GYMNASIUM ADDITION
TO SUGAR CREEK ELEMENTARY SCHOOL
VERONA AREA SCHOOL DISTRICT
VERONA, WISCONSIN

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5/17/00
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WISCONSIN MARY A. LAWSON A-4431 Madison PROFESSIONAL ARCHITECT
5/17/00
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WISCONSIN JOHN E. IPSEN E-16253 Madison, WI PROFESSIONAL ENGINEER
5/18/00

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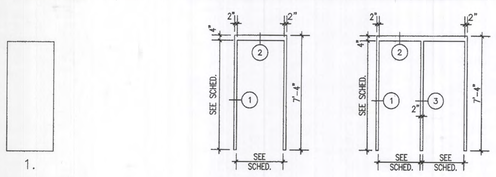
WISCONSIN GUY R. WILSON E-32770 MADISON WI PROFESSIONAL ENGINEER
5/18/00
D401 & E201

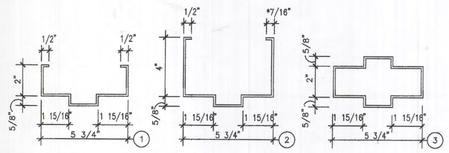
Potter Lawson — DOOR, FRAME & HARDWARE SCHEDULE

Gymnasium Addition to Sugar Creek Elementary School
Verona Area School District
Verona, Wisconsin

Opening Number	Door Information Width	Height	Matl	EL	Label	Frame Information & Details Matl	EL	Head	Jamb	Sill	Hdwr Set	Notes
43A	3'-4"	7'-0"	WD	1	–	HM	A	–	–	–	HG2	EXIST. DR.&FR.
43B	3'-4"	7'-0"	WD	1	–	HM	A	–	–	–	HG2	EXIST. DR.&FR.
43C	3'-2"	7'-0"	HM	1	–	HM	B	8/A201	7/A201	6/A201	HG1	
43D	3'-2"	7'-0"	HM	1	–	HM	B	8/A201	7/A201	6/A201	HG1	
43E	3'-2"	7'-0"	HM	1	–	HM	B	8/A201	7/A201	6/A201	HG1	
43F	3'-2"	7'-0"	HM	1	–	HM	B	8/A201	7/A201	6/A201	HG1	
44A	3'-0"	7'-0"	HM	1	–	HM	A	9/A201	10/A201	5/A201	HG3	



DOOR ELEVATIONS FRAME ELEVATIONS



FRAME PROFILES

Potter Lawson — ROOM FINISH SCHEDULE

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL
VERONA AREA SCHOOL DISTRICT
VERONA, WISCONSIN

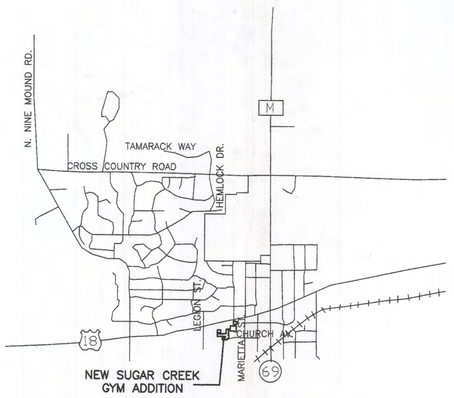
ROOM NO.	ROOM NAME	FLOOR Matl.	Fin.	BASE Matl.	Fin.	NORTH WALL Matl.	Fin.	EAST WALL Matl.	Fin.	SOUTH WALL Matl.	Fin.	WEST WALL Matl.	Fin.	CEILING Matl.	Fin.	CEIL. HT.	REMARKS
43	GYMNASIUM	F6		B3		W2	a	W2	a	W2	a	W2	a	C9	a		

Potter Lawson — ROOM FINISH SYMBOLS LEGEND

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL
VERONA AREA SCHOOL DISTRICT
VERONA, WISCONSIN

Floor Code	Description	Base Code	Description	Wall Code	Description	Ceiling Code	Description
F8	Existing to Remain	B8	Existing to Remain	W2	Paint on CMU a. Mautz Color: CW022W(Soft Gold) Latex Satin Finish	C9	Exposed Structure – Painted a. Mautz Color: CW022W(Soft Gold) Latex Satin Finish
		B8	Existing to Remain	W8	Existing to Remain		
				W14	Acoustical Wall Panels a. Guilford of Maine Panel Fabric Grille Style 2822 Color: 031 Balcony		

6/30/00
Conditionally APPROVED
DEPARTMENT OF COMMERCE
DIVISION OF SAFETY AND BUILDINGS
SEE CORRESPONDENCE 317429



PARTIAL VERONA MAP

Potter Lawson

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Consultants:

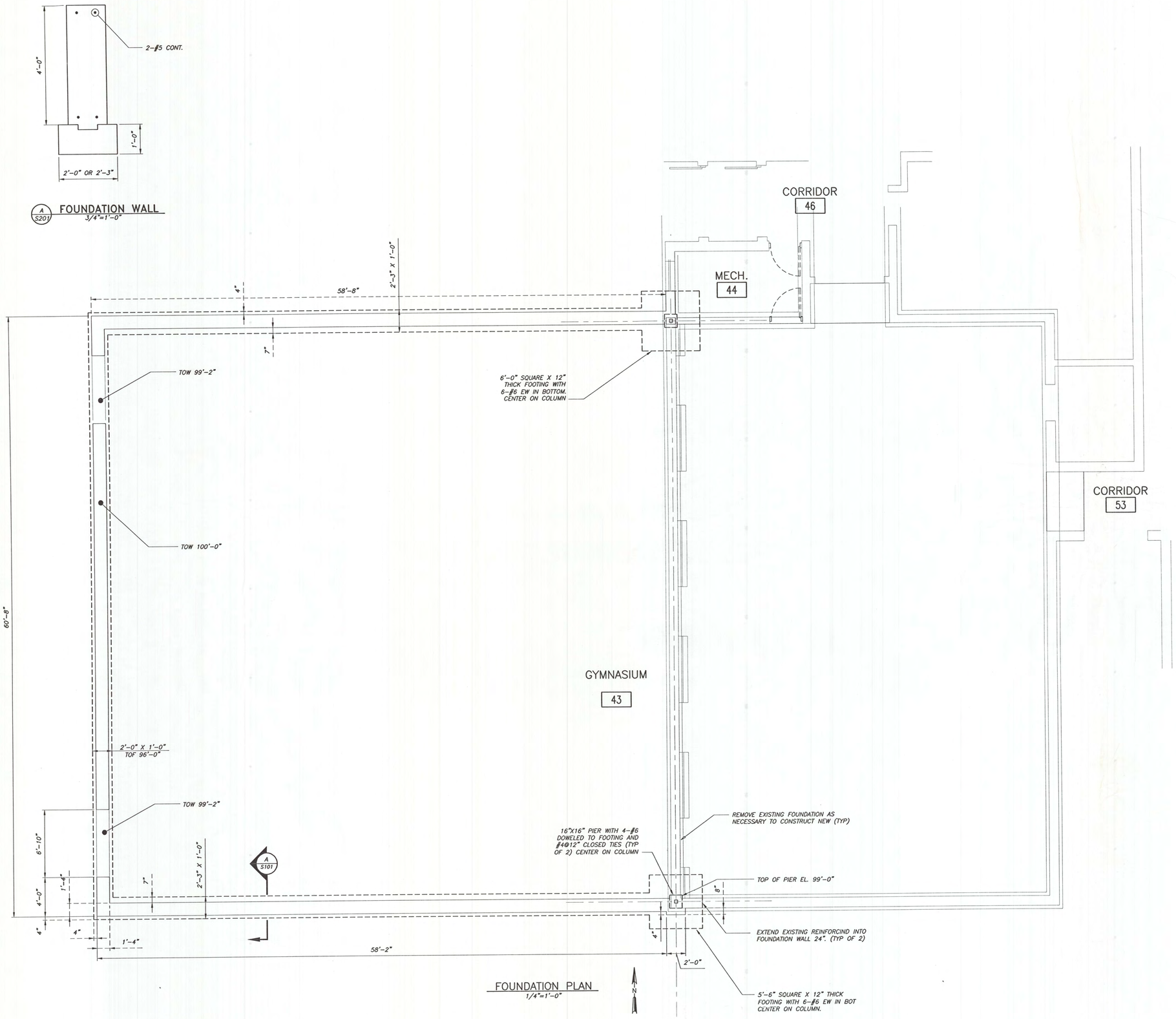
Notes:

Date	Issuance/Revisions	Symbol
5/04/00	Issued for Bidding	

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL
VERONA AREA SCHOOL DISTRICT
VERONA, WISCONSIN

Drawing Title:
COVER DRAWING & SCHEDULES

PLJ Project Number: 9904100
Drawn By: MK
Drawing No. CD01



FOUNDATION PLAN
1/4"=1'-0"

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DATE: MAY 12, 2000 - TIME: 12:04 PM - CAD TECH: keiths

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Consultants:

STRAND ASSOCIATES, INC. ENGINEERS®
910 WEST WINGRA DRIVE
MADISON, WISCONSIN 53715
(608) 251-4843

Notes:
1. TYPICAL SLAB-ON-GRADE FLOOR TO BE 4" THICK CONCRETE REINFORCED FIBROUS REINFORCING. PROVIDE JOINTS @ 10'-0" O.C. MAX
POUR SLAB OVER 6" MIN. UNDER SLAB GRAVEL FILL VAPOR BARRIER.

Date	Issuance/Revisions	Symbol
5/04/00	ISSUED FOR BIDDING	

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL

VERONA AREA SCHOOL DISTRICT

VERONA, WISCONSIN

Drawing Title:
FOUNDATION PLAN

PLI Project Number: 9904100
Drawn By:
Drawing No. S101

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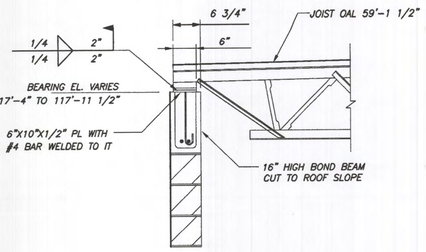
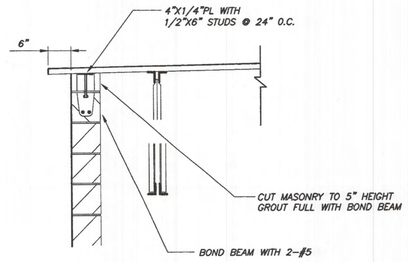
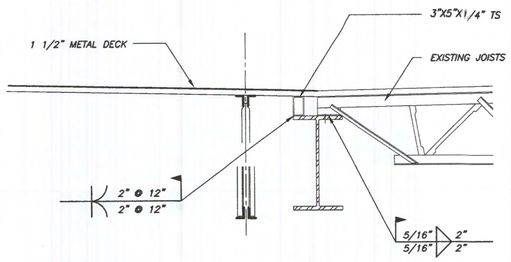


A S201 JOIST BEARING
3/4"=1'-0"



B S201 DECK BEARING
3/4"=1'-0"

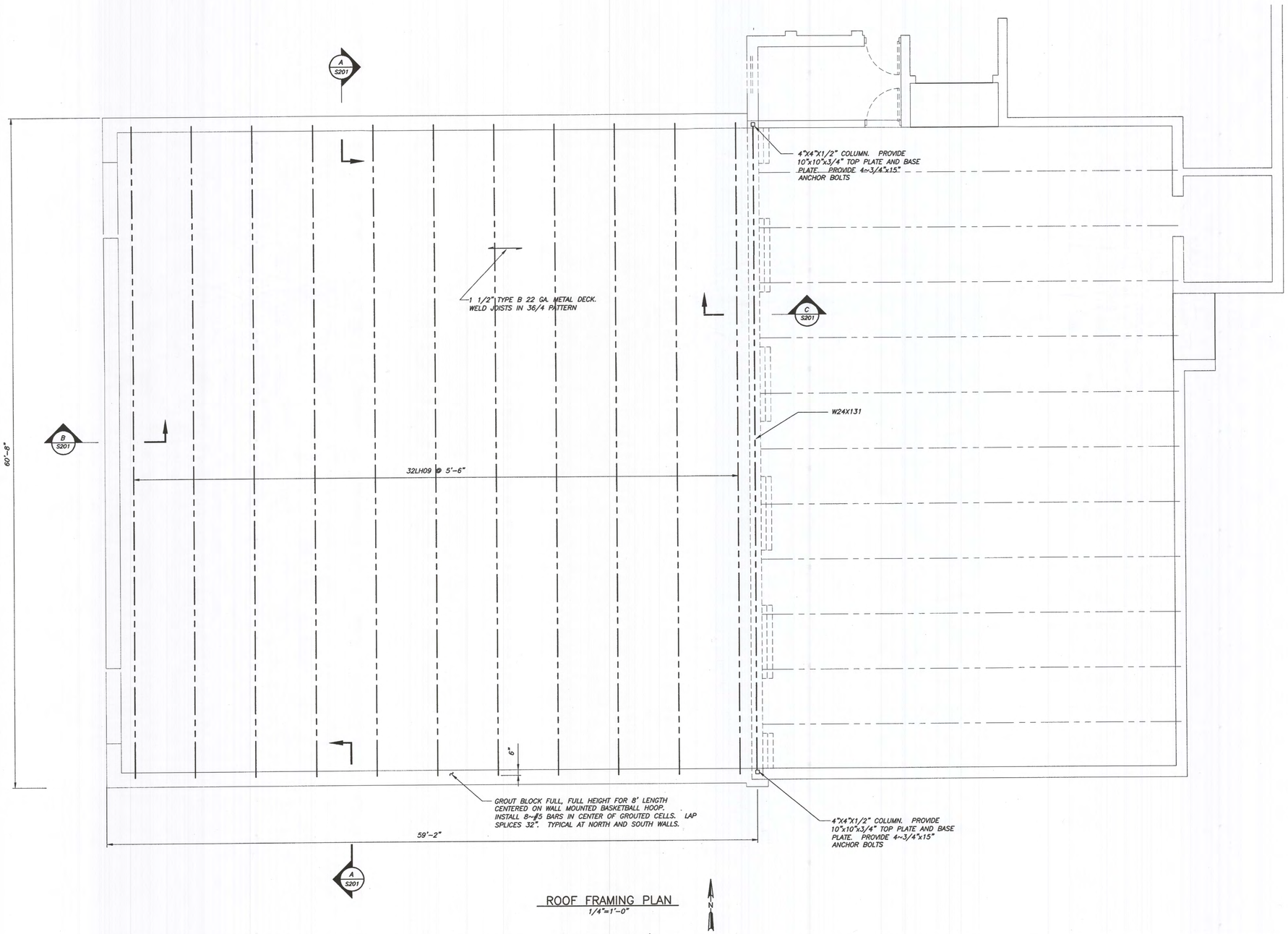


C S201 JOIST AND DECK BEARING
3/4"=1'-0"

CAST-IN-PLACE CONCRETE:

FOOTINGS	f'_c	= 3,000 PSI
SUSPENDED SLABS, BEAMS, STAIRS	f'_c	= 4,000 PSI
WALLS	f'_c	= 4,000 PSI
SLAB ON GRADE	f'_c	= 3,500 PSI
OTHER	f'_c	= 3,000 PSI
REINFORCING STEEL:		
COL. TIES, BEAM STIRRUPS, HAIRPINS	f_y	= 60,000 PSI
OTHER	f_y	= 60,000 PSI
STRUCTURAL STEEL:		
TUBE STEEL	F_y	= 46,000 PSI
ROLLED SHAPES AND PLATES, EXCEPT W.F.	F_y	= 36,000 PSI
EXCEPT W.F. WIDE FLANGE SHAPES	F_y	= 50,000 PSI
MASONRY	f'_m	= 1,500 PSI
BOLTS:		
ANCHOR		A307
HIGH STRENGTH		A325
EXPANSION		WEDGE TYPE
WELDING ELECTRODES		E70XX
SOIL BEARING PRESSURE	q	= 2,000 PSF

D S201 DESIGN STRESSES



ROOF FRAMING PLAN
1/4"=1'-0"

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FILE: S:\@Sol\551---600\580\634\ACAD\Sugar Creek\a--roof-p1.dwg
DATE: MAY 12, 2000 - TIME: 11:22 AM - CAD TECH: bonnieh

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Notes:

Date	Issuance/Revisions	Symbol
5/04/00	ISSUED FOR BIDDING	

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL

VERONA AREA SCHOOL DISTRICT

VERONA, WISCONSIN

Drawing Title:

ROOF FRAMING PLAN

PLI Project Number: 9904100

Drawn By:

Drawing No.

S201

ABBREVIATIONS

CONF	CONFERENCE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CORR	CORRIDOR
CP	CONCRETE PIPE
CRCMF	CIRCUMFERENCE
CSB	CONCRETE SPLASH BLOCK
CSK	COUNTERSUNK
CSFHMS	COUNTERSUNK FLAT HEAD MACHINE SCREW
CSFHWS	COUNTERSUNK FLAT HEAD WOOD SCREW
CSMT	CASEMENT
CSWK	CASEWORK
CT	CERAMIC TILE
CTD&R	COMBINATION TOWEL DISPENSER & RECEPTACLE
CTR	CENTER
CU	CUBIC
CUH	CABINET UNIT HEATER
D	PENNY (NAIL)
DBL	DOUBLE
DLB ACT	DOUBLE ACTING
DC	DROPPED CEILING
DCL	DOOR CLOSURE
DEG	DEGREE
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DFR	DOOR FRAME
DH	DOUBLE HUNG
DIAM	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DL	DEAD LOAD
DLV	DOOR LOUVER
DM	DEMOUNTABLE PARTITION
DMPF	DAMP PROOFING
DN	DOWN
DR	DOOR
DS	DOWN SPOUT
DT	DRAIN TILE
DVTL	DOVETAIL
DW	DISHWASHER
DWG	DRAWING
DWR	DRAWER
DWRT	DUMBWAITER
E	EAST
EA	EACH
EF	EACH FACE
EIFS	EXTERIOR INSULATION & FINISH
EL	ELEVATION
ELEC	ELECTRIC/ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
EMER SHR	EMERGENCY SHOWER
ENCL	ENCLOSURE
ENGR	ENGINEER
ENTR	ENTRANCE
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EPS	EXPANDED POLYSTYRENE
EQ	EQUAL
EQL SP	EQUALLY SPACED
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ESCAL	ESCALATOR
ESMT	EASEMENT
ESTB	ESTABLISH
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXC	EXCAVATION
EXH	EXHAUST
EXST	EXISTING
EXPN	EXPANSION
EXP	EXPOSURE
EXP BT	EXPANSION BOLT
EXP JT	EXPANSION JOINT
EXT	EXTERIOR
EXST GR	EXISTING GRADE
F	FAHRENHEIT
FA	FIRE ALARM
FAB	FABRICATE
FBC	FIRE BLANKET CABINET
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISH FACE
FGL	FIBERGLASS
FHC	FIRE HOSE CABINET
FHMS	FLAT HEAD MACHINE SCREW
FHWS	FLAT HEAD WOOD SCREW
FHP	FULL HEIGHT PARTITION
FHY	FIRE HYDRANT
FIN	FINISH
FIN FL	FINISH FLOOR
FIN GR	FINISH GRADE
FLG	FLASHING
FLR	FLOOR
FLR FIN	FLOOR FINISH
FLT GL	FLAT GLASS
FL	FLOW LINE
FLEX	FLEXIBLE
FPL	FIREPLACE
FPRF	FIREPROOFING
FLOUR	FLUORESCENT
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FPRF	FIREPROOFING
FR	FIRE RATED
FR MIR	FRAMED MIRROR
FR MIR/SHF	FRAMED MIRROR AND SHELF
FS	FULL SIZE
FSTNR	FASTENER
FT	FOOT/FEET
FTG	FOOTING
FURN	FURNITURE
FURR	FURRING
FWC	FABRIC WALL COVERING
FXTR	FIXTURE
GA	GAUGE
GALV	GALVANIZED
GALVI	GALVANIZED IRON
GALVS	GALVANIZED STEEL
GB	GRAB BAR
GDR	GUARD RAIL
GL	GLASS
GL BLK	GLASS BLOCK
GLU LAM	GLUE LAMINATED
GLZ	GLAZING
GLZ CMU	GLAZED CONCRETE MASONRY UNIT
GR	GRADE/GRADING
GRL	GRILLE
GRTG	GRATING
GWB	GYPSUM WALLBOARD
GYP	GYPSUM
GYP BD	GYPSUM BOARD
GYP PLAS	GYPSUM PLASTER
HB	HOSE BIB
HC	HOLLOW CORE
HD	HEAD
HDBD	HARDBOARD
HDR	HEADER
HDWD	HARDWOOD
HDWE	HARDWARE
HEX	HEXAGONAL
HGT	HEIGHT
HM	HOLLOW METAL
HMD	HOLLOW METAL DOOR
HMF	HOLLOW METAL FRAME
HNDRL	HAND RAIL
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPT	HIGH POINT
HR	HOUR
HTG	HEATING
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HWY	HIGHWAY
HYD	HYDRANT

ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INCHES
INC	INCORPORATED
INCAND	INCANDESCENT
INCL	INCLUDE/INCLUSIVE
INSUL	INSULATION
INSUL PNL	INSULATED PANEL
INTR	INTERIOR
INV	INVERT
INV EL	INVERT ELEVATION
IPS	INSIDE PIPE SIZE
JC	JANITOR'S CLOSET
JST	JOIST
JT	JOINT
K	KIP
KD	KNOCKDOWN
KIP FT	ONE THOUSAND FOOT POUNDS
KIT	KITCHEN
KLF	KIPS PER LINEAR FOOT
KO	KNOCKOUT
KOP	KNOCKOUT PANEL
KPL	KICK PLATE
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
LAB	LABORATORY
LAM	LAMINATED
LAU	LAUNDRY
LAV	LAVATORY
LBR	LUMBER
LBS	POUNDS
LD BRG	LOAD BEARING
LF	LINEAR FOOT
LG	LENGTH, LONG
LH	LEFT HAND
LHR	LEFT HAND REVERSE
LIB	LIBRARY
LIN	LINEAR
LKR	LOCKER
LKR RM	LOCKER ROOM
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNTL	LINTEL
LPT	LOW POINT
LR	LIVING ROOM
LT	LIGHT
LTG	LIGHTING
LT WT	LIGHTWEIGHT
LWC	LIGHTWEIGHT CONCRETE
LVR	LOUVER
MAINT	MAINTENANCE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MBR	MASTER BEDROOM
MBW	MASONRY BEARING WALL
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANICAL
MEMB	MEMBRANE
MET	METAL
MEZZ	MEZZANINE
MFG	MANUFACTURER
MH	MANHOLE
MHGT	MOUNTING HEIGHT
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MKBD	MARKER BOARD
ML	METAL LATH
MLDG	MOLDING
MLWK	MILLWORK
MO	MASONRY OPENING
MS	MACHINE SCREW
MTD	MOUNTED
MTG	MOUNTING
MTP	METAL TOILET PARTITION
MULL	MULLION
MWP	MEMBRANE WATERPROOFING
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE
OFCI	OWNER FURNISHED–CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED–OWNER INSTALLED
OVDH	OVERHEAD
O/O	OUT TO OUT
OF	OUTSIDE FACE
OA	OUTSIDE AIR
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFF	OFFICE
OPNG	OPENING
OPP	OPPOSITE
OZ	OUNCE
PAR	PARALLEL
PB	PUSH BUTTON
PBD	PARTICLEBOARD
PCF	POUNDS PER CUBIC FOOT
PCP	PORTLAND CEMENT PLASTER
PERIM	PERIMETER
PERP	PERPENDICULAR
PERF	PERFORATED
PG	PIPE GUIDE
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PKWY	PARKWAY
PL	PLATE
PL	PROPERTY LINE
PL GL	PLATE GLASS
P–LAM	PLASTIC LAMINATE
PLAS	PLASTER
PLBG	PLUMBING
PLF	POUNDS PER LINEAR FOOT
PLYWD	PLYWOOD
PMFS	PRE MOLDED FILLER STRIP
PNL	PANEL
PNT	PAINT
POL	POLISHED
PP	POWER POLE
PR	PAIR
PREFAB	PREFABRICATED
PREFIN	PRE FINISHED
PRKG	PARKING
PROJ	PROJECT
PROP	PROPERTY
PS CONC	PRE STRESSED CONCRETE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT
PTD	PAPER TOWEL DISPENSER
PTN	PARTITION
PTR	PAPER TOWEL RECEPTACLE
PTWD	PRESERVATIVE TREATED WOOD
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
QT	QUARRY TILE
QTY	QUANTITY

R	RISER
RA	RETURN AIR
RAD	RADIUS
RC	REINFORCED CONCRETE
RCVR	RECEIVER
RECPT	RECEPTACLE
RD	ROOF DRAIN
RD	ROAD
REBAR	REINFORCING BAR
REC	RECESSED
RECT	RECTANGULAR
REF	REFERENCE
REFR	REFRIGERATOR
REINF	REINFORCING/REINFORCEMENT
REM	REMOVABLE
REQD	REQUIRED
RESIL	RESILIENT
RET	RETURN
REV	REVISE/REVISION
RFG	ROOFING
RFT	RESILIENT FLOOR TILE
RH	RIGHT HAND
RHR	RIGHT HAND REVERSE
RLG	RAILING
RM	ROOM
RMV	REMOVE
RND	ROUND
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RR	RAILROAD
RV	ROOF VENT
S	SOUTH
SA	SUPPLY AIR
SAB	SOUND ATTENUATION BLANKET
SAN	SANITARY
SB	SPLASH BLOCK
SC	SOLID CORE
SCHED	SCHEDULED
SCJ	SLAB CONTROL JOINT
SCMR	SOLID CONCRETE MASONRY UNIT
SCT	STRUCTURAL CLAY TILE
SD	SOAP DISPENSER
SECT	SECTION
SFTWD	SOFTWOOD
SHR	SHOWER
SHT	SHEET
SHTHG	SHEATHING
SIM	SIMILAR
SJ	SCORED JOINT
SK	SINK
SLP	SLOPE
SM	SHEET METAL
SND	SANITARY NAPKIN DISPENSER
SNR	SANITARY NAPKIN RECEPTOR
SPEC	SPECIFICATION
SPKLR	SPRINKLER
SPKR	SPEAKER
SQ	SQUARE
SQ FT	SQUARE FOOT
SQ IN	SQUARE INCH
SQ YD	SQUARE YARD
SSK	SERVICE SINK
SST	STAINLESS STEEL
ST	STREET
STAG	STAGGERED
STC	SOUND TRANSMISSION CLASSIFICATION
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUP
STL	STEEL
STL JST	STEEL JOIST
STL PL	STEEL PLATE
STOR	STORAGE
STRUCT	STRUCTURAL/STRUCTURE
SYRF	SURFACE
SUSP	SUSPENDED
SUSP CLG	SUSPENDED CEILING
SW	SIDEWALK
SW	SWITCH
SYMM	SYMMETRICAL
T	TOILET
T&B	TOP AND BOTTOM
TB	TOP OF BEAM
TB	TOWEL BAR
TC	TOP OF CONCRETE
TC	TOP OF CURB
TD	TOWEL DISPENSER
TD	TRENCH DRAIN
TDR	TOWEL DISPENSER/RECEPTACLE
TEL	TELEPHONE
TEMP	TEMPORARY
TER	TERRAZZO
TFF	TOP OF FINISH FLOOR
TFE	TOP OF FOOTING ELEVATION
T&G	TONGUE AND GROOVE
THRES	THRESHOLD
TJ	TOP OF JOINT
TKBD	TACK BOARD
TMPD GL	TEMPERED GLASS
TOPO	TOPOGRAPHY MAP
TP	TELEPHONE POLE
TPH	TOILET PAPER HOLDER
TRD	TREAD
TSL	TOP OF SLAB
TST	TOP OF STEEL
TV	TELEVISION
TW	TOP OF WALL
TYP	TYPICAL
UC	UNDERCUT
UF	UNDER FLOOR
UGND	UNDERGROUND
UH	UNIT HEATER
UNEX	UNEXCAVATED
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
UTIL	UTILITY
UV	UNIT VENTILATOR
V	VOLT
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
VR	VAPOR RETARDER
VNR	VENEER
VENT	VENTILATING
VERT	VERTICAL
VEST	VESTIBULE
VOL	VOLUME
VWC	VINYL WALL COVERING
W	WIDE, WIDTH
W	WEST
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
WGL	WIRE GLASS
WH	WALL HYDRANT
WP	WEATHERPROOF
WP	WORKING POINT
WR	WASTE RECEPTACLE
WR	WATER RESISTANT
WS	WEATHER–STRIPPING
WSCT	WAINSCOT
WT	WEIGHT
WTRPRF	WATERPROOFING
WWF	WELDED WIRE FABRIC
YD	YARD
YRD	YARD DRAIN

MATERIAL LEGEND

SECTION

EARTH

GRANULAR FILL

GROUT, MORTAR & PLASTER

CONCRETE MASONRY UNITS

BRICK

STONE

METAL

CARPET

WOOD (ROUGH)

WOOD (FINISHED)

PLYWOOD

INSULATION (LOOSE OR BATT)

INSULATION (RIGID)

ELEVATION

BRICK

CONCRETE, PLASTER & ACOUSTIC CEILING TILE

SYMBOLS LEGEND

SPECIFIC NOTES

XX NEW NOTE

XX DEMO NOTE

X WINDOW/IGU TYPE

XXXX FINISH NOTE

XXX'–XX" CEILING HEIGHT NOTE

ROOM NAME AND NUMBER

TOP
MIDDLE
BOTTOM
NUMBER

'OPENING' REFERENCE NUMBER

100A

PARTITION TYPE REFERENCE

X

BUILDING SECTION REFERENCE

XX / XXXX — DETAIL NUMBER / DRAWING NUMBER

WALL SECTION REFERENCE

XX / XXXX — DETAIL NUMBER / DRAWING NUMBER

INTERIOR ELEVATION DETAIL

XX / XXXX — DETAIL NUMBER / DRAWING NUMBER

DETAIL SECTION REFERENCE

XX / XXXX — DETAIL NUMBER / DRAWING NUMBER

DETAIL PLAN REFERENCE

XX / XXXX — DETAIL NUMBER / DRAWING NUMBER

EXIT ARROW SYMBOL

XX" — EXIT WIDTH

XXX — NUMBER OF OCCUPANTS

DIMENSIONS

DOT INDICATES DIMENSION TO GRID LINE.

SLASH INDICATES DIMENSION TO FACE OF OBJECT.

SPOT ELEVATIONS ON PLANS

000'–00"

FLOOR ELEVATION REFERENCE

LOCATION
000'–0"

GENERAL NOTES

1. ALL CMU PARTITIONS ARE RUNNING BOND UNLESS OTHERWISE NOTED.
2. REFER TO ALL DRAWINGS INCLUDING ALL OTHER TRADES FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS AND SYMBOLS.
3. ALL DRAWINGS ARE OF EQUAL IMPORTANCE IN DEFINING THE WORK OF THE CONTRACT DOCUMENTS. CONTRACTORS SHALL REVIEW ALL DRAWINGS BEFORE THE INSTALLATION OF THEIR WORK. SHOULD THERE BE A DISCREPANCY WITHIN AND BETWEEN THE DRAWINGS THAT WOULD CAUSE AN AKWARD OR IMPROPER INSTALLATION, NOTIFY ARCHITECT FOR CLARIFICATION PRIOR TO INSTALLATION OF SAID WORK. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY CONTRACTOR AT IT'S EXPENSE AND AT NO ADDITIONAL COST TO OWNER OR ARCHITECT.
4. DO NOT SCALE DRAWINGS. THE DRAWINGS ARE NOT NECESSARILY TO SCALE – USE GIVEN DIMENSIONS. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE PRIOR TO THE START OF CONSTRUCTION. IF DISCREPANCIES ARE FOUND, NOTIFY ARCHITECT FOR CLARIFICATION BEFORE COMMENCING THE WORK. ALL DIMENSIONS ARE GIVEN TO FACE OF WALL (+) OR CENTERLINES (+).
5. ALL WALL AND PARTITION THICKNESS DIMENSIONS ARE NOMINAL. SEE WALL SECTIONS AND PARTITION TYPES FOR EXACT CONSTRUCTION.
6. LOCATE DOOR FRAMES IN MASONRY CONSTRUCTION ON THE SIDE OF THE WALL TOWARD THE ROOM WHICH THE DOOR SWINGS INTO UNLESS OTHERWISE NOTED.
7. DASHED PLAN ELEMENTS WILL BE PROVIDED BY OWNER ARE SHOWN FOR COORDINATION ONLY.
8. WHERE SPECIFIC DIMENSIONS, DETAILS OR DESIGN INTENT CAN NOT BE DETERMINED, CONSULT ARCHITECT BEFORE PROCEEDING WITH THE WORK.
9. FINISH FLOOR ELEVATIONS ARE TO TOP OF CONCRETE, UNLESS OTHERWISE NOTED.
10. WHEN UNDIMENSIONED DOORS APPEAR IN PARTITIONS, THE DOOR FRAME DETAILS DETERMINE THE LOCATION OF THE DOOR FRAME.
11. REFER TO 1/4" SCALE PLANS FOR DIMENSIONS OF STAIRS, TOILET ROOMS AND ELEVATOR SHAFTS UNLESS OTHERWISE NOTED.
12. ALL HOUSEKEEPING CONCRETE PADS ARE TO BE 4" HIGH MINIMUM, UNLESS OTHERWISE NOTED. PROVIDE ONE LAYER OF WWF 6x6/W4.0xW4.0 WELDED WIRE FABRIC MINIMUM.
13. GC SHALL COORDINATE ALL EQUIPMENT BASE AND HOUSEKEEPING PADS WITH MECHANICAL, PLUMBING AND ELECTRICAL CONTRACTORS. INSTALL THE PADS BENEATH THE FULL PROJECTED AREA OF EQUIPMENT.
14. GC SHALL COORDINATE ALL MECHANICAL AND ELECTRICAL FLOOR, ROOF AND WALL SLEEVES AND ALL MECHANICAL SHAFTS WITH ALL OTHER TRADES DRAWINGS.
15. REFER TO MECHANICAL AND ELECTRICAL CONTRACTORS DRAWINGS AND MANUFACTURERS TEMPLATE DRAWINGS FOR ALL MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, BOLT SETTING TEMPLATES, ISOLATIONS, SPRING ISOLATION, ETC..

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Consultants:

Notes:

Date	Issuance/Revisions	Symbol
5/04/00	Issued for Bidding	

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL

VERONA AREA SCHOOL DISTRICT

VERONA, WISCONSIN

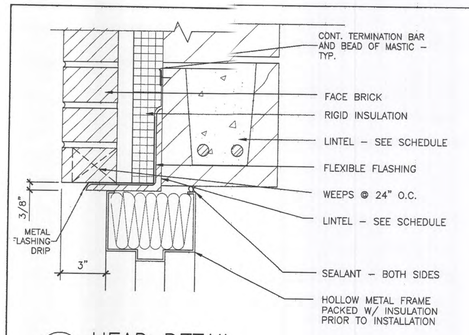
Drawing Title:

ABBREVIATIONS, SYMBOLS AND NOTES

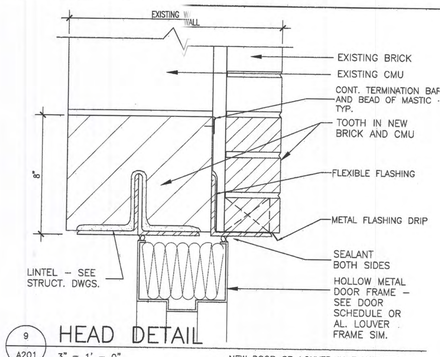
PLI Project Number: 9904100

Drawn By: MK

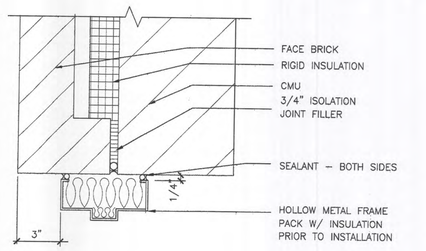
Drawing No. A100



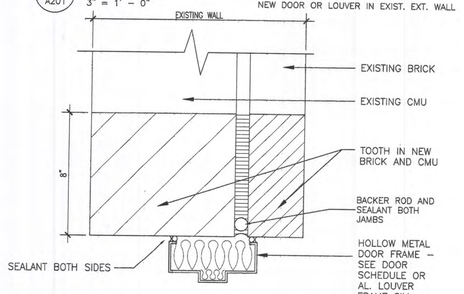
8 A201 HEAD DETAIL
3" = 1' – 0"
NEW EXT. DOOR



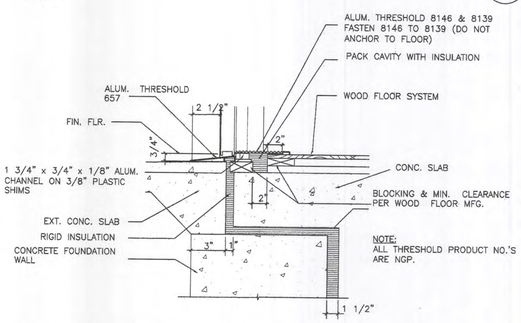
9 A201 HEAD DETAIL
3" = 1' – 0"
NEW DOOR OR LOUVER IN EXIST. EXT. WALL



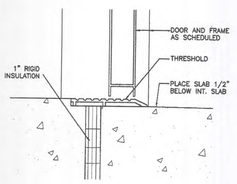
7 A201 JAMB DETAIL
3" = 1' – 0"
NEW EXT. DOOR



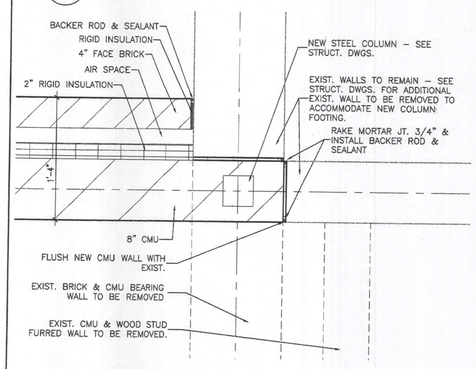
10 A201 JAMB DETAIL
3" = 1' – 0"
NEW DOOR OR LOUVER IN EXIST. EXT. WALL



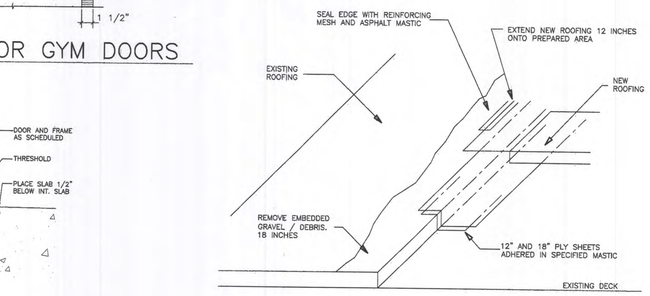
6 A201 SILL @ EXTERIOR GYM DOORS
1 1/2" = 1' – 0"



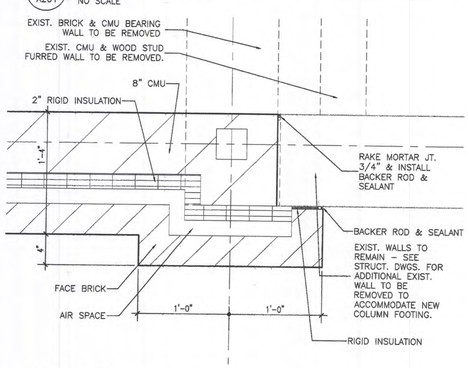
5 A201 SILL @ EXTERIOR DOOR
3" = 1' – 0"



4 A201 COLUMN DETAIL
1 1/2" = 1' – 0"



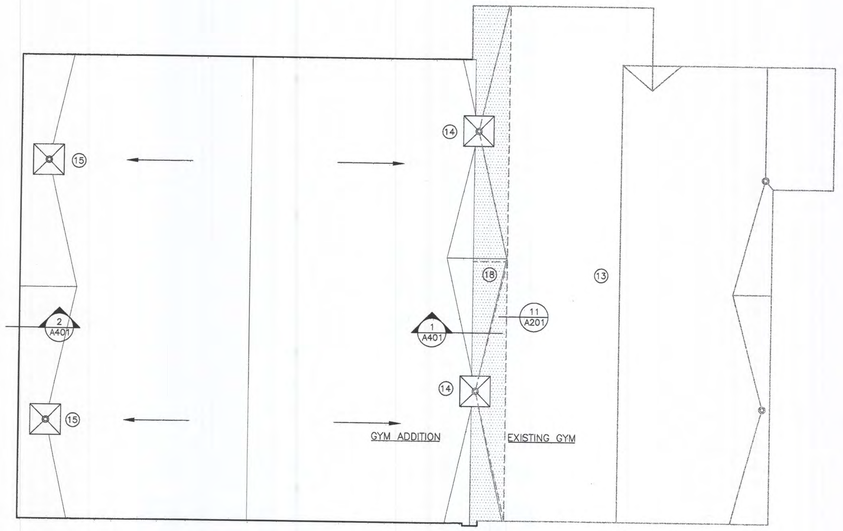
11 A201 NEW/EXIST. ROOFING INTERFACE
NO SCALE



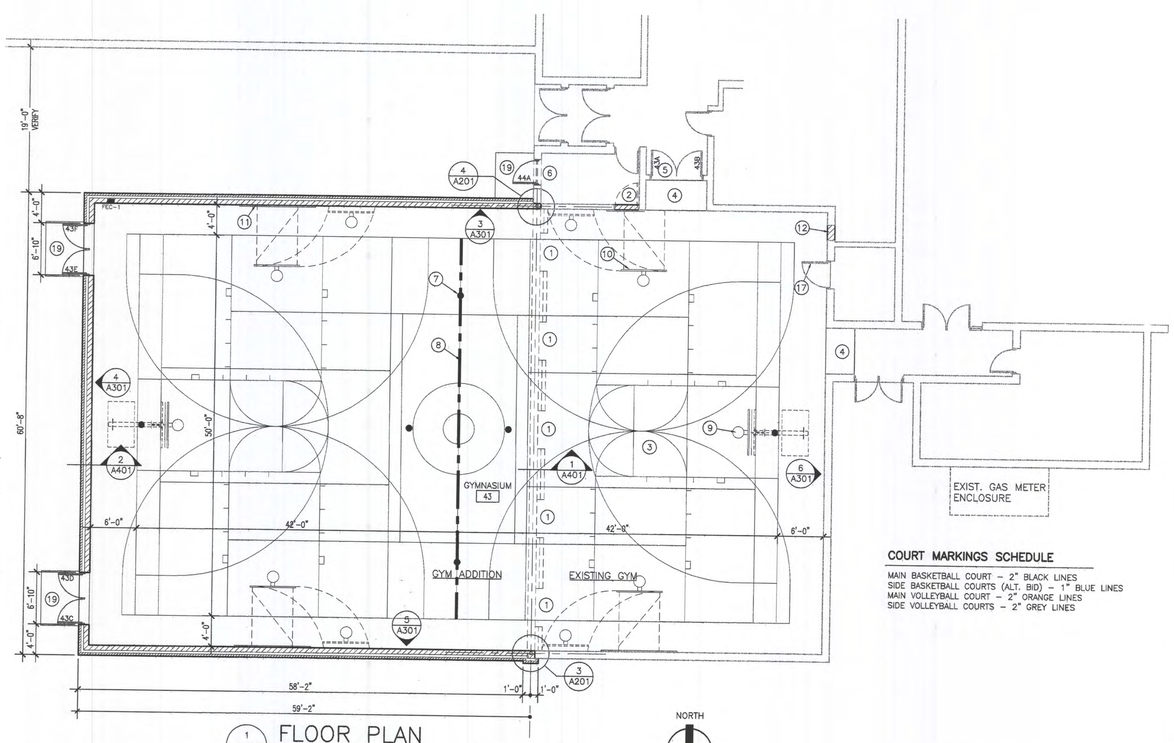
3 A201 COLUMN DETAIL
1 1/2" = 1' – 0"

SPECIFIC NOTES

1. REMOVE ENTIRE EXISTING BRICK AND CMU WALL, SHORE ROOF STRUCTURE; REMOVE EXISTING INTERIOR WALL FURRINGS; SALVAGE FOLD–UP TABLES AND TURN OVER TO OWNER.
2. REMOVE EXISTING DOOR AND FRAME; TOOTH–IN OPENING WITH CMU TO MATCH EXISTING ADJACENT SURFACES.
3. REMOVE FLOOR FINISH IN EXISTING GYMNASIUM.
4. REMOVE EXISTING FLOOR SLAB AND FINISH WHERE INDICATED; REPLACE WITH NEW CONC. RAMP AND FINISH. TOP OF RAMP SHALL FLUSH WITH TOP OF NEW WOOD GYM FLOOR SYSTEM – VERIFY EXACT HEIGHT WITH GYM FLOOR SUPPLIER.
5. SALVAGE EXISTING DOOR LOCKSET AND FLUSH BOLTS FROM EXISTING PAIR OF SOLID CORE WOOD DOORS & TURN OVER TO OWNER. PROVIDE NEW HARDWARE AS INDICATED ON THE DOOR SCHEDULE; PATCH AND REFINISH DOORS AS REQUIRED TO MATCH EXISTING.
6. CUT NEW OPENING IN EXISTING EXTERIOR WALL TO ACCOMMODATE NEW HOLLOW METAL DOOR AND FRAME – SEE DOOR SCHEDULE FOR ADDITIONAL INFORMATION.
7. INDICATES VOLLEYBALL STANDARD INSERT FURNISHED BY OWNER AND INSTALLED BY GENERAL CONTRACTOR – TOTAL (6) LOCATIONS.
8. INDICATES ELECTRICALLY OPERATED, FOLD–UP GYM DIVIDER CURTAIN HOLD 4' ON ENDS FROM WALLS – ALTERNATE BID.
9. PROVIDE (2) ELECTRICALLY OPERATED, REAR FOLDING BASKETBALL SUPERSTRUCTURES WITH ADJUSTABLE HEIGHT TO ACCOMMODATE CENTER MOUNT, GLASS BACKBOARDS AND GOALS. BACKBOARDS AND GOALS ARE FURNISHED BY OWNER AND INSTALLED BY GENERAL CONTRACTOR.
10. PROVIDE ALTERNATE BID FOR (4) MANUALLY OPERATED, SIDE FOLDING, ADJUSTABLE HEIGHT, WALL MOUNTED BASKETBALL MOUNTS, BACKBOARDS AND GOALS. NOTE THAT STRIPING FOR SIDE COURTS IS ALTERNATE BID AS WELL – SEE COURT STRIPING SCHEDULE.
11. WALL PADS AT EACH BASKETBALL GOAL BY OWNER.
12. REMOVE EXISTING FOOD SERVICE PASS–THRU WINDOW; TOOTH–IN OPENING WITH CMU TO MATCH ADJACENT SURFACES. PATCH TO MATCH FINISHES ON BOTH SIDES OF WALL.
13. EXISTING ROOFING TO REMAIN. COORDINATE INTERFACE WITH NEW ROOF WITH ROOFING SUPPLIER.
14. REMOVE EXISTING ROOF DRAINS, REPLACE WITH NEW LARGER DRAINS, PROVIDE TAPERED INSULATION TO SLOPE NEW ROOFING TO EXISTING DRAIN LOCATIONS – SEE PLUMBING DRAWINGS.
15. NEW ROOF DRAIN LOCATIONS.
16. NOT USED
17. UNDERCUT/MODIFY EXIST. DOOR AND FRAME TO CLEAR NEW WOOD GYM FLOOR.
18. SHADED AREA INDICATES EXISTING ROOFING AND CRICKETS TO BE REMOVED, RE–TAPERED AND RE–ROOFED.
19. NEW CONC. STOOP – SEE STRUCT. DWGS.



2 A201 ROOF PLAN
1/8" = 1' – 0"



1 A201 FLOOR PLAN
1/8" = 1' – 0"

COURT MARKINGS SCHEDULE

MAIN BASKETBALL COURT – 2" BLACK LINES
SIDE BASKETBALL COURTS (ALT. BID) – 1" BLUE LINES
MAIN VOLLEYBALL COURT – 2" ORANGE LINES
SIDE VOLLEYBALL COURTS – 2" GREY LINES

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Consultants:

Notes:

GENERAL PLAN NOTES

ALL DRAWINGS ARE OF EQUAL IMPORTANCE IN DEFINING THE WORK OF THE CONTRACT DOCUMENTS. CONTRACTORS SHALL REVIEW ALL DRAWINGS BEFORE THE INSTALLATION OF THEIR WORK. SHOULD THERE BE A DISCREPANCY WITHIN AND BETWEEN THE DRAWINGS THAT WOULD CAUSE AN AWKWARD OR IMPROPER INSTALLATION NOTIFY ARCHITECT FOR CLARIFICATION PRIOR TO INSTALLATION OF SAID WORK. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY CONTRACTOR AT ITS EXPENSE AND AT NO ADDITIONAL COST TO OWNER OR ARCHITECT.

DO NOT SCALE DRAWINGS. THE DRAWINGS ARE NOT NECESSARILY TO SCALE – USE GIVEN DIMENSIONS. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE PRIOR TO THE START OF CONSTRUCTION. IF DESCREPANCIES ARE FOUND, NOTIFY ARCHITECT FOR CLARIFICATION BEFORE COMMENCING THE WORK. ALL DIMENSIONS ARE GIVEN TO FACE OF WALL (⊣) OR CENTERLINES (⊣⊢). ALL WALL AND PARTITION THICKNESS DIMENSIONS ARE NOMINAL. SEE WALL SECTIONS AND PARTITION TYPES FOR EXACT CONSTRUCTION.

GENERAL DEMOLITION NOTES

1. GENERAL CONTRACTOR (GC) SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO DEMOLITION. IF DISCREPANCIES ARE FOUND, NOTIFY ARCHITECT FOR CLARIFICATION BEFORE COMMENCING WITH THE WORK.
2. GC AND SUBCONTRACTORS FOR EACH TRADE ARE ADVISED THAT INFORMATION PERTINENT TO THEIR WORK MAY BE INDICATED OR DESCRIBED IN OTHER PORTIONS OF THE CONTRACT DOCUMENTS.
3. GC AND SUBCONTRACTORS ARE RESPONSIBLE FOR PROVIDING ALL DEMOLITION AND PATCHING WORK REQUIRED TO COMPLETE THEIR WORK IN ACCORDANCE WITH THE DESIGN INTENT, WHETHER FULLY INDICATED OR NOT IN THE CONTRACT DOCUMENTS.
4. THESE DEMOLITION DRAWINGS HAVE BEEN PREPARED BASED UPON EXISTING CONSTRUCTION DOCUMENT DRAWINGS AND FIELD OBSERVATIONS. THE EXACT LOCATION OF THE BUILDING STRUCTURAL ELEMENTS (COLUMNS, BEAMS, LOAD BEARING WALLS, ETC.) MAY BE DIFFERENT IN THE FIELD THAN WHAT IS INDICATED OR ASSUMED ON THESE DRAWINGS. GC SHALL FIELD VERIFY THE LOCATION OF ALL BUILDING STRUCTURAL ELEMENTS. ALL BUILDING STRUCTURAL ELEMENTS SHALL REMAIN UNLESS INDICATED TO BE REMOVED ON THE STRUCTURAL DRAWINGS. ANY BUILDING STRUCTURAL ELEMENT INDICATED AS BEING REMOVED ON THIS DRAWING SHALL BE CONFIRMED WITH THE ARCHITECT PRIOR TO COMMENCING DEMOLITION.
5. REPLACE OR REPAIR ANY EXISTING CONSTRUCTION SCHEDULED TO REMAIN WHICH IS DAMAGED DURING DEMOLITION.
6. GC SHALL PROVIDE REQUIRED SHORING OR TEMPORARY BRACING DURING DEMOLITION.
7. PATCH ALL FLOORS, WALLS, BASE AND CEILINGS WHERE PARTITIONS, OR MISCELLANEOUS ITEMS ARE REMOVED.

GENERAL REMODELING NOTES

1. REPAIR ANY CONSTRUCTION OR FINISHES AFFECTED BY ADJACENT CONSTRUCTION. MATCH EXISTING FINISHES.

Date	Issuance/Revisions	Symbol
5/4/00	Issued for Bidding	

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL

VERONA AREA SCHOOL DISTRICT

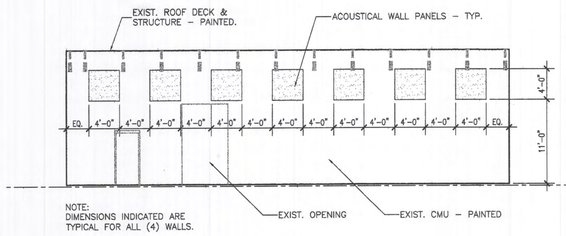
VERONA, WISCONSIN

Drawing Title:

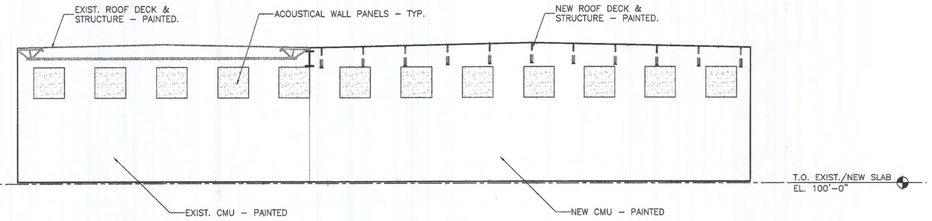
FLOOR PLAN, ROOF PLAN & PLAN DETAILS

PLI Project Number: 9904100
Drawn By: MK
Drawing No. A201

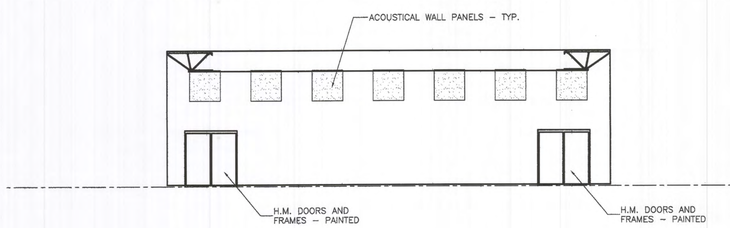
J:\1999\9904\1\9941A201.DWG Fri May 12 11:43:27 2000



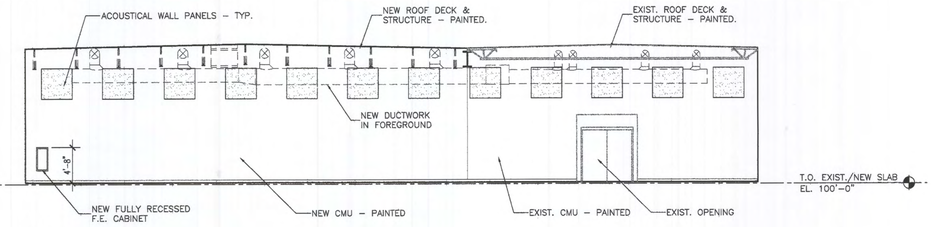
6 A301 INTERIOR ELEV. – EAST WALL
1/8" = 1' – 0"



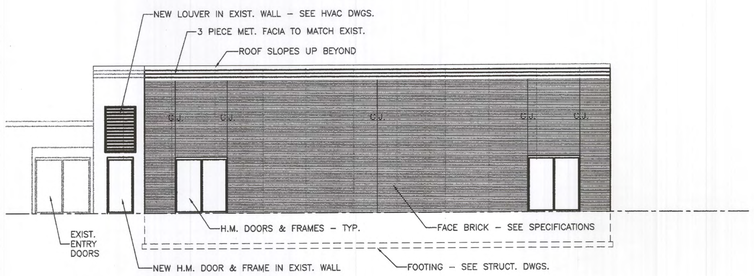
5 A301 INTERIOR ELEV. – SOUTH WALL
1/8" = 1' – 0"



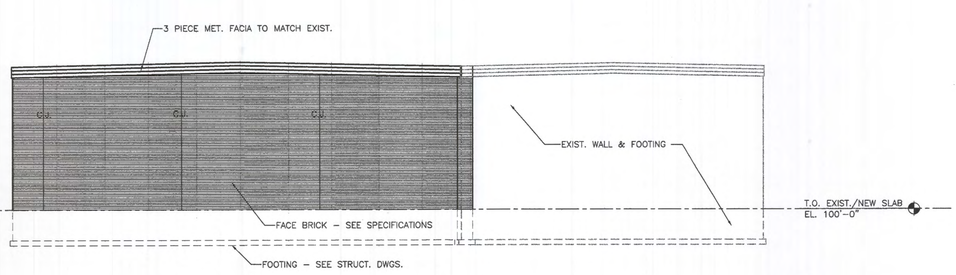
4 A301 INTERIOR ELEV. – WEST WALL
1/8" = 1' – 0"



3 A301 INTERIOR ELEV. – NORTH WALL
1/8" = 1' – 0"



2 A301 WEST ELEVATION
1/8" = 1' – 0"



1 A301 SOUTH ELEVATION
1/8" = 1' – 0"
NORTH ELEVATION SIMILAR

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Notes:

Date	Issuance/Revisions	Symbol
5/04/00	Issued for Bidding	

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL

VERONA AREA SCHOOL DISTRICT

VERONA, WISCONSIN

Drawing Title:

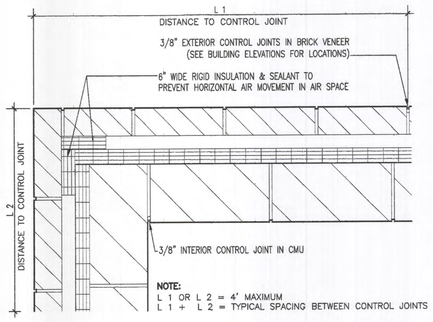
BUILDING ELEVATIONS & INTERIOR WALL ELEVATIONS

PLI Project Number: 9904100

Drawing No. A301

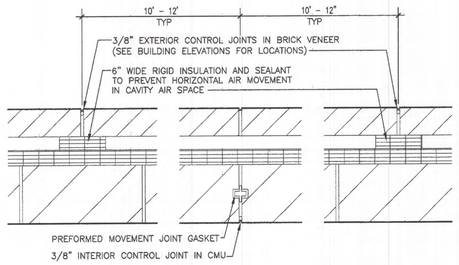
Drawn By: MK

J:\1999\99041\9941A301.DWG Fri May 12 11:56:15 2000



5 A401 EXTERIOR WALL CONTROL JOINT

1 1/2" = 1' – 0"

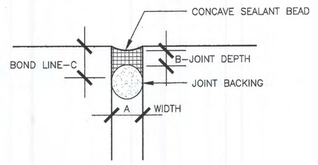


4 A401 EXTERIOR WALL CONTROL JOINT

1 1/2" = 1' – 0"

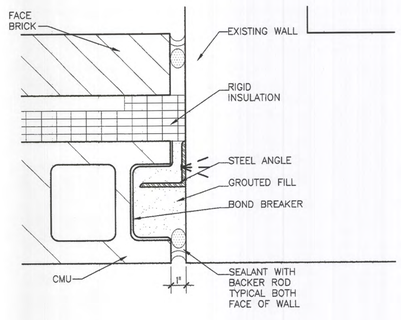
JOINT–WIDTH–TO–DEPTH RECOMMENDATIONS

A. WIDTH	1/4	3/8	1/2	5/8	3/4	7/8	1
B. DEPTH	1/4	1/4	1/4	3/8	3/8	3/8	3/8
C. MINIMUM BOND LINE	1/4	3/8	1/2	1/2	1/2	1/2	1/2



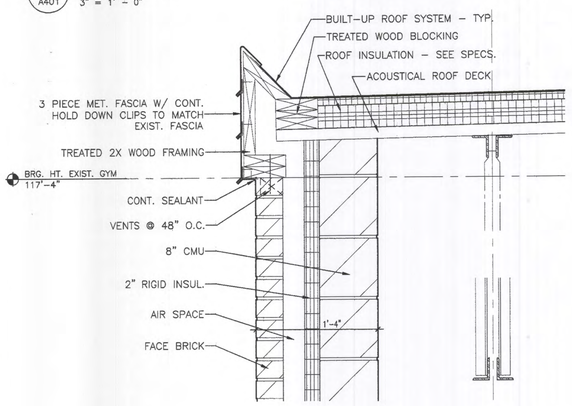
3 A401 JOINT DETAIL @ EXIST. WALL

3" = 1' – 0"



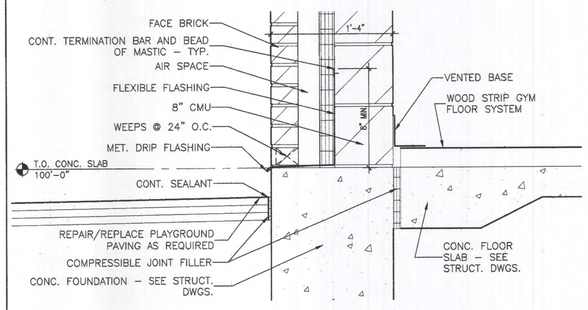
6 A401 JOINT DETAIL @ EXIST. WALL

3" = 1' – 0"



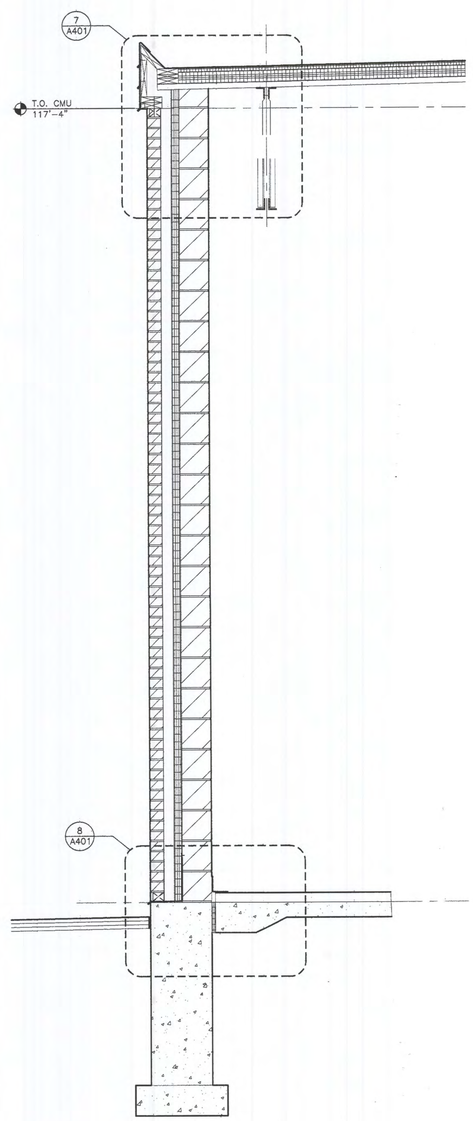
7 A401 TYPICAL ROOF EDGE DETAIL

1 1/2" = 1' – 0"



8 A401 TYPICAL BASE FLASHING

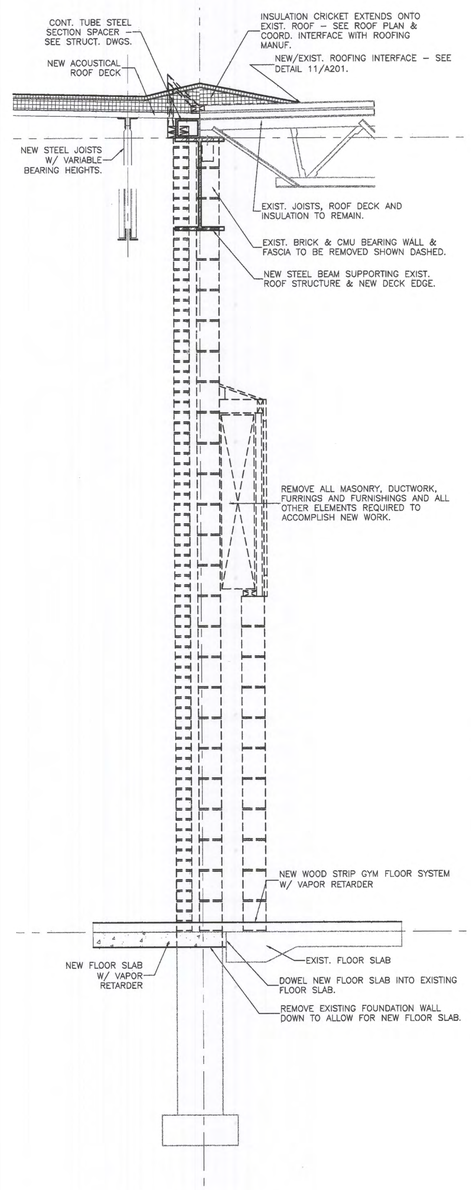
1 1/2" = 1' – 0"



2 A401 WALL SECTION

3/4" = 1' – 0"

NEW WALL



1 A401 WALL SECTION

3/4" = 1' – 0"

EXIST. WALL TO BE DEMOLISHED

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Notes:

Date	Issuance/Revisions	Symbol
5/04/00	Issued for Bidding	

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL

VERONA AREA SCHOOL DISTRICT

VERONA, WISCONSIN

Drawing Title:

WALL SECTIONS & DETAILS

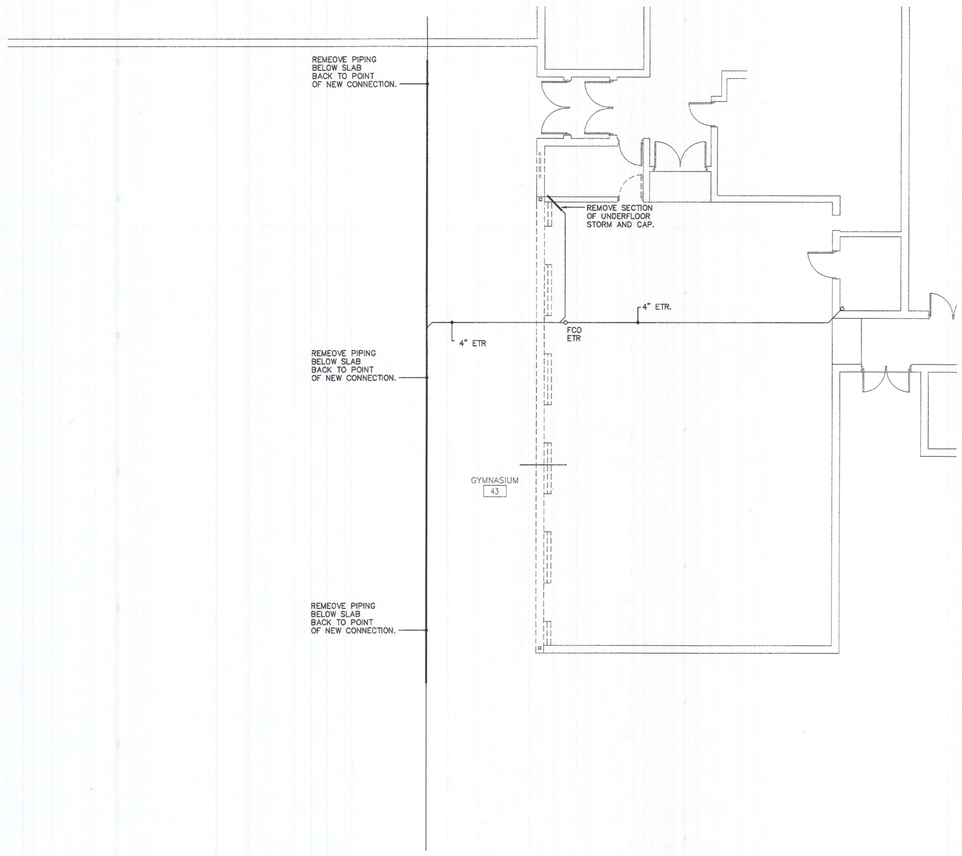
PLI Project Number: 9904100

Drawing No. A401

Drawn By: MK

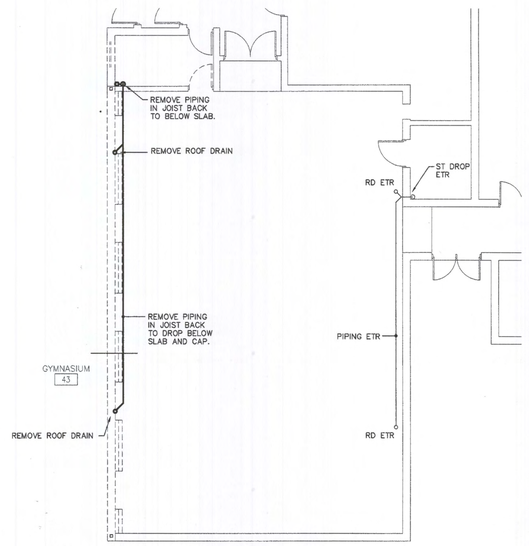
D:\WP\9904100\9904100.DWG Fri May 12 12:56:36 2000

J:\1999\9904100\P201.DWG Thu May 11 16:23:12 2000 cf



1 / P201 DEMOLITION PLAN – UNDERFLOOR

1/8" = 1' – 0"



2 / P201 DEMOLITION PLAN – PLUMBING

1/8" = 1' – 0"

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Consultants:

Notes:

Date	Issuance/Revisions	Symbol
5/04/00	Issued for Bidding	

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL

VERONA AREA SCHOOL DISTRICT

VERONA, WISCONSIN

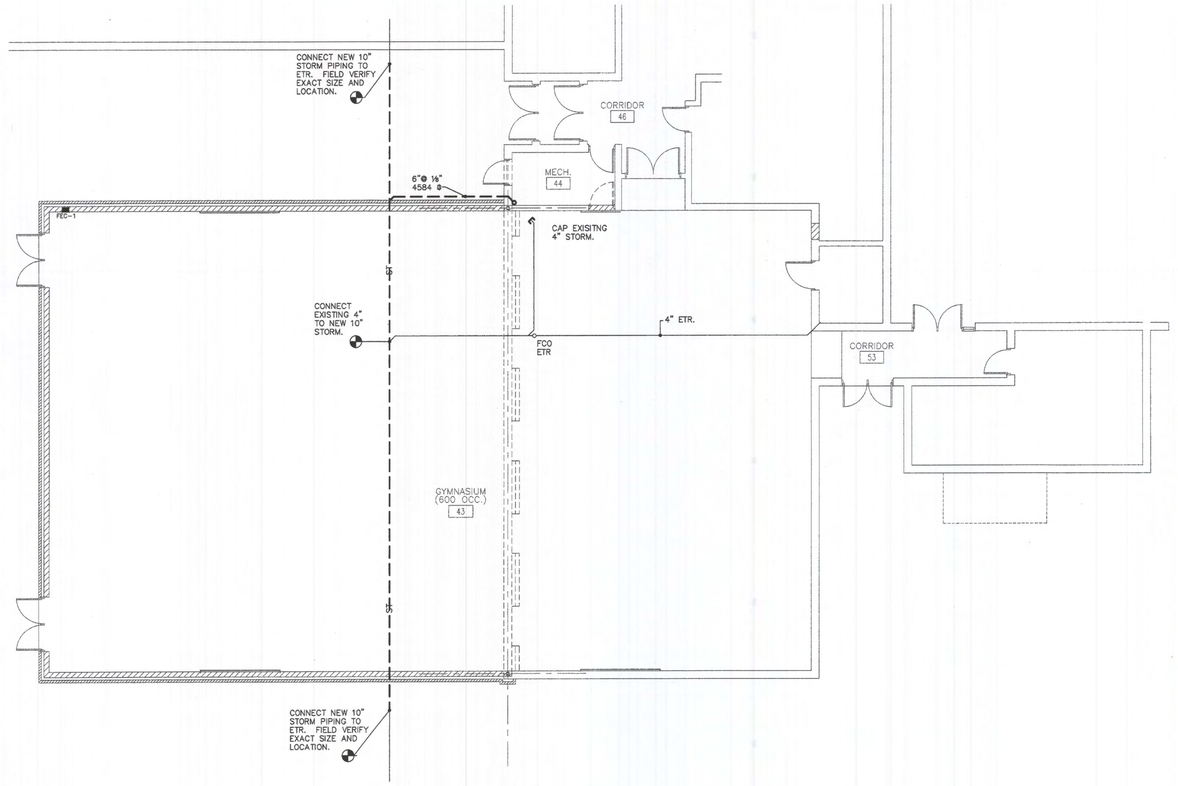
Drawing Title:

DEMOLITION FLOOR PLANS – PLUMBING

PLJ Project Number: 9904100

Drawn By: cf

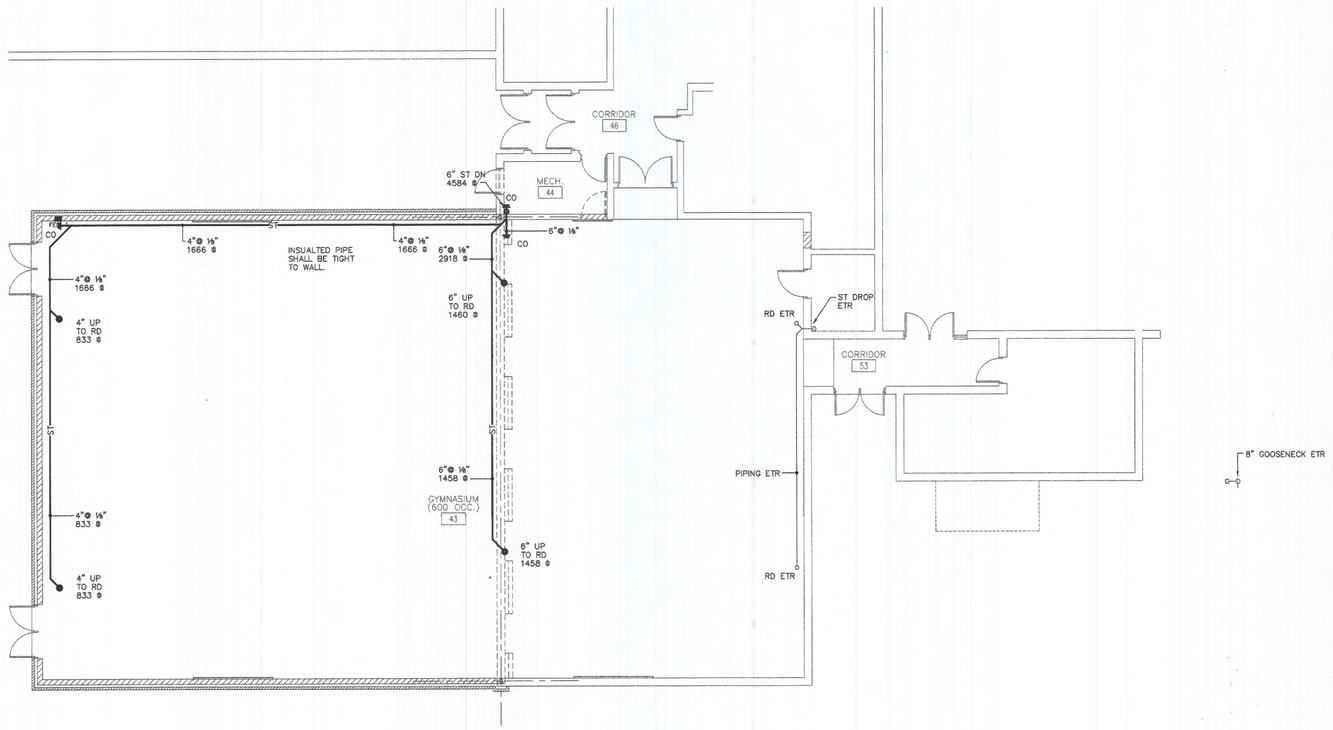
Drawing No. P201



1 / P202 UNDERFLOOR PLAN – PLUMBING

1/8" = 1' – 0"

NORTH



2 / P202 FLOOR PLAN – PLUMBING

1/8" = 1' – 0"

NORTH

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Consultants:

Notes:

Date	Issuance/Revisions	Symbol
5/04/00	Issued for Bidding	

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL

VERONA AREA SCHOOL DISTRICT

VERONA, WISCONSIN

Drawing Title:

FLOOR PLANS – PLUMBING

PLJ Project Number: 9904100

Drawing No. P202

Drawn By: cf

J:\1999\9904\9941P203.DWG Thu May 04 13:22:47 2000 cf

PLUMBING ABBREVIATIONS

SYMBOL	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
CB	CATCH BASIN
CI	CAST IRON
CO	CLEANOUT
EC	ELECTRICAL CONTRACTOR
ETR	EXISTING TO REMAIN
FCO	FLOOR CLEAN OUT
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
GC	GENERAL CONTRACTOR
MH	MANHOLE
NTS	NOT TO SCALE
PC	PLUMBING CONTRACTOR
RD	ROOF DRAIN
ɸ	SQUARE FOOT
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TYP	TYPICAL
TUF	TO UNDERFLOOR
UF	UNDER FLOOR
WCO	WALL CLEAN OUT
YCO	YARD CLEAN OUT

PLUMBING LEGEND

SYMBOL	DESCRIPTION
—— ST ——	STORM SEWER
— — ST — —	STORM SEWER (UNDER FLOOR)
——●——	POINT OF CONNECTION
o——	RISER UP
c——	RISER DOWN
E——	END CAP

STORM DRAINAGE SUPPORT

GENERAL

Refer to applicable provisions of Division 1 for work pertaining to this contract.

Plumbing systems shall conform to all local and state codes that are in force at the time of execution of work.

Verify the location and size of existing plumbing services that are relevant to the installation of new systems.

It shall be the responsibility of the Plumbing Contractor to apply for and pay for all fees related to commencement of work.

Plumbing Contractor shall bear all costs to cut and patch walls, floors, ceilings, etc. affected by new plumbing work.

Plumbing Contractor shall coordinate his work with all Contractors.

Plumbing Contractor to provide one–year guarantee on all parts, material and labor.

Plumbing Contractor shall submit six (6) copies of shop drawings, piping, and equipment.

SUPPORTS AND ANCHORS

SYSTEM DESCRIPTION

Design Requirements:

Materials and application of pipe hangers and supports shall be in accordance with MSS Standard Practice SP–58 and SP–69 unless noted otherwise.

Piping supported by laying on the bottom chord of joists or trusses will not be accepted.

ACCEPTABLE MANUFACTURERS

B–Line, Fee and Mason, Grinnell, Kindorf, Michigan Hanger, Unistrut, or approved equivalent. Grinnell figure numbers are listed below; equivalent material by other manufacturers is acceptable.

Hangers for Steel Pipe Sizes 2–1/2" and Over:
Carbon steel, adjustable, clevis, black finish; or adjustable steel yoke, double hanger. B–Line B3100, Grinnell figure 260

PIPE HANGER RODS

Steel Hanger Rods: Threaded both ends, threaded one end, or continuous threaded, black finish.

Size rods for individual hangers and trapeze support as indicated in the following schedule.

Total weight of equipment, including valves, fittings, pipe, pipe content, and insulation, are not to exceed the limits indicated.

Rod Diameter (inches)	Maximum Load (Lbs.) (650?F Maximum Temp.)
3/8	610
1/2	1130
5/8	1810
3/4	2710
7/8	3770
1	4960
1–1/4	8000

Provide rods complete with adjusting and lock nuts.

Provide all supporting devices as required for the installation of mechanical equipment and materials. All supports and installation procedures are to conform to the latest requirements of the ANSI Code for pressure piping.

Hangers supporting piping required to have a vapor barrier insulation application shall be oversized to allow all insulation to be within the hanger.

Do not hang any mechanical item directly from a metal deck or run piping so it rests on the bottom chord of any truss or joist.

Protect insulation at all hanger points.

Install supports to provide for free expansion of the piping and duct system. Support all piping from the structure using concrete inserts, beam clamps, ceiling plates, wall brackets, or floor stands. Fasten ceiling plates and wall brackets securely to the structure and test to demonstrate the adequacy of the fastening.

Coordinate hanger and support installation to properly group piping of all trades.
Size and install hangers and supports, except for riser clamps, for installation on the exterior of piping insulation.

HANGER AND SUPPORT SPACING

Place a hanger within 12 inches of each horizontal elbow, valve, strainer, or similar piping specialty item. Adjust hangers to obtain the slope specified in the piping section of this specification.

Space hangers for pipe as follows:

Pipe Material	Pipe Size	Max. Horiz. Spacing
Cast Iron	2" and larger	5'–0"
Plastic	Drain and Vent	4'–0"

MECHANICAL INSULATION

MATERIALS

Materials or accessories containing asbestos will not be accepted.

Use composite insulation systems (insulation, jackets, sealants, mastics, and adhesives) that have a flame spread rating of 25 or less and smoke developed rating of 50 or less, with the following exceptions:

INSULATION

Manufacturers: Owens–Corning, Manville, Knauf, Manson, Armstrong, Rubatex, or approved equivalent.

Insulating materials shall be fire retardant, moisture and mildew resistant, and vermin proof. Insulation shall be suitable to receive jackets, adhesives and coatings as indicated.

RIGID FIBERGLASS INSULATION:

Inside applications: Minimum nominal density of 3 lbs. per cu. ft., and thermal conductivity of not more than 0.23 at 75oF mean temperature. Exterior applications: 6 lbs. per cu. ft. nominal density. All material must be suitable for temperatures to 450oF.

Jacket shall be heavy–duty fire retardant material with glass fiber reinforcing and self–sealing lap, and white kraft finish suitable for painting. Beach puncture resistance to be 50 units minimum. Vapor barrier shall be .001" aluminum foil adhered to the inner surface of the jacket. Permeance shall not exceed 0.02 perms. Securing staples must be coated with vapor barrier mastic. Jacket shall be equal to Owens–Corning "ASJ–SSL", or Manville "AP–T".

ACCESSORIES

All products shall be compatible with surfaces and materials on which they are applied, and be suitable for use at operating temperatures of the systems to which they are applied.

Adhesives, sealants, and protective finishes shall be as recommended by insulation manufacturer for applications specified.

Vapor barrier coatings to be non–flammable, fire resistant, polymeric resin.

INSTALLATION

Install insulation with smooth and even surfaces, and on clean and dry surfaces. Poorly fitted joints or use of filler in voids will not be accepted. Provide neatly beveled terminations at all nameplates, uninsulated fittings, or at other locations where insulation terminates.

Use full–length material (as delivered from manufacturer) wherever possible. Scrap piecing of insulation will not be accepted.

Provide a complete vapor barrier for insulation on the storm system.

Insulation with vapor barrier to be continuous through pipe hangers and supports with hangers and supports on the exterior of insulation

Service	Insulation Type	Insulation Thickness
Horizontal Storm, 5 Ft. of Vertical, and Roof Drain Bodies**	rigid fiberglass	1"

BASIC MATERIALS

Exterior Services – General:

The Contractor shall perform all excavation of every description for his work and of whatever substances encountered, to the depths indicated on the drawings or as otherwise specified.

Unless otherwise indicated, all excavations shall be by open cut except that short sections of a trench may be tunneled if, in the opinion of the Architect, the pipe can be safely and properly installed and backfill can be properly tamped in such tunnel sections. Provide trench crossing as necessary to accommodate public travel.

Compacted backfill shall be used under concrete paving asphaltic concrete paving. The soils used in the fill shall be granular in nature and shall not contain roots, sod, rubbish or stones over 2–1/2" maximum dimensions. The Architect may reject any on–site or borrow materials, which he considers unsuitable for the intended use of the fill.

Density – All fills shall be compacted to a dry density equal to at least 95% of the maximum density determined in accordance with the Procter Test, ASTM #698–66T or modified D1557–66T. The maximum density and optimum moisture content shall be determined by the Architect on the basis of laboratory test conducted on the materials used in the fill.

Saw cut all blacktop or concrete paved surfaces. Patch and repair streets conforming to local requirements.

Patch all streets, sidewalks, curbs, grass, concrete and blacktop areas to original condition.

Minimum depths of cover – storm sewer – 5'–0" unless noted otherwise.

Exterior Services – Storm Sewer:

Cast iron soil pipe and fittings, service weight (SV), coated; ASTM specification A74, with rubber gasket, ASTM specification C564.

PVC pipe shall be of the bell and spigot type and meet the requirements of ASTM specification D3034 type PSM SDR–35. The pipe manufacturer shall be one who currently has an approval for PVC pipe by the Wisconsin Department of Natural Resources.

Interior Services – Storm Sewer

Storm Sewer Piping – Materials:

Service weight cast iron soil pipe and fittings, tarred, hub and spigot or "No–Hub" CS–188–59.

Polyvinyl Chloride (PVC) pipe, Schedule 40, ASTM specification D–2665 and D–2661, DWV socket fittings, ASTM specification D–2466 with PVC solvent cement, ASTM specification D–2564. ABS pipe shall not be used. (Polyvinyl Chloride (PVC) shall not be installed above floor.)

Storm Sewer Piping – Execution

Grade all soil and waste horizontal lines with minimum of 1/8" per foot. Run all piping parallel with the building lines, except as may be shown on the plans. Install overhead piping as high as possible.

Install cast iron pipe and fittings, hubless patter, as recommended by CISPI in their publication, "Installation Suggestions for Cast Iron No–Hub Pipe and Fittings".

Yard Cleanout (YCO) – Cast iron hub or plug with tapered threaded bronze plug, cast iron or PVC frost sleeve and cast iron cover.

ROOF DRAINS

Acceptable Manufacturers: Ancon, Josam, Smith, Wade, Zurn.

Contracto1r shall choose side or bottom outlet as required for each drain location.

Bottom outlet lacquered cast iron body with flashing collar and gravel stop, cast iron dome strainer, underdeck clamp.

J.R. Smith 1010 or 1010Y, size as indicated on drawings

DEMOLITION

Maintenance of Service: The building will be continuously occupied during the construction period except as noted. Contractor shall make special efforts to avoid interference with building function. Contractors shall consult with Owner prior to performing work in public areas of building or to turn off services to that Owner can advise Contractor as to most suitable time for the necessary interruptions.

Contractor shall carefully examine the present building, together with all of the drawings within the areas involving remodeling. Contractor shall be responsible for removal of, relocation of or revisions to the existing equipment and all other existing facilities under appropriate headings of his work, which is necessary to accomplish the final arrangement indicated on the plans.

Cutting and Patching: Contractor will be required to do all cutting and/or construction removal and all patching or construction replacement under the appropriate headings of his work except for specific cutting and patching described on the general construction plans as being performed by the General Contractor.

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Consultants:

Notes:

Date	Issuance/Revisions	Symbol
5/04/00	Issued for Bidding	

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL

VERONA AREA SCHOOL DISTRICT

VERONA, WISCONSIN

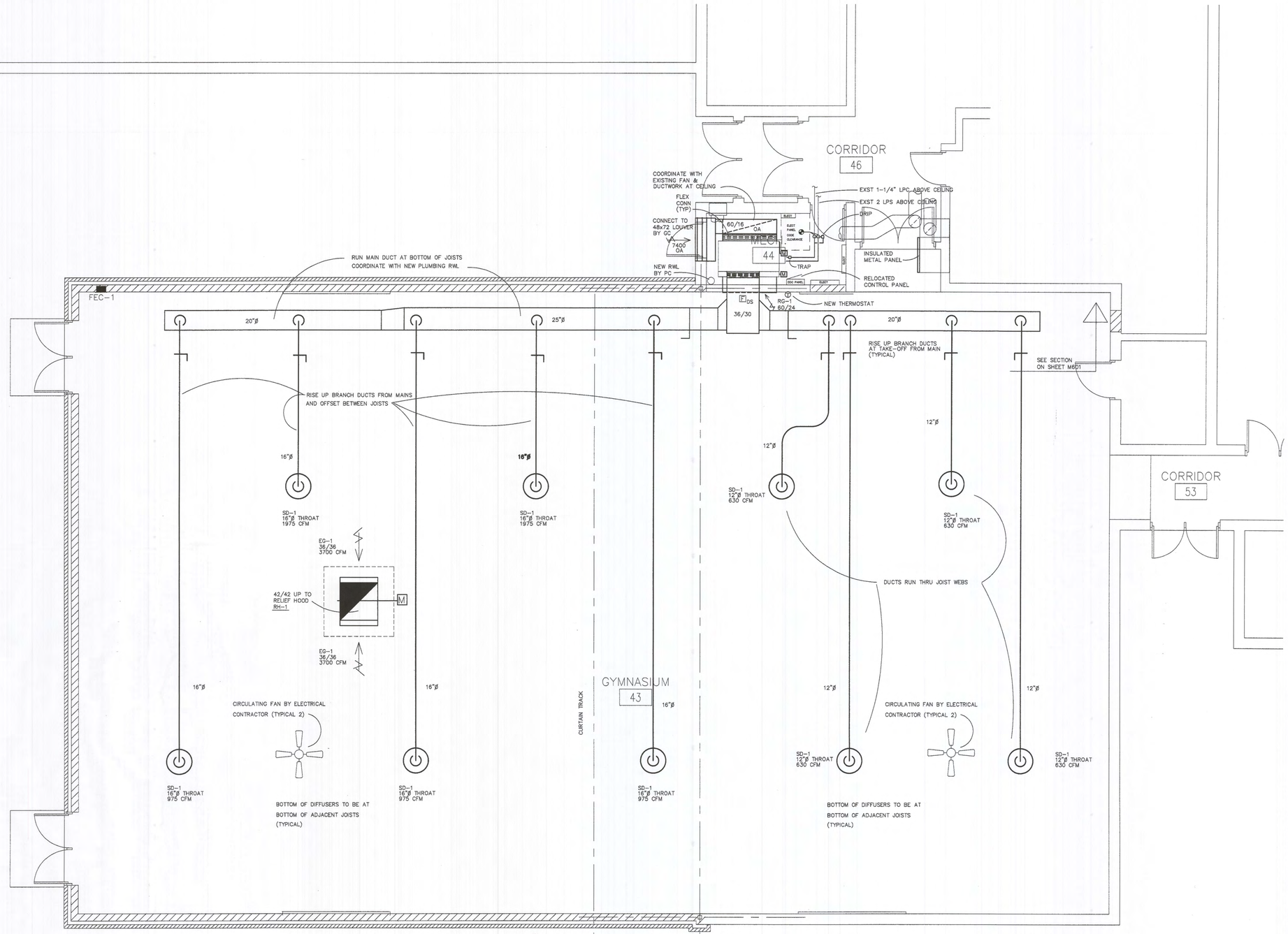
Drawing Title:

SPECIFICATIONS & DETAILS – PLUMBING

PLI Project Number: 9904100

Drawing No. P203

Drawn By: cf



1 / M201 FLOOR PLAN – HVAC

1/4" = 1' - 0"

NORTH

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Consultants:

Notes:

Date	Issuance/Revisions	Symbol
5/04/00	Issued for Bidding	

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL

VERONA AREA SCHOOL DISTRICT

VERONA, WISCONSIN

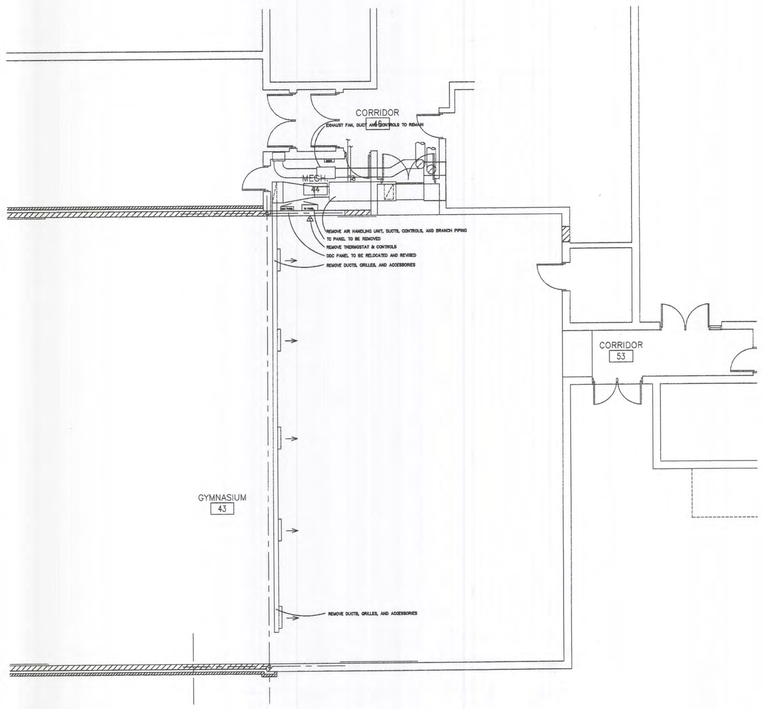
Drawing Title:

FLOOR PLAN HVAC

PLJ Project Number: 94041

Drawn By: JEI

Drawing No. M201



2 H601 PARTIAL FLOOR PLAN – DEMOLITION
1/8" = 1' – 0"

SECTION 15600 – HVAC SPECIFICATION

PART ONE GENERAL

A. All work shall conform with Bidding Requirements, Conditions of the Contract, and General Requirements.
B. All Work shall conform to State and local codes.
C. Contractor shall pay for all permits and fees.
D. Contractor shall furnish all accessories required for a complete installation.
E. Cutting, patching, flashing, etc., as required shall be included.
F. Provide two sets of instruction manuals and parts lists.
G. Provide shop drawings for all equipment, diffusers, grilles, registers and controls.
H. All work and materials shall be guaranteed for one year after acceptance.
I. Motors 1/3 HP and smaller shall be 120V, 1 phase; 1/2 HP and larger shall be 208 volt, 3-phase unless otherwise noted. Starters and disconnects shall be by Electrical Contractor except where they are provided with packaged equipment.
J. Test and balance and water systems. Provide written report per AABC.
K. Provide all equipment pipe supports.
L. All power wiring shall be by Electrical Contractor. All control wiring shall be by Heating Contractor and shall be per code.
M. Duct, thermostat, diffuser and equipment location as shown are approximate and shall be adjusted to suit lighting, partitions and structural conditions as required by the Architect.

SYSTEM DESCRIPTION

Year 2000 (Y2K) Compliance: Products, equipment and systems specified herein are required to be Y2K compliant. This Section Contractor shall provide specified products, equipment and systems whose performance will not be adversely affected by date change from the year 1999 to the year 2000 or beyond, and will continue to function, as they did when installed, in accordance with the specifications. In addition, the products, equipment and systems shall not fail as a result of subsequent changes in the date, month or year on or after January 1, 2000.

SUBMITTALS

Certificates: Manufacturer shall submit a letter certifying that products, equipment and systems specified in this Section are Year 2000 compliant. Year 2000 compliance shall mean that performance of products, equipment and systems specified will not be affected by date change prior to, during and after January 1, 2000.

BASIC MATERIALS:

A. Vibration isolation: Provide internal or external vibration isolation for equipment on Drawings. Provide flexible duct connection to all motor-operated equipment. Provide neoprene pads at all equipment bases.
B. LPS Piping & Fittings: 2" and smaller shall have 150 lb. screwed malleable iron fittings. Schedule 40 piping.
C. LPC Piping & Fittings: 2" and smaller shall have 150 lb. screwed malleable iron fittings. Schedule 80 piping.
D. Steam Specialties: Strainers & traps shall be 150 PSI. F&T traps shall have CI body, SS steel pin, float & seat, removable seat and float assembly. Inverted bucket traps shall be CI body, ss steel pin, seat, bucket, lever and retainer.
E. Steam Valves: 125 psi cast iron and 200 psi bronze.
F. Pipe Testing: LPS – 125 psig; LPC – 100 psig.
G. Piping Insulation: Preformed sectional insulation, Thicknesses and R-values per State Code requirements.
H. Ductwork shall be per SMACNA Standards. Low pressure standards. Class B Seals.
I. Where indicated on Drawings, ductwork shall be lined sheetmetal with 1" – 1< lb. density fiberglass lining with 100% adhesive and pinned per SMACNA Standards.
J. Provide volume dampers in all branch supply, return, and exhaust ducts.
K. Provide galvanized steel ducts, G90, for all ducts. Exposed ducts shall be paint-grip finish for field-painting by others.
L. All outside and mixed air ducts shall be lined sheet metal with 2" – 1< lb. density fiberglass lining with 100% adhesive and pinned SMACNA Standards.
M. Provide Dwyer gauges on filter sections of equipment.
N. Hangers and Supports: Provide Grinnel, Fee & Mason, or Elcen cevis-type hangers.
O. Provide turning vanes at each turn, supply air branch duct.
P. Exterior wall louvers are provided by others. Make water-tight duct connections and provide sheetmetal covered insulation over unused potrions.
Q. Registers, grilles and diffusers shall be Barber-Colman, Carnes, Krueger or Titus of type and finish indicated on schedules. (baked off-white for diffuserc and prime coat for wall and duct-mounted exhaust grilles.)

AIR HANDLING UNIT:

A. Air Handling Units: Packaged modular AHU's with hinged access doors, fans, coils, vibration isolation and insulated sections as detailed.
B. Include 2" disposable filter media with metal holding frames, dampers and high-efficiency motor.
C. Refer to Drawings and Schedules.

CONTROLS

MANUFACTURERS AND INSTALLING CONTRACTORS
Andover controls installed by North American Mechanical, Inc. in association with Trane-Madison (Jim Winkelman)

CONTROL DAMPERS
Use only factory fabricated dampers with replaceable resilient blade seals, stainless steel jamb seals and with entire assembly suitable for the maximum temperature and air velocities encountered in the system. All dampers for shut-off or isolation service to be UL 555S Class 2 leakage rated at 250F. Damper frames gauge galvanized steel and blades to be not less than 16 gauge galvanized steel for single thickness, 22 gauge galvanized steel for double thickness, with steel rod, bronze or nylon bearings.

CONTROL VALVES
Use operators that are full-proportioning, as required for specified sequence of operation.

Steam systems (15 psig and less):
Use modified linear characteristic valves that have a rangeability of 30 to 1. Size for a pressure drop equal to 80% of the inlet steam gauge pressure.
2" and smaller: Bronze body, cage trim, brass or stainless steel plug and seat, stainless steel stem, composition disc, screwed ends, suitable for 35 psig saturated steam (2817F).
2-1/2" and larger: Iron body, brass or stainless steel plug and seat, stainless steel stem, composition disc, flanged ends, suitable for suitable for 35 psig saturated steam (2817F).

CONTROL WIRING

Provide all electrical relays, transformers and all required miscellaneous components and wiring, line and low voltage, for control systems unless the items are specifically indicated on the electrical drawings or specifications as being provided by the electrical contractor or specified in mechanical equipment sections as being provided with the equipment. Except as permitted below install all wiring in metal conduit, in accordance with electrical sections (Division 16) of this specification and the National Electrical code. ALL electrical work both low and line voltage shall be included as work of this section. If additional power connections are required beyond the existing this section shall coordinate with the Division 16 contractor for locations of the power connections and the section shall be responsible for all costs associated. Install in accordance with National Electrical Code and Division 16 specification requirements.

CONTROL SEQUENCES

AIR HANDLING SYSTEMS – GENERAL REQUIREMENTS

The air handling unit control shall be full DDC. The control contractor shall make modifications to the existing Andover DDC system to include this unit on the existing system. There is an existing Andover control panel located in the mechanical room which serves the existing air handling unit being removed. This contractor shall remove the controls on the existing air handling unit and shall modify the existing controls and provide additional controls as required to provide the specified DDC control of the new system.

All coil control valves shall have modulating actuators and shall fail in the "SAFE" position. Examples: heating control valves open. All dampers shall have modulating actuators and shall fail in the"SAFE" position. Examples: outside and relief dampers closed.

AIR HANDLING SYSTEM AHU-1

System consists of a single zone, constant volume air handling unit with a steam coil with modulating control valve, unit mounted motor operated outside air dampers, unit mounted motor operated return air dampers, duct mounted motor operated dampers for relief air at roof hood.

The system shall have the occupied and occupied schedules controlled by the DDC system.

The unit shall be controlled with two minimum outside air positions, "CLASSROOM" and "ASSEMBLY. The classroom mode shall be the normal operating mode. The assembly mode shall be an override programmed through the DDC terminal. If the unit is in the classroom occupied mode the unit shall switch to the assembly mode. If the unit is in the unoccupied mode the unit shall switch to the occupied assembly mode.

In the "CLASSROOM" occupied mode system fans shall operate and the outside air, return air dampers shall be in their respective minimum air positions. The relief damper shall be closed. Interlocked exhaust fan shall operate. In the "ASSEMBLY" occupied mode system fan shall operate and the outside air, return air dampers shall be in their respective assembly minimum air positions and the relief damper shall be positioned to relieve the additional outside air. The unit discharge temperature shall be controlled from a space sensor controlling the steam valve to satisfy the space heating requirements.

When cooling is required and the required discharge air temperature cannot be maintained with the heating coil control valve closed and the outside air damper in the minimum position, the system dampers shall be controlled to provide additional outside air, and relief air up to 100 percent outside, to provide economizer cooling.

In the unoccupied mode the unit fan shall be off, the outside air and relief air dampers shall be closed On a call for night setback heating from the space sensor the air handling unit fan shall start and the space sensor shall control the steam valve. When space is satisfied the unit shall shut down. Interlocked exhaust fans shall not operate and back draft dampers shall be closed.

Provide a low limit discharge thermostat to control the unit to provide a minimum of 55°F supply air temperature and a low limit freeze protection thermostat to shut down the unit fans, close the outside air, relief air and exhaust air dampers and open the control valve to full whenever the freeze protection thermostat senses an air temperature below 35°F leaving the coil. This shall apply to both occupied and unoccupied cycles.

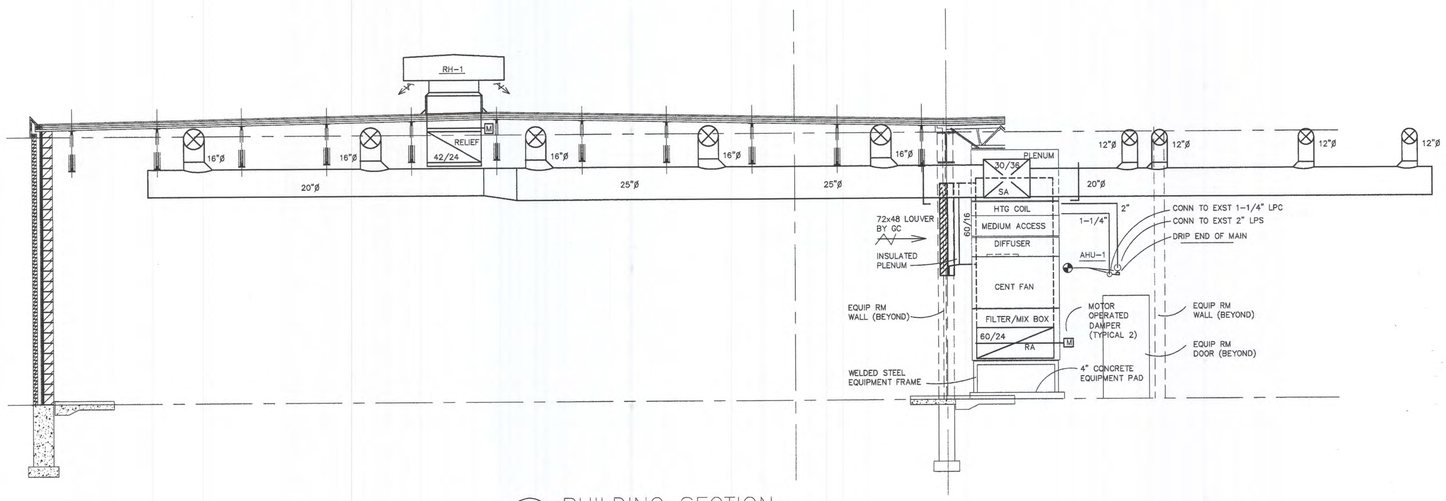
Provide a low limit mixed air thermostat to control the unit outside air and return air dampers to provide a minimum mixed air temperature 5 degrees below the scheduled entering air temperature to the unit. If the temperature shall drop below the entering air temperature minus 5 degrees the outside air damper shall modulate toward closed and the return air damper toward open to maintain the required low limit mixed air temperature.

The following air handling unit control, monitor and alarms shall be provided at the control central computer as applicable to each system:

Point	Monitor	Adjust	Alarm
AHU start/stop		x	
AHU occupied/unoccupied		x	
AHU discharge temperature	x		x
Mixed air temperature	x		
Return air temperature	x		
Outside air temperature	x		
Heating control valve control	x	x	
Outside air damper position	x	x	x
Filter pressure drop	x		x
Fan Status Supply	x		x
Freeze Thermostat	x	x	x

Existing Dishwasher Exhaust Fan: This fan is presently interlocked with the existing gym air handling unit to operate whenever the unit is in the occupied mode. This exhaust fan shall be interlocked with the new air handling unit to operate whenever the unit is in the occupied mode (classroom or assembly).

End of Specification



1 H601 BUILDING SECTION
1/4" = 1' – 0"

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GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL

VERONA AREA SCHOOL DISTRICT

VERONA, WISCONSIN

Drawing Title:

HVAC DEMOLITION PLAN BUILDING SECTION AND SPECIFICATIONS

PJ Project Number: 9904100

Drawn By: JEI

Drawing No. M601

HVAC SYMBOL SCHEDULE

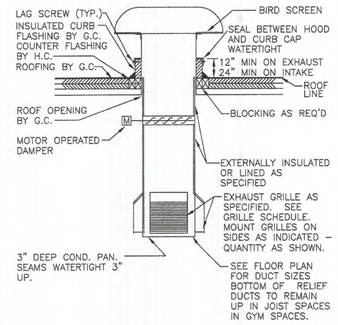
SYMBOL	DESCRIPTION
	DUCTWORK
	ROUND SUPPLY DUFFUSER DUCT MOUNTED WITH NECK SIZE AS INDICATED ON DRAWING
	SUPPLY/RETURN/EXHAUST REGISTER OR GRILLE VERT. MOUNT
	DUCT UP THRU FLOOR OR ROOF
	SUPPLY DUCT
	RETURN AIR, OUTISDE AIR, OR EXHAUST AIR DUCT
	TRANSFER AIR OPENING IN PARTITION
	VOLUME DAMPER
M	MOTOR OPERATED DAMPER
	FLEXIBLE CONNECTION
	RIGID DUCT
	SQUARE ELBOW W/TURNING VANES
	RADIUS ELBOW,R/D = 1.5
	RETURN/EXHAUST REGISTER OR GRILLE VERT. MOUNT
	RADIUS ELBOW
	SQUARE ELBOW W/TURNING VANES
	BRANCH TAKEOFF (SUPPLY OR RETURN)
	RADIUS TEE
	TRANSITION
T	THERMOSTAT/SENSOR (NEW)
T	THERMOSTAT (EXISTING)
FDS	DUCT MTD. SMOKE DETECTOR – BY ELECT. CONTR.
	CONNECT TO EXIST
	PIPING
	PIPE UP
	PIPE DOWN
	PIPE CONNECTION, TOP OF MAIN
	PIPE CONNECTION, BOTTOM OF MAIN
	GATE VALVE
	BALL VALVE

HVAC SYMBOL SCHEDULE

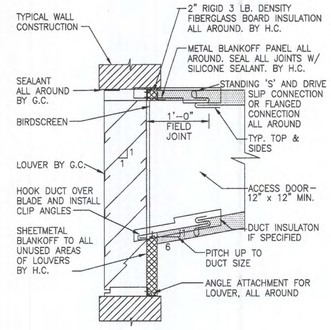
SYMBOL	DESCRIPTION
	PIPING
LPS	LOW PRESSURE STEAM SUPPLY
LPR	LOW PRESSURE STEAM RETURN
	DRAIN VALVE
	TWO WAY TEMP CONTROL VALVE
	GLOBE VALVE
	GAUGE VALVE
	INLINE STRAINER
F/T	THERMOSTATIC TRAP
F/T	FLOAT AND THERMOSTATIC TRAP
	INVERTED BUCKET TRAP
	UNION
	FLANGE
	END CAP OR BLIND FLANGE
	THERMOMETER
	PRESSURE GAUGE
MWM	FLEXIBLE CONNECTION
A	VACUUM BREAKER
	PITCH DIRECTION

HVAC SYMBOL SCHEDULE

SYMBOL	DESCRIPTION
	ABBREVIATIONS
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AP	ACCESS PANEL
BTU	BRITISH THERMAL UNIT
CEB	CONCRETE EQUIP. BASE
CFM	CUBIC FEET PER MINUTE
COND	CONDENSATE
D	DRAIN
DB	DRY BULB
Ø	DIAMETER
DN	DOWN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ED	EXHAUST DUCT
EG	EXHAUST GRILLE
EXST	EXISTING
FA	FREE AREA
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
FL	FIN LENGTH
FLEX	FLEXIBLE
FPM	FEET PER MINUTE
GA	GAUGE
GC	GENERAL CONTRACTOR
HC	HEATING CONTRACTOR
HC	HEATING COIL
HP	HORSEPOWER
HR	HOUR
KW	KILOWATT
L	LOUVER
LAT	LEAVING AIR TEMPERATURE
M	MOTOR OPERATED DAMPER
MA	MIXED AIR
MBH	1000 BRITISH THERMAL UNITS/HR.
NC	NOISE CRITERIA
NTS	NOT TO SCALE
OA	OUTSIDE AIR
PC	PLUMBING CONTRACTOR
PRESS	PRESSURE
PSI	POUNDS PER SQUARE INCH
RA	RETURN AIR
RD	RETURN DUCT
RG	RETURN GRILLE
RH	ROOF HOOD
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SD	SUPPLY DIFFUSER
SD	SUPPLY DUCT
SF	SUPPLY FAN
SF	SQUARE FEET
SF	SQUARE FEET
SG	SUPPLY GRILLE
SM	SHEET METAL
T	THERMOSTAT
TA	THROWAWAY
TCP	TEMPERATURE CONTROL PANEL
TCV	TEMPERATURE CONTROL VALVE
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
VD	VOLUME DAMPER
WC	WATER COLUMN

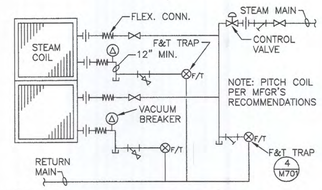


1 M701 RELIEF ROOF HOOD DETAIL

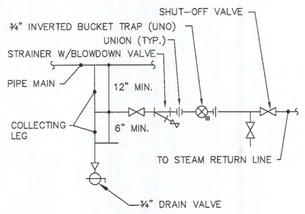


NOTE: ALL DUCT JOINTS, CORNERS, AND SEAMS SHALL BE SEALED WITH SILICONE SEALANT OR SOLDERED LEAK TIGHT.

2 M701 LOUVER INSTALLATION DETAIL

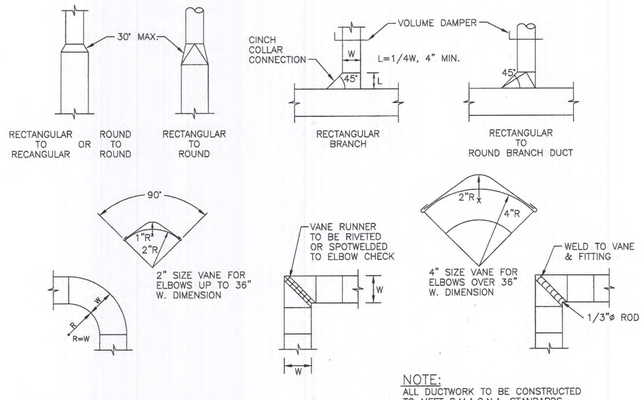


3 M701 STEAM COIL PIPING DETAIL- DUAL COIL



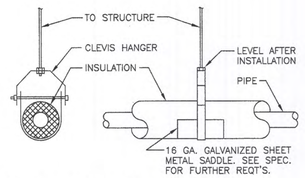
PIPE MAIN SIZE	COLLECTING LEG SIZE
½"–4"	PIPE MAIN SIZE

4 M701 STEAM DRIP AND TRAP DETAIL



NOTE:
ALL DUCTWORK TO BE CONSTRUCTED TO MEET S.M.A.C.N.A. STANDARDS.

6 M701 DUCTWORK DETAILS



5 M701 PIPE HANGER DETAIL

AIR HANDLING UNIT SCHEDULE

SYMBOL		AHU–1					
LOCATION		MECH RM					
MANUFACTURER		TRANE					
MODEL		MCC–14					
ARRANGEMENT		HDT					
TOTAL AIRFLOW (CFM)		7400					
MIN. OUTSIDE AIR (CFM)		2250 / 450					
STATIC PRESSURE (in. w.g.)	TOTAL	1.85					
	EXTERNAL	0.50					
FAN WHEEL TYPE		17B – FC					
FAN WHEEL SIZE (in.)		18.25					
FAN SPEED (rpm)		765					
OUTLET VELOCITY (fpm)		1790					
TIP SPEED (fpm)		–					
NUMBER OF ZONES		11					
FAN POWER (BHP)		4.0					
MOTOR H.P.		5.0					
INTERNAL F&BP		YES					
FILTER	TYPE	2" T.A.					
	ARRANGEMENT	FLAT FILTER					
REMARKS		1,2,3,4,5,6					

1. UNIT TO INCLUDE: SF, T.A. FILTERS, INLET PLENUM, DISCHARGE PLENUM, MODULATING ECONOMIZER CONTROL ON OCCUPIED CYCLE DISCHARGE PLENUM SHALL HAVE 1.5 LB INSULATION WITH PERFORATED LINER.
2. CONSTANT VOLUME UNIT WITH FULL ECONOMIZER CONTROLS; HEATING ONLY.
3. MINIMUM OUTSIDE AIR TO BE SET AT LOWER VALUE FOR CLASSROOM VENTILATION AND MANUALLY SWITCHED TO THE HIGHER VALUE FOR MAXIMUM OCCUPANCY PERIODS. ON NORMAL STARTUP OF THE OCCUPIED CYCLE, THE LOWER VALUE WILL BE USED.
4. CONTRACTOR TO PROVIDE FIELD–MOUNTED SAFETY CHAINS ON ALL ACCESS DOORS ON UNIT.
5. LISTED STATIC PRESSURES ARE FOR CLEAN AIR FILTERS. UNIT CAPACITY MUST ALLOW FOR STANDARD FILTER LOADING.
6. BHP SHALL INCLUDE 5% DRIVE LOSSES.

LOW PRESSURE STEAM HEATING COIL SCHEDULE

SYMBOL	HC–1					
LOCATION	AHU–1					
MANUFACTURER	TRANE					
FACE VELOCITY (FPM)	–					
AIR PRESS. DROP (IN. W.G.)	–					
E.A.T. (°F)	44.5					
L.A.T. (°F)	80					
CAPACITY (MBH)	288					
ROWS	–					
FIN SPACING (#/FT)	–					
STEAM PRESS. TO TCV (PSI.)	5					
STEAM PRESS. TO COIL (PSI.)	2					
STEAM TRAP QUANTITY/SIZE	1 / 1–1/4"					
REMARKS	1					

1. MODULATING TCV.

GRILLE, REGISTER, DIFFUSER SCHEDULE

SYMBOL	SD–1	RG–1	EG–1	
MANUFACTURER	CARNES	CARNES	CARNES	
MODEL NO.	SSMA	RSHAH	RSEAH	
DESCRIPTION	ROUND	LOUVER FACE	LOUVER FACE	
MOUNTING	DUCT	WALL	WALL	
MATERIAL	STEEL	STEEL	STEEL	
DAMPER	NO	NO	NO	
REMARKS	1	2,3	2,4	

1. INCLUDE SAFETY CHAIN
2. HEAVY DUTY WELDED STEEL CONSTRUCTION W/ ROUNDED BLADE EDGES
3. 40° ANGLE BLADE SETTING.
4. 0° ANGLE BLADE SETTING.

ROOF HOOD SCHEDULE

SYMBOL	RH–1
LOCATION	GYMNASIUM
SERVICE	AHU–1 RELIEF
MANUFACTURER	VENT PRODUCTS
MODEL	6200
MATERIAL	ALUM
TYPE	RELIEF
THROAT SIZE [WxD (IN.)]	42x42
HOOD SIZE [WxD (IN.)]	78x78
DAMPER TYPE	M.O.D.
REMARKS	1

1. MOD BY HOOD MANUFACT. – SEE SPEC

Potter Lawson

Consultants:

Notes:

Date	Issuance/Revisions	Symbol
5/04/00	Issued for bidding	1

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL

VERONA AREA SCHOOL DISTRICT

VERONA, WISCONSIN

Drawing Title:
HVAC DETAILS AND SCHEDULES

PLI Project Number: 99041

Drawn By: JEI

Drawing No.
M701

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J:\1999\99041\9941E100.dwg Mon May 08 13:45:49 2000 MMS

DIVISION 16 – ELECTRICAL SPECIFICATIONS

SECTION 16050 – BASIC MATERIALS and METHODS

SYSTEM DESCRIPTION

Year 2000 (Y2K) Compliance: Products, equipment and systems specified herein are required to be Y2K compliant. This Section Contractor shall provide specified products, equipment and systems whose performance will not be adversely affected by date change from the year 1999 to the year 2000 or beyond, and will continue to function in accordance with the specifications as they did when installed, tested and operated. In addition, the products, equipment and systems shall not malfunction or fail as a result of subsequent changes in the date, month or year on or after January 1, 2000.

A. Requirements of Division 1 shall govern all work of this section.

B. It is intended that these specifications and drawings call for a complete, finished project including all work and testing. Work designated in other divisions of these specifications to be done under Division 16 shall be included the same is if work was included in Division 16.

C. All materials shall be new, of best quality and grade with UL labels or listing. All requirements of the Americans with Disabilities Act shall be complied with. All material and labor shall be under warrantied for a period of one year from the date of final acceptance of the project by owner.

D. Submit manufacturers drawings, product data, etc. for all material used on this project.

1. Manufacturer's operating and maintenance instructions and parts list of all items or equipment. Where manufacturer's data includes several types or models, the applicable type or model shall be designated.
2. Wiring diagrams for all systems.
3. Additional information diagrams or explanations as designated under the respective equipment or systems section.
4. Factory and field test reports.
5. Instruct the Owner's representative in the operation and maintenance of all equipment. The instruction shall include a complete operating cycle on all apparatus.
6. The operation manuals and instructions to the Owner are of prime importance and shall be provided prior to request for final payment.

E. Drawings are diagrammatic and should not be scaled. Verify all locations before starting rough in.

F. Contractor shall schedule and coordinate his work with Owner and other Contractors. Contractor shall notify Owner of any code violations or improper installations uncovered throughout the duration of project.

G. All materials shall be clearly labeled including switchboards, panelboards, motor control centers, motors, disconnects, starters and junction boxes. All wiring shall be color coded. Provide permanent engraved nameplates for switchboards, panelboards and motor control centers. Provide typed directories in all panelboards.

1. The nameplates shall have 1/2 inch high lettering, except where space is limited, letters may be 1/4 inch high.
2. Face of nameplate to be black and letters to be white, except emergency power equipment nameplates are to have red face and letters to be white.
3. Receptacle cover plates to be label with panel and circuit number.

H. Provide record drawings, operation and maintenance manuals, Owner training sessions and certification of completion for special systems (fire alarm, etc.).

I. Comply with all requirements of all applicable codes, utilities requirements and any other codes or rules having jurisdiction.

J. All systems shall be tested and shall be free of grounds and short circuits. Insulation shall test to minimum standards of the IPCEA.

K. Include all cleanup and painting of all electrical equipment.

L. Include temporary lighting and power necessary for construction.

M. All excavation and backfilling to accommodate electrical equipment shall be included. Provide:

1. Trenching for underground electrical and communications
2. Protective barriers, covers and warning signs
3. Compacted backfill to provide structural strength around bases and under paving.

N. All work and material shall be guaranteed per Division 1 requirements.

O. Include all cutting and patching.

P. Demolition: Electrical contractor shall remove all present devices, fixtures, conduit, connections, wire, boxes, etc. which are not being reused. If owner does not wish to retain these items, Electrical contractor shall remove them from the site and dispose of them legally. Where present device locations are shown to be reused, provide new wiring and devices. Provide any wiring which is required to keep present electrical equipment energized.

This building is to remain in operation during entire construction period. Coordinate any power outages or other disruptions with Owner before starting any work. Any outages and/or other disruptions must be approved by owner.

Q. Contractor may use any in-place raceways of existing electrical system if properly sized and supported, to assist in the installation of new portions of the electrical system. All other material or devices removed from existing system may not be reused.

R. All alternate equipment manufacturer's indicated shall meet or exceed the performance and quality of equipment listed in the schedules, specifications or drawings to be considered.

S. On completion of work all systems installed shall test entirely free of grounds and short circuits. 500 volt megger insulation test shall be made and recorded for all branch circuits before the systems is energized. The insulation shall test to minimum levels set forth by the IPCEA.

SECTION 16110 – RACEWAYS, FITTINGS and BOXES

A. Raceways and boxes shall be supported independently of other mechanical trades work. Shared conduit racks may be utilized where electrical raceways and boxes are installed to prevent the intrusion of liquid or foreign material onto the installed system. Contractor shall be responsible for providing racks designed to accommodate the weight of all equipment being supported by racks.

B. RACEWAY SYSTEMS:

1. All wiring shall be run in conduit.
2. All interior wiring shall be in metallic conduit.
3. All exterior wiring shall be in Schedule 40, PVC conduit.
4. Thinwall EMT conduit shall be used in interior, dry, protected locations up to 2" diameter for 120 volt and higher wiring. Larger sizes of EMT may be used for communications wiring. Heavywall steel conduit shall be used for all sizes of unprotected conduits and sizes 2" and larger.
5. Minimum conduit size shall be 3/4 inch. 1/2 inch raceway may be used for single branch circuit of 20 Amps or less.
6. Flexible connections to all motors shall be with sealtite. Maximum length of 4'-0".
7. Conceal all conduits in finished areas.
8. Separate raceway systems shall be dedicated to a specific system. Systems include, but not limited to 208/120V power, emergency power, controls, fire alarm, sound, automation and security.
9. Support all raceways and boxes as required by the State of Wisconsin Electrical Code.

C. BOXES:
1. All boxes shall be standard galvanized for interior locations.
2. Exterior and wet location boxes shall be cast.
3. Size all boxes per NEC.
4. Junction boxes 6" x 6" and smaller shall have painted covers as well as identification by permanent marking indicating originating source and circuit. Appropriate colors are: Yellow – Power; Red – Emergency; Red – Fire alarm; Green – Automation.

D. CONDUIT FITTINGS:

1. All fittings shall be galvanized, all steel (not cast).
2. Compression or steel set screw fittings with insulated throat may be used for EMT.
3. All PVC fittings shall be watertight.
4. Include seal-offs where raceways pass between interior and exterior spaces. Provide expansion/deflection fittings at all expansion joints where movement of building may be encountered.

SECTION 16120 – WIRES and CABLES

A. CONDUCTORS:

1. All new copper, 600 volt insulation, minimum size #12 AWG.
2. Sizes #10 and smaller shall be type THHN, sizes #8 and larger shall be stranded type THHN.
3. Stranded wires with compression connectors shall be used for motor connections.
4. Wiring for motors and lighting shall be 90øC THHN.
5. Minimum conductor sizes shall be as follows:
   No. 12 AWG – Branch circuits of any kind.
   No. 14 AWG – Alarm and signal circuits, single light fixture taps (fixture whips).
   No. 16 AWG – Alarm and signal circuits, motor control circuits.

SECTION 16140 – WIRING DEVICES

A. All devices shall be specification grade and ivory in color.
1. All duplex outlets to be 15 amp.
2. GFI type receptacles shall be used in all damp/wet locations.
3. Occupancy sensors shall be ceiling mounted as shown on drawings. All occupancy sensors shall have sensitivity adjustment and time delay adjustment. Time delay shall be adjustable from a minimum of 15 seconds to 15 minutes. All occupancy sensors shall be compatible with all loads. Occupancy sensors shall be white in color. When relay units are required, they shall mounted above accessible ceiling. Relay units shall accommodate a minimum of four occupancy sensors and switch 20 Amp load at 120 Volts. Approved manufacturer's are MyTech, Watt Stopper, Unenco, Lithonia and Honeywell. The installed occupancy sensor must satisfy all specified and scheduled criteria. Ceiling mounted units shall have 360 degree coverage.
4. Vandal resistant device and plate shall be Morelite SWP-1DR (or equivalent),

SECTION 16150 – DISCONNECTS AND MOTOR STARTERS

A. All fused or non-fused disconnect switches shall be provided for all motor and equipment loads.
1. Disconnects shall be heavy duty type, fused or non-fused as required by codes.

B. Motor starters shall be provided for all mechanical motors.
1. Combination circuit breaker type of size and type to suit motor. Verify requirements with Mechanical Contractors.
2. 120 volt control transformers and hand-off-auto selector switches.
3. Auxiliary contacts as required for control systems.

SECTION 16160 – PANELBOARDS

A. Provide branch circuit and distribution panelboards as indicated on drawings.

1. Branch circuit panelboards shall be Square D, Type NQOD (120/208 Volt) or equivalent. Cabinets shall be minimum 20" wide by 5 " deep.
2. Provide permanent engraved nameplates for all panelboards and typed directories.
3. Include space for approximately 25% future breaker capacity in all panelboards.
4. Acceptable equivalent manufacturers are ITE, Westinghouse, Cutler Hammer & GE.
5. Panel bus shall be copper and shall be drilled for future additions in "space".

SECTION 16185 – EQUIPMENT CONNECTIONS

A. Mechanical Equipment

1. Provide all power wiring connections 120 Volt or higher.
2. Include starters and disconnects for all motors.
3. All mechanical systems control wiring shall be by others except where specifically noted on drawings.
4. Flexible connections shall be provided with liquid-tight flexible raceway for all equipment.

SECTION 16400 – EXISTING SERVICE AND DISTRIBUTION

A. Coordinate relocated building electric service transformer with Alliant Utilities.
1. Verify all requirements and include raceways necessary for primary and secondary service conductors.
2. Terminate secondary service conductors as required by utility.

SECTION 16500 – LIGHTING

A. Fixtures:
1. All exit lights shall be LED.
2. Refer to fixture schedule for types of lighting fixtures.

B. Ballasts:

1. All ballasts shall be HPF.
2. Ballasts for compact PL lamps shall be electronic, Advance, Motorola or Magnetek. Ballast shall have less than 10 % total harmonic distortion.
3. Best available sound ratings for all ballasts.
4. All ballasts CBM, UL approved and ETL certified.
5. H.I.D. ballasts shall be constant wattage.

SECTION 16721 – EXTEND EXISTING FIRE ALARM

A. Furnish new devices shown on drawings which are compatible with existing system.

B. Verify the existing fire alarm control panel has the battery capacity for the existing and new fire alarm devices.

SECTION 16770 – COMMUNICATIONS SYSTEM

A. Gym Sound System

The Contractor shall furnish and install all equipment including, but not limited to, outlet boxes, conduit (with pull strings), wiring, amplifiers, speakers, and microphones as shown on the plans, and all other equipment necessary to provide a complete and operating system. Equipment supplied by Simplex Time Recorder Co. shall be considered as meeting these specifications and as the base bid. Any alternate system must be approved by the engineer. Bidders supplying an alternate system must make the engineer aware of their intentions and provide adequate information, including specification sheets, working and shop drawings, and a demonstration of the proposed system at least 10 days prior to bid date. Any prior approval of an alternate system does not exempt the supplier from meeting the intent of these specifications. If the alternate system fails to provide all the requirements specified in this document, the Contractor shall be responsible for all costs associated with the removal and replacement of said equipment.

SUBMITTALS

Data sheets shall be provided on all equipment being provided.

MAINTENANCE SERVICE

The Contractor shall provide a one-year guarantee of the installed system against defects in material and workmanship. All labor and materials shall be provided at no expense to the Owner. Guarantee period shall begin on the date of acceptance by the Owner or engineer.

GYMNASIUM SOUND SYSTEM EQUIPMENT

The following is an equipment list for the gymnasium sound system:

Description	Model Number	Qty.
Lavalier Wireless Microphone System	Shure SC1483	1
Hand Held Wireless Microphone	Shure SC2	1
Microphone Stands	Simplex 5100-9856	2
Microphone Desk Stand	Simplex 5100-9680	1
Cassette Deck (+5120-9186 – rack kit)	Simplex 5120-9182	1
Tuner	Simplex 5100-9177 (Rack Kit)	1
Disc Player	Simplex 5120-9184 (Rack Kit)	1
Mixer/Preamplifier	Simplex 5100-9212	1
Automatic Microphone Input Module	Simplex 5100-9284	1
Auxiliary Input Module	Simplex 5100-9270	1
Equalizer	Simplex 5100-9316	1
Amplifier	Simplex 5100-9431	1
Audio/Video Interface	Simplex 5100-9956	1
Equipment Rack	Simplex 5100-9820	1

ABBREVIATIONS

REFERENCE STANDARDS

ACI	AMERICAN CONCRETE INSTITUTE
ADA	AMERICANS WITH DISABILITIES ACT
AGA	AMERICAN GAS ASSOCIATION
AIA	AMERICAN INSTITUTE OF ARCHITECTS
AWS	AMERICAN WELDING SOCIETY
AWI	AMERICAN WOODWORK INSTITUTE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASHRAE	AMERICAN SOCIETY OF HEATING REFRIGERATION AND AIR CONDITIONING ENGINEERS
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS
ASSE	AMERICAN SOCIETY OF SANITARY ENGINEERS
AWWA	AMERICAN WATER WORKS ASSOCIATION
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
CS	COMMERCIAL STANDARD
CSI	CONSTRUCTION SPECIFICATION INSTITUTE
CISPI	CAST IRON SOIL PIPE INSTITUTE
DNR	DEPARTMENT OF NATURAL RESOURCES – WISCONSIN
DOT	STATE OF WISCONSIN, DEPARTMENT OF TRANSPORTATION
DOC	STATE OF WISCONSIN, DEPARTMENT OF COMMERCE
FS	FEDERAL SPECIFICATIONS
IGCC	INSULATING GLASS CERTIFICATION COUNCIL
MSS	MANUFACTURER'S STANDARDIZATION SOCIETY
NBS	NATIONAL BUREAU OF STANDARDS
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NPA	NATIONAL PARTICLEBOARD ASSOCIATION
NSF	NATIONAL SANITATION FOUNDATION
NSPI	NATIONAL SWIMMING POOL INSTITUTE
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PCI	PRE CAST CONCRETE INSTITUTE
PDI	PLUMBING AND DRAINAGE INSTITUTE
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION
SIGMA	SEALED INSULATING GLASS MANUFACTURERS ASSOCIATION
SSRBC	STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, WISCONSIN DOT, DIVISION OF HIGHWAYS
UL	UNDERWRITERS LABORATORIES, INC.
WDSB	WISCONSIN DIVISION OF SAFETY AND BUILDINGS (FORMERLY DILHR)

TRADE STANDARDS

A/E	ARCHITECT AND/OR ENGINEER
EC	ELECTRICAL SUBCONTRACTOR
ELC	ELEVATOR SUBCONTRACTOR
FPC	FIRE PROTECTION SUBCONTRACTOR
FSC	FOOD SERVICE SUBCONTRACTOR
GC	PRIME CONTRACTOR OR DESIGNATED SUBCONTRACTOR OF HIS CHOICE
HC	HEATING SUBCONTRACTOR
PC	PLUMBING SUBCONTRACTOR
TCC	TEMPERATURE CONTROL SUBCONTRACTOR
TC	TECHNOLOGY CONTRACTOR
SC	SECURITY CONTRACTOR

GENERAL STANDARDS

AC	AIR CONDITIONING
ACOUS	ACOUSTICAL
ACOUS PNL	ACOUSTICAL PANEL
ACOUS TILE	ACOUSTICAL TILE
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AFS	ABOVE FINISH SLAB
AHU	AIR HANDLING UNIT
AL	ALUMINUM
BM	BUILDING MANAGEMENT
CC	CLEAR PROTECTIVE COVER
CUH	CABINET UNIT HEATER
EBB	ELECTRIC BASEBOARD
EHD	ELECTRIC HAND DRYER
ELEV	ELEVATOR
ENGR	ENGINEER
EP	EXPLOSION PROOF
ETR	EXISTING TO REMAIN, REPLACE WITH NEW DEVICE AND PLATE.
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WALL HEATER
FA	FIRE ALARM
FEC	FIRE EXTINGUISHER CABINET
GFI	GROUND FAULT CURRENT INTERRUPTER
HOA	"HAND-OFF-AUTO" CONTROL SWITCH
HP	HORSEPOWER
HR	HOUR
ID	INSIDE DIAMETER
INC	INCORPORATED
JC	JANITOR'S CLOSET
KIT	KITCHEN
LAB	LABORATORY
LAV	LAVATORY
LBS	POUNDS
LTG	LIGHTING
MAX	MAXIMUM
MECH	MECHANICAL
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
N	NORTH
NL	NIGHT LIGHT–24 HOURS
NTS	NOT TO SCALE
PAR	PARALLEL
PB	PUSH BUTTON
PC	PHOTOCELL CONTROLLED
PC/TC	PHOTOCELL ON/TIMECLOCK OFF
PNL	PANEL
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RCVR	RECEIVER
RE	REMOVE EXISTING
RECPT	RECEPTACLE
REF	REFERENCE
REFR	REFRIGERATOR
REL	REMOVE AND RELOCATE, RELAMP LIGHT FIXTURES
REP	REMOVE AND REPLACE IF BOX IS AT CORRECT HEIGHT
RM	ROOM
RMV	REMOVE
S	SOUTH
SPKR	SPEAKER
SQ	SQUARE
SQ FT	SQUARE FOOT
SQ IN	SQUARE INCH
SQ YD	SQUARE YARD
STD	STANDARD
STOR	STORAGE
SUSP CLG	SUSPENDED CEILING
T	TOILET
TC	TIMECLOCK CONTROLLED
TEL	TELEPHONE
TEMP	TEMPORARY
TP	TELEPHONE POLE
TS	TIME SWITCH
TYP	TYPICAL
UF	UNDER FLOOR
UGND	UNDERGROUND
UH	UNIT HEATER
UR	URINAL
UTIL	UTILITY
UV	UNIT VENTILATOR
V	VOLT
VEST	VESTIBULE
VR	VANDAL RESISTANT (MORELITE)
W	WEST
WC	WATER CLOSET
WG	WIREGUARD/PROTECTIVE COVER
WP	WEATHERPROOF
XRMR	TRANSFORMER
XRV	X-RAY VIEWER – SEE SPECS FOR

SYMBOL SCHEDULE

MOUNTING HGT.	SYMBOL	DESCRIPTION
		INTERCOMMUNICATION/MISC SYSTEM
	S	SPEAKER – SURFACE, CEILING MOUNTED
	S	SPEAKER – SURFACE, WALL MOUNTED
90"	S	SPEAKER – WALL MOUNTED FLUSH
	S	SPEAKER – FLUSH, CEILING MOUNTED
90"		CLOCK/SPEAKER – RECESSED IN SINGLE ENCLOSURE
46"	V	SPEAKER VOLUME CONTROL WITH BYPASS RELAY.
46"	$S	SPEAKER ON/OFF SWITCH
90"	S	CORRIDOR BI-DIRECTIONAL SPEAKER – MOUNT TIGHT TO CEILING OR AS NOTED.
90"	S W.P.	HORN TYPE SPEAKER – WEATHERPROOF
46"	C	REMOTE CALL BACK BUTTON TO MASTER CONSOLE
46"	I	REMOTE INTERCOM STATION WITH CALL BUTTON TO DESIGNATED MASTER
	M	MICROPHONE OUTLET – SURFACE MOUNTED IN SINGLE GANG BOX
	M	MICROPHONE OUTLET – FLUSH MOUNTED IN SINGLE GANG BOX
	SJB	SOUND "J" BOX
	AMP	AMPLIFIER
	S.AMP	SUB-AMPLIFIER
	SMJB	MAIN SOUND SYSTEM CABNET W/POWER SUPPLY
90"		CLOCK OUTLETS – RECESS WALL MOUNTED
90"		CLOCK OUTLET – DOUBLE FACE, WALL MOUNTED
	MCS	MASTER CLOCK STATION
	CH	CHIME
	B	BELL
16"/88"	TV	CABLE TV OUTLET WITH ADJACENT DUPLEX RECEPTACLE
	PB	PUSH BUTTON (DOOR CHIME)
	DM	DOOR MONITOR CONTACT – DOOR OPENING SOUNDS ALARM
	DA	DOOR MONITOR ALARM
		DEVICE LABELING
	S S	INDICATES SOUND SYSTEM CONNECTION
	S P	INDICATES PAGING SYSTEM CONNECTION

$ ALL DEVICE ON DRAWINGS E400 SERIES WHICH HAVE THIS APPERENCE ARE EXISTING DEVICES TO REMAIN. ALL OTHER DEVICES WHICH ARE SOLID AND DARK ARE NEW.

MOUNTING HGT.	SYMBOL	DESCRIPTION
		SPECIAL SYSTEMS/FIRE ALARM
46"	F	FIRE ALARM BREAK GLASS STATION
80"	F	FIRE ALARM HORN
80"	F SL	FIRE ALARM HORN WITH VISUAL STOBE LIGHT (SL INDICATES STROBE LIGHT ONLY)
80"	F C	FIRE ALARM CHIME WITH VISUAL STROBE LIGHT
80"	F C	FIRE ALARM CHIME
80"	F B	FIRE ALARM BELL WITH VISUAL STOBE LIGHT
80"	F B	FIRE ALARM BELL
	F S	FIRE ALARM SMOKE DETECTOR – CEILING MOUNTED
	F R	FIRE ALARM HEAT DETECTOR (THERMAL –RATE OF RISE) – CEILING MOUNTED.
	F H	FIRE ALARM HEAT DETECTOR (THERMAL FIXED TEMP:, 135°F OR 190°F)– CEILING MOUNTED
	F C	FIRE ALARM HEAT DETECTOR (COMBINATION RATE OF RISE & FIXED TEMP.) – CEILING MOUNTED.
	F I	FIRE ALARM IONIZATION/SMOKE DETECTOR CEILING MOUNTED.
	F S/H	FIRE ALARM COMBINATION SMOKE & HEAT DETECTOR
	F SD	DUCT SMOKE DAMPER CONNECTION. PROVIDE POWER TO DEVICE.
	F DS	FIRE ALARM SMOKE DETECTOR – DUCT MOUNTED.
	EOL	END OF LINE RESISTOR
	F FS	SPRINKLER FLOW SWITCH CONNECTION
	F TS	SPRINKLER TAMPER SWITCH CONNECTION
	F	SPRINKLER ALARM BELL 120V CONNECTION
	F DH	AUTOMATIC DOOR HOLDER RELEASE CONNECTION
	F DR	COMBINATION DOOR RELEASE/ SMOKE DETECTOR CONNECTION
	F T	FIRE ALARM INFRARED SMOKE DETECTOR TRANSMITTER
	F R	FIRE ALARM INFRARED SMOKE DETECTOR RECIEVER
	AREA	AREA OF RESCUE STATION
	FACP	FIRE ALARM CONTROL PANEL
	FAAP	FLUSH MOUNT FIRE ALARM ANNUNCIATOR
	EGEN	EMERGENCY GENERATOR ANNUNCIATOR
		TELEPHONE AND COMMUNICATION SYSTEMS
16"		DATA OUTLET
16"	1/1	TELEPHONE & DATA OUTLET IN TWO GANG BOX. 1/1 = ONE ACTIVE DATA AND ONE ACTIVE TELEPHONE OUTLET.
16"		TELEPHONE P=PUBLIC PHONE REFER TO ACHITECTURAL ELEVATION DETAILS FOR MOUNTING HEIGHT.
		TELEPHONE OUTLET IN FLOOR BOX. FLUSH MOUNTED WITH BRASS TRIM.
		TELEPHONE OUTLET IN FLOOR. PEDESTAL MOUNTED.
		TELEPHONE/DATA OUTLET IN FLOOR BOX. FLUSH MOUNTED WITH BRASS TRIM.
		DEVICE LABELING
	1	INDICATES # OF ACTIVE DEVICES
	A	INDICATES TYPE OF TELEPHONE A ADMIN TELEPHONE – MOUNT AT 16" D DESK TELEPHONE – MOUNT AT 16" W WALL TELEPHONE – MOUNT AT 46" P PUBLIC PHONE REFER TO ACHITECTURAL ELEVATION DETAILS FOR MOUNTING HEIGHT.

NOTE:
IN LOCATIONS WHERE DATA/TELEPHONE DEVICES ARE SHOWN ADJACENT ON DRAWINGS, BOTH DEVICES SHALL BE MOUNTED AT HEIGHT SHOWN FOR RECEPTACLE. WHERE THERE IS A COMPUTER COUNTER SHOWN THE DEVICES SHALL GO BELOW COUNTER.

MOUNTING HGT.	SYMBOL	DESCRIPTION
		LIGHTING FIXTURES
		INCANDESCENT – SURFACE, PENDANT MOUNTED
		INCANDESCENT – SURFACE, WALL MOUNTED
		INCANDESCENT – RECESS MOUNTED
		COMPACT FLUORESCENT – SURFACE MOUNTED
		COMPACT FLUORESCENT – RECESS MOUNTED
		FLUORESCENT – SURFACE, CEILING MOUNTED
		FLUORESCENT – SURFACE, CEILING MOUNTED (EMERGENCY)
		FLUORESCENT – SURFACE, WALL MOUNTED
		FLUORESCENT – RECESS MOUNTED
		HID – SURFACE, PENDANT MOUNTED
		HID – SURFACE, WALL MOUNTED
		HID – RECESS MOUNTED
		TRACK LIGHTING
		STEP LIGHT – RECESS MOUNTED
		EXIT LIGHT: ARROWS, FACES AND MOUNTING AS SHOWN ON DRAWINGS.
		BATTERY PACK – WALL MOUNTED
		FLUORESCENT – RECESS MOUNTED (EMERGENCY)
		DEVICE LABELING
		FIXTURE TYPE PANEL AND CIRCUIT NUMBER SWITCH LEG INDICATES PENDANT MOUNT
		SWITCHES
46"	$	SINGLE POLE
46"	$2	DOUBLE POLE
46"	$3	THREE WAY
46"	$4	FOUR WAY
46"	$P	SWITCH WITH PILOT LIGHT
46"	$K	KEYED SWITCH
46"	$D	DIMMING SWITCH
46"	$M	MASTER SWITCH
46"	$F	RHEOSTAT FAN CONTROL
46"		MASTER SHUT OFF SWITCH
	U	ULTRASONIC CEILING OCCUPANCY SENSOR
	D	DUAL TECHNOLOGY CEILING OCCUPANCY SENSOR
		PIR CEILING OCCUPANCY SENSOR
46"	OS	SINGLE WALL SWITCH W/PIR OCCUPANCY SENSOR
46"	02	TWO LEVEL SWITCHING WITH PIR OCCUPANCY SENSOR
	DT	DAYLIGHT TRACKER PHOTOELECTRIC LIGHT LEVEL DIMMER CONTROL
		RECEPTACLES
16"		DUPLEX – RECESS MOUNTED
		DUPLEX – RECESS MOUNTED ABOVE COUNTER
16"		DUPLEX – TOP HALF SWITCHED
16"	D	DEDICATED DUPLEX – WITH DEDICATED GROUND
16"		TWO DUPLEX RECEPTACLES IN TWO GANG BOX
		125V, 2P, 2 WIRE SINGLE
		250V, 2P, 3 WIRE SINGLE RECPTACLE – AMPS AS SHOWN ON DRAWINGS
	C	CORD REEL
	SF	FLUSH FLOOR BOX WITH DUPLEX RECEPTACLE (SF = SYSTEM FURN FEED)
		PEDESTAL SERVICE FITTING WITH RECEPTACLES AS CALLED FOR ON DRAWINGS.
		PLUGMOLD RACEWAY (SINGLE CIRCUIT UNLESS OTHERWISE NOTED) WITH DATA, VOICE AND RECEPTACLES SPACED AT 30" O.C. OR AS NOTED ON DRAWINGS AND IN SPECIFICATIONS.
		DEVICE LABELING
	S	INDICATES SURFACE MOUNTED
	AL	INDICATES DEVICE AND PLATE COLOR
		DEVICE COLOR/MATERIAL

AL = BRUSHED ALUMINUM PLATE AND WHITE DEVICE
B = BROWN DEVICE AND PLATE
BL = BLACK DEVICE AND PLATE
BR = BRASS PLATE AND IVORY DEVICE
GRAY PLATE AND DEVICE
SS = STAINLESS STEEL PLATE AND GRAY DEVICE

SYMBOL	DESCRIPTION
	CONDUIT
————	CONCEALED CONDUIT
— — — —	EXPOSED/SURFACE CONDUIT
——— – ———	UNDERGROUND CONDUIT
	EQUIPMENT AND WIRING
	MOTOR CONNECTION – SEE MOTOR SCHEDULE FOR TYPE, WIRING, ETC.
J	JUNCTION BOX – CONCEALED IN FINISHED AREAS, SURFACE IN UNFINISHED AREAS.
J	JUNCTION BOX – FLUSH MOUNTED
	DIRECT EQUIPMENT CONNECTION
	SAFETY DISCONNECT SWITCH WITH COVER COVER INTERLOCK – (NON-FUSED UNLESS INDICATED BY 'F' – FUSED)
	MOTOR STARTER–MAGNETIC UNLESS NOTED OTHERWISE
	COMBINATION MOTOR STARTER/ FUSED DISCONNECT
	ELECTRICAL POWER PANEL
$F	FUSE HOLDER W/FUSESTAT & TOGGLE SWITCH (1/2 HP MOTORS AND UNDER)
	PUSHBUTTON CONTROL – UP/DOWN/STOP
LC	LIGHTING CONTACTOR
	SECURITY
DR	MAGNETIC DOOR RELEASE
CA	CARD ACCESS SENSOR
DP	DOOR POSITION INDICATOR
MS	MOTION SENSOR
WB	WINDOW"BUG"
M	CTV MONITOR W/ADJACENT POWER RECEPTACLE
	CEILING MOUNTED CCTV CAMERA WITH ADJACENT POWER RECEPTACLE
DSM	DOOR SWITCH MODULE
MSM	MULTIPLE SWITCH MODULE
CPU	CENTRAL PROCESSING UNIT

GENERAL NOTES

1. ALL EXTERIOR BUILDING MOUNTED LIGHTING FIXTURES TO BE AT 10'-0" A.F.F. UNLESS OTHERWISE NOTED ON DRAWINGS.
2. MINIMUM CONDUIT SIZE TO BE ¾".
3. REFER TO ALL DRAWINGS INCLUDING ARCHITECTURAL, CIVIL, STRUCTURAL, MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS AND SYMBOLS.
4. ALL DRAWINGS ARE OF EQUAL IMPORTANCE IN DEFINING THE WORK OF THE CONTRACT DOCUMENTS. CONTRACTORS SHALL REVIEW ALL DRAWINGS BEFORE THE INSTALLATION OF THEIR WORK. SHOULD THERE BE A DISCREPANCY WITHIN AND BETWEEN THE DRAWINGS THAT WOULD CAUSE AN AWKWARD OR IMPROPER INSTALLATION, NOTIFY ARCHITECT FOR CLARIFICATION PRIOR TO INSTALLATION OF SAID WORK. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY CONTRACTOR AT IT'S EXPENSE AND AT NO ADDITIONAL COST TO OWNER OR ARCHITECT.
5. DO NOT SCALE DRAWINGS. THE DRAWINGS ARE NOT NECESSARILY TO SCALE – USE GIVEN DIMENSIONS. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE PRIOR TO THE START OF CONSTRUCTION. IF DISCREPANCIES ARE FOUND, NOTIFY ARCHITECT FOR CLARIFICATION BEFORE COMMENCING THE WORK. SEE WALL SECTIONS AND PARTITION TYPES FOR EXACT CONSTRUCTION.
6. SEE A800 SERIES DRAWINGS FOR CASEWORK INFORMATION.
7. FOR EWC AND OTHER MOUNTING HEIGHTS SEE DRAWING A100.
8. SEE DRAWING A100 FOR REFERENCE PLAN INDICATING FIRE RATED PARTITIONS AND SPACES. ALL ELECTRICAL PENETRATIONS THROUGH FIRE RATED CONSTRUCTION SHALL BE SLEEVED AND FIRESAFED EQUIVALENT TO THE HOURLY FIRE RATING OF THE CONSTRUCTION.
9. DASHED PLAN ELEMENTS WILL BE PROVIDED BY OWNER ARE SHOWN FOR COORDINATION ONLY.
10. DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO THOSE SHOWN. WHERE SPECIFIC DIMENSIONS, DETAILS OR DESIGN INTENT CAN NOT BE DETERMINED, CONSULT ENGINEER BEFORE PROCEEDING WITH THE WORK.
11. ELEVATOR SUBCONTRACTOR SHALL COORDINATE ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR. NOTIFY ENGINEER OF ANY MODIFICATIONS PRIOR TO ORDERING.
12. CONTRACTOR SHALL PROVIDE STIFFENERS, BRACINGS, BACKING PLATES AND SUPPORTING BRACKETS REQUIRED FOR THE PROPER INSTALLATION OF ALL BOXES, LIGHT FIXTURES AND MISCELLANEOUS EQUIPMENT WHETHER SUCH SUPPORTS ARE SHOWN OR NOT.
13. INSTALL ALL RECESSED CABINETS, PANELS, BOXES LOCATED IN FIRE-RATED PARTITIONS TO MAINTAIN THE FIRE-RATED CONSTRUCTION.
14. ALL HOUSEKEEPING CONCRETE PADS ARE TO BE 4" HIGH MINIMUM, UNLESS OTHERWISE NOTED. PROVIDE ONE LAYER OF WWF 6x6/W4.0xW4.0 WELDED WIRE FABRIC MINIMUM.
15. COORDINATE ALL ELECTRICAL FLOOR, ROOF AND WALL SLEEVES WITH MECHANICAL, PLUMBING, FIRE PROTECTION, STRUCTURAL AND ARCHITECTURAL DRAWINGS.
16. REFER TO MECHANICAL AND KITCHEN EQUIPMENT CONTRACTORS DRAWINGS AND MANUFACTURERS TEMPLATE DRAWINGS FOR ALL MECHANICAL AND KITCHEN EQUIPMENT SUPPORTS, BOLT SETTING TEMPLATES, ISOLATIONS, SPRING ISOLATION, ETC. NOT SHOWN ON THE DRAWINGS.
17. COORDINATE MOUNTING HEIGHT OF RECEPTACLE FOR EWC WITH PLUMBING CONTRACTOR PRIOR TO INSTALLATION. RECEPTACLE TO BE MOUNTED INSIDE OF EWC ENCLOSURE.

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Consultants:

Notes:

Date	Issuance/Revisions	Symbol
05/04/00	Issued For Bidding	

GYMNASIUM ADDITION TO SUGAR CREEK ELEMENTARY SCHOOL

VERONA AREA SCHOOL DISTRICT

VERONA, WISCONSIN

Drawing Title:

ELECTRICAL GENERAL NOTES, SYMBOLS ABBREVIATIONS & SPECS

PLI Project Number: 9904100

Drawn By: GUY

Drawing No. E100

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1 / AE01 FLOOR PLAN – DEMOLITION
1/8" = 1' – 0"

NORTH

5 / E201 OCCUPANCY SENSOR CONTROL WIRING

4 / E201 FIXTURE MOUNTING DETAIL
NTS

LIGHTING FIXTURE SCHEDULE

TAG	LAMPS NO.	LAMPS TYPE	LAMPS WATTS	LAMPS DESCRIPTION	MOUNTING	MANUFACTURER & MODEL	REMARKS
A	8	CF	42	F42DBXT4/SPX35	CORD & HOOK	SPORTLITE LX800–T42PRL–120–HCP–2SL–35K–WG–DL	1,3
A1	8	CF	42	F42DBXT4/SPX35	CORD & HOOK	SPORTLITE LX800–T42PRL–120–HCP–2SL–35K–WG–DL–EP160	1,3
B	1	HPS	70	LU70	WALLPACK	RUUD E8507–1P	4
X	–	LED	–	–	SURFACE	PRESCOLITE LEDR1W–EWG5	2

REMARKS:

(1) FIXTURES TO BE CONSIDERED EQUAL IF QUALITY IS SAME ARE: SPI & SPORTLITE.
(2) FIXTURES TO CONSIDERED EQUAL IF QUALITY IS SAME ARE: CHLORIDE,DUAL–LITE,PRESCOLITE & LITHONIA.
(3) Mount bottom of type A & A1 fixtures level with the bottom of trusses.
(4) VERIFY EXISTING FIXTURES ARE HPS OTHERWISE PROVIDE 70W M.H.

GENERAL LIGHTING NOTES:

(symbol) INDICATES CEILING MOUNTED AND (symbol) INDICATES WALL MOUNTED. WALL MOUNT AT 8'–0" A.F.F.. VERIFY DOOR SWINGS WHEN NECESSARY. SEE PLANS FOR ARROW INDICATIONS.

ALL FIXTURES TO BE 120V.

ALL FLUORESCENT LAMPS AND COMPACT FLUORESCENT LAMPS WILL BE EQUIPED WITH ELECTRONIC BALLASTS.

PROVIDE FLUORESCENT EMERGENCY BALLAST AS REQUIRED TO PROVIDE A MINIMUM OF 700 TO 1000 LUMENS WITH 4 WATT OF IMPUT POWER AND 24 WATT–HOUR BATTERY CAPACITY.

ALL METAL HALIDE LAMPS TO BE COLOR CORRECTED. COORDINATE LAMP BURNING POSITIONS TO BE COMPATIBLE WITH FIXTURE.

ALL HPS LAMPS TO HAVE CLEAR ENVELOPE.

ALL LAMPS ARE BASED ON GENERAL ELECTRIC. EQUALS SHALL BE OSRAM/SYLVANIA, PHILIPS

ALL EXTERIOR LIGHTS SHALL BE MOUNTED AT 10' A.F.F. TO BOTTOM OF J–BOX UNLESS OTHERWISE NOTED ON DRAWINGS.

MOTOR SCHEDULE

MOTOR	EQUIPMENT	MECH. EQUIP. NO.	LOCATION ROOM NUMBER	RATING KW	RATING MCA	RATING H.P.	RATING VOLT	RATING PH.	STARTER BY M	STARTER BY E	DISCONNECT BY M	DISCONNECT BY E	CONTROL WIRING BY M	CONTROL WIRING BY E	INTER-LOCK WITH	VFD	WIRING NO.	WIRING SIZE	EM PWR	PANEL	BREAKER /CIRCUIT	REMARKS
1	AIR HANDLING UNIT	AHU–	44			5	208	3		E		E	M				3	#10		C1		1
2	CURTAIN	CURT	43			3/4	120	1		E		E	M				2	#12		C1		
3	BACKBOARD	BB	43			1/2	120	1		E		E	M				2	#12		C1		

NOTES:
1. COORDINATE THE INTERLOCK TO DISHWASHER HOOD IN THE KITCHEN WITH THE CONTROLS CONTRACTOR.

PANEL C1 A.I.C. = 10KA

AMPS 150 MAIN MLO VOLTS 120/208 PHASE 3 MOUNTING SURFACE LOCATION RM. 44

BRKR AMP	BRKR P	DESCRIPTION	CIRCUIT WATTS	CIRCUIT NO	PHASELOADS A	PHASELOADS B	PHASELOADS C	CIRCUIT NO	CIRCUIT WATTS	DESCRIPTION	BRKR AMP	BRKR P
X	1	SPACE	X	1	X			2	X	SPACE	X	1
X	1	SPACE	X	3		X		4	X	SPACE	X	1
X	1	SPACE	X	5			X	6	X	SPACE	X	1
X	1	SPACE	X	7	X			8	X	SPACE	X	1
X	1	SPACE	X	9		X		10	X	SPACE	X	1
X	1	SPACE	X	11			X	12	X	SPACE	X	1
X	1	SPACE	X	13	X			14	X	SPACE	X	1
X	1	SPACE	X	15		X		16	X	SPACE	X	1
X	1	SPACE	X	17			X	18	X	SPACE	X	1
X	1	SPACE	X	19	X			20	X	SPACE	X	1
X	1	SPACE	X	21		X		22	X	SPACE	X	1
X	1	SPACE	X	23			X	24	X	SPACE	X	1
20	1	GYM LIGHTS	1400	25	X			26	X	SPACE	X	1
20	1	GYM LIGHTS	1400	27		X		28	1400	GYM LIGHTS	20	1
20	1	GYM LIGHTS	1400	29			X	30	1200	GYM CEILING FANS	20	1
20	1	GYM RECEPTACLES	600	31	X			32	600	GYM RECEPTACLES	20	1
20	1	BACKBOARD	1200	33		X		34	2100			
20	1	BACKBOARD	1200	35			X	36	2100	AHU	35	3
20	1	CURTAIN	1656	37	X			38	2100			
20	1	OUTDOOR LIGHTS	200	39		X		40	600	TEMP CNTR PNL	20	1
20	1	SOUND SYSTEM	800	41			X	42	X	SPACE	X	1
					X	X	X					

ESTIMATED DEMAND LOAD: X_____WATTS
X_____AMPS

TOTAL CONNECTED LOADS: X_____WATTS
X_____AMPS

2 / E201 FLOOR PLAN – LIGHTING
1/8" = 1' – 0"

NORTH

3 / E201 FLOOR PLAN – POWER & LOW VOLTAGE
1/8" = 1' – 0"

NORTH

Potter Lawson

Consultants:

Notes:

ELECTRICAL GENERAL NOTES:

NO.	DESCRIPTION
1	PROVIDE CLOCK AND PAGING SPEAKER TO MATCH EXISTING EQUIPMENT. PROVIDE WIRING TO MASTER CLOCK AND PAGING SYSTEM IN MAIN OFFICE.
2	PROVIDE FIRE ALARM DEVICES TO MATCH EXISTING EQUIPMENT. PROVIDE WIRING TO EXISTING FIRE ALARM CONTROL PANEL LOCATED IN JANITOR CLOSET.

ELECTRICAL NOTES:

NO.	DESCRIPTION
1	PROVIDE (4) 4" CONDUITS FROM NEW TRANSFORMER LOCATION TO INTERCEPT EXISTING FEEDER CONDUITS NEAR EXISTING TRANSFORMER LOCATION. COORDINATE WITH UTILITY COMPANY FOR RE–ROUTED SERVICE.
2	PROVIDE WIRE GUARDS FOR EXISTING EXIT LIGHTS.
3	CEILING FANS SHALL BE LEADING EDGE 5600–ILC 56" FAN WITH LEADING EDGE 2800–I 62" FAN GUARD. COLOR OF FAN AND GAURD TO BE WHITE. PROVIDE SPEED CONTROL LEADING EDGE 12006.
4	WIRE NEW EXIT LIGHTS INTO EXISTING EMERGENCY EXIT LIGHTING CIRCUIT.
5	PROVIDE 150 AMP BREAKER IN MAIN SERVICE PANEL IN BASEMENT ELECTRICAL ROOM. PROVIDE NEW PANEL C1. PROVIDE (4) #1/0 & (1) #6 GROUND IN 2" CONDUIT FOR FEEDER TO PANEL C1.
6	PROVIDE GYM SOUND SYSTEM AND SOUND SPHERE AS ALTERNATE. PROVIDE RECEPTACLE FROM CIRCUIT SHOWN AS ALTERNATE. VERIFY LOCATION OF EQUIPMENT RACK WITH OWNER.
7	PROVIDE POWER & DISCONNECT TO CURTAIN AS ALTERNATE.
8	RELOCATE FRESH AIR INTAKE STARTER.
9	EXTEND EXISTING CIRCUIT.
10	EXTEND EXISTING WIRING.
11	PROVIDE (4) CONTACTORS ABOVE CEILING SPACE AND WIRE INTO EXISTING SWITCHES FOR CONTROL OF NEW GYM LIGHTS. WIRE THE OCCUPANCY SENSORS SUCH THAT BOTH SENSORS CONTROL ALL OF THE LIGHTS.

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Drawing Title: FLOOR PLAN ELECTRICAL

PLI Project Number: 9904100

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Drawn By: GUY

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