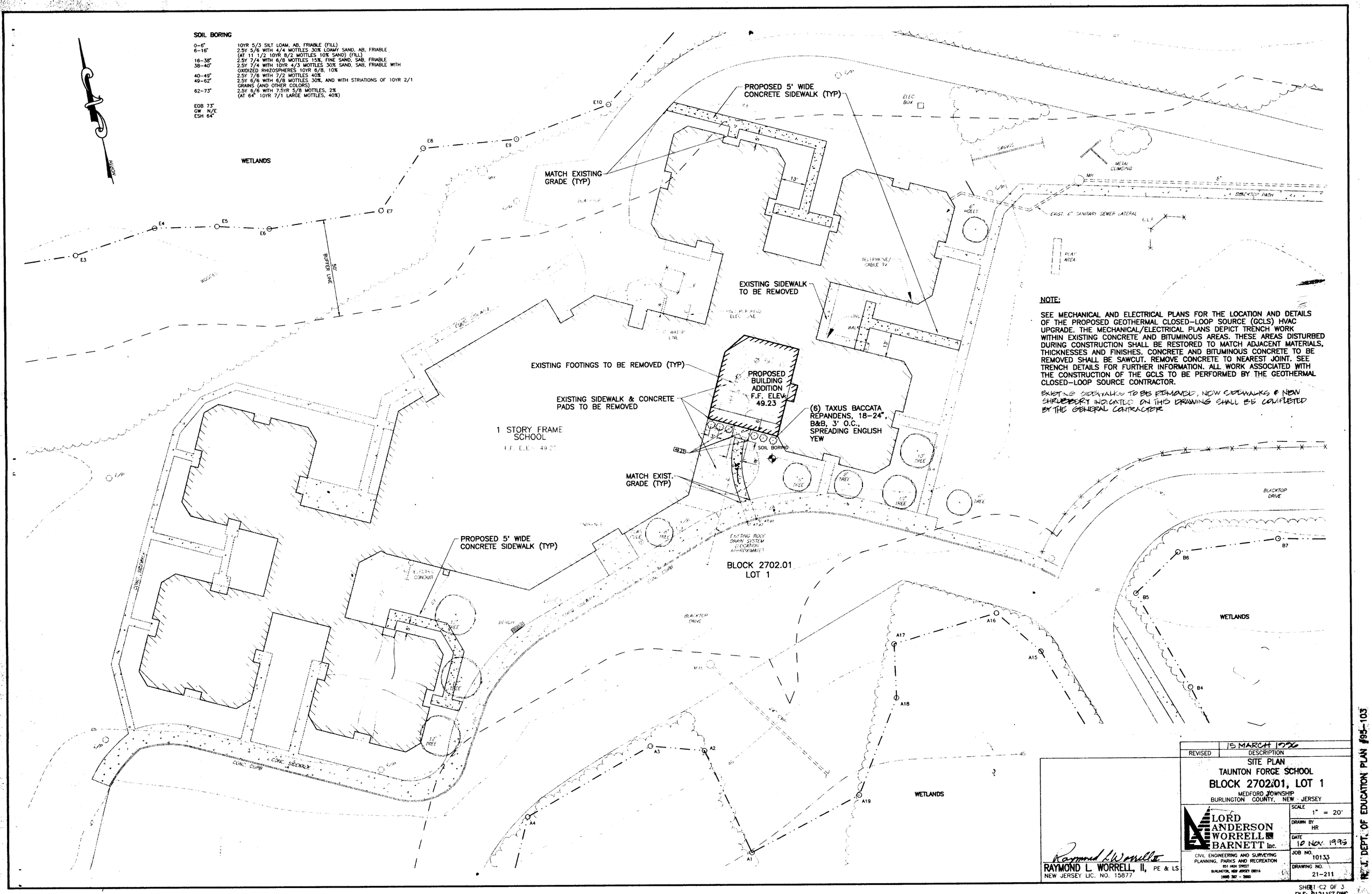


NOTE:

SEE MECHANICAL AND ELECTRICAL PLANS FOR THE LOCATION AND DETAILS OF THE PROPOSED GEOTHERMAL CLOSED-LOOP SOURCE (GCLS) HVAC UPGRADE. THE MECHANICAL/ELECTRICAL PLANS DEPICT TRENCH WORK WITHIN EXISTING CONCRETE AND BITUMINOUS AREAS. THESE AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO MATCH ADJACENT MATERIALS, THICKNESSES AND FINISHES. CONCRETE AND BITUMINOUS CONCRETE TO BE REMOVED SHALL BE SAWCUT. REMOVE CONCRETE TO NEAREST JOINT. SEE TRENCH DETAILS FOR FURTHER INFORMATION. ALL WORK ASSOCIATED WITH THE CONSTRUCTION OF THE GCLS TO BE PERFORMED BY THE GEOTHERMAL CLOSED-LOOP SOURCE CONTRACTOR.

EXISTING SIDEWALKS TO BE REMOVED, NEW SIDEWALKS & NEW SHRUBBERY INDICATED ON THIS DRAWING SHALL BE COMPLETED BY THE GENERAL CONTRACTOR

REVISED	DESCRIPTION
	15 MARCH 1996

SITE PLAN
TAUNTON FORGE SCHOOL
BLOCK 2702.01, LOT 1
MEDFORD TOWNSHIP
BURLINGTON COUNTY, NEW JERSEY

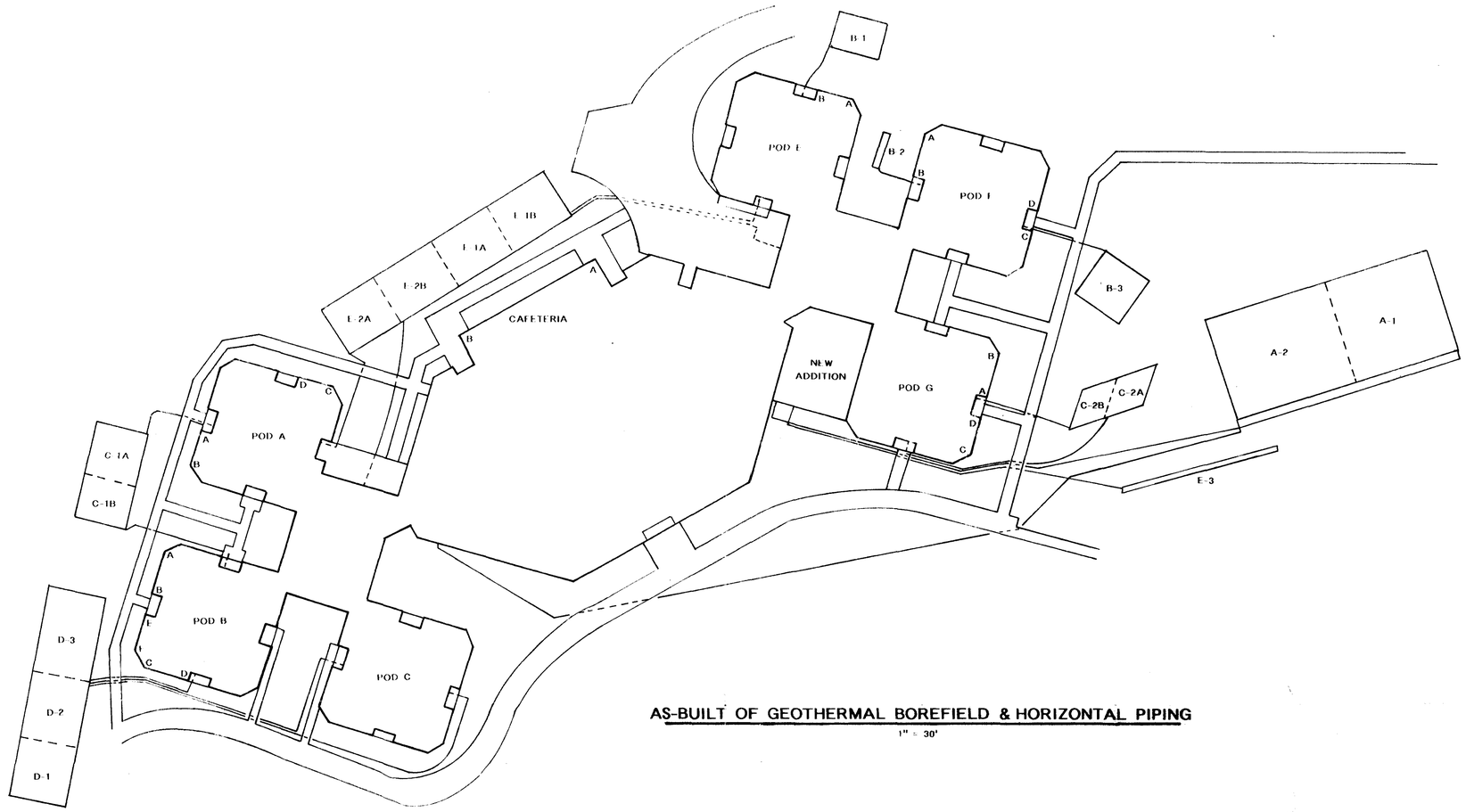
LORD ANDERSON WORRELL BARNETT Inc.
CIVIL ENGINEERING AND SURVEYING
PLANNING, PARKS AND RECREATION
851 HIGH STREET
BURLINGTON, NEW JERSEY 08016
(609) 387 - 2800

SCALE 1" = 20'
DRAWN BY HR
DATE 10 NOV. 1995
JOB NO. 10133
DRAWING NO. 21-211

Raymond L. Worrell II
RAYMOND L. WORRELL, II, PE & LS
NEW JERSEY LIC. NO. 15877

SHEET C2 OF 3
FILE: 21211ST.DWG

N.J. DEPT. OF EDUCATION PLAN #95-103



AS-BUILT OF GEOTHERMAL BOREFIELD & HORIZONTAL PIPING

1" = 30'

BOREFIELD A-1

DIMENSIONED FROM POD G

	A	B
B1	219'6"	212'
B2	217'	209'
B3	217'	206'
B4	205'	197'
B5	203'	195'
B6	202'6"	191'6"
B7	196'	184'
B8	178'	170'
B9	176'6"	169'6"
B10	174'	166'

BOREFIELD A-2

DIMENSIONED FROM POD G

	A	B
B1	111'	104'
B2	112'6"	108'
B3	118'	116'
B4	125'6"	118'
B5	126'6"	122'
B6	131'	128'6"
B7	141'	133'
B8	142'6"	136'6"
B9	145'	142'
B10	155'6"	147'
B11	158'	151'
B12	159'6"	155'

BOREFIELD B-1

DIMENSIONED FROM POD E

	A	B
B1	26'6"	20'
B2	38'	34'
B3	21'	27'
B4	38'	45'

BOREFIELD C-1A

DIMENSIONED FROM POD A

	A	B
B1	25'	24'
B2	49'	41'
B3	34'	23'

BOREFIELD C-1B

DIMENSIONED FROM POD B

	A	B
B1	31'	45'
B2	25'	35'
B3	48'6"	59'
B4	40'6"	47'6"

BOREFIELD C-2A

DIMENSIONED FROM POD G

	A	B
B1	61'	57'
B2	72'6"	71'
B3	76'	70'

BOREFIELD C-2B

DIMENSIONED FROM POD G

	A	B
B1	41'	49'
B2	51'	55'
B3	48'	46'

BOREFIELD E-1A

DIMENSIONED FROM BACK OF CAFETERIA

	A	B
B1	37'	49'
B2	47'	57'
B3	50'	34'
B4	58'	47'

BOREFIELD E-1B

DIMENSIONED FROM BACK OF CAFETERIA

	A	B
B1	22'	77'
B2	40'	69'
B3	26'	62'

BOREFIELD E-2A

DIMENSIONED FROM POD A

	C	D
B1	33'	41'
B2	35'	33'
B3	44'	47'

BOREFIELD E-2B

DIMENSIONED FROM POD A

	C	D
B1	60'	70'
B2	46'	56'
B3	56'	61'
B4	68'	75'

BOREFIELD B-2

DIMENSIONED FROM POD F

	A	B
B1	35'	19'
B2	22'	15'6"
B3	15'	22'

BOREFIELD B-3

DIMENSIONED FROM POD F

	C	D
B1	34'	37'
B2	45'	53'
B3	48'	50'
B4	59'	62'

BOREFIELD D-1

DIMENSIONED FROM POD B

	C	D
B1	59'	70'
B2	67'	80'
B3	73'	82'
B4	80'	91'

BOREFIELD D-2

DIMENSIONED FROM POD B

	E	I
B1	53'6"	36'6"
B2	66'6"	49'
B3	62'	48'

BOREFILED D-3

DIMENSIONED FROM POD B

	A	E
B1	66'6"	30'
B2	34'	28'
B3	65'	45'
B4	54'	46'6"

BOREFIELD E-3

DIMENSIONED FROM POD G

	C	D
B1	70'	73'
B2	87'	86'
B3	100'	98'
B4	113'	101'
B5	129'	125'
B6	143'	140'

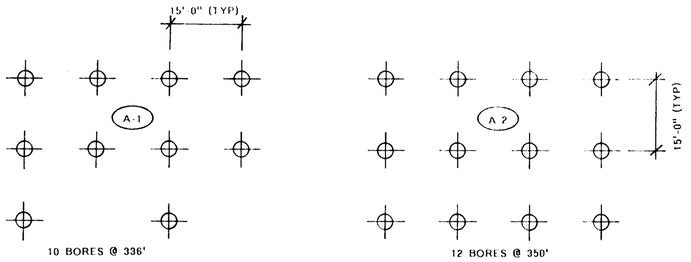
NOTE: 1) POINTS OF REFERENCE UTILIZED FOR DIMENSIONING ON THIS DRAWING ARE ALL OUTSIDE BUILDING CORNERS.
2) HORIZONTAL PIPING RUNS FROM BOREFIELD TO BUILDING ENTRY ARE SHOWN AS THE CENTER LINE OF THE EXCAVATION FOR PLACEMENT OF 2" SUPPLY & RETURN PIPING. TYPICAL TRENCH WIDTHS ARE 4'+

AS-BUILT GEOTHERMAL BOREFIELD
TAUNTON FORGE ELEM. SCHOOL
32 EVERGREEN TRAIL
MEDFORD, NJ

DRAWN BY: CAV	DATE: 1/8/97	1 of 2
SCALE: NONE AS NOTED	LAB NO.:	

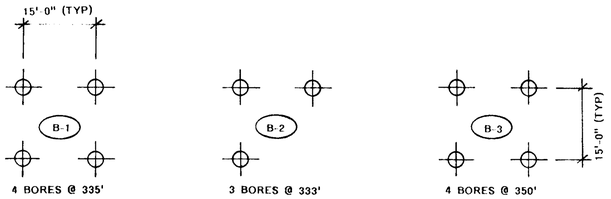
GEOTHERMAL SERVICES, INC.
A Division of CRAIG TEST BORING CO., INC.
P. O. Box 638 • Mays Landing • NJ 08330-2203 • (609) 625-4862 • FAX (609) 625-4306

485



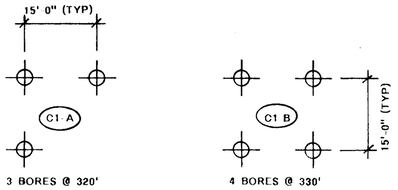
LOOP FIELD "A"

A-1 PIPING TO/FROM STORAGE & EQUIPMENT ROOM D-112
A-2 PIPING TO/FROM STORAGE ROOM D-129



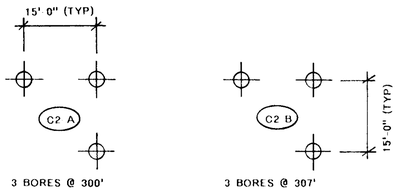
LOOP FIELD "B"

B-1 PIPING TO/FROM CLOSET E-102
B-2 PIPING TO/FROM CLOSET F-109
B-3 PIPING TO/FROM CLOSET F-105



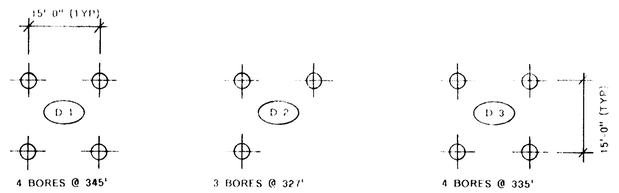
LOOP FIELD "C1"

C1-A PIPING TO/FROM CLOSET B-104
C1-B PIPING TO/FROM CLOSET A-109



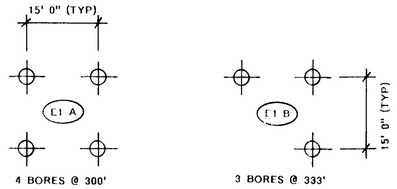
LOOP FIELD "C2"

C2-A PIPING TO/FROM CLOSET G-107
C2-B PIPING TO/FROM CLOSET G-104



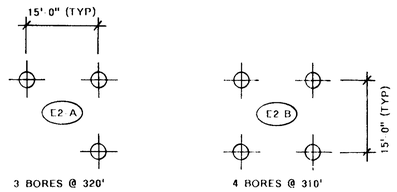
LOOP FIELD "D"

D-1 PIPING TO/FROM CLOSET C-109
D-2 PIPING TO/FROM CLOSET C-104
D-3 PIPING TO/FROM CLOSET B-103



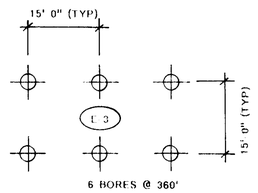
LOOP FIELD "E1"

E1-A PIPING TO/FROM CLOSET D-102
E1-B PIPING TO/FROM CLOSET E-106



LOOP FIELD "E2"

E2-A PIPING TO/FROM CLOSET A-104
E2-B PIPING TO/FROM STORAGE D-137



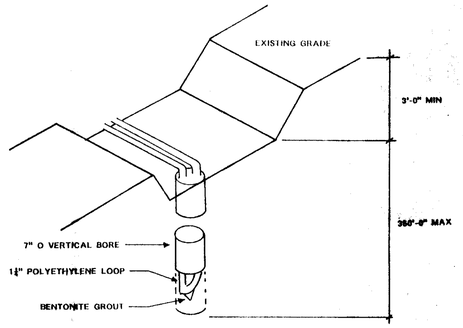
LOOP FIELD "E3"

E-3 PIPING TO/FROM IMC D-105

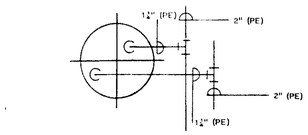
LOOP FIELD SCHEDULE

FIELD	FIELD SYMBOL	AC UNITS SERVED	TOTAL NUMBER OF HOLES IN FIELD	DEPTH OF HOLES (FEET)	COMBINED DEPTH OF BORE-HOLES (FEET)
A	A-1	AC-24, 25 & 26	10	336	3,360
	A-2	AC-22, 23, 27, 28	12	350	4,200
B	B-1	AC-4, 11	4	335	1,340
	B-2	AC-6, 14	3	333	1,000
	B-3	AC-7, 12	4	350	1,400
C1	C1-A	AC-16	3	320	960
	C1-B	AC-1, 8	4	330	1,320
C2	C2-A	AC-19	3	300	900
	C2-B	AC-18	3	307	920
D	D-1	AC-3, 10	4	345	1,380
	D-2	AC-17	3	327	980
	D-3	AC-2, 9	4	335	1,340
E1	E1-A	AC-20	4	300	1,200
	E1-B	AC-5, 13	3	333	1,000
E2	E2-A	AC-15	3	320	960
	E2-B	AC-21	4	310	1,240
E3	E-3	RT-1, UV-1,2	6	360	2,160

WELL PIPING DETAIL
NOT TO SCALE



WELL PIPING DETAIL
NOT TO SCALE



NOTE: WELL SPACING 15'-0"
WELL DEPTH: 360'-0" MAXIMUM
BORE DIAMETER: 7"
PIPE DIAMETER: 1¼ POLYETHYLENE

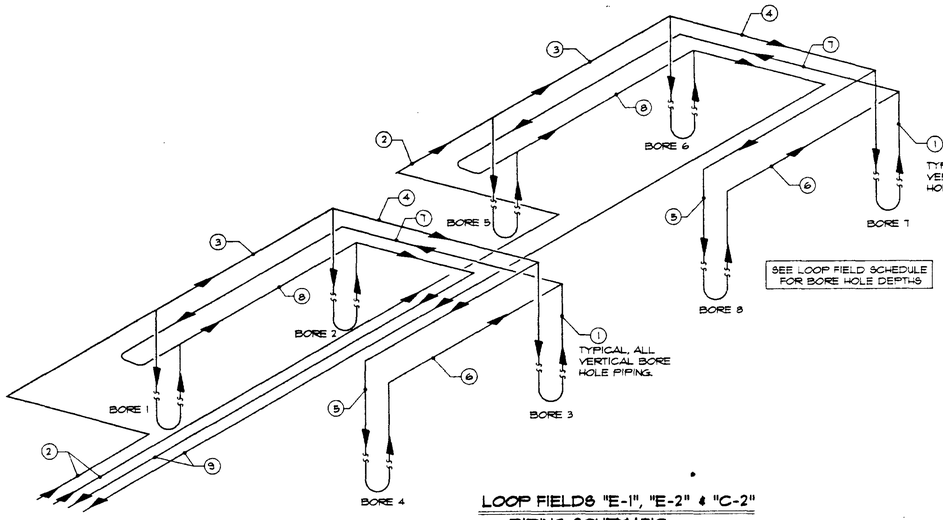
PROPOSED GEOTHERMAL BOREFIELD SITE PLAN

TAUNTON FORGE ELEM. SCHOOL
32 EVERGREEN TRAIL
MEDFORD, NJ

DRAWN BY:	DATE:	
CAV	1/8/97	2 of 2
SCALE: NONE AS NOTED	LAB NO.:	

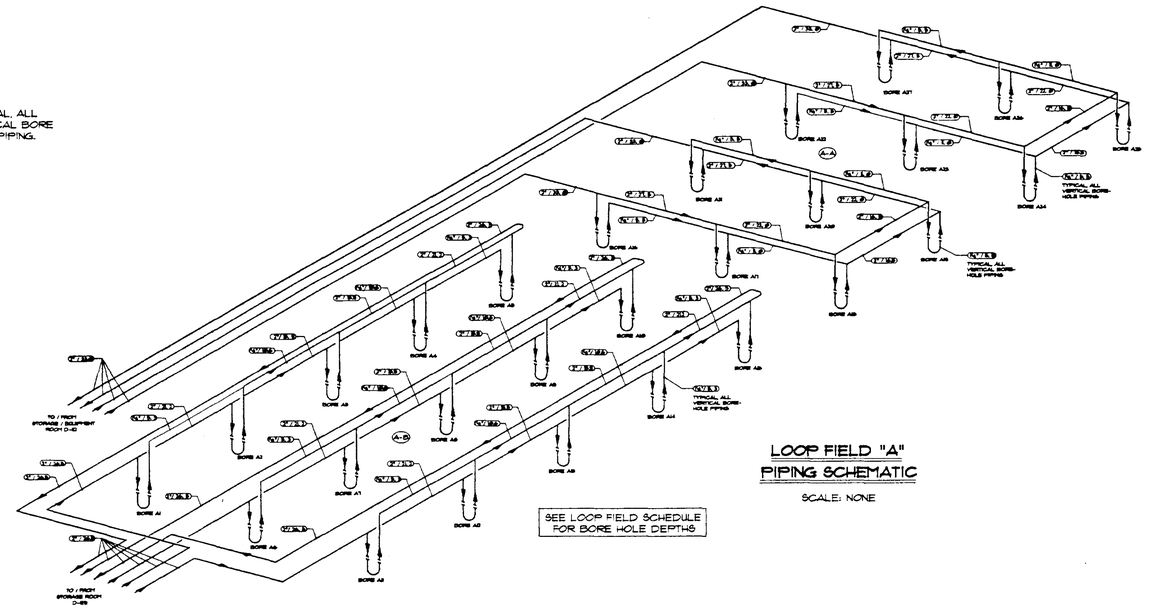
GEOTHERMAL SERVICES, INC.
A DIVISION OF CRAIG TEST BORING CO., INC.
P.O. BOX 635 • Mays Landing • NJ 08330-2203 • (609) 625-4862 • FAX (609) 625-4306

1048



LOOP FIELDS "E-1", "E-2" & "C-2" PIPING SCHEMATIC

SCALE: NONE



LOOP FIELD "A" PIPING SCHEMATIC

SCALE: NONE

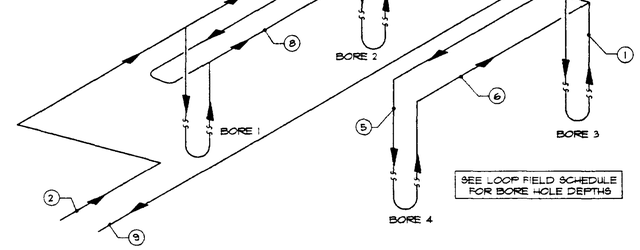
PIPE SIZE / FLOW TABULATION

LOOP FIELD	FIELD SYMBOL	TO / FROM	1		2		3		4		5		6		7		8		9	
			P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
E-1	E-A	CLOSET D-102	1¼"	6 . Ø	2"	24 . Ø	2"	18 . Ø	1¼"	12 . Ø	1¼"	6 . Ø	1¼"	6 . Ø	1¼"	12 . Ø	2"	18 . Ø	2"	24 . Ø
	E-B	CLOSET E-106	1¼"	5 . Ø	2"	20 . Ø	2"	15 . Ø	1¼"	10 . Ø	1¼"	5 . Ø	1¼"	5 . Ø	1¼"	10 . Ø	2"	15 . Ø	2"	20 . Ø
E-2	E-C	CLOSET A-104	1¼"	5 . Ø	2"	20 . Ø	2"	15 . Ø	1¼"	10 . Ø	1¼"	5 . Ø	1¼"	5 . Ø	1¼"	10 . Ø	2"	15 . Ø	2"	20 . Ø
	E-D	CLOSET D-137	1¼"	6 . Ø	2"	24 . Ø	2"	18 . Ø	1¼"	12 . Ø	1¼"	6 . Ø	1¼"	6 . Ø	1¼"	12 . Ø	2"	18 . Ø	2"	24 . Ø
C-2	C-C	CLOSET G-107	1¼"	4 . 5	2"	18 . Ø	1¼"	13 . 5	1¼"	9 . Ø	1¼"	4 . 5	1¼"	4 . 5	1¼"	9 . Ø	1¼"	13 . 5	2"	18 . Ø
	C-D	CLOSET G-104	1¼"	4 . 5	2"	18 . Ø	1¼"	13 . 5	1¼"	9 . Ø	1¼"	4 . 5	1¼"	4 . 5	1¼"	9 . Ø	1¼"	13 . 5	2"	18 . Ø

P = PIPE SIZE (NOM.) F = GPM

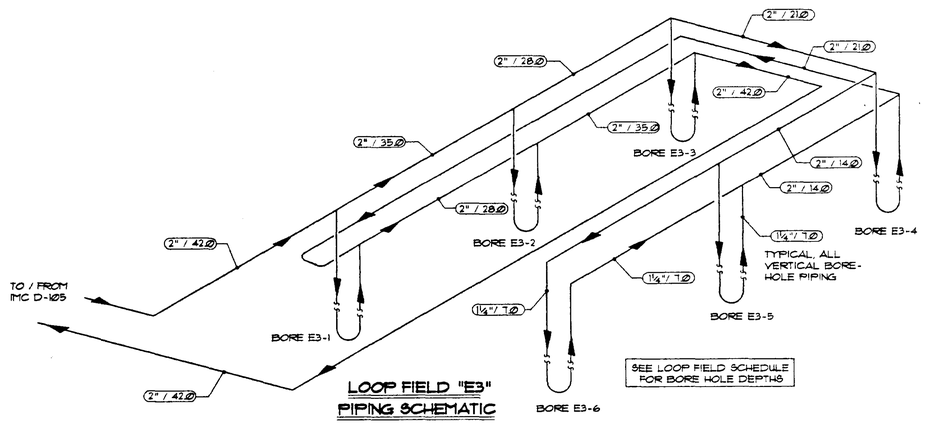
LEGEND

1¼" / 5 Ø — FLOW (GPM); PIPE SIZE



LOOP FIELDS "B-1","B-2","B-3","C-1" & "D" PIPING SCHEMATIC

SCALE: NONE



LOOP FIELD "E3" PIPING SCHEMATIC

SCALE: NONE

PIPE SIZE / FLOW TABULATION

LOOP FIELD	FIELD SYMBOL	TO / FROM	1		2		3		4		5		6		7		8		9	
			P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
B-1	B-A	CLOSET E-102	1¼"	7 . Ø	2"	28 . Ø	2"	21 . Ø	2"	14 . Ø	1¼"	7 . Ø	1¼"	7 . Ø	2"	14 . Ø	2"	21 . Ø	2"	28 . Ø
B-2	B-B	CLOSET F-109	1¼"	5 . Ø	2"	20 . Ø	2"	15 . Ø	1¼"	10 . Ø	1¼"	5 . Ø	1¼"	5 . Ø	1¼"	10 . Ø	2"	15 . Ø	2"	20 . Ø
B-3	B-C	CLOSET F-105	1¼"	7 . Ø	2"	28 . Ø	2"	21 . Ø	2"	14 . Ø	1¼"	7 . Ø	1¼"	7 . Ø	2"	14 . Ø	2"	21 . Ø	2"	28 . Ø
C-1	C-A	CLOSET B-104	1¼"	5 . Ø	2"	20 . Ø	2"	15 . Ø	1¼"	10 . Ø	1¼"	5 . Ø	1¼"	5 . Ø	1¼"	10 . Ø	2"	15 . Ø	2"	20 . Ø
	C-B	CLOSET A-109	1¼"	7 . Ø	2"	28 . Ø	2"	21 . Ø	2"	14 . Ø	1¼"	7 . Ø	1¼"	7 . Ø	2"	14 . Ø	2"	21 . Ø	2"	28 . Ø
D	D-A	CLOSET C-109	1¼"	7 . Ø	2"	28 . Ø	2"	21 . Ø	2"	14 . Ø	1¼"	7 . Ø	1¼"	7 . Ø	2"	14 . Ø	2"	21 . Ø	2"	28 . Ø
	D-B	CLOSET C-104	1¼"	5 . Ø	2"	20 . Ø	2"	15 . Ø	1¼"	10 . Ø	1¼"	5 . Ø	1¼"	5 . Ø	1¼"	10 . Ø	2"	15 . Ø	2"	20 . Ø
	D-C	CLOSET B-109	1¼"	7 . Ø	2"	28 . Ø	2"	21 . Ø	2"	14 . Ø	1¼"	7 . Ø	1¼"	7 . Ø	2"	14 . Ø	2"	21 . Ø	2"	28 . Ø

P = PIPE SIZE (NOM.) F = GPM

REGAN YOUNG, AIA

REGAN YOUNG
Architects
RT. 38, BOX 480 • HAMMESPORT, NJ 08036 • (609) 265-2652/0333 FAX

STATE PLAN NO. 95-103

RENOVATION, ADDITION & HVAC UPGRADES
TAUNTON FORGE ELEMENTARY SCHOOL
32 EVERGREEN TRAIL, MEDFORD NEW JERSEY

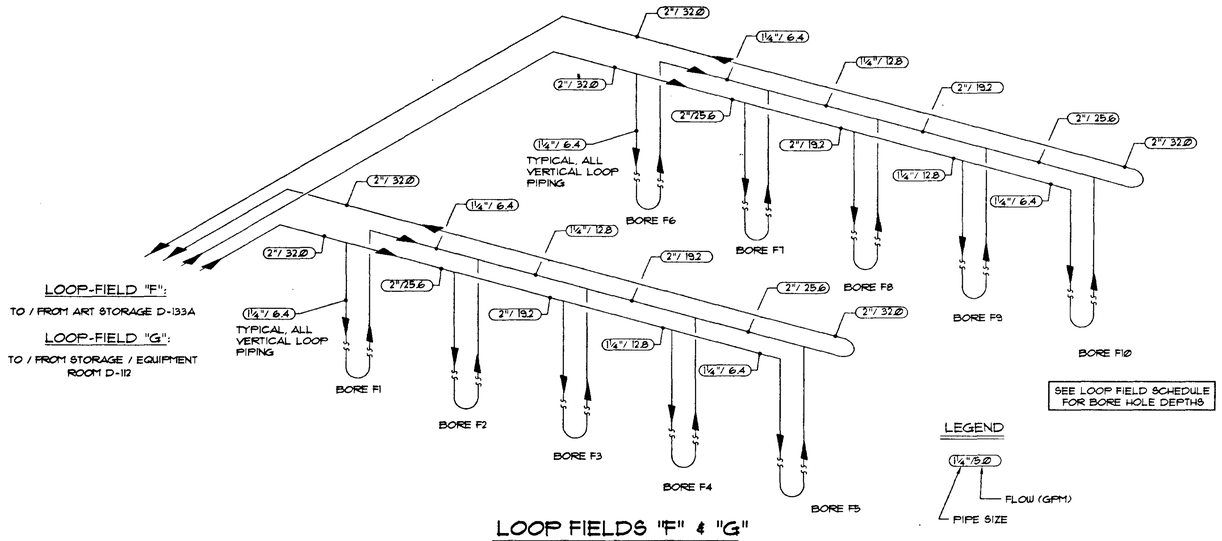
LOOP FIELDS "A", "B" & "C"

COMM. NO:	4824B
DRAWN BY:	DRB
DATE:	NOVEMBER 10, 1995
REVISIONS:	
1:	MARCH 15, 1996
PRINT DATE:	

THE AUTECON GROUP
MECHANICAL & ELECTRICAL ENGINEERS
9 TIMBER CREEK ROAD, STRATFORD, NEW JERSEY 08084-(609) 435-1288

G-3

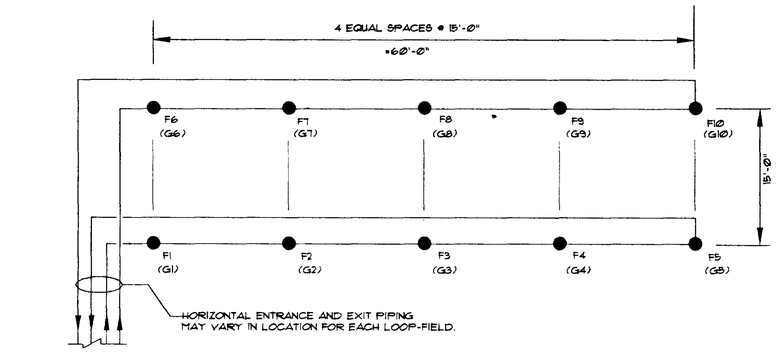
SHEET 3 OF 3



LOOP FIELDS "F" & "G"
PIPING SCHEMATIC

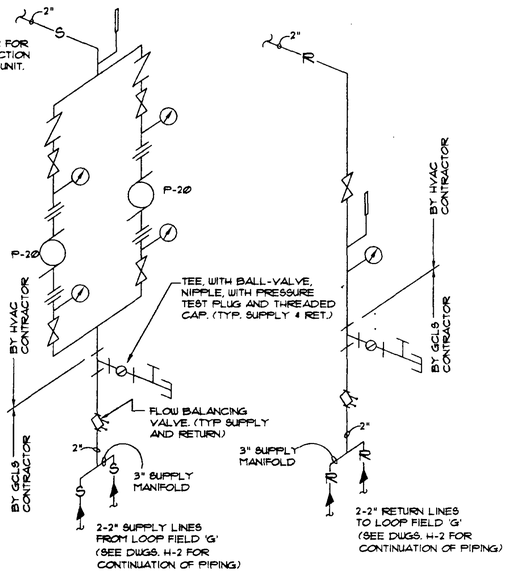
SCALE: NONE

NOTE: LOOP-FIELD "F" SHOWN, LOOP-FIELD "G" SIMILAR. (ALL DETAILS SAME EXCEPT FOR LOCATION OF HORIZONTAL PIPING TO / FROM BUILDING.)



LOOP-FIELD "F":
TO / FROM ART STORAGE D-133A

LOOP-FIELD "G":
TO / FROM STORAGE / EQUIPMENT ROOM D-112

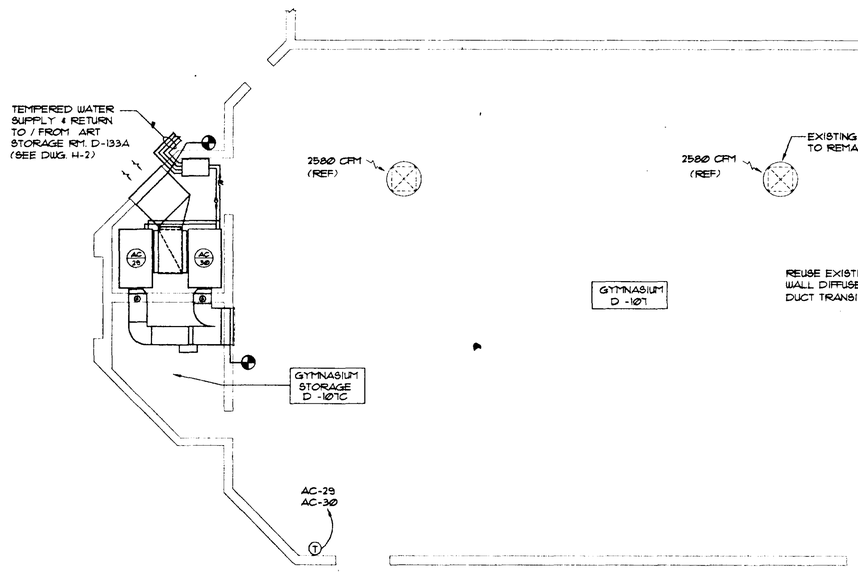


① PUMP PIPING SCHEMATIC DETAIL
SERVING UNITS AC-31 AND AC-32

SCALE: NONE

THIS DETAIL LOCATED IN CEILING OF GYM PLATFORM D-107B

NOTE: THIS DETAIL TYPICAL FOR UNITS AC-29 AND AC-3Ø, WITH PUMP / PIPING LOCATED BELOW CEILING IN GYM STORAGE RM D-107B. (SERVED BY LOOP-FIELD "F") (PUMPS P-19)



FLOOR PLAN - GYMNASIUM

SCALE: 1/8"=1'-Ø"

NOTES:

1. UNLESS NOTED OTHERWISE, DETAILS SHOWN FOR UNITS AC-31 AND AC-32 ARE TYPICAL FOR UNITS AC-29 AND AC-3Ø.
2. UNITS AC-31 AND AC-32 SHALL BE CONTROLLED TO OPERATE IN TANDOM AS ONE UNIT. (TYPICAL FOR UNITS AC-29 AND AC-3Ø).
3. SUPPORT UNIT FROM EXISTING STEEL BEAMS. BRACKETS AND RUBBER VIBRATION ISOLATORS WILL BE FURNISHED WITH UNIT BY UNIT MANUFACTURER. SUPPLEMENTAL SUPPORT STEEL, HANGER RODS AND HARDWARE BY HVAC CONTRACTOR .
4. EXTEND TEMPERED WATER SUPPLY AND RETURN PIPING ABOVE CORRIDOR CEILING, WHERE INDICATED.

Issued for Permit
Regan Young 1-29-21
REGAN YOUNG, AIA

REGAN YOUNG Architects
RT. 38, BOX 480 • HAINESPORT, NJ 08036 • (609) 265-2652/(0333 FAX

ALTERNATE HVAC-1

STATE PLAN NO. 95-103

RENOVATION, ADDITION & HVAC UPGRADES
TAUNTON FORGE ELEMENTARY SCHOOL
32 EVERGREEN TRAIL, MEDFORD NEW JERSEY

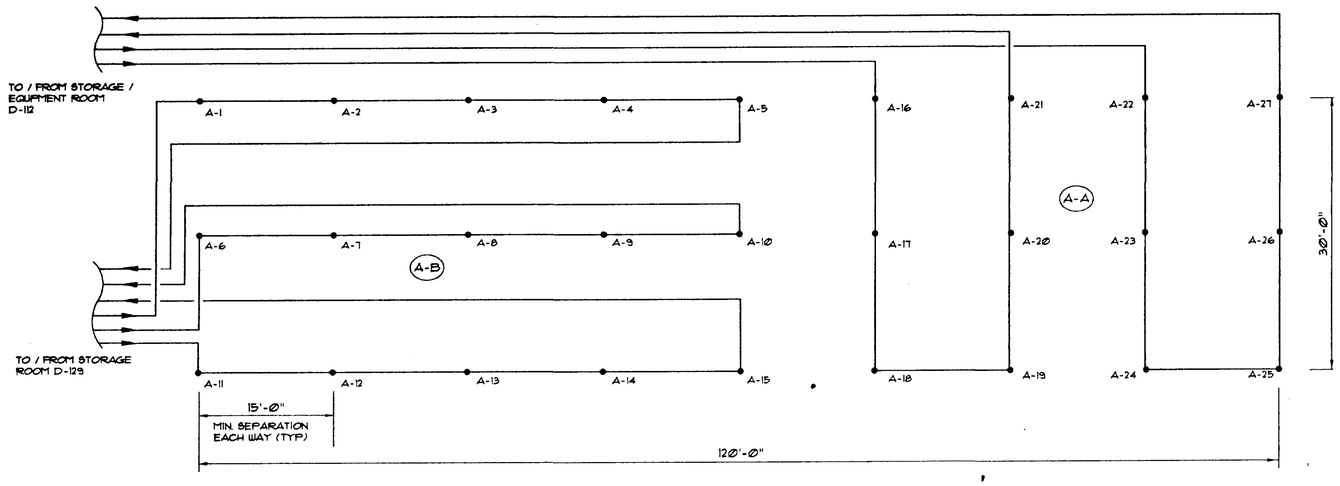
HVAC PLAN & DETAILS - GYMNASIUM

COMM. NO:	4824 B
DRAWN BY:	DRB
DATE:	NOVEMBER 1Ø, 1995
REVISIONS:	
1:	MARCH 15, 1996
PRINT DATE:	

THE AUTECON GROUP
MECHANICAL & ELECTRICAL ENGINEERS
9 TIMBER CREEK ROAD, STRATFORD, NEW JERSEY 08084 (609) 435-1200

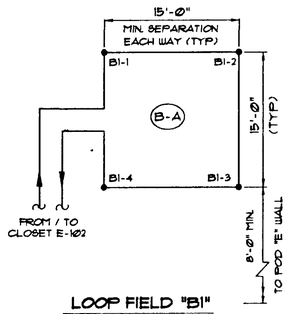
H-7

SHEET 7 OF 7



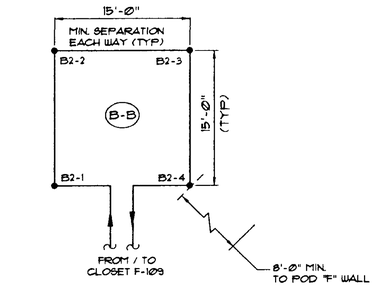
LOOP FIELD "A"

SEE DWG ME-1 FOR SITE PLAN LOCATION AND DWG. G-3 FOR PIPING SCHEMATIC
SCALE 1/8"=1'Ø"



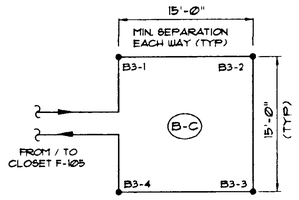
LOOP FIELD "B1"

SEE DWG ME-1 FOR SITE PLAN LOCATION AND DWG. G-3 FOR PIPING SCHEMATIC
SCALE 1/8"=1'Ø"



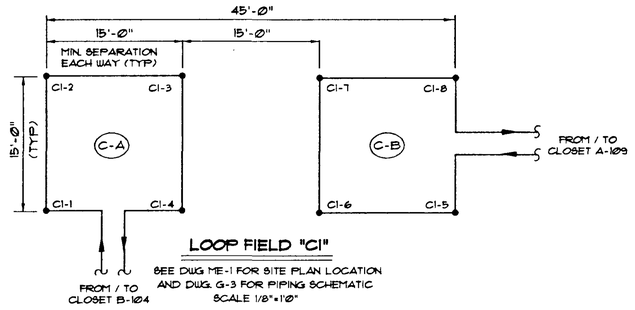
LOOP FIELD "B2"

SEE DWG ME-1 FOR SITE PLAN LOCATION AND DWG. G-3 FOR PIPING SCHEMATIC
SCALE 1/8"=1'Ø"



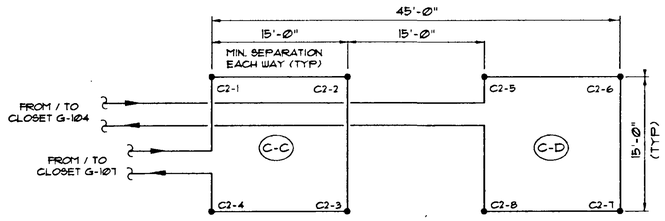
LOOP FIELD "B3"

SEE DWG ME-1 FOR SITE PLAN LOCATION AND DWG. G-3 FOR PIPING SCHEMATIC
SCALE 1/8"=1'Ø"



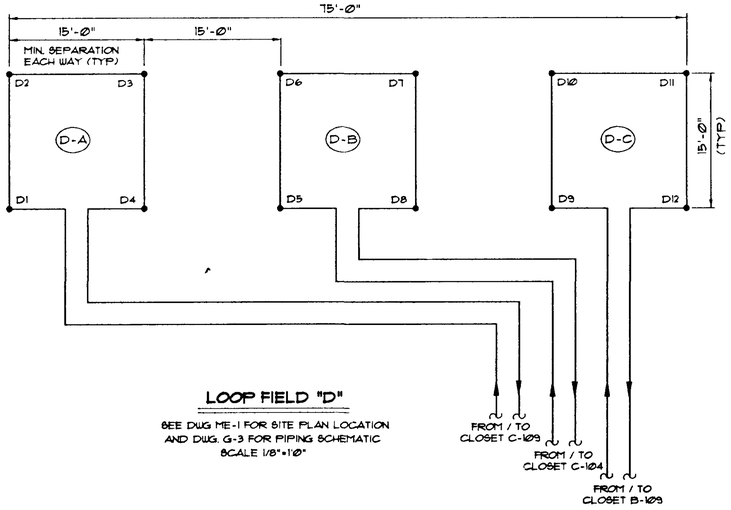
LOOP FIELD "C1"

SEE DWG ME-1 FOR SITE PLAN LOCATION AND DWG. G-3 FOR PIPING SCHEMATIC
SCALE 1/8"=1'Ø"



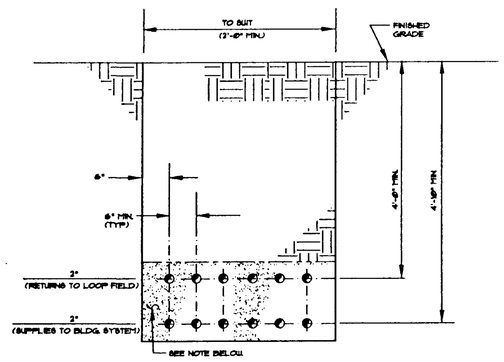
LOOP FIELD "C2"

SEE DWG ME-1 FOR SITE PLAN LOCATION AND DWG. G-3 FOR PIPING SCHEMATIC
SCALE 1/8"=1'Ø"



LOOP FIELD "D"

SEE DWG ME-1 FOR SITE PLAN LOCATION AND DWG. G-3 FOR PIPING SCHEMATIC
SCALE 1/8"=1'Ø"



(A) SECTION THRU TRENCH

SCALE: 1"= 1'-0"

NOTE: SECTION IS TYPICAL FOR ALL HORIZONTAL PIPING BETWEEN BORE-HOLES / BORE-HOLE FIELDS AND BUILDING, REGARDLESS OF NUMBER OF PIPES. HORIZONTAL SUPPLY AND RETURN PIPING SHALL BE BEDDED IN CLEAN SAND, EXTENDING 4" BELOW AND ABOVE ALL PIPING.

LOOP FIELD SCHEDULE

FIELD	FIELD SYMBOL	AC UNITS SERVED	TOTAL NUMBER OF HOLES IN FIELD	DEPTH OF HOLES (FEET)	COMBINED DEPTH OF BORE-HOLES (FEET)	HEAT REJECTED TO GROUND (MBH)
A	A-A	AC- 24, 25, & 26	12	280	3, 360	312 . 1
	A-B	AC- 22, 23, 27, 28	15	280	4, 200	388 . Ø
B	B-A	AC- 4, 11	4	335	1, 340	124 . Ø
	B-B	AC- 6, 14	4	250	1, ØØØ	91 . 2
	B-C	AC- 7, 12	4	350	1, 4ØØ	130 . 3
C1	C-A	AC- 16	4	240	960	88 . Ø
	C-B	AC- 1, 8	4	330	1, 320	121 . 7
C2	C-C	AC- 19	4	225	900	81 . 9
	C-D	AC- 18	4	230	920	83 . Ø
D	D-A	AC- 3, 10	4	345	1, 380	126 . 2
	D-B	AC- 17	4	245	980	90 . Ø
	D-C	AC-2, 9	4	335	1, 340	123 . 2
E1	E-A	AC-20	4	300	1, 200	111 . 5
	E-B	AC-5, 13	4	250	1, ØØØ	92 . 8
E2	E-C	AC- 15	4	240	960	89 . 1
	E-D	AC-21	4	310	1, 240	113 . 9
E3	E-E	RT- 1, UV-1, 2	6	360	2, 160	200 . 4
BASE BID TOTALS =			89		25, 660	2369 . 3
ALTERNATE HVAC-1	F	——— AC-29, 30	10	335	3,350	306 . 7
	G	——— AC-31, 32	10	335	3,350	306 . 7
GRAND TOTALS =			109		32,360	2,982 . 7

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STATE PLAN NO. 95-103
RENOVATION, ADDITION & HVAC UPGRADES
TAUNTON FORGE ELEMENTARY SCHOOL
32 EVERGREEN TRAIL, MEDFORD NEW JERSEY
LOOP FIELDS

COMM. NO. 4824 B
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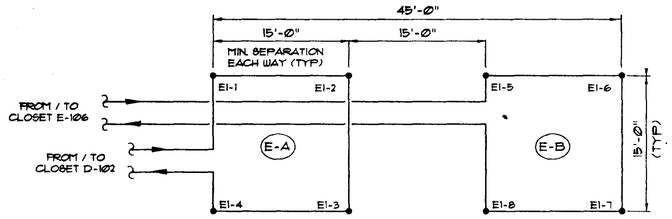
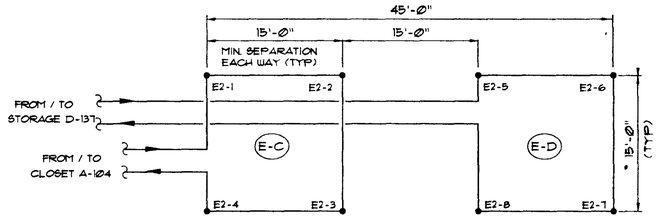
G-1
SHEET 1 OF 3



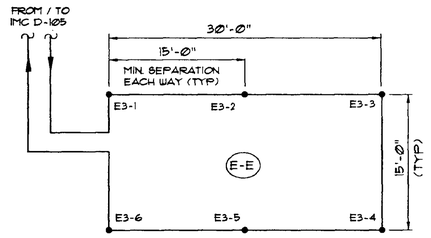
LOOP FIELD "E1"

SEE DWG ME-1 FOR SITE PLAN LOCATION AND DWG. G-3 FOR PIPING SCHEMATIC
SCALE 1/8"=1'Ø"



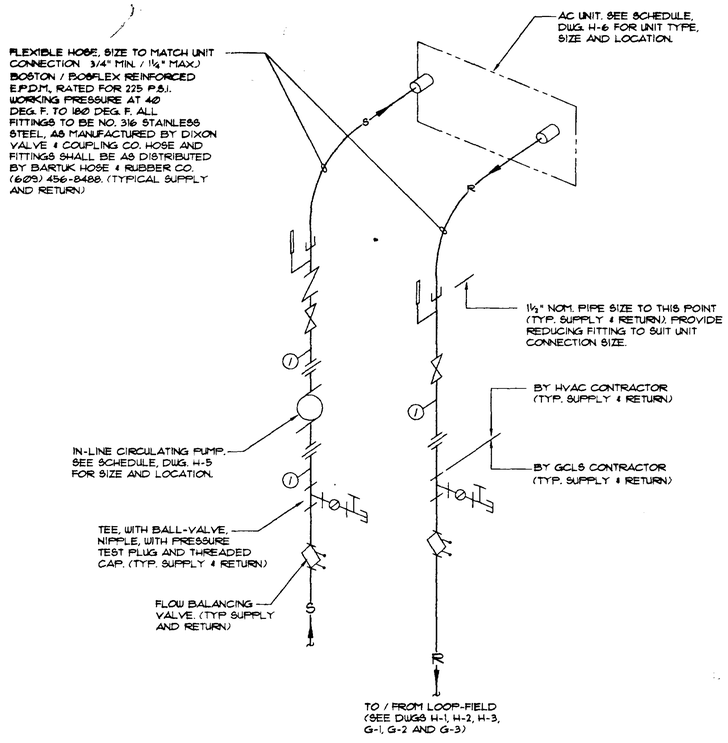
LOOP FIELD "E2"

SEE DWG ME-1 FOR SITE PLAN LOCATION AND DWG. G-3 FOR PIPING SCHEMATIC
SCALE 1/8"=1'Ø"



LOOP FIELD "E3"

SEE DWG ME-1 FOR SITE PLAN LOCATION AND DWG. G-3 FOR PIPING SCHEMATIC
SCALE 1/8"=1'Ø"

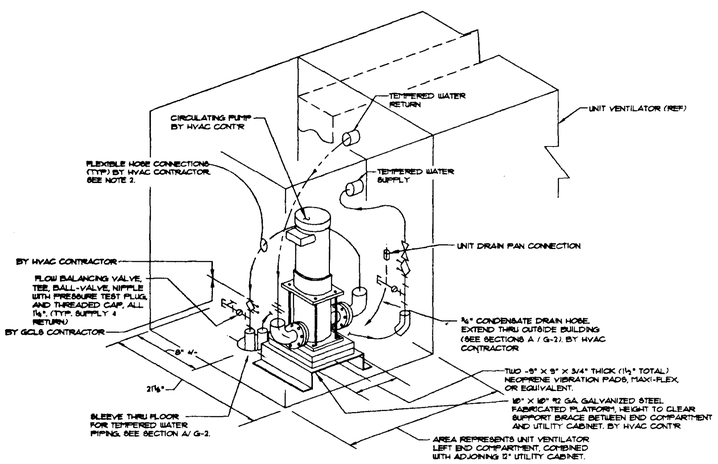


NOTE: CORE DRILLING OF EXISTING FLOORS, WALLS, AND FOUNDATIONS, TOGETHER WITH PIPE SLEEVES, GROUTING AND PATCHING, TO PERMIT ROUTING OF TEMPERED WATER SUPPLY AND RETURN PIPING INTO BUILDING SHALL BE PROVIDED BY THE GCLS CONTRACTOR. COORDINATE LAYOUT OF WORK WITH HVAC CONTRACTOR.

2 PUMP PIPING SCHEMATIC DETAIL
SERVING UNITS AC-1 THRU AC-21

SCALE: NONE

NOTE: UNIT RF-1 PUMP PIPING SCHEMATIC DETAIL IS SIMILIAR, LOCATED AS INDICATED ON DWG. H-4.

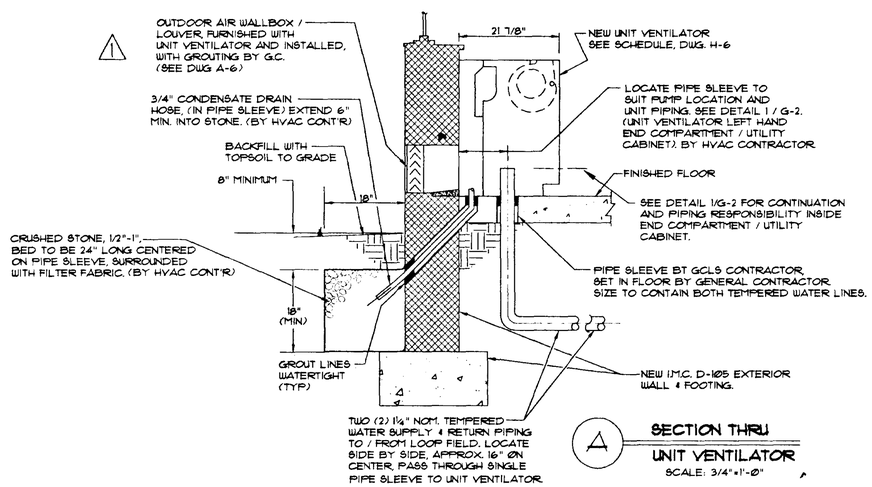


1 PIPING DETAIL
UNIT VENTILATOR

SCALE: 3/4"=1'-Ø"

NOTES:

1. TEE, BALL-VALVE, NIPPLE WITH PRESSURE TEST PLUG, AND THREADED CAP, ALL 1¼" ON EACH TEMPERED WATER SUPPLY AND RETURN LINE TO / FROM LOOP FIELD FURNISHED AND INSTALLED BY GCLS CONTRACTOR.
2. HVAC CONTRACTOR SHALL FURNISH AND INSTALL FLEXIBLE HOSE FOR ALL TEMPERED WATER SUPPLY AND RETURN AND CONDENSATE DRAIN PIPING IN EACH UNIT VENTILATOR. HOSE SHALL BE 3/4" BOSTON / BOSFLEX, REINFORCED E.P.D.M., RATED FOR 225 PSI WORKING PRESSURE, AT 40 DEG. F. TO 180 DEG. F. ALL FITTINGS SHALL BE NO. 316 STAINLESS STEEL, AS MANUFACTURED BY DIXON VALVE & COUPLING CO. HOSE AND FITTINGS SHALL BE AS DISTRIBUTED BY BARTUK HOSE & RUBBER CO. (609) 456-8488



A SECTION THRU
UNIT VENTILATOR

SCALE: 3/4"=1'-Ø"

NOTES:
1. TYPICAL, UNIT VENTILATORS, UV-1 & UV-2

Regan Young 10/21/95
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RENOVATION, ADDITION & HVAC UPGRADES
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32 EVERGREEN TRAIL, MEDFORD NEW JERSEY
LOOP FIELDS, SECTIONS & DETAILS

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G-2

GEOTHERMAL WATER SOURCE HEAT PUMP SCHEDULE

(AC X) (RT X) (UV X)

UNIT SYMBOL	UNIT DATA: LOCATION	AREA SERVED	TYPE	BASIS OF DESIGN	GPM	CFM: MIN. O.A.	CFM: TOTAL	COOLING DATA: SENS. MBH	TOTAL MBH	NOM. TONS	EER	HEAT OF REJ / MBH	EWT °F.	HEATING DATA: UNIT MBH	AUX'Y HEAT MBH	TOTAL MBH REQ'D	HEAT OF ABSORPTN MBH	COP	EWT °F.	ELECTRICAL DATA: RATED VOLTAGE	AUX'Y HEAT KW	COMPRESSOR: RLA	COMPRESSOR: LRA	FAN MOTOR FLA	FACTORY FURNISHED * AUXILIARY HEAT VOLTAGE / MODEL
AC-1	CLOS. A-109	C.R A-101	HORIZONTAL	WATER FURNACE MODEL 5XH048 SIDE DISCHARGE RIGHT RETURN	14.0	375	1200	29.3	46.1	3.8	13.2	59.5	90	46.7	32.7	56.0	35.4	4.1	50	460/60/3	9.6	5.3	42.0	1.8	(240/60/1) E8LH-10
AC-2	CLOS. B-109	C.R B-101				375	1200	31.0	48.7	4.1		62.8				55.0									
AC-3	CLOS. C-109	C.R C-101				375	1250	32.9	50.6	4.2		65.3				55.0									
AC-4	CLOS. E-102	C.R E-103				390	1200	31.4	49.2	4.1		63.5				56.0									
AC-5	CLOS. E-106	C.R E-107				390	1250	32.1	50.9	4.3		65.7				58.0									
AC-6	CLOS. F-103	C.R F-101				390	1200	31.7	50.2	4.2		64.8				58.0									
AC-7	CLOS. F-105	C.R F-106				390	1250	32.6	51.3	4.3		66.2				56.0									
AC-8	CLOS. A-103	C.R A-108	HORIZONTAL	WATER FURNACE MODEL 5XH048 SIDE DISCHARGE LEFT RETURN		375	1200	30.1	48.2	4.1		62.2				54.0									
AC-9	CLOS. B-103	C.R B-108				375	1200	29.7	46.8	3.9		60.4				54.0									
AC-10	CLOS. C-103	C.R C-108				375	1200	30.5	47.2	3.9		60.9				54.0									
AC-11	CLOS. E-102	C.R E-101				390	1200	29.8	47.2	3.9		60.9				57.0									
AC-12	CLOS. F-105	C.R F-104				390	1200	31.8	49.7	4.2		64.1				58.0									
AC-13	CLOS. E-106	G.S. E-105	HORIZONTAL	WATER FURNACE MODEL 5XH024 SIDE DISCHARGE LEFT RETURN	6.0	135	800	14.7	21.7	1.8	13.8	27.1		23.2	16.3	29.0	18.1	4.5		240/60/1	4.8	9.4	49.0	1.2	(240/60/1) E8MH8
AC-14	CLOS. F-103	G.S. F-108				135	800	14.1	21.1	1.8		26.4		23.2	16.3	29.0	18.1	4.5			4.8	9.4	49.0	1.2	
AC-15	CLOS. A-104	G.S. A-106	VERTICAL	WATER FURNACE MODEL 5XV068 TOP DISCHARGE LEFT RETURN	20.0	510	1900	45.0	69.1	5.8	11.9	89.1		66.5	32.7	83.0	49.9	4.0		460/60/3	9.6	9.0	62.0	3.0	(240/60/1) E8LH0
		C.R A-103																							
AC-16	CLOS. B-104	G.S. B-106				510	1900	45.0	68.2	5.7		88.0		66.5	32.7	85.0	49.9	4.0			9.6	9.0	62.0	3.0	
		C.R B-103																							
AC-17	CLOS. C-104	G.S. C-106				510	1900	45.3	69.7	5.8		90.0		66.5	32.7	87.0	49.9	4.0			9.6	9.0	62.0	3.0	
		C.R C-103																							
AC-18	CLOS. G-104	K'GN' G-103	HORIZONTAL	McQUAY MODEL CCH070, STRAIGHT DISCHARGE	18.0	405	1800	45.4	64.9	5.4	12.0	85.0		66.2	27.3	80.0	49.1	4.2			8.0	(1) 5.1	(1) 33.0	2.8	REMOTE ELECTRIC DUCT HEATER ENVIRO - TEC MODEL EDH66
AC-19	CLOS. G-107	K'GN' G-108				405	1100	41.8	62.5	5.2		81.9		66.2	17.1	69.0	49.1	4.2			5.0	(2) 5.1	(2) 33.0		
AC-20	CLOS. D-102	C.E.R. D-101	HORIZONTAL	McQUAY MODEL CCH090, END DISCHARGE	24.0	340	2800	67.4	85.8	7.2	12.5	111.5		83.9	27.3	98.5	61.9	4.3			8.0	(1) 7.1	(1) 64.0	2.8	
		OFF. D-103																				(2) 7.1	(2) 64.0		
		I.M.C. D-104																							
AC-21	STOR. D-137	C.C. D-136	HORIZONTAL	McQUAY MODEL CCH090, END DISCHARGE	24.0	535	2650	60.4	87.6	7.3	12.5	113.9		83.9	27.3	98.5	61.9	4.3			8.0	(1) 7.1	(1) 64.0	2.8	
		S/E OFF. D-138																				(2) 7.1	(2) 64.0		
		SPEC. ED. D-139																							
AC-22	STOR. D-129	MUSIC D-128	HORIZONTAL	McQUAY MODEL CCH120, STRAIGHT DISCHARGE	30.0	615	3150	72.3	104.1	8.7	11.6	141.4		111.3	17.1	109.0	81.3	4.3			5.0	(1) 9.6	(1) 73.0	4.5	
		MUSIC PR D-128A																				(2) 9.6	(2) 73.0		
		W. CORR. D-134																							
		SPEECH D-131																							
AC-23	MUSIC STORAGE D-127	NURSE D-124	VERTICAL	WATER FURNACE MODEL 5XV030 TOP DISCHARGE RIGHT RETURN	6.0	85	1000	20.5	24.3	2.1	13.5	30.4		28.5	16.3	25.0	21.9	4.3		460/60/3	4.8	3.5	25.0	1.1	(240/60/1) E8M5
		W. LOBBY D-123																							
AC-24	STOR. D-120	E. LOBBY D-123	VERTICAL	WATER FURNACE MODEL 5XV048 TOP DISCHARGE LEFT RETURN	13.0	285	1100	35.9	47.0	3.9	12.7	60.6		47.7	32.8	53.5	36.4	4.2			9.6	5.3	42.0	1.8	(240/60/1) E8L10
		MAIN OFF. D-122																							
		WORK RM D-121																							
		PRN'L OFF. D-118																							
		CONF. RM D-117																							
AC-25	STOR. D-112	CONF. AREA D-116	HORIZONTAL	McQUAY MODEL CCH090, END DISCHARGE	23.0	375	2470	58.7	79.8	6.7	12.5	105.3		82.0	17.1	82.0	60.1	4.3			5.0	(1) 7.1	(1) 64.0	2.8	REMOTE ELECTRIC DUCT HEATER ENVIRO - TEC MODEL EDH66
		OFF. D-114																				(2) 7.1	(2) 64.0		
		E. CORR. D-135																							
⚠ AC-26 AC-27	CAFETERIA SOFFIT	CAFETERIA D-108	HORIZONTAL	McQUAY MODEL CCH120, END DISCHARGE	30.0	1500	3200	62.1	110.0	9.2	11.6	146.2		113.3	17.1	113.0	60.1	4.3			5.0	(1) 9.6	(1) 73.0	4.5	TYPICAL FOR 2 UNITS
																						(2) 9.6	(2) 73.0		
AC-28	ART STOR D-133A	ART RM D-133	HORIZONTAL	WATER FURNACE MODEL 5XH058 SIDE DIS / RIGHT RET.	14.0	375	1150	36.5	54.5	4.5	12.3	70.0		54.3	32.8	54.0	40.8	4.0			9.6	7.4	49.5	2.3	(240/60/1) E8LH10
RT-1	ROOF	I.M.C. D-105	HORIZONTAL	AAF MODEL AWH095DB HOR'L DIS & RET	25.0	2125	2300	69.8	93.8	7.8	11.6	117.4		76.9	68.3	75.0	76.7	3.9			20.0	(1) 6.9	(1) 41.0	2.3	(480/60/3)
																						(2) 6.9	(2) 41.0		
UV-1	I.M.C. D-105	I.M.C. D-105	CONSOLE	AAF MODEL AR30 ARRANGEMT G.	9.0	100	1000	21.1	30.9	2.6	10.7	41.5		32.6		32.6	22.5	3.1			—	4.6	30.7	1.1	NOT REQUIRED
UV-2	I.M.C. D-105	I.M.C. D-105	CONSOLE	AAF MODEL AR30 ARRANGEMT G.	9.0	100	1000	21.1	30.9	2.6	10.7	41.5		32.6		32.6	22.5	3.1			—	4.6	30.7	1.1	
ALTERNATE HVAC -1	AC-29, 30 AC-31, 32	SEE DWG. H-7	GYMNASIUM	HORIZONTAL	McQUAY MODEL CCH120, END DISCHARGE	32.0	1290	2400	59.1	111.8	9.3	11.6	153.3	90	117.1	27.3	106.9	86.6	4.3	50	460/60/3	8.0	(1) 9.6 (2) 9.6	(1) 73.0 (2) 73.0	4.5	REMOTE EL'C DUCT HTR ENVIRO-TEC MOD. EDH55	TYPICAL FOR 4 UNITS

* EXCEPT REMOTE ELECTRIC DUCT HEATERS

AIR DIFFUSER / GRILLE SCHEDULE

SYMBOL	TYPE	LISTED SIZE (IN.)	DESCRIPTION	BASIS OF DESIGN TUTTLE & BAILEY (SERIES NUMBER)
SAD-1	WALL	24 X 18	HORIZONTAL FACE BARS ADJUSTABLE DOUBLE DEFLECTION	A54
SAD-2	WALL	24 X 12		
SAD-3	CEILING	18 X 15	3-WAY, STYLE 31 S	AME
SAD-4	CEILING	12 X 12	4-WAY, STYLE 4	AME
SAD-5	WALL	24 X 8	HORIZONTAL FACE BARS ADJUSTABLE DOUBLE DEFLECTION	A54
SAD-6	CEILING	96 X 6	LINEAR SLOT, STYLE B2 4-3/4" SLOTS	6000
SAD-7	CEILING	24 X 15	2-WAY, STYLE 2S	AME
SAD-8	WALL	36 X 12	HORIZONTAL FACE BARS ADJUSTABLE DOUBLE DEFLECTION	A54
RAG-1	CEILING	24 X 12	HORIZONTAL FACE BARS 0° DEFLECTION	A70
RAG-2	WALL	36 X 18	HORIZONTAL FACE BARS 45° DEFLECTION	
RAG-3	WALL	36 X 24	HORIZONTAL FACE BARS 45° DEFLECTION	
RAG-4	WALL	18 X 12	HORIZONTAL FACE BARS 45° DEFLECTION (EXHAUST)	
RAG-5	WALL	24 X 12		
RAG-6	CEILING	10 X 10	HORIZONTAL FACE BARS 0° DEFLECTION	
RAG-7	WALL	36 X 12	HORIZONTAL FACE BARS 45° DEFLECTION	
⚠ RAG-8	WALL	12 X 12	HORIZONTAL FACE BARS 45 DEFLECTION (EXHAUST)	

EXHAUST FAN SCHEDULE (EF X)

SYMBOL	SERVICE	LOCATION	CFM	RPM	TOTAL S. P. (IN. W. C.)	MOTOR HP	ELECTRICAL CHARACTERISTICS (V/HZ/PH)	BASIS OF DESIGN / JENN-FAN MODEL NO. / TYPE
EF-1	CLASSROOMS A-101, A-108, B-101 B-108, C-101, C-108	ROOF	750	780	Ø.250	1/6	120 / 60 / 1	MODEL NBTD SERIES 140A BELT DRIVE, CENTRIFUGAL TOP DISCHARGE
EF-2	CLASSROOMS A-103, A-106, B-103 B-106, C-103, C-106		510	660		1/6		
EF-3	CLASSROOMS E-105, E-107 F-101, F-108		525	680		1/6		
EF-4	CLASSROOMS E-101, E-103 F-104 F-106		780	790		1/6		
EF-5	C.E.R. D-101 OFFICE D-103 I.M.C. D-104		340	1000		1/8		MODEL CRDD 090A DIRECT DRIVE CENTRIFUGAL DOUNBLAST, WITH SPEED CONTROL
⚠ EF-6	KINDER'N G-103 KINDER'N G-108		405	1050		1/8		
EF-7	E. LOBBY D-123 ADMINN AREAS D-111, D-118, D-121, D-122		285	950		1/8		
⚠ EF-8	ART ROOM D-133 E. CORR'R D-135 D-114, D-115, & D-116		375	1050		1/8		
EF-9	MUSIC SUITE D-128 SPEECH RM. D-131 W. CORR'R D-134		615	720		1/6		MODEL NBTD SERIES 140A BELT DRIVE, CENTRIFUGAL WITH TOP DISCHARGE
EF-10	CC. D-136 S/E OFF. D-138 SPEC. ED D-139		535	680		1/6		
EF-11	W. LOBBY D-123 NURSE D-124		85	1200		1/30		MODEL CRDD 080A DIRECT DRIVE CENTRIFUGAL, DOUNBLAST, WITH SPEED CONTROL
⚠ EF-12	I.M.C. D-105	WALL	405	860	Ø.125	1/12		MODEL CWD SERIES 098A DIRECT DRIVE

NOTE: PROVIDE EACH EXHAUST FAN WITH AUTOMATIC BACKDRAFT DAMPER, BIRD AND INSECT SCREENS AND PREFABRICATED ROOF CURB, WITH CURB HINGE.

GENERAL NOTES:

* 1. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' INSTRUCTIONS.

2. MAXIMUM OCCUPANCY OF GYMNASIUM IS 687 PERSONS, BASED ON SQUARE FOOT AREA OF GYMNASIUM VS. BOCA REQUIREMENTS. HOWEVER, OUTDOOR AIR CFM IS COMPUTED ON THE BASIS OF ASHRAE STANDARD 62-1989, SECTION 6.1.3.4 (ONE-HALF THE MAXIMUM CFM) BECAUSE PEAK OCCUPANCIES OF LESS THAN THREE HOURS DURATION OCCUR.

HVAC LEGEND

- 24 X 12 — RECTANGULAR DUCT DIMENSION
- 12 Ø — ROUND DUCT DIMENSION
- AFF — ABOVE FINISHED FLOOR
- BOD — BOTTOM OF DUCT
- TOD — TOP OF DUCT
- DN — DOWN
- S/A — SUPPLY AIR
- R/A — RETURN AIR
- SAD — SUPPLY AIR DIFFUSER
- RAG — RETURN AIR GRILLE
- OA — OUTSIDE AIR
- PSIG — POUNDS PER SQUARE INCH GAUGE
- SUPPLY OR OUTSIDE AIR DUCT (DIFFUSER)
- RETURN OR EXHAUST AIR DUCT (GRILLE)
- ROUND FLEXIBLE DUCT
- POWER ROOF VENTILATOR-EXHAUST
- CONNECTION TO EXISTING
- (AC X) EQUIPMENT TYPE UNIT NUMBER
- 3-WAY CONTROL VALVE
- 2-WAY CONTROL VALVE
- (T) SPACE THERMOSTAT
- (S) SMOKE DETECTOR
- VD — VOLUME DAMPER, MANUAL OPERATION
- FLEXIBLE DUCT CONNECTION
- RECTANGULAR ELBOW W/TURNING VANES
- RECTANGULAR RADIUS TEE W/TURNING VANES
- SQUARE OR RECTANGULAR TO ROUND TRANSITION
- GATE VALVE
- CHECK VALVE
- 3-WAY VALVE
- BALL VALVE
- BALANCING VALVE
- UNION CONNECTION
- CIRCULATING PUMP
- R — RELIEF OR SAFETY VALVE
- S — TEMPERED WATER SUPPLY (FLOW DIRECTION)
- R — TEMPERED WATER RETURN (FLOW DIRECTION)
- EXISTING TO REMAIN
- EXISTING TO BE REMOVED
- THERMOMETER
- PRESSURE GAUGE

VENTILATION SCHEDULE

ROOM / SPACE DESIGNATION	AREA SQ. FT.	NUMBER OF OCCUPANTS	OUTDOOR AIR REQ'D/PERSON (CFM)	SUPPLY AIR (CFM)	OUTDOOR AIR (CFM MIN)	RETURN AIR (CFM)	POWER EXHAUST AIR (CFM)	GRAVITY RELIEF (CFM)
C. R. A-101	725	25	15	1200	375	825	375	825
C. R. B-101	725	25		1200	375	825	375	825
C. R. C-101	725	25		1250	375	875	375	875
C. R. E-103	700	26		1200	390	810	390	810
C. R. E-107	755	26		1250	390	860	390	860
C. R. F-101	755	26		1200	390	810	390	810
C. R. F-106	700	26		1250	390	860	390	860
C. R. A-108	700	25		1200	375	825	375	825
C. R. B-108	700	25		1200	375	825	375	825
C. R. C-108	700	25		1200	375	825	375	825
C. R. E-101	725	26		1200	390	810	390	810
C. R. F-104	725	26		1200	390	810	390	810
G. S. E-105	530	9		800	135	665	135	665
G. S. F-108	530	9		800	135	665	135	665
G. S. A-106	525	9		700	135	565	135	565
C. R. A-103	700	25		1200	375	825	375	825
G. S. B-106	525	9		700	135	565	135	565
C. R. B-103	700	25		1200	375	825	375	825
G. S. C-106	525	9		700	135	565	135	565
C. R. C-103	700	25		1200	375	825	375	825
KGN G-103	1435	27		1800	405	1395	405	1395
KGN-G-108	1435	27		1700	405	1295	405	1295
OFF. D-103	700	1	20	275	20	255	20	255
IMC D-104	1850	20	15	2100	300	1800	300	1800
C.E.R. D-101	135	1	20	425	20	405	20	405
S.E. OFF. D-138	700	1	20	275	20	255	20	255
B.E. D-139	840	25	15	1100	375	725	375	725
PODS A,B,C CORR.	720	8	15	1000	120	880	120	880
C.C. D-136	135	1	20	275	20	255	20	255
MUSIC D-128	815	25	15	1605	375	1230	375	1230
SPEECH D-131	145	8	15	325	120	205	120	205
W. CORR. D-134	1500	8	15	1220	120	1100	120	1100
NURSE D-124	260	2	20	470	40	430	40	430
W. LOBBY D-123	300	3	15	530	45	485	45	485
E. LOBBY D-123	300	3	15	530	45	485	45	485
MAIN OFF. D-122	380	4	20	575	80	495	80	495
WORK RM D-121	105	1	20	175	20	155	20	155
PRN. OFF. D-118	135	1	20	280	20	260	20	260
CONF. RM D-117	90	6	20	140	120	20	120	20
CONF. AREA D-116	770	15	20	1260	300	960	300	960
OFFICE D-114	190	1	20	350	20	330	20	330
E. CORR. D-135	1500	8	15	1220	120	1100	120	1100
⚠ CAFETERIA D-108	2240	150	20	6400	3000	3400	3000	3400
ART RM D-133	840	25	15	1750	375	1375	375	1375
I.M.C. D-105	1540	27	15	4300	405	3895	405	3895
ALT. HVAC-1 GYM D-107	5046	344 *	15	9600	5160 *	4440	5160	4440

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STATE PLAN NO. 95-103
RENOVATION, ADDITION & HVAC UPGRADES
TAUNTON FORGE ELEMENTARY SCHOOL
32 EVERGREEN TRAIL, MEDFORD NEW JERSEY
SCHEDULES AND NOTES

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H-6
SHEET 6 OF 7