECTRICAL MCA	UNIT TOTAL ELECTRICAL MFS	UNIT TOTAL ELECTRICAL FLA	UNIT TOTAL ELECTRICAL V/Ø/HZ	REQUIRED MIN EER	PRE-FILTER MERV	FINAL FILTER MERV	WEIGHT (LBS)	BASIS OF DESIGN MFGR.	BASIS OF DESIGN MODEL	NOTES
DOAS-1	VAV	7,000	1.5	3.17	5.38	1934	Y	6,600	1.5	2.96	5.56	1960	Y	7,000	364.1	218.5	80.7	68.2	49.8	49.7	2	49.8	49.7	72.1	58.9	289.2	52.8	79.9	60	52.8	79.9	158.1	175	153.4	460/3/60	13.8	8	13	8,247	TRANE	OANE480A4-C1C400JR-D3H00AF1JR4B50B00000	1-2

NOTES:
1: REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND ACCESSORIES ASSOCIATED WITH THE DEDICATED OUTDOOR AIR UNIT.
2: PROVIDE DEDICATED OUTDOOR AIR UNIT WITH FACTORY FURNISHED ROOF CURB.

ENERGY WHEEL SCHEDULE

UNIT DESIGNATION	UNIT LOCATION	AREA SERVED	OUTSIDE AIR CFM	ENTHALPY WHEEL SUMMER PERFORMANCE SUPPLY (°F) EAT (DB)	SUPPLY (WB)	SUPPLY LAT (DB)	SUPPLY LAT (WB)	EXHAUST (°F) EAT (DB)	EXHAUST (WB)	EXHAUST LAT (DB)	EXHAUST LAT (WB)	ENTHALPY WHEEL WINTER PERFORMANCE SUPPLY (°F) EAT (DB)	SUPPLY (WB)	SUPPLY LAT (DB)	SUPPLY LAT (WB)	EXHAUST (°F) EAT (DB)	EXHAUST (WB)	EXHAUST LAT (DB)	EXHAUST LAT (WB)	NOTES
EW-1	INSIDE DOAS UNIT	VRF SYSTEM	7000	95	78	80.7	68.2	75	63	88.9	73.7	10.0	7.0	52.8	43.7	72.0	56.0	28.1	25.7	1,2

NOTES:
1: REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2: ENERGY WHEEL IS LOCATED INSIDE DOAS-1 AND PROVIDED INSTALLED FROM THE FACTORY.

SUPPLY FAN OCTAVE SOUND BAND (DB)

63	125	250	500	1K	2K	4K	8K	NOTES
95	78	80.7	68.2	75	63	88.9	73.7	1,2

NOTES:
1: REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2: SUPPLY FAN IS LOCATED INSIDE DOAS-1.

EXHAUST FAN OCTAVE SOUND BAND (DB)

63	125	250	500	1K	2K	4K	8K	NOTES
95	78	80.7	68.2	75	63	88.9	73.7	1,2

NOTES:
1: REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2: RETURN FAN IS LOCATED INSIDE DOAS-1.

5

SEAL:

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE: _____.
ENGINEER: _____ DGN BY: MRS
AS-BUILT PER RECORD PRINT DRN BY: MRS
BY: _____ CHKD BY: AL
DATE: _____
DATE : 11/6/2025 6:18:06 PM

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT
5 ADDENDUM #5	MRS	11.6.25			14SW19
CONTRACT COMPLETION BOX			R.O.W. NO.	GSW	14SW20

DRAWING SCALE: PLAN SCALE: 12" = 1'-0" PROFILE SCALE: _____

PROPERTY MANAGEMENT
APPROVED BY: _____ PROPERTY MANAGER
DATE: _____

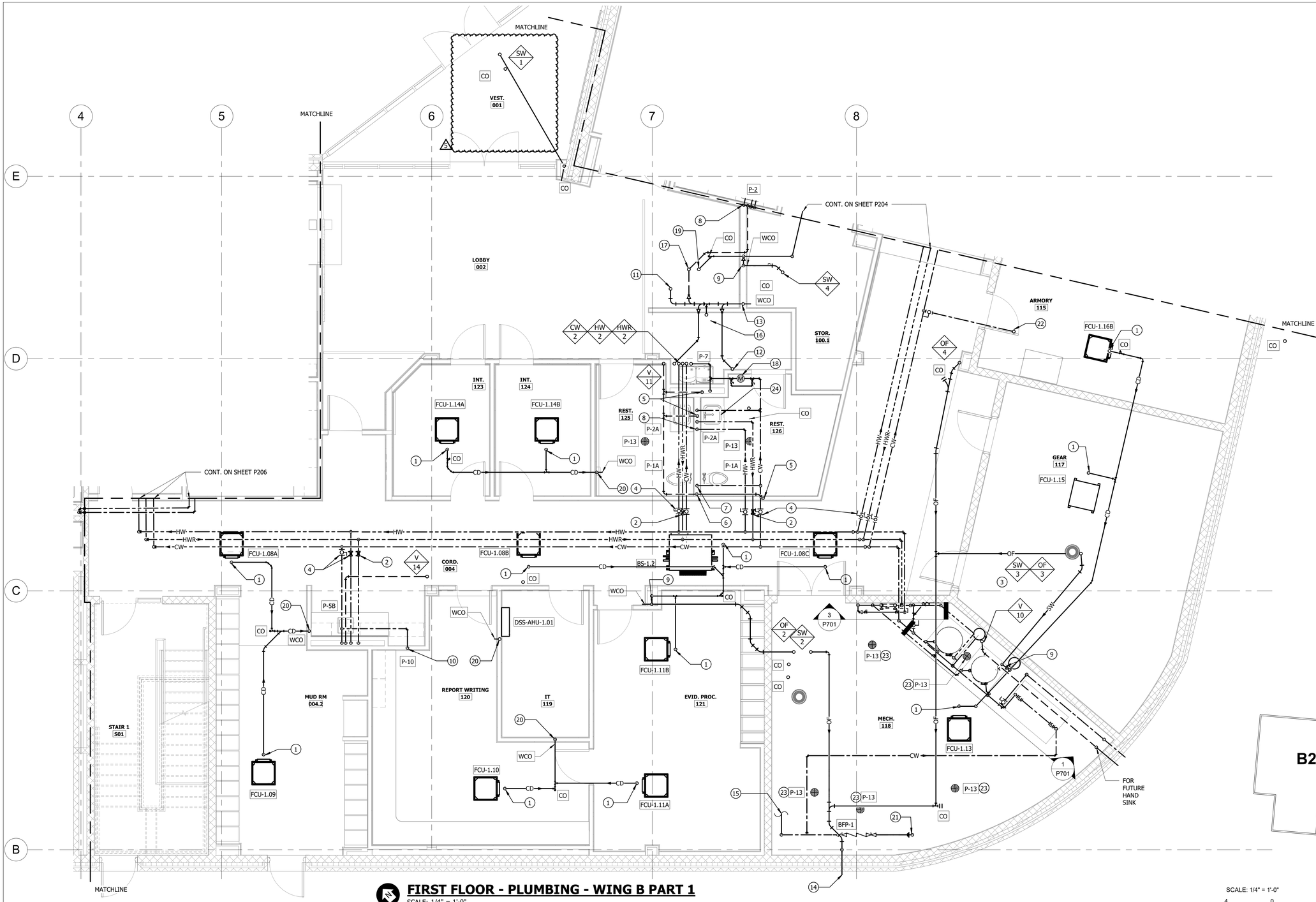
BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT
WILKENS POLICE PRECINCT - 01
MECHANICAL SCHEDULES
NEW BUILDING DESIGN
901 Walker Ave Catonsville, Maryland, 21228
SUBDIVISION: WILKENS
ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
M803	24111 PPO
	JOB ORDER NUMBER 300200006
	SHEET 209 OF 302
	DRAWING NUMBER 2024 - 1522
	FILE NO.: 8 REV. 0 OF 0

DWG. FILENAME: C:\Users\mscott\Documents\280601-Wilkens Police Precinct-Central-R21_mscottR6WQP.rvt

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025



GENERAL NOTES:

1. REFER TO PLUMBING RISER DIAGRAM FOR ALL REQUIRED VALVING AND PIPE SIZES.

DRAWING NOTES:

1. 1" CONDENSATE DOWN TO FAN COIL UNIT / BRANCH SELECTOR BOX.
2. COMBINATION THERMOSTATIC BALANCING AND SHUTOFF VALVE.
3. SURFACE MOUNTED TRAP PRIMING STATION, MODEL PT-6 AS MANUFACTURED BY PRECISION PLUMBING, OR EQUIVALENT. REFER TO SPECIFICATION 22 05 23 FOR ADDITIONAL INFORMATION.
4. BALL VALVE (TYPICAL).
5. 2" VENT DOWN.
6. 3" VENT DOWN.
7. 2" CW DOWN TO P-1/P-1A.
8. 1/2" CW/HW/HWR DOWN TO P-2/P-2A.
9. STORM WATER DOWN. REFER TO RISER DIAGRAM FOR SIZING REQUIREMENTS.
10. 1/2" CW DOWN TO P-10.
11. 4" SANITARY UP TO P-1A.
12. 2" SANITARY UP TO P-2A.
13. 4" SANITARY DOWN.
14. DOWNSPOUT NOZZLE, MODEL NO. Z199-DC AS MANUFACTURED BY ZURN. TERMINATE MINIMUM 18" AFG.
15. REFER TO FIRE PROTECTION DRAWINGS FOR CONTINUATION.
16. 4" SANITARY UP TO FLOOR DRAIN.
17. 3" VENT UP.
18. MTR-1 5/8" WATER METER, REFER TO SPECIFICATION 22 05 23 FOR ADDITIONAL INFORMATION. TRANSITION PIPING AS REQUIRED.
19. 1" CONDENSATE UP.
20. CONDENSATE DOWN. REFER TO RISER DIAGRAM FOR SIZING REQUIREMENTS.
21. INCOMING 8" COMBINED FIRE/DOMESTIC WATER SERVICE.
22. 1/2" CW UP TO P-11.
23. TRAP PRIMING LINE FROM TRAP PRIMING STATION TPS-1.
24. INSTALL TRAP PRIMING VALVE TO SERVE FLOOR DRAIN CONCEALED WITH MEANS OF ACCESS AND IDENTIFICATION UNDER LAVATORY. ROUTE TRAP PRIMING LINE TO FLOOR DRAIN.

FIRST FLOOR - PLUMBING - WING B PART 1

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

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

4 0 4 8

DWG. FILENAME: C:\Users\mscott\Documents\2806681-Wilkens Police Precinct-Central-R21_mscottBRNQP.rvt

SEAL	PROFESSIONAL CERTIFICATION	AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE _____	5 ADDENDUM #5	MRS	11.6.25		GSW	14SW19	PLAN SCALE: As indicated	APPROVED BY: _____ PROPERTY MANAGER
		CONTRACT COMPLETION BOX			R.O.W. NO.		14SW20	PROFILE SCALE: _____	DATE: _____
	ENGINEER: _____ DGN BY: MRS	BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
	AS-BUILT PER RECORD PRINT DRN BY: MRS	REVIEWED BY:							
DATE : 11/5/2025 5:01:28 PM	BY: DATE: CHKD BY: AL	DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

FIRST FLOOR - PLUMBING - WING B PART 1

NEW BUILDING DESIGN

901 Walker Ave Catonsville, Maryland, 21228

SUBDIVISION: WILKENS

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
P205	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 215 OF 302
	DRAWING NUMBER
	2024 – 1528
	FILE NO.: 8 REV. 0

Contract No.24111 PP0
Addendum No.5
Revised, November 10, 2025

ABOVE GROUND FUEL STORAGE TANK SCHEDULE

TANK DESIGNATION	SERVICE	NOMINAL CAP. (GALLONS)	TANK					BASIS OF DESIGN		NOTES
			OVERALL LENGTH (FT-IN)	OVERAL WIDTH (FT-IN)	OVERALL HEIGHT (FT-IN)	NOMINAL WT. (LBS.)	MATERIAL F.G. / STL.	MFGR.	MODEL	
AST-1	GASOLINE	10000	23'-5"	11'-4"	6'-0"	~30,000	STL.	HIGHLAND TANK	FIREGUARD	1,2,3

NOTES:
1: REFER TO SPECIFCATIONS FOR ADDITIONAL INFORMATION AND ACCESSORIES ASSOCIATED WITH TANK.
2: TANK SHALL BE UL 2085 CERTIFIED.
3: TANK SHALL HAVE AUTOMATIC LEVEL GUAGE, INTERSTITIAL, PRESSURE VACUUM, EMERGENCY AND PRIMARY VENTS, ACCESS STAIR AND PLATFORM, OVERFILL PROTECTION, REMOTE FILL ASSEMBLY WITH CATCH BASIN, AND TWO TANK MOUNTED SUBMERSIBLE PUMP FITTINGS.

TANK MATERIAL
STL. = STEEL

ADDITIONAL FUELING EQUIPMENT

SERVICE	UNIT DESIGNIATION	ELECTRICAL CHARACTERISTICS		BASIS OF DESIGN		NOTES
		AMP	V/ø/Hz	MFGR.	MODEL	
GASOLINE DISPENSER	DISP-1	-	-	GASBOY	9153KXF-CL	NOZZLE EQUIPPED WITH HOLD OPEN, DIGITAL VOLUME DISPLAY, METER, FILTER, VALVE AND ALL ACCESSORIES FOR AST APPLICATION. PROVIDE 14" HIGH SHEET METAL MOUNTING PEDESTAL AND INTEGRATED CONTAINMENT PUMP EQUAL TO BRAVO A6000.
GASOLINE DISPENSER	DISP-2	-	-	GASBOY	9153KXF-CL	NOZZLE EQUIPPED WITH HOLD OPEN, DIGITAL VOLUME DISPLAY, METER, FILTER, VALVE AND ALL ACCESSORIES FOR AST APPLICATION. PROVIDE 14" HIGH SHEET METAL MOUNTING PEDESTAL AND INTEGRATED CONTAINMENT PUMP EQUAL TO BRAVO A6000.
TANK MONITORING SYSTEM	TMS-1	2	120/1/60	VEEDER-ROOT	TLS-450	-
FUEL MANAGEMENT SYSTEM	FMS-1	-	120/1/60	FUELMASTER	2550	PROVIDE WITH TANK MONITOR INTERFACE KIT TO ALLOW FOR COMMUNICATION WITH VEEDER-ROOT SYSTEM.

PUMP SCHEDULE

PUMP DESIGNATION	SERVICE	GPM	FT. OF HEAD	PUMP TYPE	PUMP MOTOR		ELECTRICAL CHARACTERISTICS		BASIS OF DESIGN		NOTES
					HP	RPM	AMP	V/Ø/HZ	MFGR.	MODEL	
RP-1	HOT WATER RECIRC	14	13	CC	0.167	-	0.1-3.0	115/1/60	BELL AND GOSSET	ECOCIRC XL 36-45	1,10
SP-1	GASOLINE	110	46	SP	0.75	3450	7	208/1/60	FRANKLIN FUELING	STP75-VL2	1-7
SP-2	GASOLINE	110	46	SP	0.75	3450	7	208/1/60	FRANKLIN FUELING	STP75-VL2	1-7
SP-3	ELEVATOR SUMP	50	22	SP	0.5	3450	5.2	115/1/60	STANCOR	SE50	1,8,9

NOTES:
1: REFER TO SPECIFCATIONS FOR ADDITIONAL INFORMATION AND ACCESSORIES ASSOCIATED WITH PUMP.
2: PROVIDE PREMIUM EFFICIENCY MOTOR.
3: PUMPS SHALL HAVE FIXED SPEED AND VARIABLE LENGTH.
4: INCLUDE INTEGRATED 2-3/4"ø CHECK VALVE.
5: SET PRESSURE RELIEF VALVE TO 40 PSI, RESETS ABOVE 35 PSI.
6: PUMP SHALL INCLUDE LEAK DETECTOR.
7: INCLUDE STARTING AND RUNNING CAPACITOR, AND 370V INTERNAL BLEED RESISTOR.
8: PUMP SHALL BE DUPLEX.
9: PROVIDE W/ OIL MINDER CONTROL PANEL.
10: PUMP PROVIDED FACTORY-INSTALLED AS A COMPONENT OF ELECTRONIC MIXING STATION, EMS-1.

PUMP TYPES
IL = IN-LINE
CC = CARTRIDGE CIRCULATION
SP = SUBMERSIBLE PUMP

DOMESTIC HEAT PUMP ELECTRIC WATER HEATER SCHEDULE

UNIT DESIGNATION	LOCATION	TANK			HEATER										EXPANSION TANK				WATER HEATER BASIS OF DESIGN		NOTES
					WATER SIDE					HEAT PUMP AIR SIDE		ELECTRICAL CHARACTERISITICS			TANK VOLUME (GALLONS)		MFGR.	MODEL	MFGR.	MODEL	
		STORAGE (GALLONS)	DIAMETER x HEIGHT (IN x IN)	MAX. PRESS. (PSI)	EWT (°F)	LWT (°F)	RECOVERY RATE (GPH) @ 100 (°F)	PIPE CONNECTIONS CW INLET (IN)	PIPE CONNECTIONS HW OUTLET (IN)	AIR FLOW (HIGH FAN)	AIRFLOW (LOW FAN)	KW	UEF	V/Ø/HZ	TOTAL CAPACITY	ACCEPTANCE					
WH-1.01, WH-1.02	WATER ROOM	80	30"x84"	150	40	140	88	3/4"	3/4"	450	250	27	2.3	480/3/60	4.4	3.2	AMTROL	ST-12	HUBBELL	PBX-80SL-27T4	1,2,3,4

NOTES:
1: REFER TO SPECIFICATIONS FOR ACCESSORIES AND ADDITIONAL INFORMATION ASSOCIATED WITH WATER HEATER.
2: WATER HEATER SHALL MEET ASME STANDARDS.
3: MOUNT ON 4" HIGH CONCRETE HOUSEKEEPING PAD.
4: WATER HEATER EXHAUST DISCHARGE SHALL HAVE A MINIMUM OF 12" CLEARANCE.

WATER SUBMETER SCHEDULE

UNIT DESIGNATION	LOCATION	FIXTURE(S) METERED	METER SIZE (IN)	TYPICAL OPERATING RANGE (MIN...MAX, GPM)	MAXIMUM CONTINUOUS OPERATION (GPM)	PRESSURE LOSS @ MAXIMUM CONTINOUS OPERATION (PSI)	TEMPERATURE RANGE (MIN...MAX, °F)	METER BASIS OF DESIGN		NOTES
								MFGR.	MODEL	
MTR-1	REST. [126]	P-7 (QTY: 2)	5/8	0.5...25	15	2.8	32...120	BADGER METER	MODEL 25 BRONZE	1 THRU 6
MTR-2	BREAK RM. [209]	DISHWASHER	5/8	0.5...25	15	2.8	32...120	BADGER METER	MODEL 25 BRONZE	1 THRU 6
MTR-3	CORD. [005]	P-8 (QTY: 2, HW ONLY)	5/8	0.5...25	15	2.8	32...120	BADGER METER	MODEL 25 BRONZE	1 THRU 6
MTR-4	CORD. [005]	P-8 (QTY: 2, HW ONLY)	5/8	0.5...25	15	2.8	32...120	BADGER METER	MODEL 25 BRONZE	1 THRU 6
MTR-5	MECH [118]	BLDG. HW SERVICE	1	0.1...55	40	3.4	32...120	BADGER METER	MODEL 55 BRONZE	1 THRU 6
MTR-6	WELLNESS [111]	P-7 (QTY: 1)	5/8	0.5...25	15	2.8	32...120	BADGER METER	MODEL 25 BRONZE	1 THRU 6

NOTES:
1: REFER TO SPECIFICATIONS FOR ACCESSORIES AND ADDITIONAL INFORMATION ASSOCIATED WITH WATER METER.
2: PROVIDE VALVED BYPASS AT METER.
3: PROVIDE BAS POINT FOR METER READOUT.
4: METER SHALL BE SUITABLE FOR USE IN POTABLE WATER SYSTEMS (NSF STANDARD 61 AND 372 CERTIFIED).
5: METER SHALL BE INSTALLED HORIZONTALLY WITH AT LEAST MANUFACTURER REQUIRED MINIMUM STRAIGHT PIPE DISTANCE.
6: HOUSING TO BE LEAD-FREE BRONZE ALLOY, AND CHAMBER/DISC ENGINEERED POLYMER.

OIL SEPARATOR SCHEDULE

TANK DESIGNATION	MAX FLOW RATE (GPM)	MAX LIQUID CAPACITY (GALLONS)	TANK				BASIS OF DESIGN		NOTES
			OVERALL LENGTH (FT-IN)	OVERALL WIDTH (FT-IN)	OVERALL HEIGHT (FT-IN)	NOMINAL WT. (LBS.)	MFGR.	MODEL	
OS-1	100	250	6'-8"	2'-9"	4'-3"	345	STRIEM	OS-100	1,2

NOTES:
1: REFER TO SPECIFCATIONS FOR ADDITIONAL INFORMATION AND ACCESSORIES ASSOCIATED WITH TANK.
2: PROVIDE CAST IRON TANK COVERS.

BACKFLOW PREVENTER SCHEDULE

DESIGNATION	SERVICE	SIZE (IN.)	TYPE	ASSE DESIGNATION	FLOW RATE (GPM)	PRESSURE LOSS (PSI)	BASIS OF DESIGN		NOTES
							MFGR.	MODEL	
BFP-1	DOMESTIC WATER	3	REDUCED PRESSURE ZONE	1013	59	10	WATTS	4000SS	1,2,3,4,5,6

NOTES:
1: REFER TO SPECIFCATIONS FOR ADDITIONAL INFORMATION AND ACCESSORIES ASSOCIATED WITH BACKFLOW PREVENTER.
2: BACKFLOW PREVENTER SHALL INCLUDE TWO (2) OS&Y VALVES AND TWO (2) CHECK VALVES.
3: BACKFLOW PREVENTER SHALL BE LEAD FREE.
4: PROVIDE Y-TYPE STRAINER ON INLET TO BACKFLOW PREVENTER.
5: PROVIDE SUPPORTS FOR BACKFLOW PREVENTER PER MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.
6: PROVIDE AIR GAP FITTING AND PIPE TO NEAREST FLOOR DRAIN.

SEAL:

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. _____, EXPIRATION DATE: _____.
ENGINEER: _____ DGN BY: MRS
AS-BUILT PER RECORD PRINT DRN BY: MRS
BY: DATE: CHKD BY: AL
DATE : 11/5/2025 5:01:29 PM

AS-BUILT / REVISION	BY	DATE
5 ADDENDUM #5	MRS	11.6.25
CONTRACT COMPLETION BOX		

P.W.A. NO. | R.O.W. NO. | KEY SHEET: GSW | POSITION SHT: 14SW19, 14SW20

DRAWING SCALE: PLAN SCALE: 12" = 1'-0" | PROFILE SCALE:

PROPERTY MANAGEMENT
APPROVED BY: _____ PROPERTY MANAGER
DATE: _____

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT
WILKENS POLICE PRECINCT - 01
PLUMBING SCHEDULES
NEW BUILDING DESIGN
901 Walker Ave Catonsville, Maryland, 21228
SUBDIVISION: WILKENS
ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
P802	24111 PPO
JOB ORDER NUMBER	300200006
SHEET 235 OF 302	
DRAWING NUMBER	2024 - 1548
FILE NO.: 8	REV. 07.24

DWG. FILENAME: C:\Users\mscott\Documents\280901-Wilkens Police Precinct-Central-R21_mscottR6PQP.rvt

Contract No.24111 PPO
Addendum No.5
Revised, November 10, 2025

LOW VOLTAGE SYSTEMS RESPONSIBILITIES MATRIX

	ITEM	FURNISHED BY	INSTALLED BY	NOTES
1	TELECOMMUNICATIONS OUTSIDE PLANT CABLING - INCOMING FIBER OPTIC CABLING	OWNER	OWNER	INCOMING FIBER OPTIC SERVICE FROM WALKER AVENUE TO BE COORDINATED BY OWNER AND SERVICE PROVIDER
2	TELECOMMUNICATIONS OUTSIDE PLANT INFRASTRUCTURE - SERVICE PROVIDER	GC	GC	OWNER AND GC TO COORDINATE THE PATHWAY OF INCOMING FIBER OPTIC SERVICE FROM WALKER AVE.
3	TELECOMMUNICATIONS OUTSIDE PLANT INFRASTRUCTURE - SITE SECURITY	GC	GC	
4	RECESSED ELECTRICAL JUNCTION WALL BOXES, CONDUIT, FITTINGS, BUSHINGS, RACEWAYS, BONDING, MULTIMEDIA CONNECTION WALL BOXES AND FLOOR BOXES	GC	GC	TO BE INSTALLED BY SUB-CONTRACTOR AT DISCRESSION OF GC
5	AC POWER RECEPTACLES & RELATED EQUIPMENT	GC	GC	TO BE INSTALLED BY SUB-CONTRACTOR AT DISCRESSION OF GC
6	TELECOMM STRUCTURED CABLING, PATCH PANELS, FACEPLATES, JACKS, TERMINATION AND TESTING	OWNER	OWNER	
7	IN-WALL PLYWOOD BLOCKING FOR ALL FLAT PANEL DISPLAY LOCATIONS	GC	GC	TO BE INSTALLED BY SUB-CONTRACTOR AT DISCRESSION OF GC
8	AUDIOVISUAL SYSTEM EQUIPMENT	OWNER	OWNER	
9	WIRELESS PRESENTATION GATEWAY	OWNER	OWNER	
10	ALL AUDIOVISUAL CABLING TO INTERCONNECT DEVICES	OWNER	OWNER	
11	FLAT PANEL DISPLAY MOUNTS	OWNER	OWNER	
12	NETWORK ELECTRONICS AND PROGRAMMING	OWNER	OWNER	
13	ELECTRONIC ACCESS CONTROL SYSTEM	OWNER	OWNER	
14	VIDEO SURVEILLANCE SYSTEM CAMERA AND ELECTRONICS.	OWNER	OWNER	

ABBREVIATIONS	
OWNER	BALTIMORE COUNTY GOVERNMENT
GC	GENERAL CONTRACTOR

NOTE: ALL SCOPE NOT NOTED AS FURNISHED AND/OR INSTALLED BY OWNER SHALL BE THE RESPONSIBILITY OF THE GC.

File Path

DWG. FILENAME:

SEAL: REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER — Bicsi — BRIAN WHITLOCK — BICSI ID # 163087 — EXPIRES 12-31-26

DATE: 06/19/2025

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. _____, EXPIRATION DATE: _____

ARCHITECT: _____ DGN BY: BW

AS-BUILT PER RECORD PRINT DWN BY: JM

BY: _____ CHKD BY: BH

DATE: _____

AS-BUILT / REVISION	BY	DATE	P.W.A. NO.	KEY SHEET	POSITION SHT	DRAWING SCALE	PROPERTY MANAGEMENT
5 ADDENDUM #5	JM	11.6.25		GSW	14SW19	PLAN SCALE: _____	APPROVED BY: _____ PROPERTY MANAGER
			R.O.W. NO.		14SW20	PROFILE SCALE: _____	DATE: _____
CONTRACT COMPLETION BOX							

BUREAU OF ENGINEERING AND CONSTRUCTION	TRAFFIC	HIGHWAYS	STRUCTURES	STORM DRAINS	SEWER	WATER	FIELD ENGINEER
REVIEWED BY:							
DATE REVIEWED:							

BALTIMORE COUNTY OFFICE OF BUDGET AND FINANCE - PROPERTY MANAGEMENT

WILKENS POLICE PRECINCT - 01

LOW VOLTAGE SYSTEMS RESPONSIBILITIES MATRIX

NEW BUILDING DESIGN

SUBDIVISION: WILKENS

901 Walker Ave Catonsville, Maryland, 21228

ELECTION DIST. NO.: 01C1

SHEET DESIGNATION	CONTRACT NUMBER
TA002	24111 PPO
	JOB ORDER NUMBER
	300200006
	SHEET 278 OF 302
	DRAWING NUMBER
	2024-1591
	FILE NO.: 8 REV. 01.01

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