HVAC UPGRADES- WASHBURN BUILDING (06232)
SNOW COLLEGE - RICHFIELD
800 West 200 South Richfield, Utah 84701

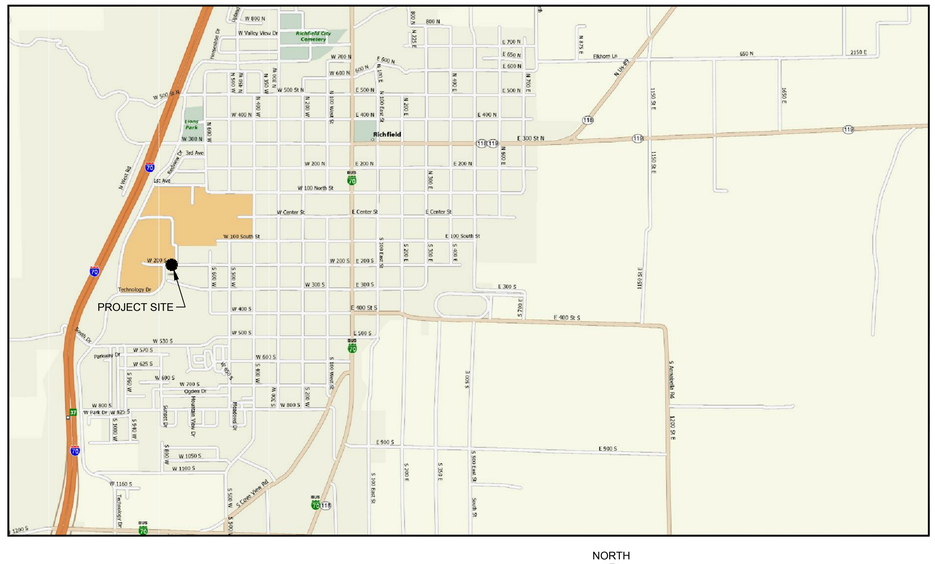
State of Utah—Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

4110 State Office Building / Salt Lake City, Utah 84114 / 538-3018

DFCM Project No. 09173710
CONSTRUCTION DRAWINGS

RICHFIELD, UTAH



Vicinity Map

NORTH

SHEET INDEX

C0.0	COVER SHEET
M1.0	BOILER ROOM PLAN
M1.1	MECHANICAL PLAN
M1.2	MECHANICAL PLAN
M1.3	MECHANICAL PLAN
MP1.1	MECHANICAL PIPING PLAN
MP1.2	MECHANICAL PIPING PLAN
MP1.3	MECHANICAL PIPING PLAN
M5.1	MECHANICAL SCHEDULES AND DETAILS

CONSULTANTS

PROJECT ENGINEER: VAN BOERUM & FRANK ASSOCIATES, INC.
330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
(801) 530-3148 (Steve Shepherd)

ELECTRICAL: VAN BOERUM & FRANK ASSOCIATES, INC.
330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
(801) 530-3148 (Stan Johns)

VAN BOERUM & FRANK ASSOCIATES INC.
CONSULTING ENGINEERS

330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
801.530.3148 ofc
801.530.3150 fax
http://www.vbfa.com

LICENSED PROFESSIONAL ENGINEER No. 189989 STEVEN T. SHEPHERD STATE OF UTAH

Original drawings remain the property of the Engineer and as such the Engineer retains total ownership and control. The design represented by these drawings are sold to the client for a one time use, unless otherwise agreed upon in writing by the Engineer.
© Van Boerum & Frank Assoc., 2010

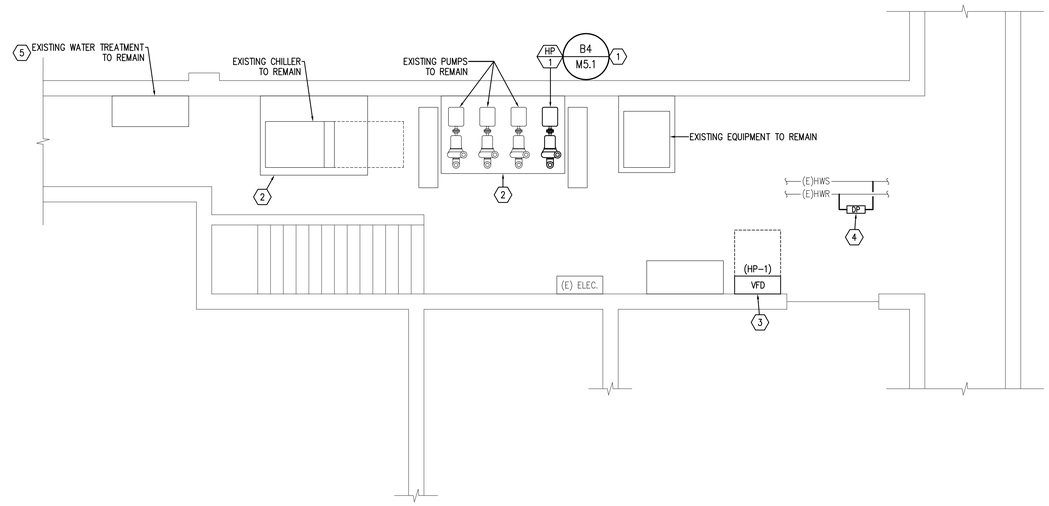
HVAC UPGRADES - WASHBURN BUILDING (06232)
SNOW COLLEGE - RICHFIELD
800 West 200 South Richfield, Utah 84701

REVISIONS

VBFA PROJECT #:	09253
CHECKED BY:	Sshepherd / Jbeck
DRAWN BY:	Ejuarez
CURRENT/BID DATE:	02/26/10

SHEET CONTENTS
COVER SHEET

C0.0



C3 BOILER ROOM PLAN

SCALE: 1/4" = 1'-0"

KEYED NOTES

1. REMOVE EXISTING PUMP AND REPLACE WITH NEW. PROVIDE NEW SUCTION DIFFUSER, FLEXIBLE CONNECTIONS, ETC. AND CONNECT AND TRANSITION TO EXISTING PIPING AS NECESSARY. SEE DETAIL.
2. EXISTING CONCRETE PAD TO REMAIN.
3. PROVIDE AND INSTALL NEW VFD FOR HP-1, (BY ATC). FIELD VERIFY OPTIMAL LOCATION OF VFD.
4. PROVIDE AND INSTALL DIFFERENTIAL PRESSURE SENSOR. FIELD VERIFY EXISTING HWS/HWR MAINS.

VAN BOERUM
& FRANK
ASSOCIATES INC.
CONSULTING ENGINEERS

330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
801.530.3148 ofc
801.530.3150 fax
http://www.vbfa.com

LICENSED PROFESSIONAL ENGINEER
No. 189989
STEVEN T. SHEPHERD
07/16/09
STATE OF UTAH

Original drawings remain the property of the Engineer and as such the Engineer retains total ownership and control. The design represented by these drawings are sold to the client for a one time use, unless otherwise agreed upon in writing by the Engineer.
© Van Boerum & Frank Assoc., 2009

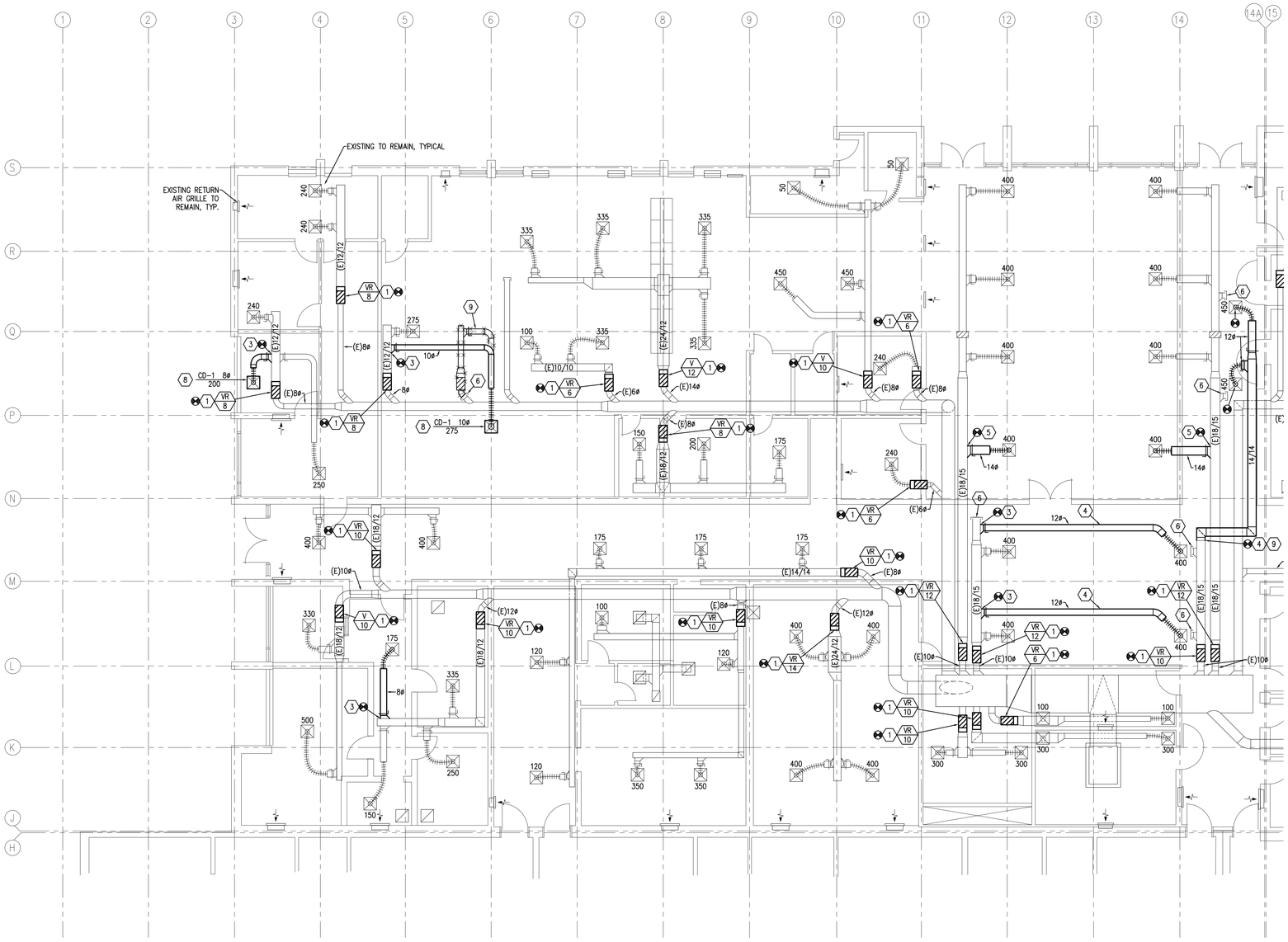
CHILLER REPLACEMENT - WASHBURN BUILDING (06232)
SNOW COLLEGE - RICHFIELD
800 West 200 South Richfield, Utah 84701

REVISIONS

VBFA PROJECT #:	09253
CHECKED BY:	Sshepherd / Jbeck
DRAWN BY:	Ejuarez
CURRENT/BID DATE:	07/16/09

SHEET CONTENTS
BOILER ROOM PLAN

M1.0



A4 MECHANICAL PLAN

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

0' 8' 16'

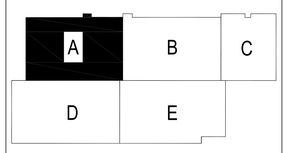
KEYED NOTES

1. REMOVE AND REPLACE EXISTING VAV BOX WITH NEW. SEE DETAIL C6/M5.1.
2. SEE MECHANICAL PIPING SHEETS FOR THERMOSTAT LOCATIONS.
3. EXTEND AND CONNECT A NEW BRANCH DUCT AND FLEX DUCT FROM EXISTING TO NEW DIFFUSER.
4. EXTEND AND CONNECT NEW DUCT FROM EXISTING DUCT.
5. EXTEND AND CONNECT NEW FLEXIBLE DUCT WITH HIGH EFFICIENCY FITTING AND DAMPER FROM EXISTING DUCT TO EXISTING DIFFUSER.
6. CAP EXISTING DUCT AND REMOVE UN-USED DUCTWORK.
7. REMOVE EXISTING VAV BOX.
8. NEW CEILING DIFFUSER SEE SCHEDULE.
9. REMOVE UNUSED DUCTWORK.

GENERAL NOTES

1. BALANCE ALL DIFFUSERS TO AIRFLOWS AS SHOWN.
2. FIELD VERIFY ALL EXISTING DUCT LOCATION, DIFFUSER NECK SIZES, DIFFUSER LOCATIONS, PIPING, VALVES, AND THERMOSTAT, ETC.

KEY PLAN



VAN BOERUM & FRANK ASSOCIATES INC.
CONSULTING ENGINEERS

330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
801.530.3148 ofc
801.530.3150 fax
http://www.vbfa.com

LICENSED PROFESSIONAL ENGINEER
No. 189989
STEVEN T. SHEPHERD
STATE OF UTAH

Original drawings remain the property of the Engineer and as such the Engineer retains total ownership and control. The design represented by these drawings are sold to the client for a one time use, unless otherwise agreed upon in writing by the Engineer.
© Van Boerum & Frank Assoc., 2010

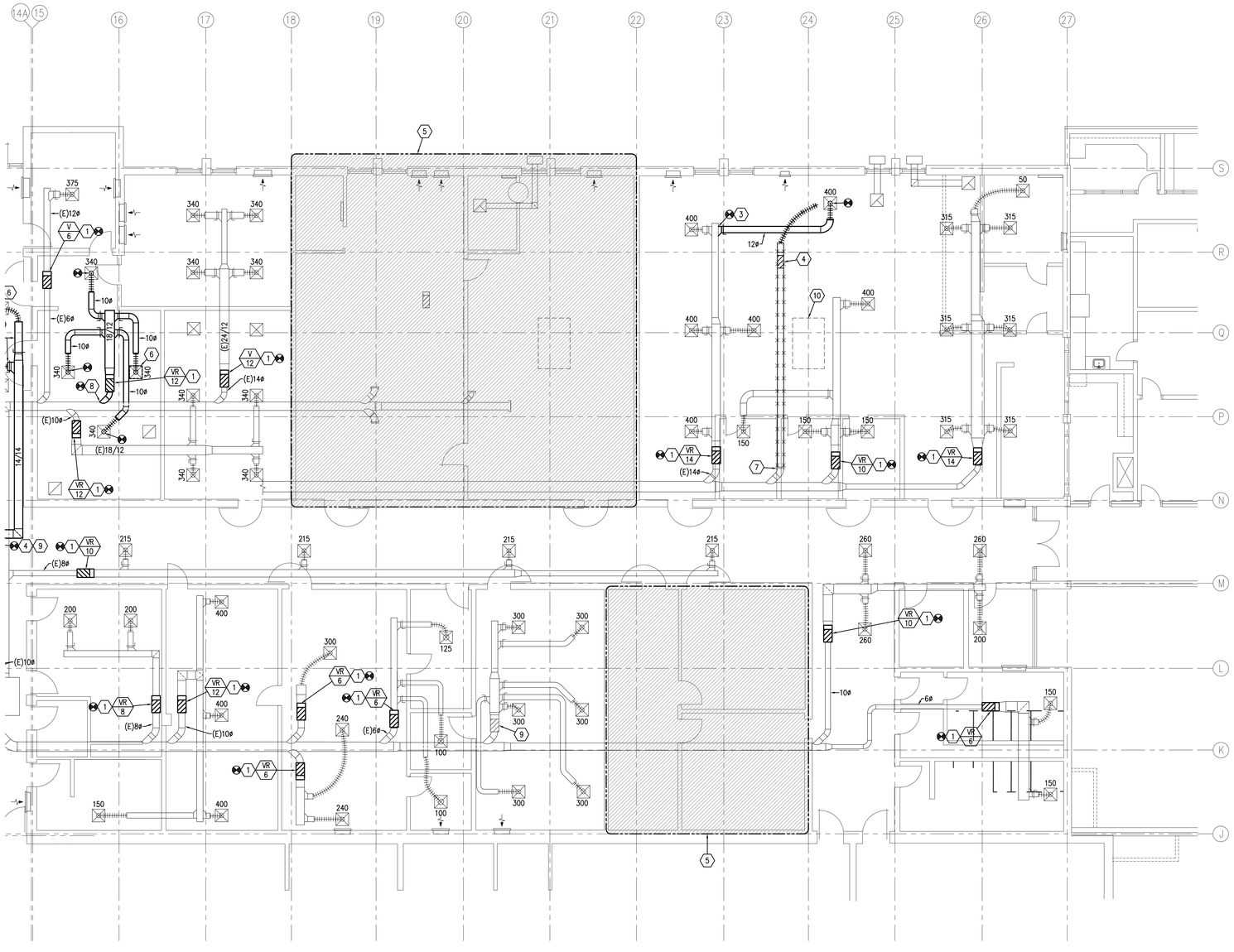
HVAC UPGRADES - WASHBURN BUILDING (06232)
SNOW COLLEGE - RICHFIELD
800 West 200 South Richfield, Utah 84701

REVISIONS

VBFA PROJECT #:	09253
CHECKED BY:	Sshepherd / Jbeck
DRAWN BY:	Ejuarez
CURRENT/BID DATE:	02/26/10

SHEET CONTENTS
MECHANICAL PLAN

M1.1



N

A4 MECHANICAL PLAN

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

0' 8' 16'

KEYED NOTES

1. REMOVE AND REPLACE EXISTING VAV BOX WITH NEW. SEE DETAIL C6/M5.1.
2. SEE MECHANICAL PIPING SHEETS FOR THERMOSTAT LOCATIONS.
3. EXTEND AND CONNECT A NEW BRANCH DUCT AND FLEX DUCT FROM EXISTING TO NEW DIFFUSER.
4. REMOVE EXISTING VAV BOX AND DUCTWORK AS SHOWN.
5. AREA AS SHOWN SERVED BY SEPARATE ROOFTOP UNIT.
6. RELOCATED SUPPLY DIFFUSER.
7. CAP EXISTING DUCT.
8. EXTEND AND CONNECT NEW DUCT TO EXISTING MAIN. PROVIDE NEW VAV REHEAT BOX, LOW PRESSURE LINED DUCTWORK AND FLEXIBLE DUCT. EXTEND TO EXISTING AND RELOCATED DIFFUSERS.
9. EXISTING BOX TO REMAIN.
10. EXISTING ROOFTOP UNIT TO REMAIN.

VAN BOERUM

& FRANK

ASSOCIATES INC.

CONSULTING ENGINEERS

330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
801.530.3148 ofc
801.530.3150 fax
http://www.vbfa.com

LICENSED PROFESSIONAL ENGINEER
No. 189989
STEVEN T. SHEPHERD
STATE OF UTAH

Original drawings remain the property of the Engineer and as such the Engineer retains total ownership and control. The design represented by these drawings are sold to the client for a one time use, unless otherwise agreed upon in writing by the Engineer.
© Van Boerum & Frank Assoc., 2010

HVAC UPGRADES - WASHBURN BUILDING (06232)
SNOW COLLEGE - RICHFIELD
800 West 200 South Richfield, Utah 84701

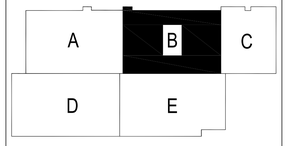
REVISIONS

VBFA PROJECT #:	09253
CHECKED BY:	Sshepherd / Jbeck
DRAWN BY:	Ejuarez
CURRENT/BID DATE:	02/26/10

SHEET CONTENTS

MECHANICAL PLAN

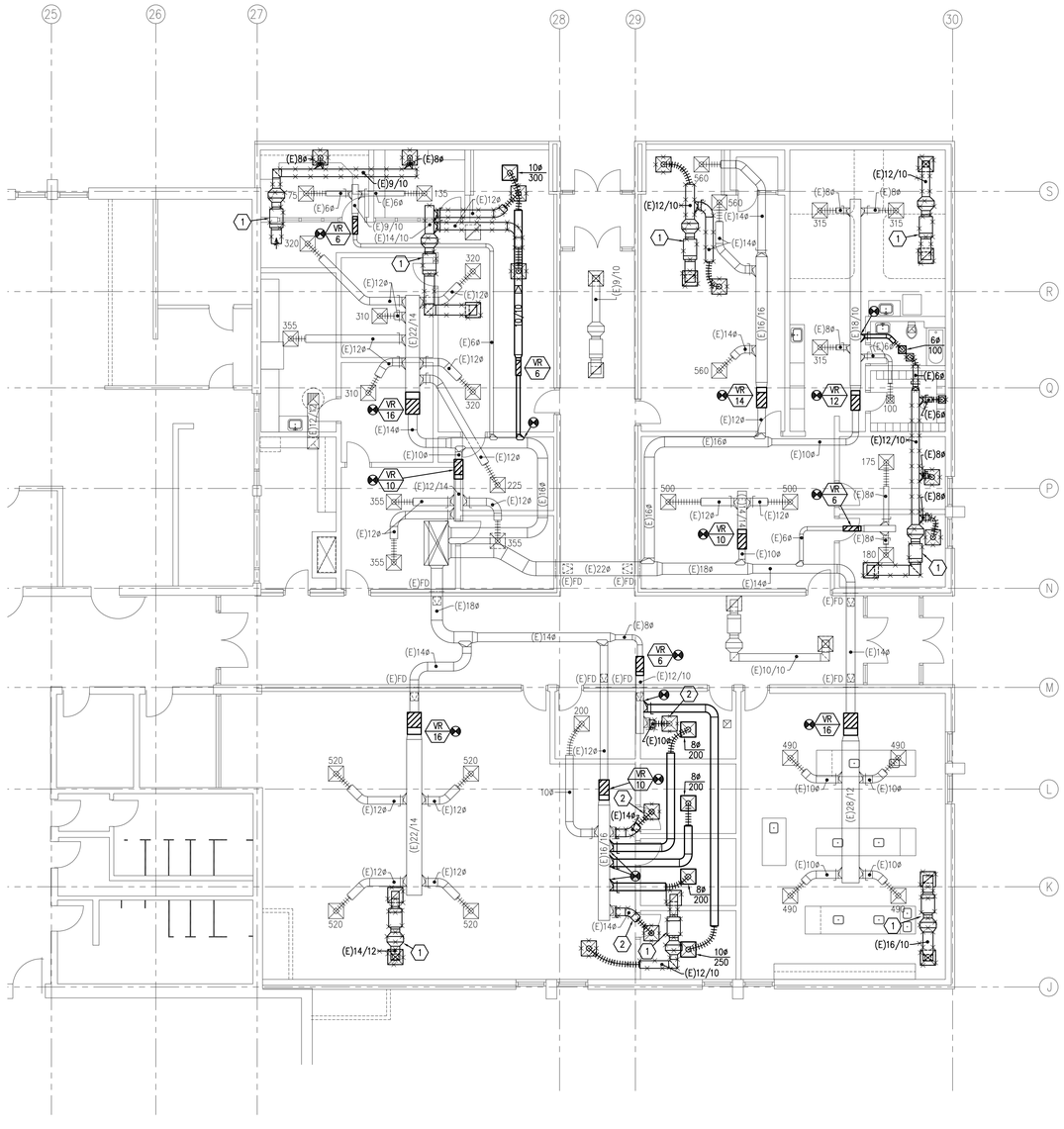
KEY PLAN



M1.2

GENERAL NOTE:

ALTERNATE NO. 1 – ALL WORK AS INDICATED ON THIS SHEET SHALL BE ALTERNATE NO. 1.



N

A4 MECHANICAL PLAN

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

0' 8' 16'

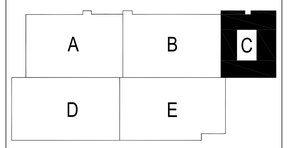
KEYED NOTES

1. REMOVE EXISTING FAN COIL UNIT INCLUDING DUCTWORK DIFFUSERS, COIL, ETC. CAP PIPING BACK TO MAINS.
2. DEMO EXISTING DUCTWORK AS SHOWN X'D. CAP BACK AT MAINS.
3. RELOCATE EXISTING.

GENERAL NOTES

1. BALANCE ALL DIFFUSERS TO AIRFLOWS AS SHOWN.
2. FIELD VERIFY ALL EXISTING DUCT LOCATIONS, DIFFUSER NECK SIZES, DIFFUSER LOCATIONS, PIPING, VALVES, THERMOSTATS, ETC.
3. ALTERNATE NO. 1 – ALL WORK AS INDICATED ON THIS SHEET SHALL BE ALTERNATE NO. 1.

KEY PLAN



VAN BOERUM & FRANK ASSOCIATES INC.

CONSULTING ENGINEERS

330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
801.530.3148 ofc
801.530.3150 fax
http://www.vbfa.com

LICENSED PROFESSIONAL ENGINEER No. 189989 STEVEN T. SHEPHERD STATE OF UTAH

Original drawings remain the property of the Engineer and as such the Engineer retains total ownership and control. The design represented by these drawings are sold to the client for a one time use, unless otherwise agreed upon in writing by the Engineer.
© Van Boerum & Frank Assoc., 2010

HVAC UPGRADES - WASHBURN BUILDING (06232)
SNOW COLLEGE - RICHFIELD
800 West 200 South Richfield, Utah 84701

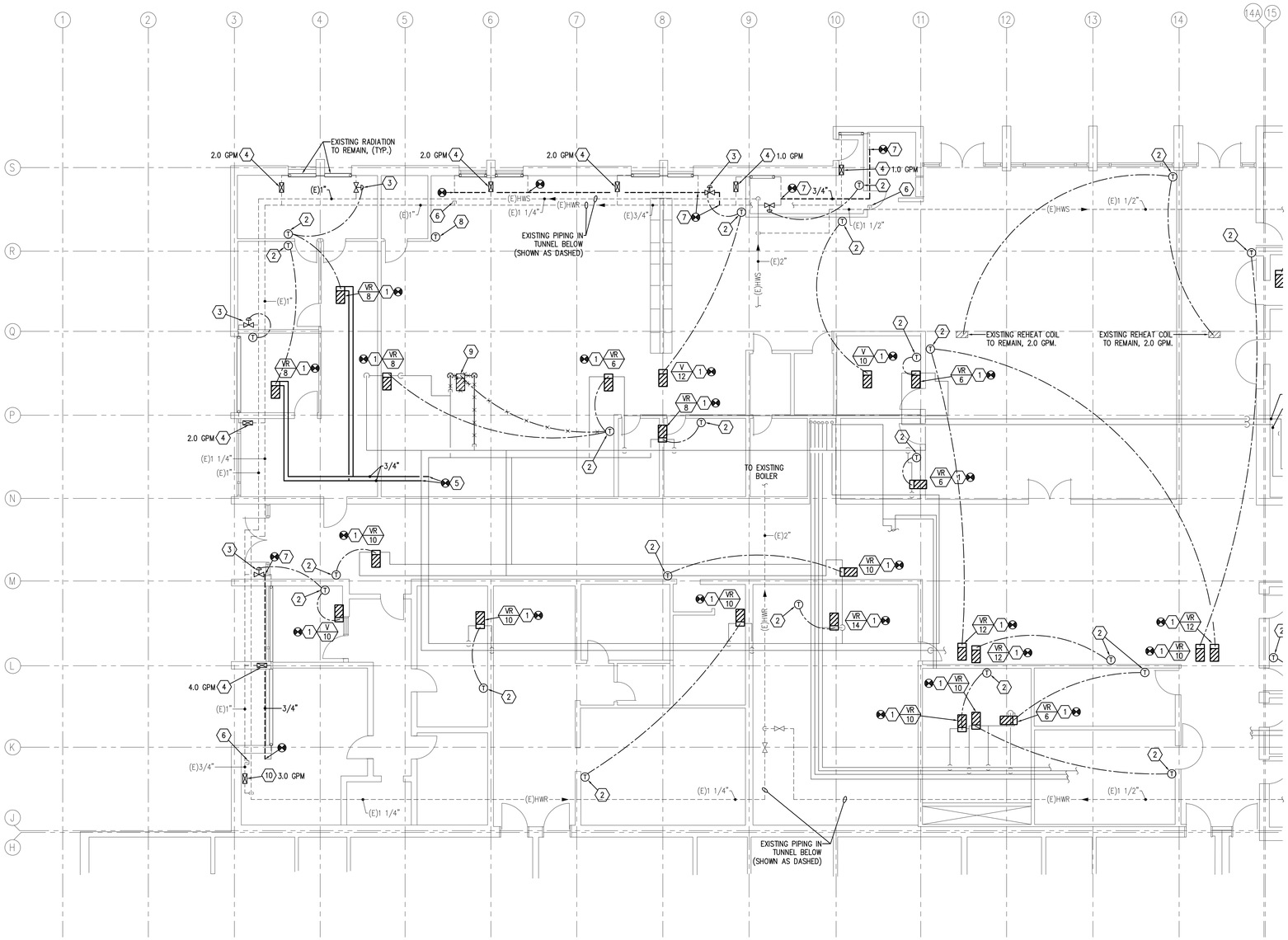
REVISIONS

VBFA PROJECT #:	09253
CHECKED BY:	Sshepherd / Jbeck
DRAWN BY:	Ejuarez
CURRENT/BID DATE:	02/26/10

SHEET CONTENTS

MECHANICAL PLAN

M1.3



N

A4 MECHANICAL PIPING PLAN

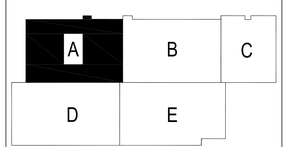
SCALE: 1/8" = 1'-0"

0' 8' 16'

KEYED NOTES

1. PROVIDE AND INSTALL NEW VAV BOX RECONNECT EXISTING PIPING. SEE DETAILS A6/M5.1 & B6/M5.1.
2. PROVIDE AND INSTALL NEW THERMOSTAT, TYPICAL.
3. PROVIDE AND INSTALL NEW SHUT-OFF VALVES, CONTROL VALVE, STRAINER AND CIRCUIT SETTER IN EXISTING PIPING IN TUNNEL. SEE DETAIL A4/M5.1.
4. NEW CIRCUIT SETTER BALANCE TO GPM SHOWN, TYPICAL.
5. EXTEND AND CONNECT NEW PIPING FROM EXISTING MAINS TO NEW VAV REHEAT COIL.
6. CAP EXISTING PIPE.
7. EXTEND AND CONNECT NEW PIPING DOWN STREAM OF NEW CONTROL VALVE TO EXISTING BRANCH LINE OF ADJACENT PERIMETER RADIATION.
8. ABANDON EXISTING THERMOSTAT. REMOVE AND INSTALL WALL PLATE.
9. REMOVE EXISTING VAV REHEAT BOX. CAP PIPING BACK TO ACTIVE MAIN. REMOVE UNUSED PIPING.
10. REPLACE EXISTING BALANCING VALVE WITH NEW AT END OF MAIN.

KEY PLAN



VAN BOERUM
& FRANK
ASSOCIATES INC.
CONSULTING ENGINEERS

330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
801.530.3148 ofc
801.530.3150 fax
http://www.vbfa.com

LICENSED PROFESSIONAL ENGINEER
No. 189989
STEVEN T. SHEPHERD
STATE OF UTAH

Original drawings remain the property of the Engineer and as such the Engineer retains total ownership and control. The design represented by these drawings are sold to the client for a one time use, unless otherwise agreed upon in writing by the Engineer.
© Van Boerum & Frank Assoc., 2010

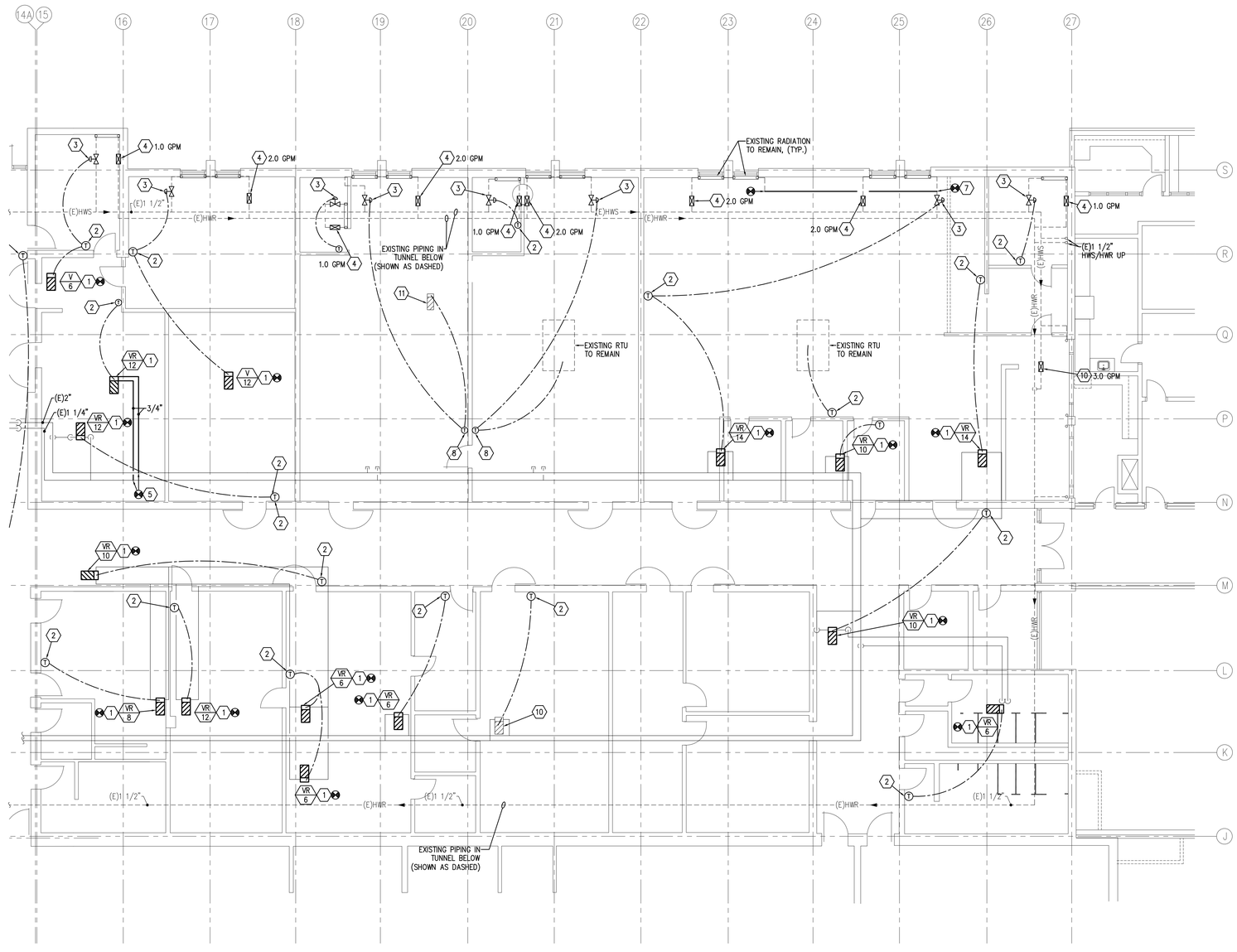
HVAC UPGRADES - WASHBURN BUILDING (06232)
SNOW COLLEGE - RICHFIELD
800 West 200 South Richfield, Utah 84701

REVISIONS

VBFA PROJECT #:	09253
CHECKED BY:	Sshepherd / Jbeck
DRAWN BY:	Ejuarez
CURRENT/BID DATE:	02/26/10

SHEET CONTENTS
MECHANICAL PIPING PLAN

MP1.1



N

A4 MECHANICAL PIPING PLAN

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

0' 8' 16'

KEYED NOTES

1. PROVIDE AND INSTALL NEW VAV BOX RECONNECT EXISTING PIPING. SEE DETAILS A6/M5.1 & B6/M5.1.
2. PROVIDE AND INSTALL NEW THERMOSTAT, TYPICAL.
3. PROVIDE AND INSTALL NEW SHUT-OFF VALVES, CONTROL VALVE, STRAINER AND CIRCUIT SETTER IN EXISTING PIPING IN TUNNEL. SEE DETAIL A4/M5.1.
4. NEW CIRCUIT SETTER BALANCE TO GPM SHOWN, TYPICAL.
5. EXTEND AND CONNECT NEW PIPING FROM EXISTING MAINS TO NEW VAV REHEAT COIL.
6. CAP EXISTING PIPE.
7. EXTEND AND CONNECT NEW PIPING DOWN STREAM OF NEW CONTROL VALVE TO EXISTING BRANCH LINE OF ADJACENT PERIMETER RADIATION.
8. PROVIDE AND INSTALL NEW THERMOSTAT TO CONTROL FINNED TUBE RADIATION, AND EXISTING ROOFTOP UNIT.
9. REMOVE EXISTING VAV REHEAT BOX. CAP PIPING BACK TO ACTIVE MAIN. REMOVE UNUSED PIPING.
10. EXISTING TO REMAIN.
11. EXISTING REHEAT COIL TO REMAIN.

VAN BOERUM
& FRANK
ASSOCIATES INC.
CONSULTING ENGINEERS

330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
801.530.3148 ofc
801.530.3150 fax
http://www.vbfa.com

LICENSED PROFESSIONAL ENGINEER
No. 189989
STEVEN T. SHEPHERD
STATE OF UTAH

Original drawings remain the property of the Engineer and as such the Engineer retains total ownership and control. The design represented by these drawings are sold to the client for a one time use, unless otherwise agreed upon in writing by the Engineer.
© Van Boerum & Frank Assoc., 2010

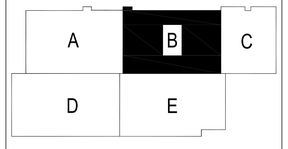
HVAC UPGRADES - WASHBURN BUILDING (06232)
SNOW COLLEGE - RICHFIELD
800 West 200 South Richfield, Utah 84701

REVISIONS

VBFA PROJECT #:	09253
CHECKED BY:	Sshepherd / Jbeck
DRAWN BY:	Ejuarez
CURRENT/BID DATE:	02/26/10

SHEET CONTENTS
MECHANICAL PIPING PLAN

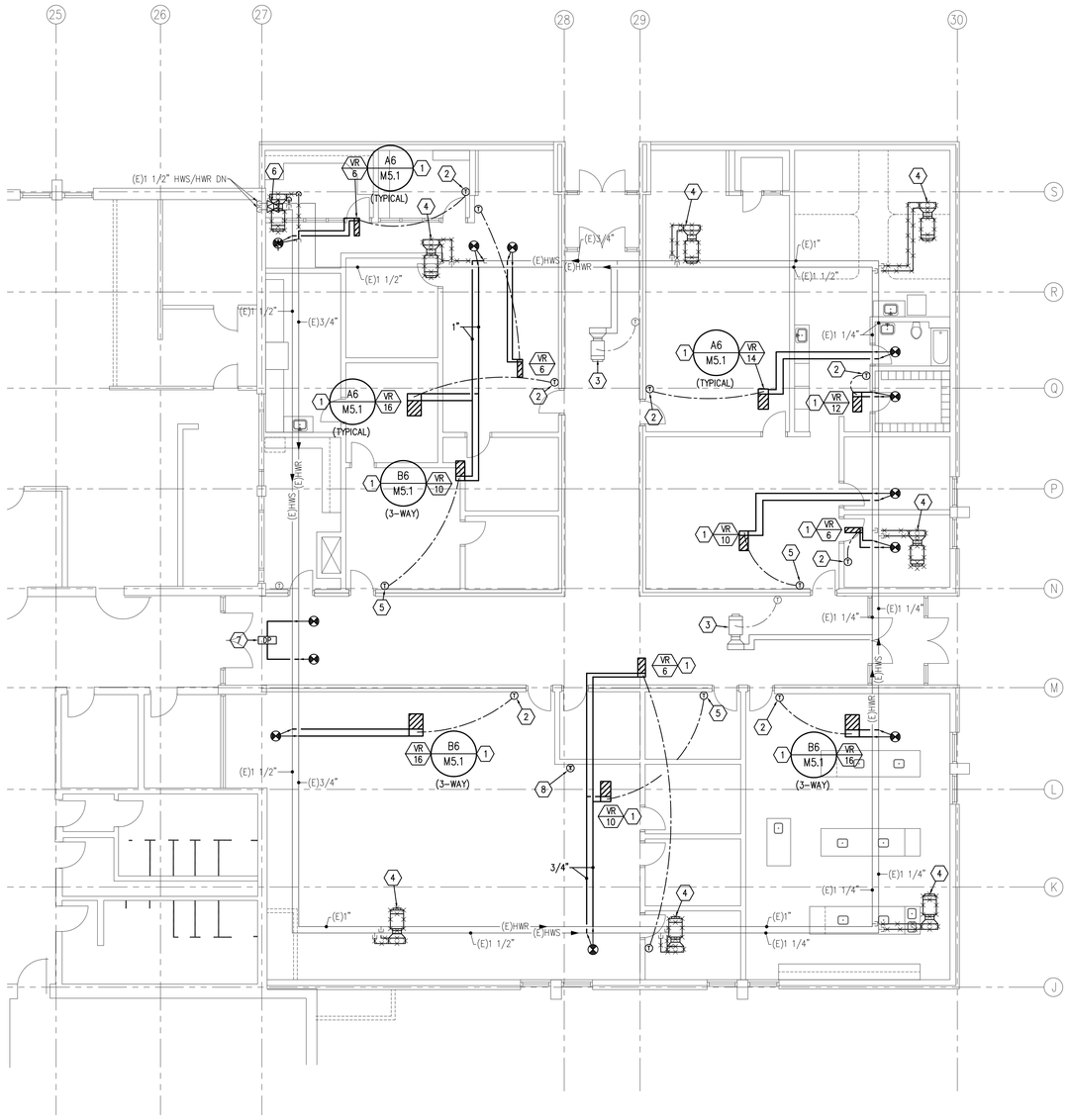
KEY PLAN



MP1.2

GENERAL NOTE:

ALTERNATE NO. 1 – ALL WORK AS INDICATED ON THIS SHEET SHALL BE ALTERNATE NO. 1.



N

A4 MECHANICAL PIPING PLAN

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

0' 8' 16'

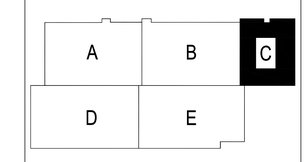
KEYED NOTES

1. REMOVE EXISTING VAV BOX. PROVIDE AND INSTALL NEW VAV BOX WITH REHEAT COIL. EXTEND AND CONNECT HOT WATER SUPPLY AND HOT WATER RETURN (HWS/HWR) FROM MAINS TO NEW VAV BOX. TYPICAL OF ALL.
2. REMOVE EXISTING HEATING THERMOSTAT FROM FAN COIL UNIT. PROVIDE AND INSTALL WALL COVER IN PLACE OF THERMOSTAT. PROVIDE AND INSTALL NEW VAV BOX THERMOSTAT AT LOCATION SHOWN.
3. EXISTING FAN COIL UNIT TO REMAIN. PROVIDE AND INSTALL NEW THERMOSTAT AND CONTROL VALVE.
4. REMOVE EXISTING FAN COIL UNIT. CAP PIPING BACK TO MAINS.
5. REMOVE EXISTING THERMOSTAT PROVIDE AND INSTALL NEW VAV BOX THERMOSTAT AS SHOWN.
6. PROVIDE AND INSTALL NEW SHUT OFF VALVE AS SHOWN.
7. DIFFERENTIAL PRESSURE SENSOR. IF ALTERNATE NO. 1 IS NOT SELECTED. PROVIDE DP AND INSTALL PER ENGINEERS INSTRUCTIONS.
8. REMOVE EXISTING THERMOSTAT. PROVIDE WALL COVER IN PLACE OF THERMOSTAT.

GENERAL NOTES

1. BALANCE ALL DIFFUSERS TO AIRFLOWS AS SHOWN.
2. FIELD VERIFY ALL EXISTING DUCT LOCATIONS, DIFFUSER NECK SIZES, DIFFUSER LOCATIONS, PIPING, VALVES, THERMOSTATS, ETC.
3. ALTERNATE NO. 1 – ALL WORK AS INDICATED ON THIS SHEET SHALL BE ALTERNATE NO. 1.

KEY PLAN



VAN BOERUM & FRANK ASSOCIATES INC.
CONSULTING ENGINEERS

330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
801.530.3148 ofc
801.530.3150 fax
http://www.vbfa.com

LICENSED PROFESSIONAL ENGINEER No. 189989 STEVEN T. SHEPHERD STATE OF UTAH

Original drawings remain the property of the Engineer and as such the Engineer retains total ownership and control. The design represented by these drawings are sold to the client for a one time use, unless otherwise agreed upon in writing by the Engineer.
© Van Boerum & Frank Assoc., 2010

HVAC UPGRADES - WASHBURN BUILDING (06232)
SNOW COLLEGE - RICHFIELD
800 West 200 South Richfield, Utah 84701

REVISIONS

VBFA PROJECT #:	09253
CHECKED BY:	Sshepherd / Jbeck
DRAWN BY:	Ejuarez
CURRENT/BID DATE:	02/26/10

SHEET CONTENTS
MECHANICAL PIPING PLAN

MP1.3

VAV REHEAT BOX SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	INLET SIZE (IN)	AIR: COOLING MAXIMUM AIR (5) (CFM)	HEATING MAXIMUM AIR (CFM)	MINIMUM AIR (3) (CFM)	ENTERING AIR TEMP. DB (DEG. F)	LEAVING AIR TEMP. DB (DEG. F)	S.P. LOSS AT MAX CFM (4) (IN H20)	NC AT 1" H2O (1) S.P.	FLUID (2): HEAT LOAD (MB)	TOTAL FLUID FLOW (GPM)	ENT. FLUID TEMP (DEG. F)	WORKING FLUID	MAX. FLUID PRESSURE DROP (FT)	COIL: MIN. COIL ROWS	PIPE SIZE (IN)	BALANCING VALVE SIZE (IN)	REMARKS
VR-6	TITUS-ESV-3	6	400	240	80	52	100	0.5	28	9.9	1	180	H. WATER	1	2	3/4	1/2	1,2,3,4,5,6
VR-8	TITUS-ESV-3	8	700	420	145	52	100	0.65	28	17.4	1.5	180	H. WATER	1	2	3/4	1/2	1,2,3,4,5,6
VR-10	TITUS-ESV-3	10	1100	660	230	52	100	0.65	26	27..3	2	180	H. WATER	1	2	3/4	3/4	1,2,3,4,5,6
VR-12	TITUS-ESV-3	12	1600	960	325	52	100	0.65	26	39.7	2.5	180	H. WATER	1	2	3/4	3/4	1,2,3,4,5,6
VR-14	TITUS-ESV-3	14	2200	1320	450	52	100	0.65	26	54.6	3	180	H. WATER	1	2	3/4	3/4	1,2,3,4,5,6
VR-16	TITUS-ESV-3	16	2800	1680	580	52	100	0.7	26	69.6	3.5	180	H. WATER	1	2	3/4	3/4	1,2,3,4,5,6
VR-20	TITUS-ESV-3	24X16 FO	4200	2520	1260	52	100	0.7	29	104.3	5	180	H. WATER	1.5	2	1	3/4	1,2,3,4,5,6

1. MAXIMUM DISCHARGE NC AT BOX DIFFENTIAL PRESSURE BASED ON ARI STANDARD 880-89
2. COIL HEATING CAPACITY BASED ON HEATING MAIXIMUM AIR FLOW (60% OF MAXIMUM COOLING CFM).
3. MINIMUM CFM IS LOWEST CONTROLLABLE CFM SETTING (BASED ON 400 FPM INLET VELOCITY).
4. MAXIMUM STATIC PRSSURE DROP PERMISSABLE ACROSS BOX AND COIL AT MAXIMUM COOLING CFM.
5. BOX COOLING MAXIMUM IS THE SUM OF DIFFUSERS CFM VALUES AS SHOWN IN THE DRAWINGS. BOX MINIMUM CFM TO BE SET AT 30% OF THIS MAXIMUM. BOX HEATING CFM TO BE SET AT 60% OF THIS SAME MAXIMUM. TYPICAL UNLESS OTHERWISE NOTED.
6. PRESSURE INDEPENDENT TYPE BOX.

VAV BOX SCHEDULE (NO REHEAT COIL)

ID	MANUFACTURER AND MODEL NUMBER	INLET SIZE (IN)	AIR: COOLING MAXIMUM AIR (5) (CFM)	HEATING MAXIMUM AIR (CFM)	MINIMUM AIR (3) (CFM)	ENTERING AIR TEMP. DB (DEG. F)	LEAVING AIR TEMP. DB (DEG. F)	S.P. LOSS AT MAX CFM (4) (IN H20)	NC AT 1" H2O (1) S.P.	FLUID (2): HEAT LOAD (MB)	TOTAL FLUID FLOW (GPM)	ENT. FLUID TEMP (DEG. F)	WORKING FLUID	MAX. FLUID PRESSURE DROP (FT)	COIL: MIN. COIL ROWS	PIPE SIZE (IN)	BALANCING VALVE SIZE (IN)	REMARKS
V-6	TITUS-ESV-3	6	400	240	80	NA	NA	0.5	28	NA	NA	NA	NA	NA	NA	NA	NA	1,2,3,4,5,6
V-8	TITUS-ESV-3	8	700	420	145	NA	NA	0.65	28	NA	NA	NA	NA	NA	NA	NA	NA	1,2,3,4,5,6
V-10	TITUS-ESV-3	10	1100	660	230	NA	NA	0.65	26	NA	NA	NA	NA	NA	NA	NA	NA	1,2,3,4,5,6
V-12	TITUS-ESV-3	12	1600	960	325	NA	NA	0.65	26	NA	NA	NA	NA	NA	NA	NA	NA	1,2,3,4,5,6
V-14	TITUS-ESV-3	14	2200	1320	450	NA	NA	0.65	26	NA	NA	NA	NA	NA	NA	NA	NA	1,2,3,4,5,6
V-16	TITUS-ESV-3	16	2800	1680	580	NA	NA	0.7	26	NA	NA	NA	NA	NA	NA	NA	NA	1,2,3,4,5,6
V-20	TITUS-ESV-3	24X16 FO	4200	2520	1260	NA	NA	0.7	29	NA	NA	NA	NA	NA	NA	NA	NA	1,2,3,4,5,6

1. MAXIMUM DISCHARGE NC AT BOX DIFFENTIAL PRESSURE BASED ON ARI STANDARD 880-89
2. COIL HEATING CAPACITY BASED ON HEATING MAIXIMUM AIR FLOW (60% OF MAXIMUM COOLING CFM).
3. MINIMUM CFM IS LOWEST CONTROLLABLE CFM SETTING (BASED ON 400 FPM INLET VELOCITY).
4. MAXIMUM STATIC PRSSURE DROP PERMISSABLE ACROSS BOX AND COIL AT MAXIMUM COOLING CFM.
5. BOX COOLING MAXIMUM IS THE SUM OF DIFFUSERS CFM VALUES AS SHOWN IN THE DRAWINGS. BOX MINIMUM CFM TO BE SET AT 30% OF THIS MAXIMUM. BOX HEATING CFM TO BE SET AT 60% OF THIS SAME MAXIMUM. TYPICAL UNLESS OTHERWISE NOTED.
6. PRESSURE INDEPENDENT TYPE BOX.

PUMP SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	FLUID: FLOW RATE (GPM)	WORKING FLUID	HEAD LOSS (FT)	PUMP: EFFICIENCY (%)	SERVES	ELECTRICAL: MOTOR SIZE (HP)	MOTOR BHP (HP)	MOTOR SPEED (RPM)	VOLT/PH/HZ	NOTES
HP-1	B&G 1510 - 1-1/2 BC	MECH RM	NOTE 1	120	WATER	85	62.9	HEATING WATER	5	4.1	1750	460/3/60	1,2

1. REPLACE EXISTING PUMP
2. VFD COMPATIBLE MOTOR

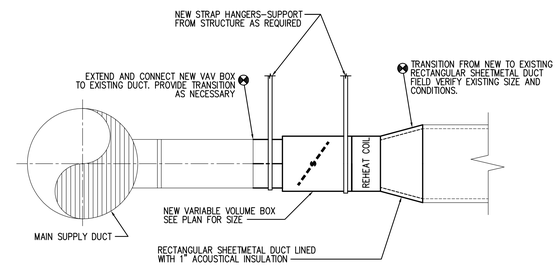
GRILLES, REGISTERS AND DIFFUSERS

ID	MANUFACTURER	MODEL	MAX NC	DESCRIPTION
CD-1	EH PRICE	SCDA	30	LOUVER FACE (4-CONE) CEILING DIFFUSERS. ADJUSTABLE AIR PATTERN, C.W./O.B.D. FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" x 24", 24" x 12" OR 12" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE. PROVIDE ROUND NECK ADAPTER.

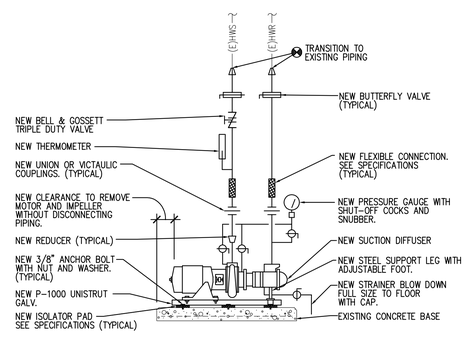
VARIABLE FREQUENCY DRIVE SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	SERVES	LOCATION	MOTOR SIZE (HP)	VOLT/PH	NOTES
VFD-1	ABB	PUMP - HP-1	MECHANICAL	5	460/3	1

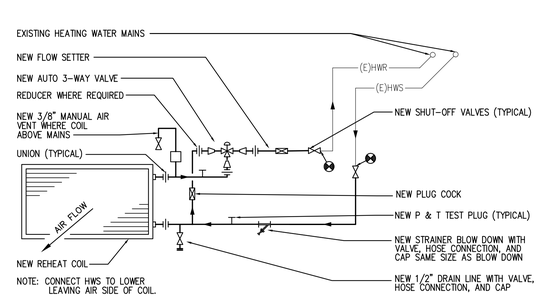
1. VFD TO BE PROVIDED BY ATC



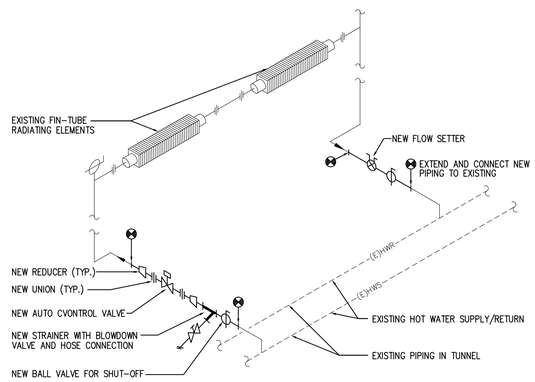
C6 / M5.1 VARIABLE VOLUME BOX DETAIL
NO SCALE



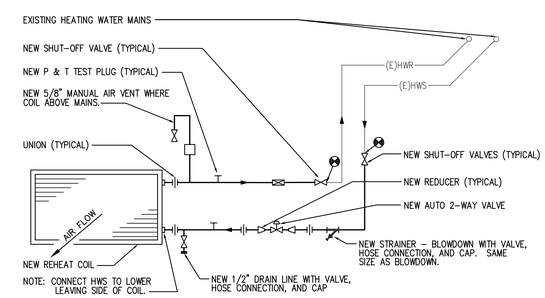
B4 / M5.1 PUMP CONNECTION DETAIL
NO SCALE



B6 / M5.1 REHEAT COIL W/3-WAY VALVE DETAIL
NO SCALE



A4 / M5.1 BASEBOARD RADIATION PIPING SCHEMATIC
NO SCALE



A6 / M5.1 REHEAT COIL PIPING DETAIL
NO SCALE

VAN BOERUM & FRANK ASSOCIATES INC.
CONSULTING ENGINEERS
330 SOUTH 300 EAST
SALT LAKE CITY, UT 84111
801.530.3148 ofc
801.530.3150 fax
http://www.vbfa.com

LICENSED PROFESSIONAL ENGINEER No. 189989 STEVEN T. SHEPHERD STATE OF UTAH

Original drawings remain the property of the Engineer and as such the Engineer retains total ownership and control. The design represented by these drawings are sold to the client for a one time use, unless otherwise agreed upon in writing by the Engineer.
© Van Boerum & Frank Assoc., 2010

HVAC UPGRADES - WASHBURN BUILDING (06232)
SNOW COLLEGE - RICHFIELD
800 West 200 South Richfield, Utah 84701

REVISIONS

VBFA PROJECT #:	09253
CHECKED BY:	Sshepherd / Jbeck
DRAWN BY:	Ejuarez
CURRENT/BID DATE:	02/26/10

SHEET CONTENTS
MECHANICAL SCHEDULES AND DETAILS

M5.1