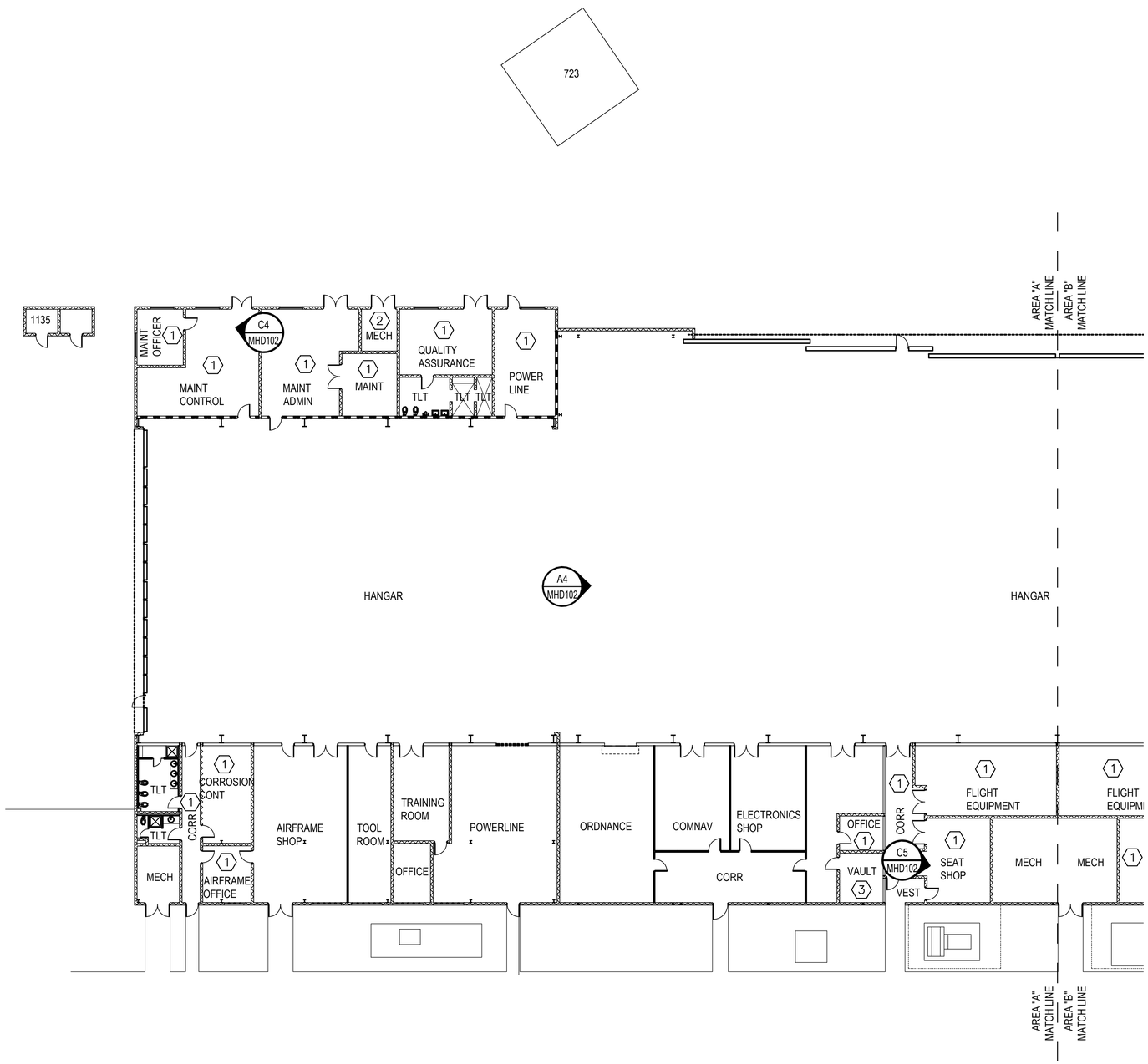


HAZARDOUS MATERIALS FLOOR PLAN EXISTING BUILDING - AREA A

1/16" = 1'-0"

TRUE NORTH

HAZARDOUS MATERIAL GENERAL NOTES (MHD101–MHD102)

1. A HAZARDOUS MATERIALS INSPECTION WAS PERFORMED. THE SURVEY/INSPECTION REPORT IS PROVIDED IN THE SPECIFICATIONS. THE WORK WILL REQUIRE THE REMOVAL OF KNOWN ASBESTOS–CONTAINING MATERIALS (ACM). DESTRUCTIVE ACTIVITIES SUCH AS BREAKING INTO WALLS, CEILINGS AND FLOORS WERE PERFORMED IN ORDER TO LOCATE MATERIALS. IF DURING THE WORK SUSPECT MATERIALS ARE UNCOVERED, THE CONTRACTOR MUST STOP WORK UNTIL THE MATERIAL IS PROPERLY IDENTIFIED AND ADDRESSED.
2. THE CONTRACT DOCUMENTS REPRESENT CONDITIONS WITHIN THE FACILITY AT THE TIME OF THE INITIAL FIELD INVESTIGATION. REFER TO HAZMAT REPORT TO DETERMINE THOSE CONDITIONS. SHOULD CONDITIONS EXIST OTHER THAN THOSE INDICATED IN THE HAZMAT REPORT, CONSULT THE ON–SITE PRIVATE QUALIFIED PERSON AND THE DESIGNER OF RECORD FOR VERIFICATION.
3. CONTRACTOR MUST VISIT THE SITE TO ASCERTAIN THE EXACT NATURE AND LOCATION OF THE WORK INCLUDING THE WORK OR COST THEREOF.
4. CONTRACTOR MUST COORDINATE THE WORK WITH OTHER TRADES. SEE ARCHITECTURAL, PLUMBING, MECHANICAL, ELECTRICAL, AND STRUCTURAL DEMOLITION DRAWINGS FOR COORDINATION REQUIREMENTS.
5. REMOVE ASBESTOS–CONTAINING MATERIALS IN ACCORDANCE WITH SPECIFICATION SECTION 02 82 00 "ASBESTOS REMEDIATION". ALL FLOOR TILE IN BUILDING 727 CONTAINS <1% CHRYSOTILE ASBESTOS.
6. DISASSEMBLE, REMOVE, AND INSPECT ALL FIRE RATED DOORS TO DETERMINE ASBESTOS CONTENT. REMOVE, HANDLE, AND DISPOSE OF ACM FIRE DOORS IN ACCORDANCE WITH SPECIFICATION SECTION 02 82 00. NON–ASBESTOS FIRE DOORS MUST BE DISPOSED OF AS REGULAR CONSTRUCTION WASTE. FOR BIDDING PURPOSES, ASSUME 60 ACM FIRE DOORS EXIST FOR BUILDING 414 AND 4 ACM FIRE DOORS EXIST FOR BUILDING 727
7. EXISTING PAINT WITHIN STRUCTURES 414, 723, 727, 784, AND 1135 HAVE BEEN DETERMINED TO CONTAIN CONCENTRATIONS ABOVE THE LABORATORY'S MINIMUM DETECTION LIMIT OF THE FOLLOWING METALS: LEAD, CADMIUM AND CHROMIUM. PERFORM WORK IN ACCORDANCE WITH SPECIFICATION SECTION 02 83 00 "LEAD REMEDIATION". CONSTRUCTION STANDARDS ESTABLISHED BY OSHA FOR CHROMIUM, CADMIUM AND LEAD ARE; CHROMIUM, 29 CFR 1926.1126; CADMIUM, 29 CFR 1926.1127 AND LEAD, 29 CFR 1926.62.
8. TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) TESTING ON EXISTING PAINTED BUILDING MATERIALS, WHEN DEMOLISHED AS COMPONENTS OF AN ASSEMBLY TYPICALLY RETURN RESULTS CLASSIFYING THE WASTE AS NONHAZARDOUS. PAINTED MATERIAL REMOVED IN THE FORM OF STRIPPING, BLASTING, SCRAPING OR OTHER METHODS THAT REMOVE PAINT COATING FROM EXISTING SUBSTRATES, PRODUCES A WASTE RESULTING PRIMARILY OF PAINT MATERIAL, MAY RESULT IN WASTE CLASSIFIED AS HAZARDOUS. THE CONTRACTOR MUST COORDINATE THE WORK PROCEDURES TO CHARACTERIZE THE ANTICIPATED WASTE STREAM. CONTRACTOR IS RESPONSIBLE FOR COSTS ASSOCIATED WITH CHARACTERIZATION AND DISPOSAL OF WASTE GENERATED FROM THE WORK.
9. LIGHT BALLASTS WITHOUT "NON PCB" MARKINGS AND FLUORESCENT LIGHT TUBES SHALL BE REMOVED IN ACCORDANCE WITH SPECIFICATION SECTION 02 84 16. FOR BIDDING PURPOSES, ASSUME 2,342 MERCURY–CONTAINING LAMPS EXIST FOR BUILDING 414 AND 684 MERCURY–CONTAINING LAMPS EXIST FOR BUILDING 727.
10. MANAGE WASTE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS INCLUDING 40 CFR 261 AND 40 CFR 262. COMPLY WITH ALL INSTALLATION AND NAVFAC ENVIRONMENTAL REQUIREMENTS.

KEY TO SYMBOLS (SHEET MHD101–MHD102)

XX / XXXXX — PHOTO LOCATION

PHOTOGRAPH DESCRIPTIONS (SHEET MHD102)

PHOTO C4: VIEW OF BEIGE FLOOR TILE OVER ACM MASTIC.

PHOTO C5: VIEW OF GRAY FLOOR TILE OVER ACM MASTIC.

PHOTO B4: VIEW OF OPEN STRUCTURE 784. PAINT CONTAINS LEAD CADMIUM AND CHROMIUM. STRUCTURE 723 IS SIMILAR.

PHOTO B5: VIEW OF RESIDUAL ACM MASTIC FOUND IN MECHANICAL ROOMS ON CMU WALLS.

PHOTO A4: VIEW OF FLUORESCENT LIGHT FIXTURES FOUND THROUGHOUT THE HANGAR. LIGHT TUBES ARE MERCURY CONTAINING.

PHOTO A5: VIEW OF EXISTING UNDERGROUND CONCRETE TRENCH WITH BLACK MASTIC ON THE COVERS. THE BLACK MASTIC IS ASSUMED TO BE ACM. THE CONCRETE TRENCH SERVES HANGAR 414 AND BUILDING 727. SEE CIVIL DEMOLITION PLAN FOR LOCATIONS.

(#) HAZARDOUS MATERIALS KEY NOTES (MHD101–MHD102)

1. REMOVE ACM FLOOR TILE AND MASTIC (SEE PHOTOS #1 AND #2 ON MHD102).
2. REMOVE ACM RESIDUAL MASTIC ON CMU WALL (SEE PHOTO #4 ON MHD102).
3. REMOVE ASSUMED ACM VAULT DOOR.

KEY PLAN

AREA "A" | AREA "B"

GRAPHIC SCALE

1/16" = 1'–0" 5' 0' 5' 10' 20' 30' 50'

SYM	DESCRIPTION	DATE	APPR
	MOD P00006 AND MOD P00007	10/2025	
	MOD P00005	05/2023	

NAVFAC

COMMONWEALTH OF VIRGINIA
HUGH N. ADCOCK, JR.
Lic. No. 015231
01/13/23
PROFESSIONAL ENGINEER
SEAL

BAMFORTH ENGINEERS + SURVEYORS
A/E INFO

APPROVED
FOR COMMANDER NAVFAC 11/21/2022
ACTIVITY
Approved by J. Scott Roberts, Asset Management Branch Head & Supervisory Facility Planner, PWD Beaufort, SC via email.
SATISFACTORY TO DATE 12/15/2022

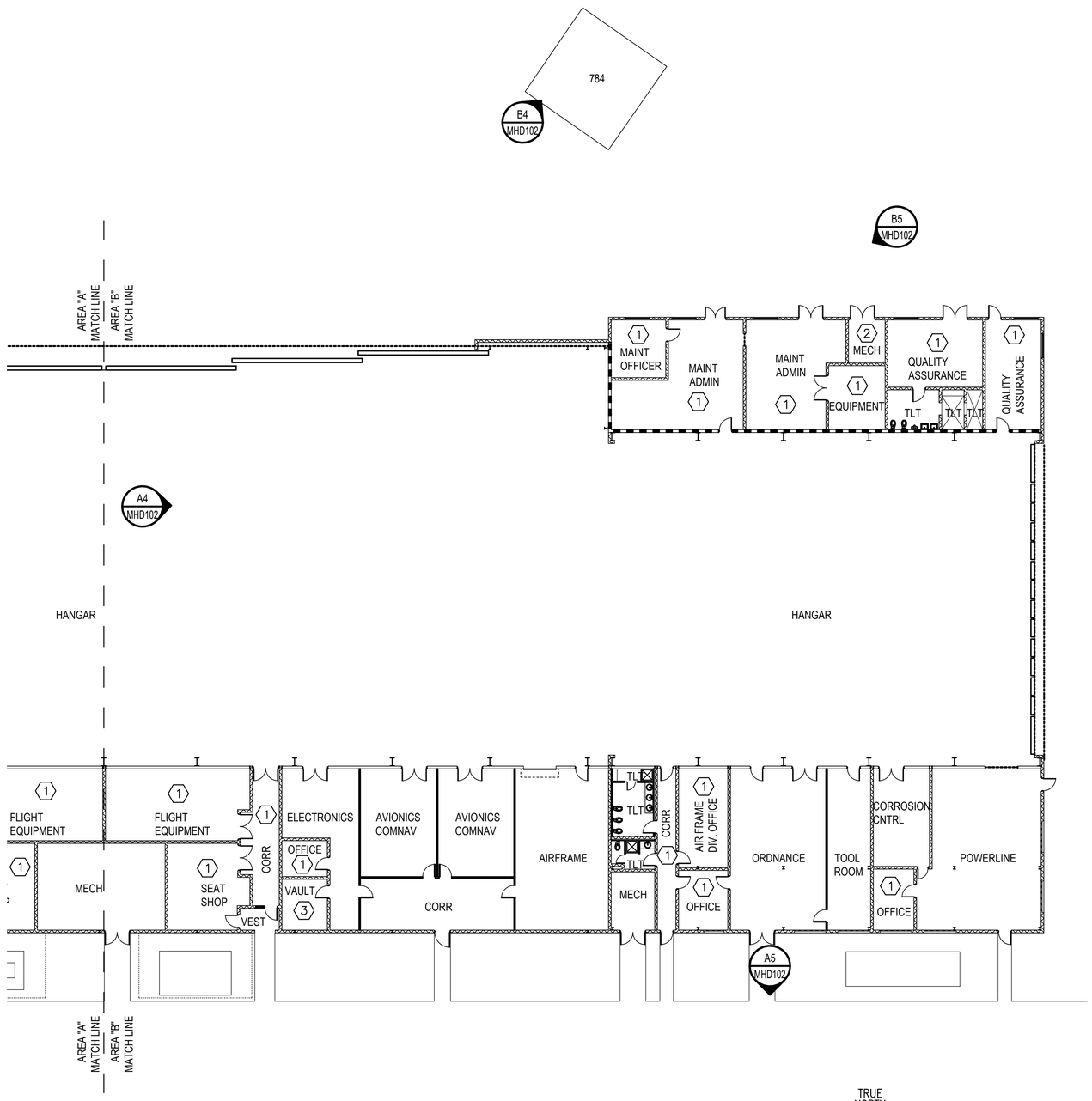
DES BTH	DRW BTH CHK HNA
PM/DM	KTB/RLH
BRANCH MANAGER	DLB
CHIEF ENG/ARCH	EJA
FIRE PROTECTION	DSN

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
DC CORE
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND - MID-ATLANTIC
NORFOLK, VA
MCAS BEAUFORT
BEAUFORT, SC
P-475 AIRCRAFT MAINTENANCE HANGAR - VOLUME 1 (BASE BID WITH OPTIONS)
HAZARDOUS MATERIALS FLOOR PLAN EXISTING BUILDING - AREA A

SCALE: 1/16" = 1'-0"
EPROJECT NO.: 1363603
CONSTR. CONTR. NO. TBD
NAVFAC DRAWING NO. 12859176
SHEET 4 OF 1412

MHD101

DRAWFORM REVISION: 25 AUGUST 2020



HAZARDOUS MATERIALS FLOOR PLAN EXISTING BUILDING - AREA B

1/16" = 1'-0"

TRUE NORTH

HAZARDOUS MATERIALS KEY NOTES (MHD101–MHD102)

1. REMOVE ACM FLOOR TILE AND MASTIC (SEE PHOTOS #1 AND #2 ON MHD102).
2. REMOVE ACM RESIDUAL MASTIC ON CMU WALL (PHOTO #4 ON MHD102).
3. REMOVE ASSUMED ACM VAULT DOOR.

KEY TO SYMBOLS (SHEETS MHD101 – MHD103)

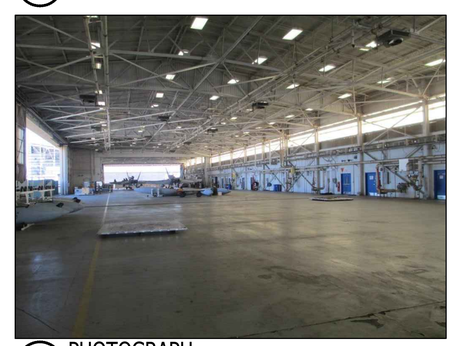
XX / XXXXX PHOTO LOCATION

C4 PHOTOGRAPH
SCALE: NO SCALE MHD101

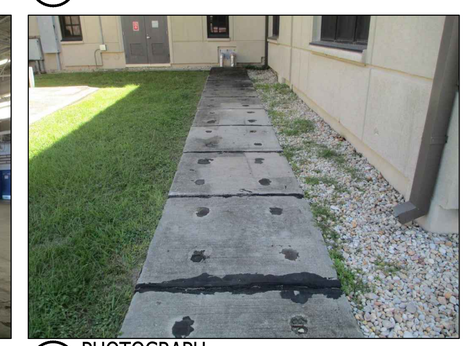
C5 PHOTOGRAPH
SCALE: NO SCALE MHD101

B4 PHOTOGRAPH
SCALE: NO SCALE MHD102

B5 PHOTOGRAPH
SCALE: NO SCALE MHD102



A4 PHOTOGRAPH
SCALE: NO SCALE MHD102



A5 PHOTOGRAPH
SCALE: NO SCALE MHD102

KEY PLAN

AREA "A" | AREA "B"

GRAPHIC SCALE

1/16" = 1'-0" 5' 0' 5' 10' 20' 30' 50'

SYM	DESCRIPTION	DATE	APPR
	MOD P00006 AND MOD P00007	10/2025	
	MOD P00005	05/2023	

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ACTIVITY
Approved by J. Scott Roberts, Asset Management Branch Head & Supervisory Facility Planner, PWD Beaufort, SC via email.

SATISFACTORY TO DATE 12/15/2022

DES	BTH	DRW BTH	CHK HNA
PM/DM	KTB/RLH		
BRANCH MANAGER	DLB		
CHIEF ENG/ARCH	EJA		
FIRE PROTECTION	DSN		

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
DC CORE
MCAS BEAUFORT

NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
NORFOLK, VA

BEAUFORT, SC

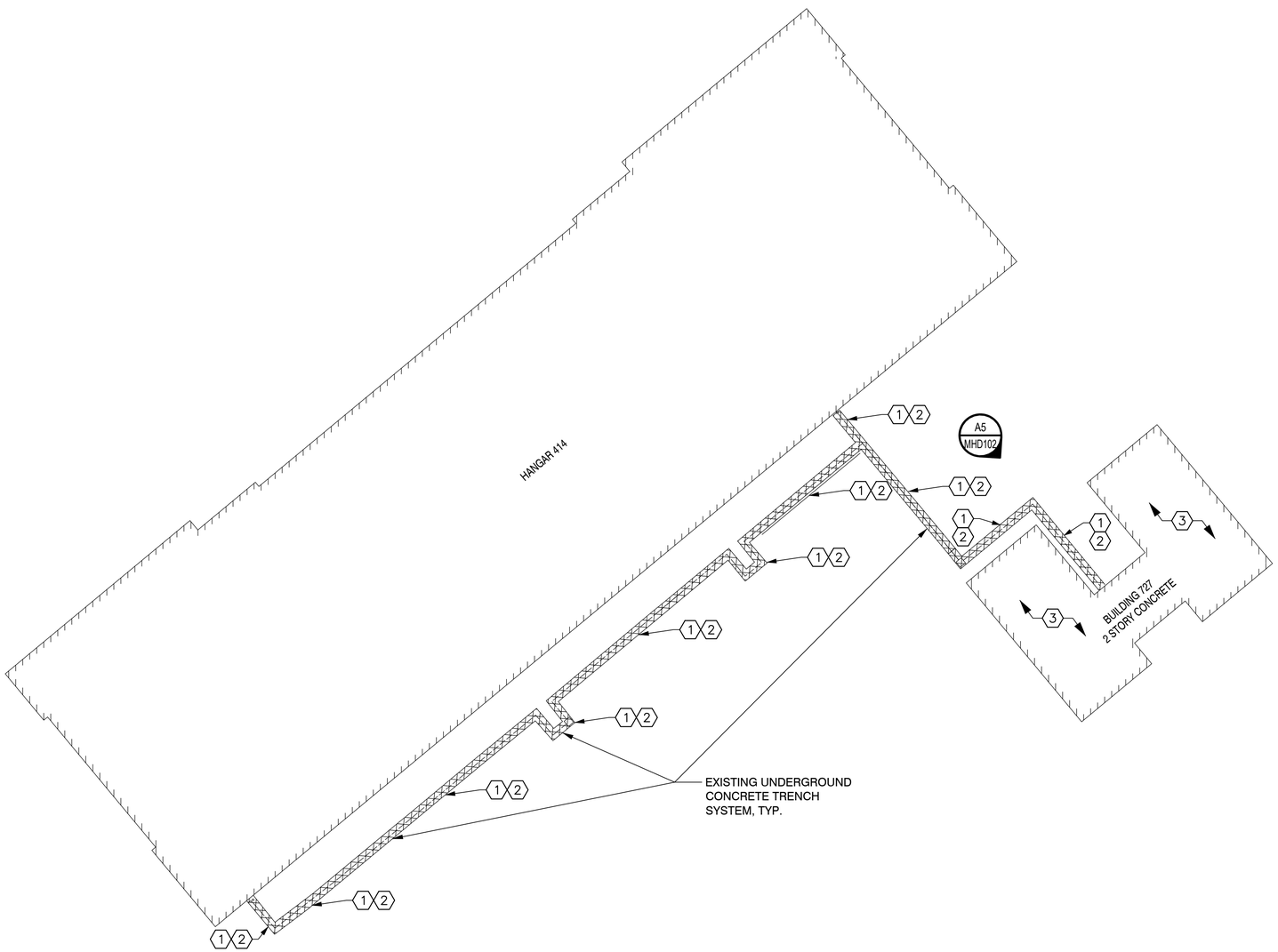
P-475 AIRCRAFT MAINTENANCE HANGAR - VOLUME 1 (BASE BID WITH OPTIONS)

HAZARDOUS MATERIALS FLOOR PLAN EXISTING BUILDING - AREA B AND PHOTOGRAPHS

SCALE: 1/16" = 1'-0"
EPROJECT NO.: 1363603
CONSTR. CONTR. NO. TBD
NAVFAC DRAWING NO. 12859177
SHEET 5 OF 1412

MHD102

DRAWFORM REVISION: 25 AUGUST 2020



HAZARDOUS MATERIALS REMOVAL BUILDING 727, CONCRETE TRENCH, AND RICKWELL SYSTEM

1" = 30'-0"

TRUE NORTH

HAZARDOUS MATERIAL GENERAL NOTES (MHD103)

1. THE EXISTING UNDERGROUND CONCRETE TRENCH SYSTEM ASSOCIATED WITH HANGAR 414 AND BUILDING 727 SERVES THE HIGH TEMPERATURE HOT WATER (HTHW) SYSTEM PIPING SERVING EACH STRUCTURE. NO ASBESTOS CONTAINING MATERIALS (ACM) WERE OBSERVED ON THE EXISTING HTHW PIPING IN THE EXISTING UNDERGROUND CONCRETE TRENCH.
2. THE EXISTING UNDERGROUND CONCRETE TRENCH SYSTEM IS CONSTRUCTED OF REINFORCED CONCRETE. THE CONCRETE IS GENERALLY 6-INCHES THICK. THE DEPTH OF THE CONCRETE TRENCH VARIES FROM ABOUT TWO FEET TO ABOUT FOUR FEET. SEE REFERENCE DRAWINGS FOR ADDITIONAL INFORMATION.
3. THE BLACK MASTIC ON THE EXISTING UNDERGROUND CONCRETE TRENCH IS ACM. THE EXISTING UNDERGROUND CONCRETE TRENCH MUST BE REMOVED AND DISPOSED OF AS ACM. ANY ADDITIONAL BLACK MASTIC ON THE EXISTING UNDERGROUND CONCRETE TRENCH MUST BE REMOVED AS REQUIRED. FOR BIDDING PURPOSES ASSUME 580 LINEAR FEET OF CONCRETE TRENCH.
4. A "RICKWELL" SYSTEM USED TO TRANSPORT HOT WATER WAS INSTALLED IN THE 1950'S. THE "RICKWELL" SYSTEM CONSISTS OF A DIRECT BURIED PAIR OF ASBESTOS CEMENT PIPES INSULATED WITH AMOSITE ASBESTOS AND WRAPPED IN CORRUGATED METAL PIPE. THE "RICKWELL" SYSTEM IS ACM. THE "RICKWELL" SYSTEM IS GENERALLY LOCATED BENEATH THE EXISTING UNDERGROUND CONCRETE TRENCH SYSTEM. THE "RICKWELL" SYSTEM IS ASSUMED TO BE 2-INCH DIAMETER ASBESTOS CEMENT PIPING.
5. DEVELOP AND IMPLEMENT AN EXCAVATION PLAN DESIGNED TO REMOVE THE EXISTING UNDERGROUND CONCRETE TRENCH SYSTEM WITHOUT DISTURBING THE "RICKWELL" SYSTEM. THE EXCAVATION PLAN SHOULD INCLUDE MEASURES TO ENSURE THE DEPTH OF EXCAVATION FOR THE EXISTING UNDERGROUND CONCRETE TRENCH IS LIMITED TO ENSURE IT DOES NOT DISTURB THE "RICKWELL"SYSTEM AND CREATE ADDITIONAL ASBESTOS WASTE.
6. THE "RICKWELL" SYSTEM AND THE AMOSITE ASBESTOS INSULATION MUST BE REMOVED INDEPENDENTLY FROM THE EXISTING UNDERGROUND CONCRETE TRENCH SYSTEM. DEVELOP AND IMPLEMENT AN EXCAVATION PLAN TO REMOVE THE "RICKWELL" SYSTEM AND TO MINIMIZE THE AMOUNT OF ACM WASTE GENERATED. SOIL VISIBLY CONTAMINATED WITH AMOSITE INSULATION MUST ALSO BE REMOVED.
7. COORDINATE THE WORK WITH OTHER TRADES. SEE ARCHITECTURAL, CIVIL, PLUMBING, MECHANICAL, ELECTRICAL, AND STRUCTURAL DEMOLITION DRAWINGS FOR COORDINATION REQUIREMENTS.
8. REMOVE ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SPECIFICATION SECTION 02 82 00 "ASBESTOS REMEDIATION".
9. REMOVE, HANDLE, AND DISPOSE OF ACM TAR SEALANT ON EXISTING UNDERGROUND CONCRETE TRENCH AND AMOSITE ASBESTOS INSULATION ON THE "RICKWELL" SYSTEM IN ACCORDANCE WITH SPECIFICATION SECTION 02 82 00. SEE ARCHITECTURAL, CIVIL AND MECHANICAL DEMOLITION PLANS FOR TRENCH LOCATIONS. FOR BIDDING PURPOSES, ASSUME 580 LINEAR FEET OF CONCRETE TRENCH CONTAIN BLACK MASTIC ACM. SEE PHOTOGRAPH #6; ASSUME 1,160 LINEAR FEET OF AMOSITE ASBESTOS INSULATION ON "RICKWELL" SYSTEM PIPING AND ASSUME 121 TONS OF ASBESTOS CONTAMINATED SOIL.
10. SEE DRAWINGS CE101-CE106 FOR ADDITIONAL ENVIRONMENTAL INFORMATION.
11. MANAGE WASTE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS INCLUDING 40 CFR 261 AND 40 CFR 262. COMPLY WITH ALL INSTALLATION AND NAVFAC ENVIRONMENTAL REQUIREMENTS.

KEY TO SYMBOLS (SHEETS MHD101-MHD103)

XX / XXXXX — PHOTO LOCATION

HAZARDOUS MATERIALS KEY NOTES (MHD103)

1. REMOVE "RICKWELL" SYSTEM GENERALLY LOCATED BENEATH THE EXISTING UNDERGROUND CONCRETE TRENCH SYSTEM. THE "RICKWELL" SYSTEM GENERALLY CONSISTS OF A DIRECT BURIED PAIR OF 2" DIAMETER ASBESTOS CEMENT PIPES INSULATED WITH AMOSITE ASBESTOS AND WRAPPED IN A CORRUGATED METAL PIPE. ANY VISIBLY ASBESTOS CONTAMINATED SOIL MUST BE REMOVED. MINIMIZE THE ACM WASTE.
2. THE BLACK MASTIC ON THE EXISTING UNDERGROUND CONCRETE TRENCH IS ACM. THE EXISTING UNDERGROUND CONCRETE TRENCH MUST BE REMOVED AND DISPOSED OF AS ACM.
3. ALL FLOOR TILE IN BUILDING 727 CONTAINS <1% CHRYSOTILE REMOVE AND DISPOSE OF AS REQUIRED.

GRAPHIC SCALE

1" = 30'-0" — 30' 15' 0' 30' 60' 90'

SYM	DESCRIPTION	DATE	APPR
	MOD P00006 AND MOD P00007	10/2025	
	MOD P00005	05/2023	

NAVFAC

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APPROVED
FOR COMMANDER NAVFAC 11/21/2022

ACTIVITY
Approved by J. Scott Roberts, Asset Management Branch Head & Supervisory Facility Planner, PWD Beaufort, SC via email.

SATISFACTORY TO DATE 12/15/2022

DES BTH	DRW BTH	CHK HNA	
PM/DM	KTB/RLH		
BRANCH MANAGER	DLB		
CHIEF ENG/ARCH	EJA		
FIRE PROTECTION	DSN		

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND
DC CORE
NAVAL FACILITIES ENGINEERING SYSTEMS COMMAND - MID-ATLANTIC
NORFOLK, VA
MCAS BEAUFORT
BEAUFORT, SC
P-475 AIRCRAFT MAINTENANCE HANGAR - VOLUME 1 (BASE BID WITH OPTIONS)
HAZARDOUS MATERIALS REMOVAL CONCRETE TRENCH AND RICKWELL SYSTEM

SCALE:
EPROJECT NO.: 1363603
CONSTR. CONTR. NO. TBD
NAVFAC DRAWING NO. 12859178
SHEET 6 OF 1412

MHD103

DRAWFORM REVISION: 25 AUGUST 2020