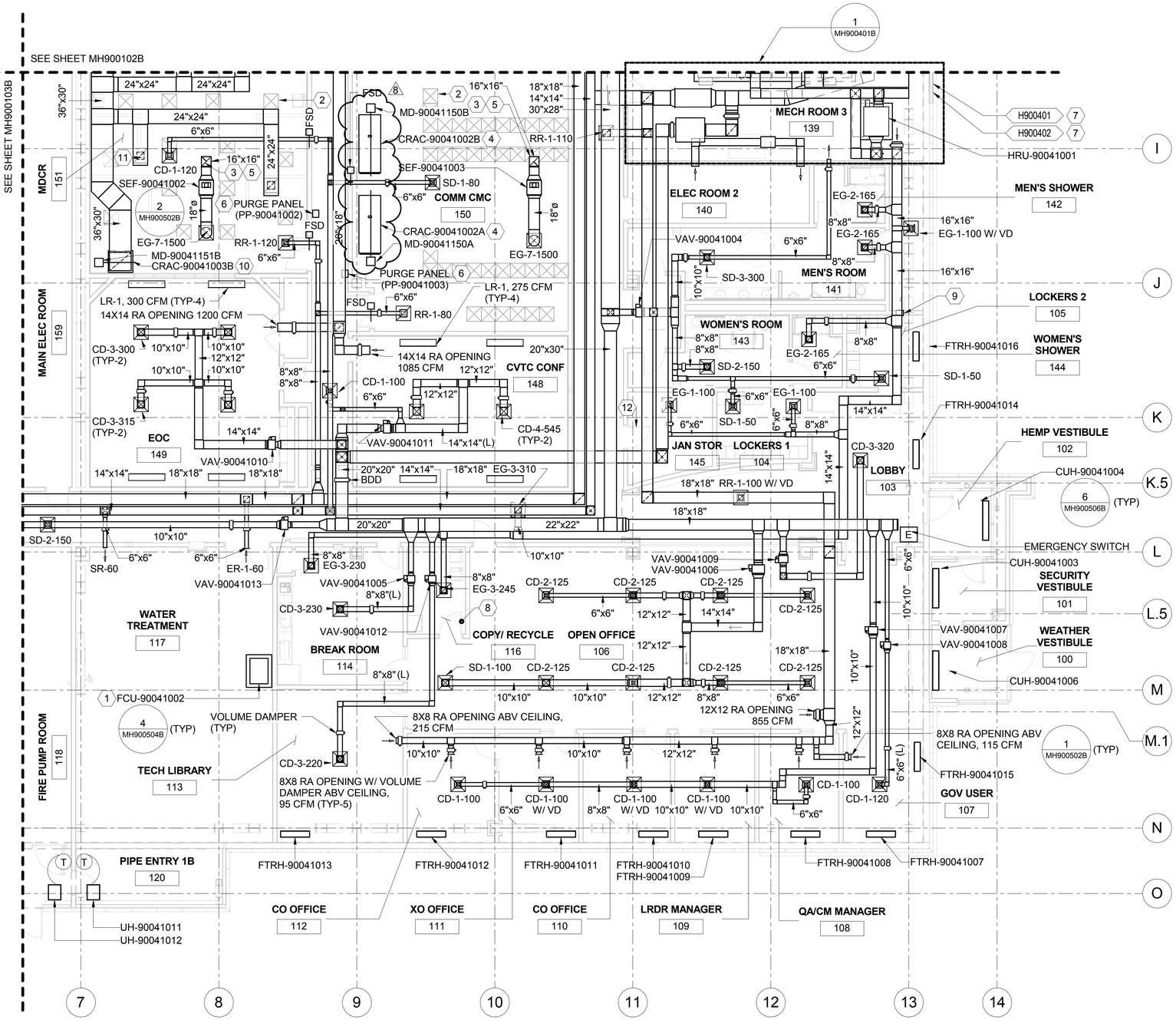


GENERAL NOTES:

A. FOR MECHANICAL HVAC NOTES, LEGENDS, AND ABBREVIATIONS, SEE SHEETS M-900001B THRU M-900007B.

B. MOUNT UNIT HEATERS (UH) AT 12' ± AFF.

C. REFER TO SHEET A-900008B FOR HEMP SHIELD.

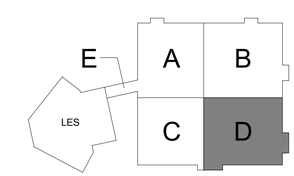
KEYNOTES:

1. FCU SHALL BE PROVIDED W/ 24" HIGH LINED SUPPLY PLENUM AND 18X12 SR.
2. PROVIDE 40 - 24X24 IN ROOM 150 AND 20 - 24X24 IN ROOM 151 PERFORATED FLOOR DIFFUSERS W/ OPPOSED BLADE DAMPERS TO MATCH RAISED FLOOR SYSTEM. THE DIFFUSER SHALL BE BY THE RAISED FLOOR MANUFACTURER. EXACT LAYOUT SHALL BE FIELD COORDINATED WITH IT EQUIPMENT.
3. 16X16 EA DUCT UP THRU ROOF W/ HEMP PENETRATION.
4. PROVIDE LINED RETURN DUCT (SAME SIZE AS UNIT OPENING) WITH FRONT ACCESS PANEL. THE DUCT SHALL BE TERMINATED WITH WITE MESH BELOW CEILING.
5. PROVIDE SECURITY MAN BARS IN VERTICAL DUCT THRU ROOF.
6. PURGE PANEL, SEE DETAIL 2 ON SHEET MH900504B.
7. FOR HEMP PENETRATION DETAIL SEE DETAIL 1 ON SHEET MH900506B (TYP-2). REFER TO Z-SERIES DRAWINGS FOR SCHEDULE.
8. PROVIDE MINIMUM 2" DOOR UNDERCUT.
9. 12X12 TRANSFER OPENING BELOW CEILING W/ TG-3 ON BOTH SIDES, 100 CFM.
10. PROVIDE LINED RETURN DUCT UP THRU CEILING UP TO THE FIRST ELBOW (SAME SIZE AS UNIT OPENING) WITH FRONT ACCESS PANEL.
11. (2) RR-8-1350
12. PROVIDE 1/2" DOOR UNDERCUT.

HEMP TAGS:

H900401 — 30"X30" EXHAUST DUCT

H900402 — 16"X16" EXHAUST DUCT



LEVEL 1 - MECHANICAL HVAC FLOOR PLAN ZONE D

1 / MH900104B

1/8" = 1'-0"

PLAN NORTH

8' 0 8' 16'

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

ALL DIMENSIONS AND/OR DIMENSIONS SHOWN IN CALLOUTS/NOTES ARE INCHES UNLESS OTHERWISE NOTED

REGISTERED PROFESSIONAL ENGINEER — PEGGY PEIYI WU — No. M 30595 EXP. 06-30-18 — MECHANICAL — STATE OF CALIFORNIA — 11-18-16

RTA

US Army Corps of Engineers ®
Alaska District

CONTRACT NO. | CONTRACTOR | CITY | STATE
Recommended: | Approved: | Date:
PRIME CONTRACTOR | RESIDENT ENGINEER

No.	Action	Description	Date	Approved
2	AMDS	AMENDMENT #05 - FC-P007	2017.01.13	BTN
1	RFS	READY TO ADVERTISE SUBMITTAL	2016.11.18	BTN

Designed: N.PATEL | Date: 2016.11.18
Drawn: C.DECASTRO | Dwg Scale: AS NOTED
Reviewed: P.WU | Plot Scale: 1:1
Submitted: BTN | File Name: CLR_LRDR_MCF_MECH_2015
Drawing #: AF-141-391-02

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

AECOM + TETRA TECH JV

W911KB-17-R-0010
MDA656

CLR039

CLEAR AFS, ALASKA
LONG RANGE DISCRIMINATION RADAR
CONSTRUCTION PACKAGE 1 - VOLUME 2
MECHANICAL HVAC FLOOR PLAN D

Reference number:
MH900104B

PLOTTED ON 1/16/2017 11:26:18 AM

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FAN COIL UNIT SCHEDULE (1)

TAG	AREA SERVED	TYPE	CFM	EXT SP IN. WG.	COOLING DATA – ENTERING AIR DB (F)	ENTERING AIR WB (F)	AIR PD (IN. WG.)	MIN CAP SENS (MBH)	MIN CAP TOTAL (MBH)	40% PROP GLYCOL GPM	ENT (F)	LVG (F)	MAX PD FT.WC.	HEATING DATA – EAT DB F	MIN CAP MBH	AIR PD IN. WG.	50% PROP GLYCOL GPM	ENT (F)	MAX PD FT. WC.	MOTOR DATA HP	V/PH/HZ	WEIGHT (LBS)	EMERGENCY POWER FOR PHASE 1 (FY17)	NOTES
FCU-90041001	MAINT SHOP 132	HORIZONTAL	1700	0.75	78	61.5	0.5	37	37	9	43	53	5	68	34	0.2	5	135	1	3/4	460/3/60	300	YES	-
FCU-90041002	WATER TREAT RM 117	VERTICAL	800	0.5	90	63	0.3	31	32	7.6	43	53	17	55	18	0.1	1.6	135	4	3/4	460/3/60	300	YES	-
FCU-90041003	FIRE PUMP RM 118	VERTICAL	700	0.5	90	63	0.25	28	30	7	43	53	14	55	16	0.1	1.5	135	3	3/4	460/3/60	300	YES	-
FCU-90041004A FCU-90041004B FCU-90041004C FCU-90041004D FCU-90041004E	ANTENNA RM 125	VERTICAL	1800	0.5	90	63	0.35	60	60	10.7	43	56	5	55	35	0.2	3.0	135	2	3/4	460/3/60	600	YES	-
FCU-90041005	EOC 149 & CVTC 148	HORIZONTAL	2420	1.25	77	61	0.65	52	52	16	43	51	14	68	57	0.2	7	135	2	1-1/2	460/3/60	400	NO	-
FCU-90041006A FCU-90041006B FCU-90041006C	SSUPS RM 158	VERTICAL	3800	0.75	77	61	0.9	78	78	22	43	52	15	-	-	-	-	-	-	3	460/3/60	600	YES	-
FCU-90041007A FCU-90041007B FCU-90041007C	MAIN ELECT RM 159	VERTICAL	3900	0.375	90	63	0.9	114	114	21	43	56	14	-	-	-	-	-	-	3	460/3/60	600	YES	-
FCU-90041008	MECH RM 129	VERTICAL	3800	0.75	90	63	0.9	110	110	20.5	43	56	14	55	52	0.2	3.5	135	2	3	460/3/60	600	NO	-
FCU-90041009	ELECT RM 140	VERTICAL	400	0.5	90	63	0.5	14	14	4	43	52	8	-	-	-	-	-	-	3/4	460/3/60	150	NO	-
FCU-90041010	ELECT RM 156	VERTICAL	800	0.5	90	63	0.3	31	31	6	43	55	11	-	-	-	-	-	-	3/4	460/3/60	300	NO	-

NOTES:
1. VERTICAL UNITS SHALL BE PROVIDED WITH FRONT RETURN GRILLE.

COMPUTER ROOM AIR CONDITIONER SCHEDULE (1)

TAG	AREA SERVED	BASIS OF DESIGN	CFM	EXT SP IN. WG.	BLOWER HP	COOLING CAPACITY – ENTERING TEMP DB (F)	ENTERING TEMP WB (F)	MIN MBH SENSIBLE	MIN MBH TOTAL	40% PROP GLYCOL WATER GPM	ENT (F)	LVG (F)	MAX PRESS DROP (FT.WC)	PRESS INDEPENDENT CONTROL VALVE	REHEAT CAP kW	STEPS	HUMIDIFIER LBS/HR	kW	FILTER DATA ASHRAE 52-76 EFF MIN	THICKNESS	ELECTRICAL FLA	V/PH/HZ	WEIGHT LBS	EMERGENCY POWER FOR PHASE 1 (FY17)	EMERGENCY POWER FLA	NOTES
CRAC-90041001A	RADAR PROCESSING RM 153	LIEBERT CW 181D	22000	0.2	(3) 5.4	72	60	300	300	60	43	56	10	2-WAY	30	3	22.1	9.6	MERV-8	4"	66.3	460/3/60	3500	NO	15.6	1, 2, 4
CRAC-90041001B		LIEBERT CW 181D	22000	0.2	(3) 5.4	72	60	300	300	60	43	56	10	2-WAY	30	3	22.1	9.6	MERV-8	4"	66.3	460/3/60	3500	NO	15.6	1, 2, 4
CRAC-90041001C		LIEBERT CW 181D	22000	0.2	(3) 5.4	72	60	300	300	60	43	56	10	2-WAY	30	3	22.1	9.6	MERV-8	4"	66.3	460/3/60	3500	NO	15.6	1, 2, 3, 4
CRAC-90041002A	COMM CMC RM 150	LIEBERT CW 84D	11900	0.2	(2) 4.2	72	60	162	162	58	43	50	23	2-WAY	30	3	22.1	9.6	MERV-8	4"	58.7	460/3/60	2000	NO	8	1, 2, 4
CRAC-90041002B		LIEBERT CW 84D	11900	0.2	(2) 4.2	72	60	162	162	58	43	50	23	2-WAY	30	3	22.1	9.6	MERV-8	4"	58.7	460/3/60	2000	NO	8	1, 2, 3, 4
CRAC-90041003A	MDCR RM 151	LIEBERT CW 38D	5700	0.55	4.2	72	60	53	53	18	43	51	11	2-WAY	15	3	11	4.8	MERV-8	4"	29.5	460/3/60	1000	NO	4	1, 2, 4
CRAC-90041003B		LIEBERT CW 38D	5700	0.55	4.2	72	60	53	53	18	43	51	11	2-WAY	15	3	11	4.8	MERV-8	4"	29.5	460/3/60	1000	NO	4	1, 2, 3, 4
CRAC-90041004A	RADAR MAINT 121, PARTS STORAGE 123, EMI TEST 122	LIEBERT CW 60U	8300	0.75	(2) 4.2	72	60	113	113	36.5	43	51	10	2-WAY	SEE HC-90041004A		17.4	6.4	MERV-8	4"	20.9	460/3/60	1000	NO	8	4, 5
CRAC-90041004B		LIEBERT CW 60U	8300	0.75	(2) 4.2	72	60	113	113	36.5	43	51	10	2-WAY	SEE HC-90041004B		17.4	6.4	MERV-8	4"	20.9	460/3/60	1000	NO	8	3, 4, 5

NOTES:
1. FURNISH WITH SEISMIC FLOOR STAND TO SUIT RAISED FLOOR ELEVATION.
2. SINGLE POINT LEAK DETECTOR.
3. STANDBY.
4. PROVIDE TWO COMMUNICATION CARDS PER UNIT TO COMMUNICATE INDEPENDENTLY WITH REDUNDANT DDC.
5. REAR RETURN.

VARIABLE AIR VOLUME TERMINAL UNIT SCHEDULE (PROP GLYCOL @ 135 F ENTERING & 105 F LEAVING) (1)

TAG	AREA SERVED	DESIGN CFM	MIN SET CFM	MAX HEATING SET CFM	AIR ENTERING DB (F)	MAX WATER PD FT. WC.	HEAT CAPACITY BTUH	GPM 50% PROP GLYCOL	ELECT DATA V/PH/HZ	EMERGENCY POWER FOR PHASE 1 (FY17)	NOTES
VAV-90041001	ROOMS: 133-134, 163	350	140	140	55	5	5390	0.4	120/1/60	YES	1
VAV-90041002	ROOMS: 135	100	40	100	55	5	4338	0.3	120/1/60	YES	1
VAV-90041003	ROOMS: 138, 162	350	280	300	55	5	11948	0.9	120/1/60	YES	1
VAV-90041004	ROOMS: 104, 105, 141, 143, 139	670	470	570	55	5	21945	1.6	120/1/60	YES	1
VAV-90041005	ROOMS: 114	230	140	140	55	5	5390	0.4	120/1/60	YES	1
VAV-90041006	ROOMS: 106	1100	440	600	55	5	23100	1.7	120/1/60	YES	1
VAV-90041007	ROOMS: 108-112	500	200	500	55	5	20322	1.5	120/1/60	YES	1
VAV-90041008	ROOMS: 107	120	50	120	55	5	6453	0.5	120/1/60	YES	1
VAV-90041009	ROOMS: 103	320	130	200	55	5	8282	0.6	120/1/60	YES	1
VAV-90041010	ROOMS: 149	1220	730	730	55	5	28105	2.1	120/1/60	YES	1
VAV-90041011	ROOMS: 147-148	1230	370	370	55	5	14245	1.1	120/1/60	YES	1
VAV-90041012	ROOMS: 113	220	110	180	55	5	7414	0.5	120/1/60	YES	1
VAV-90041013	ROOMS: 146, 160	470	140	470	55	5	21078	1.6	120/1/60	YES	1
-	-	-	-	-	-	-	-	-	-	-	-

NOTES:
1. FACTORY INSTALLED DDC CONTROLLER TO MATCH BUILDING CONTROL SYSTEM. DUEL MAX CONTROLS.

VARIABLE AIR VOLUME TERMINAL UNIT SIZE SCHEDULE

UNIT INLET DIA. SIZE INCHES	MAX PEAK AIRFLOW CAPACITY CFM	MAX AIR PRESS DROP W/ COIL IN. WG.	MAX N.C.	OUTLET BRANCH DUCT SIZE OR EQUIVALENT UNLESS OTHERWISE NOTED ON THE PLANS	NOTES
6	45 - 225	0.25	30	9 X 6	1-4
7	226 - 350	0.25	30	12 X 6	1-4
8	351 - 500	0.25	30	12 X 8	1-4
9	501 - 650	0.25	30	15 X 8	1-4
10	651 - 900	0.25	30	17 X 9	1-4
12	901 - 1050	0.25	30	17 X 10	1-4
14	1051 - 1400	0.25	30	17 X 12	1-4

NOTES:
1. PRESSURE DROP FOR THE BOX INCLUDING HEATING COIL AT PEAK AIR FLOW.
2. EITHER DISCHARGE OR RADIATED. BASED ON ROOM OR CEILING ATTENUATION OR 10 DB, FLOW DIVISION EFFECT (APPROX. 300 CFM PER OUTLET) & DIFFERENTIAL PRESSURE OF 1 IN. WG.
3. UNIT DAMPER SHALL BE NORMALLY OPEN.
4. FACTORY INSTALLED DDC CONTROLLER.

GENERAL NOTES:

A. FOR MECHANICAL HVAC NOTES, LEGENDS, AND ABBREVIATIONS, SEE SHEETS M-900001B THRU M-900007B.

B. ALL VFD DRIVEN MOTORS SHALL BE INVERTER DUTY TYPE.

KEYNOTES:

1. EQUIPMENT SHALL REMAIN OPERATIONAL IMMEDIATELY AFTER AN EARTHQUAKE, AND MUST BE CERTIFIED BASED ON SHAKE TABLE TESTING OR EXPERIENCE DATA. REFER TO SPEC SECTION 13 48 00.01 10 AND RELEVANT EQUIPMENT SPECIFICATIONS.

ALL LISTED MANUFACTURERS OF EQUIPMENT ON THESE DRAWINGS ARE PRESENTED TO ESTABLISH A STANDARD OF QUALITY AND PERFORMANCE ONLY. SUBSTITUTIONS ARE ALLOWED, PROVIDED THAT THEY ARE "APPROVED EQUAL" FROM A DESIGN QUALITY AND PERFORMANCE STAND POINT. BASIS OF DESIGN MODELS ARE PROVIDED FOR REFERENCE ONLY. THE ACTUAL MODEL SHALL MATCH THE PERFORMANCE LISTED.

ALL DIMENSIONS AND/OR DIMENSIONS SHOWN IN CALLOUTS/NOTES ARE INCHES UNLESS OTHERWISE NOTED

REGISTERED PROFESSIONAL ENGINEER PEGGY PEIYI WU No. M 30595 EXP. 06-30-18 MECHANICAL STATE OF CALIFORNIA 11-18-16

RTA

US Army Corps of Engineers®
Alaska District

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

AECOM + TETRA TECH JV

Designed: N.PATEL
Drawn: C.DECASTRO
Reviewed: P.WU
Submitted: BTN

Date: 2016.11.18
Dwg Scale: AS NOTED
Plot Scale: 1:1
File Name: CLR_LRDR_MCF_MECH_2015
Drawing #: AF-141-391-02

W911KB-17-R-0010
MDA656
CLR039

AM#08 AMENDMENT #8 - FOR 2017.01.13 BTN
F - READY TO ADVERTISE SUBMITTAL 2016.11.18 BTN

CLEAR AFS, ALASKA
LONG RANGE DISCRIMINATION RADAR
CONSTRUCTION PACKAGE 1 - VOLUME 2
MECHANICAL HVAC EQUIPMENT SCHEDULES - SHEET 2 OF 5

Reference number:
MH900702B

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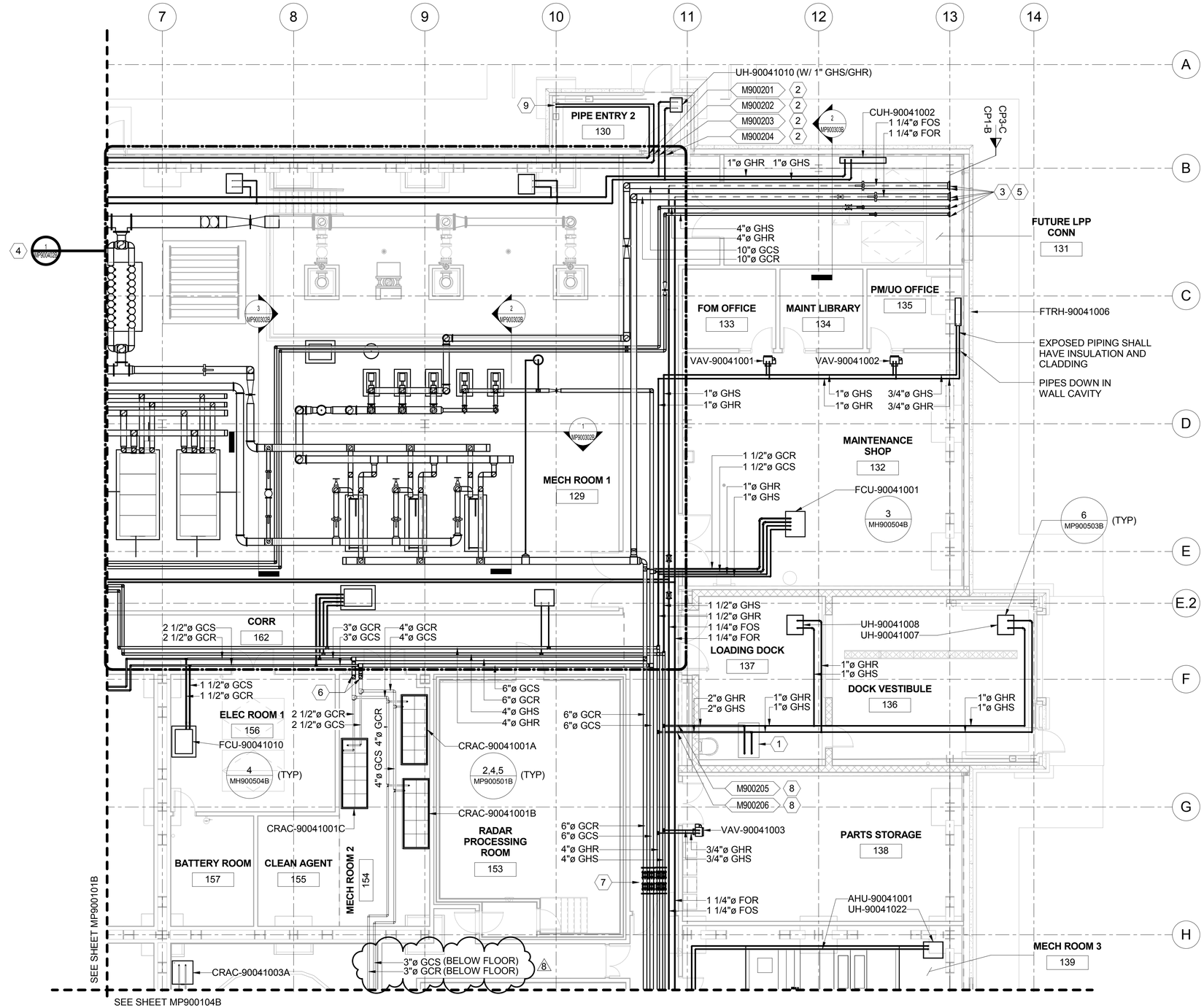


1 MP900102B LEVEL 1 - MECHANICAL PIPING FLOOR PLAN ZONE B

1/8" = 1'-0"

PLAN NORTH

8' 0 8' 16'

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

ALL DIMENSIONS AND/OR DIMENSIONS SHOWN IN CALLOUTS/NOTES ARE INCHES UNLESS OTHERWISE NOTED

GENERAL NOTES:

A. FOR MECHANICAL PIPING NOTES, LEGENDS, AND ABBREVIATIONS, SEE SHEETS M-900001B THRU M-900007B.

B. FOR PIPE VALVES & SIZES REFER TO SHEETS MP900601B THRU MP900608B.

C. MOUNT FTRH 6" ABOVE FLOOR PER MANUFACTURER'S RECOMMENDATIONS AND DETAIL 6 ON SHEET MH900504B.

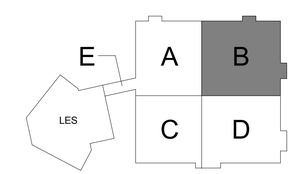
D. REFER TO SHEET A-900008B FOR HEMP SHIELD.

KEYNOTES:

1. 2" GHS/GHR UP TO ATTIC SPACE WITH SHUT OFF VALVES. SEE SHEET MP900112B FOR CONTINUATION.
2. FOR HEMP PENETRATION DETAIL SEE DETAIL 3 ON SHEET MP900504B. REFER TO Z-SERIES DRAWINGS FOR SCHEDULE.
3. TERMINATE PIPE WITH BLIND FLANGE.
4. REFER TO ENLARGED PLAN ON SHEET MP900402B FOR PIPE SIZES AND EQUIPMENT.
5. PIPE FOR FUTURE CONNECTION. PROVIDE 4-WAY SEISMIC BRACE NEAR END OF PIPE.
6. 4" GCS/GCR DN TO FLOOR W/ ISOLATION VALVES.
7. 150 PSIG FLANGED STAINLESS STEEL TWO PLY BELLOWS EXPANSION JOINT W/ PIPE GUIDES AND ANCHORS PER MANUFACTURER'S RECOMMENDATIONS FOR 2" MOVEMENT.
8. FOR HEMP PENETRATION DETAIL SEE DETAIL 3 ON SHEET MP900504B. REFER TO Z-SERIES DRAWINGS FOR SCHEDULE.
9. 3/4" HTS/HTR DOWN W/ SHUT OFF VALVE AND CONNECT TO HEAT TRACE TUBING OF STORM DRAIN, SEE SHEET MP900606B.

HEMP TAGS:

M900201	3/4" DIA HTS
M900202	3/4" DIA HTR
M900203	1" DIA GHR
M900204	1" DIA GHS
M900205	2" DIA GHS
M900206	2" DIA GHR



REGISTERED PROFESSIONAL ENGINEER PEGGY PEIYI WU No. M 30595 EXP. 06-30-18 MECHANICAL STATE OF CALIFORNIA 11-18-16

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US Army Corps of Engineers ®
Alaska District

CONTRACT NO. | CONTRACTOR | CITY | STATE
Recommended: PRIME CONTRACTOR | Approved: RESIDENT ENGINEER | Date:

No.	Author	Description	Date	Approved
2	AMMOS	AMENDMENT #08 - FC-P0007	2017.01.13	BTN
1	BD	READY TO ADVERTISE SUBMITTAL	2016.11.18	BTN

Designed: N PATEL
Drawn: C DECASTRO
Reviewed: P WU
Submitted: BTN
Date: 20/16.11.18
Dwg Scale: AS NOTED
Plot Scale: 1:1
File Name: CLR_ERDR_MCF_MECH_2015
Drawing #: AF-141-391-02

U.S. ARMY ENGINEER DISTRICT CORPS OF ENGINEERS ANCHORAGE, ALASKA

AECOM + TETRA TECH JV

W911KB-17-R-0010
MDA656

CLR039

CLEAR AFS, ALASKA
LONG RANGE DISCRIMINATION RADAR
CONSTRUCTION PACKAGE 1 - VOLUME 2
MECHANICAL PIPING FLOOR PLAN B

Reference number:
MP900102B

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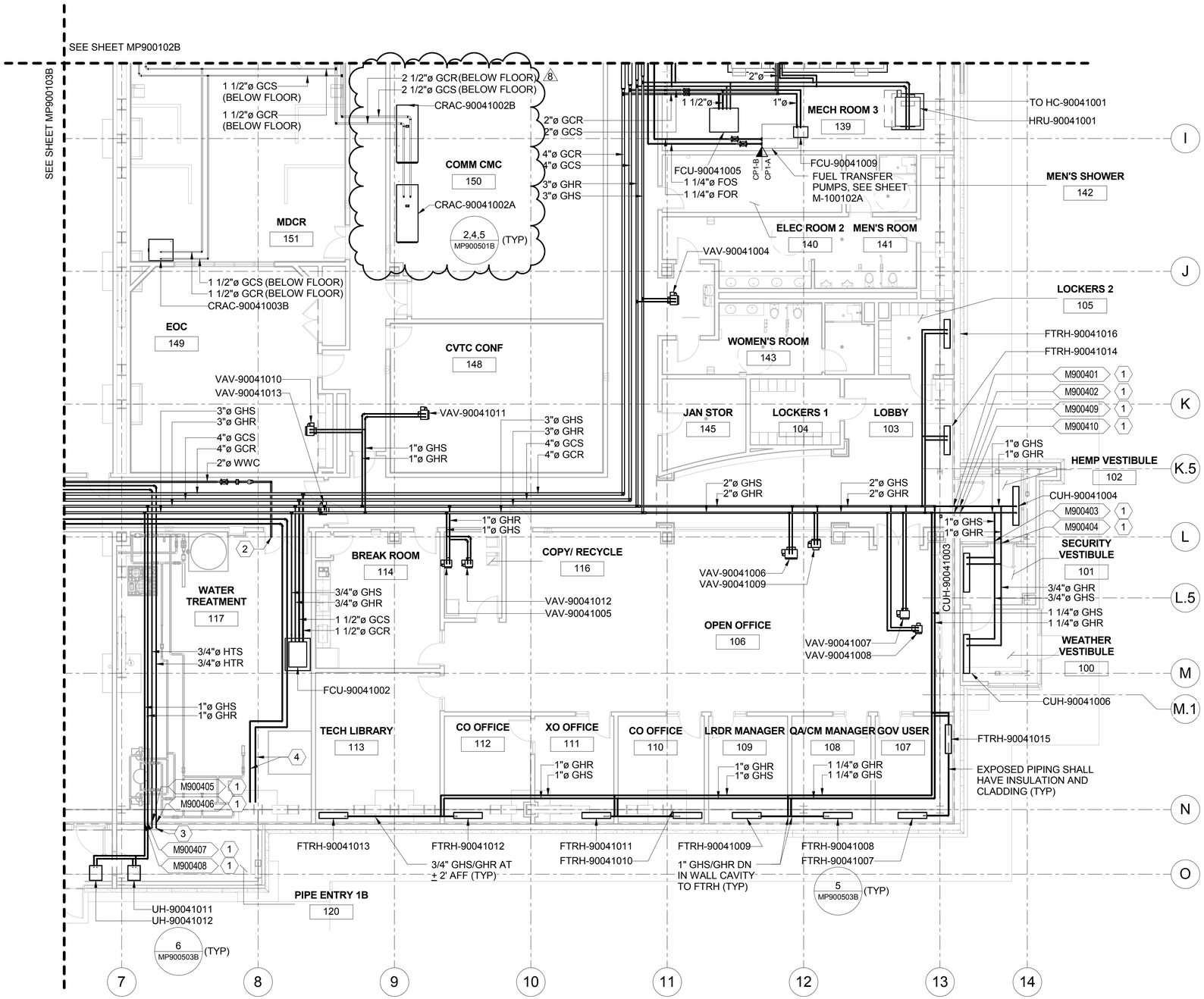


GENERAL NOTES:

A. FOR MECHANICAL PIPING NOTES, LEGENDS, AND ABBREVIATIONS, SEE SHEETS M-900001B THRU M-900007B.

B. FOR PIPE VALVES & SIZES REFER TO SHEETS MP900601B THRU MP900608B.

C. MOUNT FTRH 6" ABOVE FLOOR PER MANUFACTURER'S RECOMMENDATIONS AND DETAIL 6 ON SHEET MH900504B.

D. REFER TO SHEET A-900008B FOR HEMP SHIELD.

KEYNOTES:

1. FOR HEMP PENETRATION DETAIL SEE DETAIL 4 ON SHEET MP900503B. REFER TO Z-SERIES DRAWINGS FOR SCHEDULE.

2. CONNECT TO:
   1" ICW OF MCF
   1" ICW OF LPP
   1-1/2" ICW OF LES
   REFER TO P-SERIES, SHEET P-900606B, FOR CONTINUATION.

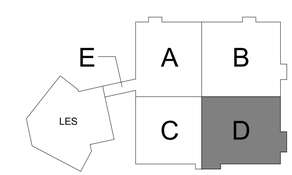
3. 3/4" HTS/HTR DOWN W/ SHUT OFF VALVE AND CONNECT TO HEAT TRACE TUBING OF WELL WATER PIPE, SEE SHEET MP900606B.

4. 1-1/4" CW AND RECIRCULATION LINE FOR CONTINUATION, REFER TO P-900402B.

5. REFER TO P-SERIES, SHEET P-900606B, FOR CONTINUATION.

HEMP TAGS:

M900401	1" DIA GHR
M900402	1" DIA GHS
M900403	3/4" DIA GHS
M900404	3/4" DIA GHR
M900405	3/4" DIA HTS
M900406	3/4" DIA HTR
M900407	1" DIA GHS
M900408	1" DIA GHR
M900409	1" DIA GHR
M900410	1" DIA GHS



US Army Corps of Engineers ®
Alaska District

CONTRACT NO.
CONTRACTOR
CITY
STATE
Recommended:
Approved:
Date:
PRIME CONTRACTOR
RESIDENT ENGINEER

Symbol	Description	Date	By
5	AMR08 AMENDMENT #08 _FOF007	2017.03.13	BTN
4	AMR05 AMENDMENT #05	2016.12.05	BTN
3	READY TO ADVERTISE SUBMITTAL	2016.11.18	BTN
2	60%	2016.11.04	BTN
1	Action	Date	Approved

Date: 2016.11.18
Dwg Scale: AS NOTED
Plot Scale: 1:1
File Name: CLR_ERR_MCF_MECH_2015
Drawing #: AF-141-391-02

CLR039

Designed: N PATEL
Drawn: C DECASTRO
Reviewed: P WU
Submitted: BTN

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

AECOM + TETRA TECH JV

W911KB-17-R-0010
MDA656

CLEAR AFS, ALASKA
LONG RANGE DISCRIMINATION RADAR
CONSTRUCTION PACKAGE 1 - VOLUME 2
MECHANICAL PIPING FLOOR PLAN D

Reference number:
MP900104B

REGISTERED PROFESSIONAL ENGINEER
PEGGY PEIYI WU
No. M 30595
EXP. 06-30-18
MECHANICAL
STATE OF CALIFORNIA
11-18-16

RTA

1
MP900104B
LEVEL 1 - MECHANICAL PIPING FLOOR PLAN ZONE D
1/8" = 1'-0"

PLAN NORTH

8' 0 8' 16'
SCALE: 1/8" = 1' - 0"

ALL DIMENSIONS AND/OR DIMENSIONS SHOWN IN CALLOUTS/NOTES ARE INCHES UNLESS OTHERWISE NOTED

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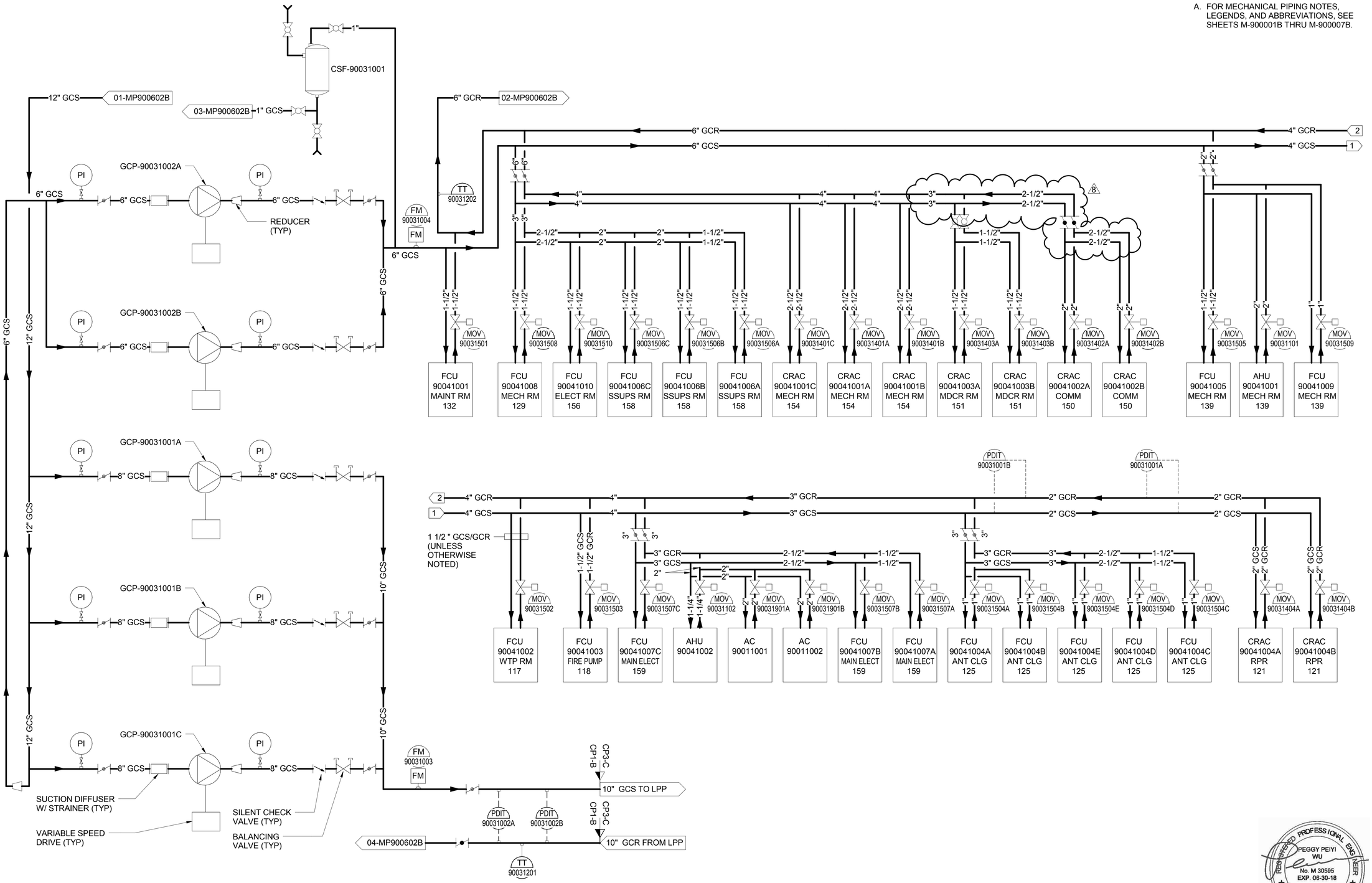
GENERAL NOTES:

A. FOR MECHANICAL PIPING NOTES, LEGENDS, AND ABBREVIATIONS, SEE SHEETS M-900001B THRU M-900007B.



1 MP900603B

MECHANICAL PIPING DIAGRAM - CHILLED WATER SYSTEM

NOT TO SCALE

ALL DIMENSIONS AND/OR DIMENSIONS SHOWN IN CALLOUTS/NOTES ARE INCHES UNLESS OTHERWISE NOTED

REGISTERED PROFESSIONAL ENGINEER PEGGY PEIYI WU No. M 30595 EXP. 06-30-18 MECHANICAL STATE OF CALIFORNIA 11-18-16

RTA

NOT FOR CONSTRUCTION

US Army Corps of Engineers ®
Alaska District

CONTRACT NO. — CONTRACTOR — CITY — STATE
Recommended: — Approved: — Date:
PRIME CONTRACTOR — RESIDENT ENGINEER

No.	Action	Description	Date	By
2	AM08	AMENDMENT #08 - FC-P0007	2017.01.13	BTN
1	RFC	READY TO ADVERTISE SUBMITTAL	2016.11.18	BTN

Designed: N.PATEL
Drawn: C.DECASTRO
Reviewed: P.WU
Submitted: BTN
Date: 2016.11.18
Dwg Scale: AS NOTED
Plot Scale: 1:1
File Name: CLR_LRDR_MCF_MECH_2015
Drawing #: AF-141-391-02

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ANCHORAGE, ALASKA

AECOM + TETRA TECH JV

W911KB-17-R-0010
MDA656

CLR039

CLEAR AFS, ALASKA
LONG RANGE DISCRIMINATION RADAR
CONSTRUCTION PACKAGE 1 - VOLUME 2
MECHANICAL PIPING DIAGRAM - CHILLED WATER SYSTEM

Reference number:
MP900603B

PLOTTED ON 1/16/2017 11:26:41 AM

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CONTROL VALVE SCHEDULE

TAG	EQUIPMENT SERVED	SYSTEM SERVED	TYPE	RANGE	SIZE INCHES	GPM	FAIL POSITION	NOTES
MOV-90031101	AHU-90041001	AHU COOLING COIL	2-WAY MODULATING W/ SPRING RETURN	0-10 VDC	2	26	CLOSE	-
MOV-90022101	AHU-90041001	AHU HEATING COIL	2-WAY MODULATING W/ SPRING RETURN	0-10 VDC	2	22.5	OPEN	-
MOV-90031102	AHU-90041002	AHU COOLING COIL	2-WAY MODULATING W/ SPRING RETURN	0-10 VDC	1-1/4	9.4	CLOSE	-
MOV-90022102	AHU-90041002	AHU HEATING COIL	2-WAY MODULATING W/ SPRING RETURN	0-10 VDC	1-1/2	19	OPEN	-
MOV-90022201	HC-90041001	AHU-1, OA HEATING COIL	2-WAY MODULATING W/ SPRING RETURN	0-10 VDC	1-1/4	9.5	OPEN	-
MOV-90022202	HC-90041002	AHU-2, OA HEATING COIL	2-WAY MODULATING W/ SPRING RETURN	0-10 VDC	2	27	OPEN	-
MOV-90022203	HC-90041003A	SF-1, OA HEATING COIL	2-WAY MODULATING W/ SPRING RETURN	0-10 VDC	2-1/2	62.5	OPEN	-
MOV-90022204	HC-90041003B	SF-2, OA HEATING COIL	2-WAY MODULATING W/ SPRING RETURN	0-10 VDC	2-1/2	62.5	OPEN	-
MOV-90022205A	HX-90052001A	FIRE WATER	2-WAY MODULATING	0-10 VDC	1	10.1	OPEN	-
MOV-90022205B	HX-90052001B	FIRE WATER	2-WAY MODULATING	0-10 VDC	1	10.1	OPEN	-
MOV-90022206	HX-90012001	POTABLE WATER	2-WAY MODULATING	0-10 VDC	1	1.2	OPEN	-
MOV-90022207	HX-90022001	HEAT TRACE	2-WAY MODULATING	0-10 VDC	1	5	OPEN	-
TCV-90022001A	B-90022001A	BOILER	3-WAY MODULATING SELF ACTUATING	-	3	300	LAST	CV-120
TCV-90022001B	B-90022001B	BOILER	3-WAY MODULATING SELF ACTUATING	-	3	300	LAST	CV-120
TCV-90022001C	B-90022001C	BOILER	3-WAY MODULATING SELF ACTUATING	-	3	300	LAST	CV-120
TCV-90022002A	B-90022002A	BOILER	3-WAY MODULATING SELF ACTUATING	-	2-1/2	150	LAST	CV-77
TCV-90022002B	B-90022002B	BOILER	3-WAY MODULATING SELF ACTUATING	-	2-1/2	150	LAST	CV-77
MOV-90022301	HP-90022001	HOT WATER	2-WAY ON-OFF	-	6	460	OPEN	-
MOV-90022302	HP-90022002	HOT WATER	2-WAY ON-OFF	-	6	460	OPEN	-
MOV-90031001A	HX-90031001A	WELL WATER	2-WAY MODULATING	0-10 VDC	8	1000	LAST	-
MOV-90031001B	HX-90031001B	WELL WATER	2-WAY MODULATING	0-10 VDC	8	1000	LAST	-
MOV-90031001C	HX-90031001C	WELL WATER	2-WAY MODULATING	0-10 VDC	8	1000	LAST	-
MOV-90031002A	WELL WATER SYSTEM	WELL WATER	2-WAY MODULATING	0-10 VDC	6	1000	LAST	-
MOV-90031002B	WELL WATER SYSTEM	WELL WATER	2-WAY MODULATING	0-10 VDC	6	1000	LAST	-
MOV-90031401A	CRAC-90041001A	CRAC CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	2-1/2	60	CLOSE	-
MOV-90031401B	CRAC-90041001B	CRAC CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	2-1/2	60	CLOSE	-
MOV-90031401C	CRAC-90041001C	CRAC CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	2-1/2	60	CLOSE	-
MOV-90031402A	CRAC-90041002A	CRAC CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	2	58	CLOSE	-
MOV-90031402B	CRAC-90041002B	CRAC CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	2	58	CLOSE	-
MOV-90031403A	CRAC-90041003A	CRAC CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	14	CLOSE	-
MOV-90031403B	CRAC-90041003B	CRAC CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	14	CLOSE	-
MOV-90031404A	CRAC-90041004A	CRAC CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	2	38	CLOSE	-
MOV-90031404B	CRAC-90041004B	CRAC CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	2	38	CLOSE	-
MOV-90022404A	CRAC-90041004A	CRAC HOT WATER COIL	2-WAY MODULATING	0-10 VDC	1	3.5	OPEN	-
MOV-90022404B	CRAC-90041004B	CRAC HOT WATER COIL	2-WAY MODULATING	0-10 VDC	1	3.5	OPEN	-
MOV-90031501	FCU-90041001	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/4	9	CLOSE	-
MOV-90031502	FCU-90041002	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1	7.6	CLOSE	-
MOV-90031503	FCU-90041003	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1	7	CLOSE	-
MOV-90031504A	FCU-90041004A	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	10.7	LAST	-
MOV-90031504B	FCU-90041004B	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	10.7	LAST	-
MOV-90031504C	FCU-90041004C	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	10.7	LAST	-
MOV-90031504D	FCU-90041004D	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	10.7	LAST	-
MOV-90031504E	FCU-90041004E	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	10.7	LAST	-
MOV-90031505	FCU-90041005	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	16	CLOSE	-
MOV-90031506A	FCU-90041006A	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	22	LAST	-
MOV-90031506B	FCU-90041006B	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	22	LAST	-
MOV-90031506C	FCU-90041006C	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	22	LAST	-
MOV-90031507A	FCU-90041007A	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	21	LAST	-
MOV-90031507B	FCU-90041007B	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	21	LAST	-
MOV-90031507C	FCU-90041007C	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	21	LAST	-
MOV-90031508	FCU-90041008	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1-1/2	20.5	CLOSE	-
MOV-90031509	FCU-90041009	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1	4	CLOSE	-
MOV-90031510	FCU-90041010	FCU CHILLED WATER COIL	2-WAY MODULATING	0-10 VDC	1	6	CLOSE	-
MOV-90022501	FCU-90041001	FCU HOT WATER COIL	2-WAY MODULATING	0-10 VDC	-	5	OPEN	-
MOV-90022502	FCU-90041002	FCU HOT WATER COIL	2-WAY MODULATING	0-10 VDC	-	1.6	OPEN	-
MOV-90022503	FCU-90041003	FCU HOT WATER COIL	2-WAY MODULATING	0-10 VDC	-	1.5	OPEN	-
MOV-90022504A	FCU-90041004A	FCU HOT WATER COIL	2-WAY MODULATING	0-10 VDC	-	3.0	OPEN	-
MOV-90022504B	FCU-90041004B	FCU HOT WATER COIL	2-WAY MODULATING	0-10 VDC	-	3.0	OPEN	-
MOV-90022504C	FCU-90041004C	FCU HOT WATER COIL	2-WAY MODULATING	0-10 VDC	-	3.0	OPEN	-
MOV-90022504D	FCU-90041004D	FCU HOT WATER COIL	2-WAY MODULATING	0-10 VDC	-	3.0	OPEN	-
MOV-90022504E	FCU-90041004E	FCU HOT WATER COIL	2-WAY MODULATING	0-10 VDC	-	3.0	OPEN	-
MOV-90022505	FCU-90041005	FCU HOT WATER COIL	2-WAY MODULATING	0-10 VDC	-	7	OPEN	-
MOV-90022508	FCU-90041008	FCU HOT WATER COIL	2-WAY MODULATING	0-10 VDC	-	3.5	OPEN	-

GENERAL NOTES:

A. FOR MECHANICAL PIPING NOTES, LEGENDS, AND ABBREVIATIONS, SEE SHEETS M-900001B THRU M-900007B.

B. VALVES USED FOR CHILLED WATER SHALL BE CALIBRATED FOR 40% PROP GLYCOL WITH AVERAGE TEMPERATURE OF 51 DEG F WHILE FOR HOT WATER SHALL BE CALIBRATED FOR 50% PROP GLYCOL WITH AVERAGE TEMPERATURE OF 120 DEG F.

C. ALL MODULATING CONTROL VALVES SHALL BE PRESSURE INDEPENDENT TYPE, EXCEPT NOTED OTHERWISE IN DETAILS.

PEGGY PEIYI WU
No. M 30595
EXP. 06-30-18
MECHANICAL
STATE OF CALIFORNIA
11-18-16

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00		READY TO ADVERTISE SUBMITTAL	2016.11.18	BTN

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CLEAR AFS, ALASKA
LONG RANGE DISCRIMINATION RADAR
CONSTRUCTION PACKAGE 1 - VOLUME 2
MECHANICAL PIPING EQUIPMENT SCHEDULES - SHEET 3 OF 4

Reference number:
MP900703B

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