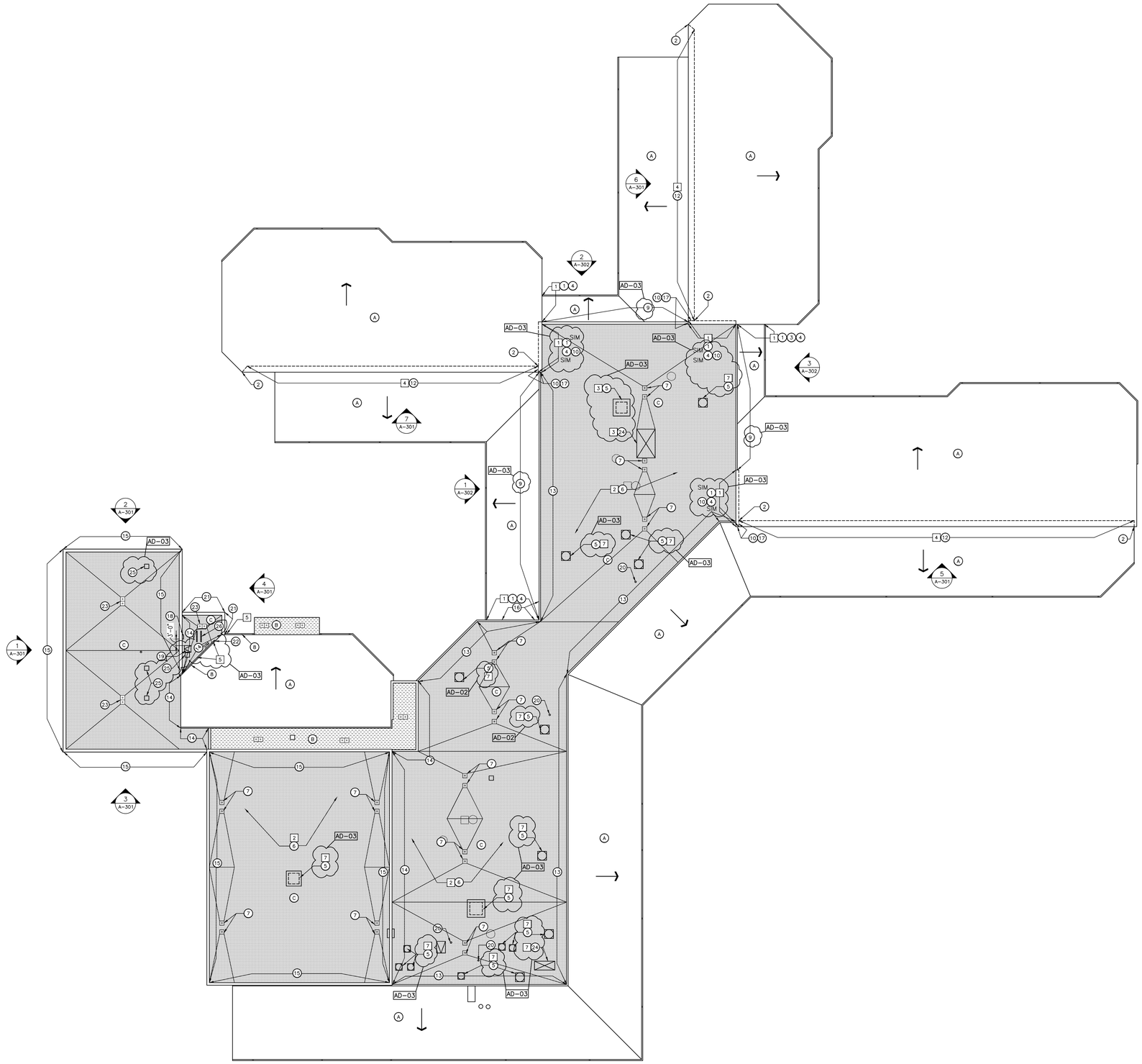


## OVERALL ARCHITECTURAL ROOF PLAN

SCALE: 1" = 20'

## GENERAL ROOF PLAN NOTES:

A. THERE MAY BE LOCATIONS ON THE EXISTING ROOF WHERE THE EXISTING ROOF DECK MAY NOT BE STRUCTURALLY SOUND. CONTRACTORS SHOULD USE EXTREME CAUTION IN WORKING THESE ROOF AREAS TO MAINTAIN SAFE WORKING CONDITIONS.

B. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, CLEARANCES AND ALL EXISTING FIELD CONDITIONS BEFORE STARTING CONSTRUCTION. COMMENCEMENT OF WORK CONSTITUTES ACCEPTANCE OF CONDITIONS. SHOULD DIFFERENT CONDITIONS BE ENCOUNTERED, CONTACT THE ARCHITECT BEFORE PROCEEDING WITH WORK.

C. THE ROOF CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ALL DAMAGE CAUSED BY IMPROPER STORAGE OR STACKING OF ROOFING MATERIALS.

D. ALL DIMENSIONS INDICATED ON THE ROOF PLAN ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ACCURATE FIELD MEASUREMENTS FOR THE EXECUTION OF HIS WORK AND PRIOR TO ANY FABRICATION OF THE VARIOUS MATERIALS.

E. THE ROOF CONTRACTOR SHALL PROTECT ALL ROOF DRAINS, SCUPPERS AND DOWNSPOUTS FROM DEBRIS CREATED DURING DEMOLITION AND/OR NEW CONSTRUCTION. THE ROOF CONTRACTOR SHALL INSPECT AND CLEAR ALL DRAINS, SCUPPERS AND DOWNSPOUTS PRIOR TO COMPLETION OF WORK AND TO ENSURE THAT THEY ARE FREE OF DEBRIS AND ARE FUNCTIONING PROPERLY.

F. LOCATION AND QUANTITY OF ALL ROOF DRAINS, FLUES, VENTS, POWER AND GRAVITY VENTILATORS, ETC., SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.

G. EXTEND ALL PLUMBING VENTS SO THAT THE TOP IS A MINIMUM OF 12" ABOVE THE ROOFING MEMBRANE.

H. PROVIDE NEW FLASHING AND TWO PIECE COUNTER-FLASHING WHERE NEW ROOFING ABUTS A NEW OR EXISTING WALL, UNLESS OTHERWISE NOTED OR DETAILED.

I. PROVIDE FLASHING AND SADDLES FOR ALL EXISTING EQUIPMENT TO REMAIN.

J. FLASHING OF ALL VENTS, FAN CURBS, MASONRY WALLS, FLUES, DRAINS, FASCIAS, ETC., SHALL BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS AND DRAWINGS, AND WITH ROOFING MANUFACTURERS STANDARD DETAILS AND SPECIFICATIONS.

K. CONTRACTOR TO PROVIDE CRICKETS AND/OR ROOF SADDLES AS REQUIRED TO PROMOTE POSITIVE DRAINAGE AROUND ALL ROOF TOP PENETRATIONS.

L. SADDLES AND TAPERED INSULATION SYMBOLS INDICATE DESIGN INTENT TO SLOPES TO DRAIN. CONTRACTOR SHALL PROVIDE SUBMITTAL DRAWINGS FOR TAPERED INSULATION AND SADDLES TO ENSURE POSITIVE SLOPE.

M. ALL NEW WOOD BLOCKING AND NAILERS SHALL BE TREATED WOOD.

N. DEMOLITION AND REMOVAL OPERATIONS ARE TO BE PERFORMED CAREFULLY AND ALL PORTIONS OF THE BUILDING SHALL BE PROTECTED DURING OPERATIONS. ITEMS TO BE REUSED/REINSTALLED ARE TO BE CAREFULLY REMOVED/STORED. DAMAGES INCURRED DURING REMOVAL OR STORAGE SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

## ROOF LEGEND:

(ALL ITEMS ARE EXISTING TO REMAIN. HOWEVER, DETAILS REFERENCED INDICATE NEW WORK TO MAINTAIN WATER TIGHT SYSTEM THAT MEETS THE ROOFING MANUFACTURERS RECOMMENDATIONS ACCORDING TO THEIR WARRANTY.)

- RELIEF VENT — 4/A-211
- EXHAUST FAN — 4/A-211
- GRAVITY VENT — 3/A-211
- ROOF DRAIN — 1/A-211
- PLUMBING VENT — 2/A-211, 3/A-211
- MECHANICAL UNIT — 4/A-211
- ROOF HATCH
- INDICATES ROOF SLOPE

## ROOF TYPES:

A. EXISTING ASPHALT SHINGLED ROOF ON UNDERLAYMENT MEMBRANE ON EXISTING VENTED ROOF SYSTEM ON SLOPING DECK.

B. EXISTING MEMBRANE ROOF TO REMAIN.

AD-03 C. NEW MEMBRANE ROOF SHEET W/ 4" TAPERED RIGID INSULATION AND 1/2" PROTECTION BOARD @ 1/4" SLOPE MINIMUM.

## DEMOLITION PLAN NOTES:

1. CAREFULLY REMOVE AND SALVAGE EXISTING BRICK MASONRY FOR RE-USE TO EXPOSE INTERIOR OF WALL AND ASSOCIATED WALL FLASHING. REMOVE WALL FLASHING AND PREP EXISTING MASONRY CONSTRUCTION TO RECEIVE NEW CONSTRUCTION. REMOVE AND SALVAGE AMOUNT OF BRICK AS REQUIRED TO INSTALL THE NEW THRU WALL FLASHING.
2. REMOVE EXISTING BALLAST, MEMBRANE ROOF, PROTECTION BOARD, INSULATION, ROOF FLASHING/COUNTER FLASHING AND ALL ASSOCIATED ROOFING ASSEMBLIES TO METAL DECK AND TO EXISTING ADJACENT ROOFING ASSEMBLIES COMPLETE. PROTECT EXISTING ADJACENT ROOF, WALL/ FLASHING ASSEMBLIES TO REMAIN.
3. EXISTING MECHANICAL EQUIPMENT AND ASSOCIATED CURB TO REMAIN. PREP EXISTING CURB AND MOVE EQUIPMENT AS REQUIRED TO RECEIVE NEW FLASHING AND COUNTER FLASHING.
4. DEMOLISH EXISTING TRANSLUCENT WALL PANEL SYSTEM. PROTECT EXISTING FLASHING AND ASPHALT SHINGLE ROOF TO REMAIN.
5. REMOVE EXISTING GUTTER AND END CAP. MODIFY TO ACCOMMODATE NEW CONSTRUCTION. PROVIDE CONTINUOUS SEALANT AND RIVET TOGETHER.
6. REMOVE EXISTING PARAPET DOWN TO BELOW ROOF DECK.
7. AD-03 EXISTING MECHANICAL EQUIPMENT TO BE REMOVED FOR REINSTALLATION. MOVE EQUIPMENT AS REQUIRED TO RECEIVE NEW CURB FLASHING AND COUNTER-FLASHING.

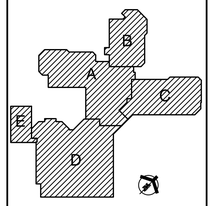
## ROOF PLAN NOTES:

1. NEW CONTINUOUS THRU WALL FLASHING AND WEEPS AT 24" O.C. MINIMUM. TOOTH IN EXISTING ORIGINAL SALVAGED MASONRY CONSTRUCTION WHERE REMOVED. MIX IN NEW BRICK AND BLEND TO MATCH EXISTING. — 8/A-211
2. SAW CUT/MODIFY/REPLACE MASONRY AS REQUIRED FOR INSTALLATION OF NEW COUNTER FLASHING W/ DRIP. OVERLAP EXISTING FLASHING AT TRANSLUCENT WALL PANEL SYSTEM.
3. REMOVE SCALE/RUST FROM EXISTING BUILDING STRUCTURE AND PREP EXISTING TO RECEIVE HIGH PERFORMANCE COATING. REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
4. WHERE LINTELS, THRU WALL FLASHING, STEP FLASHING OCCUR, WALL FLASHING SHALL REMAIN CONTINUOUS WITH END DAMS EACH SIDE TO PREVENT WATER MIGRATION INTO BUILDING. — 8/A-211
5. NEW ROOF CURB, FLASHING AND COUNTER FLASHING AT ASSOCIATED MECHANICAL EQUIPMENT. REFERENCE MECHANICAL DRAWINGS FOR ADDITIONAL INFO.
6. NEW MEMBRANE ROOF SHEET W/ 4" RIGID INSULATION AND 1/2" PROTECTION BOARD @ 1/4" SLOPE MINIMUM.
7. AD-03 ROOF DRAIN W/ OVERFLOW AND PIPING TO REMAIN. ADJUST ASSEMBLY TO ACCOMMODATE NEW ROOF. — 1/A-211
8. MODIFY EXISTING GUTTER TO ACCOMMODATE NEW CONSTRUCTION. — 2/A-301
9. PROVIDE NEW COMPOSITE METAL PANEL AND NEW AIR BARRIER. — 1/A-212
10. PROVIDE NEW COMPOSITE METAL PANEL AND NEW AIR BARRIER. PROTECT EXISTING METAL COPING. — 2/A-212
11. PROVIDE NEW FLASHING MEMBRANE TO OVERLAP AND TIE INTO EXISTING ROOF MEMBRANE AS REQUIRED TO MAINTAIN EXISTING ROOF WARRANTY.
12. NEW TRANSLUCENT WALL PANEL SYSTEM. INSTALL NEW FLASHING AND COUNTER-FLASHING CONTINUOUS ALONG PERIMETER OF OPENING. — 3/A-212, 4/A-212, AD-03
    ALTERNATE BID: NEW STOREFRONT.
13. REMOVE EXISTING COPING AND REINSTALL OR REPLACE AS REQUIRED. — 9/A-211, 1/A-212
14. WALL/ROOF FLASHING — 7/A-211
15. COPING DETAIL — 9/A-211
16. ENSURE EXISTING/NEW FLASHING, COUNTER-FLASHING AND ROOF FLASHING IS SEALED TIGHT FOR POSITIVE DRAINAGE OUTSIDE OF BUILDING.
17. WRAP CORNER WITH METAL PANEL.
18. ALUMINUM ROOF ACCESS LADDER. — 11/A-211
19. ROOF HATCH. — 10/A-211
20. EXTEND VENT PIPING AS REQD — 2&3/A-211
21. ROOF EDGE FLASHING — 6/A-211
22. NEW DOWNSPOUT AND SPLASH BLOCK - CONNECT TO EXISTING GUTTER.
23. ROOF DRAIN WITH OVERFLOW. — 13/A-211
24. AD-03 EXISTING LARGE EQUIPMENT AND ROOF CURB TO REMAIN. TUCK AND INSTALL NEW FLASHING AND COUNTER-FLASHING. WRAP MEMBRANE AND INSTALL NEW TERMINATION BAR AS REQUIRED FOR WATERTIGHT CONDITIONS. ENSURE 8" IS MAINTAINED FROM TERMINATION BAR TO ROOF OR AS REQUIRED FOR WATERTIGHT CONDITIONS AND WARRANTY REQUIREMENT.
25. EXHAUST FAN. — 4/A-211
26. MECHANICAL RAIL SUPPORTS. — 14/A-211

GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

PROJECT
# LAVILLE ELEMENTARY SCHOOL - 2020 IMPROVEMENTS AND RELATED WORK

UNION NORTH UNITED SCHOOL CORPORATION
12645 TYLER RD
LAKEVILLE, IN 46536




FIRST FLOOR KEYPLAN


GIBRALTAR DESIGN
9102 N. Meridian St., Ste. 300
Indianapolis, IN 46260
Homepage www.GibraltarDesign.com
Email info@GibraltarDesign.com
Phone 317.580.5777 Fax 317.580.5778


PROJECT 20-128
DATE 08/24/20
COORDINATED BY TA
DRAWN BY KLS PCD
CHECKED BY TA

DALE J. WACKER REGISTERED NO. 19600171 STATE OF INDIANA ARCHITECT


COPYRIGHT NOTICE:
THE CONCEPTS, DESIGNS, PLANS, DETAILS, ETC, SHOWN ON THIS DOCUMENT ARE THE PROPERTY OF GIBRALTAR DESIGN AND WERE CREATED FOR USE ON THIS SPECIFIC PROJECT. NONE OF THIS INFORMATION SHALL BE USED BY ANY PERSON OR FIRM FOR ANY PURPOSE WITHOUT THE EXPRESS WRITTEN CONSENT OF GIBRALTAR DESIGN. THE OWNER MAY RETAIN COPIES FOR INFORMATION AND REFERENCE IN CONNECTION ONLY WITH THIS PROJECT.


REVISIONS

| MARK | DATE | ISSUED FOR |
|---|---|---|
| AD-03 | 09/18/20 | ADDENDUM NO. 3 |

DRAWING
OVERALL ARCHITECTURAL ROOF PLAN

PROJECT
LAVILLE ELEMENTARY SCHOOL - 2020 IMPROVEMENTS

© GIBRALTAR DESIGN

SHEET
A-201

Friday, 9/18/2020 - 4:59 PM - LAST SAVED BY:TALLEN
Y:\20-128 UNION-NORTH LAVILLE ES - 2020 IMPROVEMENTS\20-128 DRAWINGS\05 ARCH\A-201.DWG

## SHEET NOTES

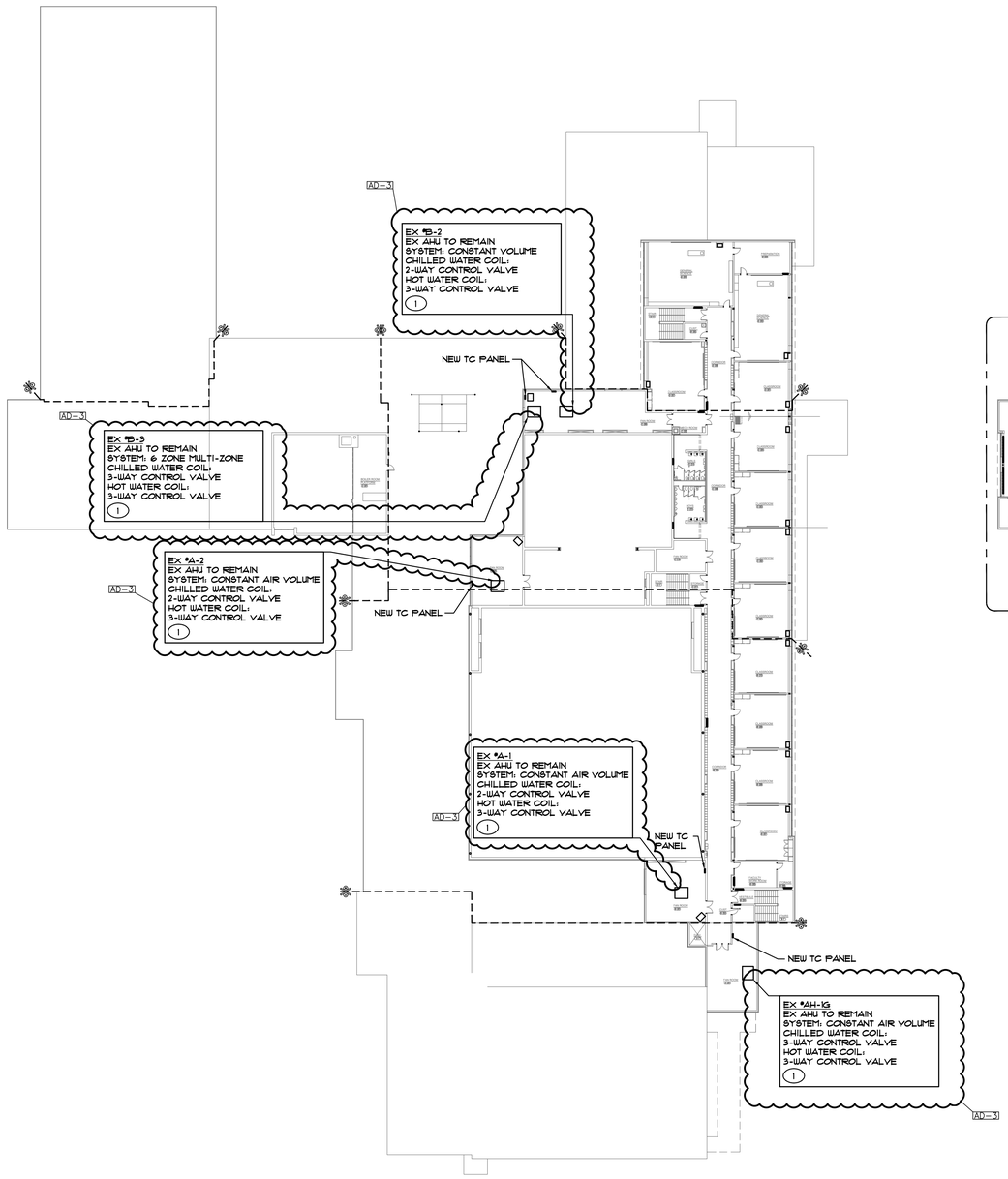
1. PROVIDE A DIRECT DIGITAL CONTROLLER FOR THE AIR HANDLING UNIT TO BE INTERFACED INTO THE EXISTING ICS DDC TEMPERATURE CONTROL SYSTEM. EXISTING AIR HANDLING UNITS HAVE HOT WATER HEATING COIL, CHILLED WATER COOLING COIL, 2 AND 3 WAY COIL CONTROL VALVES, SMOKE DETECTION, AND ELECTRIC DAMPER AND CONTROL VALVE ACTUATORS. PROVIDE ALL NECESSARY SENSORS, COMPONENTS, WIRING, DEVICES, ETC. TO FULLY INTEGRATE AND CONTROL THE AIR HANDLING UNIT, ELECTRIC DAMPER ACTUATORS, ELECTRIC CONTROL VALVES, ROOM SENSORS/THERMOSTATS, ETC. TO THE ICS FMS SYSTEM. PROVIDE ADDITIONAL ICS FMS CONTROLLER/SERVERS, PROGRAMMING AND GRAPHICS FOR EXISTING CONSTANT VOLUME AND MULTI-ZONE AIR HANDLING UNITS, DAMPERS AND COIL CONTROL VALVES, ZONE SENSORS, ETC. FOR A COMPLETE AND 100% INTEGRATED OPERATIONAL SYSTEM. ALL EXISTING SEQUENCES, CONTROL POINTS, MONITOR POINTS, MONITOR POINTS, ETC SHALL REMAIN THE SAME. VERIFY EXACT REQUIREMENTS IN THE FIELD. SEE MECHANICAL SPECIFICATIONS FOR TEMPERATURE CONTROL SEQUENCES.

2. REMOVE EXISTING WALL MOUNTED CABINET HEATER. DISCONNECT EXISTING ASSOCIATED PIPING, PNEUMATIC TEMPERATURE CONTROL VALVE ON HEATING & COOLING PIPING, CONTROLS, ELECTRICAL CONNECTIONS, ETC COMPLETE AS REQUIRED. INSTALL NEW CABINET HEATER IN LOCATION AND MODIFY AND RECONNECT ALL ASSOCIATED PIPING, CONTROLS, ELECTRICAL CONNECTIONS, ETC. COMPLETE AS REQUIRED. PROVIDE NEW 2-WAY ELECTRIC DDC TEMPERATURE CONTROL VALVES ON HEATING PIPING COMPLETE AS REQUIRED.

3. REMOVE EXISTING THERMOSTAT AND ASSOCIATED TUBING/WIRING, ETC. COMPLETE AS REQUIRED. INSTALL NEW DDC THERMOSTAT AND CONTROL WIRING TO PROPER EXISTING AIR HANDLING UNIT

4. REMOVE EXISTING WALL MOUNTED FAN COIL UNIT. DISCONNECT EXISTING ASSOCIATED HOT WATER, CHILLED WATER, CONDENSATE PIPING, PNEUMATIC TEMPERATURE CONTROL VALVE ON HEATING & COOLING PIPING, CONTROLS, ELECTRICAL CONNECTIONS, ETC. COMPLETE AS REQUIRED. INSTALL NEW FAN COIL UNIT IN LOCATION AND MODIFY AND RECONNECT ALL ASSOCIATED HOT WATER, CHILLED WATER, CONDENSATE PIPING, CONTROLS, ELECTRICAL CONNECTIONS, ETC. COMPLETE AS REQUIRED. PROVIDE NEW 2-WAY ELECTRIC DDC TEMPERATURE CONTROL VALVES ON HEATING & COOLING PIPING COMPLETE AS REQUIRED. INSTALL NEW DDC THERMOSTAT ON WALL IN OLD THERMOSTAT LOCATION AS REQUIRED.

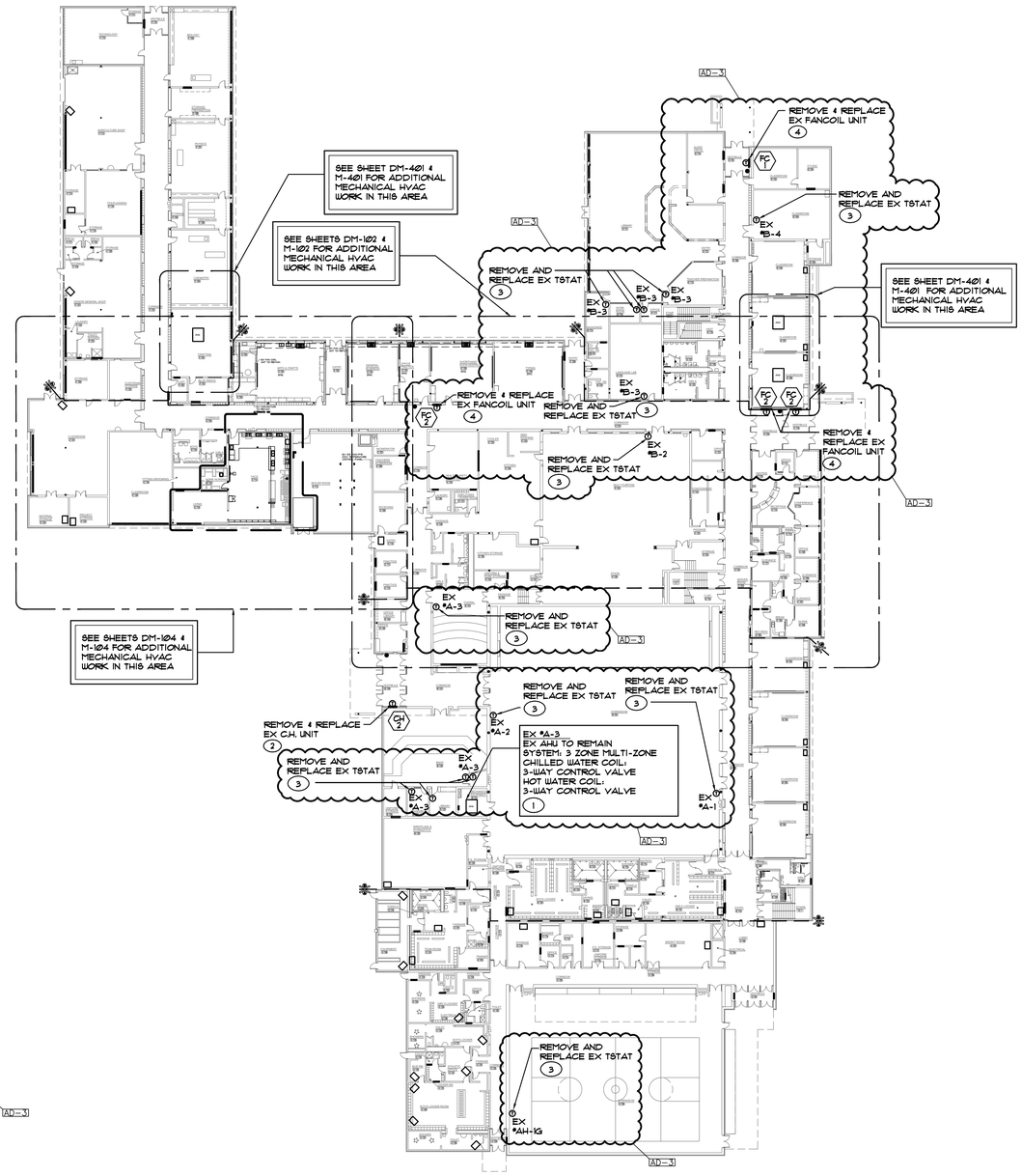
AD-3




OVERALL SECOND FLOOR PLAN - MECHANICAL HVAC

SCALE: 1"=30'0"

NORTH




OVERALL FIRST FLOOR PLAN - MECHANICAL HVAC

SCALE: 1"=30'0"

NORTH

GIBRALTAR DESIGN

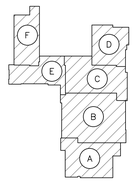
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

MILLIES ENGINEERING GROUP
(317) 924-5400
www.milliesengineeringgroup.com

PROJECT

# LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS AND RELATED WORK

UNION NORTH UNITED SCHOOL CORPORATION
LAKEVILLE, IN 46536




KEYPLAN

SCALE: NONE


GIBRALTAR DESIGN
9102 N. Meridian St., Ste. 300
Indianapolis, IN 46260
Homepage www.GibraltarDesign.com
Email info@GibraltarDesign.com
Phone 317.580.5777 Fax 317.580.5778


PROJECT 20-126

DATE 08/24/20

COORDINATED BY BK

DRAWN BY GL, CC

CHECKED BY DJ

REGISTERED PROFESSIONAL ENGINEER DAVID G. JANNEY NO. 10302590 STATE OF INDIANA


COPYRIGHT NOTICE:
THE CONCEPTS, DESIGNS, PLANS, DETAILS, ETC., SHOWN ON THIS DOCUMENT ARE THE PROPERTY OF GIBRALTAR DESIGN AND WERE CREATED FOR USE ON THIS SPECIFIC PROJECT. NONE OF THIS INFORMATION SHALL BE USED BY ANY PERSON OR FIRM FOR ANY PURPOSE OTHER THAN THE SPECIFIC PROJECT WITHOUT THE CONSENT OF GIBRALTAR DESIGN. THE OWNER MAY RETAIN COPIES FOR INFORMATION AND REFERENCE IN CONNECTION ONLY WITH THIS PROJECT.


REVISIONS

| MARK | DATE | ISSUED FOR |
|---|---|---|
| AD-3 | 09/18/20 | ADDENDUM NO. 3 |

DRAWING

OVERALL FLOOR PLANS - MECHANICAL HVAC

PROJECT

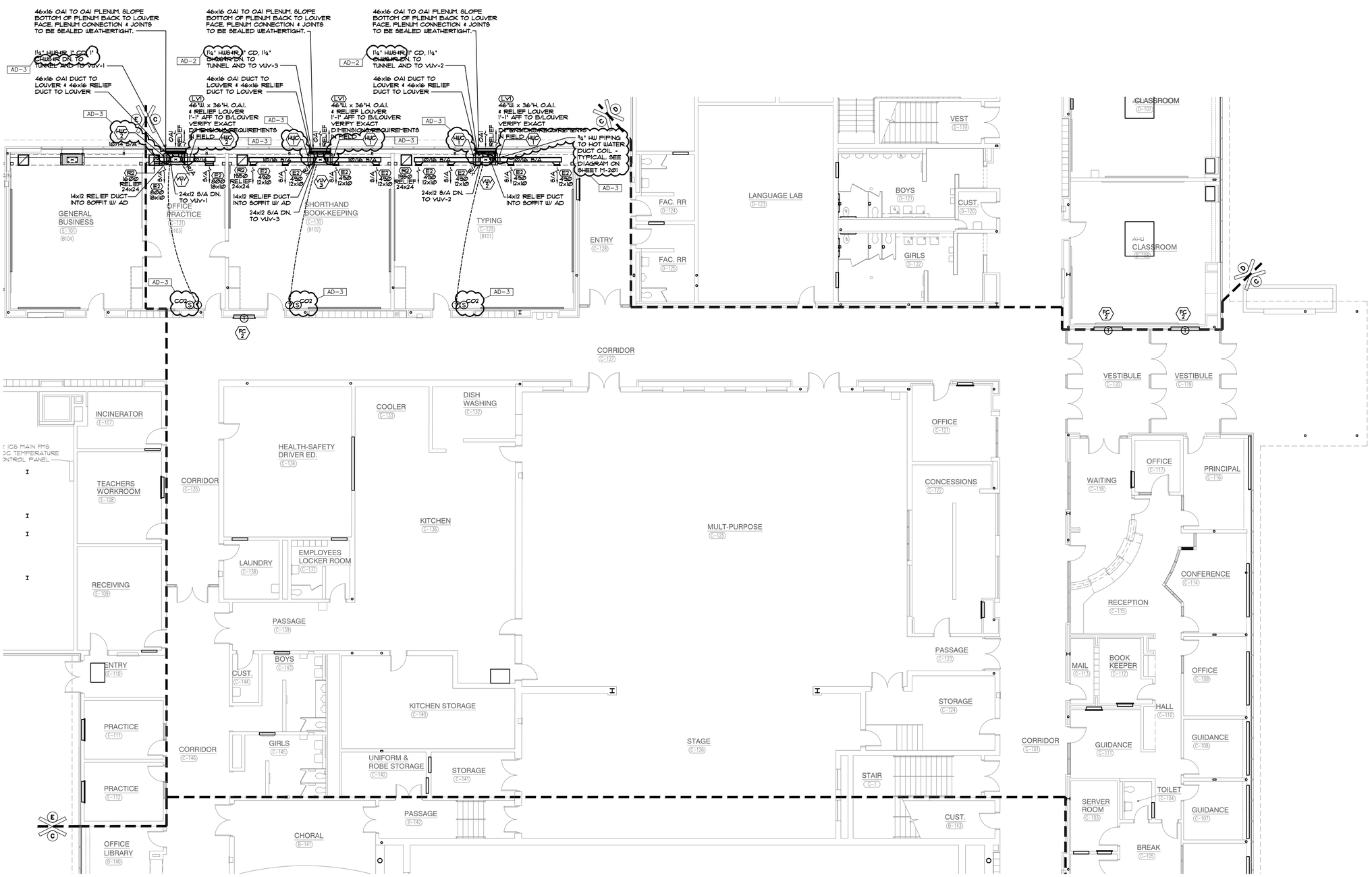
LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS & RELATED WORK


© GIBRALTAR DESIGN


SHEET

M-001


COPYRIGHT © 2020 MILLIES ENGINEERING GROUP




## UNIT "C" FIRST FLOOR PLAN - MECHANICAL HVAC

SCALE: 1/8"=1'0"

NORTH

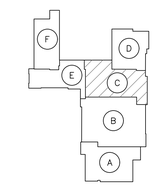
GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

MILLIES ENGINEERING GROUP
(317) 924-5400
www.milliesengineeringgroup.com

PROJECT

# LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS AND RELATED WORK

UNION NORTH UNITED SCHOOL CORPORATION
LAKEVILLE, IN 46536




KEYPLAN
SCALE: NONE

GIBRALTAR DESIGN
9102 N. Meridian St., Ste. 300
Indianapolis, IN 46260
Homepage www.GibraltarDesign.com
Email info@GibraltarDesign.com
Phone 317.580.5777 Fax 317.580.5778

PROJECT 20-126
DATE 08/24/20
COORDINATED BY BK
DRAWN BY GL, CC
CHECKED BY DJ

DAVID G. JANNEY REGISTERED NO. 10302590 STATE OF INDIANA PROFESSIONAL ENGINEER

COPYRIGHT NOTICE:
THE CONCEPTS, DESIGNS, PLANS, DETAILS, ETC., SHOWN ON THIS DOCUMENT ARE THE PROPERTY OF GIBRALTAR DESIGN AND WERE CREATED FOR USE ON THIS SPECIFIC PROJECT. NONE OF THIS INFORMATION SHALL BE USED BY ANY PERSON OR FIRM FOR ANY PURPOSE WITHOUT THE EXPRESS WRITTEN CONSENT OF GIBRALTAR DESIGN. THE OWNER MAY RETAIN COPIES FOR INFORMATION AND REFERENCE IN CONNECTION ONLY WITH THIS PROJECT.

REVISIONS

| MARK | DATE | ISSUED FOR |
|---|---|---|
| AD-2 | 09/15/20 | ADDENDUM NO. 2 |
| AD-3 | 09/18/20 | ADDENDUM NO. 3 |

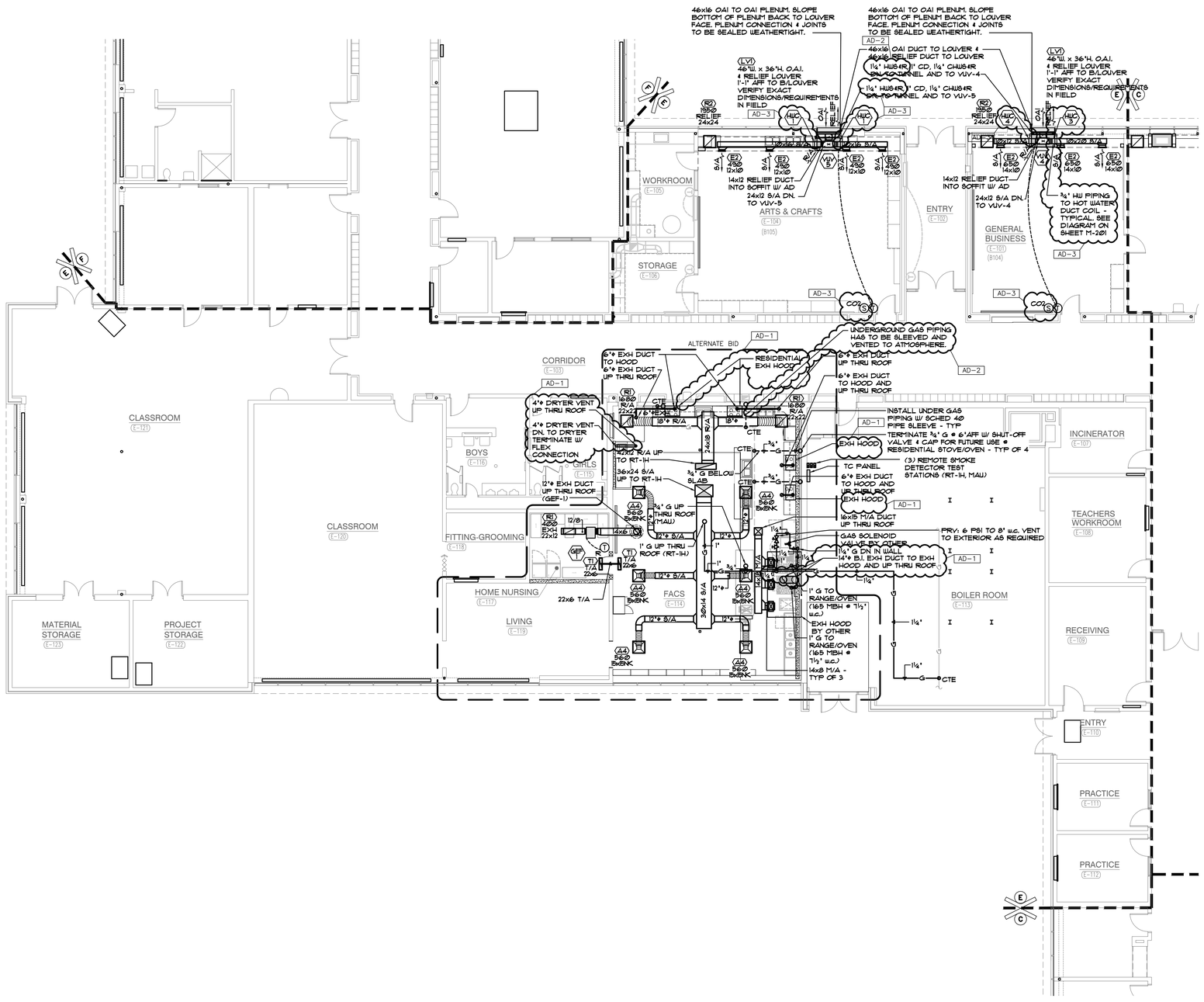
DRAWING
UNIT "C" FIRST FLOOR PLAN - MECHANICAL HVAC

PROJECT
LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS & RELATED WORK

© GIBRALTAR DESIGN

SHEET
M-102

COPYRIGHT © 2020 MILLIES ENGINEERING GROUP




## UNIT "E" FIRST FLOOR PLAN - MECHANICAL HVAC

SCALE: 1/8"=1'0"

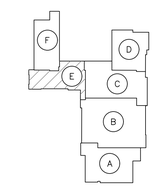
GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

MILLIES ENGINEERING GROUP
(317) 924-5400
www.milliesengineeringgroup.com

PROJECT

# LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS AND RELATED WORK

UNION NORTH UNITED SCHOOL CORPORATION
LAKEVILLE, IN 46536




KEYPLAN
SCALE: NONE

GIBRALTAR DESIGN
9102 N. Meridian St., Ste. 300
Indianapolis, IN 46260
Homepage www.GibraltarDesign.com
Email info@GibraltarDesign.com
Phone 317.580.5777 Fax 317.580.5778

PROJECT 20-126
DATE 08/24/20
COORDINATED BY BK
DRAWN BY GL, CC
CHECKED BY DJ

REGISTERED PROFESSIONAL ENGINEER DAVID G. JANNEY NO. 10302590 STATE OF INDIANA

COPYRIGHT NOTICE:
THE CONCEPTS, DESIGNS, PLANS, DETAILS, ETC., SHOWN ON THIS DOCUMENT ARE THE PROPERTY OF GIBRALTAR DESIGN AND WERE CREATED FOR USE ON THIS SPECIFIC PROJECT. NONE OF THIS INFORMATION SHALL BE USED BY ANY PERSON OR FIRM FOR ANY PURPOSE WITHOUT THE WRITTEN PERMISSION OF GIBRALTAR DESIGN. THE OWNER MAY RETAIN COPIES FOR INFORMATION AND REFERENCE IN CONNECTION ONLY WITH THIS PROJECT.

REVISIONS

| MARK | DATE | ISSUED FOR |
|---|---|---|
| AD-1 | 09/08/20 | ADDENDUM NO. 1 |
| AD-2 | 09/15/20 | ADDENDUM NO. 2 |
| AD-3 | 09/18/20 | ADDENDUM NO. 3 |

DRAWING
UNIT "E" FIRST FLOOR PLAN - MECHANICAL HVAC

PROJECT
LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS & RELATED WORK

© GIBRALTAR DESIGN

SHEET
M-104

COPYRIGHT © 2020 MILLIES ENGINEERING GROUP

# VERTICAL UNIT VENTILATOR EQUIPMENT SCHEDULE

| TAG | MANUFACTURER | MODEL NUMBER | DESCRIPTION | FAN MOTOR DATA | | | | | CHILLED WATER COOLING EQUIPMENT/COIL DATA | | | | | | | | | HOT WATER HTG EQP/COIL DATA | | | | | | | ELECTRICAL DATA | | | | | | | | | UNITS CONTROLLED BY | EQUIPMENT WEIGHT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CFM | MIN OAI CFM HIGH | MIN OAI CFM LOW | ESP | HP | MBH | SHC | GPM | EDB | EWB | LDB | LWB | EWT | LWT | MAX WPD | MBH | GPM | EAT | LAT | EWT | LWT | MAX WPD | LOAD HP | LOAD MCA | FLA | AMPS | MOCP | VOLT | PHASE | HZ | STARTER BY: MC. | STARTER BY: EC. | | | |
| VUV-1 | CHANGEAIR | FRESHMAN HCW FB - B CABINET | VERTICAL UNIT VENTILATOR - 4 PIPE CHILLED/HOT WATER | 1600 | 400 | 100 | 0.5 | 3/4 | 47.3 | 40.7 | 6.5 | 80.0/0.4 | 65.6 | 55.6 | 55.6 | 44 | 58.5 | 1.2 | 78.1 | 8.9 | 50 | 94 | 160 | 142.1 | 1.1 | - | 12 | - | - | 20 | 120 | 1 | 60 | X | - | WALL MTD TSTAT | 750 | NOTE 1 |
| VUV-2 | CHANGEAIR | FRESHMAN HCW FB - C CABINET | VERTICAL UNIT VENTILATOR - 4 PIPE CHILLED/HOT WATER | 1950 | 500 | 100 | 0.5 | 1 | 62.6 | 48.1 | 8.5 | 79.5 | 66.5 | 55.8 | 55.7 | 44 | 58.7 | 1.9 | 88.8 | 9.6 | 50 | 90.9 | 160 | 141.1 | 1.3 | - | 16 | - | - | 25 | 120 | 1 | 60 | X | - | WALL MTD TSTAT | 950 | NOTE 1 |
| VUV-3 | CHANGEAIR | FRESHMAN HCW FB - C CABINET | VERTICAL UNIT VENTILATOR - 4 PIPE CHILLED/HOT WATER | 1950 | 500 | 100 | 0.5 | 1 | 62.6 | 48.1 | 8.5 | 79.5 | 66.5 | 55.8 | 55.7 | 44 | 58.7 | 1.9 | 88.8 | 9.6 | 50 | 90.9 | 160 | 141.1 | 1.3 | - | 16 | - | - | 25 | 120 | 1 | 60 | X | - | WALL MTD TSTAT | 950 | NOTE 1 |
| VUV-4 | CHANGEAIR | FRESHMAN HCW FB - C CABINET | VERTICAL UNIT VENTILATOR - 4 PIPE CHILLED/HOT WATER | 1950 | 450 | 100 | 0.5 | 1 | 62.6 | 48.1 | 8.5 | 79.5 | 66.5 | 55.8 | 55.7 | 44 | 58.7 | 1.9 | 88.8 | 9.6 | 50 | 90.9 | 160 | 141.1 | 1.3 | - | 16 | - | - | 25 | 120 | 1 | 60 | X | - | WALL MTD TSTAT | 950 | NOTE 1 |
| VUV-5 | CHANGEAIR | FRESHMAN HCW FB - C CABINET | VERTICAL UNIT VENTILATOR - 4 PIPE CHILLED/HOT WATER | 1950 | 575 | 100 | 0.5 | 1 | 62.6 | 48.1 | 8.5 | 79.5 | 66.5 | 55.8 | 55.7 | 44 | 58.7 | 1.9 | 88.8 | 9.6 | 50 | 90.9 | 160 | 141.1 | 1.3 | - | 16 | - | - | 25 | 120 | 1 | 60 | X | - | WALL MTD TSTAT | 950 | NOTE 1 |

NOTE 1: PROVIDE WITH:
- ECM VARIABLE SPEED MOTOR
- INTEGRATED ENTHALPY ECONOMIZER
- TEMPERATURE CONTROL BY TC CONTRACTOR FOR FACTORY INSTALLATION
- DISCONNECT SWITCH
- STAINLESS STEEL DRIP PAN
- CUSTOM ENCLOSURE TO MATCH FACTORY CABINET 10" FROM EXTERIOR WALL & FROM TOP OF UNIT UP TO CEILING
- FREEZE STAT SAFETY CONTROL
- OUTDOOR AIR WALL BOX TO LOUVER
- REMOTE THERMOSTAT
- FACE/BYPASS DAMPER
- FILTERS
- HUMIDISTAT
- THERMOSTAT
- CARBON DIOXIDE SENSOR FOR DEMAND CONTROL VENT

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

AD-3

AD-3

# MECHANICAL EQUIPMENT SCHEDULE

| TAG | MANUFACTURER | MODEL NUMBER | DESCRIPTION | FAN MOTOR DATA | | | | | | POW EXH MOTOR DATA | | | | COOLING COIL DATA | | | | | | | | | GAS FIRED HEATING EQUIPMENT DATA | | | | | | HOT WATER HEATING EQUIPMENT/COIL DATA | | | | | | | ELECTRICAL DATA | | | | | | | | | | UNITS CONTROLLED BY | EQUIP WEIGHT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CFM | OAI CFM | TSP | ESP | BHP | HP | RPM | CFM | ESP | HP | RPM | MBH | SHC | GPM | EDB | EWB | LDB | LWB | CAT | STAGES | MBH (IN) | MBH (OUT) | EAT | LAT | STAGES | MBH (IN) | MBH (OUT) | GPM | EAT | LAT | EWT | LWT | MAX WPD | LOAD HP | LOAD MCA | FLA | AMPS | MOCP | VOLT | PHASE | HZ | STARTER BY: MC. | STARTER BY: EC. | | | |
| RT-14 | AAON | RN-013 | ROOF MOUNTED GAS FIRED / DX COOLING PACKAGED UNIT - SZVAV | 3355 | 2040 | 2.04 | 1.15 | - | 3 | 2161 | 3355 | 0.25 | 1 | 765 | 157 | 109 | - | 81.2 | 70.3 | 55.2 | 54.9 | 98 | MOD | 292.5 | 234 | 20.6 | 85 | MOD | - | - | - | - | - | - | - | - | - | - | - | 40 | 480 | 3 | 60 | X | - | WALL MTD TSTAT | 2620 | NOTE 1 |
| FC-1 | AE-AIR | 12UCB | RECESSED WALL MOUNTED 4-PIPE HW/CHW FAN COIL UNIT | 1155 | - | - | - | - | 1/6 | - | - | - | - | - | 28.1 | 24 | 5.6 | 75 | 63 | 56 | 54.7 | - | - | - | - | - | - | - | - | 39.8 | 4.1 | 70 | 101 | 180 | 160 | 5 | - | 7 | - | - | 15 | 120 | 1 | 60 | - | X | WALL MTD TSTAT | - | NOTE 4 |
| FC-2 | AE-AIR | 10UCB | SEMI-RECESSED WALL MOUNTED 4-PIPE HW/CHW FAN COIL UNIT | 870 | - | - | - | - | 1/8 | - | - | - | - | - | 21.1 | 18.1 | 4.2 | 75 | 63 | 55.9 | 54.7 | - | - | - | - | - | - | - | - | 33.3 | 3.4 | 70 | 104 | 180 | 160 | 5 | - | 5 | - | - | 15 | 120 | 1 | 60 | - | X | WALL MTD TSTAT | - | NOTE 4 |
| CH-2 | STERLING | RW-1120-12 | RECESSED WALL MOUNTED HOT WATER CABINET HEATER | 1230 | - | - | - | - | 1/4 | 1050 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 75.6 | 7.56 | 60 | 100 | 160 | 140 | 5 | - | - | - | 2.8 | - | 120 | 1 | 60 | - | X | INTEGRAL TSTA | 207 | NOTE 2 |
| GEF-1 | TWIN CITY | TL-9008 | INLINE EXHAUST CEILING FAN | 400 | - | 0.4 | - | 1/2 | 1/2 | 581 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1/2 | - | - | - | - | 120 | 1 | 60 | - | X | WALL MTD TSTAT | 64 | NOTE 3 |

AD-3

NOTES:
1. PROVIDE WITH:
- INTEGRATED ECONOMIZER WITH DIFFERENTIAL ENTHALPY SENSORS
- FEEDBACK SIGNAL w/ IECC 2015 COMPLIANT LOW LEAK ECONOMIZER DAMPER.
- S/A & POW EXH DIRECT DRIVE FANS W/VFD,
- NON-FUSED DISCONNECT SWITCH
- HINGED ACCESS PANELS
- VIBRATION ISOLATION CURB w/ HUSHCORE DECK DS-52 ACOUSTICAL TREATMENT.
- POWERED EXHAUST FAN W/BLDG PRESSURIZATION CONTROL,
- MODULATING HOT GAS REHEAT AND DEHUMIDIFICATION CONTROLS
- STAINLESS STEEL HEAT EXCHANGER
- MODULATING GAS w/HIGH TURNDOWN (SEE SCHEDULE)
- FLUE DEFLECTOR
- METAL MESH OUTSIDE AIR INTAKE HOOD FILTER
- CONDENSER FAN w/VFD FOR HEAD PRESSURE CONTROL
- SITE GLASS
- SINGLE ZONE VAV HEATING & COOLING
- OUTSIDE AIR MONITORING AND CONTROL
- HAIL CONDENSER COIL GUARD PROTECTION
- SUPPLY FAN MINIMUM SPEED: 30% COOLING-50% VENTILATION-70% HEATING
- FILTERS: 4" MERV 13 & 2" MERV 8

SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

2. PROVIDE WITH:
- INTEGRAL THERMOSTAT
- DISCONNECT SWITCH.

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

3. PROVIDE WITH:
- BUILT IN BACK DRAFT DAMPER,
- INLINE ADAPTER KIT
- VIBRATION ISOLATORS,
- CURB MOUNTED ROOF JACK.

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

4. PROVIDE WITH:
- WALL THERMOSTAT
- DISCONNECT SWITCH.

SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

AD-3

# DUCT MOUNTED HOT WATER HEATING COIL SCHEDULE

| TAG | QTY | MANUFACTURER | MODEL | SIZE | CFM | HW REHEAT COIL DATA MBH | GPM | WPD | EWT | LAT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HWC-1 | 6 | COILMASTER | HWG02C09-16¼x10R | 10"x16¼" | 980 | 16.5 | 0.8 | 1.1 | 130 | 70 | NOTE 1. |
| HWC-2 | 2 | COILMASTER | HWG02C09-13¾x10R | 10"x13¾" | 800 | 13.2 | 0.66 | 0.6 | 130 | 70 | NOTE 1. |
| HWC-3 | 1 | COILMASTER | HWG02C09-20x10R | 10"x20" | 1,300 | 22.1 | 1.1 | 2.2 | 130 | 70 | NOTE 1. |
| HWC-4 | 1 | COILMASTER | HWG02C09-12½x10R | 10"x12½" | 650 | 10.9 | 0.54 | 0.43 | 130 | 70 | NOTE 1. |

NOTE 1: INTEGRATE CONTROL TO DEHUMIDIFICATION CYCLE OF VERTICAL UNIT VENTILATOR & HUMIDISTAT

AD-3

# LOUVER SCHEDULE

| TAG | MANUFACTURER | MODEL NO. | DESCRIPTION | SIZE | REMARKS |
|---|---|---|---|---|---|
| LV-1 | SEE ARCH SPECS | | OUTSIDE AIR INTAKE/RELIEF LOUVER | SEE DRAWINGS | SEE ARCHITECTURAL SPECIFICATIONS FOR ADDITIONAL INFORMATION |
| | | | | | |

# GRILLE, REGISTER & DIFFUSER SCHEDULE

| TAG | MANUFACTURER | MODEL NO. | DESCRIPTION | AIR PATTERN | MOUNTING | SIZE | TYPE OF CONTROL | REMARKS |
|---|---|---|---|---|---|---|---|---|
| A4 | NAILOR | 6500-0 | SUPPLY CEILING DIFFUSER | 4-WAY | 2' X 2' LAY-IN PANEL | SEE PLANS | O.B.D. | - |
| E1 | NAILOR | 61DH-0 | SUPPLY CEILING REGISTER | DOUBLE DEFLECTION | 2' X 1' LAY-IN PANEL | SEE PLANS | O.B.D. | HORIZONTAL FRONT BARS, VERTICAL BACK BARS |
| E2 | NAILOR | 61DH-0 | SUPPLY CEILING REGISTER | DOUBLE DEFLECTION | SURFACE MOUNTED | SEE PLANS | O.B.D. | HORIZONTAL FRONT BARS, VERTICAL BACK BARS |
| R1 | NAILOR | 6145H-0 | RETURN/EXHAUST REGISTER | LOUVERED GRILLE | LAY-IN PANEL | SEE PLANS | O.B.D. | - |
| R2 | NAILOR | 6145H-0 | RETURN/EXHAUST REGISTER | LOUVERED GRILLE | SURFACE MOUNTED | SEE PLANS | O.B.D. | - |
| T1 | NAILOR | 6145H | RETURN/EXHAUST/T.A. GRILLE | LOUVERED GRILLE | LAY-IN PANEL | SEE PLANS | - | - |

* ALL DIFFUSERS AND REGISTERS SHALL HAVE A WHITE FINISH UNLESS OTHERWISE NOTED

# INTAKE/RELIEF HOOD SCHEDULE

| TAG | MANUFACTURER | MODEL * | THROAT SIZE | DESCRIPTION | HOOD LOCATION | REMARKS |
|---|---|---|---|---|---|---|
| EH-1 | ACME | *TEV | SEE DRAWINGS | EXHAUST AIR HOOD | ROOF | PROVIDE W/ BIRDSCREEN, & 18" HIGH MIN SLOPED ROOF CURB. |
| | | | | | | |

# NATURAL GAS CONNECTION SCHEDULE

| TAG | DESCRIPTION | LOCATION | CAPACITY CFH | REMARKS |
|---|---|---|---|---|
| RT-14 | ROOF MOUNTED GAS FIRED / DX COOLING PACKAGED UNIT | ROOF | 293 | - |
| - | MAKEUP AIR UNIT BY OTHER | ROOF | 132 | - |
| - | GAS FIRED RANGE BY OTHER | FACS E-114 | 165 | - |
| - | GAS FIRED RANGE BY OTHER | FACS E-114 | 40 | - |
| - | GAS FIRED RANGE BY OTHER | FACS E-114 | 40 | - |
| - | GAS FIRED RANGE BY OTHER | FACS E-114 | 40 | - |
| - | GAS FIRED RANGE BY OTHER | FACS E-114 | 40 | - |
| | | TOTAL ADDITIONAL LOAD | 750 | CFH @ 5lbs |

# SYMBOLS/ABBREVIATIONS

| SYMBOL | DESCRIPTION |
|---|---|
| | SQUARE TO ROUND TRANSITION |
| | EXISTING DUCTWORK |
| | NEW DUCTWORK |
| | DUCTWORK TO BE REMOVED |
| | DUCT TRANSITION |
| | CAP EXISTING DUCTWORK AS REQUIRED |
| | NEW DUCTWORK TO TIE INTO EXISTING DUCTWORK |
| | SUPPLY AIR DUCT DOWN |
| | SUPPLY AIR DUCT UP |
| | RETURN OR EXHAUST DUCT DOWN |
| | RETURN OR EXHAUST DUCT UP |
| | RETURN OR EXHAUST REGISTER |
| | SUPPLY AIR DIFFUSER |
| | FLEXIBLE DUCTWORK |
| | AUTOMATIC (MOTORIZED) DAMPER |
| | FIRE - SMOKE DAMPER |
| | SEE SCHEDULES |
| | SHEET NOTE |
| MS | MOTOR STARTER |
| SD | DUCT SMOKE DETECTORS PROVIDED BY UNIT MANUFACTURER |
| T | THERMOSTAT - ADJUSTABLE |
| CO2 | WALL MOUNTED CARBON DIOXIDE SENSOR |

AD-3

| SYMBOL | DESCRIPTION |
|---|---|
| CD | CONDENSATE DRAIN |
| HWS | HOT WATER SUPPLY PIPING |
| HWR | HOT WATER RETURN PIPING |
| CHWS | CHILLED WATER SUPPLY PIPING |
| CHWR | CHILLED WATER RETURN PIPING |
| G | GAS PIPING |
| | REFRIGERANT PIPE |
| | PIPING SLOPED DOWN |
| | PIPING TO BE REMOVED |
| | EXISTING PIPING |
| | PIPE TURNED UP |
| | PIPE TURNED DOWN |
| GM | GAS METER |
| | GAS SOLENOID VALVE |
| | INLINE PUMP |
| | UNION |
| | CIRCUIT SETTER |
| | SHUT-OFF VALVE |
| | GAS COCK |
| | PRESSURE REDUCING VALVE |
| | 2-WAY AUTOMATIC VALVE |
| | 3-WAY AUTOMATIC VALVE |
| | CONTROL VALVE |
| | NEW DUCTWORK |

| ABBREVIATIONS | DESCRIPTION |
|---|---|
| AD | AUTOMATIC (MOTORIZED) DAMPER |
| AC | AIR CONDITIONING |
| AFF | ABOVE FINISHED FLOOR |
| AH | AIR HANDLING UNIT |
| B.I. | BLACK IRON |
| BJA | BETWEEN JOIST ABOVE |
| BO | BLANK OFF |
| CAI | COMBUSTION AIR INTAKE |
| CAT | CONDENSING AIR TEMPERATURE |
| CD | CONDENSATE DRAIN |
| CEB | CONCRETE EQUIPMENT BASE |
| CFH | CUBIC FEET PER HOUR |
| CFM | CUBIC FEET PER MINUTE |
| CHC | COOLING/HEATING CABINET HEATER |
| CHWS | CHILLED WATER SUPPLY |
| CHWR | CHILLED WATER RETURN |
| CS | CIRCUIT SETTER |
| CTE | CONNECT TO EXISTING |
| CU | CONDENSING UNIT |
| DN. | DOWN |
| DX | DIRECT EXPANSION |
| EAT | ENTERING AIR TEMPERATURE |
| EC | ELECTRICAL CONTRACTOR |
| EDB | ENTERING DRY BULB TEMPERATURE |
| ESP | EXTERNAL STATIC PRESSURE |
| EWB | ENTERING WET BULB TEMPERATURE |
| EWT | ENTERING WATER TEMPERATURE |
| EX | EXISTING |
| EXH | EXHAUST |
| FC | FLEXIBLE CONNECTION |
| FD | FIRE DAMPER |
| FPM | FEET PER MINUTE |
| FMS | FACILITY MANAGEMENT SYSTEM |
| FT | FINTUBE |
| G | NATURAL GAS |
| GEF | GENERAL EXHAUST FAN |
| GPM | GALLONS PER MINUTE |
| HP | HORSE POWER |
| HWS | HOT WATER SUPPLY |

| ABBREVIATIONS | DESCRIPTION |
|---|---|
| HWR | HOT WATER RETURN |
| HW | HOT WATER |
| KEF | KITCHEN EXHAUST FAN |
| LAT | LEAVING AIR TEMPERATURE |
| LB/HR | POUNDS PER HOUR |
| LDB | LEAVING DRY BULB TEMPERATURE |
| LV | LOUVER |
| LWB | LEAVING WET BULB TEMPERATURE |
| LWT | LEAVING WATER TEMPERATURE |
| M/A | MAKEUP AIR |
| MAU | MAKEUP AIR UNIT |
| MBH | 1000 BTU/HOUR |
| MC | MECHANICAL CONTRACTOR |
| MD | MANUAL DAMPER |
| MOD | MODULATING |
| NC | NORMALLY CLOSED |
| NK | NECK |
| NO | NORMALLY OPEN |
| NTS | NOT TO SCALE |
| O/A | OUTSIDE AIR |
| OAI | OUTSIDE AIR INTAKE |
| OBD | OPPOSED BLADE DAMPER |
| PRV | PRESSURE REDUCING VALVE |
| PSI | POUNDS PER SQUARE INCH |
| R/A | RETURN AIR |
| RPM | REVOLUTIONS PER MINUTE |
| RT | ROOFTOP UNIT |
| S/A | SUPPLY AIR |
| SHC | SENSIBLE HEAT CAPACITY |
| ΔT | TEMPERATURE DIFFERENCE |
| T/A | TRANSFER AIR |
| TC | TEMPERATURE CONTROL |
| TEF | TOILET EXHAUST FAN |
| TJA | THRU JOIST ABOVE |
| TSP | TOTAL STATIC PRESSURE |
| TYP | TYPICAL |
| UD | UNDERCUT DOOR |
| WC | WATER COLUMN |
| WPD | WATER PRESSURE DROP |

GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

MILLIES ENGINEERING GROUP
(317) 924-5400
www.milliesengineeringgroup.com

PROJECT

LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS AND RELATED WORK

UNION NORTH UNITED SCHOOL CORPORATION
LAKEVILLE, IN 46536


GIBRALTAR DESIGN
9102 N. Meridian St., Ste. 300
Indianapolis, IN 46260
Homepage www.GibraltarDesign.com
Email info@GibraltarDesign.com
Phone 317.580.5777 Fax 317.580.5778


PROJECT 20-126
DATE 08/24/20
COORDINATED BY BK
DRAWN BY GL, CC
CHECKED BY DJ

DAVID G. JANNEY REGISTERED NO. 10302590 STATE OF INDIANA PROFESSIONAL ENGINEER


COPYRIGHT NOTICE:
THE CONCEPTS, DESIGNS, PLANS, DETAILS, ETC. SHOWN ON THIS DOCUMENT ARE THE PROPERTY OF GIBRALTAR DESIGN AND WERE CREATED FOR USE ON THIS SPECIFIC PROJECT. NONE OF THIS INFORMATION SHALL BE USED BY ANY PERSON OR FIRM FOR ANY PURPOSE WITHOUT THE EXPRESS WRITTEN CONSENT OF GIBRALTAR DESIGN. THE OWNER MAY RETAIN COPIES FOR INFORMATION AND REFERENCE IN CONNECTION ONLY WITH THIS PROJECT.


REVISIONS

| MARK | DATE | ISSUED FOR |
|---|---|---|
| AD-3 | 09/18/20 | ADDENDUM NO. 3 |

DRAWING
MECHANICAL HVAC SCHEDULES, SYMBOLS & NOTES

PROJECT
LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS & RELATED WORK


© GIBRALTAR DESIGN


SHEET
M-200


COPYRIGHT © 2020 MILLIES ENGINEERING GROUP

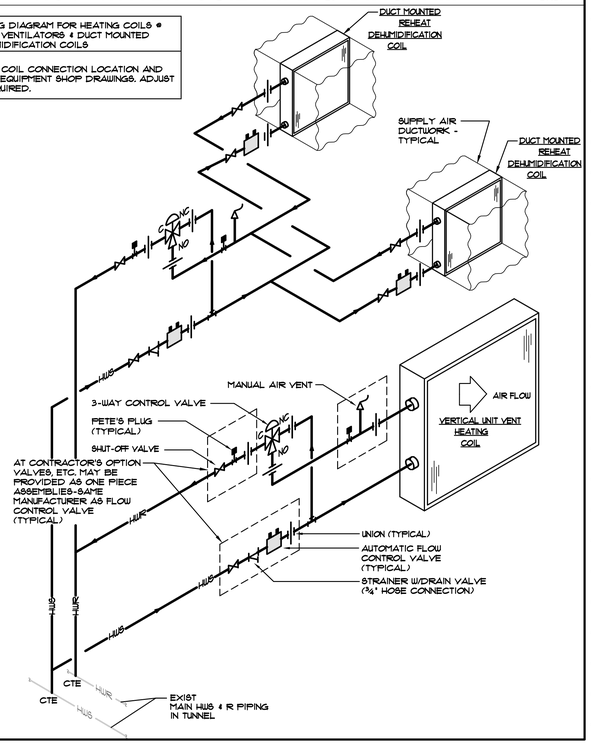
AD–3

## HOT WATER COIL PIPING DIAGRAM

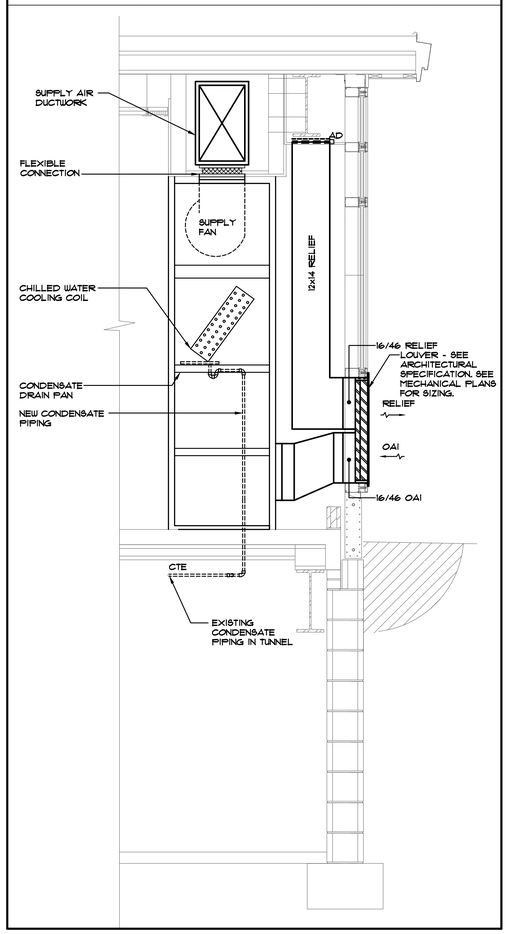
SCHEMATIC ONLY

TYPICAL PIPING DIAGRAM FOR HEATING COILS @ VERTICAL UNIT VENTILATORS & DUCT MOUNTED REHEAT DEHUMIDIFICATION COILS

NOTE:
VERIFY EXACT COIL CONNECTION LOCATION AND QUANTITY WITH EQUIPMENT SHOP DRAWINGS. ADJUST PIPING AS REQUIRED.




## TYPICAL UNIT VENTILATOR SECTION N.T.S.




## GENERAL NOTES

A. WORK SHALL COMPLY WITH LOCAL, MUNICIPAL, AND STATE HVAC CODES.

B. THE SCOPE OF WORK SPECIFIED HEREIN AND IN THE SPECIFICATIONS SHALL BE PERFORMED UNDER THE DIRECTION OF A CONSTRUCTION MANAGER. REFER TO THE CONSTRUCTION MANAGER'S INSTRUCTIONS AND DIRECTIONS FOR DETAILS RELATING TO THE EXACT SCOPE OF EACH TRADE. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND CONSTRUCTION MANAGER'S DIRECTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR CLARIFICATION. THE ARCHITECT/ENGINEER'S DECISION SHALL BE FINAL.

C. LAYOUT IS DIAGRAMMATIC AND CONTRACTOR SHALL INSTALL DUCTWORK, PIPING AND EQUIPMENT TO MEET ACTUAL FIELD CONDITIONS. REVIEW PROJECT SPECIFICATIONS BEFORE STARTING ANY WORK. SUBMIT SHOP DRAWINGS OF WORK AS PER SPECIFICATIONS.

D. LAYOUT WORK TO AVOID CONFLICTS BETWEEN DUCTWORK, LIGHTING, CEILINGS, PIPING AND BUILDING STRUCTURE.

E. COORDINATE EQUIPMENT ELECTRICAL REQUIREMENTS (VOLTAGES, PHASE, LOAD, ETC.) BEFORE ORDERING ANY EQUIPMENT.

F. SOME CEILING SPACES ARE RETURN AIR PLENUMS AS INDICATED ON PLANS. EXAMINE PLENUM BEFORE CEILING IS INSTALLED (OR REPLACED) AND COORDINATE THE SEALING OF OPENINGS AROUND PIPING, DUCTWORK, CONDUIT, ETC., AND OPENINGS TO CUT-OF-DOORS AND ADJACENT SPACES. COORDINATE THE INSTALLATION OF PARTITIONS/DIVIDERS WITHIN CEILING SPACE AS REQUIRED TO CONFINE RETURN PLENUM TO AREAS INDICATED.

G. COORDINATE EXACT LOCATION OF CEILING REGISTERS, GRILLES AND DIFFUSERS WITH LIGHTING LAYOUT, SPRINKLER HEADS, AND CEILING GRID. SEE ARCHITECTURAL REFLECTED CEILING PLAN. VERIFY EXACT LOCATION IN FIELD PRIOR TO INSTALLATION. VERIFY CEILING STYLES AND TYPES BEFORE ORDERING REGISTERS, GRILLES AND DIFFUSERS. PROVIDE APPROPRIATE FRAME STYLES AS REQUIRED TO MATCH CEILING STYLE AND TYPES. SET ADJUSTABLE BLADES AS REQUIRED FOR OPTIMUM AIR PATTERN AND TO PREVENT DRAFTS. THE MINIMUM DISTANCE BETWEEN SUPPLY DIFFUSERS/REGISTERS AND SMOKE OR HEAT DETECTORS IS TO BE A MINIMUM OF 3'. COORDINATE WITH FIRE ALARM SYSTEM AS REQUIRED.

H. ROUTE DUCTWORK AS HIGH AS POSSIBLE TO AVOID CONFLICTS WITH OTHER TRADES. ROUTE DUCTWORK BETWEEN AND THROUGH JOIST SPACES AND BETWEEN LIGHT FIXTURES AS REQUIRED. VERIFY CONDITIONS AND DUCTWORK ROUTING IN FIELD PRIOR TO INSTALLATION.

I. DUCTWORK, PIPING, EQUIPMENT, ETC. SHALL NOT BE SUPPORTED FROM THE BOTTOM CHORD OF ENGINEERED JOISTS WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.

J. FLEXIBLE DUCTWORK SHALL BE UL LABELED FOR USE IN RETURN AIR PLENUM. ACOUSTICAL FLEXIBLE DUCTWORK AT THE INLET TO AIR DIFFUSERS MAY BE USED. FLEXIBLE CONNECTIONS SHALL BE 5'-0" MAXIMUM LENGTH, AND SHALL BE SUPPORTED WHERE REQUIRED TO PREVENT MOVEMENT.

K. PROVIDE MANUAL BALANCING DAMPERS AT EACH LOW PRESSURE SUPPLY AIR, RETURN AIR AND EXHAUST DUCTWORK TAKE-OFF INCLUDING TAKEOFFS TO EACH AIR DISTRIBUTION DEVICE. DAMPERS SHALL HAVE LOCKING QUADRANT REGULATORS WITH SPRING LOADED END BEARING. INSTALLATION SHALL BE RATTLE FREE. BE RESPONSIBLE FOR LOCATING BALANCING DEVICES AND COORDINATE LOCATIONS FOR TESTING AND BALANCING.

L. COORDINATE KITCHEN EXHAUST SIZE REQUIREMENT WITH KITCHEN EQUIPMENT LAYOUT BEFORE ORDERING EQUIPMENT. PROVIDE REMOVABLE SHEETMETAL HOUSING OVER AUTOMATIC DAMPER ACTUATOR ON EXTERIOR OF ROOF CURB SERVING KITCHEN EXHAUST FANS AS REQUIRED.

M. VERIFY EXACT THERMOSTAT AND SENSOR LOCATIONS IN FIELD PRIOR TO ROUGH-IN OR INSTALLATION. CONTROL WIRING TO BE ROUTED IN CONDUIT.

N. PROVIDE AGA APPROVED GAS REGULATOR AT EQUIPMENT REQUIRING LOWER GAS PRESSURE THAN PROVIDED, INCLUDING PIPING BRANCHES SERVING EXISTING EQUIPMENT AND APPLIANCES TO REMAIN. EXTEND GAS REGULATOR VENTS LINE SIZE TO ATMOSPHERE AS REQUIRED. DO NOT COMBINE VENT LINES.

O. COORDINATE PHASING OF WORK AND PROVIDE TEMPORARY EQUIPMENT, DUCTWORK AND PIPING AS REQUIRED FOR THE IMPLEMENTATION OF WORK WHILE MAINTAINING SERVICES TO PORTIONS OF BUILDING TO REMAIN OCCUPIED.

P. SCHEDULE WORK TO AVOID DOWNTIME AND INCONVENIENCE TO OWNER. OWNER'S EXISTING FACILITY SHALL REMAIN IN OPERATION AT ALL TIMES. REQUIRED SHUTDOWN OF EXISTING UTILITIES SHALL BE SCHEDULED WITH OWNER'S OPERATING PERSONNEL. NOTIFY OWNER'S REPRESENTATIVE 48 HOURS IN ADVANCE PRIOR TO ANY SHUTDOWN OF EXISTING MECHANICAL SYSTEMS.

Q. VERIFY IF EXISTING ASBESTOS WILL BE ENCOUNTERED PRIOR TO STARTING ANY WORK. IF ASBESTOS IS PRESENT, THE OWNER WILL PROVIDE FOR THE REMOVAL OF ANY MATERIAL CONTAINING ASBESTOS. SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS.

R. VISIT SITE PRIOR TO BIDDING TO FULLY DETERMINE FIELD CONDITIONS AND TO VERIFY EXISTING MECHANICAL SYSTEMS INCLUDING QUANTITIES AND LOCATIONS TO DETERMINE THE FULL EXTENT OF NEW AND DEMOLITION WORK.

S. COORDINATE NEW INSTALLATIONS WITH EXISTING SYSTEMS. ANY EXISTING CONDUIT, PIPING, DUCTWORK, EQUIPMENT, ETC., SHALL BE REWORKED AS REQUIRED TO AVOID CONFLICTS WITH THE INSTALLATION OF THE NEW MECHANICAL SYSTEMS. NO EXTRAS WILL BE ALLOWED AFTER BIDDING FOR ANY REWORK OF EXISTING FIELD CONDITIONS TO RESOLVE ANY CONFLICTS OR NOT FULLY UNDERSTANDING THE SCOPE OF THE WORK REQUIRED. EXISTING EQUIPMENT, DUCTWORK, PIPING, ETC. SHALL BE REMOVED AS NOTED ON DRAWINGS AND AS REQUIRED TO MEET SCOPE OF NEW WORK.

T. EXISTING INFORMATION IDENTIFIED ON THE CONTRACT DOCUMENTS IS SCHEMATIC ONLY. BE RESPONSIBLE TO PROPERLY ADDRESS EXISTING CONDITIONS FOR A COMPLETE AND PROPER INSTALLATION OF NEW SYSTEMS. EXISTING EQUIPMENT NOT IDENTIFIED SHALL BE REVIEWED AS TO WHETHER THE EQUIPMENT SHALL REMAIN AND BE RECONNECTED TO THE NEW SERVICES, BE RELOCATED, BE ABANDONED, ETC.

U. ANY HIDDEN CONDITIONS IDENTIFIED THROUGH THE COURSE OF CONSTRUCTION SHALL BE IMMEDIATELY REPORTED IN WRITTEN FORM FOR REVIEW AND DIRECTION. OTHERWISE, BE RESPONSIBLE FOR ANY AND REQUIRED CHANGES AND COSTS TO CORRECT SAID HIDDEN CONDITION.

V. REMOVE EXISTING EQUIPMENT, PIPING, DUCTWORK, ETC. PRESENTLY SERVING AREAS THAT ARE BEING RENOVATED AND THAT ARE NOT REQUIRED TO STAY IN SERVICE. NO EQUIPMENT, DUCTWORK, PIPING, SUPPORTS, HANGERS, ETC. IS TO BE LEFT ABANDONED. VERIFY QUANTITY, LOCATION AND ELEVATION OF EXISTING TO BE REMOVED IN FIELD. REMOVE EXISTING ABANDONED EQUIPMENT, DUCTWORK AND PIPING IN AREAS THAT ARE TO BE RENOVATED.

W. REMOVED DUCTWORK, PIPING AND CONTROLS ARE TO BE TERMINATED PROPERLY BACK TO EXISTING MAINS. PATCH AND SEAL EXISTING DUCTWORK AIRTIGHT. CAP PIPING WATERTIGHT. PROVIDE ADDITIONAL DUCTWORK, PIPING AND CONTROLS AS REQUIRED TO MAINTAIN CONTINUITY OF EXISTING SYSTEMS MODIFIED DUE TO REMOVAL OF PORTION OF SYSTEMS. REPAIR DAMAGED DUCTWORK AND PIPING INSULATION DUE TO NEW INSTALLATION WORK.

X. EXISTING EQUIPMENT SHALL REMAIN PROPERTY OF THE OWNER AND OWNER SHALL DETERMINE IF EQUIPMENT IS TO BE STORED ON SITE AT OWNER SELECTED LOCATION OR IF EQUIPMENT IS TO BE ABANDONED OR REMOVED FROM SITE.

Y. PATCH EXISTING CEILING, FLOOR, WALL AND ROOF OPENINGS AND SURROUNDING FINISHES RESULTING FROM REMOVAL OF EXISTING MATERIALS AND EQUIPMENT SO THAT FINISH WILL MATCH EXISTING IN SURROUNDING AREAS. OPENINGS IN MASONRY WALLS RESULTING FROM REMOVED THERMOSTATS ARE TO BE COVERED WITH A BLANK STAINLESS STEEL COVER PLATE.

Z. PROVIDE AND INSTALL PVC PIPE PLENUM WRAP, TESTED TO UL 84 AND UL 910, FOR ALL EXISTING PVC PIPING IN NEW OR EXISTING RETURN AIR CEILING PLENUMS.

AA. PROVIDE FINISHING OF EXISTING CEILING, FLOOR, AND WALL SURFACES AT LOCATIONS AFFECTED BY REMOVAL OF EXISTING MATERIALS AND EQUIPMENT SO THAT NEW FINISH WILL MATCH EXISTING IN SURROUNDING AREAS.

AB. REMOVE EXISTING CEILINGS AND LIGHT FIXTURES REQUIRED FOR INSTALLATION OF NEW WORK. REINSTALL CEILING AND LIGHT FIXTURES UPON COMPLETION OF WORK. REPLACE DAMAGED CEILING MATERIALS TO MATCH EXISTING.

AC. PROVIDE CUTTING, CORE DRILLING AND PATCHING OF EXISTING WALL AND ROOF CONSTRUCTIONS REQUIRED FOR THE INSTALLATION OF NEW DUCTWORK, PIPING AND EQUIPMENT. SEAL PENETRATIONS THROUGH WALL AND ROOF STRUCTURE WATERTIGHT AND WITH AN APPROVED FIRE STOPPING MATERIAL, INCLUDING APPROVED FIRE RATED SLEEVE.

AD. MOUNT NEW THERMOSTATS IN EXISTING SPACES AT LOCATIONS VACATED BY OLD THERMOSTAT WHEN POSSIBLE. REUSE EXISTING CONDUIT IF FOUND TO BE IN GOOD CONDITION.

AE. PROVIDE AN APPROVED SURFACE MOUNTED RACEWAY AS REQUIRED FOR INSTALLATION OF NEW THERMOSTATS ON EXISTING WALLS TO CONCEAL CONTROL WIRING. SUBMIT SAMPLE OF RACEWAY FOR REVIEW. COORDINATE ROUTING OF RACEWAYS WITH EXISTING BUILDING CONDITIONS AND ADJUST ROUTING TO AVOID CONFLICTS AND TO MINIMIZE THE AMOUNT OF EXPOSED SURFACE MOUNTED RACEWAY.

AF. REPAIR AND/OR REPLACE DAMAGED PIPE INSULATION THAT OCCURS AS THE RESULT OF THIS CONSTRUCTION.

AG. MINIMUM SIZE FOR HOT WATER HEATING SUPPLY AND RETURN PIPING TO BE 3/4".

AH. DRAIN AND REFILL EXISTING PIPING SYSTEMS AS REQUIRED FOR INSTALLATION OF NEW WORK. PROVIDE CHEMICAL TREATMENT, GLYCOL/ANTI-FREEZE MIXTURE FOR WATER PIPING SYSTEM ACCORDING TO OWNER'S REQUIREMENTS AFTER SYSTEM IS FILLED AND VENTED. PROPERLY VENT PIPING SYSTEMS.

AI. PROVIDE CONDENSATE PIPING FROM ROOF TOP HVAC UNITS, COOLING COIL DRAIN PANS, CONDENSATE PUMPS, ETC. AS REQUIRED TO ROOF, NEAREST DRAIN OR TO WHERE INDICATED ON DRAWINGS. THE PIPING IS TO BE THE SAME SIZE AS THE EQUIPMENT CONNECTION SIZE. PROVIDE TRAPS IN CONDENSATE PIPING PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.

AJ. PROVIDE CONDENSATE PUMPS, RECEIVERS, PIPING AND ELECTRICAL CONNECTIONS AS REQUIRED AT EQUIPMENT WHERE EQUIPMENT DRAINS CANNOT BE DRAINED BY GRAVITY DUE TO FIELD CONDITIONS.

AK. PROVIDE VENT PIPING FROM ALL GAS PRESSURE REDUCING STATIONS. PIPING TO BE ROUTED TO THE EXTERIOR OF BUILDING AS REQUIRED. MULTIPLE RELIEFS ARE TO BE PIPED INDIVIDUALLY, NOT GROUPED TOGETHER IN A COMMON HEADER. THE PIPING IS TO BE SAME SIZE AS RELIEF CONNECTION TO EQUIPMENT. TERMINATION LOCATION TO MEET ALL CODE REQUIREMENTS AND BE APPROVED BY ARCHITECT.

AL. MODIFY EXISTING CONDITIONS FOR NEW UNIT VENTILATOR INSTALLATION AS REQUIRED. INFILL EXISTING MASONRY WALLS BEHIND REMOVED UNIT VENTILATORS FLUSH TO SURROUNDING WALL AS REQUIRED. CUT AND TRIM EXISTING SILLS FLUSH WITH EXISTING WALLS SO THAT UNIT VENTILATOR INSTALLATION WILL BE FLUSH TO WALL. PROVIDE PIPE ENCLOSURE AROUND EXISTING PIPING AND CONDUITS THROUGH WALL OR FLOOR TO UNIT VENTILATOR THAT WOULD NOT FIT WITHIN NEW UNIT VENTILATOR CABINET.

AM. REMOVE EXISTING DOORS AND PORTIONS OF WALLS, CEILINGS, ETC. AS REQUIRED TO INSTALL NEW MATERIAL AND EQUIPMENT IN EXISTING LOCATIONS. REBUILD WALLS, CEILINGS AND REINSTALL EXISTING DOORS AS REQUIRED AFTER INSTALLATION OF NEW MATERIAL AND EQUIPMENT. PATCH AND FINISH TO MATCH EXISTING.

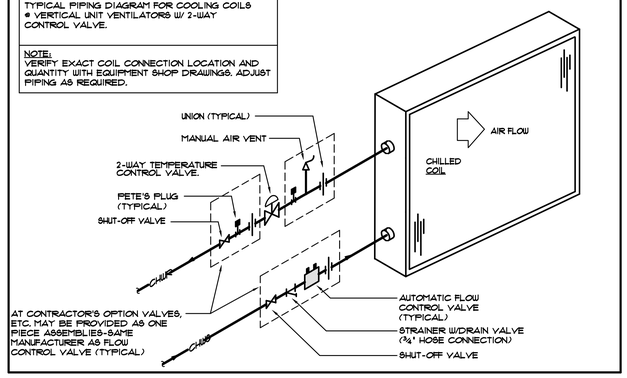
AN. PROVIDE ROOF PIPING SUPPORTS FOR PIPING ROUTED ALONG ROOF. SINGLE PIPE SUPPORTS TO BE EQUIVALENT TO PORTABLE PIPE HANGER, INC. TYPE PP-10 ROLLER GUIDE SUPPORT. MULTIPLE PIPE SUPPORTS TO BE EQUIVALENT TO PORTABLE PIPE HANGER, INC. TYPE PP10 CHANNEL GUIDE SUPPORT. SUPPORTS ARE TO BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS. SUPPORTS TO BE COMPATIBLE WITH AND MAINTAIN THE INTEGRITY (AND EXISTING WARRANTY IF APPLICABLE) OF THE EXISTING OR NEW ROOF SYSTEM.

## CHILLED WATER COIL PIPING DIAGRAM

SCHEMATIC ONLY

TYPICAL PIPING DIAGRAM FOR COOLING COILS @ VERTICAL UNIT VENTILATORS W/ 2-WAY CONTROL VALVE.

NOTE:
VERIFY EXACT COIL CONNECTION LOCATION AND QUANTITY WITH EQUIPMENT SHOP DRAWINGS. ADJUST PIPING AS REQUIRED.




GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

MILLIES ENGINEERING GROUP
(317) 924-5400
www.milliesengineeringgroup.com

PROJECT

# LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS AND RELATED WORK

UNION NORTH UNITED SCHOOL CORPORATION
LAKEVILLE, IN 46536


GIBRALTAR DESIGN
9102 N. Meridian St., Ste. 300
Indianapolis, IN 46260
Homepage www.GibraltarDesign.com
Email info@GibraltarDesign.com
Phone 317.580.5777 Fax 317.580.5778


PROJECT 20–126
DATE 08/24/20
COORDINATED BY BK
DRAWN BY GL, CC
CHECKED BY DJ

DAVID G. JANNEY REGISTERED NO. 10302590 STATE OF INDIANA PROFESSIONAL ENGINEER


COPYRIGHT NOTICE:
THE CONCEPTS, DESIGNS, PLANS, DETAILS, ETC. SHOWN ON THIS DOCUMENT ARE THE PROPERTY OF GIBRALTAR DESIGN AND WERE CREATED FOR USE ON THIS SPECIFIC PROJECT. NONE OF THIS INFORMATION SHALL BE USED BY ANY PERSON OR FIRM FOR ANY PURPOSE WITHOUT THE EXPRESS WRITTEN CONSENT OF GIBRALTAR DESIGN. THE OWNER MAY RETAIN COPIES FOR INFORMATION AND REFERENCE IN CONNECTION ONLY WITH THIS PROJECT.


REVISIONS

| MARK | DATE | ISSUED FOR |
|---|---|---|
| AD–1 | 09/08/20 | ADDENDUM NO. 1 |
| AD–3 | 09/18/20 | ADDENDUM NO. 3 |

DRAWING
MECHANICAL HVAC NOTES & DETAILS

PROJECT
LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS & RELATED WORK

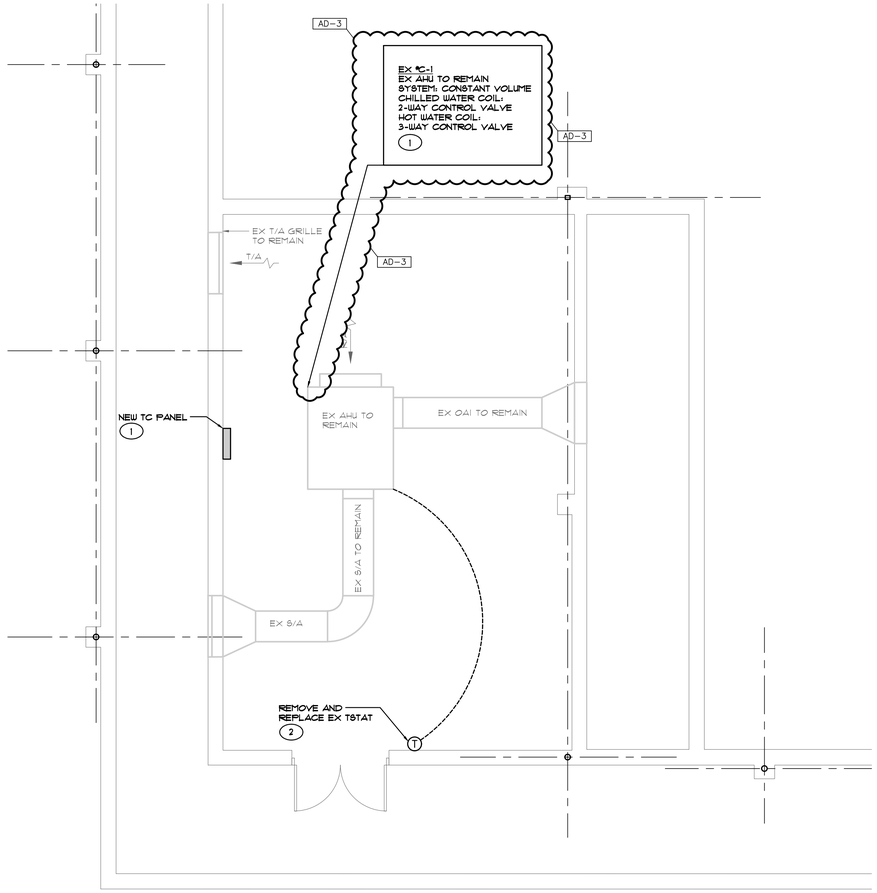

© GIBRALTAR DESIGN


SHEET
M-201


COPYRIGHT © 2020 MILLIES ENGINEERING GROUP

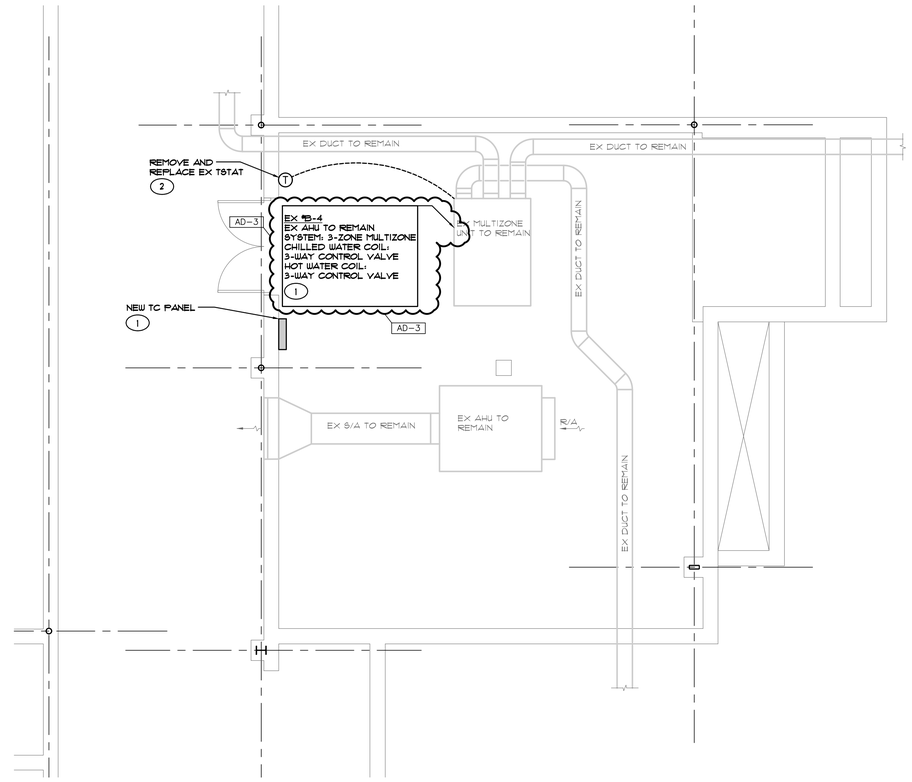
## SHEET NOTES

1. PROVIDE A DIRECT DIGITAL CONTROLLER FOR THE AIR HANDLING UNIT TO BE INTERFACED INTO THE EXISTING ICS DDC TEMPERATURE CONTROL SYSTEM. EXISTING AIR HANDLING UNITS HAVE HOT WATER HEATING COIL, CHILLED WATER COOLING COIL, 2 OR 3 WAY COIL CONTROL VALVES, SMOKE DETECTION, AND ELECTRIC DAMPER AND CONTROL VALVE ACTUATORS. PROVIDE ALL NECESSARY SENSORS, COMPONENTS, WIRING, DEVICES, ETC. TO FULLY INTEGRATE AND CONTROL THE AIR HANDLING UNIT, ELECTRIC DAMPER ACTUATORS, ELECTRIC CONTROL VALVES, ROOM SENSORS/THERMOSTATS, ETC. TO THE ICS FMS SYSTEM. PROVIDE ADDITIONAL ICS FMS CONTROLLER/SERVERS, PROGRAMMING AND GRAPHICS FOR EXISTING CONSTANT VOLUME AND MULTI-ZONE AIR HANDLING UNITS, DAMPERS AND COIL CONTROL VALVES, ZONE SENSORS, ETC. FOR A COMPLETE AND 100% INTEGRATED OPERATIONAL SYSTEM. ALL EXISTING SEQUENCES, CONTROL POINTS, MONITOR POINTS, MONITOR POINTS, ETC SHALL REMAIN THE SAME. VERIFY EXACT REQUIREMENTS IN THE FIELD. SEE MECHANICAL SPECIFICATIONS FOR TEMPERATURE CONTROL SEQUENCES.
2. REMOVE EXISTING THERMOSTAT AND ASSOCIATED TUBING/WIRING, ETC COMPLETE AS REQUIRED. INSTALL NEW DDC THERMOSTAT AND CONTROL WIRING TO PROPER EXISTING AIR HANDLING UNIT.



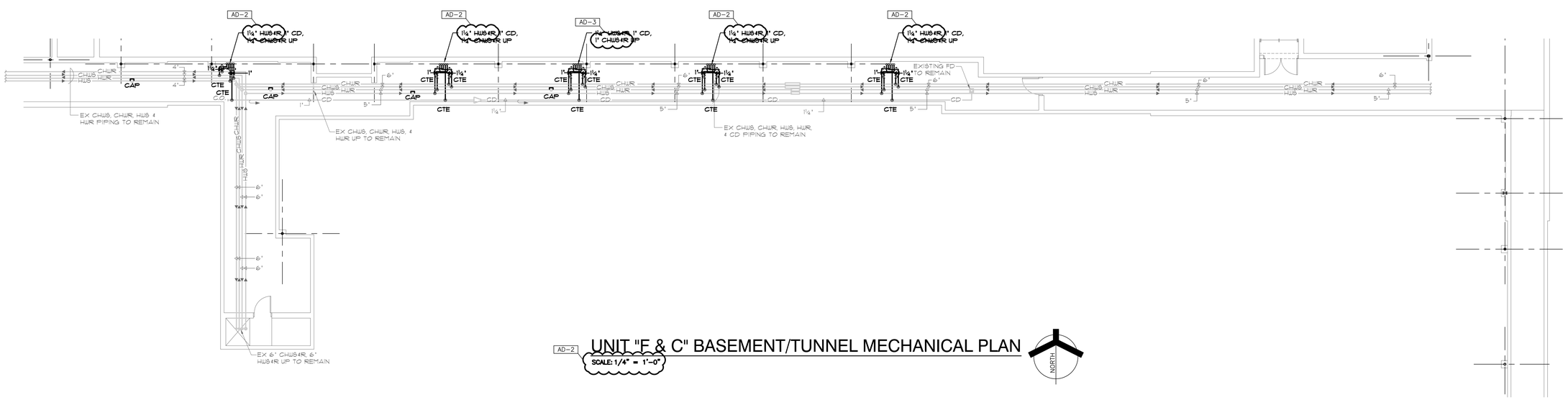

## UNIT "F" BASEMENT/TUNNEL MECHANICAL PLAN

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




## UNIT "D" BASEMENT/TUNNEL MECHANICAL PLAN

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




AD-2 UNIT "F & C" BASEMENT/TUNNEL MECHANICAL PLAN

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

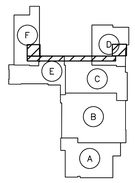
GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

MILLIES ENGINEERING GROUP
(317) 924-5400
www.milliesengineeringgroup.com

PROJECT

# LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS AND RELATED WORK

UNION NORTH UNITED SCHOOL CORPORATION
LAKEVILLE, IN 46536




KEYPLAN
SCALE: NONE


GIBRALTAR DESIGN
9102 N. Meridian St., Ste. 300
Indianapolis, IN 46260
Homepage www.GibraltarDesign.com
Email info@GibraltarDesign.com
Phone 317.580.5777 Fax 317.580.5778


PROJECT 20-126
DATE 08/24/20
COORDINATED BY BK
DRAWN BY GL, CC
CHECKED BY DJ

DAVID G. JANNEY REGISTERED NO. 10302590 STATE OF INDIANA PROFESSIONAL ENGINEER


COPYRIGHT NOTICE:
THE CONCEPTS, DESIGNS, PLANS, DETAILS, ETC., SHOWN ON THIS DOCUMENT ARE THE PROPERTY OF GIBRALTAR DESIGN AND WERE CREATED FOR USE ON THIS SPECIFIC PROJECT. NONE OF THIS INFORMATION SHALL BE USED BY ANY PERSON OR FIRM FOR ANY OTHER PROJECT WITHOUT WRITTEN AUTHORIZATION OF GIBRALTAR DESIGN. THE OWNER MAY RETAIN COPIES FOR INFORMATION AND REFERENCE IN CONNECTION ONLY WITH THIS PROJECT.


REVISIONS

| MARK | DATE | ISSUED FOR |
|---|---|---|
| AD-2 | 09/15/20 | ADDENDUM NO. 2 |
| AD-3 | 09/18/20 | ADDENDUM NO. 3 |

DRAWING
ENLARGED MECHANICAL PLANS

PROJECT
LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS & RELATED WORK

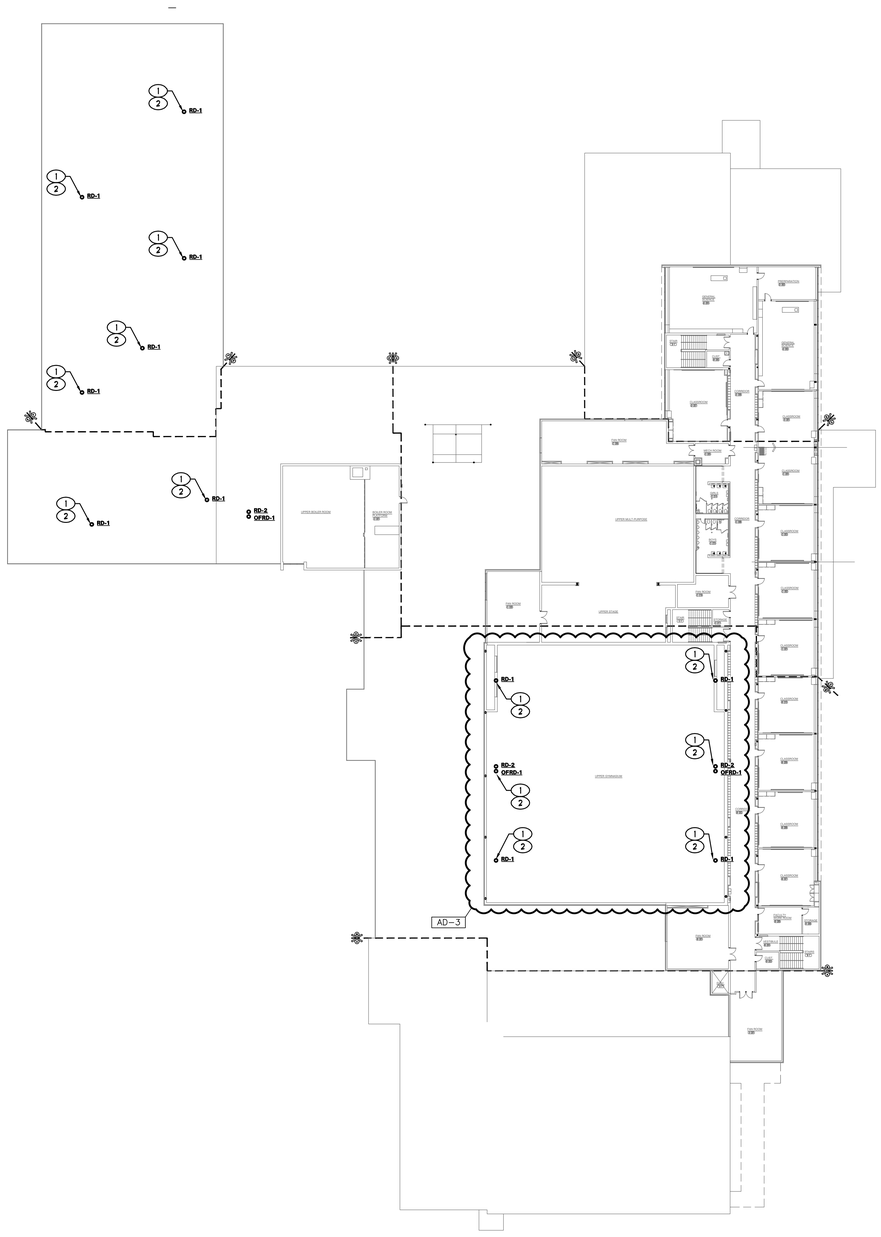
© GIBRALTAR DESIGN

SHEET
M-401

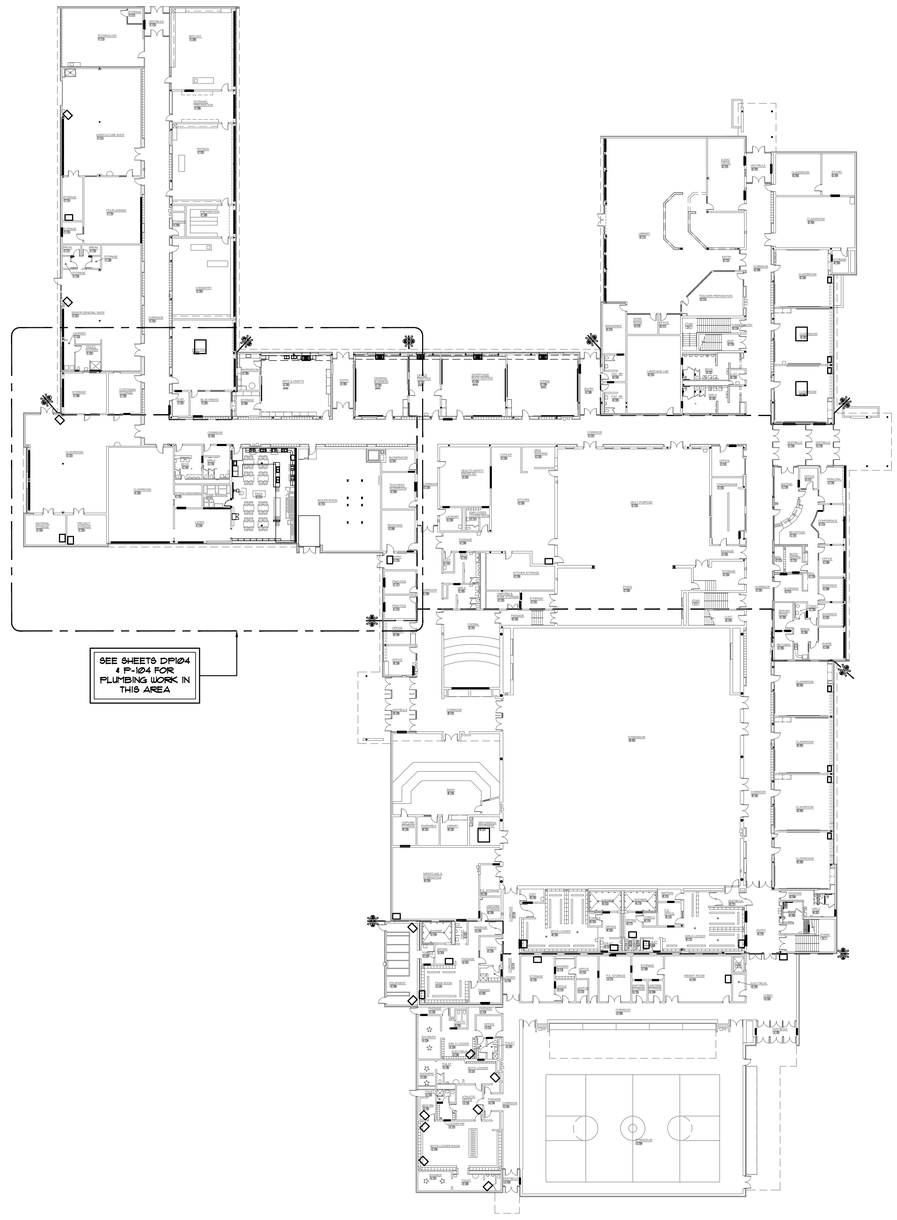
COPYRIGHT © 2020 MILLIES ENGINEERING GROUP

## SHEET NOTES

1. REMOVE EXISTING ROOF DRAIN COMPLETE AS REQUIRED.
2. CONNECT NEW ROOF DRAIN TO EXISTING STORM PIPING COMPLETE AS REQUIRED. SEE DETAIL ON SHEET P-260 FOR ADDITIONAL INFORMATION.




OVERALL SECOND FLOOR PLAN - PLUMBING
SCALE: 1"=30'0"




OVERALL FIRST FLOOR PLAN - PLUMBING
SCALE: 1"=30'0"

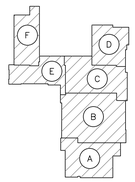
GIBRALTAR
DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

MILLIES
ENGINEERING GROUP
(317) 924-5400
www.milliesengineeringgroup.com

PROJECT

# LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS AND RELATED WORK

UNION NORTH UNITED SCHOOL CORPORATION
LAKEVILLE, IN 46536




KEYPLAN
SCALE: NONE


GIBRALTAR DESIGN
9102 N. Meridian St., Ste. 300
Indianapolis, IN 46260
Homepage www.GibraltarDesign.com
Email info@GibraltarDesign.com
Phone 317.580.5777 Fax 317.580.5778


PROJECT
20-126
DATE
08/24/20
COORDINATED BY
BK
DRAWN BY
GL, CC
CHECKED BY
DJ

DAVID G. JANEY
REGISTERED
NO. 10302590
STATE OF INDIANA
PROFESSIONAL ENGINEER


COPYRIGHT NOTICE:
THE CONCEPTS, DESIGNS, PLANS, DETAILS, ETC, SHOWN ON THIS DOCUMENT ARE THE PROPERTY OF GIBRALTAR DESIGN AND WERE CREATED FOR USE ON THIS SPECIFIC PROJECT. NONE OF THIS INFORMATION SHALL BE USED BY ANY PERSON OR FIRM FOR ANY PURPOSE WITHOUT THE EXPRESS WRITTEN CONSENT OF GIBRALTAR DESIGN. THE OWNER MAY RETAIN COPIES FOR INFORMATION AND REFERENCE IN CONNECTION ONLY WITH THIS PROJECT.


REVISIONS

| MARK | DATE | ISSUED FOR |
|---|---|---|
| AD-3 | 09/18/20 | ADDENDUM NO. 3 |

DRAWING
OVERALL FLOOR PLANS - PLUMBING

PROJECT
LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS & RELATED WORK


© GIBRALTAR DESIGN


SHEET
P-001

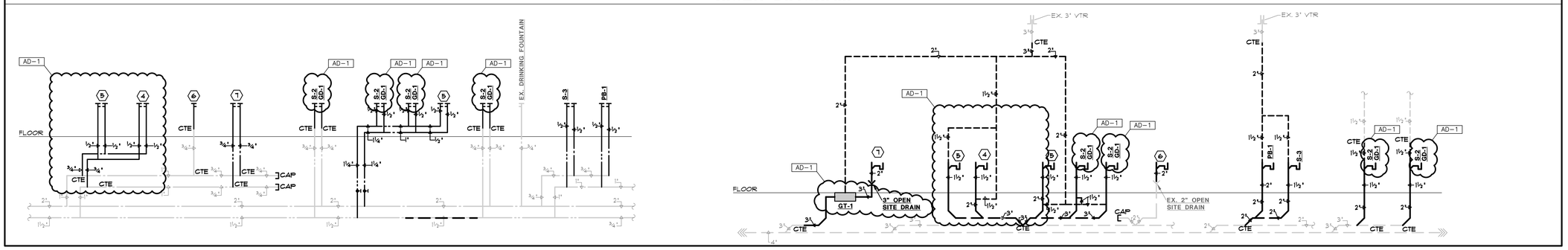

COPYRIGHT © 2020 MILLIES ENGINEERING GROUP

# PLUMBING EQUIPMENT AND FIXTURE SCHEDULE

| | TAG NO. | FIXTURE/EQUIPMENT TYPE | FIXTURE/EQUIPMENT DESCRIPTION | FIXTURE/EQUIPMENT MANUFACTURER AND MODEL NO. | ACCEPTABLE MANUF. | FIXTURE VALVE/FAUCET TYPE | FIXTURE VALVE/FAUCET TYPE | ACCEPTABLE MANUF. | ACCESSORIES/REMARKS (SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION) | ELECTRICAL DATA HP | MCA | FLA | AMPS | MOCP | VOLT | PH | HZ. | STARTER BY: FC. | EC. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | S-1 | SINK | TWO COMPARTMENT STAINLESS STEEL SINK, 29"x18"x6" | ELKAY #LRAD-291860 | NOTE #1 | 2 HANDLE, HIGH GOOSENECK | ELKAY #LKD2442BHC | NOTE #4 | ELKAY #35 STRAINER, ELKAY #LK-53 DRAIN ASSEMBLY, MCGUIRE #42167CCLK SUPPLIES,JOSAM #61030 SOLIDS INTERCEPTOR | - | - | - | - | - | - | - | - | - | - |
| AD-1 | S-2 | SINK | TWO COMPARTMENT STAINLESS STEEL SINK, 33"x19"x6.5" | ELKAY #LWDR-331964 | NOTE #1 | 2 HANDLE, HIGH GOOSENECK | ELKAY #LKD2442BHC | NOTE #4 | ELKAY #35 STRAINER, ELKAY #LK-53 DRAIN ASSEMBLY, MCGUIRE #42167CCLK SUPPLIES | - | - | - | - | - | - | - | - | - | - |
| | S-3 | SINK | STAINLESS STEEL SINK, 19"x18"x4" | ELKAY #LRAD-191840 | NOTE #1 | 2 HANDLE, HIGH GOOSENECK | ELKAY #LKD2442BHC | NOTE #4 | ELKAY #35 STRAINER, ELKAY #LK-53 DRAIN ASSEMBLY, MCGUIRE #42167CCLK SUPPLIES | - | - | - | - | - | - | - | - | - | - |
| AD-3 | RD-1 | ROOF DRAIN | CAST IRON BODY, GRAVEL STOP, LARGE SUMP | MIFAB #R1200-EU | NOTE #2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | RD-2 | ROOF DRAIN | CAST IRON BODY, GRAVEL STOP, LARGE SUMP | MIFAB #R1210 | NOTE #2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | OFRD-1 | OVERFLOW ROOF DRAIN | CAST IRON BODY, GRAVEL STOP, LARGE SUMP | MIFAB #R1200-U | NOTE #2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| AD-1 | PB-1 | PLUMBER'S BOX | FOR CLOTHES WASHER | GUY GRAY #B200TS | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | GD-1 | GARBAGE DISPOSAL | UNDER COUNTER GARBAGE DISPOSAL | MOEN #GXP50C | - | - | - | - | - | 1/2 | - | - | - | - | 120 | 1 | 60 | - | - |
| AD-1 | GT-1 | GREASE TRAP | 25 GPM, LIQUID CAP 10 GAL | SCHIER #GB1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

NOTE #1: ELKAY
NOTE #2: ZURN, JOSAM, JR. SMITH, MIFAB

# RISER DIAGRAM




# SYMBOLS AND ABBREVIATIONS

- EXISTING UNDERGROUND SANITARY PIPING
- ST — EXISTING UNDERGROUND STORM SEWER
- EXISTING COLD WATER PIPING
- EXISTING HOT WATER PIPING
- EXISTING HOT WATER RECIRCULATION PIPING
- EXISTING PIPING
- NEW UNDERGROUND SANITARY SEWER
- ST — NEW UNDERGROUND STORM SEWER
- NEW COLD WATER PIPING
- NEW HOT WATER PIPING
- NEW HOT WATER RECIRCULATION PIPING
- NEW VENT PIPING
- ST — NEW OVERHEAD STORM PIPING
- NEW OVERHEAD SANITARY PIPING
- PIPE PITCHED DOWN IN DIRECTION OF FLOW
- DIRECTION OF FLOW
- PIPE DOWN
- PIPE UP
- SHUT-OFF VALVE
- SHEET NOTE TAG
- MECHANICAL EQUIPMENT TAG

| | |
|---|---|
| CO | CLEANOUT |
| CTE | CONNECT TO EXISTING |
| CW | COLD WATER |
| DN | DOWN |
| EX. | EXISTING |
| FCO | FLOOR CLEANOUT |
| FD | FLOOR DRAIN |
| HW | HOT WATER |
| HWR | HOT WATER RECIRCULATION |
| L | LAVATORY |
| OFRD | OVERFLOW ROOF DRAIN |
| RCP | HOT WATER RECIRCULATION PUMP |
| RD | ROOF DRAIN |
| S | SINK |
| SC | SILL COCK |
| SE | SEWAGE EJECTOR |
| V | VENT |
| VTR | VENT THROUGH ROOF |
| WC | WATER CLOSET |
| WH | WATER HEATER |
| YCO | YARD CLEANOUT |

# GENERAL NOTES

A. WORK SHALL COMPLY WITH LOCAL, MUNICIPAL, AND STATE PLUMBING CODES.

B. THE SCOPE OF WORK SPECIFIED HEREIN AND IN THE SPECIFICATIONS SHALL BE COORDINATED WITH THE CONSTRUCTION MANAGER - REFER TO THE SCOPE OF WORK FOR EACH TRADE. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND CONSTRUCTION MANAGERS SCOPE SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER FOR CLARIFICATION. THE ARCHITECT/ENGINEER'S DECISION SHALL BE FINAL.

C. LAYOUT IS DIAGRAMMATIC. INSTALL PIPING AND EQUIPMENT TO MEET ACTUAL FIELD CONDITIONS. REVIEW PROJECT SPECIFICATIONS BEFORE STARTING ANY WORK. SUBMIT SHOP DRAWINGS OF WORK AS PER SPECIFICATIONS.

D. COORDINATE PHASING OF WORK AND PROVIDE TEMPORARY PIPING AND SERVICES AS REQUIRED FOR THE IMPLEMENTATION OF WORK WHILE MAINTAINING SERVICES TO PORTIONS OF BUILDING TO REMAIN OCCUPIED.

E. FIELD VERIFY IF EXISTING ASBESTOS WILL BE ENCOUNTERED PRIOR TO STARTING ANY WORK. IF ASBESTOS IS PRESENT, THE OWNER WILL PROVIDE FOR THE REMOVAL OF ANY MATERIAL CONTAINING ASBESTOS. SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS.

F. LAYOUT WORK TO AVOID CONFLICTS BETWEEN DUCTWORK, LIGHTING, CEILINGS, PIPING AND BUILDING STRUCTURE.

G. SCHEDULE WORK TO AVOID DOWNTIME AND INCONVENIENCE TO OWNER. OWNER'S EXISTING FACILITY SHALL REMAIN IN OPERATION AT TIMES. REQUIRED SHUTDOWN OF EXISTING UTILITIES SHALL BE SCHEDULED WITH OWNER'S OPERATING PERSONNEL. NOTIFY OWNER'S REPRESENTATIVE 48 HOURS IN ADVANCE PRIOR TO ANY SHUTDOWN OF EXISTING PLUMBING SYSTEMS.

H. VERIFY LOCATION AND ELEVATION OF PLUMBING EQUIPMENT, FIXTURES, PIPING, PANELS, ETC. EXPOSED WITHIN OCCUPIED SPACES BEFORE THE START OF ANY ROUGH-IN OR INSTALLATION.

I. COORDINATE VENT THROUGH ROOF LOCATIONS WITH OUTDOOR AIR INTAKE LOCATIONS TO MAINTAIN A MINIMUM SEPARATION OF TEN FEET.

J. VISIT SITE PRIOR TO BIDDING TO DETERMINE FIELD CONDITIONS. VERIFY EXISTING INTERIOR AND EXTERIOR PLUMBING SYSTEMS TO VERIFY QUANTITIES AND LOCATIONS OF EXISTING SYSTEMS TO DETERMINE EXTENT OF NEW AND DEMOLITION WORK. VERIFY EXISTING INTERIOR AND EXTERIOR STORM AND SANITARY PIPING SYSTEMS AS TO ROUTING, SIZE AND INVERT ELEVATION PRIOR TO ANY INSTALLATION OF NEW AND REMOVAL OF ANY EXISTING.

K. COORDINATE NEW INSTALLATIONS WITH EXISTING SYSTEMS. ANY EXISTING CONDUIT, PIPING, DUCTWORK, EQUIPMENT, ETC. SHALL BE REWORKED AS REQUIRED TO AVOID CONFLICTS WITH THE INSTALLATION OF THE NEW PLUMBING SYSTEMS. NO EXTRAS WILL BE ALLOWED AFTER BIDDING FOR ANY REWORK OF EXISTING FIELD CONDITIONS TO RESOLVE ANY CONFLICTS OR NOT FULLY UNDERSTANDING THE SCOPE OF THE WORK REQUIRED. EXISTING EQUIPMENT, FIXTURES AND PIPING, ETC., SHALL BE REMOVED AS NOTED ON DRAWINGS AND AS REQUIRED TO MEET NEW SCOPE OF WORK.

L. REMOVE EXISTING EQUIPMENT, FIXTURES, PIPING, ETC. PRESENTLY SERVING AREAS THAT ARE BEING RENOVATED AND THAT ARE NOT REQUIRED TO STAY IN SERVICE. NO EQUIPMENT, FIXTURES, PIPING, SUPPORTS, HANGERS, ETC. IS TO BE LEFT ABANDONED. VERIFY QUANTITY, LOCATION AND ELEVATION OF EXISTING TO BE REMOVED IN FIELD. REMOVE EXISTING ABANDONED EQUIPMENT, FIXTURES AND PIPING IN AREAS THAT ARE TO BE RENOVATED.

M. EXISTING INFORMATION IDENTIFIED ON THE CONTRACT DOCUMENTS IS SCHEMATIC ONLY AS AN AID TO THE CONTRACTOR. PROPERLY ADDRESS EXISTING CONDITIONS FOR A COMPLETE AND PROPER INSTALLATION OF NEW SYSTEMS. EXISTING EQUIPMENT NOT IDENTIFIED SHALL BE REPORTED IN WRITTEN FORM FOR REVIEW AS TO WHETHER THE EQUIPMENT SHALL REMAIN AND BE RECONNECTED TO THE NEW SERVICES, BE RELOCATED, BE ABANDONED, ETC.

N. ANY HIDDEN CONDITIONS IDENTIFIED THROUGH THE COURSE OF CONSTRUCTION SHALL BE IMMEDIATELY REPORTED IN WRITTEN FORM FOR REVIEW AND DIRECTION. FAILURE TO DO SO SHALL MAKE THE CONTRACTOR RESPONSIBLE FOR ANY REQUIRED CHANGES AND COSTS TO CORRECT SAID HIDDEN CONDITION.

O. NO FIXTURES, EQUIPMENT, PIPING, SUPPORTS, HANGERS, ETC. IS TO BE LEFT ABANDONED. VERIFY QUANTITY, LOCATION AND ELEVATION OF EXISTING TO BE REMOVED IN FIELD.

P. EXISTING EQUIPMENT SHALL REMAIN PROPERTY OF THE OWNER AND OWNER SHALL DETERMINE IF CONTRACTOR IS TO STORE EQUIPMENT ON SITE AT OWNER SELECTED LOCATION OR IF CONTRACTOR IS TO ABANDON OR REMOVE EQUIPMENT FROM SITE.

Q. REMOVED PIPING IS TO BE TERMINATED PROPERLY BACK TO EXISTING MAINS. CAP PIPING WATERTIGHT. PROVIDE ADDITIONAL PIPING AS REQUIRED TO MAINTAIN CONTINUITY OF EXISTING SYSTEMS MODIFIED DUE TO REMOVAL OF PORTION OF SYSTEMS.

R. PATCH EXISTING CEILING, FLOOR, WALL AND ROOF OPENINGS AND SURROUNDING FINISHES RESULTING FROM REMOVAL OF EXISTING MATERIALS AND EQUIPMENT SO THAT FINISH WILL MATCH EXISTING IN SURROUNDING AREAS.

S. PROVIDE FINISHING OF EXISTING CEILING, FLOOR, AND WALL SURFACES AT LOCATIONS AFFECTED BY REMOVAL OF EXISTING MATERIALS AND EQUIPMENT SO THAT NEW FINISH WILL MATCH EXISTING IN SURROUNDING AREAS.

T. REMOVE EXISTING CEILINGS REQUIRED FOR INSTALLATION OF NEW WORK. REINSTALL CEILING UPON COMPLETION OF WORK. REPLACE DAMAGED CEILING MATERIALS TO MATCH EXISTING.

U. PROVIDE CUTTING, CORE DRILLING AND PATCHING OF EXISTING FLOOR AND WALL CONSTRUCTIONS REQUIRED FOR THE INSTALLATION OF NEW PIPING. SEAL PENETRATIONS THROUGH FLOOR AND WALL STRUCTURE WATERTIGHT AND WITH AN APPROVED FIRE STOPPING MATERIAL, INCLUDING APPROVED FIRE RATED SLEEVE.

V. WORK ON THE ROOF SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE EXISTING ROOFING MANUFACTURER'S RECOMMENDATIONS. ROOF WORK SHALL BE PERFORMED BY CERTIFIED INSTALLERS AS TO MAINTAIN THE EXISTING ROOF WARRANTY. PRIOR TO THE START OF ANY WORK ON THE ROOF, THE EXISTING ROOF SHALL BE INSPECTED AND CERTIFIED BY THE EXISTING ROOFING MANUFACTURER. ANY DEFICIENCIES WHICH OCCUR BETWEEN THE INITIAL AND FINAL INSPECTIONS SHALL BE CORRECTED AT NO COST TO THE OWNER. CORRECTIVE MEASURES SHALL BE PERFORMED BY CERTIFIED INSTALLERS TO MAINTAIN THE EXISTING ROOF WARRANTY.

W. PROVIDE CUTTING, TRENCHING AND PATCHING OF EXISTING FLOOR SLAB REQUIRED FOR THE INSTALLATION OF NEW UNDERGROUND PIPING.

X. CUT OR CHANNEL INTO EXISTING WALL CONSTRUCTIONS AS REQUIRED FOR INSTALLATION OF NEW PIPING WITHIN EXISTING WALLS. PATCH WALL SURFACES AND FINISH AS REQUIRED TO MATCH EXISTING CONDITIONS.

Y. PROVIDE A WATERTIGHT SHEET METAL DRIP PAN OVER ELECTRICAL EQUIPMENT INSTALLED UNDER OR NEAR PIPING SYSTEMS. DRIP PAN TO EXTEND MINIMUM 3" OVER FRONT AND SIDES OF ELECTRICAL EQUIPMENT AND BE PITCHED AT A MINIMUM 30° ANGLE. SEAL DRIP PAN WATERTIGHT TO WALL.

Z. PROVIDE ROUGH-IN AND FINAL CONNECTIONS TO PLUMBING EQUIPMENT AND FIXTURES. SET FIXTURES/EQUIPMENT AND FURNISH AND INSTALL NECESSARY FITTINGS, TRAPS, STOPS, ETC. AS REQUIRED.

AA. PROVIDE ALL ROUGH-IN AND FINAL SERVICES AND CONNECT ALL WATER LINES, WASTE LINES, INDIRECT PIPING, ETC. FOR FIXTURES AND KITCHEN EQUIPMENT ITEMS. PROVIDE ALL VALVES, STOPS, TRAPS, AND PRESSURE REGULATORS NECESSARY TO CONNECT LINES. FOR FURTHER INFORMATION AND DESCRIPTION OF KITCHEN EQUIPMENT BEING SUPPLIED REFER TO ARCHITECTURAL DRAWINGS, KITCHEN EQUIPMENT DRAWINGS, AND ENLARGED KITCHEN AREA DRAWINGS.

BB. PLUMBING PIPING ROUTING TO BE FIELD COORDINATED WITH NEW AND EXISTING HVAC DUCTWORK, HVAC PIPING, FIRE PROTECTION PIPING, ELECTRICAL AND STRUCTURE TO ENSURE NO CONFLICTS WILL OCCUR DUE TO INTERFERENCE.

CC. PIPING, EQUIPMENT, ETC. SHALL NOT BE SUPPORTED FROM THE BOTTOM CHORD OF ENGINEERED JOISTS WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER.

DD. ISOLATION VALVES SHALL BE INSTALLED OVER ACCESSIBLE CEILINGS. WHEN ISOLATION VALVES ARE INSTALLED OVER INACCESSIBLE CEILING AREAS, IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO FURNISH AND INSTALL 12" X 12" (MINIMUM) CEILING ACCESS DOORS. TYPE TO BE VANDALPROOF, TAMPERPROOF ASSEMBLIES. INSTALLATION TO BE COORDINATED WITH GENERAL CONTRACTOR.

EE. INVERT ELEVATIONS SHALL BE FIELD COORDINATED WITH FINAL GRADING PLANS TO ENSURE PROPER INSTALLATION.

FF. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS FOR FINAL MOUNTING HEIGHTS OF PLUMBING FIXTURES.

GG. PROTECT NEW AND EXISTING DRAIN OPENINGS AND SANITARY LINES DURING CONSTRUCTION TO PREVENT BLOCKAGE. ROD-OUT EXISTING SANITARY PIPING. PIPING SHALL BE FREE OF BLOCKAGE.

HH. REPAIR AND/OR REPLACE DAMAGED PIPE INSULATION THAT OCCURS AS THE RESULT OF THIS CONSTRUCTION.

II. PRIME AND PAINT EXPOSED PIPING IN FINISHED AREAS IN COLOR AS SELECTED BY OWNERS REPRESENTATIVE.

JJ. VIDEOTAPE EXISTING SANITARY MAIN TO CONFIRM EXISTING BRANCH SANITARY CONNECTION POINTS, INVERTS AND CONDITION OF PIPING AS REQUIRED TO COMPLETE WORK. PROVIDE REPORT INDICATING CONNECTION POINT LOCATIONS, INVERTS, AND ANY DEFICIENCIES IN EXISTING SANITARY PIPING SYSTEM PRIOR TO STARTING WORK.

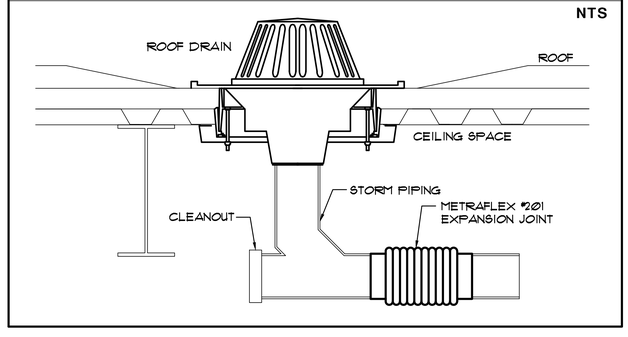
# PLUMBING KITCHEN EQUIPMENT SCHEDULE

| CONN. NO. | CONNECT TO | COLD WATER | HOT WATER | WASTE | FLOOR DRAINS | REMARKS |
|---|---|---|---|---|---|---|
| 4 | WORK TABLE | ½" | ½" | 1½" | - | - |
| 5 | WALL MOUNTED HAND SINK | ½" | ½" | 1½" | - | - |
| 6 | UNDER COUNTER DISHWASHER | - | ¾" | 2" | - | ROUTE SANITARY TO EXISTING OPEN SITE DRAIN |
| 7 | 3-COMPT SINK | ¾" | ¾" | 2" | - | ROUTE SANITARY TO NEW OPEN SITE DRAIN |

THIS CONTRACTOR SHALL PROVIDE ALL ROUGH-IN AND FINAL SERVICES AND CONNECT ALL WATER LINES, WASTE LINES, INDIRECT PIPING, ETC. FOR FIXTURES AND KITCHEN EQUIPMENT ITEMS. PROVIDE AND INSTALL ALL VALVES, STOPS, TRAPS, AND PRESSURE REGULATORS NECESSARY TO CONNECT LINES. FOR FURTHER INFORMATION AND DESCRIPTION OF KITCHEN EQUIPMENT BEING SUPPLIED REFER TO ARCHITECTURAL DRAWINGS, KITCHEN EQUIPMENT DRAWINGS, AND ENLARGED KITCHEN AREA DRAWINGS.

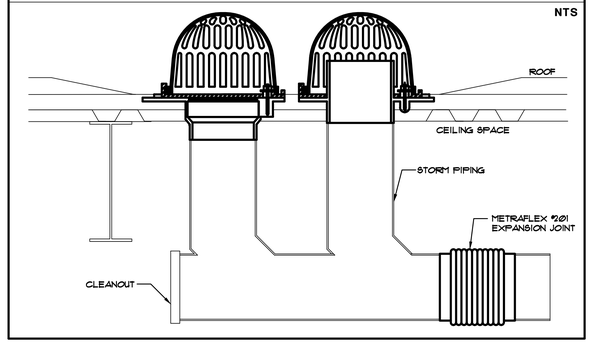
# ROOF DRAIN DETAIL

NTS




# ROOF and OVERFLOW DRAIN DETAIL

NTS




GIBRALTAR DESIGN
ARCHITECTURE • ENGINEERING • INTERIOR DESIGN

MILLIES ENGINEERING GROUP
(317) 924-5400
www.milliesengineeringgroup.com

PROJECT

LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS AND RELATED WORK

UNION NORTH UNITED SCHOOL CORPORATION
LAKEVILLE, IN 46536


GIBRALTAR DESIGN
9102 N. Meridian St., Ste. 300
Indianapolis, IN 46260
Homepage www.GibraltarDesign.com
Email info@GibraltarDesign.com
Phone 317.580.5777 Fax 317.580.5778


PROJECT 20-126
DATE 08/24/20
COORDINATED BY BK
DRAWN BY GL, CC
CHECKED BY DJ

REGISTERED NO. 10302590 STATE OF INDIANA PROFESSIONAL ENGINEER DAVID G. JANEY


COPYRIGHT NOTICE:
THE CONCEPTS, DESIGNS, PLANS, DETAILS, ETC. SHOWN ON THIS DOCUMENT ARE THE PROPERTY OF GIBRALTAR DESIGN AND WERE CREATED FOR USE ON THIS SPECIFIC PROJECT. NONE OF THIS INFORMATION SHALL BE USED BY ANY PERSON OR FIRM FOR ANY PURPOSE WITHOUT THE EXPRESS WRITTEN CONSENT OF GIBRALTAR DESIGN. THE OWNER MAY RETAIN COPIES FOR INFORMATION AND REFERENCE IN CONNECTION ONLY WITH THIS PROJECT.


REVISIONS

| MARK | DATE | ISSUED FOR |
|---|---|---|
| AD-1 | 09/08/20 | ADDENDUM NO. 1 |
| AD-3 | 09/18/20 | ADDENDUM NO. 3 |

DRAWING
PLUMBING SCHEDULES, NOTES & DETAILS

PROJECT
LAVILLE JR-SR HIGH SCHOOL - 2020 IMPROVEMENTS & RELATED WORK


© GIBRALTAR DESIGN


SHEET
P-200


COPYRIGHT © 2020 MILLIES ENGINEERING GROUP