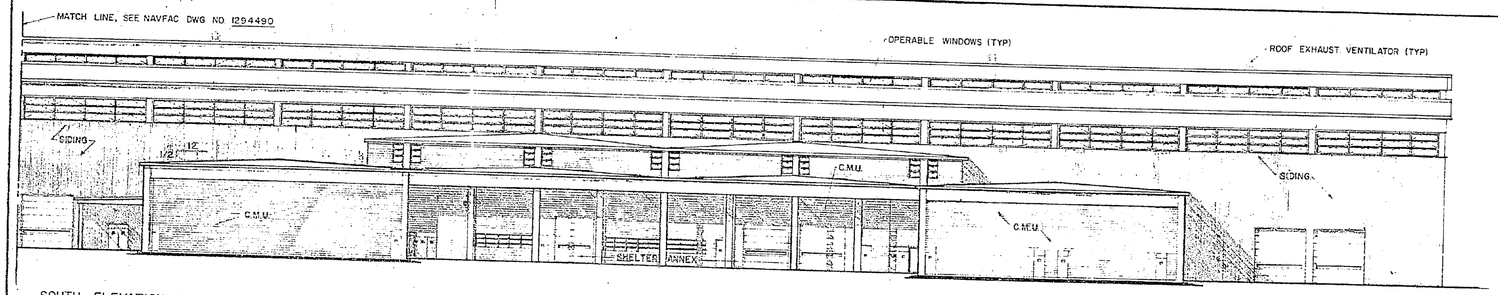
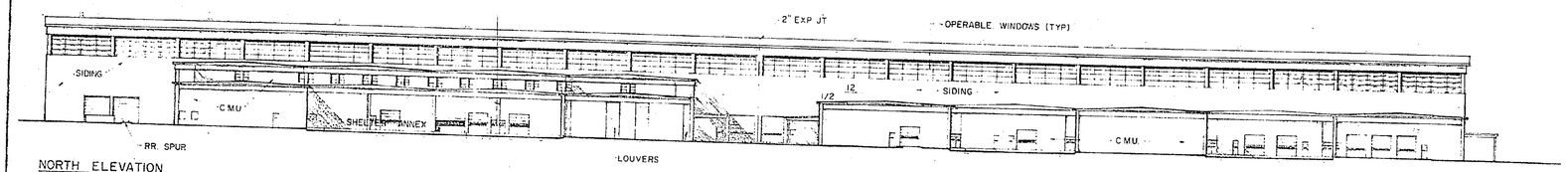
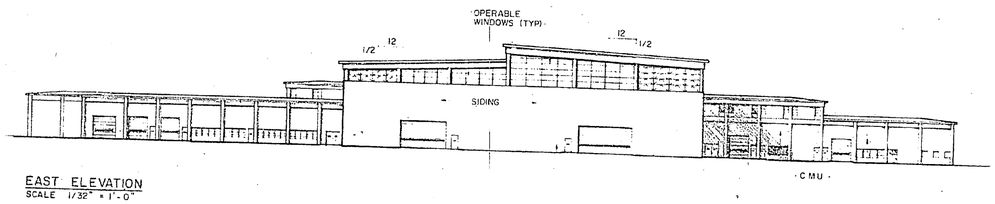


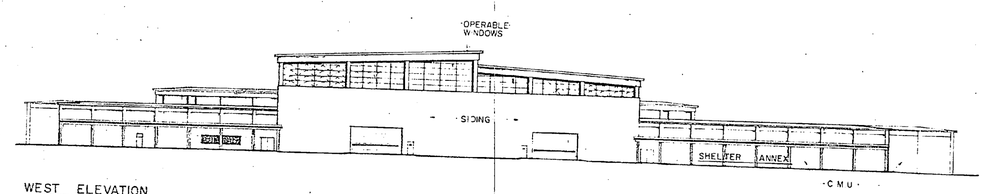
SOUTH ELEVATION PART - 2
SCALE 1/16" = 1'-0"



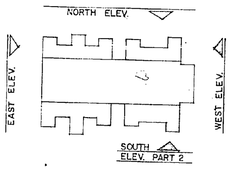
NORTH ELEVATION
SCALE 1/32" = 1'-0"



EAST ELEVATION
SCALE 1/32" = 1'-0"



WEST ELEVATION
SCALE 1/32" = 1'-0"



KEY PLAN

SUMMARY OF UTILITIES

PLUMBING NO DIVERSITY - EXCEPT ON COLD WATER

COLD WATER - (PROBABLE MAX FLOW RATE IN GPM)	250
HOT WATER - (SEE INDIVIDUAL DRAWINGS)	

MECHANICAL

HEATING (MBTU/HR):

	SHOPS	OFFICE	& TOILETS
INSIDE DESIGN TEMPERATURE	60°F	70°F	
OUTSIDE DESIGN TEMPERATURE	- 5°F	+5°F	+15°F +25°F
	17260	15670	14035 12515

AIR CONDITIONING: TONS OF REFRIGERATION - MAX.

INSIDE DESIGN TEMPERATURE - SEE SPECIAL NOTES III THIS DRAWING.
OUTSIDE DESIGN TEMPERATURE 95°FDB - 78°FWB
123 1/2

ELECTRICAL

LIGHTS		
CONNECTED LOAD (KW)	542	
ESTIMATED DEMAND (KW)	542	
POWER	WITH A.C. MAX. CAP	WITHOUT A.C.
CONNECTED LOAD (KW)	1508	1355
ESTIMATED DEMAND (KW)	1128	1016
TOTAL		
CONNECTED LOAD (KW)	2050	1897
ESTIMATED DEMAND (KW)	1670	1558

GRAPHIC SCALES

1/32" = 1'-0" 20 0 20 40 60 80 100 120 140 160
1/16" = 1'-0" 10 0 10 20 30 40 50 60 70 80
3/32" = 1'-0" 10 0 10 20 30 40 50

SPECIAL NOTES

DESIGN GUIDES

I ARCHITECTURAL

UNLESS OTHERWISE NOTED, ALL SUPPORT SHOP AND OFFICE WINDOW AND DOOR LOCATIONS ARE APPROXIMATE AND SERVE AS A DESIGN GUIDE FOR PLACEMENT

SUBJECT TO LOCAL CLIMATIC CONDITIONS, WINDOWS AND MECHANICAL VENTILATION SHALL BE SIZED TO PERMIT ADEQUATE VENTILATION IN CONFORMANCE WITH THE RECOMMENDATIONS OF THE ANNUAL GUIDE OF THE AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS

GLASS AREA OF WINDOWS IN WORK AREAS SHALL BE IN ACCORDANCE WITH THE LATEST U.S.A.S.I. STANDARD A 111

THE CRANEWAY SHALL HAVE CONTINUOUS OPERABLE CLEARSTORY WINDOWS WITH REMOTE ELECTRICAL CONTROLS

SIDING MATERIAL OF THE CRANEWAY WALLS SHALL BE A RIBBED INSULATED METAL SIDING ON STEEL GIRTS WITH A "U" VALUE OF .13 B.T.U/HR/SQ FT/F° IN STILL AIR

II ELECTRICAL

A AN ELECTRICAL DISTRIBUTION SYSTEM WITH A MAXIMUM OF 440 VOLTS 60 CYCLE ELECTRICAL SERVICE WITH DISTRIBUTION PANELS FOR DISTRIBUTION OF 110 V., 220 V. AND 440 VOLTAGE REQUIREMENTS

ELECTRICAL OUTLETS TO SERVE ITEMS OF EQUIPMENT LISTED IN THE EQUIPMENT SCHEDULE SHALL BE LOCATED IN ACCORDANCE WITH THE EQUIPMENT LOCATIONS SHOWN ON THE PLANS

ADDITIONAL CONVENIENCE OUTLETS SHALL BE LOCATED IN THE SHOP AREAS TO SERVE ITEMS OF MISCELLANEOUS BENCH MOUNTED TOOLS PECULIAR TO THE TABLE OF EQUIPMENT FOR THE MARINE CORPS UNITS ASSIGNED

B SPECIAL ELECTRICAL POWER REQUIREMENTS, SUCH AS OUTLETS FOR PORTABLE ARC WELDING EQUIPMENT, ENGINE STARTING OUTLETS (6,12 & 24 VOLT) IN THE ENGINE RUN-IN/DYNAMOMETER SHOP AND MAINTENANCE BAYS OF THE CRANEWAYS SHALL BE PROVIDED (SEE FLOOR PLANS AND EQUIPMENT SCHEDULES)

C ELECTRONIC MAINTENANCE AND CALIBRATION SHOPS REQUIRE BENCH MOUNTED CONVENIENCE OUTLETS FOR 400 CYCLE 110, 220 AND 28 VOLT D.C. WITH 10 OHM GROUNDING RADIO FREQUENCY SHIELDING SHALL BE PROVIDED IN THESE ELECTRONIC SHOP AREAS

THE OPTICAL AND FIRE CONTROL MAINTENANCE SHOPS REQUIRE BENCH MOUNTED CONVENIENCE OUTLETS FOR 400 CYCLE 110, 220 VOLT AND 28 VOLT D.C. POWER

EXTERIOR ANNEX AREAS REQUIRE 110 AND 220 VOLT WATERPROOF CONVENIENCE OUTLETS LOCATED APPROXIMATELY 40 FEET ON CENTERS TO SERVE SHOP SUPPORT VANS AND POWER TOOLS

D LIGHTING - LOW BAY WORK AREAS SHALL HAVE FLUORESCENT TYPE LIGHTING WITH SUPPLEMENT LUMINAIRE LIGHTING AT CRITICAL AREAS

HIGH BAY WORK AREAS SHALL HAVE FLUORESCENT AND/OR MERCURY VAPOR LIGHTING IN CRITICAL AREAS

NON - CRITICAL AND SERVICE AREAS, SUCH AS MECHANICAL ROOM, CORRIDORS, TOILETS, STORAGE AREAS, LOCKER ROOMS, ETC SHALL HAVE INCANDESCENT LIGHTING

ALL ILLUMINATION SHALL BE IN ACCORDANCE WITH "RECOMMENDED LEVELS OF ILLUMINATION" ILLUMINATING ENGINEERING SOCIETY

III AIR CONDITIONING AND HUMIDITY CONTROL IS REQUIRED IN THE FOLLOWING AREAS:

A ELECTRONIC MAINTENANCE, AND EQUIPMENT HOLDING AREAS 75° TO 80°F., RELATIVE HUMIDITY 40% TO 50%

B OPTICAL AND FIRE CONTROL MAINTENANCE SHOPS AND EQUIPMENT HOLDING AREAS; 70° TO 72° F RELATIVE HUMIDITY 40% MAX. WITH POSITIVE PRESSURE FOR DUST FREE ATMOSPHERE

C [illegible] MAINT. [illegible] 75° TO 80°F RELATIVE HUMIDITY - 40% TO 50%

D. OFFICE MACHINE REPAIR SHOP AND EQUIPMENT HOLDING 75° TO 80° F RELATIVE HUMIDITY - 40% TO 50%

E ADMINISTRATIVE OFFICES ON THE 2ND FLOOR OF SHOP AREA NO 4, 60°D.B

F. HUMIDITY CONTROL IS REQUIRED FOR THE FOLLOWING AREAS;

1) SMALL ARMS MAINTENANCE AND HOLDING AREAS 40% TO 50% R.H.

IV UNDERGROUND VEHICLE EXHAUST SYSTEM SHALL BE PROVIDED IN CRANEWAY MAINTENANCE BAYS, HEAVY GENERATOR REPAIR AND ELECTRONIC MOBILE EQUIPMENT REPAIR BAYS

A SPECIAL SEPARATE ENGINE EXHAUST SYSTEM WITH MUFFLER SHALL BE PROVIDED FOR THE DYNAMOMETER ENGINE RUN-IN FACILITY.

V COMPRESSED AIR SYSTEM 150 P.S.I. WITH WATER SEPARATOR, PRESSURE REGULATING VALVES AND BIBS SHALL BE LOCATED IN ALTERNATE BAYS OF THE CRANEWAYS AND IN ALL MAINTENANCE SHOPS

VI HOT AND COLD WATER SHALL BE PROVIDED TO ALL MAINTENANCE SHOPS, TOILETS, SHOWER ROOMS, GEAR ROOMS AND CRANEWAYS.

COLD WATER HOSE BIBS SHALL BE PROVIDED AT BUILDING EXTERIOR AND LOCATED AT MAXIMUM SPACING OF 150 FEET

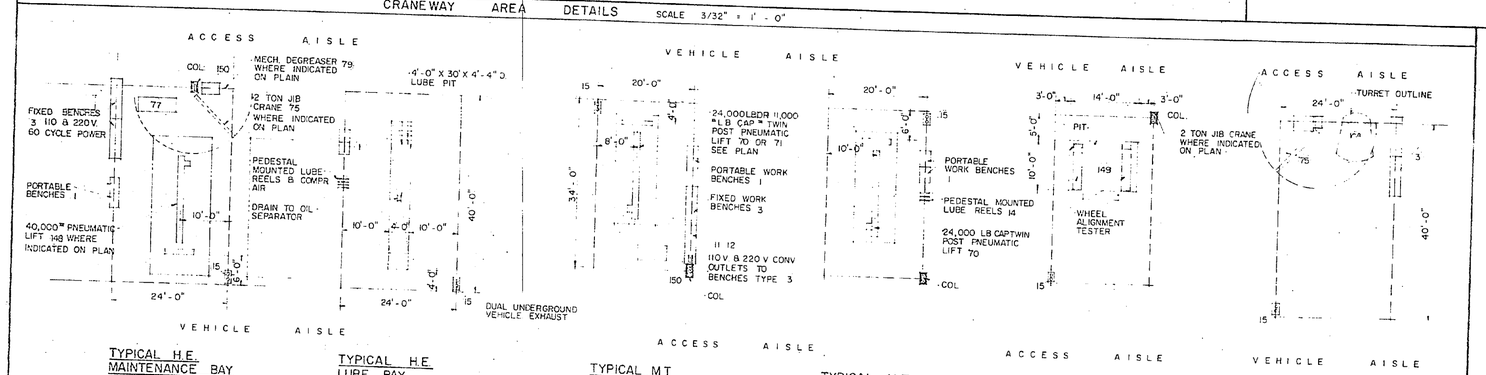
COLD WATER HOSE BIBS SHALL BE LOCATED AT OUTSIDE WASH APRONS, 2 PER VEHICLE APRON, AND RECESSED BELOW THE SURFACE.

A SUB-SURFACE HOSE STORAGE BIN WITH COVER AND DRAIN SHALL BE PROVIDED ADJACENT TO WASH APRONS

VII STEAM LIVE STEAM SHALL BE PROVIDED TO THE CLEANING SECTION EQUIPMENT AND TO OUTSIDE VEHICLE WASH APRONS. BIBS RECESSED BELOW THE SURFACE STEAM PRESSURE REQUIREMENT IS 100 P.S.I.

CRANEWAY AREA DETAILS

SCALE 3/32" = 1'-0"



TYPICAL H.E. MAINTENANCE BAY

TYPICAL H.E. LUBE BAY

TYPICAL M.T. MAINTENANCE BAY

TYPICAL M.T. LUBE BAY

TYPICAL WHEEL ALIGNMENT BAY

TYPICAL TURRET REPAIR BAY

USE DIRECTED AT MARINE CORPS ACTIVITIES

Wm C. Chase

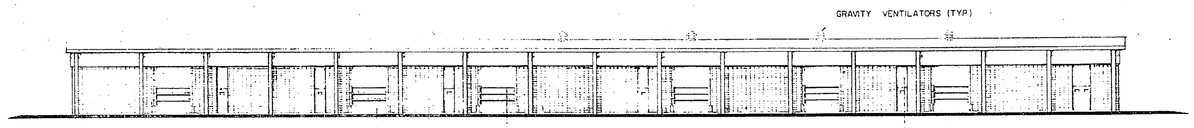
LYONS, BISSETT, CARLISLE & WOLFF
ARCHITECTS / ENGINEERS / PLANNERS
COLORADO SPRINGS, COLORADO
WALTER BISSETT, ALBUQUERQUE

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
T/O M-3248
WASHINGTON, D.C.

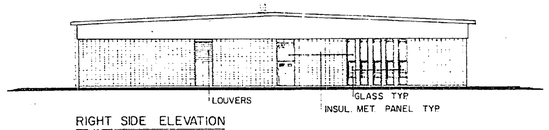
DEFINITIVE DRAWING
COMBAT/AUTOMOTIVE/TRACK
FIELD MAINTENANCE SHOP (ELEV.)
MAINTENANCE BATTALION F.S.R.

SUBMITTED BY: H.D. BLACKWELL 21 DEC 1970
FOR MANAGER (TITLE) SR. ENGINEER
APPROVED FOR COMMANDER, NAVFAC
SIZE F
COST IDENT NO. 80091
NAVFAC DRAWING NO. 1294494
SCALE AS NOTED
SHEET 6 OF 6
214-53-06

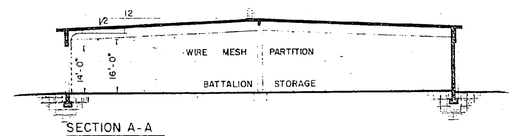
APPROX



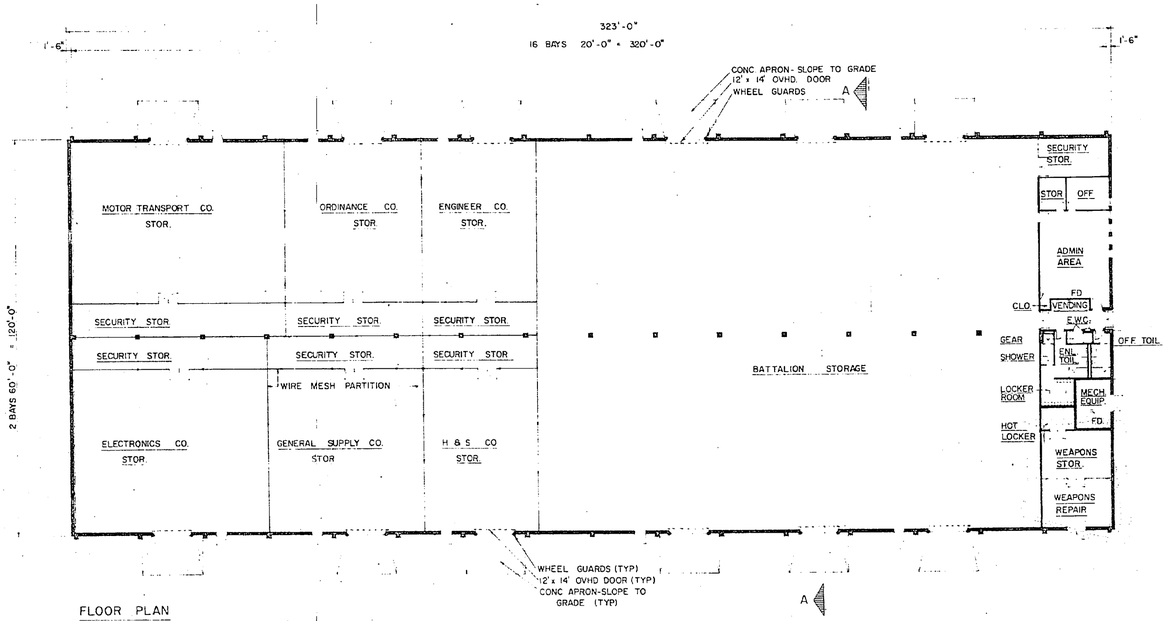
FRONT ELEVATION
SCALE: 1/16" = 1'-0"



RIGHT SIDE ELEVATION
SCALE: 1/16" = 1'-0"



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



FLOOR PLAN
SCALE 1/16" = 1'-0"

GRAPHIC SCALE
1/16" = 1'-0"
10' 0' 10' 20' 30' 40' 50' 60' 70' 80'

USE DIRECTED AT MARINE CORPS ACTIVITIES
Wm C. Chap

PLUMBING REQUIREMENTS

COLD WATER: (PROBABLE MAXIMUM FLOW RATE IN GPM) 44

HOT WATER:

STORAGE IN GALLONS (CONVERTORS) 40
HOT WATER RECOVERY (GPH) 30
STORAGE IN GALLONS (ELECTRIC WATER HEATER) 80
NOTE: ABOVE FLOW RATE DOES NOT INCLUDE REQUIREMENTS FOR FIRE PROTECTION (AND AIR CONDITIONING)

POWER REQUIREMENT FOR ELECTRIC WATER HEATER (WHERE REQUIRED) IS NOT INCLUDED IN ELECTRICAL REQUIREMENTS.

MECHANICAL REQUIREMENTS

HEATING: (IN MBTU/HR):

INSIDE DESIGN TEMPERATURE	40°F WAREHOUSE 70°F OFFICE & TOILETS			
OUTSIDE DESIGN TEMPERATURE	-5°F	+5°F	+15°F	+25°F
	1090	937	786	662

AIR CONDITIONING: (TONS OF REFRIGERATION): (MAXIMUM)

INSIDE DESIGN TEMPERATURE 74°-78°FDB 50%RH
OUTSIDE DESIGN TEMPERATURE 95°FDB - 78°FWB

4

MAXIMUM AIR CONDITIONING REQUIREMENT IS APPROXIMATE, ACTUAL SPACES TO BE AIR CONDITIONED AND REQUIREMENTS SHALL BE BASED ON DOD CONSTRUCTION CRITERIA MANUAL NO 4270.1-M

ELECTRICAL REQUIREMENTS

LIGHTS:

CONNECTED LOAD (KW) 20
ESTIMATED DEMAND (KW) 20

POWER:	WITH AC (MAX CAP)	WITHOUT AC
CONNECTED LOAD (KW)	27	20
ESTIMATED DEMAND (KW)	20	15

TOTAL:		
CONNECTED LOAD (KW)	47	40
ESTIMATED DEMAND (KW)	40	35

MAXIMUM AIR CONDITIONING REQUIREMENT IS APPROXIMATE, ACTUAL SPACES TO BE AIR CONDITIONED AND REQUIREMENTS SHALL BE BASED ON DOD CONSTRUCTION CRITERIA MANUAL NO 4270.1-M

AREA

GROSS AREA WITHOUT MECH. EQUIP. RM. (SQ. FT.)	38,650
MECH. EQUIP. ROOM (SQ. FT.)	150
GROSS AREA-TOTAL (SQ. FT.)	38,800

GENERAL NOTES

UTILITIES REQUIREMENTS INDICATED ARE FOR ESTIMATING PURPOSES ONLY.

AUTOMATIC SPRINKLER AND FIRE PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH CURRENT DOD 4270.1-M CONSTRUCTION CRITERIA MANUAL AND NAVFAC DM-8.

MECHANICAL EQUIPMENT ROOM SIZES SHALL BE VARIABLE DEPENDING ON CLIMATIC LOCATIONS AND EQUIPMENT REQUIREMENTS

MARINE CORPS ACTIVITIES SHALL FOLLOW THE ARRANGEMENT AND FUNCTIONAL LAYOUT INDICATED IN INITIATION OF CONSTRUCTION REQUIREMENTS UNLESS PRIOR AUTHORIZATION FOR CHANGE IS OBTAINED FROM THE COMMANDANT OF THE MARINE CORPS. ARCHITECTURAL TREATMENT AND MATERIAL MAY VARY WHEN NEEDED TO ACHIEVE COMPATABILITY WITH LOCAL CONSTRUCTION AND EFFECTIVE USE OF MATERIALS.

T/O M-3248

LYLES, BISSETT, CARLISLE & WOLFF
ARCHITECTS / ENGINEERS / PLANNERS
COLUMBIA WASHINGTON
BUILDING ALEXANDRIA

DEPARTMENT OF THE NAVY WASHINGTON, D.C.
NAVAL FACILITIES ENGINEERING COMMAND

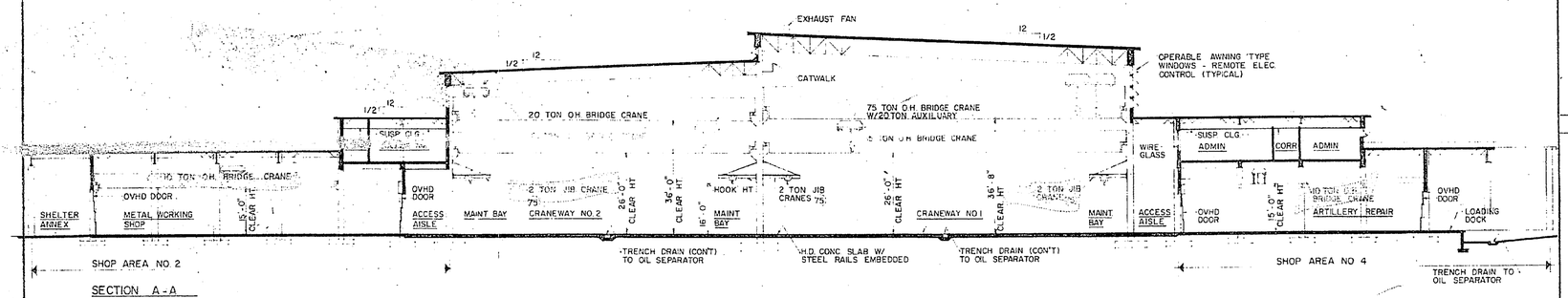
DESIGNED J. BOSTON | DRAWN J.S.H. | CHK. J.S.H.
SUPV J. BOSTON | CH ENGR F. FRANKLIN
SUBMITTED BY H.P. BLOCKWELL DATE 28 DEC. 1970
FIELD ENGINEER (TITLE) PROJ. ENGR.
NAVFAC
APPROVED DATE
OFFICER IN CHARGE
APPROVED DATE 4/13/71
FOR COMMANDER NAVFAC

DEFINITIVE DRAWING
STORAGE FACILITY (COMBINED)
FOR
MAINTENANCE BATTALION, F.S.R

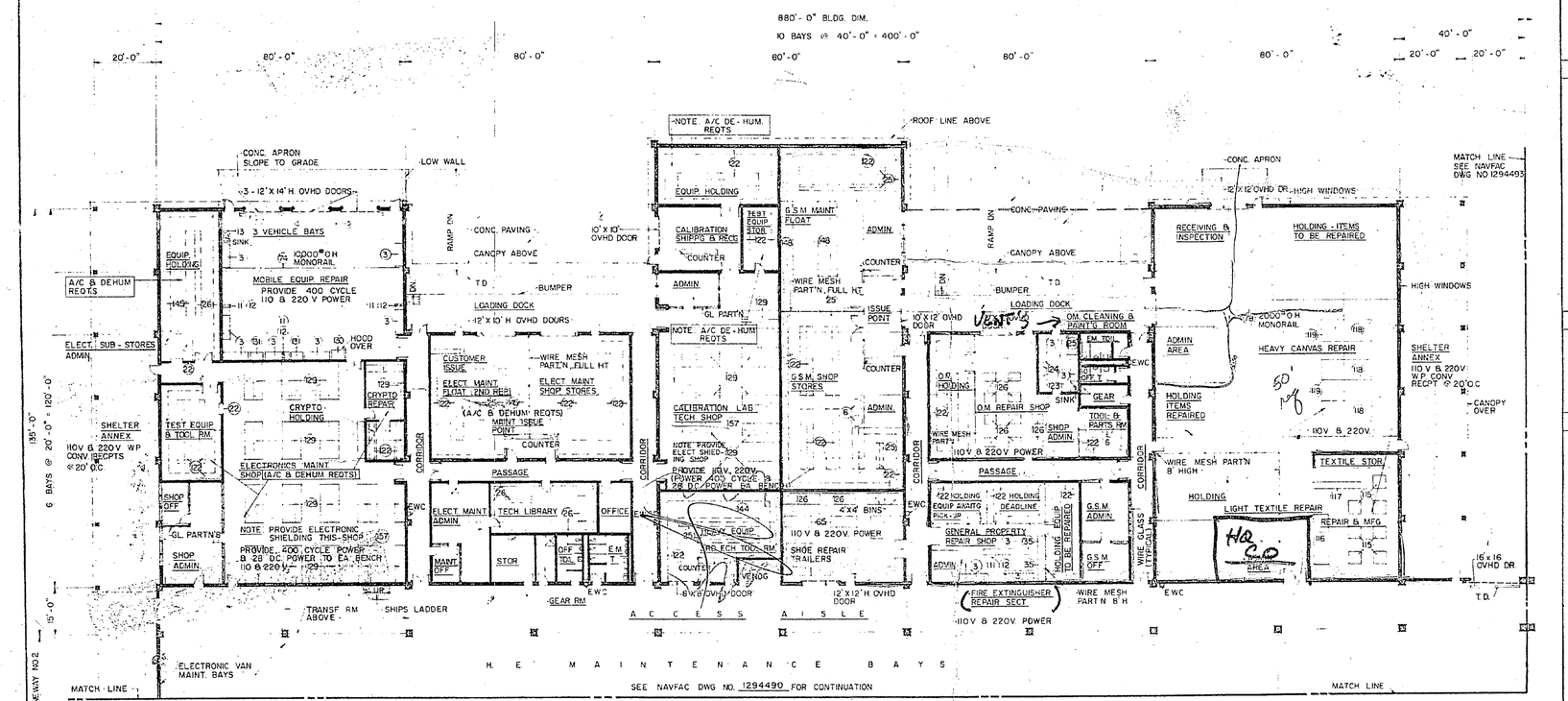
SIZE F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 1294466
SCALE AS NOTED | CONTR. COMPUT. NO.
SPEC. | SHEET OF

7-31-11-N 442-10-N

GSM



SECTION A-A
SCALE 1/16" = 1'-0"

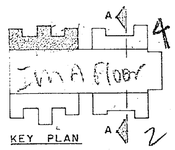


FLOOR PLAN - SHOP AREA NO 3
SCALE 1/16" = 1'-0"

NOTE: CRYPTO REPAIR & HOLDING AREAS SHALL BE RED & BLACK SECURITY IN ACCORDANCE WITH _____ CRITERIA

SEE SPECIAL NOTES DWG 1294494

DETERMINE SPACE & EQUIP REQMTS



KEY PLAN

GRAPHIC SCALE
1/16" = 1'-0"
10' 0' 10' 20' 30' 40' 50' 60' 70' 80'

USE DIRECTED AT MARINE CORPS ACTIVITIES
W. C. Chip

PLUMBING REQUIREMENTS

COLD WATER: (PROBABLE MAXIMUM FLOW RATE IN GPM) 77

HOT WATER:

STORAGE IN GALLONS (ELECTRIC WATER HEATER): 40

NOTE: ABOVE FLOW RATE DOES NOT INCLUDE REQUIREMENTS FOR FIRE PROTECTION, PROCESS, AND AIR CONDITIONING.

POWER REQUIREMENT FOR ELECTRIC WATER HEATERS (WHERE REQUIRED) IS NOT INCLUDED IN ELECTRICAL REQUIREMENTS.

MECHANICAL REQUIREMENTS

HEATING: (IN MBTU/HR):

INSIDE DESIGN TEMPERATURE		60°F - SHOPS		
		70°F - OFFICE AND TOILETS		
OUTSIDE DESIGN TEMPERATURE	-5°F	+5°F	+15°F	+25°F
	1990	1825	1650	1470

AIR CONDITIONING: (TONS OF REFRIGERATION): MAX.

INSIDE DESIGN TEMPERATURE SEE SPECIAL NOTES III NAVFAC DWG. 1294494
OUTSIDE DESIGN TEMPERATURE 95° FDB - 78° FWB

41

MAXIMUM AIR CONDITIONING REQUIREMENT IS APPROXIMATE. ACTUAL SPACES TO BE AIR CONDITIONED AND REQUIREMENTS SHALL BE BASED ON D.O.D. CONSTRUCTION CRITERIA MANUAL NO. 4270.1-M.

ELECTRICAL REQUIREMENTS

LIGHTS:

CONNECTED LOAD (KW)	66
ESTIMATED DEMAND (KW)	66

POWER:

	WITH AC MAX. CAP.	WITHOUT AC
CONNECTED LOAD (KW)	167	100
ESTIMATED DEMAND (KW)	125	75

TOTAL:

CONNECTED LOAD (KW)	233	166
ESTIMATED DEMAND (KW)	191	141

MAXIMUM AIR CONDITIONING REQUIREMENT IS APPROXIMATE. ACTUAL SPACES TO BE AIR CONDITIONED AND REQUIREMENTS SHALL BE BASED ON D.O.D. CONSTRUCTION CRITERIA MANUAL NO. 4270.1-M.

AREA

GROSS AREA WITHOUT MECH. EQUIP. RM. (SQ. FT.)	4[illegible]200
MECH. EQUIP. ROOM (SQ. FT.)	800
GROSS AREA—TOTAL (SQ. FT.)	4[illegible],000

GENERAL NOTES

UTILITIES REQUIREMENTS INDICATED ARE FOR ESTIMATING PURPOSES ONLY.

AUTOMATIC SPRINKLER AND FIRE PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH CURRENT D.O.D. 4270.1-M CONSTRUCTION CRITERIA MANUAL AND NAVFAC DM-8.

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T/O M-3248

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ARCHITECTS / ENGINEERS / PLANNERS
COLUMBIA WASHINGTON
DALTON ALEXANDRIA

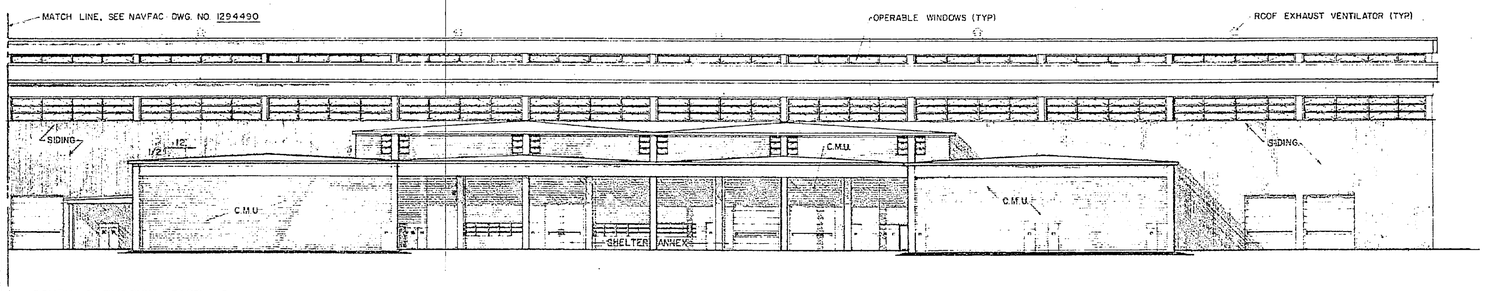
DEPARTMENT OF THE NAVY WASHINGTON, D.C.
NAVAL FACILITIES ENGINEERING COMMAND

DESIGN: F. SCHUSTER | DRAWN: W. BROWN
REV: F.C. JACKSON | CH. ENGR: F. FRANKLIN
SUBMITTED BY: W. J. BLACKMON | DATE: 21 DEC 1970
FEA MEMBER (TITLE) PRINCIPAL
NAVFAC: [illegible]
APPROVED: [illegible] | DATE
OFFICER IN CHARGE
APPROVED FOR COMMANDING OFFICER: [illegible] 4/13/71 | DATE

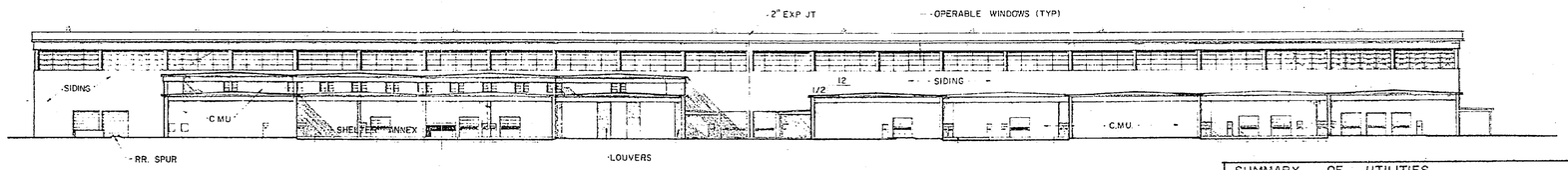
DEFINITIVE DRAWING
GENERAL SUPPLY/ELECTRONICS & COMM. FIELD MAINTENANCE SHOP (NO 3)
MAINTENANCE BATTALION F.S.R.

SIZE: F | CODE IDENT NO. 80091 | NAVFAC DRAWING NO. 1294492
SCALE AS NOTED | CONTR. CONTR. NO. | SPEC. | SHEET 4 OF 6

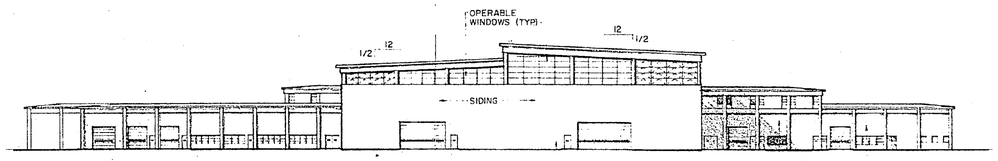
214-53-04/217-30/218-80



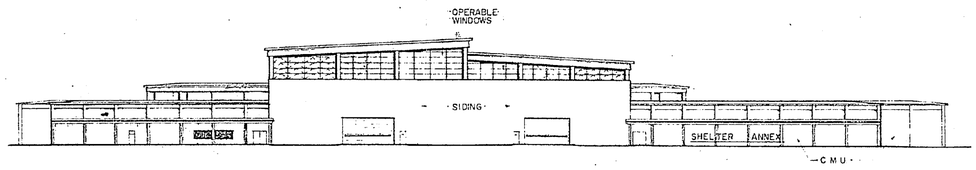
SOUTH ELEVATION PART - 2
SCALE 1/16" = 1'-0"



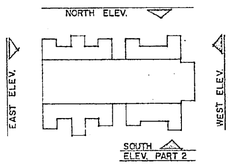
NORTH ELEVATION
SCALE 1/32" = 1'-0"



EAST ELEVATION
SCALE 1/32" = 1'-0"



WEST ELEVATION
SCALE 1/32" = 1'-0"



KEY PLAN.

SUMMARY OF UTILITIES

PLUMBING NO DIVERSITY - EXCEPT ON COLD WATER

COLD WATER	(PROBABLE MAX. FLOW RATE IN GPM)	250
HOT WATER	(SEE INDIVIDUAL DRAWINGS)	

MECHANICAL

HEATING (MBTU/HR):

		60°F	SHOPS	
INSIDE DESIGN TEMPERATURE		70°F	OFFICE	& TOILETS
OUTSIDE DESIGN TEMPERATURE	- 5°F	+5°F	+15°F	+25°F
	17260	15670	14035	12515

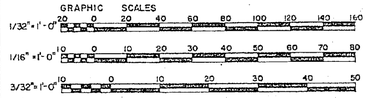
AIR CONDITIONING: TONS OF REFRIGERATION - MAX.

INSIDE DESIGN TEMPERATURE - SEE SPECIAL NOTES III THIS DRAWING.
OUTSIDE DESIGN TEMPERATURE 95°FDB - 78°FWB
123 1/2

ELECTRICAL

LIGHTS		
CONNECTED LOAD (KW)	542	
ESTIMATED DEMAND (KW)	542	
POWER	WITH A.C. MAX. CAP	WITHOUT A.C.
CONNECTED LOAD (KW)	1508	1355
ESTIMATED DEMAND (KW)	1128	1016
TOTAL		
CONNECTED LOAD (KW)	2050	1897
ESTIMATED DEMAND (KW)	1670	1558

GRAPHIC SCALES



SPECIAL NOTES

DESIGN GUIDES

I ARCHITECTURAL

UNLESS OTHERWISE NOTED, ALL SUPPORT SHOP AND OFFICE WINDOW AND DOOR LOCATIONS ARE APPROXIMATE AND SERVE AS A DESIGN GUIDE FOR PLACEMENT

SUBJECT TO LOCAL CLIMATIC CONDITIONS, WINDOWS AND MECHANICAL VENTILATION SHALL BE SIZED TO PERMIT ADEQUATE VENTILATION IN CONFORMANCE WITH THE RECOMMENDATIONS OF THE ANNUAL GUIDE OF THE AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS

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II ELECTRICAL

A AN ELECTRICAL DISTRIBUTION SYSTEM WITH A MAXIMUM OF 440 VOLTS 60 CYCLE ELECTRICAL SERVICE WITH DISTRIBUTION PANELS FOR DISTRIBUTION OF 110 V., 220 V. AND 440 VOLTAGE REQUIREMENTS

ELECTRICAL OUTLETS TO SERVE ITEMS OF EQUIPMENT LISTED IN THE EQUIPMENT SCHEDULE SHALL BE LOCATED IN ACCORDANCE WITH THE EQUIPMENT LOCATIONS SHOWN ON THE PLANS.

ADDITIONAL CONVENIENCE OUTLETS SHALL BE LOCATED IN THE SHOP AREAS TO SERVE ITEMS OF MISCELLANEOUS BENCH MOUNTED TOOLS PECULIAR TO THE TABLE OF EQUIPMENT FOR THE MARINE CORPS UNITS ASSIGNED.

B SPECIAL ELECTRICAL POWER REQUIREMENTS, SUCH AS OUTLETS FOR PORTABLE ARC WELDING EQUIPMENT, ENGINE STARTING OUTLETS (6,12 & 24 VOLT) IN THE ENGINE RUN-IN/DYNAMOMETER SHOP AND MAINTENANCE BAYS OF THE CRANEWAYS SHALL BE PROVIDED (SEE FLOOR PLANS AND EQUIPMENT SCHEDULES).

C ELECTRONIC MAINTENANCE AND CALIBRATION SHOPS REQUIRE BENCH MOUNTED CONVENIENCE OUTLETS FOR 400 CYCLE, 110, 220 AND 28 VOLT D.C. WITH 10 OHM GROUNDING RADIO FREQUENCY SHIELDING SHALL BE PROVIDED IN THESE ELECTRONIC SHOP AREAS

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EXTERIOR ANNEX AREAS REQUIRE 110 AND 220 VOLT WATERPROOF CONVENIENCE OUTLETS LOCATED APPROXIMATELY 20 FEET ON CENTERS TO SERVE SHOP SUPPORT VANS AND POWER TOOLS.

D LIGHTING - LOW BAY WORK AREAS SHALL HAVE FLUORESCENT TYPE LIGHTING WITH SUPPLEMENT LUMINAIRE LIGHTING AT CRITICAL AREAS.

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NON - CRITICAL AND SERVICE AREAS SUCH AS MECHANICAL ROOM, CORRIDORS, TOILETS, STORAGE AREAS, LOCKER ROOMS, ETC SHALL HAVE INCANDESCENT LIGHTING.

ALL ILLUMINATION SHALL BE IN ACCORDANCE WITH "RECOMMENDED LEVELS OF ILLUMINATION" ILLUMINATING ENGINEERING SOCIETY

III AIR CONDITIONING AND HUMIDITY CONTROL IS REQUIRED IN THE FOLLOWING AREAS;

A ELECTRONIC MAINTENANCE, AND EQUIPMENT HOLDING AREAS 75° TO 80°F, RELATIVE HUMIDITY - 40% TO 50%

B OPTICAL AND FIRE CONTROL MAINTENANCE SHOPS AND EQUIPMENT HOLDING AREAS; 70° TO 72°F RELATIVE HUMIDITY - 40% MAX. WITH POSITIVE PRESSURE FOR DUST FREE ATMOSPHERE.

C. CALIBRATION MAINT; MECH 68°± 2° ELECT. & INJECTOR REPAIR, 70° TO 74°F, RELATIVE HUMIDITY - 40% TO 50%

D. OFFICE MACHINE REPAIR SHOP AND EQUIPMENT HOLDING 75° TO 80°F RELATIVE HUMIDITY - 40% TO 50%

E. ADMINISTRATIVE OFFICES ON THE 2ND FLOOR OF SHOP AREA NO 4, 80°D.B

F. HUMIDITY CONTROL IS REQUIRED FOR THE FOLLOWING AREAS;

1) SMALL ARMS MAINTENANCE AND HOLDING AREAS - 40% TO 50% R.H.

IV UNDERGROUND VEHICLE EXHAUST SYSTEM SHALL BE PROVIDED IN CRANEWAY MAINTENANCE BAYS, HEAVY GENERATOR REPAIR AND ELECTRONIC MOBILE EQUIPMENT REPAIR BAYS

A SPECIAL SEPARATE ENGINE EXHAUST SYSTEM WITH MUFFLER SHALL BE PROVIDED FOR THE DYNAMOMETER ENGINE RUN-IN FACILITY.

V COMPRESSED AIR SYSTEM 150 P.S.I. WITH WATER SEPARATOR, PRESSURE REGULATING VALVES AND BIBS SHALL BE LOCATED IN ALTERNATE BAYS OF THE CRANEWAYS AND IN ALL MAINTENANCE SHOPS

VI HOT AND COLD WATER SHALL BE PROVIDED TO ALL MAINTENANCE SHOPS, TOILETS, SHOWER ROOMS, GEAR ROOMS AND CRANEWAYS.

COLD WATER HOSE BIBS SHALL BE PROVIDED AT BUILDING EXTERIOR AND LOCATED AT MAXIMUM SPACING OF 150 FEET

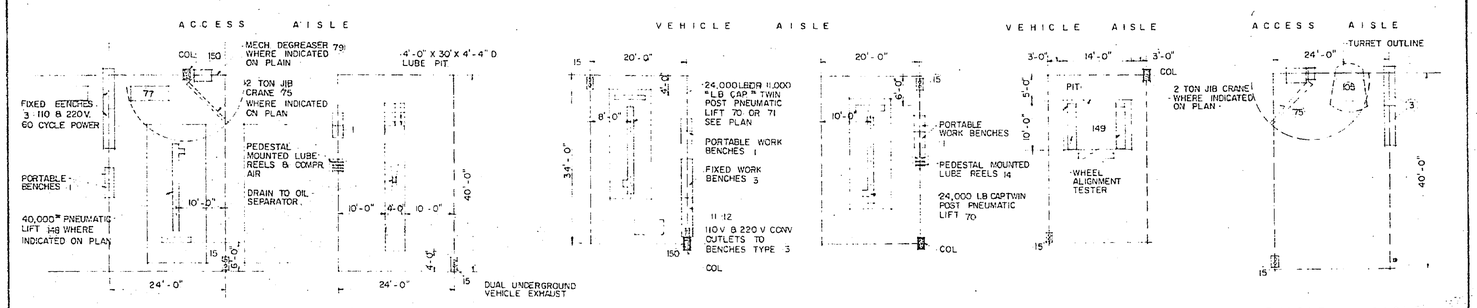
COLD WATER HOSE BIBS SHALL BE LOCATED AT OUTSIDE WASH APRONS. 2 PER VEHICLE APRON, AND RECESSED BELOW THE SURFACE.

A SUB-SURFACE HOSE STORAGE BIN WITH COVER AND DRAIN SHALL BE PROVIDED ADJACENT TO WASH APRONS

VII STEAM LIVE STEAM SHALL BE PROVIDED TO THE CLEANING SECTION EQUIPMENT AND TO OUTSIDE VEHICLE WASH APRONS 2 BIBS RECESSED BELOW THE SURFACE STEAM PRESSURE REQUIREMENT IS 100 P.S.I.

CRANEWAY AREA DETAILS

SCALE 3/32" = 1'-0"



TYPICAL H.E. MAINTENANCE BAY | TYPICAL H.E. LUBE BAY | TYPICAL M.T. MAINTENANCE BAY | TYPICAL M.T. LUBE BAY | TYPICAL WHEEL ALIGNMENT BAY | TYPICAL TURRET REPAIR BAY

USE DIRECTED AT MARINE CORPS ACTIVITIES

TVO M-3248

STUDS, DISSETT, CARLISLE & WOLFE ARCHITECTS / ENGINEERS / PLANNERS
DALLAS ALEXANDRIA
DALLAS ALEXANDRIA

DEPARTMENT OF THE NAVY
WASHINGTON, D.C.
NAVAL FACILITIES ENGINEERING COMMAND

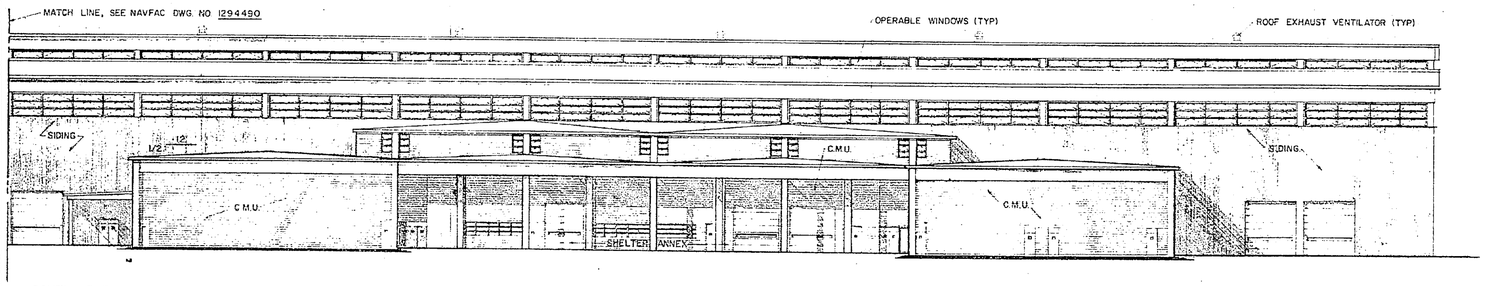
DEFINITIVE DRAWING
COMBAT / AUTOMOTIVE / TRACK
FIELD MAINTENANCE SHOP (ELEV.)
MAINTENANCE BATTALION F.S.R.

NAVFAC DRAWING NO.
1294494

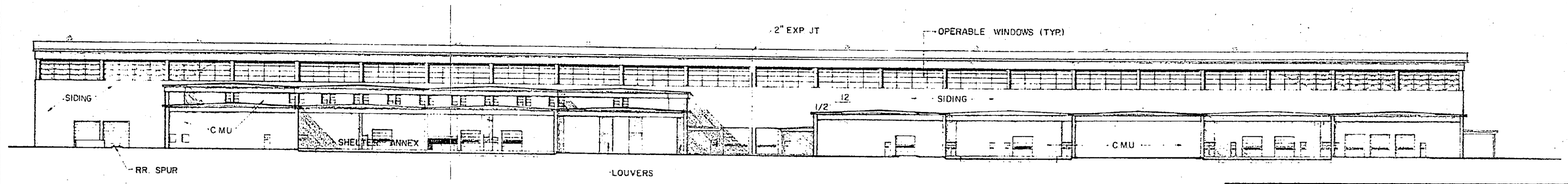
CODE IDENT NO. F
80091

SHEET 6 OF 6

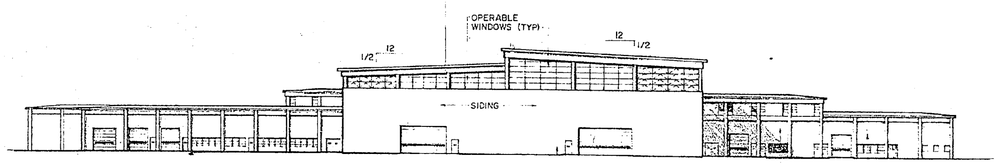
214-53-06



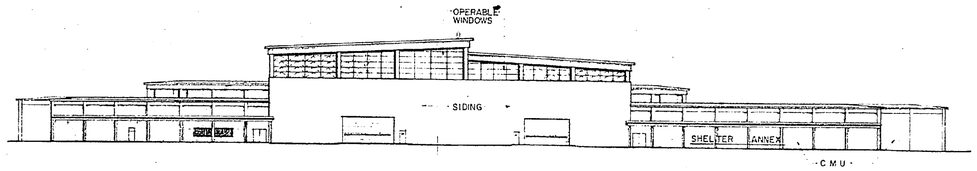
SOUTH ELEVATION PART - 2
SCALE 1/16" = 1'-0"



NORTH ELEVATION
SCALE 1/32" = 1'-0"



EAST ELEVATION
SCALE 1/32" = 1'-0"



WEST ELEVATION
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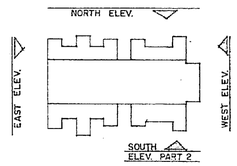


KEY PLAN

SUMMARY OF UTILITIES

PLUMBING	NO DIVERSITY - EXCEPT ON COLD WATER	
COLD WATER -	(PROBABLE MAX. FLOW RATE IN GPM)	250
HOT WATER	(SEE INDIVIDUAL DRAWINGS)	

MECHANICAL

HEATING (MBTU/HR):

		60°F SHOPS	70°F OFFICE	& TOILETS
INSIDE DESIGN TEMPERATURE		70°F		
OUTSIDE DESIGN TEMPERATURE	-5°F	+5°F	+15°F	+25°F
	17260	15670	14035	12515

AIR CONDITIONING: TONS OF REFRIGERATION - MAX.

INSIDE DESIGN TEMPERATURE - SEE SPECIAL NOTES III THIS DRAWING.
OUTSIDE DESIGN TEMPERATURE 95°FDB - 76°FWB
123 1/2

ELECTRICAL

LIGHTS

CONNECTED LOAD (KW)	542
ESTIMATED DEMAND (KW)	542

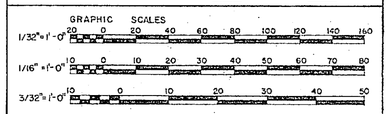
POWER

	WITH A.C. MAX. CAP	WITHOUT A.C.
CONNECTED LOAD (KW)	1508	1355
ESTIMATED DEMAND (KW)	1128	1016

TOTAL

CONNECTED LOAD (KW)	2050	1897
ESTIMATED DEMAND (KW)	1670	1558

GRAPHIC SCALES



SPECIAL NOTES

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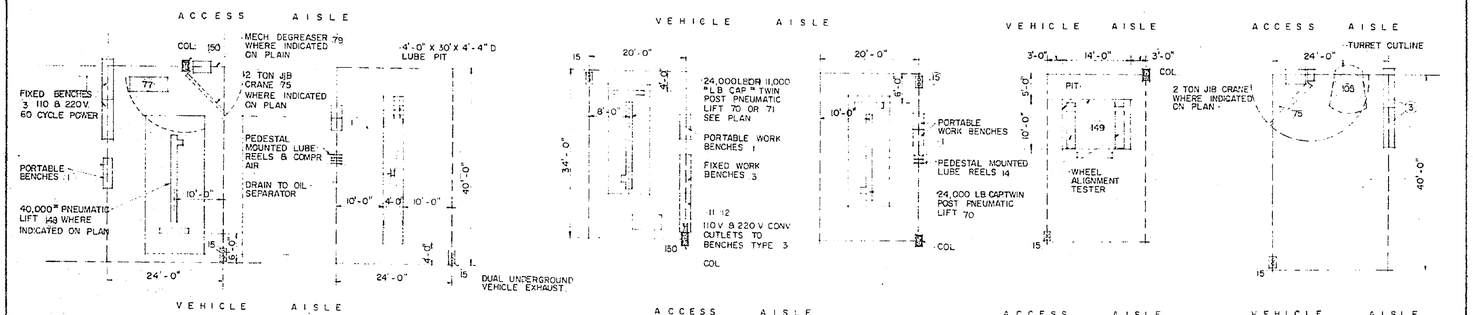
CRANEWAY AREA DETAILS SCALE 3/32" = 1'-0"



TYPICAL H.E. MAINTENANCE BAY | TYPICAL H.E. LUBE BAY | TYPICAL M.T. MAINTENANCE BAY | TYPICAL M.T. LUBE BAY | TYPICAL WHEEL ALIGNMENT BAY | TYPICAL TURRET REPAIR BAY

USE DIRECTED AT MARINE CORPS ACTIVITIES

Wm. C. Chiles

T/O M-3248

LYKES, DISSETT, CARLISLE & WOLFF
ARCHITECTS / ENGINEERS / PLANNERS
COLUMBIA WASHINGTON
BALTIMORE RICHMOND

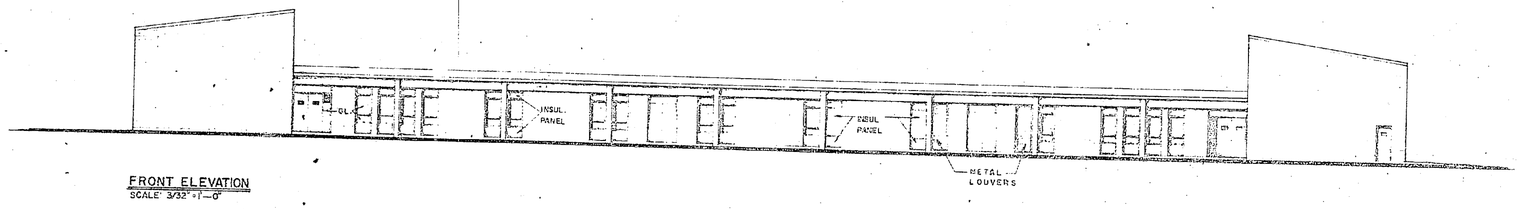
DEPARTMENT OF THE NAVY WASHINGTON, D.C.
NAVAL FACILITIES ENGINEERING COMMAND

DRAWN J.D.E. W.L. BROWN
SUPV. ARCHITECT H. LANGFELDT
SUBMITTED BY H.D. BLACKWELL DATE 21 DEC 1960
REAL ESTATE DIVISION PRELIMINARY
NAVFAC
APPROVED DATE
OFFICER IN CHARGE
APPROVED DATE
COMMANDER, NAVFAC

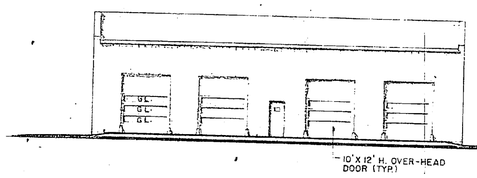
DEFINITIVE DRAWING
COMBAT/AUTOMOTIVE/TRACK
FIELD MAINTENANCE SHOP (ELEV.)
MAINTENANCE BATTALION F.S.R.

CODE IDENT NO. F
80091
NAVFAC DRAWING NO.
1294494
CONTR. CENTER NO.
SCALE AS NOTED
SHEET 6 OF 6

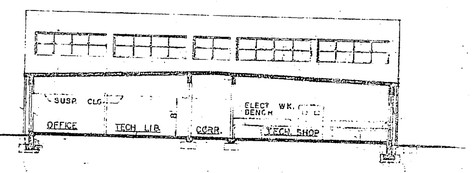
214-53-C6



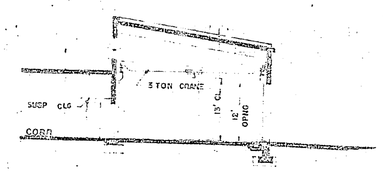
FRONT ELEVATION
SCALE 3/32" = 1'—0"



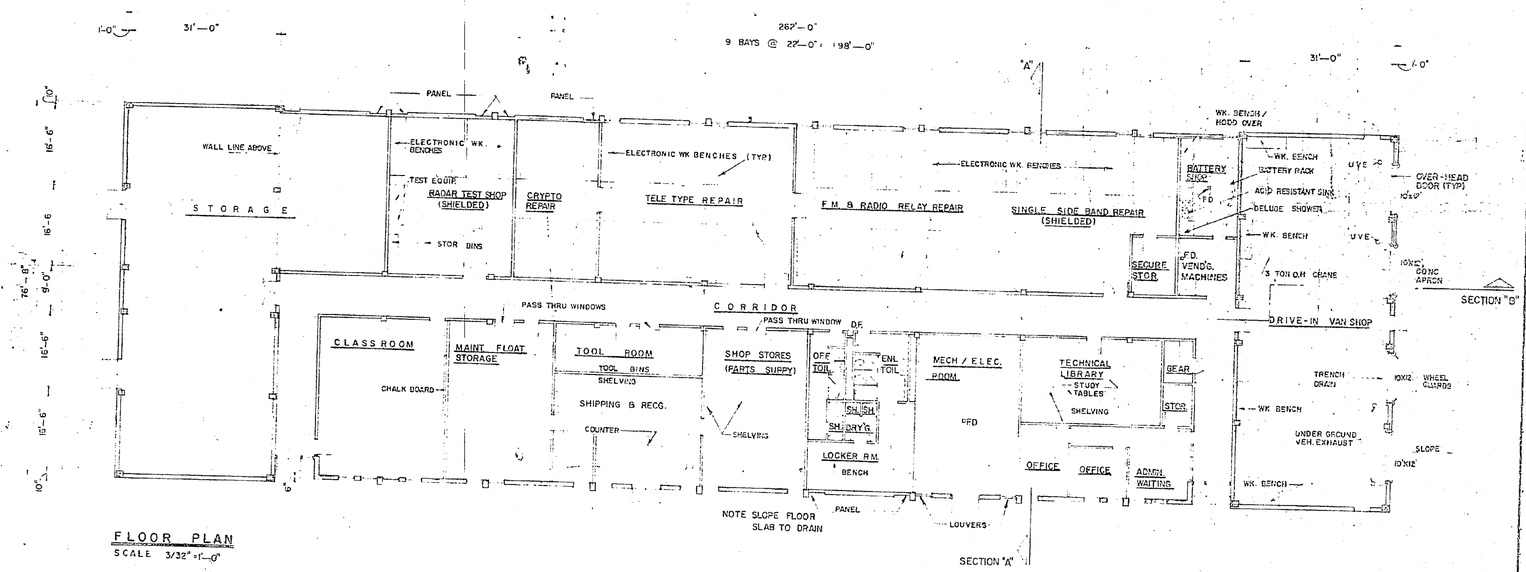
RIGHT SIDE ELEVATION
SCALE 3/32" = 1'—0"



SECTION A—A
SCALE 3/32" = 1'—0"



PARTIAL SECTION
SCALE 3/32" = 1'—0"



FLOOR PLAN
SCALE 3/32" = 1'—0"

GRAPHIC SCALE:
3/32" = 1'-0"
10' 0' 10' 20' 30' 40' 50'

PLUMBING REQUIREMENTS

COLD WATER: (PROBABLE MAXIMUM FLOW RATE IN GPM) 85

HOT WATER:
STORAGE IN GALLONS (CONVERTERS) 174
HOT WATER RECOVERY (GPH) 139

NOTE: ABOVE FLOW RATE DOES NOT INCLUDE REQUIREMENTS FOR FIRE PROTECTION (AND AIR CONDITIONING).

MECHANICAL REQUIREMENTS

HEATING: (IN MBTU/HR):

INDOOR DESIGN TEMPERATURE	70° F				
OUTSIDE DESIGN TEMPERATURE	-8°F	+5°F	+15°F	+35°F	
	818	774	667		2

AIR CONDITIONING: (TONS OF REFRIGERATION) (MAXIMUM)

INDOOR DESIGN TEMPERATURE	74-78° FDB	50% RH
OUTSIDE DESIGN TEMPERATURE	95° FDB	70° FWB
	2	

NOTE:
MECHANICAL VENTILATION SHALL BE PROVIDED FOR BATTERY SHOPS

MAXIMUM AIR CONDITIONING REQUIREMENT IS APPROXIMATE; ACTUAL SPACES TO BE AIR CONDITIONED AND REQUIREMENTS SHALL BE BASED ON DOD CONSTRUCTION CRITERIA MANUAL NO 4270.1-M

ELECTRICAL REQUIREMENTS

LIGHTS:

CONNECTED LOAD (KW)	40
ESTIMATED DEMAND (KW)	40

POWER:	WITH AC (MAX. CAP.)	WITHOUT AC
CONNECTED LOAD (KW)	73	51
ESTIMATED DEMAND (KW)	59	38

TOTAL:		
CONNECTED LOAD (KW)	113	91
ESTIMATED DEMAND (KW)	99	78

MAXIMUM AIR CONDITIONING REQUIREMENT IS APPROXIMATE; ACTUAL SPACES TO BE AIR CONDITIONED AND REQUIREMENTS SHALL BE BASED ON DOD CONSTRUCTION CRITERIA MANUAL NO 4270.1-M

AREA

GROSS AREA WITHOUT MECH. EQUIP. RM. (SQ. FT.)	10,392.50 S.F.
MECH. EQUIP. ROOM (SQ. FT.)	820.00 S.F.
GROSS AREA-TOTAL (SQ. FT.)	11,212.50 S.F.

GENERAL NOTES

TREATMENT, MATERIALS, FRAMING AND CONSTRUCTION MAY VARY.

UTILITIES REQUIREMENTS INDICATED ARE FOR ESTIMATING PURPOSES ONLY.

AUTOMATIC SPRINKLER AND FIRE PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH CURRENT DOD 4270.1-M CONSTRUCTION CRITERIA MANUAL AND NAVFAC DM-3.

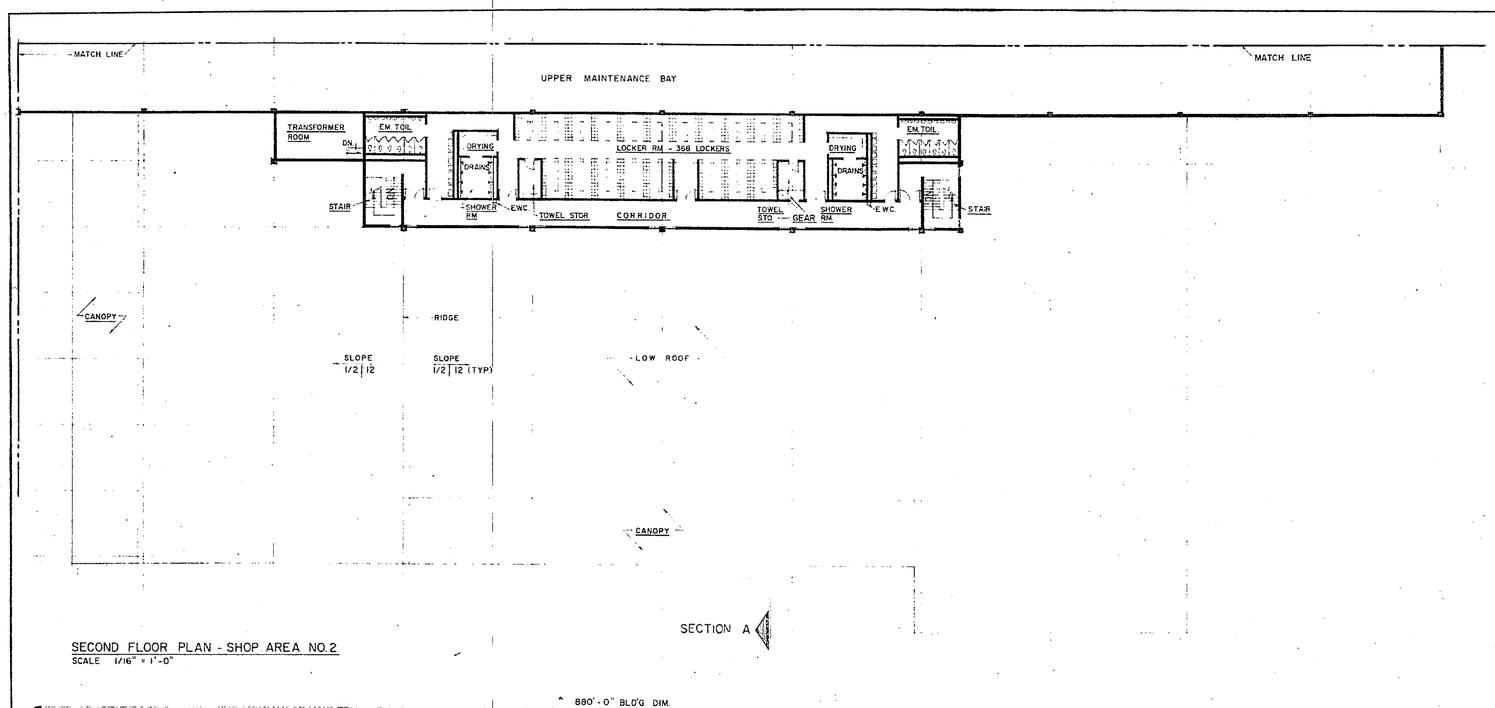
MECHANICAL EQUIPMENT ROOM SIZES SHALL BE VARIABLE DEPENDING ON CLIMATIC LOCATIONS AND EQUIPMENT REQUIREMENTS.

MARINE CORPS ACTIVITIES SHALL FOLLOW THE ARRANGEMENT AND FUNCTIONAL LAYOUT INDICATED IN INITIATION OF CONSTRUCTION REQUIREMENTS UNLESS PRIOR AUTHORIZATION FOR CHANGE IS OBTAINED FROM THE COMMANDANT OF THE MARINE CORPS. ARCHITECTURAL TREATMENT AND MATERIALS MAY VARY WHEN NEEDED TO ACHIEVE COMPATABILITY WITH LOCAL CONSTRUCTION AND EFFECTIVE USE OF MATERIALS.

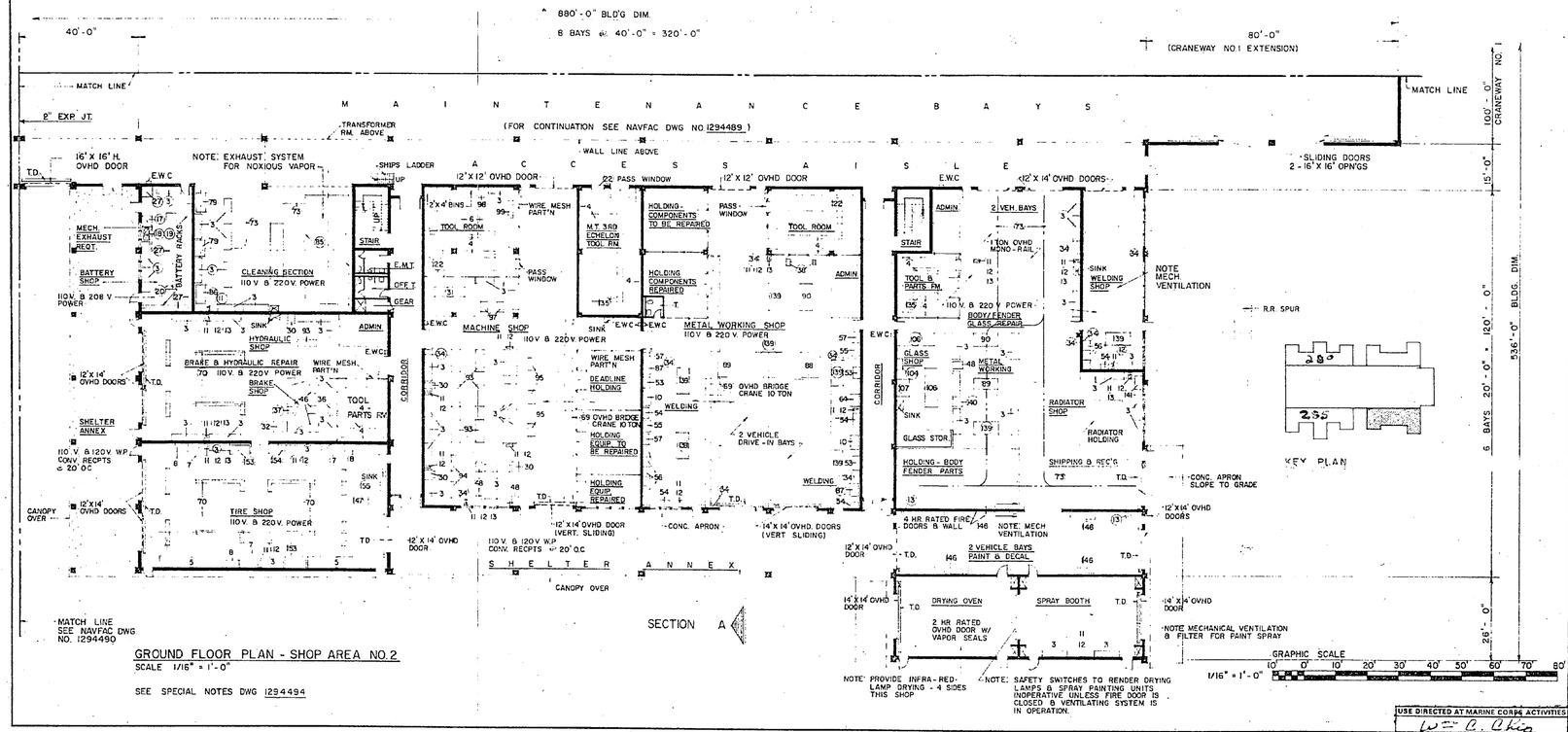
USE DIRECTED AT MARINE CORPS ACTIVITIES

OWEN, DIBBERN, CARLISLE & WOLFF ARCHITECTS / ENGINEERS / PLANNERS CONSULTANTS / ASSOCIATES HONOLULU, HAWAII	DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND — WASHINGTON, D.C.
DESIGN W.O. / CHANGE W.O. / SH. 2 OF 2	DEFINITIVE DRAWING — E/C MAINTENANCE
SUPV. — INDUSTRIES / CO. CHIEF P. FITZNAGLE	FIELD MAINTENANCE SHOP (3RD ECHELON)
SUBMITTED: H.D. BLACKWELL 10/4/70 — HDR ACTING PRINCIPAL	SERVICE BN., U.S.M.C.
APPROVED: CDR, CEC, USN — DATE	
OFFICER IN CHARGE — DATE	NAVFAC DWG. NO. 80091 — NAVFAC DRAWING NO. 1293356
APPROVED: Capt. Kingsley 9/23/70 — CO, CHIEF, PWD	SCALE AS NOTED — ACTUAL SIZE IN INCHES

2 '-30-A



SECOND FLOOR PLAN - SHOP AREA NO.2
SCALE 1/16" = 1'-0"



GROUND FLOOR PLAN - SHOP AREA NO.2
SCALE 1/16" = 1'-0"

SEE SPECIAL NOTES DWG 1294494

PLUMBING REQUIREMENTS

COLD WATER: (PROBABLE MAXIMUM FLOW RATE IN GPM) 108

HOT WATER:

STORAGE IN GALLONS (CONVERTORS) 840
HOT WATER RECOVERY (GPH) 698

NOTE: ABOVE FLOW RATE DOES NOT INCLUDE REQUIREMENTS FOR FIRE PROTECTION PROCESS, AND AIR CONDITIONING

MECHANICAL REQUIREMENTS

HEATING: (IN MBTU/HR):

INSIDE DESIGN TEMPERATURE			60° F - SHOPS 70° F - OFFICE & TOILETS	
OUTSIDE DESIGN TEMPERATURE	-5°F	+5°F	+15°F	+25°F
	1980	1805	640	1460

AIR CONDITIONING: (TONS OF REFRIGERATION): MAX.

INSIDE DESIGN TEMPERATURE SEE SPECIAL NOTES III NAVFAC DWG. 1294494
OUTSIDE DESIGN TEMPERATURE 95° F DB - 78° F WB

0

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ELECTRICAL REQUIREMENTS

LIGHTS:

CONNECTED LOAD (KW) 64
ESTIMATED DEMAND (KW) 64

POWER:

	WITH AC MAX. CAP.	WITHOUT AC
CONNECTED LOAD (KW)	275	275
ESTIMATED DEMAND (KW)	206	206

TOTAL:

CONNECTED LOAD (KW)	339	339
ESTIMATED DEMAND (KW)	270	270

MAXIMUM AIR CONDITIONING REQUIREMENT IS APPROXIMATE. ACTUAL SPACES TO BE AIR CONDITIONED AND REQUIREMENTS SHALL BE BASED ON D.O.D. CONSTRUCTION CRITERIA MANUAL NO. 4270.1-M.

AREA

GROSS AREA WITHOUT MECH. EQUIP. RM. (SQ. FT.)
MECH. EQUIP. ROOM (SQ. FT.)
GROSS AREA—TOTAL (SQ. FT.) 47,500

GENERAL NOTES

UTILITIES REQUIREMENTS INDICATED ARE FOR ESTIMATING PURPOSES ONLY.

AUTOMATIC SPRINKLER AND FIRE PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH CURRENT D.O.D. 4270.1-M CONSTRUCTION CRITERIA MANUAL AND NAVFAC. DM-8.

MARINE CORPS ACTIVITIES SHALL FOLLOW THE ARRANGEMENT AND FUNCTIONAL LAYOUT INDICATED IN INITIATION OF CONSTRUCTION REQUIREMENTS UNLESS PRIOR AUTHORIZATION FOR CHANGE IS OBTAINED FROM THE COMMANDANT OF THE MARINE CORPS. ARCHITECTURAL TREATMENT AND MATERIAL MAY VARY WHEN NEEDED TO ACHIEVE COMPATABILITY WITH LOCAL CONSTRUCTION AND EFFECTIVE USE OF MATERIALS

USE DIRECTED AT MARINE CORPS ACTIVITIES
APPROVED: W. C. Ohio
OFFICER IN CHARGE / FOR COMMANDER, MCDEC — DATE 4/13/71

LYELLS, BISSETT, CARLISLE & WOLFE
ARCHITECTS / ENGINEERS / PLANNERS
COLUMBIA WASHINGTON
HOUSTON WASHINGTON BIRMINGHAM
SUPV. HOUSTON — DRAWN 29440 — CHK. W. BROWN
TYPE F.S. WATSON — DR. INCH F. E. WELLS
SUBMITTED BY H.D. BRUGE-KWOLL — DATE 21 DEC 1970
PLAN REVIEW STUDY F. FENGOSI
NAVFAC
APPROVED — DATE

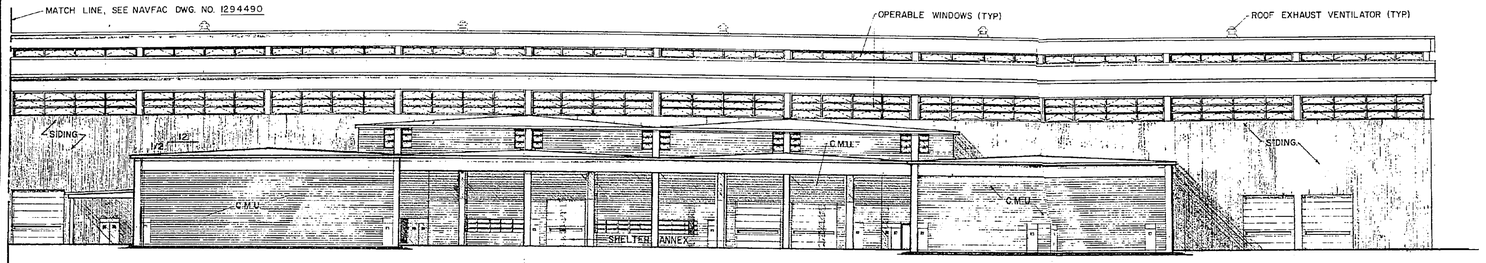
DEPARTMENT OF THE NAVY — WASHINGTON, D.C.
NAVAL FACILITIES ENGINEERING COMMAND
DEFINITIVE DRAWING
COMBAT/AUTOMOTIVE/TRACK FIELD MAINTENANCE SHOP (NO.2)
MAINTENANCE BATTALION F.S.R.

T/O M-3248
SIZE F — CODE IDENT NO. 80091 — NAVFAC DRAWING NO. 1294491
SCALE AS NOTED — SPEC. — CONTR. IDENT NO. — SHEET 3 OF 6

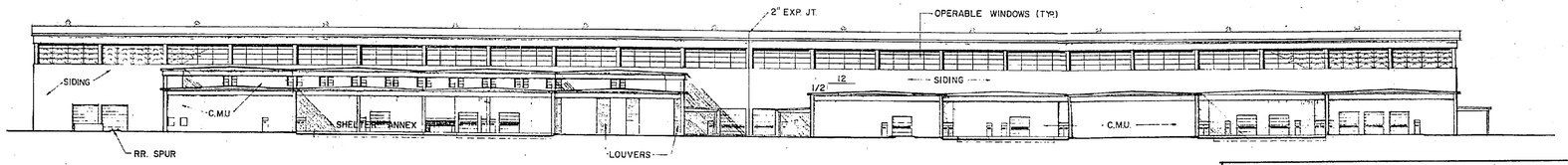
214-53-C3

PALMER MFG. CO. ARLINGTON, TX.

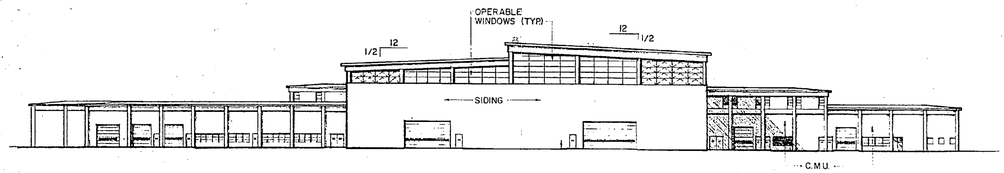
EXTRA IMA Prints INCREMENTS I, II, III, IV



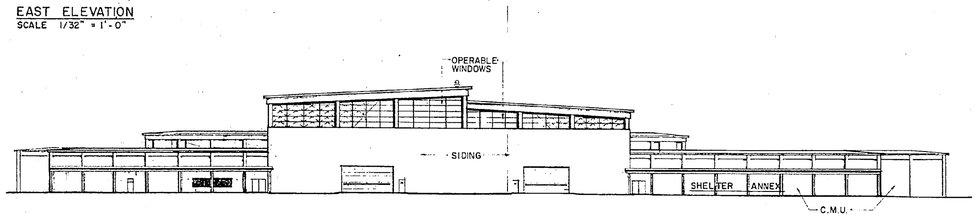
SOUTH ELEVATION PART - 2
SCALE 1/16" = 1'-0"



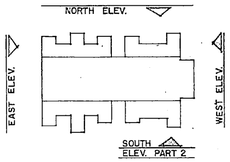
NORTH ELEVATION
SCALE 1/32" = 1'-0"



EAST ELEVATION
SCALE 1/32" = 1'-0"



WEST ELEVATION
SCALE 1/32" = 1'-0"



KEY PLAN.

SUMMARY OF UTILITIES

PLUMBING NO DIVERSITY - EXCEPT ON COLD WATER

COLD WATER - (PROBABLE MAX. FLOW RATE IN GPM)		250
HOT WATER - (SEE INDIVIDUAL DRAWINGS)		

MECHANICAL

HEATING (MBTU/HR):

	60°F SHOPS	70°F OFFICE & TOILETS		
INSIDE DESIGN TEMPERATURE				
OUTSIDE DESIGN TEMPERATURE	-5°F	+5°F	+15°F	+25°F
	17260	15670	14035	12515

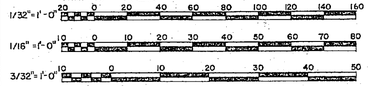
AIR CONDITIONING: TONS OF REFRIGERATION - MAX.

INSIDE DESIGN TEMPERATURE - SEE SPECIAL NOTES III. THIS DRAWING.
OUTSIDE DESIGN TEMPERATURE 95°FDB - 76°FWB
123 1/2

ELECTRICAL

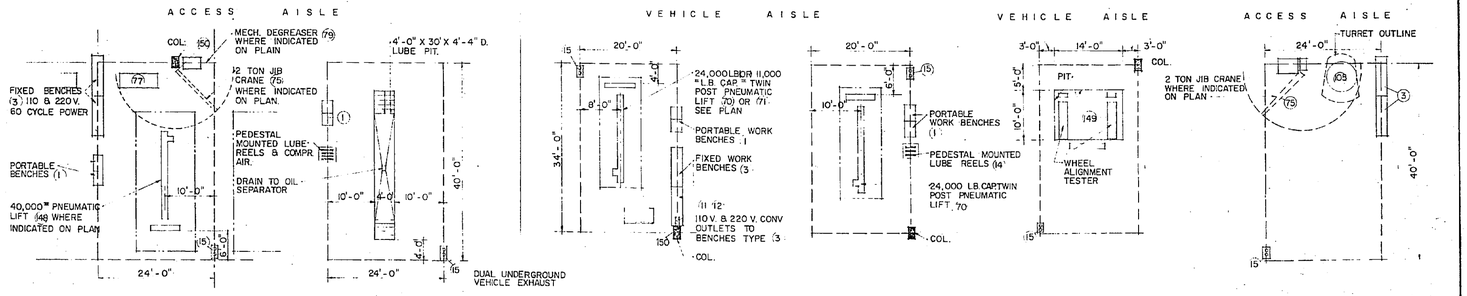
	WITH A.C. MAX. CAP	WITHOUT A.C.
LIGHTS		
CONNECTED LOAD (KW)	542	
ESTIMATED DEMAND (KW)	542	
POWER		
CONNECTED LOAD (KW)	1508	1355
ESTIMATED DEMAND (KW)	1128	1016
TOTAL		
CONNECTED LOAD (KW)	2050	1897
ESTIMATED DEMAND (KW)	1670	1558

GRAPHIC SCALES



CRANEWAY AREA DETAILS

SCALE 3/32" = 1' - 0"



TYPICAL H.E. MAINTENANCE BAY — TYPICAL H.E. LUBE BAY — TYPICAL M.T. MAINTENANCE BAY — TYPICAL M.T. LUBE BAY — TYPICAL WHEEL ALIGNMENT BAY — TYPICAL TURRET REPAIR BAY

SPECIAL NOTES

DESIGN GUIDES

I ARCHITECTURAL

UNLESS OTHERWISE NOTED, ALL SUPPORT SHOP AND OFFICE WINDOW AND DOOR LOCATIONS ARE APPROXIMATE AND SERVE AS A DESIGN GUIDE FOR PLACEMENT.

SUBJECT TO LOCAL CLIMATIC CONDITIONS, WINDOWS AND MECHANICAL VENTILATION SHALL BE SIZED TO PERMIT ADEQUATE VENTILATION IN CONFORMANCE WITH THE RECOMMENDATIONS OF THE ANNUAL GUIDE OF THE AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS.

GLASS AREA OF WINDOWS IN WORK AREAS SHALL BE IN ACCORDANCE WITH THE LATEST U.S.A.S.I. STANDARD A 11.1

THE CRANEWAY SHALL HAVE CONTINUOUS OPERABLE CLEARSTORY WINDOWS WITH REMOTE ELECTRICAL CONTROLS.

SIDING MATERIAL OF THE CRANEWAY WALLS SHALL BE A RIBBED INSULATED METAL SIDING ON STEEL GIRTS WITH A "U" VALUE OF .13 B.T.U./HR./SQ.FT./F° IN STILL AIR.

II ELECTRICAL

A. AN ELECTRICAL DISTRIBUTION SYSTEM WITH A MAXIMUM OF 440 VOLTS 60 CYCLE ELECTRICAL SERVICE WITH DISTRIBUTION PANELS FOR DISTRIBUTION OF 110 V., 220 V. AND 440 VOLTAGE REQUIREMENTS.

ELECTRICAL OUTLETS TO SERVE ITEMS OF EQUIPMENT LISTED IN THE EQUIPMENT SCHEDULE SHALL BE LOCATED IN ACCORDANCE WITH THE EQUIPMENT LOCATIONS SHOWN ON THE PLANS.

ADDITIONAL CONVENIENCE OUTLETS SHALL BE LOCATED IN THE SHOP AREAS TO SERVE ITEMS OF MISCELLANEOUS BENCH MOUNTED TOOLS PECULIAR TO THE TABLE OF EQUIPMENT FOR THE MARINE CORPS UNITS ASSIGNED.

B. SPECIAL ELECTRICAL POWER REQUIREMENTS, SUCH AS OUTLETS FOR PORTABLE ARC WELDING EQUIPMENT, ENGINE STARTING OUTLETS (6, 12 & 24 VOLT) IN THE ENGINE RUN-IN/DYNAMOMETER SHOP AND MAINTENANCE BAYS OF THE CRANEWAYS SHALL BE PROVIDED (SEE FLOOR PLANS AND EQUIPMENT SCHEDULES).

C. ELECTRONIC MAINTENANCE AND CALIBRATION SHOPS REQUIRE BENCH MOUNTED CONVENIENCE OUTLETS FOR 400 CYCLE, 110, 220 AND 28 VOLT D.C. WITH 10 OHM. GROUNDING. RADIO FREQUENCY SHIELDING SHALL BE PROVIDED IN THESE ELECTRONIC SHOP AREAS.

THE OPTICAL AND FIRE CONTROL MAINTENANCE SHOPS REQUIRE BENCH MOUNTED CONVENIENCE OUTLETS FOR 400 CYCLE, 110, 220 VOLT AND 28 VOLT D.C. POWER.

EXTERIOR ANNEX AREAS REQUIRE 110 AND 220 VOLT WATERPROOF CONVENIENCE OUTLETS LOCATED APPROXIMATELY 20 FEET ON CENTERS TO SERVE SHOP SUPPORT VANS AND POWER TOOLS.

D. LIGHTING - LOW BAY WORK AREAS SHALL HAVE FLUORESCENT TYPE LIGHTING WITH SUPPLEMENT LUMINAIRE LIGHTING AT CRITICAL AREAS.

HIGH BAY WORK AREAS SHALL HAVE FLUORESCENT AND/OR MERCURY VAPOR LIGHTING IN CRITICAL AREAS

NON - CRITICAL AND SERVICE AREAS, SUCH AS MECHANICAL ROOM, CORRIDORS, TOILETS, STORAGE AREAS, LOCKER ROOMS, ETC. SHALL HAVE INCANDESCENT LIGHTING.

ALL ILLUMINATION SHALL BE IN ACCORDANCE WITH "RECOMMENDED LEVELS OF ILLUMINATION" ILLUMINATING ENGINEERING SOCIETY.

III AIR CONDITIONING AND HUMIDITY CONTROL IS REQUIRED IN THE FOLLOWING AREAS;

A. ELECTRONIC MAINTENANCE, AND EQUIPMENT HOLDING AREAS 75° TO 80°F., RELATIVE HUMIDITY 40% TO 50%

B. OPTICAL AND FIRE CONTROL MAINTENANCE SHOPS AND EQUIPMENT HOLDING AREAS; 70° TO 72° F. RELATIVE HUMIDITY - 40% MAX. WITH POSITIVE PRESSURE FOR DUST FREE ATMOSPHERE.

C. CALIBRATION MAINT. MECH: 68° ± 2° ELECT. & INJECTOR REPAIR, 70° TO 74° F., RELATIVE HUMIDITY - 40% TO 50%

D. OFFICE MACHINE REPAIR SHOP AND EQUIPMENT HOLDING 75° TO 80° F. RELATIVE HUMIDITY - 40% TO 50%

E. ADMINISTRATIVE OFFICES ON THE 2ND FLOOR OF SHOP AREA NO. 4, 80°D.B

F. HUMIDITY CONTROL IS REQUIRED FOR THE FOLLOWING AREAS;

1) SMALL ARMS MAINTENANCE AND HOLDING AREAS - 40% TO 50% R.H.

IV UNDERGROUND VEHICLE EXHAUST SYSTEM SHALL BE PROVIDED IN CRANEWAY MAINTENANCE BAYS, HEAVY GENERATOR REPAIR AND ELECTRONIC MOBILE EQUIPMENT REPAIR BAYS.

A SPECIAL SEPARATE ENGINE EXHAUST SYSTEM WITH MUFFLER SHALL BE PROVIDED FOR THE DYNAMOMETER ENGINE RUN-IN FACILITY.

V COMPRESSED AIR SYSTEM 150 P.S.I., WITH WATER SEPARATOR, PRESSURE REGULATING VALVES AND BIBS SHALL BE LOCATED IN ALTERNATE BAYS OF THE CRANEWAYS AND IN ALL MAINTENANCE SHOPS.

VI HOT AND COLD WATER SHALL BE PROVIDED TO ALL MAINTENANCE SHOPS, TOILETS, SHOWER ROOMS, GEAR ROOMS AND CRANEWAYS.

COLD WATER HOSE BIBS SHALL BE PROVIDED AT BUILDING EXTERIOR AND LOCATED AT MAXIMUM SPACING OF 150 FEET.

COLD WATER HOSE BIBS SHALL BE LOCATED AT OUTSIDE WASH APRONS; 2 PER VEHICLE APRON, AND RECESSED BELOW THE SURFACE.

A SUB-SURFACE HOSE STORAGE BIN WITH COVER AND DRAIN SHALL BE PROVIDED ADJACENT TO WASH APRONS.

VII STEAM LIVE STEAM SHALL BE PROVIDED TO THE CLEANING SECTION EQUIPMENT AND TO OUTSIDE VEHICLE WASH APRONS 2 BIBS RECESSED BELOW THE SURFACE. STEAM PRESSURE REQUIREMENT IS 100 P.S.I.

T/O M-3248

LYLES, BISSETT, CARLISLE & WOLFF ARCHITECTS / ENGINEERS / PLANNERS COLUMBIA SALISBURY WASHINGTON BEECHER

DEPARTMENT OF THE NAVY — WASHINGTON, D.C.
NAVAL FACILITIES ENGINEERING COMMAND

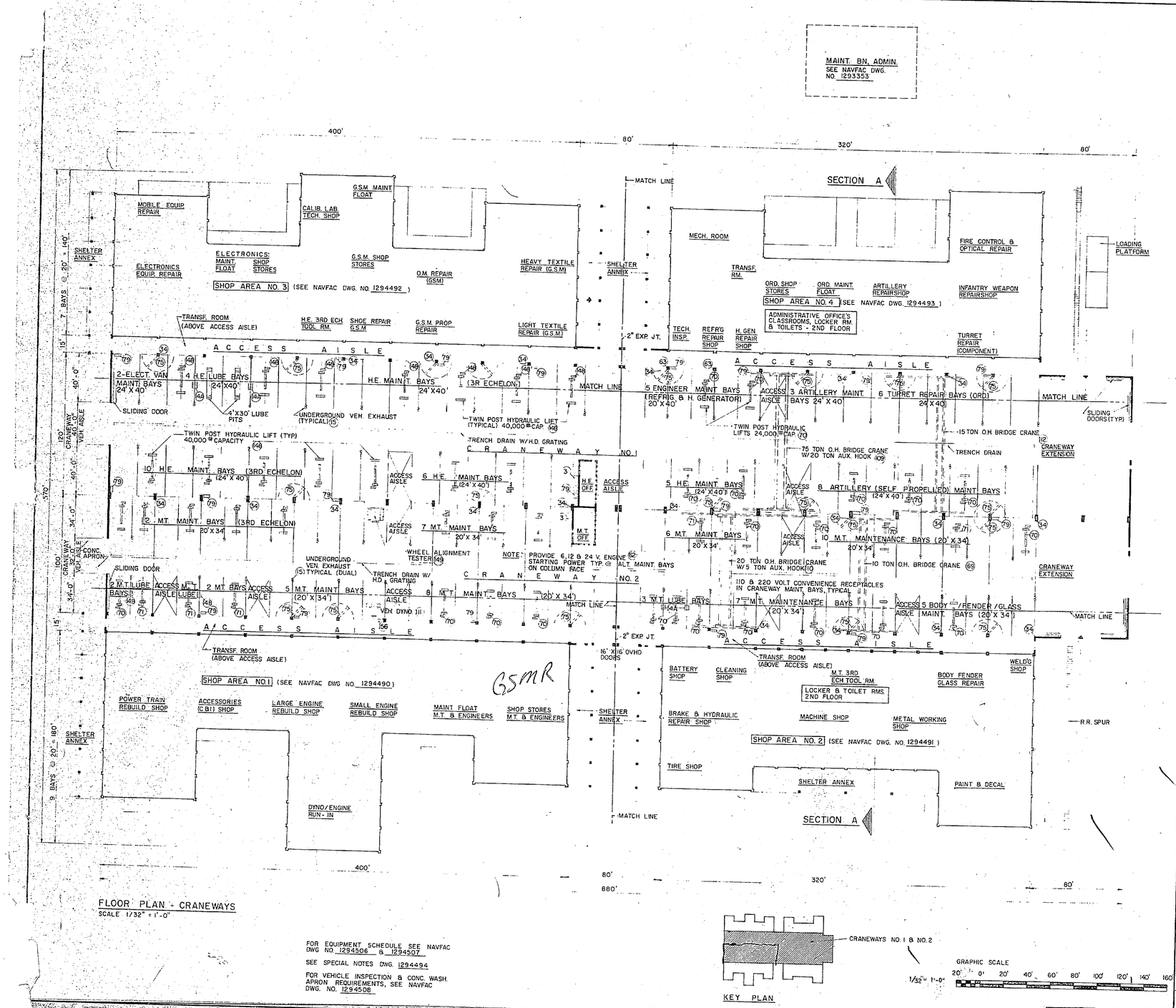
DESIGNED BY: J. E. HOUSTON; DRAWN BY: D.E. & W.J.; CHF. DR. W. BROWN
CHIEF ENGR. F. FRANKLIN
SUBMITTED BY: H.D. BLACKWELL; DATE: 21 DEC 1970
FOR MARINE CORPS (TITLE): PRINCIPAL
NAVFAC
APPROVED — DATE
OFFICER IN CHARGE
APPROVED — DATE 4/13/71
FOR COMMANDER, NAVFAC

DEFINITIVE DRAWING
COMBAT/AUTOMOTIVE/TRACK
FIELD MAINTENANCE SHOP (ELEV.)
MAINTENANCE BATTALION F. S. R.

SIZE: F; CODE IDENT NO.: 80091; NAVFAC DRAWING NO.: 1294494
SCALE AS NOTED; COMITE. CONTR. NO.; SPEC.; SHEET 6 OF 6

USE DIRECTED AT MARINE CORPS ACTIVITIES
W. C. Chiga

214-53-C6



FLOOR PLAN - CRANEWAYS
SCALE 1/32" = 1'-0"

FOR EQUIPMENT SCHEDULE SEE NAVFAC DWG NO. 1294506 & 1294507

SEE SPECIAL NOTES DWG. 1294494

FOR VEHICLE INSPECTION & CONC. WASH. APRON REQUIREMENTS, SEE NAVFAC DWG. NO. 1294508

KEY PLAN

GRAPHIC SCALE
1/32" = 1'-0"
20' 0' 20' 40' 60' 80' 100' 120' 140' 160'

PLUMBING REQUIREMENTS

COLD WATER: (PROBABLE MAXIMUM FLOW RATE IN GPM) 50

NOTE: ABOVE FLOOR RATE DOES NOT INCLUDE REQUIREMENTS FOR FIRE PROTECTION, PROCESS, AND AIR CONDITIONING.

HOT WATER:

STORAGE IN GALLONS (ELECTRIC WATER HEATER): NONE

MECHANICAL REQUIREMENTS

HEATING: (IN MBTU/HR):

INSIDE DESIGN TEMPERATURE			60°F - SHOPS 70°F - OFFICE & TOILETS	
OUTSIDE DESIGN TEMPERATURE	-5°F	+5°F	+15°F	+25°F
	8850	7980	7065	6290

AIR CONDITIONING: (TONS OF REFRIGERATION): MAX.

INSIDE DESIGN TEMPERATURE — SEE SPECIAL NOTE III NAVFAC DWG. 1294494
OUTSIDE DESIGN TEMPERATURE — 95° FDB - 78°FWB

0

MAXIMUM AIR CONDITIONING REQUIREMENT IS APPROXIMATE. ACTUAL SPACES TO BE AIR CONDITIONED AND REQUIREMENTS SHALL BE BASED ON D.O.D. CONSTRUCTION CRITERIA MANUAL NO. 4270.1 - M.

ELECTRICAL REQUIREMENTS

LIGHTS:

CONNECTED LOAD (KW)	274
ESTIMATED DEMAND (KW)	274

POWER:

	WITH AC (MAX.CAP)	WITHOUT AC
CONNECTED LOAD (KW)	550	550
ESTIMATED DEMAND (KW)	412	412

TOTAL:

CONNECTED LOAD (KW)	824	824
ESTIMATED DEMAND (KW)	686	686

MAXIMUM AIR CONDITIONING REQUIREMENT IS APPROXIMATE. ACTUAL SPACES TO BE AIR CONDITIONED AND REQUIREMENTS SHALL BE BASED ON D.O.D. CONSTRUCTION CRITERIA MANUAL NO. 4270.1 - M.

AREA

GROSS AREA WITHOUT MECH. EQUIP. RM. (SQ. FT.)
MECH. EQUIP. ROOM (SQ. FT.)
GROSS AREA—TOTAL (SQ. FT.) CRANEWAY NO. 1 & 2 — 220,000

GENERAL NOTES

UTILITIES REQUIREMENTS INDICATED ARE FOR ESTIMATING PURPOSES ONLY.

AUTOMATIC SPRINKLER AND FIRE PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH CURRENT D.O.D. 4270.1-M CONSTRUCTION CRITERIA AND NAVFAC DM-8.

MARINE CORPS ACTIVITIES SHALL FOLLOW THE ARRANGEMENT AND FUNCTIONAL LAYOUT INDICATED IN INITIATION OF CONSTRUCTION REQUIREMENTS UNLESS PRIOR AUTHORIZATION FOR CHANGE IS OBTAINED FROM THE COMMANDANT OF THE MARINE CORPS. ARCHITECTURAL TREATMENT AND MATERIAL MAY VARY WHEN NEEDED TO ACHIEVE COMPATABILITY WITH LOCAL CONSTRUCTION AND EFFECTIVE USE OF MATERIALS.

T/O M-3248

LYKES, BISSETT, CARLISLE & WOLFF
ARCHITECTS / ENGINEERS / PLANNERS
COLUMBIA WASHINGTON
SALISBURY ALEXANDRIA

DRAWN: J.P. HOUSTON | CHK: W.F. BROWN
SUPV: J.P. HOUSTON | CH DESIGN: W. BRADELINE
SUBMITTED BY: H.D. BLACKWELL | DATE: 21 DEC. 1970
PLAN MANAGER (TITLE): PRINCIPAL
NAVFAC: HDB | WFB | JPH | for Alexander
APPROVED | DATE
OFFICER IN CHARGE
APPROVED: R.W. Naylor | DATE: 4/13/71
FOR COMMANDER, NAVFAC

USE DIRECTED AT MARINE CORPS ACTIVITIES

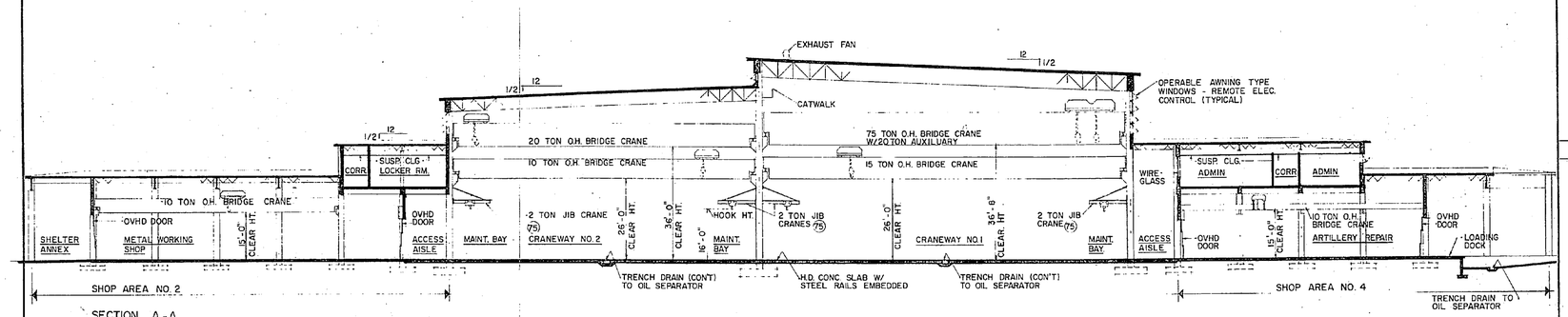
DEPARTMENT OF THE NAVY — WASHINGTON, D.C.
NAVAL FACILITIES ENGINEERING COMMAND

DEFINITIVE DRAWING
COMBAT/AUTOMOTIVE/TRACK
FIELD MAINTENANCE SHOP (CRANEWAYS)
MAINTENANCE BATTALION F.S.R.

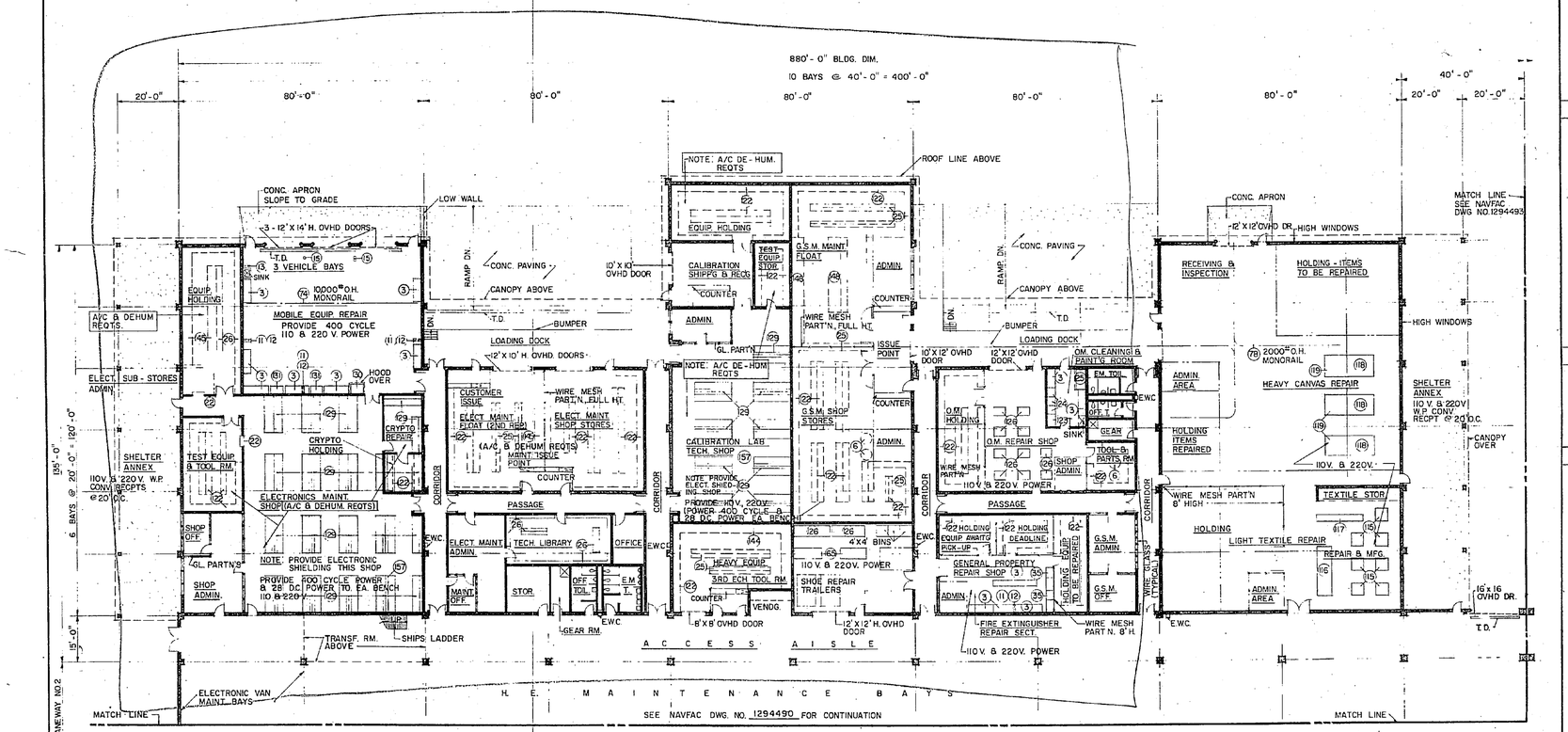
SIZE: F | CODE IDENT NO.: 80091 | NAVFAC DRAWING NO.: 1294489
CONTR. CONTR. NO.
SCALE AS NOTED | SHEET

214-53-01

Miss'l shop separate



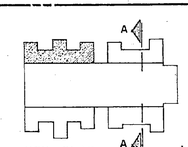
SECTION A-A
SCALE: 1/16" = 1'-0"



FLOOR PLAN - SHOP AREA NO. 3
SCALE 1/16" = 1'-0"

NOTE: CRYPTO REPAIR & HOLDING AREAS SHALL BE RED & BLACK SECURITY, IN ACCORDANCE WITH _____ CRITERIA

SEE SPECIAL NOTES, DWG. 1294494



KEY PLAN

GRAPHIC SCALE
1/16" = 1'-0"
10' 0' 10' 20' 30' 40' 50' 60' 70' 80'

USE DIRECTED AT MARINE CORPS ACTIVITIES

PLUMBING REQUIREMENTS

COLD WATER: (PROBABLE MAXIMUM FLOW RATE IN GPM) 77

HOT WATER:

STORAGE IN GALLONS (ELECTRIC WATER HEATER): 40

NOTE: ABOVE FLOW RATE DOES NOT INCLUDE REQUIREMENTS FOR FIRE PROTECTION, PROCESS, AND AIR CONDITIONING.

POWER REQUIREMENT FOR ELECTRIC WATER HEATERS (WHERE REQUIRED) IS NOT INCLUDED IN ELECTRICAL REQUIREMENTS.

MECHANICAL REQUIREMENTS

HEATING: (IN MBTU/HR):

INSIDE DESIGN TEMPERATURE		60°F - SHOPS 70°F - OFFICE AND TOILETS		
OUTSIDE DESIGN TEMPERATURE	-5°F	+5°F	+15°F	+25°F
	1990	1825	1650	1470

AIR CONDITIONING: (TONS OF REFRIGERATION): MAX.

INSIDE DESIGN TEMPERATURE SEE SPECIAL NOTES III NAVFAC DWG. 1294494
OUTSIDE DESIGN TEMPERATURE 95°F DB - 78°F WB

41

MAXIMUM AIR CONDITIONING REQUIREMENT IS APPROXIMATE. ACTUAL SPACES TO BE AIR CONDITIONED AND REQUIREMENTS SHALL BE BASED ON D.O.D. CONSTRUCTION CRITERIA MANUAL NO. 4270.1-M.

ELECTRICAL REQUIREMENTS

LIGHTS:

CONNECTED LOAD (KW)	66
ESTIMATED DEMAND (KW)	66

POWER:	WITH AC MAX. CAP.	WITHOUT AC
CONNECTED LOAD (KW)	167	100
ESTIMATED DEMAND (KW)	125	75

TOTAL:

CONNECTED LOAD (KW)	233	166
ESTIMATED DEMAND (KW)	191	141

MAXIMUM AIR CONDITIONING REQUIREMENT IS APPROXIMATE. ACTUAL SPACES TO BE AIR CONDITIONED AND REQUIREMENTS SHALL BE BASED ON D.O.D. CONSTRUCTION CRITERIA MANUAL NO. 4270.1-M.

AREA

GROSS AREA WITHOUT MECH. EQUIP. RM. (SQ. FT.)	47,200
MECH. EQUIP. ROOM (SQ. FT.)	800
GROSS AREA-TOTAL (SQ. FT.)	48,000

GENERAL NOTES

UTILITIES REQUIREMENTS INDICATED ARE FOR ESTIMATING PURPOSES ONLY.

AUTOMATIC SPRINKLER AND FIRE PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH CURRENT D.O.D. 4270.1-M CONSTRUCTION CRITERIA MANUAL AND NAVFAC DM-8.

MARINE CORPS ACTIVITIES SHALL FOLLOW THE ARRANGEMENT AND FUNCTIONAL LAYOUT INDICATED IN INITIATION OF CONSTRUCTION REQUIREMENTS UNLESS PRIOR AUTHORIZATION FOR CHANGE IS OBTAINED FROM THE COMMANDANT OF THE MARINE CORPS. ARCHITECTURAL TREATMENT AND MATERIAL MAY VARY WHEN NEEDED TO ACHIEVE COMPATABILITY WITH LOCAL CONSTRUCTION AND EFFECTIVE USE OF MATERIALS.

T/O M-3248

LYLES, BISSETT, CARLISLE & WOLFF
ARCHITECTS / ENGINEERS / PLANNERS
COLUMBIA WASHINGTON
BALTIMORE ALEXANDRIA

DEPARTMENT OF THE NAVY — WASHINGTON, D.C.
NAVAL FACILITIES ENGINEERING COMMAND

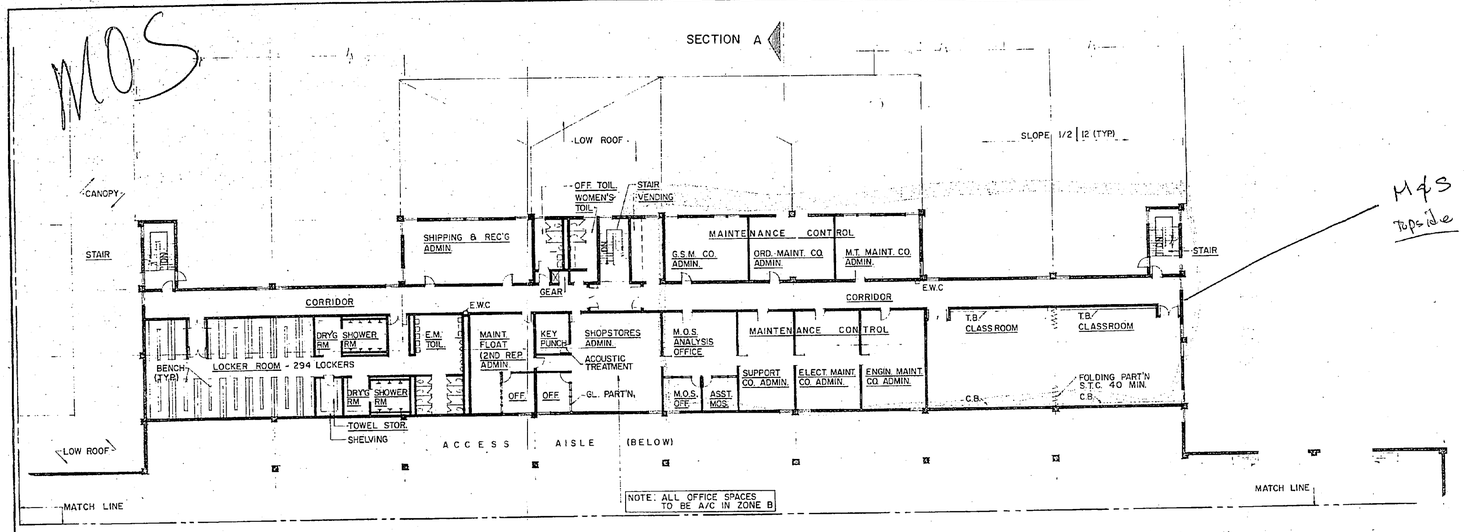
DEFINITIVE DRAWING
GENERAL SUPPLY/ELECTRONICS & COMM. FIELD MAINTENANCE SHOP (NO. 3) MAINTENANCE BATTALION F.S.R.

DESIGN J.C. HOUSTON DRAWN J.H.D. CHECKED W.C. BROWN
SPEC. WRITER CHIEF ENGR. F. FRANKLIN
SUBMITTED BY W.D. BLACKWELL 21 DEC 1970
NAVA ADMIN. DIVISION PRINCIPAL
NAVFAC APPROVED DATE
OFFICER IN CHARGE
APPROVED DATE 11/23/71
FOR COMMANDER, NAVFAC

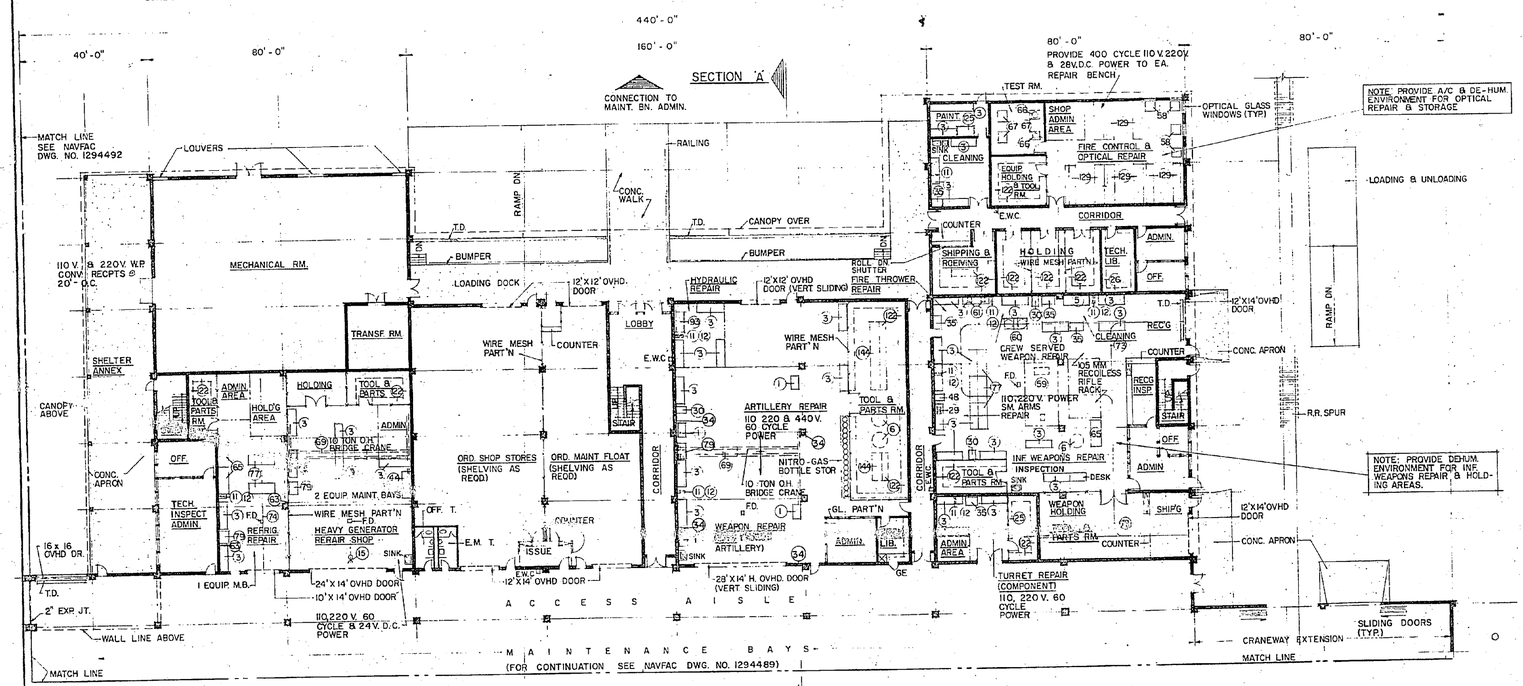
SIZE F — CODE IDENT NO. 80091 — NAVFAC DRAWING NO. 1294492
SCALE AS NOTED — SPEC. — CONTR. CONTR. NO. — SHEET 4 OF 6

214-53-C4/217-30/218-80

MOS



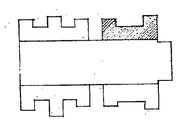
SECOND FLOOR PLAN - SHOP AREA NO4
SCALE 1/16" = 1'-0"



GROUND FLOOR PLAN - SHOP AREA NO. 4
SCALE 1/16" = 1'-0"

NOTES:
1. PROVIDE 2 TEST FIRE PITS FOR SMALL ARMS TESTING, ADJACENT TO "ARTY" RANGE.
2. DRAIN ALL TRENCH DRAINS TO AN OIL SEPARATOR

SEE SPECIAL NOTES DWG. 1294494



KEY PLAN

PLUMBING REQUIREMENTS

COLD WATER: (PROBABLE MAXIMUM FLOW RATE IN GPM) 100

HOT WATER:

STORAGE IN GALLONS (CONVERTORS)	755
HOT WATER RECOVERY (GPH)	580

NOTE: ABOVE FLOW RATE DOES NOT INCLUDE REQUIREMENTS FOR FIRE PROTECTION, PROCESS, AND AIR CONDITIONING.

MECHANICAL REQUIREMENTS

HEATING: (IN MBTU/HR):

60° F - SHOPS
70° F - OFFICE & TOILETS

INSIDE DESIGN TEMPERATURE				
OUTSIDE DESIGN TEMPERATURE	-5°F	+5°F	+15°F	+25°F
	2220	2040	1860	1680

AIR CONDITIONING: (TONS OF REFRIGERATION): MAX.

INSIDE DESIGN TEMPERATURE — SEE SPECIAL NOTES III NAVFAC DWG. 1294494
OUTSIDE DESIGN TEMPERATURE — 95° FDB - 78° FWB

82

MAXIMUM AIR CONDITIONING REQUIREMENT IS APPROXIMATE. ACTUAL SPACES TO BE AIR CONDITIONED AND REQUIREMENTS SHALL BE BASED ON D.O.D. CONSTRUCTION CRITERIA MANUAL NO. 4270.1-M.

ELECTRICAL REQUIREMENTS

LIGHTS:

CONNECTED LOAD (KW)	66
ESTIMATED DEMAND (KW)	66

POWER:	WITH AC MAX CAP.	WITHOUT AC
CONNECTED LOAD (KW)	261	130
ESTIMATED DEMAND (KW)	196	98

TOTAL:

CONNECTED LOAD (KW)	327	196
ESTIMATED DEMAND (KW)	262	164

MAXIMUM AIR CONDITIONING REQUIREMENT IS APPROXIMATE. ACTUAL SPACES TO BE AIR CONDITIONED AND REQUIREMENTS SHALL BE BASED ON D.O.D. CONSTRUCTION CRITERIA MANUAL NO. 4270.1-M

AREA

GROSS AREA WITHOUT MECH. EQUIP. RM. (SQ. FT.)	48,000
MECH. EQUIP. ROOM (SQ. FT.)	4,800
GROSS AREA—TOTAL (SQ. FT.)	52,800

GENERAL NOTES

UTILITIES REQUIREMENTS INDICATED ARE FOR ESTIMATING PURPOSES ONLY.

AUTOMATIC SPRINKLER AND FIRE PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH CURRENT D.O.D. CONSTRUCTION CRITERIA MANUAL NO. 4270.1-M. AND NAVFAC DM-8.

MARINE CORPS ACTIVITIES SHALL FOLLOW THE ARRANGEMENT AND FUNCTIONAL LAYOUT INDICATED IN INITIATION OF CONSTRUCTION REQUIREMENTS UNLESS PRIOR AUTHORIZATION FOR CHANGES IS OBTAINED FROM THE COMMANDANT OF THE MARINE CORPS. ARCHITECTURAL TREATMENT AND MATERIAL MAY VARY WHEN NEEDED TO ACHIEVE COMPATABILITY WITH LOCAL CONSTRUCTION AND EFFECTIVE USE OF MATERIALS.

GRAPHIC SCALE
1/16 = 1'-0"
10 0' 10' 20' 30' 40' 50' 60' 70' 80'

USE DIRECTED AT MARINE CORPS ACTIVITIES
W. C. Chi

T/O M-3248

LYLES, BISSETT, CARLISLE & WOLFF
ARCHITECTS / ENGINEERS / PLANNERS
COLUMBIA WASHINGTON
BOSTON ALEXANDRIA

DEPARTMENT OF THE NAVY — WASHINGTON, D.C.
NAVAL FACILITIES ENGINEERING COMMAND

DESIGN J.C. DOUGLAS; DRAWN R.W.D. & W. McDOWN
SUPV. R. HOWSON; CH. DSGN. F. R. CANELLIN
SUBMITTED BY H.G. BLACKWELL 21 DEC 1970
PLAN REVIEWER (TITLE) STRUCTURAL
NAVFAC APPROVED DATE
OFFICER IN CHARGE
APPROVED DATE
FOR COMMANDER NAVFAC

DEFINITIVE DRAWING
ORDNANCE FIELD MAINTENANCE SHOP (NO. 4)
MAINTENANCE BATTALION F.S.R.

SIZE F — CODE IDENT NO. 80091 — NAVFAC DRAWING NO. 1294493
SCALE AS NOTED — CONSTR. CONTR. NO. — SPEC. — SHEET 5 OF 6

214-53-C5 & 215-60-B