WATERFORD SCHOOL DISTRICT

BID PACKAGE #4
KETTERING HIGH SCHOOL SALES ADDITION

WATERFORD, MICHIGAN
PROJECT NO. 2014-057.1

NOVEMBER 14, 2014 BID DOCUMENTS

FRENCH associates

architects planners interiors

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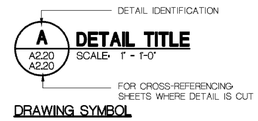
MATERIAL LEGEND

- SOIL
- ASPHALT AGGREGATE
- GRANULAR FILL
- STONE/GRAVEL
- CONCRETE
- CONCRETE MASONRY UNIT
- BRICK
- GLAZED HOLLOW CMU
- STRUCTURAL GLAZED TILE
- LIMESTONE
- MARBLE
- FINISH WOOD
- COMPOSITION/PLYWOOD
- CONTINUOUS WOOD BLOCKING
- INTERRUPTED WOOD BLOCKING OR SHIMS
- BATT INSULATION
- RIGID INSULATION
- PREMOLDED EXPANSION JOINT OR COMPRESSIBLE FILLER STRIP
- PLASTER OR GYPSUM BOARD
- CERAMIC OR QUARRY TILE
- TERRAZZO
- ACOUSTICAL PANEL OR ACOUSTICAL TILE
- EXISTING MATERIAL (IN SECTION)
- EXISTING MATERIAL (IN PLAN)
- DEMOLITION - TO BE REMOVED

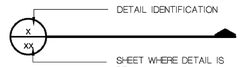
ABBREVIATIONS

AC	AIR CONDITIONING
ACOUST	ACOUSTICAL
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AGG	AGGREGATE
ALT	ALTERNATE
AL/ALUM	ALUMINUM
APPROX	APPROXIMATE
ARCH	ARCHITECT(URAL)
ASPH	ASPHALT
AV	AUDIOVISUAL
L	ANGLE
BIT	BITUMINOUS
BD	BOARD
BF	BARRIER FREE
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BENCH MARK/BEAM
BOT	BOTTOM
BRG	BEARING
BUR	BUILT-UP ROOF
CAB	CABINET
CUH	CABINET UNIT HEATER
CB	CHALKBOARD/CATCH BASIN
CER	CERAMIC
CFM	CUBIC FEET PER MINUTE
CEM	CEMENT
CJ	CONTROL JOINT
CL	CENTERLINE
CLR	CLEAR
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPACTED
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS/CONTINUE
CONTR	CONTRACTOR
CORR	CORRUGATED
CPT	CARPET
CT	CERAMIC TILE
CU	CONDENSING UNIT
CUSP	CUSPIDOR
D	DEPTH/DEEP
°	DEGREE
DC	DISPLAY CASE
DEMO	DEMOLISH/DEMOLITION
DTL	DETAIL
DF	DRINKING FOUNTAIN
DIA/ϕ	DIAMETER
DIM	DIMENSION
DIV	DIVISION
DMB	DRY MARKER BOARD
DWG	DRAWING
DS	DOWNSPOUT
EA	EACH
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC(AL)
ELEV	ELEVATOR
EP	ELECTRICAL PANELBOARD
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EXH	EXHAUST
EX/EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FD	FLOOR DRAIN
FF	FORCED FLOW CABINET HEATER
FHC	FIRE HOSE CABINET
FIN	FINISH
FIN FL	FINISH FLOOR
FLR	FLOOR
FOUND	FOUNDATION
FT/'	FEET
FTG	FOOTING
FEC	FIRE EXTINGUISHER CABINET
GA	GAUGE
GALV	GALVANIZE(D)
GB	GRAB BARS
GHT	GLAZED HOLLOW TILE
GL	GLASS
GLZD	GLAZED
GYP	GYPSUM
H/HGT	HEIGHT
HB	HOSE BIB
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HVAC	HEATING/VENTILATING/ AIR CONDITIONING
ID	INSIDE DIAMETER
IN/"	INCH
INCL	INCLUDE(D)(ING)
INSUL	INSULATION/INSULATE
INT	INTERIOR
KIT	KITCHEN
JST	JOIST
JT	JOINT
L	LENGTH
LAM	LAMINATE(D)
LAV	LAVATORY
LB/#	POUND
LKR	LOCKER
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION(S)
LP	LOW POINT
MANUF	MANUFACTURER
MAR	MARBLE THRESHOLD
MB	MARKER BOARD
MAS	MASONRY
MAT	MATERIAL
MAU	MAKE UP AIR UNIT
MAX	MAXIMUM
MECH	MECHANICAL
MEZZ	MEZZANINE
MIN	MINIMUM / MINUTE
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MET/MTL	METAL
MT	METAL THRESHOLD
NIC	NOT IN CONTRACT
NO/#	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHD	OVERHEAD DOOR
OPNG	OPENING
OPP	OPPOSITE
PART	PARTICLE
PL	PLATE/PROPERITY LINE
PLAS	PLASTER
PLAM	PLASTIC LAM
PLYWD	PLYWOOD
PREFAB	PREFABRICATED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PTD	PAINTED
PVC	POLYVINYL CHLORIDE
R	RISER/RADIUS
RC	RAIN CONDUCTOR
RES	RESILIENT
RS	ROOF SUMP
REF	REFERENCE
REFR	REFRIGERATOR
REINF	REINFORCING
REQ'D	REQUIRED
REV	REVISION(S)
RF	ROOF EXHAUST FAN
RM	REMOVABLE MULLION/ROOM
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RTU	ROOF TOP UNIT
RV	ROOF VENT
S	SINK
SCHED	SCHEDULE
SEC	SECTION
SHT	SHEET
SIM	SIMILAR
SPEC(S)	SPECIFICATION(S)
SPKR	SPEAKER
SQ	SQUARE
SS	SERVICE SINK/STAINLESS STEEL
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SCHED	SCHEDULE
T	TREAD
T&B	TOP AND BOTTOM
TB	TACK BOARD
TC	TOP OF CURB
TEMP	TEMPERED
TER	TERRAZZO
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TV	TELEVISION
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
VCT	VINYL COMPOSITION TILE
VCG	VINYL COVERED GYPSUM BOARD
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WH	WATER HEATER
WP	WORKING POINT
WWF	WELDED WIRE FABRIC

SYMBOL LEGEND

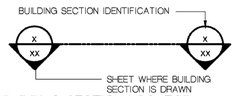


DRAWING SYMBOL

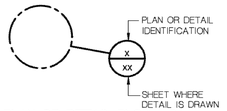


DETAIL LOCATOR

ELEVATION SYMBOL



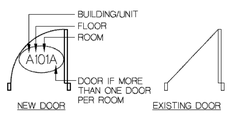
BUILDING SECTION LOCATOR



PLAN OR DETAIL BLOW-UP

COLUMN GRID

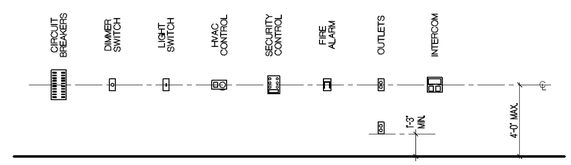
ROOM NAME AND NUMBER



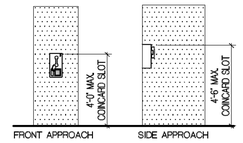
DOOR NUMBER AND SYMBOLS

MISCELLANEOUS SYMBOLS

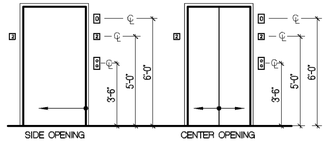
MOUNTING HEIGHTS



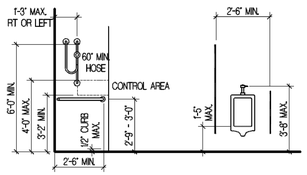
CONVENIENCE CONTROLS AND OUTLETS



TELEPHONES

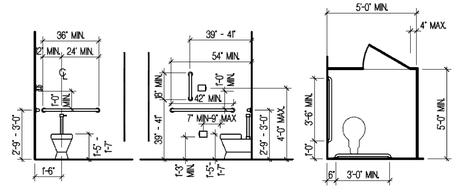


ELEVATORS



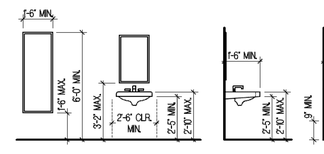
SHOWER UNIT

BARRIER FREE URINAL

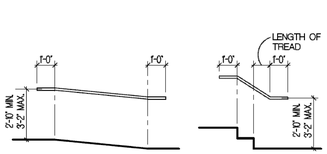


BARRIER FREE WATER CLOSET

STALL LAYOUT

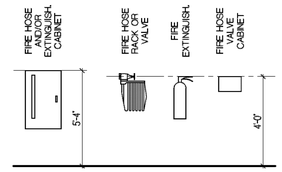


BARRIER FREE LAVATORIES AND MIRRORS

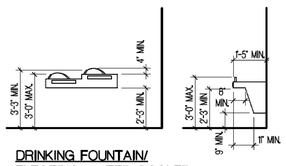


RAMP HANDRAIL

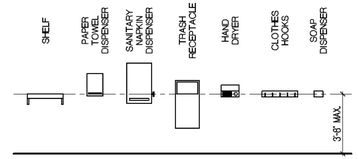
STAIR HANDRAIL



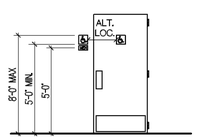
FIRE EXTINGUISHER EQUIPMENT



DRINKING FOUNTAIN/ ELECTRIC WATER COOLER

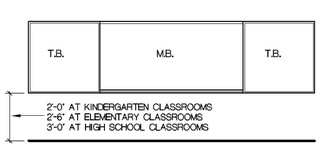


TOILET ROOM ACCESSORIES



TOILET ROOM SIGNAGE

NOTE: HEIGHT ABOVE FLOOR TO BASELINE OF CHARACTER TO COMPLY WITH ICC/ANSI A117.1-2003 TABLE 703.2.4



TACK BOARDS AND MARKER BOARDS

ISSUE DATE	ISSUED FOR
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PROJECT

KETTERING HIGH SCHOOL BID PACK #4 SALES ADDITION

Waterford, Michigan

SHEET

Architectural Reference Sheet

PROJECT NUMBER

2014-057.1

SHEET NUMBER

A0.01

CODE PLAN INFORMATION

1) DESIGN CODE

A) 2009 MICHIGAN BUILDING CODE AND 1999 SCHOOL FIRE SAFETY RULES

2) DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE (106.3.4)

A) A REPRESENTATIVE OF FRENCH ASSOCIATES WILL BE THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.

3) GENERAL HEIGHTS AND BUILDING AREAS (CHAPTER 5)

A) THE ADDITIONS ARE SEPARATED FROM THE EXISTING BUILDING BY A 2-HOUR RATED FIRE WALL THAT COMPLIES WITH MBC SECTION 706.
B) THE ADDITIONS ARE NOT SPRINKLED. THE EXISTING BUILDING IS FULLY SPRINKLED.

C) THE ADDITION IS OCCUPANCY TYPE A-5, CONSTRUCTION TYPE 2B.

I) ALLOWABLE HEIGHT AND AREA FOR USE GROUP A-5 IS UNLIMITED HEIGHT AND AREA.
II) ACTUAL AREA OF ADDITIONS = 1,207 SF (RESTROOMS) AND 751 SF (SALES)

D) USING THE SCHOOL FIRE SAFETY RULES FOR THE ADDITION

I) USE IS NEW EDUCATIONAL, CONSTRUCTION TYPE IS II-000.
II) ALLOWABLE AREA = 14,800 SQUARE FEET.
III) ACTUAL AREA OF ADDITION IS 1,207 SF FOR RESTROOM ADDITION AND 751 SF FOR SLES ADDITION.

4) TYPE OF CONSTRUCTION (CHAPTER 6)

A) TYPE 2B (II UNPROTECTED).
B) FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (TABLE 601)

I) STRUCTURAL FRAME - 0
II) BEARING WALLS - 0
III) NON-BEARING WALLS AND PARTITIONS (GREATER THAN 30' SEPARATION DISTANCE) - 0
(IV) FLOOR CONSTRUCTION - 0
V) ROOF CONSTRUCTION - 0

5) FIRE-RESISTANCE-RATED CONSTRUCTION (CHAPTER 7)

A) EXTERIOR WALLS IN ACCORDANCE WITH SECTION 705.
B) THE ADDITIONS ARE SEPARATED FROM THE EXISTING BUILDING WITH FIRE WALLS IN ACCORDANCE WITH SECTION 706
I) FIRE WALL RATING IS 2-HOURS TO COMPLY WITH TABLE 706.4 FOR USE GROUP A, FOOTNOTE A (2 HOUR RATED FOR TYPE 2 CONSTRUCTION).
II) 706.5 HORIZONTAL CONTINUITY. EXCEPTION 1- THE FIRE WALL TERMINATES AT THE INTERIOR SURFACE OF NON-COMBUSTIBLE EXTERIOR SHEATHING PROVIDED THE EXTERIOR WALL HAS A FIRE RESISTANCE RATING OF 1 HOUR FOR AT LEAST 4' ON BOTH SIDES OF THE FIRE WALL.
III) 706.5.1 EXTERIOR WALLS- WHERE THE FIRE WALL INTERSECTS EXTERIOR WALLS WE COMPLY WITH OPTION 1; THE EXTERIOR WALLS ON BOTH SIDES SHALL HAVE A 1 HOUR RATING WITH 45 MINUTE RATED OPENINGS FOR A DISTANCE OF 4', THERE IS AN OPENING IN THE EXTERIOR WALL OF THE RESTROOM ADDITION WITHIN 4' OF THE FIRE WALL, THIS OPENING HAS A45 MINUTE RATING.
IV) VERTICAL CONTINUITY 706.6 AND STEPPED BUILDINGS 706.6.1- WE COMPLY WITH EXCEPTION 1, THE FIRE WALL CAN TERMINATE AT THE UNDERSIDE OF THE ROOF DECK IF THE LOWER ROOF ASSEMBLY WITHIN 10' HAS A 1 HOUR RATING AND THERE ARE NO OPENINGS WITHIN 10' OF THE FIRE WALL. WE ARE RUNNING THE FIRE WALL PAST THE ROOF TO THE ADDITION EXTERIOR WALL HEIGHT AND ARE PROVIDING A 1 HOUR RATED ROOF ASSEMBLY (SPRAY ON FIREPROOFING ON STEEL ROOM BEAMS AND DECK).

6) INTERIOR FINISHES (CHAPTER 8)

A) INTERIOR WALL AND CEILING FINISHES FOR EXIT ENCLOSURES AND EXIT PASSAGEWAYS SHALL BE MINIMUM CLASS A (TABLE 803.9)
B) INTERIOR WALL AND CEILING FINISHES FOR CORRIDORS SHALL BE MINIMUM CLASS A (TABLE 803.9).
C) INTERIOR WALL AND CEILING FINISHES FOR ROOMS AND ENCLOSED SPACES SHALL BE MINIMUM CLASS C (TABLE 803.9).

7) FIRE PROTECTION SYSTEMS (CHAPTER 9)

A) THE ADDITIONS ARE NOT SPRINKLED.

8) MEANS OF EGRESS (CHAPTER 10)

A) OCCUPANT LOAD FOR MEANS OF EGRESS (SECTION 1004)
I) THE SPACES IN EACH ADDITION HAVE AN OCCUPANT LOAD OF LESS THAN 50 AND ALL HAVE A SINGLE MEANS OF EGRESS.

B) REQUIRED MINIMUM EGRESS WIDTH PER OCCUPANT SERVED (SECTION 1005)
I) REQUIRED EGRESS WIDTH IS 0.2" PER OCCUPANT.

9) ACCESSIBILITY (CHAPTER 11)

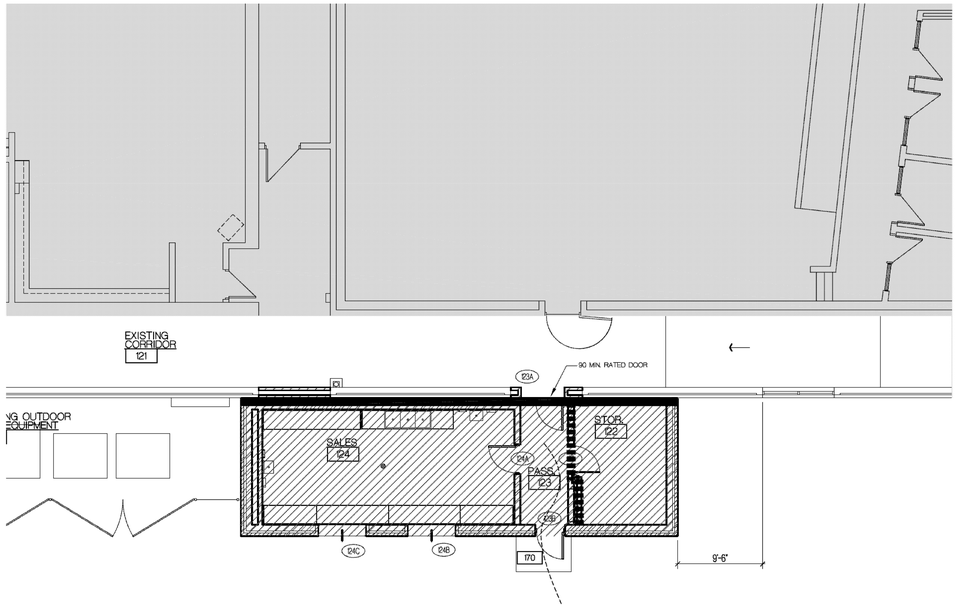
A) INTERIOR AND EXTERIOR DOORS COMPLY WITH ACCESSIBILITY REQUIREMENTS.

CODE PLAN LEGEND

- INDICATES 2 HOUR RATED FIRE WALL WITH 90 MINUTE RATED OPENINGS
- INDICATES 1 HOUR RATED FIRE BARRIER WITH 45 MINUTE RATED OPENINGS
- INDICATES 1 HOUR RATED ROOF CONSTRUCTION
- EGRESS ROUTE
- [-] EGRESS DOOR CAPACITY

BUILDING CODE INFORMATION

1. ADDITION IS A5 OCCUPANCY
2. ADDITION IS TYPE 2B CONSTRUCTION
3. SALES ADDITON - 751 SF.
4. ADDITION IS NOT SPRINKLED



NEW WORK CODE PLAN
SALES ADDITION
SCALE: 1/8" = 1'-0"

KEY PLAN

ISSUE DATE	ISSUED FOR
11/14/14	BID DOCUMENTS
DRAWN	DWJ
CHECKED	DWJ
APPROVED	PAC

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KETTERING
HIGH SCHOOL
BID PACK #4
SALES ADDITION

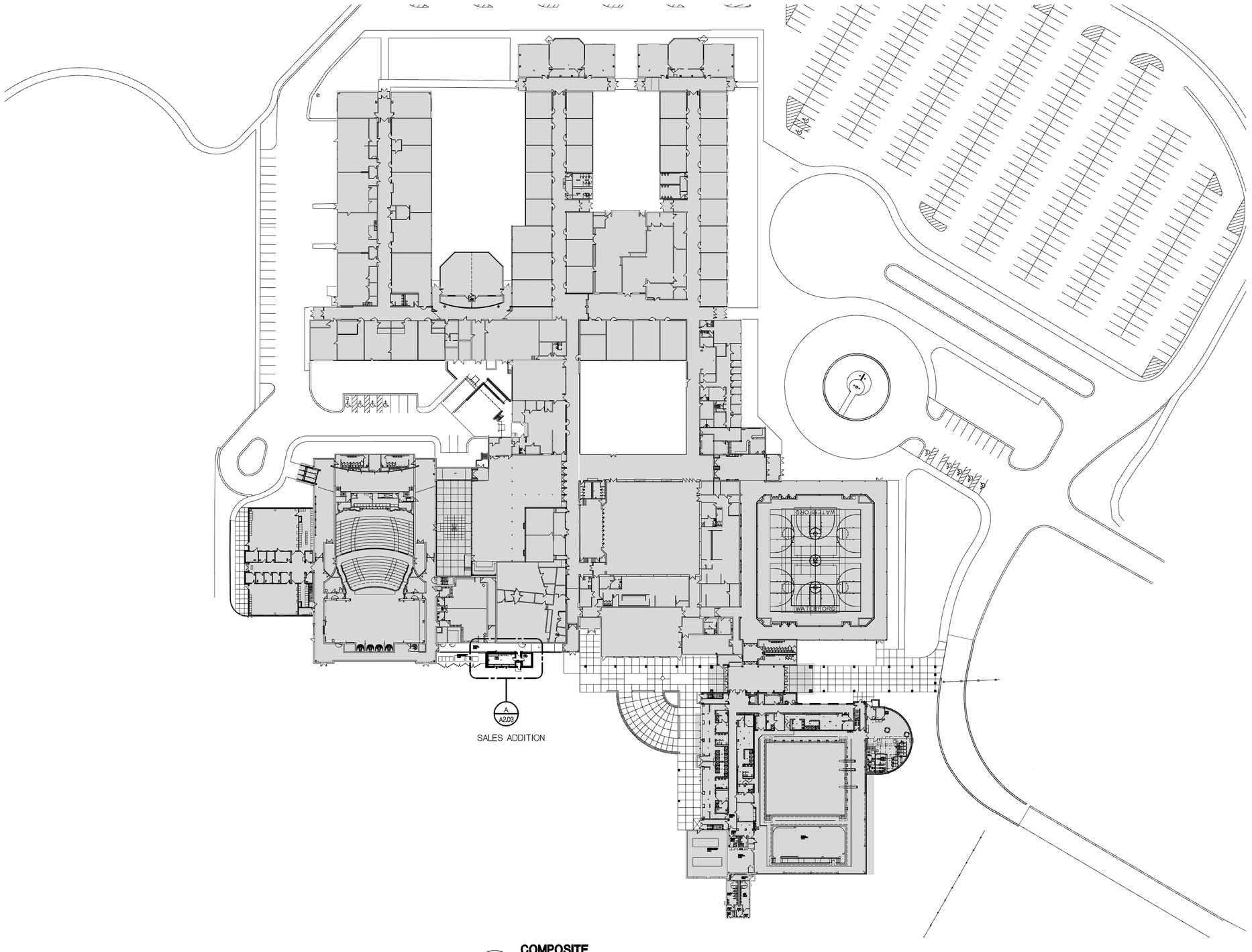
Waterford,
Michigan

SHEET
Sales Addition
Code Plan

PROJECT NUMBER
2014-057.1

SHEET NUMBER
A0.02C

2014-057.1 Kettering High School Bid Pack #4 Sales Addition



SALES ADDITION

COMPOSITE FLOOR PLAN
SCALE: 1" - 50'-0"

KEY PLAN

ISSUE DATE	ISSUED FOR
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PROJECT

KETTERING
HIGH SCHOOL
BID PACK #4
SALES ADDITION

Waterford,
Michigan

SHEET

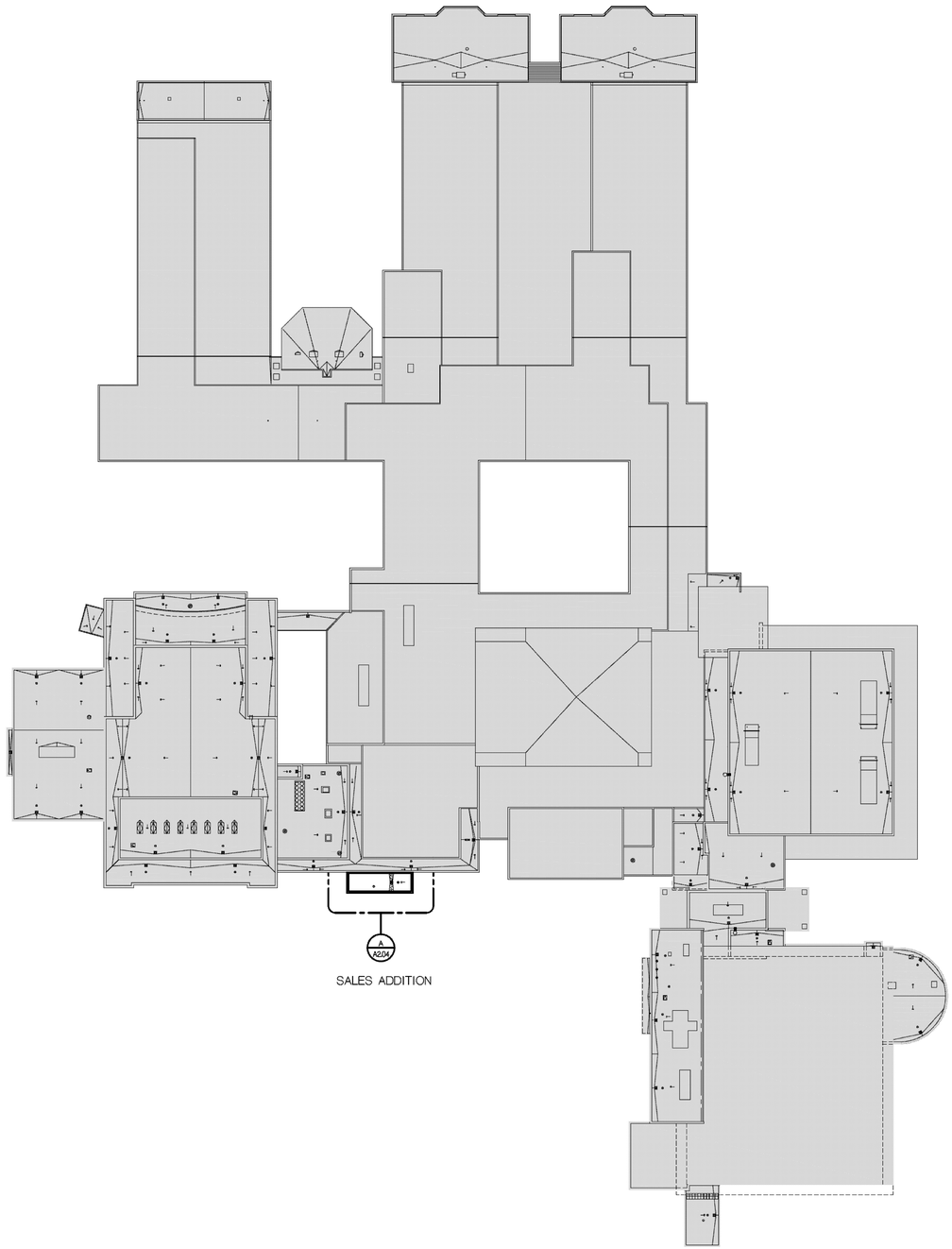
Composite
Floor Plan

PROJECT NUMBER

2014-057.1

SHEET NUMBER

A2.00



SALES ADDITION

COMPOSITE ROOF PLAN
SCALE: 1" = 50'-0"

KEY PLAN

ISSUE DATE	ISSUED FOR
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PROJECT

KETTERING
HIGH SCHOOL
BID PACK #4
SALES ADDITION

Waterford,
Michigan

SHEET

Composite
Roof Plan

PROJECT NUMBER

2014-057.1

SHEET NUMBER

A2.01

EQUIPMENT SCHEDULE

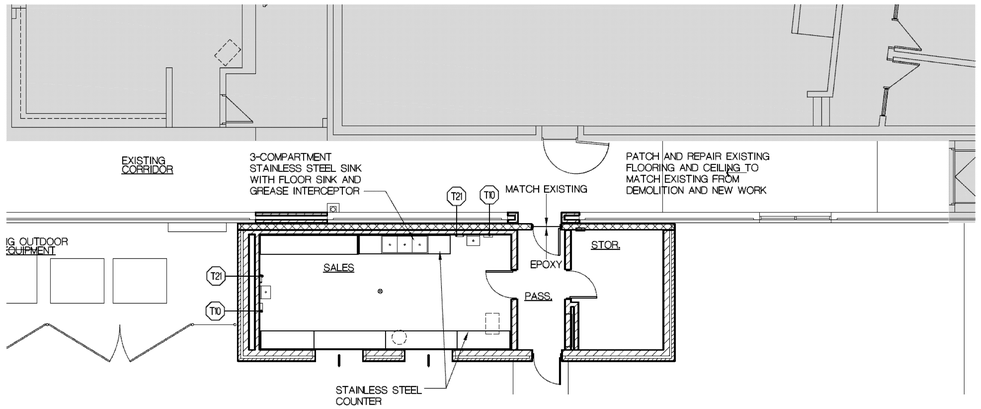
	ITEM NO.	ITEM DESCRIPTION	DESIGN NO.	SIZE W x H x D	REMARKS
	T10	PAPER TOWEL ROLL	B-4262	-	1
	T21	SOAP DISPENSER - LIQUID	B-2112	-	1

EQUIPMENT SCHEDULE GENERAL NOTES

A. TOILET ROOM EQUIPMENT MODEL NUMBERS ARE BASED ON BOBRICK AS A BASIS OF DESIGN

EQUIPMENT SCHEDULE REMARKS

1. PROVIDED BY OWNER.



SALES ADDITION
EQUIPMENT FLOOR PLAN

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

FLOOR PLAN LEGEND

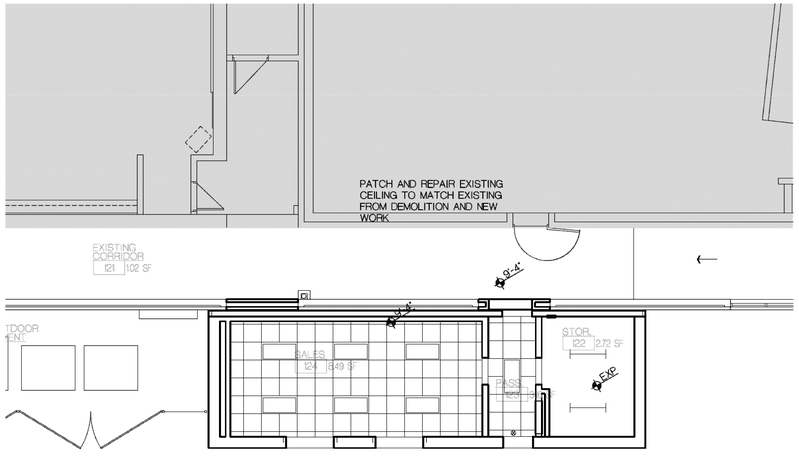
- C.M.U. PARTITION TO UNDERSIDE OF DECK AS DIMENSIONED
- FIRE WALL PARTITION AS DIMENSIONED

FLOOR PLAN NOTES

1. ALL INTERIOR PARTITIONS SHALL EXTEND UP TO UNDERSIDE OF ROOF DECK UNLESS OTHERWISE INDICATED.
2. PROVIDE BATT SOUND ATTENUATION INSULATION ABOVE CEILING, 4'-0" EACH SIDE OF PARTITION, FOR PARTITIONS THAT DO NOT EXTEND UP TO ROOF DECK.

REFLECTED CEILING PLAN LEGEND

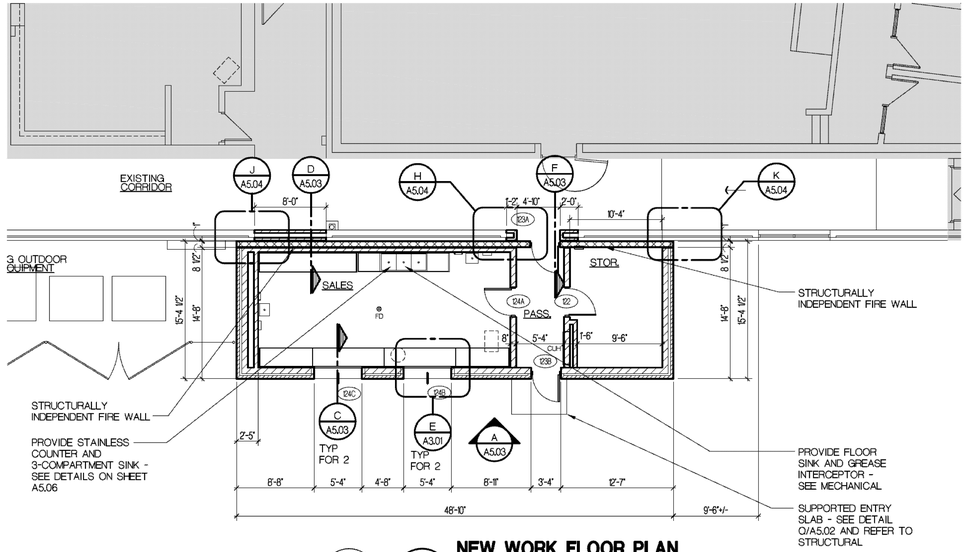
- LAY-IN CEILING IN SUSPENDED METAL GRID 2x2 OR 2x4, SEE CEILING PLAN
- PAINTED GYPSUM BOARD
- METAL SOFFIT PANELS
- ELEVATION OF CEILING ABOVE FINISH FLOOR
- RECESSED INCANDESCENT LIGHT FIXTURE
- FLUORESCENT LIGHT FIXTURE
- TRACK LIGHTING
- EXIT LIGHT FIXTURE
- EXTERIOR LIGHT FIXTURE
- EXPOSED CEILING HUNG LIGHT FIXTURE
- SUPPLY AIR DIFFUSER
- RETURN AIR GRILLE
- LINEAR SLOT DIFFUSER
- RADIANT CEILING PANEL



NEW WORK REFLECTED CEILING PLAN
SALES ADDITION

B / A2.00

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



NEW WORK FLOOR PLAN
SALES ADDITION

A / A2.00

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

KEY PLAN

ISSUE DATE	ISSUED FOR
11/14/14	BID DOCUMENTS

DRAWN	DWJ
CHECKED	DWJ
APPROVED	PAC

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PROJECT

KETTERING
HIGH SCHOOL
BID PACK #4
SALES ADDITION

Waterford,
Michigan

SHEET

Sales Addition
New Work Floor Plan
Reflected Ceiling and
Equipment Plan

PROJECT NUMBER

2014-057.1

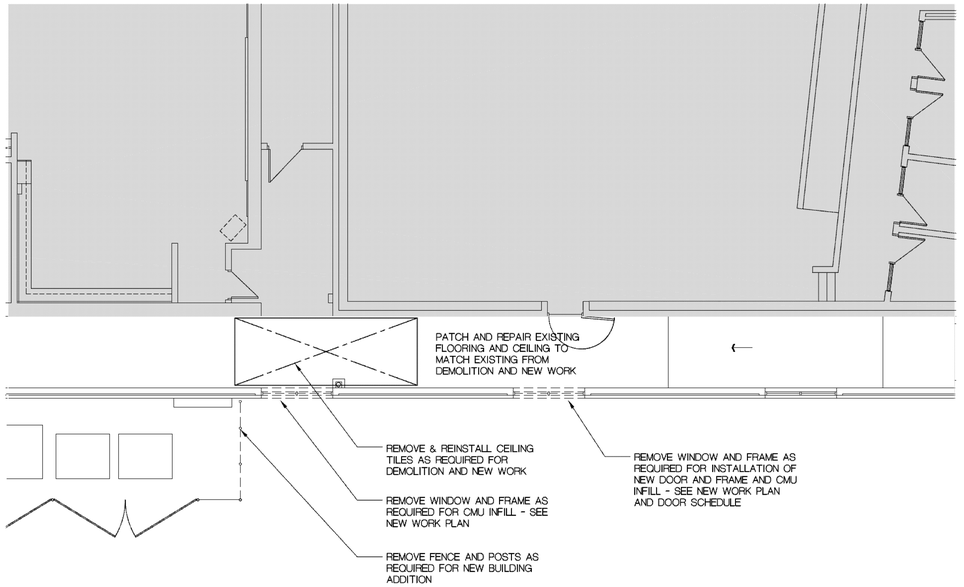
SHEET NUMBER

A2.03

2014-057.1 Kettering High School Bid Pack #4 Sales Addition

DEMO NOTES FOR WIDENING EXISTING MASONRY OPENING:

1. REMOVE EXISTING LINTEL AND 1 COURSE OF EXISTING CMU AT EXISTING DOOR HEAD.
2. SHORE EXSITNG WALL AS REQUIRED FOR PLACEMENT OF NEW LINTEL.



A **SALES ADDITION DEMOLITION FLOOR PLAN**
SCALE: 1/8" = 1'-0"

KEY PLAN

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APPROVED	PAC

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PROJECT
KETTERING
HIGH SCHOOL
BID PACK #4
SALES ADDITION

Waterford,
Michigan

SHEET
Sales Addition
Demolition Plan

PROJECT NUMBER
2014-057.1

SHEET NUMBER
D2.03

KEY

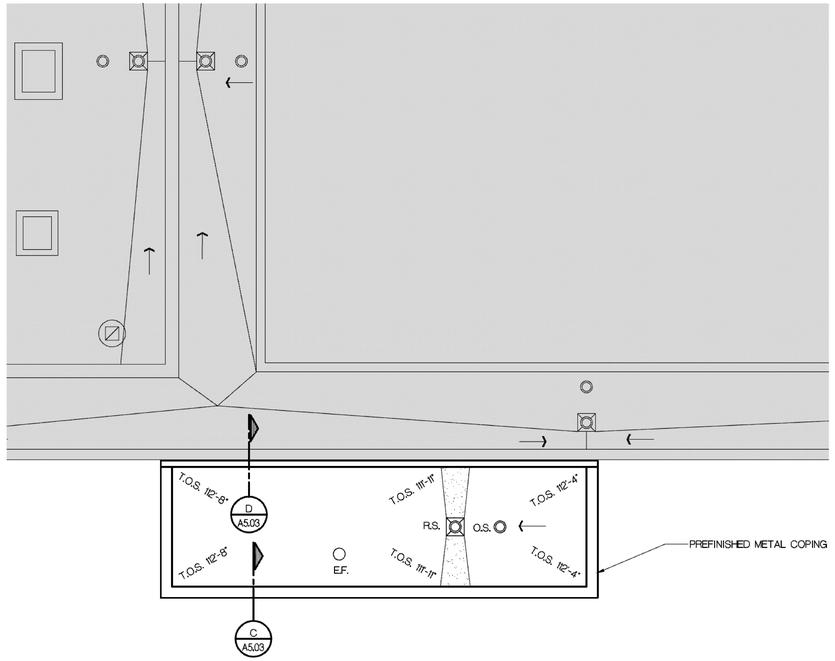
⟵	INDICATES DIRECTION OF SLOPE
E.F.	EXHAUST FAN -SEE MECHANICAL
G.R.H.	GRAVITY RELIEF HOOD PER MECHANICAL
I.H.	INTAKE HOOD PER MECHANICAL
O.S.	OVERFLOW SUMP
R.S.	ROOF SUMP
R.T.U.	ROOF TOP UNIT PER MECHANICAL

LEGEND

- NEW ADHERED MEMBRANE ROOF
- EXISTING ROOFING TO REMAIN. REPAIR AS REQUIRED FOR WORK BY OTHER TRADES.
- TAPERED INSULATION

ROOF NOTES

1. NEW ADHERED EPDM ROOFING SYSTEM ON 3" MIN. ROOF INSULATION.
2. STEEL ELEVATIONS PROVIDE GENERAL SLOPE DIRECTION. ROOFING CONTRACTOR TO PROVIDE A MINIMUM OF 1/4" PER FOOT SLOPE TO SUMPS IN ALL DIRECTIONS UTILIZING TAPERED INSULATION AS REQUIRED. PROVIDE INSUL. FORMED SADDLES OR CRICKETS BETWEEN ROOF SUMPS TO INSURE PROPER DRAINAGE.
3. VERIFY ROOF OPENING/EQUIPMENT SIZES AT LOCATIONS WITH MECHANICAL. MAINTAIN PROPER FLASHINGS AND DRAINAGE AROUND CURBS AT OPENINGS AS REQUIRED.
4. BASE INSULATION SHALL CONSIST OF TWO (2) LAYERS OF 1.5" THICK RIGID ROOF INSUL. PROVIDE TAPERED AREAS AS REQUIRED FOR PROPER DRAINAGE. ROOFING CONTRACTOR SHALL VERIFY COMPATIBILITY OF ALL INSUL. MATERIALS WITH MEMBRANE SUPPLIER.
5. ROOF DETAILS ARE SHOWN FOR REFERENCE ONLY. ROOFG. CONTR. TO PROVIDE APPROPRIATE DETAIL/ASSEMBLY AS PER MANUFACTURE REQUIREMENTS FOR APPRVD. ROOFG. INSTALL./WARRANTY.



SALES ADDITION ROOF PLAN
SCALE: 1/8" = 1'-0"

KEY PLAN

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CHECKED	DWJ
APPROVED	PAC

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PROJECT
KETTERING
HIGH SCHOOL
BID PACK #4
SALES ADDITION

Waterford,
Michigan

SHEET
Sales Addition
Roof Plan

PROJECT NUMBER
2014-057.1

SHEET NUMBER
A2.04

ROOM FINISH SCHEDULE - SALES ADDITION

RM. NO.	ROOM NAME	FLOOR		BASE		WALLS								DOOR FRAME	CEILING			MILLWORK/ CASEWORK		REMARKS
						NORTH		EAST		SOUTH		WEST								
		MAT.	FINISH	MAT.	FINISH	MAT.	FINISH	MAT.	FINISH	MAT.	FINISH	MAT.	FINISH		MAT.	FINISH	HGT.	M/C	FINISH	
122	STOR.	CONC	SEAL	RB	B1	CMU	PX1	CMU	PX1	CMU	PX1	CMU	PX1	-	EXP	-	-	-	-	NOTE C
123	PASS.	CONC	EPOXY	RB	B1	CMU	PX1	CMU	PX1	CMU	PX1	CMU	PX1	-	ACT	AT1	9'-4"	-	-	NOTE C
124	SALES	CONC	EPOXY	RB	B1	CMU	PX1	CMU	PX1	CMU	PX1	CMU	PX1	-	ACT	AT1	9'-4"	-	-	NOTE C

ROOM FINISH SCHEDULE ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	EXIST	EXISTING	PLAM	PLASTIC LAMINATE	SS	STAINLESS STEEL
ANOD	ANODIZED	EXPO	EXPOSED	PLAS	VENEER PLASTER	SSM	SOLID SURFACE MATERIAL
B CMU	BURNISHED CMU	GL	GLASS	PT	PORCELAIN TILE	SP CMU	SPLIT FACE CMU
BRICK	BRICK	GCMU	GLAZED CMU	PTD	PAINTED	SPI	SPORTS IMPACT
CMU	CONCRETE MASONRY UNIT	GYP	GYPSUM BOARD	QT	QUARRY TILE	SV	SHEET VINYL
CONC	CONCRETE	LMC	LINEAR METAL CEILING	RBF	RUBBER TILE	TER	TERRAZZO
CPL	CEMENT PLASTER	MP	METAL PANEL	RB	RESILIENT WALL BASE	VCT	VINYL COMPOSITION TILE
CPT	CARPET	NSF	NON-SLIP FINISH	SAAC	SPRAY-APPLIED ACOUSTICAL COATING	WP	WATERPROOF
CT	CERAMIC TILE	PARTN	MOVEABLE PARTITION	SEAL	CONCRETE SEALER		

ROOM FINISH SCHEDULE GENERAL NOTES

A. PROVIDE RADIUS EDGE AT COUNTERTOPS.

B. MATCH EXISTING FINISHES INCLUDING FLOORING MATERIAL, CEILING SYSTEM, AND PAINT COLORS AS REQUIRED FROM DEMOLITION AND NEW WORL

MATERIAL ABBREVIATIONS

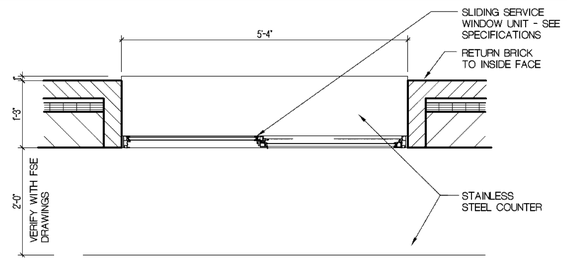
ACT	ACOUSTICAL CEILING TILE	CPT	CARPET	NSF	NON-SLIP FINISH	RB	RESILIENT WALL BASE	VCT	VINYL COMPOSITION TILE
ANOD	ANODIZED	CT	CERAMIC TILE	PLAM	PLASTIC LAMINATE	RES	EPOXY RESIN	VW	VINYL WALLCOVERING
B CMU	BURNISHED CMU	EXP	EXPOSED	PLAS	VENEER PLASTER	SEAL	CONCRETE SEALER	WD	WOOD
CONC	CONCRETE	GL	GLASS	PT	PORCELAIN TILE	SS	STAINLESS STEEL		
CMU	CONCRETE MASONRY UNIT	GCMU	GLAZED CMU	QT	QUARRY TILE	SSM	SOLID SURFACE MATERIAL		
CPL	CEMENT PLASTER	MF	MASONITE FLOORING	RBF	RUBBER FLOORING	SV	SHEET VINYL		

ROOM FINISH SCHEDULE ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	EXIST	EXISTING	PLAM	PLASTIC LAMINATE	SS	STAINLESS STEEL
ANOD	ANODIZED	EXPO	EXPOSED	PLAS	VENEER PLASTER	SSM	SOLID SURFACE MATERIAL
B CMU	BURNISHED CMU	GL	GLASS	PT	PORCELAIN TILE	SP CMU	SPLIT FACE CMU
BRICK	BRICK	GCMU	GLAZED CMU	PTD	PAINTED	SPI	SPORTS IMPACT
CMU	CONCRETE MASONRY UNIT	GYP	GYPSUM BOARD	QT	QUARRY TILE	SV	SHEET VINYL
CONC	CONCRETE	LMC	LINEAR METAL CEILING	RBF	RUBBER TILE	TER	TERRAZZO
CPL	CEMENT PLASTER	MP	METAL PANEL	RB	RESILIENT WALL BASE	VCT	VINYL COMPOSITION TILE
CPT	CARPET	NSF	NON-SLIP FINISH	SAAC	SPRAY-APPLIED ACOUSTICAL COATING	WP	WATERPROOF
CT	CERAMIC TILE	PARTN	MOVEABLE PARTITION	SEAL	CONCRETE SEALER		

MATERIAL AND COLOR SCHEDULE

	KEY	MANUFACTURER	STYLE	COLOR	SPECS	NOTES
ACOUSTICAL TILE	AT1	ARMSTRONG	CLEAN ROOM MYLAR	WHITE	24" x 24" x 3/4"	SQUARE LAY-IN
BASE	B1	ARMSTRONG	4" HIGH COVE	COLOR 1		
	B2	ARMSTRONG	4" HIGH COVE	COLOR 1		
	B3	ASTRA	8" GLAZED BLOCK	EGGSHELL		TO MATCH EXISTING
	B6	AMERICAN OLEAN	4" ROUND TOP COVE	MATCH EXISTING		TO MATCH EXISTING
CERAMIC TILE	CT9	DALTILE	1" X 1" MOSAICS	CUSTOM BLEND	DALTILE NO. 3696	TO MATCH EXISTING
PAINT	P1	SHERWIN-WILLIAMS	EPOXY	TO BE SELECTED	SEMI-GLOSS	
	P2	SHERWIN WILLIAMS	EPOXY	TO BE SELECTED	SEMI-GLOSS	
	P3	MATCH EXISTING	MATCH EXISTING	MATCH EXISTING	SEMI-GLOSS	TO MATCH EXISTING
MISC	EPOXY		TERRACHIP	TO BE SELECTED		REFER TO SPECIFICATIONS
	SSM1	CORIAN	1/2" THICK	TO BE SELECTED	SOLID SURFACE MATERIAL	AS SHOWN ON DRAWINGS
	V1	MANNINGTON	ESSENTAILS	131 OYSTER WHITE		TO MATCH EXISTING
	V2	MANNINGTON	ESSENTAILS	137 SANDRIFT		TO MATCH EXISTING
	V3	MANNINGTON	ESSENTAILS	125 SILVER PINE		TO MATCH EXISTING



E A3.01 **JAMB DETAIL** SCALE: 3/4" = 1'-0"

DOOR SCHEDULE - SALES ADDITION

DOOR NO.	DOOR SIZE	DOOR			FRAME					H.W. NO.	MIN./ LABEL	LINTEL MAT.	REMARKS
		TYPE	MAT.	FIN.	TYPE	MAT.	FIN.	JAMB *	HEAD *				
122	3'-0" x 7'-0"	F	HM	PT	1	HM	PT	A	B	11	45	-	-
123A	3'-0" x 7'-0"	F	HM	PT	1	HM	PT	A	B	08	90	-	-
123B	3'-0" x 7'-0"	G	FRP	PREF	1	HM	PT	C	D	07	-	-	-
124A	3'-0" x 7'-0"	F	HM	PT	1	HM	PT	A	B	12	-	-	-
124B	5'-4" x 8'-0"	-	-	-	-	-	-	E	D/A5.04	10	-	-	WINDOW
124C	5'-4" x 8'-0"	-	-	-	-	-	-	E	D/A5.04	10	-	-	WINDOW

DOOR SCHEDULE ABBREVIATIONS

AL	ALUMINUM	PC	PRECAST CONCRETE
ANOD	ANODIZED	PLAM	PLASTIC LAMINATE
APC	ARCHITECTURAL PRECAST LINTEL	PREF	PREFINISHED
CWF	CURTAINWALL FRAMING	PTD	PAINTED
EXIST	EXISTING	SIM	SIMILAR
FRP	FIBERGLASS REINFORCED POLYESTER	SS	STAINLESS STEEL
GL	GLASS	STL	STEEL
HM	HOLLOW METAL	SFF	STOREFRONT FRAMING
LGF	LIGHT GAUGE FRAMING	TS	TUBE STEEL
ML	MASONRY LINTEL	WD	WOOD
MSF	METAL STUD FRAMING	WDSC	WOOD - SOUND CONTROL

DOOR SCHEDULE GENERAL NOTES

* FRAME DETAILS ARE ON SHEET A3.01 UNLESS NOTED OTHERWISE

A. DOOR UNDERCUTS FOR MECHANICAL REQUIREMENTS ARE LIMITED TO 5/8" MAX. CLEAR DISTANCE MEASURED FROM THE TOP OF THE FINISHED FLOOR MATERIAL OR THRESHOLD TO THE BOTTOM EDGE OF THE DOOR. STANDARD TOLERANCES OF UNDERCUTTING OF DOORS FOR THRESHOLDS AND OTHER FLOOR COVERING MATERIALS ARE NOT NOTED AND MUST BE CONSIDERED IN DETERMINING THE ACTUAL OVERALL HEIGHT OF THE DOOR. COORDINATE WITH AFFECTED TRADES.

B. FIRE RATED LABEL DOORS AND FRAMES ARE LISTED IN MINUTES.

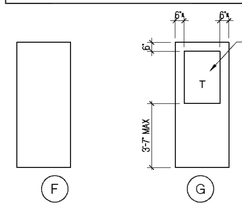
C. ALL FIRE RATED HOLLOW METAL DOOR FRAMES SHALL BE CEMENT GROUTED SOLID UNLESS SPECIFICALLY NOTED OTHERWISE. COORDINATE CAVITY LOCATIONS FOR SCHEDULED HARDWARE.

D. ALL WOOD DOORS SHALL BE SOLID CORE.

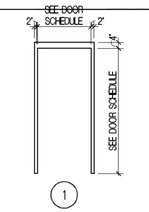
GENERAL NOTES

1. NOT ALL DOOR STYLES ARE USED. REFER TO DOOR SCHEDULE.
2. NOT ALL FRAME STYLES ARE USED. REFER TO DOOR SCHEDULE.
3. REFER TO THE GLAZING SCHEDULE IN THE SPECIFICATIONS FOR THE GLAZING TYPES

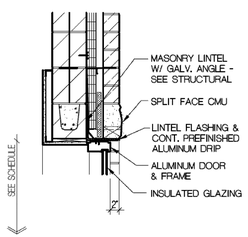
* MANUFACTURE'S NOTE* FOR WOOD DOORS WITH MORTIS LOCKS - PROVIDE THE MINIMUM SIZE STILL AVAILABLE WHILE MAINTAINING WARRANTY



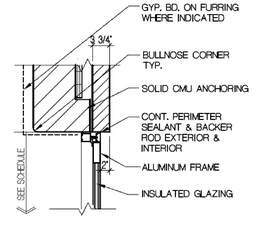
DOOR TYPES



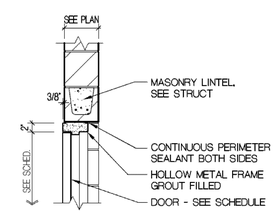
FRAME TYPES



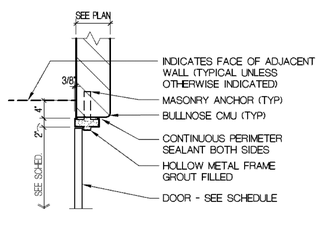
D A3.01 **HEAD DETAIL** SCALE: 3/4" = 1'-0"



C A3.01 **JAMB DETAIL** SCALE: 3/4" = 1'-0"



B A3.01 **HEAD DETAIL** SCALE: 3/4" = 1'-0"



A A3.01 **JAMB DETAIL** SCALE: 3/4" = 1'-0"

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PROJECT
KETTERING HIGH SCHOOL
BID PACK #4
SALES ADDITION
Waterford, Michigan

SHEET
Door Schedule and Room Finish Schedule

PROJECT NUMBER
2014-057.1

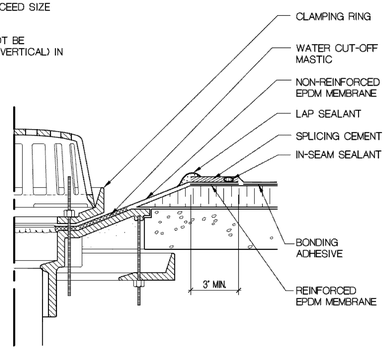
SHEET NUMBER
A3.01

ALL BOLTS AND CLAMPS MUST BE IN PLACE TO PROVIDE CONSTANT COMPRESSION ON WATER CUT-OFF MASTIC.

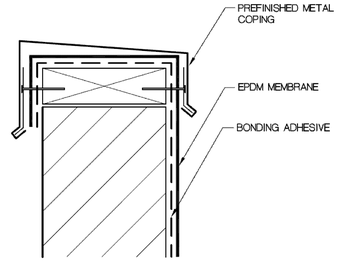
CUT THE MEMBRANE SO IT EXTENDS A MINIMUM OF 1/2" (13 mm) FROM THE ATTACHMENT POINTS OF THE DRAIN CLAMPING RING.

HOLE IN MEMBRANE MUST EXCEED SIZE OF DRAIN PIPE.

INSULATION TAPER SHALL NOT BE STEEPER THAN 6" (150 mm) (VERTICAL) IN 12" (300 mm) (HORIZONTAL).



H ROOF DRAIN
SCALE: N.T.S.



E LIGHT-METAL PARAPET CAP
SCALE: N.T.S.

B NOT USED
SCALE: N.T.S.

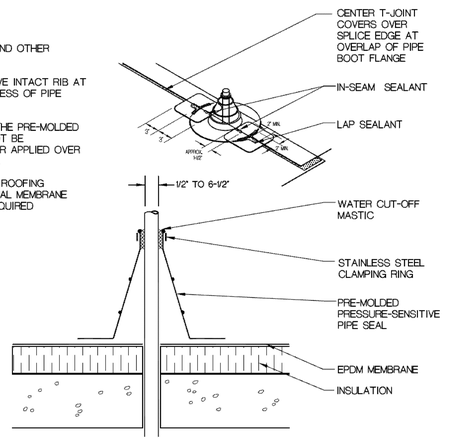
NOTES:

REMOVE ALL LEAD AND OTHER FLASHING.

PIPE SEAL MUST HAVE INTACT RIB AT TOP EDGE, REGARDLESS OF PIPE DIAMETER.

DECK FLANGES OF THE PRE-MOLDED PIPE SEAL SHALL NOT BE OVERLAPPED, CUT OR APPLIED OVER ANY ANGLE CHANGE.

ON MECH-FASTENED ROOFING SYSTEMS, ADDITIONAL MEMBRANE SECUREMENT IS REQUIRED



G PRE-MOLDED PIPE FLASHING
SCALE: N.T.S.

NOTES:

REMOVE ALL LEAD AND OTHER FLASHING BEFORE INSTALLING FIELD- FABRICATED PIPE SEAL.

SECUREMENT REQUIRED AROUND ALL PIPES GREATER THAN 18 INCHES (500 mm) IN DIAMETER.

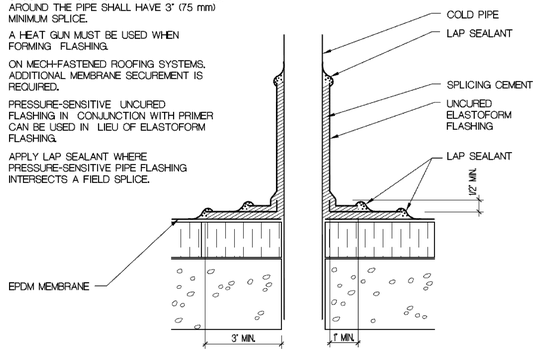
UNCURED ELASTOFORM FLASHING WRAPPED AROUND THE PIPE SHALL HAVE 3" (75 mm) MINIMUM SPLICE.

A HEAT GUN MUST BE USED WHEN FORMING FLASHING.

ON MECH-FASTENED ROOFING SYSTEMS, ADDITIONAL MEMBRANE SECUREMENT IS REQUIRED.

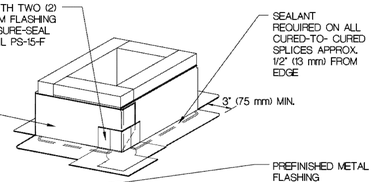
PRESSURE-SENSITIVE UNCURED FLASHING IN CONJUNCTION WITH PRIMER CAN BE USED IN LIEU OF ELASTOFORM FLASHING.

APPLY LAP SEALANT WHERE PRESSURE-SENSITIVE PIPE FLASHING INTERSECTS A FIELD SPLICE.



D PLUMBING VENT FLASHING
SCALE: N.T.S.

FLASH ALL OUTSIDE CORNERS WITH TWO (2) PIECES OF UNCURED ELASTOFORM FLASHING AS PER DETAIL U-15-C OR WITH SURE-SEAL OUTSIDE CORNER, AS PER DETAIL PS-15-F (SEE NOTE 2)

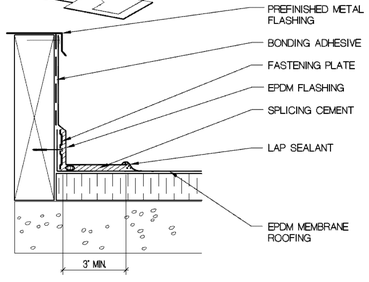


NOTES:

FASTEN MEMBRANE FLASHING 12" (300 mm) ON CENTER. IF FASTENER PENETRATES METAL COUNTERFLASHING, USE EPDM WASHER. APPLY WATER CUT-OFF MASTIC OR CAULK FASTENER HEAD.

IF VERTICAL SPLICE IS NOT LOCATED AT CORNER, 6" (150 mm) WIDE UNCURED ELASTOFORM FLASHING OR PRESSURE-SENSITIVE FLASHING MUST BE CENTERED OVER FIELD SPLICE AT ANGLE CHANGE.

FASTENING PLATES MAY BE INSTALLED HORIZONTALLY.



A CURB FOR MECHANICAL UNIT
SCALE: N.T.S.

NOTES:

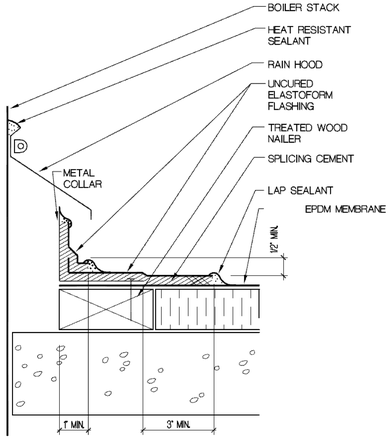
REMOVE ALL LEAD AND OTHER FLASHING BEFORE INSTALLING FIELD FABRICATED PIPE SEAL.

UNCURED ELASTOFORM FLASHING WRAPPED AROUND THE PIPE SHALL HAVE 3" (75 mm) MINIMUM MEMBRANE SPLICE.

TEMPERATURE OF METAL COLLAR MUST NOT EXCEED 180° F (82° C).

A HEAT GUN MUST BE USED WHEN FORMING FLASHING.

PRESSURE-SENSITIVE UNCURED FLASHING IN CONJUNCTION WITH PRIMER CAN BE USED IN LIEU OF ELASTOFORM FLASHING.



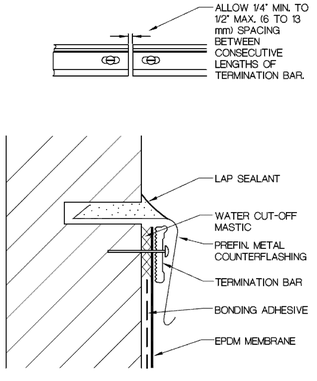
F STACK FLASHING
SCALE: N.T.S.

NOTES:

APPLY ON HARD SMOOTH SURFACE ONLY. NOT FOR USE ON WOOD.

WATER CUT-OFF MASTIC MUST BE HELD UNDER CONSTANT COMPRESSION.

DO NOT WRAP COMPRESSION TERMINATION AROUND CORNERS.



C WALL FLASHING FOR CONCRETE WALLS AND PARAPETS
SCALE: N.T.S.

TYPICAL ROOF NOTES

1. NOT ALL DETAILS ON THIS SHEET WILL BE USED ON THIS PROJECT. DETAILS ARE TYPICAL AND SHALL ONLY APPLY WHERE CONSTRUCTION CONDITION EXISTS.
2. THESE DRAWINGS ARE ONLY A GRAPHIC REPRESENTATION AND ARE NOT INTENDED TO BE SCALED.
3. THESE DETAILS MAY BE SUPERSEDED BY THE SELECTED MANUFACTURERS STANDARD DETAILS AS ACCEPTABLE TO THE ARCHITECT.
4. THESE DETAILS ARE IN REFERENCE TO APPLICATION OF MEMBRANE ROOFING SYSTEMS (& RELATED CONSTRUCTION) ONLY. ALL OTHER SURROUNDING MATERIALS AND SUBSTRATES ARE TO BE VIEWED AS "REFERENCE ONLY" AND ARE SUPERSEDED BY DETAILS AS INDICATED ON OTHER ARCHITECTURAL/ STRUCTURAL SHEETS. (EX. WOOD BLOCKING, INSULATION, STRUCTURAL ELEMENTS ETC...).
5. SPECIFIED ARCHITECTURAL & MECHANICAL ELEMENTS MAY NOT BE GRAPHICALLY CORRECT IN THESE DETAILS. WRITTEN SPECIFICATIONS SUPERSEDE GRAPHIC MATERIAL IN THESE DETAILS.

KEY PLAN

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11/14/14	BID DOCUMENTS
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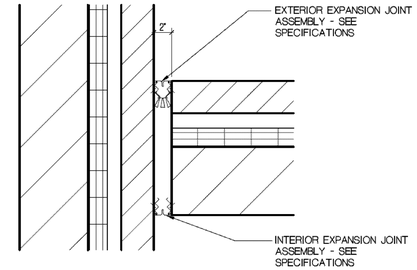
PROJECT
KETTERING HIGH SCHOOL BID PACK #4 SALES ADDITION
Waterford, Michigan

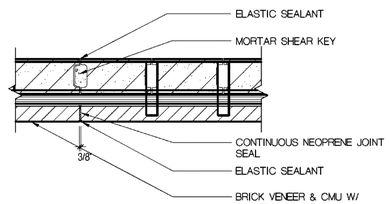
SHEET
EPDM Roofing Details

PROJECT NUMBER
2014-057.1

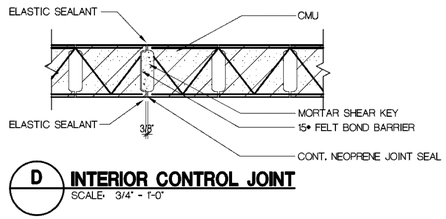
SHEET NUMBER
A5.01



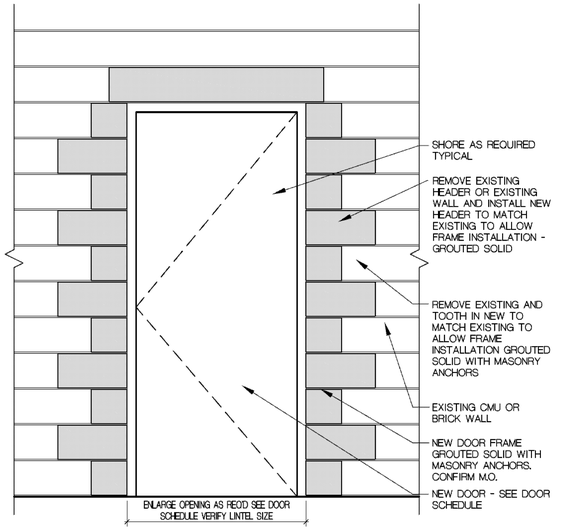
F EXTERIOR AND INTERIOR EXPANSION JOINT
SCALE: 1 1/2" = 1'-0"



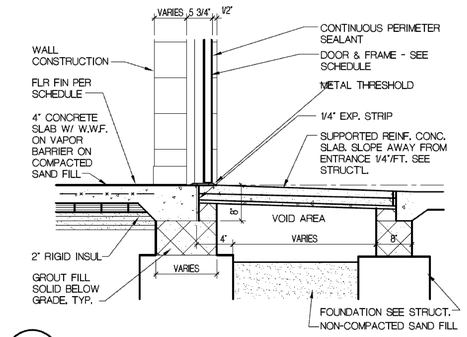
E EXTERIOR CONTROL JOINT
SCALE: 3/4" = 1'-0"



D INTERIOR CONTROL JOINT
SCALE: 3/4" = 1'-0"

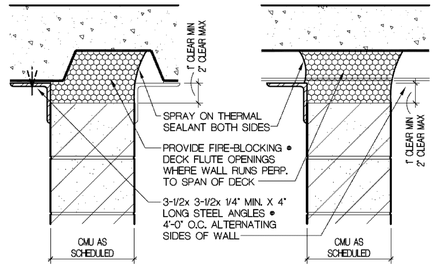


J A5.02 TYPICAL DOOR INSTALLATION IN EXISTING MASONRY WALL
SCALE: NO SCALE



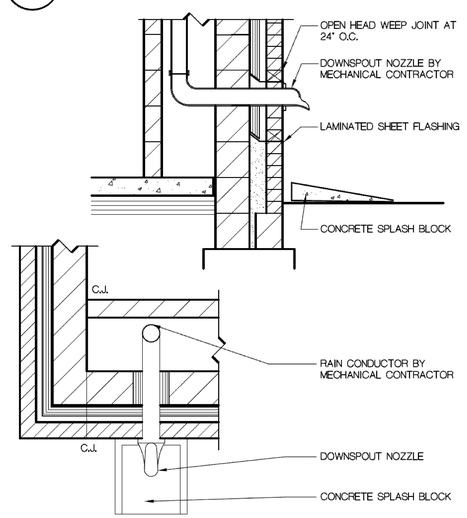
H SUPPORTED ENTRANCE SLAB
SCALE: 3/4" = 1'-0"

C CONTROL JOINT
SCALE: 3/4" = 1'-0"

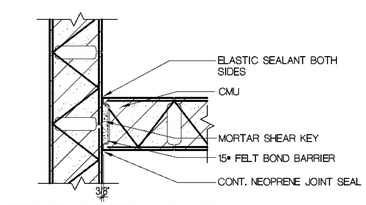


NOTE:
1. PROVIDE FIRE-BLOCKING • DECK FLUTE OPENINGS WHERE WALL RUNS PERP. TO SPAN OF DECK.
2. DO NOT ANCHOR VERTICAL STUDS TO TOP RUNNER. ALLOW FOR STRUCTURAL SLAB DEFLECTION.
3. ONE (1) HOUR RATING- UL DESIGN No. HW-D-0001 - SEE SPECIFICATION SECTION PENETRATION FIRESTOPPING.
4. TWO (2) HOUR RATING- UL DESIGN No. HW-D-0002 - SEE SPECIFICATION SECTION PENETRATION FIRESTOPPING.

A TYPICAL FIRE-RATED CMU PARTITION CONSTRUCTION
SCALE: NTS



G DOWNSPOUT NOZZLE AND SPLASHBLOCK
SCALE: 3/4" = 1'-0"



B INTERIOR CONTROL JOINT
SCALE: 3/4" = 1'-0"

GENERAL NOTES

1. INTERIOR WALL PARTITION TYPE CODE:

   INTERIOR WALL PARTITION CONSTRUCTION AS DETAILED:

   A) IN A NON RATED PARTITION, CARRY GYP. BD. MIN. 6" ABOVE SCHEDULED CEILING HEIGHT UNLESS NOTED OTHERWISE.

   B) ALL FIRE-RATED PARTITIONS ARE TO GO TO UNDERSIDE OF STRUCTURE.

   INTERIOR WALL PARTITION CONSTRUCTION WITH ACOUSTIC INSULATION AS DETAILED:

   A) IN A NON RATED PARTITION, CARRY GYP. BD. AND INSULATION MIN. 6" ABOVE SCHEDULED CEILING HEIGHT (UNLESS NOTED OTHERWISE) AND PROVIDE BATT SOUND INSULATION 2'-0" MIN. ON EACH SIDE OF PARTITION (SEE REFLECTED CEILING PLAN)

   B) IN A PARTITION NOTED TO GO TO THE UNDERSIDE OF STRUCTURE PROVIDE BATT SOUND INSULATION FULL HEIGHT OF PARTITION.

   C) PROVIDE / INSTALL SEALANT UNDER PARTITION FLOOR TRACK BOTH EDGES WHEN ACOUSTIC INSULATION IS INDICATED AND AT ALL FIRE-RATED PARTITIONS.

   D) ACOUSTIC INSULATION IS TO HAVE A MIN. STC RATING OF 50.

2. NOT ALL DETAILS ON THIS SHEET WILL BE USED ON THIS PROJECT. DETAILS ARE TYPICAL AND SHALL APPLY WHEN CONSTRUCTION CONDITION EXISTS.

3. REFER TO STANDARD DETAILS THIS SHEET FOR TYPICAL INTERIOR PARTITION CONSTRUCTION INFORMATION. REFER TO DETAIL PLANS AND PLAN DETAILS FOR SPECIAL PARTITION CONSTRUCTION INFORMATION.

4. ADDITIONAL SURFACE FINISHES ON FACING MATERIAL ARE NOTED ON ROOM FINISH SCHEDULE & DETAILS.

5. REFER TO REFLECTED CEILING PLAN FOR LOCATION OF ACOUSTIC INSULATION ABOVE CEILING.

KEY PLAN

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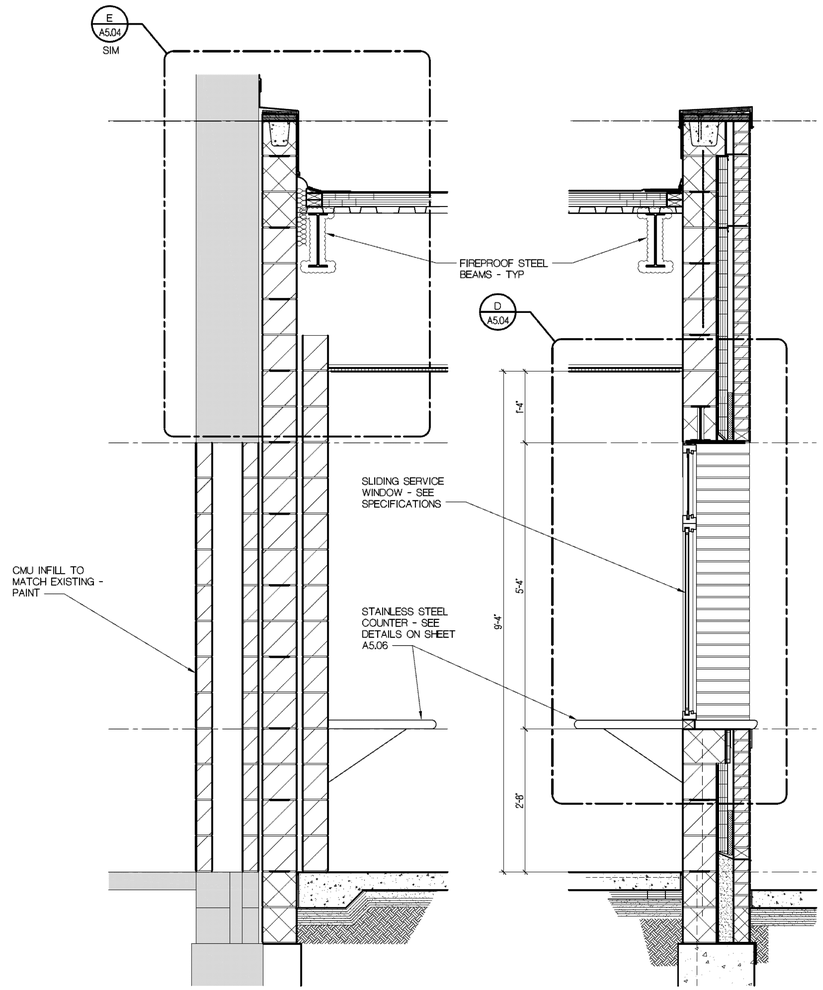
PROJECT
KETTERING HIGH SCHOOL BID PACK #4 SALES ADDITION
Waterford, Michigan

SHEET
Typical Construction Details

PROJECT NUMBER
2014-057.1

SHEET NUMBER
A5.02

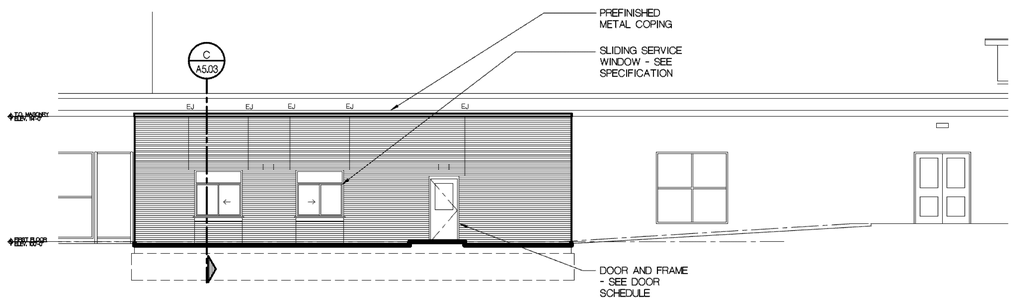


D A2.03 **WALL SECTION**
SCALE: 3/4" = 1'-0"

C A2.03 **WALL SECTION**
SCALE: 3/4" = 1'-0"

EXTERIOR ELEVATION NOTES

1. ALL EXTERIOR GLAZING SHALL BE GL-?? UNLESS INDICATED OTHERWISE. PROVIDE TEMPERED GLASS (GL-??) AS REQUIRED BY CODE.
2. REFER TO DOOR SCHEDULE FOR GLAZING TYPES AT ENTRANCE SYSTEMS.
3. REFER TO SPECIFICATIONS FOR GLASS TYPE SCHEDULE.
4. ALL EXTERIOR ALUMINUM WINDOW, STOREFRONT AND CURTAIN WALL FRAMING SHALL BE TYPE AL-?. REFER TO SPECIFICATIONS FOR ALUMINUM FINISH TYPES.
5. EJ - BRICK EXPANSION JOINT - REFER TO FLOOR PLANS AND DETAILS FOR ADDITIONAL INFORMATION



A A2.03 **ELEVATION**
SCALE: 1/8" = 1'-0"

KEY PLAN

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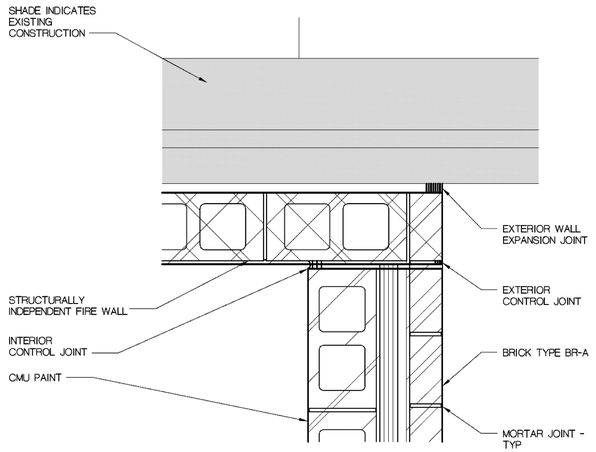
PROJECT
KETTERING
HIGH SCHOOL
BID PACK #4
SALES ADDITION
Waterford,
Michigan

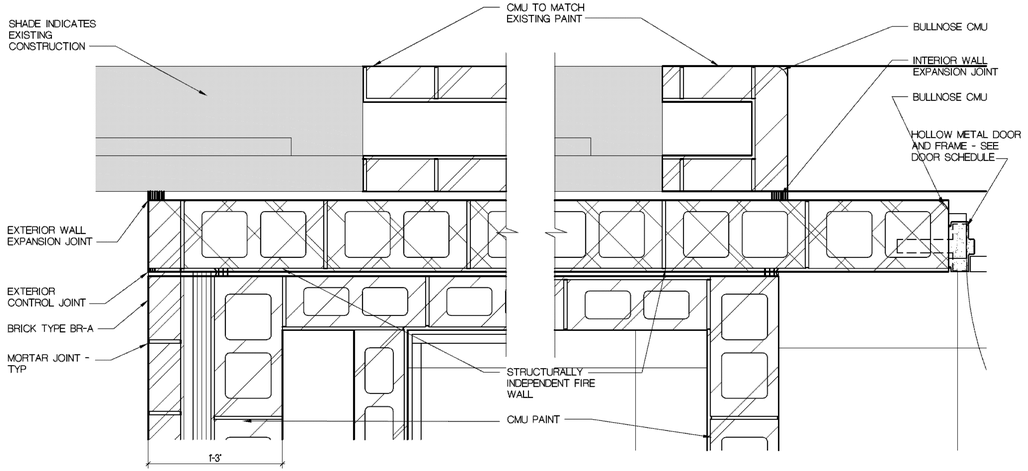
SHEET
Wall Sections

PROJECT NUMBER
2014-057.1

SHEET NUMBER
A5.03

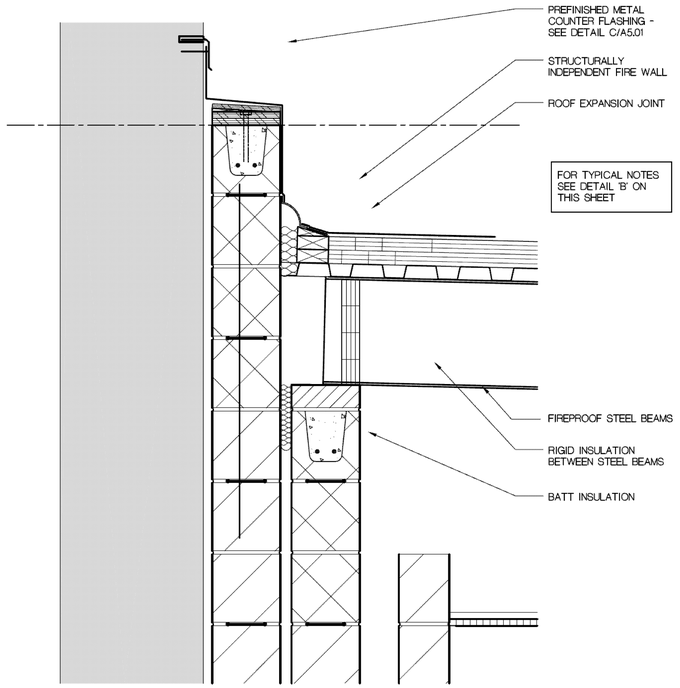


K A2.03 **PLAN DETAIL**
SCALE: 1-1/2" = 1'-0"

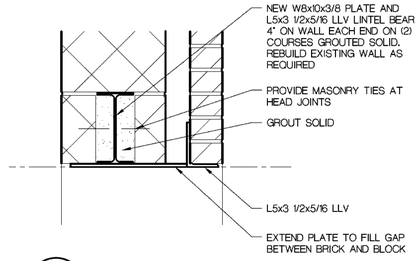


J A2.03 **PLAN DETAIL**
SCALE: 1-1/2" = 1'-0"

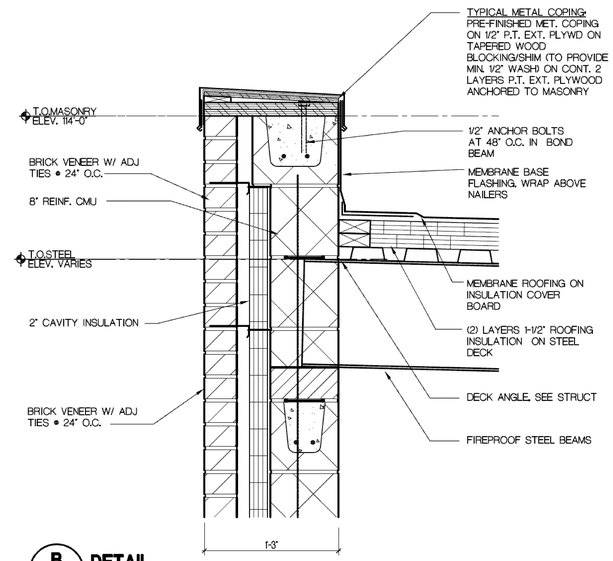
H A2.03 **PLAN DETAIL**
SCALE: 1-1/2" = 1'-0"



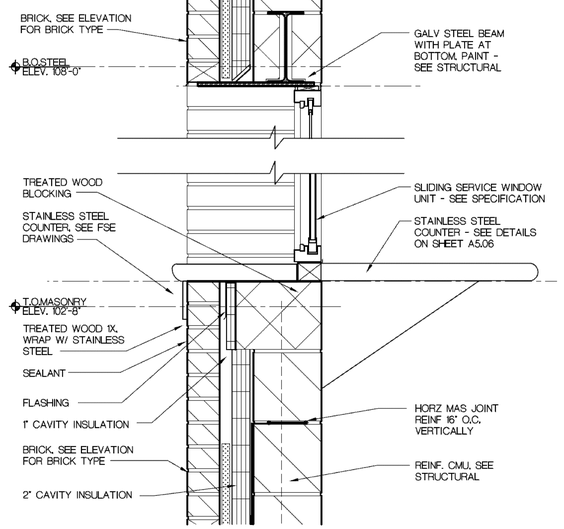
E A5.03 **DETAIL**
SCALE: 1-1/2" = 1'-0"



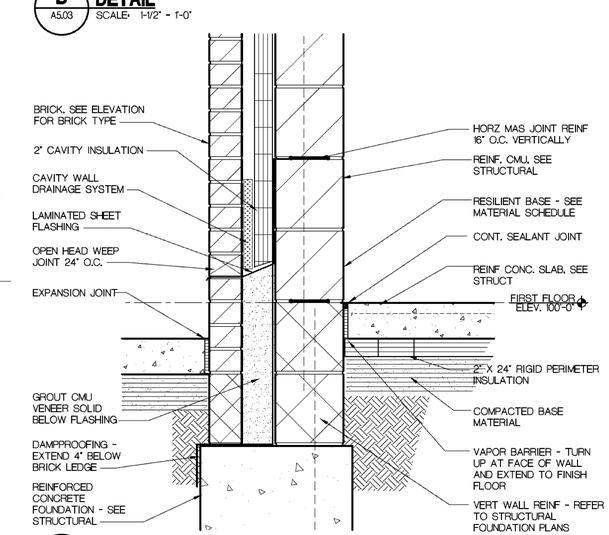
G A2.03 **DETAIL**
SCALE: 1-1/2" = 1'-0"



B A5.03 **DETAIL**
SCALE: 1-1/2" = 1'-0"



D A5.03 **DETAIL**
SCALE: 1-1/2" = 1'-0"



A A5.03 **DETAIL**
SCALE: 1-1/2" = 1'-0"

KEY PLAN

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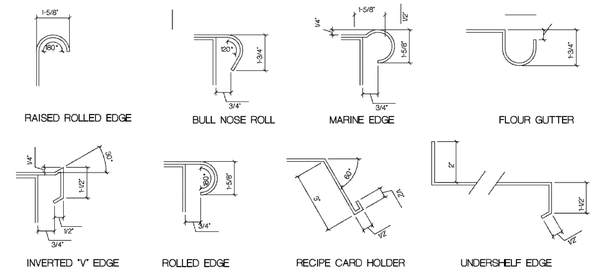
PROJECT
KETTERING HIGH SCHOOL BID PACK #4 SALES ADDITION
Waterford, Michigan

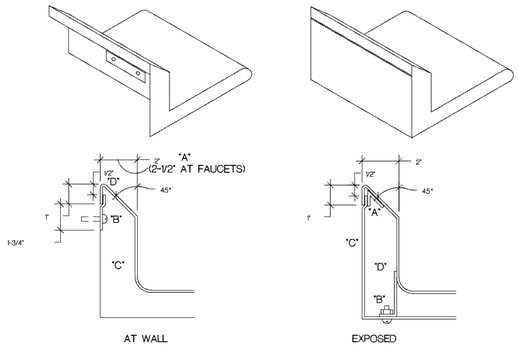
SHEET
Details

PROJECT NUMBER
2014-057.1

SHEET NUMBER
A5.04



H EDGE DETAILS
A5.06 SCALE: NOT TO SCALE



"A" - 2-1/2" AT FAUCETS TO ALLOW SPACE FOR PIPING.

"B" - #12 GAUGE S/S CLIP, 4" LONG, FASTENED TO WALL AT EACH END OF UNIT AND 48" O.C. MIN. SECURE TO WALL WITH A MINIMUM OF (2) 1/4" BY 20 S/S TOGGLE BOLTS OR EXPANSION SHIELDS.

"C" - EXPOSED ENDS TO BE FULLY CLOSED.

"D" - SEAL TO WALL AND/OR ADJACENT EQUIPMENT WITH SILICONE SEALANT.

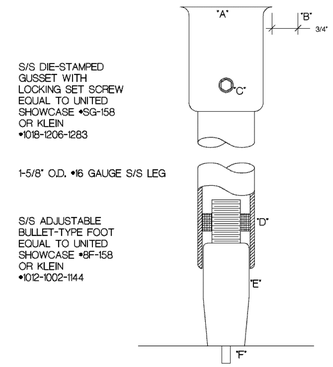
"A" - 1" BY 1" BY #14 GAUGE S/S BY 1-1/2" LONG RETAINING CLIP WELDED IN PLACE. ONE AT EACH END OF UNIT AND 12" O.C. MINIMUM.

"B" - 2-1/2" BY 2-1/2" BY 1-1/2" #14 GAUGE S/S CLIP WELDED TO SPLASH. ONE AT EACH END AND 12" O.C. MINIMUM.

"C" - #14 GAUGE S/S PANEL SECURED TO CLIPS WITH S/S OVAL HEAD BOLT. DO NOT WELD TO CLIP.

"D" - EXPOSED ENDS TO BE FULLY CLOSED.

G BACKSPLASH DETAIL
A5.06 SCALE: NOT TO SCALE



S/S DIE-STAMPED GUSSET WITH LOCKING SET SCREW EQUAL TO UNITED SHOWCASE #SG-158 OR KLEIN #1018-1206-1283

S/S ADJUSTABLE BULLET-TYPE FOOT EQUAL TO UNITED SHOWCASE #BF-158 OR KLEIN #1012-1002-1144

"A" - FULLY WELD GUSSET TO FRAMEWORK OR SINK.

"B" - 3/4" MINIMUM CLEARANCE ALL AROUND.

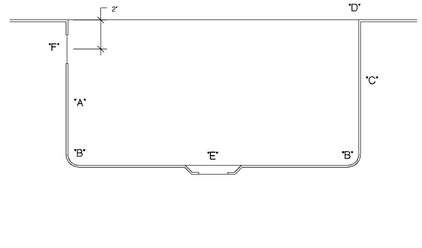
"C" - SET SCREW NOT VISIBLE FROM FRONT OR EXPOSED SIDES.

"D" - SET FOOT AT MIDPOINT TO ALLOW MAXIMUM UP AND DOWN ADJUSTMENT WITHOUT THREAD EXPOSURE.

"E" - SWEDGE LEG IF NECESSARY FOR 1/32" CLEARANCE BETWEEN LEG AND FOOT.

"F" - LEGS NOT SUPPORTED BY LATERAL CROSSBRACING OR UNDERSHELVES SHALL BE PINNED TO THE FLOOR USING 1/4" DIAMETER BY 1/2" LONG PINS WELDED TO FOOT AND SET INTO CORRESPONDING HOLES IN THE FLOOR.

E TABLE LEGS DETAIL
A5.06 SCALE: NOT TO SCALE



"A" - #14 GAUGE S/S CONSTRUCTION. LENGTH, WIDTH, AND DEPTH AS SPECIFIED.

"B" - ALL WELDED COVE CORNER CONSTRUCTION WITH 3/4" RADIUS AT ALL CORNERS.

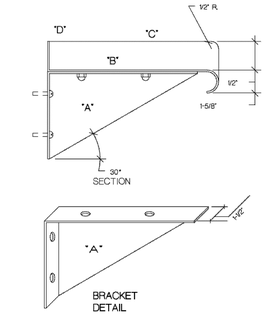
"C" - SIDES AND BOTTOM TO BE CUT FROM SINGLE SHEET WITH CORNERS WELDED.

"D" - FULLY WELD SINK TO TOP WITHOUT OVERLAPPING JOINTS.

"E" - WASTES TO BE SEATED IN DIE-STAMPED DEPRESSIONS. SEAL WITH APPROPRIATE GASKETS AND SEALERS. SOLDER, RIVETING, OR WELDING NOT ACCEPTABLE. COMPONENTS, WHEN INSTALLED, SHALL BE FLUSH WITH SINK BOTTOM. PITCH SINK TO WASTE.

"F" - PROVIDE WASTES WITH OR WITHOUT CONNECTED OVERFLOW PER SPECIFICATIONS.

C SINK DETAIL
A5.06 SCALE: NOT TO SCALE



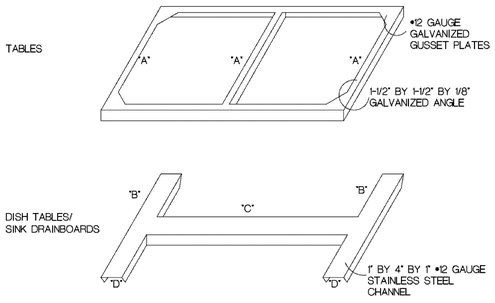
"A" - #12 GAUGE S/S BRACKETS. SHELVES UP TO 5'-0" TO BE PROVIDED WITH (2) BRACKETS. LONGER SHELVES TO HAVE BRACKETS LOCATED AT ENDS WITH INTERMEDIATE BRACKETS SPACED 5'-0" O.C. MAXIMUM. DRILL THROUGH AND SECURE WITH A MINIMUM OF (2) 1/2" BY 20 S/S BOLTS ANCHORED TO THE WALL WITH TOGGLES OR EXPANSION SHIELDS.

"B" - #16 GAUGE S/S SHELF WITH ALL JOINTS WELDED, GROUND, AND POLISHED. WELD STUDS TO UNDERSIDE, DRILL BRACKET, AND SECURE WITH S/S LOCKWASHERS AND CAP NUTS.

"C" - TURN UP AT ENDS, UNLESS SPECIFIED TO BE TURNED DOWN TO MATCH FRONT.

"D" - SEAL TO WALL WITH SILICONE SEALANT.

A WALL SHELVES DETAIL
A5.06 SCALE: NOT TO SCALE



- ALL FRAMEWORKS TO BE FULLY WELDED
- SECURE TOP TO FRAMEWORK WITH WELDED STUDS, S/S LOCKWASHERS, AND S/S CAP NUTS

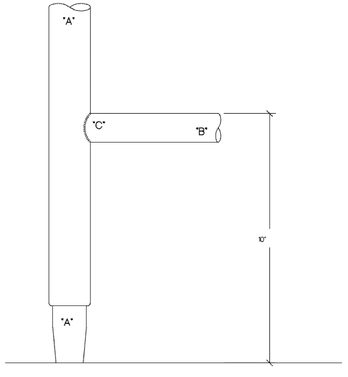
"A" - ANGLE LOCATIONS: ENDS, SIDES OF INSETS IN TOP, BELOW HEAVY COUNTER-MOUNTED EQUIPMENT, 24" MAXIMUM O.C. BETWEEN INTERMEDIATES.

"B" - CHANNEL LOCATIONS: ENDS, 48" MAXIMUM O.C. BETWEEN INTERMEDIATES.

"C" - ADD SPANNING CENTER CHANNEL WHEN DRAINBOARD/TABLE LENGTH EXCEEDS 36".

"D" - CHANNEL ENDS OPEN, BEVEL CORNERS AT 45°

F TABLE FRAMEWORK DETAIL
A5.06 SCALE: NOT TO SCALE

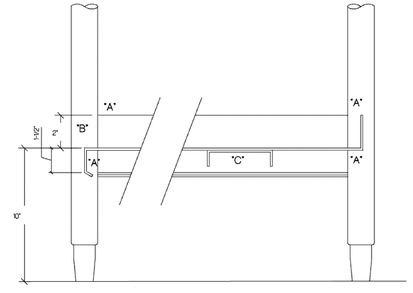


"A" - LEG AND FOOT PER PREVIOUS STANDARD DETAILS.

"B" - 1-1/4" O.D. #16 GAUGE S/S TUBING.

"C" - FULLY WELD, GRIND, AND POLISH.

D CROSSBRACING DETAIL
A5.06 SCALE: NOT TO SCALE

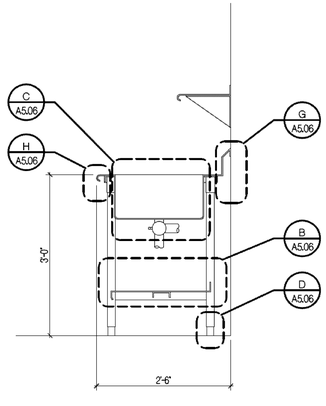


"A" - FULLY WELD, GRIND SMOOTH, AND POLISH AT ALL LEG INTERFACES.

"B" - WHEN SPECIFIED, TURN UP REAR AND/OR SIDES 2".

"C" - 1" BY 4" BY 1" #12 GAUGE S/S CHANNEL.

B UNDERSHELVES DETAIL
A5.06 SCALE: NOT TO SCALE



AA FOOD SERVICE COUNTER SECTION
A2.01 SCALE: NOT TO SCALE

KEY PLAN

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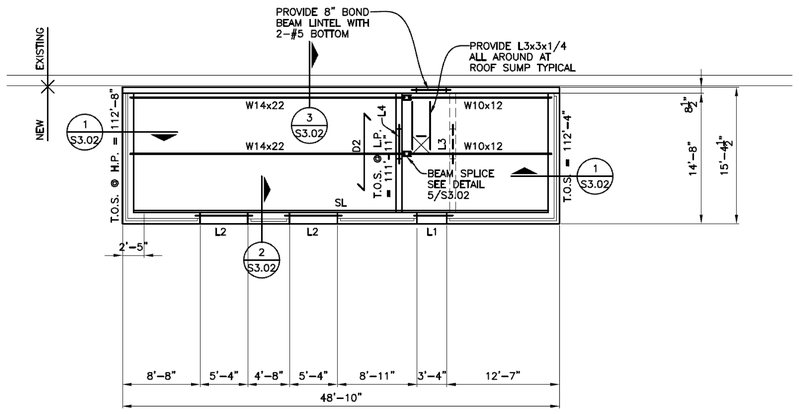
PROJECT
KETTERING HIGH SCHOOL
BID PACK #4
SALES ADDITION
Waterford, Michigan

SHEET
Counter Details

PROJECT NUMBER
2014-057.1

SHEET NUMBER
A5.06



ROOF FRAMING PLAN

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

D2 — 1 1/2"-20 GA. GALVANIZED WIDE RIB METAL DECK

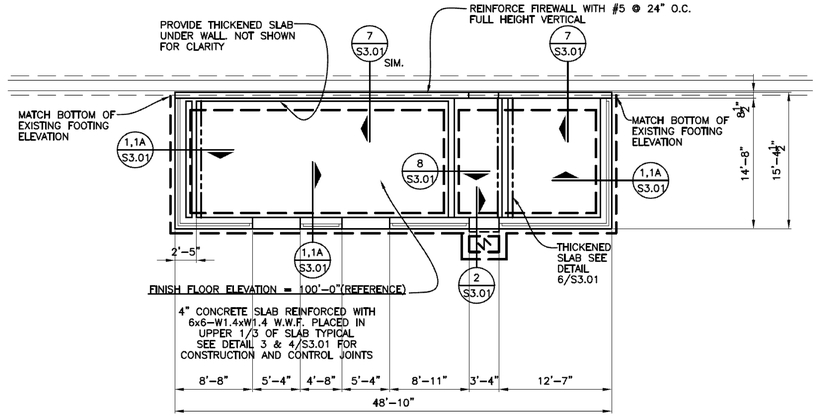
SL: CONT. L3x3x1/4 ANCHORED TO GROUTED SOLID MASONRY WITH HILTI KWIK BOLT 3 EXPANSION ANCHORS 16" O.C.

L1: W8x10 + 3/8" PL. SEE DETAILS 6, 7, & 8/S3.02

L2: W8x18 + 3/8" PL. SEE DETAILS 6, 7, & 8/S3.02

L3: 8" PRECAST

L4: (2) L4x3 1/2x5/16 LLV



FOUNDATION PLAN

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

BOTTOM OF FOOTINGS ELEVATION = 96'-0" UNLESS OTHERWISE NOTED

REINFORCE ALL EXTERIOR WALLS WITH #4 @ 48" O.C. FULL HEIGHT VERTICAL, PLACE TWO BARS ALONG SIDE OPENING AND PLACE BARS EACH SIDE OF CONTROL JOINTS. SEE DETAILS 9-13/S3.01

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PROJECT

KETTERING HIGH SCHOOL BID PACK #4 SALES ADDITION

Waterford, Michigan

SHEET

RESTROOM ADDITION FLOOR PLAN

PROJECT NUMBER

2014-057.1

SHEET NUMBER

S2.01

GENERAL NOTES

GENERAL CONDITIONS

1. IF ANY GENERAL NOTE CONFLICTS WITH ANY DETAIL OR NOTE ON THE PLANS OR IN THE SPECIFICATIONS, THE STRICTEST PROVISION SHALL GOVERN.

2. THE STRUCTURAL DRAWINGS ARE FOR THE PLACEMENT AND SIZE OF STRUCTURAL COMPONENTS ONLY. O.S.H.A., LOCAL GOVERNMENT CODES AND SAFETY CODE REQUIREMENTS SHALL BE ADHERED TO BY THE CONTRACTOR.

3. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER IT IS FULLY COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE, AND TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES PROVIDING TEMPORARY BRACING, SHORING, GUYS OR TIE- DOWNS. THESE TEMPORARY SUPPORTS WILL REMAIN IN PLACE UNTIL ALL STRUCTURAL COMPONENTS ARE IN PLACE AND COMPLETED.

4. USE OF ENGINEERING DRAWINGS AS ERECTION DRAWINGS BY THE CONTRACTOR IS STRICTLY PROHIBITED. DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR BUILDING LAYOUT AND LOCATION. SEE ARCHITECTURAL DRAWINGS AND SITE PLAN FOR THESE PURPOSES.

5. THE CONTRACTOR SHALL CHECK SHOP DRAWINGS PRIOR TO SUBMITTAL AND IS SOLELY RESPONSIBLE FOR ERRORS & OMISSION IN THE PREPARATION OF SHOP DRAWINGS TO CONFORM TO THE DESIGN DRAWINGS. SUBMIT NO MORE THAN ONE REPRODUCIBLE AND TWO PRINTS OF SHOP DRAWINGS FOR ENGINEER REVIEW. TWO COPIES WILL BE RETURNED TO THE ARCHITECT.

6. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL RELEVANT DIMENSIONS AND ELEVATIONS FOR EQUIPMENT INSTALLATIONS AGAINST PURCHASED MANUFACTURER'S CERTIFIED EQUIPMENT DRAWINGS. DIMENSIONS THAT DEPEND UPON SPECIFIC EQUIPMENT SUCH AS ELEVATOR OPENINGS, MECHANICAL EQUIPMENT SUPPORTS, ETC. SHALL BE COORDINATED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER. SUCH DIMENSIONS SHALL BE PROVIDED ON THE SHOP DRAWINGS BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER.

EXISTING CONDITIONS

1. VERIFY ALL EXISTING ASSUMED DIMENSIONS AND CONDITIONS (I.E. EXISTING MATERIALS; FRAMING MEMBER SIZES AND LOCATIONS; METHODS OF CONSTRUCTION; ETC.) AT THE SITE PRIOR TO CONSTRUCTION AND FABRICATION. IF DISCREPANCIES ARE FOUND, NOTIFY ARCHITECT BEFORE PROCEEDING WITH WORK.

FOUNDATIONS

1. FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED SOIL WITH AN ASSUMED SAFE BEARING CAPACITY OF 2000 P.S.F. IF SOIL OF THIS CAPACITY IS NOT FOUND AT THE ELEVATIONS INDICATED, FOOTINGS SHALL BE ENLARGED OR LOWERED AT THE DIRECTION OF THE ARCHITECT. VERIFY FOUNDATION SOIL BEARING PRESSURE IN FIELD BY SOILS ENGINEER.

2. WHERE NEW FOOTINGS ABUT EXISTING FOUNDATIONS, CAREFULLY HAND EXCAVATE AND PLACE BOTTOM OF NEW FOOTING AT THE SAME ELEVATION AS THE EXISTING.

3. PROVIDE NECESSARY SHEETING SHORING BRACING, ETC. AS REQUIRED DURING EXCAVATIONS TO PROTECT SIDES OF EXCAVATIONS.

4. COMPLY FULLY WITH REQUIREMENTS OF OSHA AND OTHER REGULATORY AGENCIES FOR SAFETY PROVISIONS.

CONCRETE

1. MINIMUM CONCRETE STRENGTH TO BE 3000 P.S.I. @ 28 DAYS, U.O.N.; SLABS SHALL BE 3500 P.S.I. MIN. U.O.N. EXPOSED CONCRETE SHALL BE 4000 PSI WITH 6% + 1% ENTRAINED AIR U.O.N.

2. ALL CONCRETE WORK AND PLACEMENT SHALL CONFORM TO THE LATEST RECOMMENDATIONS OF A.C.I.

3. ALL REINFORCING BARS, DOWELS AND TIES SHALL CONFORM TO A.S.T.M. A615 GRADE 60. REINFORCING STEEL SHALL BE CONTINUOUS AND SHALL HAVE MINIMUM 36 BAR DIAMETER LAP AND BE FABRICATED AND PLACED IN ACCORDANCE WITH A.C.I. - 315 LATEST EDITION.

4. REINFORCED CONCRETE WALL FOOTINGS SHALL HAVE CORNER BARS AT ALL INTERSECTIONS OF THE SAME SIZE AND SPACING AS THE MAIN HORIZONTAL REINFORCING. PROVIDE 2-#5 BARS EACH SIDE OF ALL OPENINGS AND 2-#5 X 4'-0" DIAGONAL BARS AT CORNERS OF OPENINGS.

6. ALL SLABS ON GROUND SHALL BE 4" THICK AND HAVE 6" X 6" W1.4 X W1.4 WELDED WIRE FABRIC IN THE TOP 1/3 OF THE SLAB, UNLESS OTHERWISE NOTED.

7. FIELD AND SHOP TESTING OF CONCRETE WORK SHALL INCLUDE INSPECTION OF REINFORCING STEEL PLACEMENT, REBARS, NUMBER, LOCATION, AND LAP SPLICE LENGTH.

8. PROVIDE DOWELS INTO FOUNDATION TO MATCH SIZE AND SPACING OF VERTICAL REINFORCEMENT AT ALL COLUMNS AND WALLS, UNLESS OTHERWISE NOTED.

9. UNLESS OTHERWISE SHOWN, PROVIDE THE FOLLOWING COVER FOR REINFORCING STEEL:

A.	UNFORMED SURFACES IN CONTACT WITH EARTH	-3 IN.
B.	UNFORMED SURFACES OVER MOISTURE BARRIERS	-2 IN.
C.	FORMED SURFACES EXPOSED TO EARTH OR WEATHER OR WATER PROOFING/DAMP PROOFING	
	#6 OR LARGER	-2 IN.
	#5 OR SMALLER	-1 1/2 IN.
D.	FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER	
	SLABS AND WALLS	-3/4 IN.
	COLUMNS	-1 1/2 IN.
	BEAMS AND GIRDERS	-1 1/2 IN.

MASONRY

1. THE MASONRY PORTIONS OF THIS STRUCTURE ARE DESIGNED ACCORDING TO THE LATEST WORK STRESS DESIGN PROVISIONS OF THE MASONRY STANDARDS JOINT COMMITTEE (MSJC) BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 602) INCLUDING SECTIONS 2106 AND 2107 OF CHAPTER 21 IN THE MICHIGAN BUILDING CODE. MASONRY COMPONENTS HAVE BEEN DESIGNED ACCORDING TO THE PROVISIONS FOR SEISMIC DESIGN CATEGORY B.

2. ALL STRUCTURAL MASONRY IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST MASONRY STANDARDS JOINT COMMITTEE (MSJC) BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (TMS 402/ACI 530/ASCE 5) AND SPECIFICATIONS FOR MASONRY STRUCTURES (TMS 602/ACI 530.1/ASCE 6) MASONRY SUBMITTALS ARE REQUIRED BY ACI 530.1/ASCE 6/TMS 602. SECTION 1.5 MASONRY TESTING AND INSPECTIONS ARE REQUIRED BY ACI 530.1/ASCE 6/TMS 602 SECTION 1.6, TABLE 5.

3. ALL STRUCTURAL MASONRY HAS BEEN ENGINEERED IN ACCORDANCE WITH CHAPTER 2 ALLOWABLE STRENGTH DESIGN. COMPRESSION STRENGTH SHALL BE DETERMINED ACCORDING TO THE UNIT STRENGTH METHOD FOR CONCRETE MASONRY MSJC SECTION 1.4. B.2.b.

4. ALL BLOCK SHALL CONFORM TO ASTM C90, TYPE I, WITH A MINIMUM UNIT NET AREA COMPRESSIVE STRENGTH OF 1900 PSI.

5. MASONRY COMPRESSIVE STRENGTH f'm = 1500 PSI MINIMUM.

MASONRY (CONT.)

6. MORTAR SHALL BE TYPE "S" (1800 PSI) CONFORMING TO ASTM C-270. USE MORTAR CEMENT WHERE EXTERIOR WALLS ARE UNREINFORCED.

7. PROVIDE HORIZONTAL WIRE TYPE REINFORCING WITH 9 GAUGE SIDE AND CROSS MEMBERS IN EVERY SECOND COURSE (16" O.C.), IN ALL MASONRY WALLS. WALLS WITH VERTICAL REINFORCING SHALL ONLY HAVE "LADDER" TYPE REINFORCING.

8. ALL REINFORCING BARS, DOWELS AND TIES SHALL CONFORM TO A.S.T.M. A615 GRADE 60. REINFORCING STEEL SHALL BE CONTINUOUS, FABRICATED AND PLACED IN ACCORDANCE WITH A.C.I. - 315 LATEST EDITION AND HAVE THE FOLLOWING MINIMUM LAP LENGTHS:

BAR SIZE	8" CMU	12" CMU
#3	19"	19"
#4	25"	25"
#5	31"	31"
#6	57"	53"
#7	79"	61"
#8	128"	85"

9. ALL MASONRY BEARING STEEL BEAMS AND LINTELS TO BEAR 8" MINIMUM ON 3 COURSES SOLID MASONRY, WITH 2-3/4" DIAMETER BOLTS EACH END, UNLESS OTHERWISE NOTED.

10. UNLESS OTHERWISE NOTED WHERE STEEL JOISTS BEAR ON MASONRY, PROVIDE A MINIMUM OF ONE COURSE OF SOLID BLOCK BELOW K-SERIES JOISTS AND A MINIMUM OF TWO COURSES SOLID BELOW LH SERIES JOISTS.

11. ALL MASONRY BELOW GRADE SHALL BE GROUTED SOLID.

12. MASONRY GROUT SHALL CONFORM TO ASTM C 476, WITH PEA GRAVEL AGGREGATE AND A MINIMUM STRENGTH OF 2000 PSI, BUT NOT LESS THAN SPECIFIED f'm.

13. UNLESS OTHERWISE NOTED, AT ALL MASONRY WALLS PROVIDE THE FOLLOWING LINTELS:

8" WALLS

(2) L4x3 1/2 x 5/16 LLV FOR OPENINGS UP TO 4'-0"
(2) L5x3 1/2 x 5/16 LLV FOR OPENINGS UP TO 5'-4"
W8x18 + 3/8" PLATE FOR OPENINGS UP TO 8'-0"
W8x28 + 3/8" PLATE FOR OPENINGS UP TO 12'-4"

12" WALLS:

(3) L4x3- 1/2 x 5/16 LLV FOR OPENINGS UP TO 4'-0"
(3) L5x3-1/2 x 5/16 LLV FOR OPENINGS UP TO 5'-4"
W8x18 + 3/8" PLATE FOR OPENINGS UP TO 8'-0"
W8x28 + 3/8" PLATE FOR OPENINGS UP TO 12'-4"

14. ALL DOUBLE ANGLE LINTELS SHALL BE WELDED BACK TO BACK WITH A MINIMUM 2 INCH STITCH WELD EVERY 8 INCHES.

15. UNLESS OTHERWISE NOTED, PROVIDE L5 X 3-1/2 X 5/16 L.L.V. LINTEL FOR EACH 4" OF MASONRY FOR SPANS UP TO 5'-0" MAX.

16. PROVIDE DOWELS INTO FOUNDATION TO MATCH SIZE AND SPACING OF VERTICAL REINFORCEMENT AT ALL COLUMNS AND WALLS, UNLESS OTHERWISE NOTED.

STRUCTURAL STEEL

1. STEEL DESIGN, FABRICATION AND ERECTION TO BE IN ACCORDANCE WITH THE LATEST A.I.S.C. MANUAL AND SPECIFICATION FOR STRUCTURAL STEEL FOR BUILDINGS. ALL WIDE FLANGE BEAMS AND COLUMNS SHALL CONFORM TO THE LATEST ASTM. SERIAL DESIGNATION A992, GR50; ALL MISCELLANEOUS STEEL PLATES, BARS, ANGLES, ETC., SHALL CONFORM TO ASTM A36; STEEL TUBING TO BE ASTM A500, GRADE B; STEEL PIPE ASTM. A-53, GRADE B.

2. UNLESS OTHERWISE NOTED OR SHOWN, ALL BEAM CONNECTIONS TO TUBE COLUMNS AND PIPE COLUMNS SHALL BE MADE WITH THRU PLATES WELDED TO BOTH WALLS OF THE COLUMN.

3. ALL WELDED CONNECTIONS SHALL BE IN ACCORDANCE WITH THE LATEST AWS CODE, E70XX ELECTRODES, WITH WELDING PERFORMED BY QUALIFIED WELDERS.

4. BOLTED CONNECTIONS SHALL BE MADE WITH A-325 OR A-490 BOLTS. ALL BOLTS ARE TO BE INSTALLED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS FOR "STRUCTURAL JOINTS USING A.S.T.M. A-325 OR A-490 BOLTS." TYPICAL BOLTED CONNECTIONS ARE "BEARING TYPE" UNLESS NOTED OTHERWISE.

5. DESIGN CONNECTIONS FOR MINIMUM ONE-HALF THE TOTAL ALLOWABLE UNIFORM LOAD PER A.I.S.C. BEAM LOAD TABLES, UNLESS OTHERWISE NOTED. (MIN. 2 BOLTS EACH CONNECTION).

6. THE DESIGN, CONFIGURATION & ERECTION SAFETY OF ALL STRUCTURAL STEEL CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE STRUCTURAL STEEL FABRICATOR. REVIEW AND ACCEPTANCE OF THE SHOP DRAWINGS BY THE ENGINEER SHALL CONSTITUTE APPROVAL OF THE LOAD CARRYING ADEQUACY ONLY.

7. TYPE OF CONSTRUCTION PER ASCE A2.2 IS TYPE 2 "SIMPLE FRAMING" UNLESS NOTED OTHERWISE.

8. TEMPORARY ERECTION SEATS SHALL BE PROVIDED AS RECOMMENDED ON PAGE 3-59 OF THE A.I.S.C. PUBLICATION "ENGINEERING FOR STEEL CONSTRUCTION".

9. METAL DECK SHALL CONFORM TO ALL REQUIREMENTS OF "BASIC DESIGN SPECIFICATION" AS ADOPTED BY THE STEEL DECK INSTITUTE (S.D.I.). METAL ROOF DECK SHALL BE WIDE RIB WITH NESTING SIDE SEAMS OF DEPTH AND GAGE INDICATED ON THE DRAWINGS. DECK SHALL BE WELDED TO ALL SUPPORTING STEEL WITH PUDDLE WELDS (5/8" DIAMETER MINIMUM), AT 12" ON CENTER MAXIMUM SPACING AND 6" O/C (ALL FLUTES) AT END LAP SUPPORT POINTS AND BUILDING PERIMETER ATTACHMENTS. SIDE LAP CONNECTIONS SHALL BE MADE AT MAXIMUM 3'-0" CENTERS AT MIDPOINT OF SPAN WITH #10 TEK SCREW MIN. REFER TO SPECIFICATIONS FOR ADDITIONAL ERECTION PROCEDURES.

10. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL ANGLES, PLATES, BARS, CLIPS, ETC., ATTACHED TO STRUCTURAL STEEL.

11. UNLESS OTHERWISE NOTED, ALL ROOF OPENINGS SHALL BE FRAMED WITH L 5 X 3-1/2 X 5/16 L.L.V. VERIFY EXACT SIZE AND LOCATION OF ALL ROOF OPENINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND WITH CONTRACTOR INVOLVED.

12. THIS STEEL FRAME IS NON SELF-SUPPORTING PER A.I.S.C. CODE OF STANDARD PRACTICE, SECTIONS 7.9.3. AND 7.9.5. ERECTION, BRACING, SHORING, ETC. SHALL CONFORM TO THESE SECTIONS. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE.

13. NO LOADS SHALL BE PERMITTED TO BE HUNG FROM ANY ROOF DECK. ALL HANGERS FOR CEILINGS, DUCTWORK, ELECTRICAL CONDUIT, PIPING, ETC., SHALL BE HUNG DIRECTLY FROM STRUCTURAL STEEL WORK OR SUPPLEMENTARY MEMBERS.

14. MASONRY AND BRICK LINTELS SHALL BE GALVANIZED G90 PER ASTM A123.

SHORING

1. SHORE STRUCTURE AS REQUIRED TO MAINTAIN STRUCTURAL INTEGRITY.

2. ALL SHORING, UNDERPINNING, ETC., SHALL BE PERFORMED BY EXPERIENCED CONTRACTORS.

3. SHORE, UNDERPIN, ETC., ALL QUESTIONABLE AREAS PRIOR TO REMOVAL OF ANY STRUCTURAL SUPPORT TO INSURE STRUCTURAL INTEGRITY.

4. MAINTAIN SHORING UNTIL NEW PERMANENT STRUCTURE IS IN PLACE AND SECURE TO MAINTAIN STRUCTURAL INTEGRITY.

5. REMOVE SHORING AFTER NEW WORK IS IN PLACE AND CONNECTED.

SPECIAL INSPECTION

1. WORK CONSTRUCTED SHALL BE INSPECTED BY AN INDEPENDENT TESTING AGENCY TO ENSURE COMPLIANCE WITH THE REQUIREMENTS SHOWN ON THE DRAWINGS. INSPECTIONS REQUIRED BY CHAPTER 17 OF THE MICHIGAN BUILDING CODE; LOCAL BUILDING DEPARTMENTS AND THE CONTRACT DOCUMENTS SHALL BE PERFORMED BY AN INDEPENDENT TESTING AGENCY. SITE VISITS BY THE DESIGN ENGINEER DO NOT CONSTITUTE OR REPLACE INSPECTION

2. THE FOLLOWING ITEMS SHALL BE INSPECTED IN ACCORDANCE WITH IBC 2012 SEC. 1704 BY A CERTIFIED SPECIAL INSPECTOR UNLESS NOTED OTHERWISE IN REMARKS COLUMN. ALL INSPECTION SHALL BE CONTINUOUS UNLESS OTHERWISE NOTED. ALL PRODUCTS WITH ICC APPROVALS SHALL BE INSTALLED PER THE APPROVAL AND PER MANUFACTURER'S RECOMMENDATIONS. FOR MATERIAL TESTING REQUIREMENTS, SEE SPECIFICATIONS AND/OR GENERAL NOTES. TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ARCHITECT.

FABRICATOR'S SHOP (SEC. 1704.2) *

STEEL FABRICATION

*SPECIAL INSPECTION IS NOT REQUIRED FOR FABRICATOR SHOP IF CERTIFICATE OF APPROVAL SUBMITTED BY FABRICATOR'S INSPECTION AGENCY PER 1704.2.1 EXCEPTION AND 1704.2.2

TABLE 1704.3
REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCED
1. MATERIAL VERIFICATION OF HIGH-STRENGHT BOLTS, NUTS AND WASHERS:				
a. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	AISC 360, SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS	
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	-	X	-	-
2. INSPECTION OF HIGH-STRENGTH BOLTING:				
a. SNUG-TIGHT JOINTS.	-	X	AISC 360, SECTION M2.5	1704.3.3
b. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION.	-	X		
c. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	X	-		
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:				
a. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.	-	X	AISC 360, SECTION M5.5	
b. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	APPLICABLE ASTM MATERIAL STANDARDS	
c. MANUFACTURER'S CERTIFIED TEST REPORTS.	-	X		
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:				
a. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	-	X	AISC 360, SECTION A3.5 AND APPLICABLE AWS A5 DOCUMENTS	-
b. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	-	X	-	-
5. INSPECTION OF WELDING:				
a. STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:				
1) COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS.	X	-	AWS D1.1	1704.3.1
2) MULTIPASS FILLET WELDS.	X	-		
3) SINGLE-PASS FILLET WELDS > 5/16"	X	-		
4) PLUG AND SLOT WELDS.	X	-		
5) SINGLE-PASS FILLET WELDS ≤ 5/16"	-	X		
6) FLOOR AND ROOF DECK WELDS.	-	X	AWS D1.3	
b. REINFORCING STEEL: NOT USED				
1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706. NOT USED	-	X		
2) REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT. NOT USED	X	-	AWS D1.4 / ACI 318: SECTION 3.5.2	-
3) SHEAR REINFORCEMENT. NOT USED	X	-		
4) OTHER REINFORCING STEEL. NOT USED	-	X		
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE: NOT USED				
a. DETAILS SUCH AS BRACING AND STIFFENING. NOT USED	-	X		
b. MEMBER LOCATIONS. NOT USED	-	X	-	1704.3.2
c. APPLICATION OF JOINT DETAILS AT EACH CONNECTION. NOT USED	-	X		

TABLE 1704.4
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCED
1. INSPECTION OF REINFORCING STEEL INCLUDING PRESTRESSING TENDONS AND PLACEMENT.	-	X	ACI 318: 3.5, 7.1-7.7	1913.4
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1704.3 ITEM 5b	-	-	AWS D1.4 ACI 318: 3.5.2	-
3. INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGHT DESIGN IS USED.	X	-	ACI 318 8.13,2128	1911.5 1912.1
4. INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE.	-	X	ACI 318 3.8.6,8.1.3,21.2.8	1912.1
5. VERIFYING USE OF REQUIRED DESIGN MIX.	-	X	ACI 318: CH.4,5.2-5.4	1904.2.2, 1913.2,1913.3
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS PERFORM SLUMP AND AIR CONTENT TESTS AND DETERMINE THE TEMPERATURE OF THE CONCRETE	X	-	ASTM C 172 ASTM C 31 ACI 318: 5.6,5.8	1913.10
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318: 5.9,5.10	1913.6, 1913.7,1913.8
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318: 5.11-5.13	1913.9
9. INSPECTION OF PRESTRESSED CONCRETE				
a. APPLICATION OF PRESTRESSING FORCES NOT USED			ACI 318: 18.20	
b. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC FORCE RESISTING SYSTEM.	X		ACI 318: 18.18.4	
10. ERECTION OF PRECAST CONCRETE MEMBERS. NOT USED	-	X	ACI 318: CH.16	-
11. VERIFICATION OF IN-SITU CONCRETE STRENGHT PRIOR TO STRESSING OF TENDONS IN POSTTENDONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS BEAMS AND STRUCTURAL SLABS. NOT USED		X	ACI 318: 6.2	
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED. NOT USED	-	X	ACI 318: 6.1.1	-

TABLE 1704.5.1
LEVEL 1 REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION

VERIFICATION AND INSPECTION	FREQUENCY OF INSPECTION		REFERENCE FOR CRITERIA		
	CONTINUOUS	PERIODIC	IBC SECTION	TMS 402/ACI 530/ASCE 5	TMS 602/ACI 530.1/ASCE 6
1. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED.	-	X	-	-	ART. 1.5
2. VERIFICATION OF f'_m AND f'_{AAC} PRIOR TO CONSTRUCTION EXCEPT WHERE SPECIFICALLY EXEMPTED BY THIS CODE.	-	X	-	-	ART. 1.4B
3. VERIFICATION OF SLUMP FLOW AND VSI AS DELIVERED TO THE SITE FOR SELF-CONSOLIDATING GROUT.	X	-	-	-	ART. 1.5B.1.b.3
4. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:					
a. PROPORTIONS OF SITE-PREPARED MORTAR.	-	X	-	-	ART. 2.6A
b. CONSTRUCTION OF MORTAR JOINTS.	-	X	-	-	ART. 3.3B
c. LOCATION OF REINFORCEMENT, CONNECTORS, PRESTRESSING TENDONS AND ANCHORAGES.	-	X	-	-	ART. 3.4, 3.6A
d. PRESTRESSING TECHNIQUE.	-	X	-	-	ART. 3.6B
e. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES.	-	X	-	-	ART. 2.4B, 2.4H
5. DURING CONSTRUCTION THE INSPECTION PROGRAM SHALL VERIFY:					
a. SIZE AND LOCATION OF STRUCTURAL ELEMENTS.	-	X	-	-	ART. 3.3F
b. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION.	-	X	-	SEC. 1.2.2(e), 1.16.1	-
C. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT, ANCHOR BOLTS, PRESTRESSING TENDONS AND ANCHORAGES.	-	X	-	SEC. 1.15	ART. 2.4, 3.4
d. WELDING OF REINFORCING BARS.	X	-	-	SEC. 2.1.9.7.2, 3.3.3.4(b)	-
e. PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F).	-	X	SEC. 2104.3, 2104.4	-	ART. 1.8C 1.8D
f. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE.	X	-	-	-	ART. 3.6B
6. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:					
a. GROUT SPACE IS CLEAN.	-	X	-	-	ART. 3.2D
b. PLACEMENT OF REINFORCEMENT AND CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES.	-	X	-	SEC. 1.13	ART. 3.4
C. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS.	-	X	-	-	ART. 2.6B
d. CONSTRUCTION OF MORTAR JOINTS.	-	X	-	-	ART. 3.3B
7. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE	X	-	-	-	ART. 3.5
8. GROUTING OF PRESTRESSING BONDED TENDONS NOT USED	X	-	-	-	[illegible]
8. PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED.	-	X	SEC. 2105.2.2 2105.3	-	ART. 1.4

TABLE 1704.7
REQUIRED VERIFICATION AND INSPECTION OF SOILS

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X

DESIGN CRITERIA

CODE: MBC 2012 THE STRUCTURE IS DESIGNED FOR THE FOLLOWING LIVE LOADS, IN ADDITION TO THE LATERAL LOADS, SUPER-IMPOSED DEAD LOADS, & SELF WEIGHT OF THE STRUCTURE. WHERE APPLICABLE LIVE LOADS ARE REDUCED IN ACCORDANCE WITH THE PROVISIONS OF THE BUILDING CODE.

A. AMERICAN CONCRETE INSTITUTE BUILDING CODE (ACI-318).

B. MANUAL OF STEEL CONSTRUCTION BY AMERICAN INSTITUTE OF STEEL CONSTRUCTION (LATEST EDITION).

C. LATEST MASONRY STANDARDS JOINT COMMITTEE (MSJC) BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (TMS 402/ACI 530/ASCE 5) AND SPECIFICATIONS FOR MASONRY STRUCTURES (TMS 602/ACI 530.1/ASCE 6)

D. AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC) STANDARDS AND SPECIFICATIONS.

E. NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (NDS) AS PUBLISHED BY AMERICAN FOREST AND PAPER ASSOCIATION.

		CODE REFERENCE
BUILDING OCCUPANCY CATEGORY	III	MBC-Table 1604.5 ASCE Table 1.5-1

SNOW LOADS/ROOF LIVE LOADS

SNOW CRITERIA		CODE REFERENCE
GROUND SNOW LOAD	Pg = 25 PSF	MBC FIG. 1608.2 ASCE Fig. 7-1
FLAT ROOF SNOW LOAD	Pf = 20 PSF (MINIMUM)	ASCE Sec. 7.3
EXPOSURE FACTOR	Ce = 1.0	ASCE Table 7-2
IMPORTANCE FACTOR	I = 1.1	ASCE Table 1.5-2
THERMAL FACTOR	Ct = 1.2	ASCE Table 7-3
ROOF LIVE LOADS	Lr = 20 PSF	ASCE Table 4-1

NOTE: SNOW LOADS ADJACENT VERTICAL PROJECTIONS, ON LOWER ROOFS, ADJACENT TO HIGH ROOFS, OR SLOPED ROOFS ARE INCREASED FOR THE EFFECT OR DRIFTING

WIND LOADS

WIND CRITERIA		CODE REFERENCE
BASIC WIND SPEED (3 SEC. GUST)	V = 115 MPH	ASCE FIG. 26.5-1A, 26.5-1B, 26.5-1C
RISK FACTOR	III	ASCE Table 1.5-1
EXPOSURE CATEGORY	B	ASCE Sec. 26.7.3
INTERNAL PRESSURE COEFFICIENT	± 0.18 (ENCLOSED)	ASCE TABLE 26.11-1
MWFRS ANALYSIS PROCEDURE	DIRECTIONAL PROCEDURE	ASCE CHAP. 27
COMPONENTS AND CLADDING	± 20 PSF MINIMUM AND PER CODE REQUIREMENTS BASED ON ABOVE INFORMATION	ASCE Sec. 30.2.2

SEISMIC LOADS

SEISMIC CRITERIA		CODE REFERENCE
SEISMIC IMPORTANCE FACTOR	I = 1.25	ASCE Table 1.5-2
-0.2 SEC MAPPED SPECTRAL RESPONSE ACCELERATION (5% OF CRITICAL DAMPING) S_s	S_s = .12	ASCE Sec. 11.4
-1.0 SEC MAPPED SPECTRAL RESPONSE ACCELERATION (5% OF CRITICAL DAMPING) S_1	S_1 = .045	ASCE Sec. 11.4
SOIL SITE CLASS	D	ASCE Sec. 11.4.2
SEISMIC DESIGN CATEGORY	B	ASCE Sec. 11.6
SEISMIC FORCE RESISTING SYSTEM	BEARING WALL SYSTEM WITH INTERMEDIATE REINFORCED MASONRY SHEAR WALLS	ASCE Table 12.2-1
RESPONSE MODIFICATION FACTOR	R = 3.0	ASCE Table 12.2-1
DEFLECTION AMPLIFICATION FACTOR	Cd = 3.0	ASCE Table 12.2-1
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE	ASCE Sec. 12.8

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PROJECT
KETTERING HIGH SCHOOL BID PACK #4 SALES ADDITION

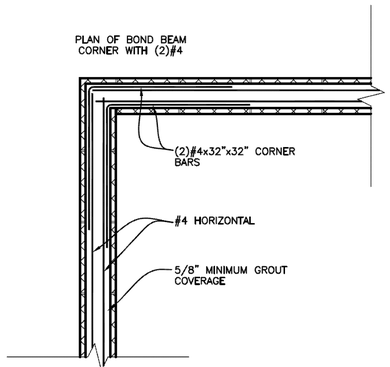
Waterford, Michigan

SHEET
General Notes

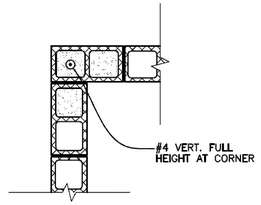
PROJECT NUMBER
2014-057.1

SHEET NUMBER
S3.00

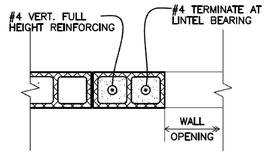
2014-057.1 Kettering High School Bid Pack #4 Sales Addition



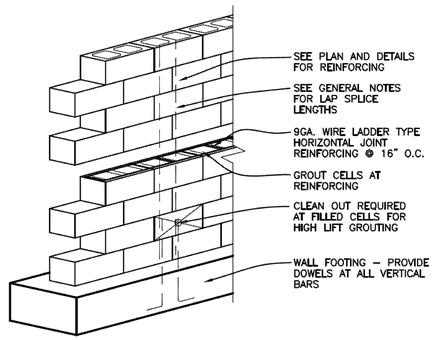
13 S3.01 TYPICAL BOND BEAM CORNER DETAIL
SCALE : 3/4" = 1'-0"



12 S3.01 TYPICAL REINFORCING AT CORNERS
SCALE : 3/4" = 1'-0"



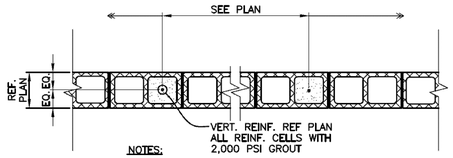
11 S3.01 TYPICAL REINFORCING ALONG SIDE OPENING
SCALE : 3/4" = 1'-0"



GROUT INSTRUCTIONS :

1. CONSTRUCT WALL TO HEIGHT OF 4'-0" – ALLOW MORTAR TO SET SUFFICIENTLY TO WITHSTAND GROUT PRESSURE.
2. INSPECT UNITS FOR ALIGNMENT, CLEAN OUT CELLS TO BE FILLED.
3. FILL CELLS TO 8" BELOW TOP COURSE WITH 2,000 PSI CONCRETE GROUT.
4. DELAY 3 – 5 MINUTES PRIOR TO CONSOLIDATING TO ALLOW WATER TO BE ABSORBED BY MASONRY.

10 S3.01 REINFORCED MASONRY CONSTRUCTION DETAIL
SCALE : NONE

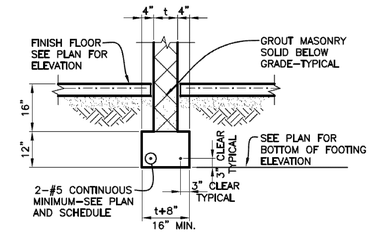


NOTES:

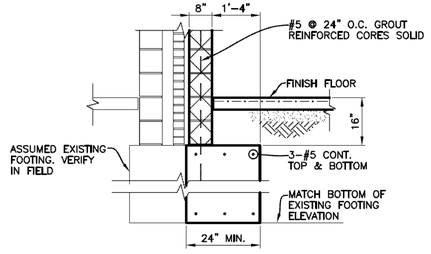
1. PROVIDE CLEANOUTS AT BOTTOM OF EACH REINFORCED CELL IN ACCORDANCE WITH THE SPECIFICATIONS
2. PROVIDE HORIZONTAL JOINT REINF. PER GENERAL NOTES @ 16" O.C. MAX. U.N.O.

MASONRY REINF. LAP LENGTH	
BAR SIZE	LAP
4	2'-1"
5	2'-7"
6	4'-5"
7	5'-1"

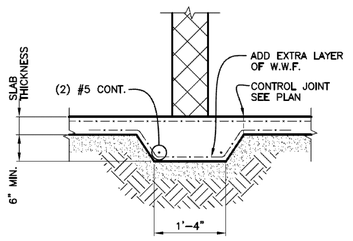
9 S3.01 TYPICAL WALL REINFORCING DETAIL
SCALE : 3/4" = 1'-0"



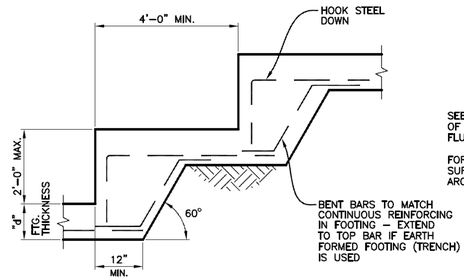
8 S3.01 TYPICAL INTERIOR WALL FOOTING
SCALE : 1/2" = 1'-0"



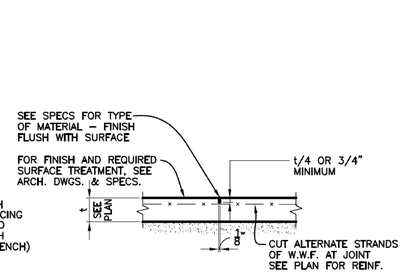
7 S3.01 SECTION AT FIREWALL
SCALE : 3/4" = 1'-0"



6 S3.01 TYPICAL THICKENED SLAB DETAIL
SCALE : 3/4" = 1'-0"

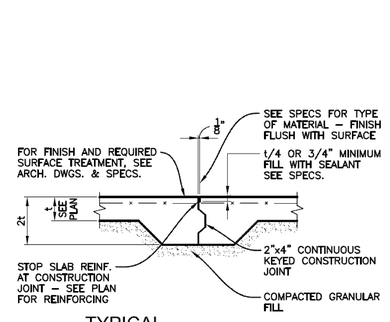


5 S3.01 TYPICAL STEP FOOTING DETAIL
SCALE : NONE (IF REQUIRED)

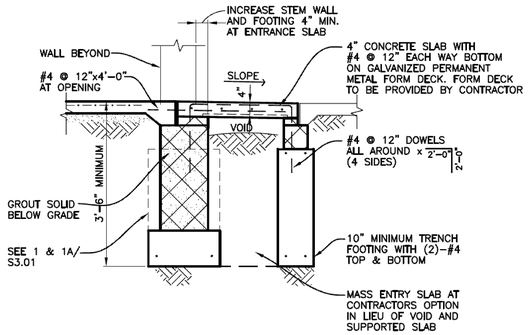


(15'-0" O.C. EACH WAY MAXIMUM)

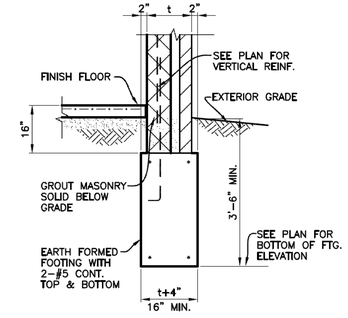
4 S3.01 TYPICAL FLOOR CONTROL JOINT
SCALE : 1" = 1'-0"



3 S3.01 TYPICAL FLOOR CONSTRUCTION JOINT
SCALE : 1" = 1'-0"

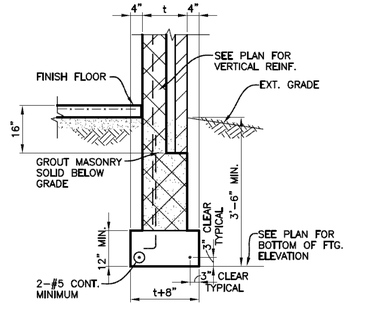


2 S3.01 TYPICAL ENTRANCE SLAB
SCALE : 1/2" = 1'-0"



1A S3.01 ALTERNATE EXTERIOR COMPOSITE WALL FOOTING
SCALE : 1/2" = 1'-0" (CONTRACTOR OPTION)

NOTE : THIS DETAIL MAY BE USED IN LIEU OF DETAIL 1 AT CONTRACTOR'S OPTION IF FIELD CONDITIONS ALLOW AND IF ACCEPTABLE TO THE SOILS ENGINEER



1 S3.01 TYPICAL EXTERIOR COMPOSITE WALL PAD FOOTING
SCALE : 1/2" = 1'-0"

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PROJECT
KETTERING HIGH SCHOOL BID PACK #4 SALES ADDITION
Waterford, Michigan

SHEET
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PROJECT NUMBER
2014-057.1

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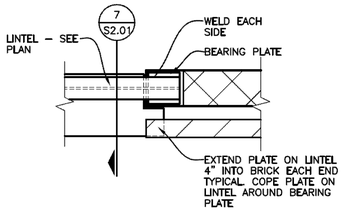
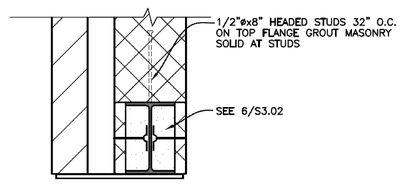
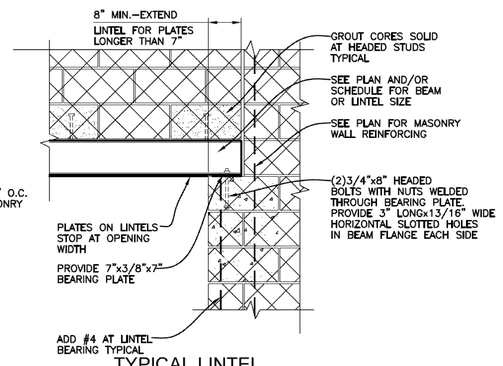


8 S3.02 TYPICAL PLAN DETAIL AT LINTEL BEARING WITH BRICK VENEER
SCALE : 3/4" = 1'–0"

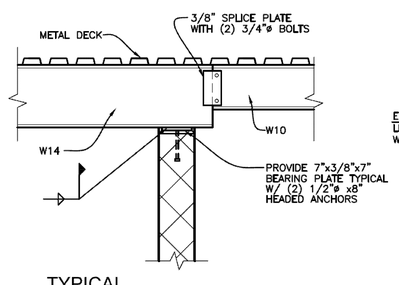


7 S3.02 TYPICAL LINTEL DETAIL WITH BRICK
SCALE : 1 1/2" = 1'–0"

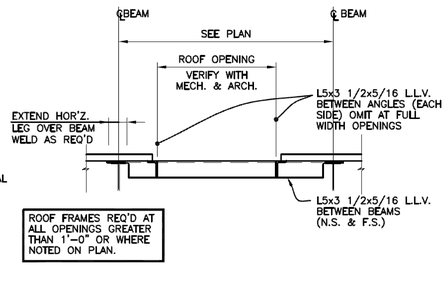


6 S3.02 TYPICAL LINTEL BEARING ON MASONRY DETAIL
SCALE : 3/4" = 1'–0" (LINTEL PARALLEL TO WALL)

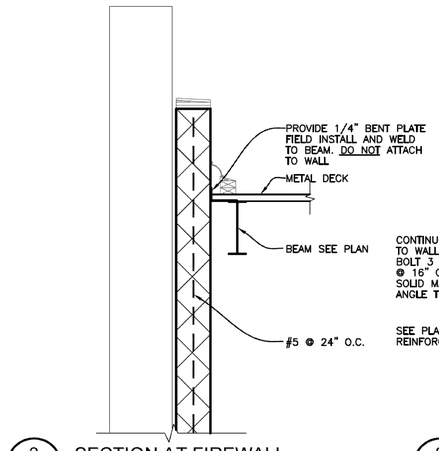
NOTE: PLACE LINTEL BEAMS CENTERED IN CMU WALLS UNLESS NOTED OTHERWISE



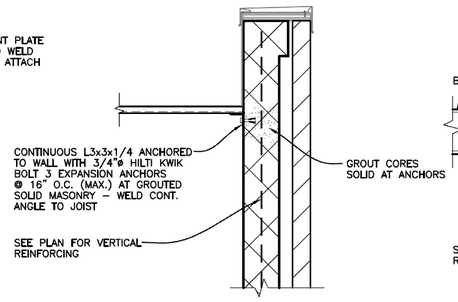
5 S3.02 TYPICAL BEAM SPLICE DETAIL
SCALE : 3/4" = 1'–0"



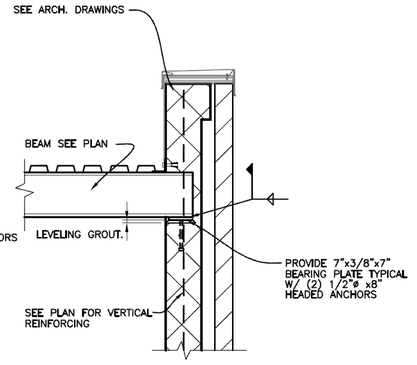
4 S3.02 TYPICAL ROOF OPENING DETAIL
SCALE : 3/4" = 1'–0"



3 S3.02 SECTION AT FIREWALL
SCALE : 3/4" = 1'–0"



2 S3.02 SECTION AT EXTERIOR WALL
SCALE : 3/4" = 1'–0"



1 S3.02 BEAM BEARING ON MASONRY
SCALE : 3/4" = 1'–0"

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PROJECT
KETTERING
HIGH SCHOOL
BID PACK #4
SALES ADDITION

Waterford,
Michigan

SHEET
Details

PROJECT NUMBER
2014-057.1

SHEET NUMBER
S3.02

MECHANICAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AAV	AUTOMATIC AIR VENT, AIR ADMITTANCE VALVE
AFF	ABOVE FINISHED FLOOR
AMP	AMPERE
APD	AIR PRESSURE DROP
ASR	AUTOMATIC SPRINKLER RISER
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BMS	BUILDING MANAGEMENT SYSTEM
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
BWV	BACKWATER VALVE
C	COMMON
CA	COMPRESSED AIR
CAP	CAPACITY
CAV	CONSTANT AIR VOLUME
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CIRC	CIRCULATING
CLG	COOLING
CO	CLEAN OUT
CONC	CONCRETE
COND	CONDENSATE
CONT	CONTINUATION OR CONTINUED
CONTR	CONTRACTOR
CONV	CONVECTOR
CUH	CABINET UNIT HEATER
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
CV	CONTROL VALVE
CW	DOMESTIC COLD WATER
DB	DRY BULB TEMPERATURE
DDC	DIRECT DIGITAL CONTROL
DN	DOWN
DPR	DAMPER
DSN	DOWN SPOUT NOZZLE
DT	DRAIN TILE
DTC	DRAIN TILE CONNECTION
DWH	DOMESTIC WATER HEATER
(E)	EXISTING
EG OR ER	EXHAUST GRILLE OR REGISTER
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB TEMPERATURE
EF	EXHAUST FAN
EL	ELEVATION
ELECT	ELECTRICAL
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB TEMPERATURE
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
FP	FIRE PROTECTION
°F	DEGREES FAHRENHEIT
FA	FACE AREA OR FREE AREA
FC	FLEXIBLE CONNECTION
FD	FLOOR DRAIN
FDPR	FIRE DAMPER
FDV	FIRE DEPARTMENT VALVE
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK

MECHANICAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION
FHV	FIRE HOSE VALVE
FLA	FULL LOAD AMPS
FLR	FLOOR
FPM	FEET PER MINUTE
FFD	FUNNEL FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FS	FLOOR SINK
FT	FEET
FV	FACE VELOCITY
G	NATURAL GAS
GAL	GALLON
GHXS	GROUND HEAT EXCHANGE SUPPLY
GHXR	GROUND HEAT EXCHANGE RETURN
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GATE VALVE
HB	HOSE BIBB
HHWR	HEATING HOT WATER RETURN
HHWS	HEATING HOT WATER SUPPLY
HPWR	HEAT PUMP WATER RETURN
HPWS	HEAT PUMP WATER SUPPLY
HO	HUB OUTLET
HP	HORSEPOWER
HPLS	HEAT PUMP SLOOP SUPPLY
HPLR	HEAT PUMP LOOP RETURN
HR	HOUR
HTG	HEATING
HW	DOMESTIC HOT WATER
HWR	DOMESTIC HOT WATER RETURN
HYD	HYDRANT
HZ	HERTZ
HPS	HIGH PRESSURE STEAM
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCHES
ISP	INTERNAL STATIC PRESSURE
IW	INDIRECT WASTE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LBS/HR	POUNDS PER HOUR
LDB	LEAVING DRY BULB TEMPERATURE
LRA	LOCKED ROTOR AMPS
LWB	LEAVING WET BULB TEMPERATURE
LPS	LOW PRESSURE STEAM
MA	MEDICAL AIR
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS PER HOUR
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MAV	MANUAL AIR VENT
MV	MEDICAL VACUUM
N	NITROGEN
N.C.	NOISE CRITERIA
NIC	NOT IN CONTRACT
NC	NORMALLY CLOSED
NO.	NUMBER
NO	NORMALLY OPEN
NPCW	NON POTABLE COLD WATER

MECHANICAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER
OED	OPEN ENDED DUCT
OS	OVERFLOW ROOF SUMP
OST	OVERFLOW STORM
OS&Y	OUTSIDE SCREW AND YOKE
OXY OR O2	OXYGEN
PC	PUMPED CONDENSATE
PD	PRESSURE DROP (FEET OF WATER)
PD	PUMPED DISCHARGE
PRV	PRESSURE REDUCING VALVE
PSIA	POUNDS PER SQUARE INCH – ABSOLUTE
PSIG	POUNDS PER SQUARE INCH – GAUGE
PT	PRESSURE / TEMPERATURE PORT
R	RETURN GRILLE OR REGISTER
(R)	RELOCATED
RA	RETURN AIR
RC	RAIN CONDUCTOR
REQD	REQUIRED
RELA	RELIEF AIR
RH	RELATIVE HUMIDITY
RL	REFRIGERANT LIQUID
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE
RS	ROOF SUMP
RS	REFRIGERANT SUCTION
SA	SUPPLY AIR
SAN	SANITARY WASTE
SDPR	SMOKE DAMPER
SH	SHOWER
SP	STATIC PRESSURE
SPHD	SPRINKLER HEAD
SPKR	SPRINKLER
SqFt SF	SQUARE FOOT/SQUARE FEET
SS	SERVICE SINK
ST	STORM
STAT	THERMOSTAT
STM	STEAM
TC	TEMPERATURE CONTROL
T & P	TEMPERATURE AND PRESSURE
TV	TURNING VANES
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UON	UNLESS OTHERWISE NOTED
UR	URINAL
V	VENT
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER (MANUALLY ADJUSTABLE)
VS	VENT STACK
VTR	VENT THRU ROOF
W	WASTE
W&V	WASTE AND VENT
WB	WET BULB TEMPERATURE
WC	WATER CLOSET
WG	WATER GAUGE
WH	WALL HYDRANT

MECHANICAL SYMBOLS

ABBREVIATION	DESCRIPTION
	RECTANGULAR TAKE–OFF (SINGLE LINE)
	RECTANGULAR TAKE–OFF (DOUBLE LINE)
	ROUND TAKE–OFF (SINGLE LINE)
	ROUND TAKE–OFF (DOUBLE LINE)
	SPIN–IN FITTING (WITH VOLUME DAMPER)
	RECTANGULAR ELBOW (WITH TURNING VANES)
	RADIUS RECTANGULAR ELBOW
	RADIUS ROUND ELBOW
	RECTANGULAR ELBOW UP
	ROUND ELBOW UP
	RECTANGULAR ELBOW DOWN
	ROUND ELBOW DOWN
	CONCENTRIC TRANSITION (DOUBLE LINE)
	CONCENTRIC TRANSITION (SINGLE LINE)
	ECCENTRIC TRANSITION (DOUBLE LINE)
	ECCENTRIC TRANSITION (SINGLE LINE)
	INCLINED RISE IN DIRECTION OF AIR FLOW (DOUBLE LINE)
	INCLINED RISE IN DIRECTION OF AIR FLOW (SINGLE LINE)
	INCLINED DROP IN DIRECTION OF AIR FLOW (DOUBLE LINE)
	INCLINED DROP IN DIRECTION OF AIR FLOW (SINGLE LINE)
	FLEXIBLE CONNECTION
	FLEXIBLE DUCT CONNECTION TO SUPPLY DIFFUSER
	SUPPLY DIFFUSER
	LINEAR SLOT DIFFUSER
	RETURN OR EXHAUST GRILLE
	TRANSFER GRILLE
	CROSS SECTION OF SUPPLY AIR DUCT
	CROSS SECTION OF EXHAUST OR RETURN AIR DUCT
	EXISTING FIRE DAMPER (HORIZONTAL) NEW
	EXISTING FIRE DAMPER (VERTICAL) NEW
	EXISTING SMOKE DAMPER NEW
	EXISTING COMBINATION FIRE/SMOKE DAMPER (VERTICAL) NEW
	EXISTING COMBINATION FIRE/SMOKE DAMPER (HORIZONTAL) NEW
	VOLUME DAMPER (MANUALLY ADJUSTABLE)
M	MOTORIZED DAMPER
T	THERMOSTAT
T	TEMPERATURE SENSOR

MECHANICAL PIPING SYMBOLS

ABBREVIATION	DESCRIPTION
CW	DOMESTIC COLD WATER PIPING
HW	DOMESTIC HOT WATER PIPING
CHWR	CHILLED WATER RETURN PIPING
CHWS	CHILLED WATER SUPPLY PIPING
HHWR	HEATING HOT WATER RETURN PIPING
HHWS	HEATING HOT WATER SUPPLY PIPING
SAN	SANITARY WASTE PIPING
PD	PUMPED DISCHARGE PIPING
ST	STORM SEWER PIPING
STM	STEAM PIPING
RC	RAIN CONDUCTOR PIPING
DT	DRAIN TILE
V	SANITARY VENT PIPING
PC	PUMPED CONDENSATE PIPING
CD	CONDENSATE DRAIN PIPING
RL	REFRIGERANT LIQUID PIPING
RS	REFRIGERANT SUCTION PIPING
FP	FIRE PROTECTION PIPING
	PIPE ELBOW UP
	PIPE ELBOW DOWN
	DIRECTION OF FLOW
	UNION
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	FLEXIBLE CONNECTION
	PIPE CAP OR PLUG
	GATE VALVE
	CIRCULATING PUMP
	GLOBE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	ANGLE VALVE
	CHECK VALVE
	PRESSURE RELIEF VALVE
	PLUG VALVE
	CENTRIFUGAL FAN
CC	TRAP (PLAN VIEW)
	FLOOR DRAIN (PLAN VIEW)
	FLOOR DRAIN (ELEVATION)
	FUNNEL FLOOR DRAIN (PLAN VIEW)
	FUNNEL FLOOR DRAIN (ELEVATION)
	ROOF SUMP
	OPEN SITE DRAIN
CO	CLEAN OUT (IN FLOOR)
CO	CLEAN OUT (IN LINE)
WCO	WALL CLEAN OUT
BFP	BACKFLOW PREVENTER
	HOSE BIBB, WALL HYDRANT
	SPRINKLER HEAD (PENDANT)
	SPRINKLER HEAD (SIDEWALL)
	OUTSIDE SCREW AND YOKE VALVE (OS&Y)
FS	FLOW SWITCH
	SIAMESE CONNECTION (YARD)
	SIAMESE CONNECTION (WALL MOUNTED)
	BALANCING VALVE
	FLOW MEASURING AND BALANCING VALVE
AAV	AUTOMATIC AIR VALVE
MAV	MANUAL AIR VALVE
	PRESSURE REDUCING VALVE
	STRAINER

DRAWING INDEX

DRAWING NOTATION

SYMBOL	DESCRIPTION
1	CONSTRUCTION KEY NOTE NUMBER 1
1	DEMOLITION KEY NOTE NUMBER 1
EF-1	EQUIPMENT DESIGNATION, (IE: EXHAUST FAN NUMBER 1)
	EXISTING DEVICES OR EQUIPMENT
	NEW OR MODIFIED DEVICES OR EQUIPMENT
	EXISTING SYSTEM COMPONENT TO BE REMOVED
	POINT OF NEW CONNECTION

SECTION NO. 4
4
M5.2
SHEET M5.2 ON WHICH SECTION IS DRAWN

SECTION NO. 6
6
M5.2
SECTION
SCALE: 1/4" = 1' – 0"
SHEET M5.2 ON WHICH SECTION IS CUT (ENLARGED PARTIAL PLAN SIMILAR)

APPLICABLE CODES AND REGULATIONS

YEAR	CODE
2009	MICHIGAN BUILDING CODE
2009	MICHIGAN PLUMBING CODE
2009	MICHIGAN MECHANICAL CODE
–	AMERICANS WITH DISABILITIES ACT ACCESSIBILITIES GUIDELINE (ADA–AG)

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1/14/14	BID DOCUMENTS
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APPROVED	TMV

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PROJECT
KETTERING
HIGH SCHOOL
BID PACK #4
SALES ADDITION

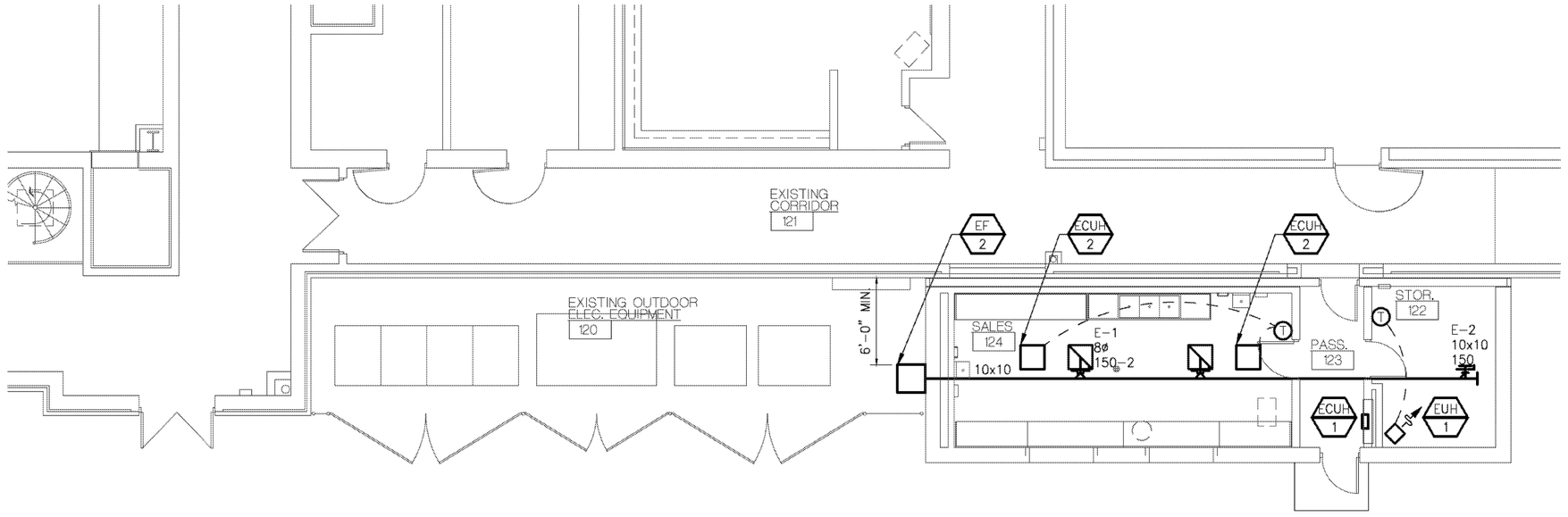
Waterford,
Michigan

SHEET
Mechanical
General
Information

PROJECT NUMBER
2014–057.1

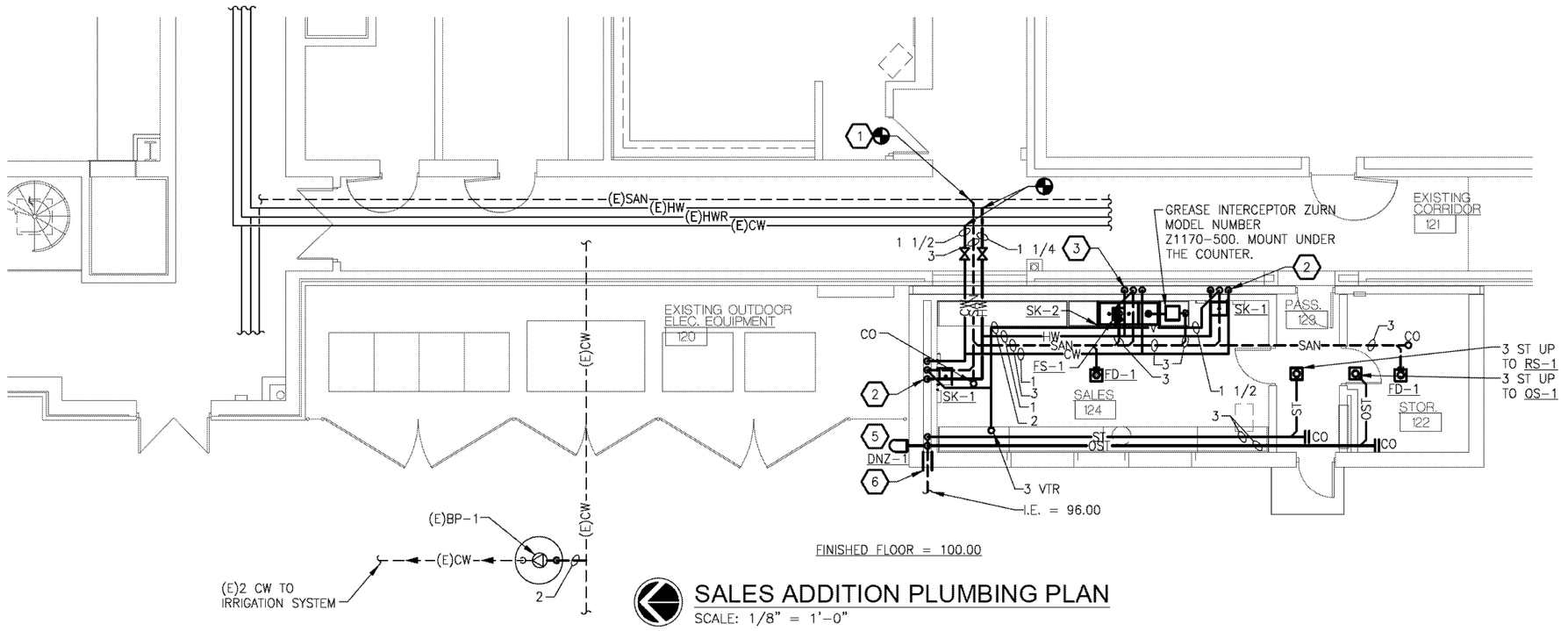
SHEET NUMBER
M0.00

2014-057.1 Kettering High School Bid Pack #4 Sales Addition



SALES ADDITION MECHANICAL PLAN

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



SALES ADDITION PLUMBING PLAN

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

ALL WORK DONE FOR THE SALES AREA SHALL AN ADD ALTERNATE.

MECHANICAL GENERAL NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC & INDICATE THE GENERAL EXTENT OF THE WORK. PROVIDE PLUMBING AND HVAC SYSTEMS COMPLETE PER SPECIFICATION, SMACNA STANDARDS, AND PER APPLICABLE CODES INCLUDING ALL NECESSARY OFFSETS, FITTINGS, SPECIAL RADIUS OR MITERED ELBOWS WHICH ARE REQUIRED DUE TO SPACE CONSTRAINTS OR OTHER STRUCTURAL CONDITIONS.
2. CONTRACTOR SHALL COORDINATE HIS WORK WITH THE WORK OF ALL OTHER TRADES. VERIFY ALL CLEARANCES PRIOR TO THE FABRICATION OF ANY WORK.
3. DUCTWORK/PIPING SHALL NOT BE LOCATED OVER ELECTRICAL EQUIPMENT/PANELS. PROVIDE REQUIRED CLEARANCE IN FRONT OF ELECTRICAL EQUIPMENT. DUCTWORK/PIPING SHALL NOT INTERFERE WITH ELECTRICAL EQUIPMENT CLEARANCE.
4. THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS.
5. COORDINATE FLOOR, WALL, ROOF PENETRATIONS, LOUVER SIZES, PAD LOCATIONS ETC. WITH ARCHITECTURAL TRADES.
6. REFER TO ARCHITECTURAL PLANS FOR SPECIFICATIONS OF AND EXACT LOCATIONS OF PLUMBING FIXTURES (STANDARD AND BARRIER FREE), SINKS, ETC.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF GRILLES, REGISTERS, AND DIFFUSERS.
8. PIPING SHALL NOT BE INSTALLED IN A LOCATION THAT RESTRICTS THE ACCESS TO MECHANICAL DEVICES REQUIRING ACCESS.
9. HOT AND COLD WATER PIPING RUN-OUTS TO LAVs AND SINKS SHALL BE 1/2" UNLESS NOTED OTHERWISE. REFER TO SPECIFICATIONS FOR FIXTURE CONNECTION SIZES.
10. COORDINATE AND PROVIDE ACCESS DOORS IN HARD CEILING AREAS FOR ACCESS TO BALANCING DAMPERS, ETC. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
11. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY WASTE AND VENT PIPING.
12. FOR EQUIPMENT VALVING, COMPONENT, AND PIPING ARRANGEMENT, REFER TO PIPING DIAGRAMS AND DETAILS.
13. BRANCH DUCTWORK TO GRILLES, REGISTERS AND DIFFUSERS SHALL BE THE SAME SIZE AS THE GRILLE, REGISTER OR DIFFUSER NECK SIZE WHERE NO DUCT SIZE IS INDICATED ON PLAN.
14. MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL BE 5'-0".

KEYED NOTES

1. FIELD VERIFY LOCATION AND INVERT OF EXISTING SANITARY MAIN PRIOR TO SAWCUTTING FLOOR. NO EXISTING PLANS ARE AVAILABLE TO ACCURATLEY SHOW LOCATION. CONTACT ENGINEER IF ACTUAL SANITARY LOCATION GREATLY DIFFERS.
2. ROUTE 1/2" CW, 1/2" HW 1 1/2" V, AND 2" SAN DOWN IN SHAFT TO SINK.
3. ROUTE 3/4" CW, 3/4" HW, 1 1/2" V, AND 3" SAN DOWN IN WALL TO THREE COMPARTMENT SINK.
4. PROVIDE AND INSTALL 3/4" DRAIN VALVE WITH HOSE END CONNECTION.
5. DISCHARGE 18" ABOVE GRADE WITH COWS TONGUE. SPILL ONTO CONCRETE BLOCK.
6. PROVIDE/INSTALL SCHEDULE 40 BLACK SELL SLEEVE WHERE PIPING PENETRATES FOOTING/FOUNDATION.

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11/14/14	BID DOCUMENTS
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PROJECT

KETTERING
HIGH SCHOOL
BID PACK #4
SALES ADDITION

Waterford,
Michigan

SHEET

Sales Mechanical Plans

PROJECT NUMBER

2014-057.1

SHEET NUMBER

M2.02

2014-057.1 Kettering High School Bid Pack #4 Sales Addition

GRILLE, REGISTER AND DIFFUSER SCHEDULE

UNIT ID	FACE SIZE	NECK SIZE	MOUNTING	ACCESSORY	FINISH	MATERIAL	MODEL NO.	REMARKS
E-1	24"x24"	SEE PLANS	NOTE 2	–	WHITE	STEEL	PDDR	
E-2	NECK+2"	SEE PLANS	DUCT	–	WHITE	STEEL	510Z	

NOTES:

1. MODEL NUMBERS ARE PRICE UNLESS OTHERWISE NOTED.
2. REFER TO ARCHITECTURAL CEILING PLAN AND COORDINATE FRAME TYPE ACCORDINGLY.

PLUMBING FIXTURE SCHEDULE

TAG	BARRIER FREE	ITEM	PIPE CONNECTION SIZES				MANUFACTURER & MODEL NUMBER	ACCESSORIES
			WASTE	VENT	CW	HW		
FD-1	–	FLOOR DRAIN	3"	1 1/2"	–	–	ZURN: 415-B	
SK-1	–	SINGLE COMPARTMENT SINK	2"	1 1/2"	1/2"	1/2"	ADVANCE TABCO: 7-PS-60	FAUCET/ACCESSORIES: FAUCET INTEGRAL WITH SINK
SK-2	–	TRIPLE COMPARTMENT SINK	2"	1 1/2"	1/2"	1/2"	AERO: MF3-2020-30LR THREE COMPARTMENT SINK WITH TWO DRAIN BOARDS	FAUCET/ACCESSORIES: AERO MODEL S-3 8" O.C. WITH 8" SPOUT.

NOTES:

1. SUPPLY ALL FIXTURES WITH LOOSE KEY STOPS.
2. PROVIDE ALL ACCESSORIES NECESSARY FOR COMPLETE AND OPERABLE INSTALLATION.
3. PROVIDE CARRIERS FOR ALL FIXTURES PER MANUFACTURER'S RECOMMENDATIONS.
4. WHERE REQUIRED AND WHERE DESIGNATED, FIXTURES SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE TO THE LATEST EDITION OF "THE BARRIER" FREE DESIGN REQUIREMENTS OF THE STATES CONSTRUCTION CODE.
5. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATION/MOUNTING HEIGHT OF ALL FIXTURES.

EXHAUST FAN SCHEDULE

UNIT ID	SYSTEM SERVED	TYPE	AIRFLOW CFM	ESP (IN WG)	RPM	MOTOR				ELECTRICAL		CURB HEIGHT (IN)	MODEL NO.	REMARKS
						BHP	HP	RPM	DRIVE TYPE	VOLTS	PHASE			
EF-2	SALES	CENTRIFUGAL	450	0.25	920	0.06	1/4	1725	BELT	115	1	–	CWB-099-4	

NOTES:

1. MODEL NUMBERS ARE GREENHECK UNLESS OTHERWISE NOTED.
2. CONTROL SHALL BE BY MANUAL MOTOR STARTER WITH TIME CLOCK PROVIDED BY ELECTRICAL TRADES.
3. PROVIDE METAL GRAVITY BACKDRAFT DAMPER.

ELECTRIC UNIT HEATER SCHEDULE

UNIT ID	CAPCITY (KW)	CAPACITY (MBH)	AIRFLOW (CFM)	TEMP RISE (°F)	ELECTRICAL			MODEL NO.	REMARKS
					VOLTS	PHASE	AMPS		
ECUH-1	2	6.8	300	20.9	208	1	9.6	CDF-548	
ECUH-2	3	10.4	300	31.6	208	1	14.4	CDF-548	

NOTES:

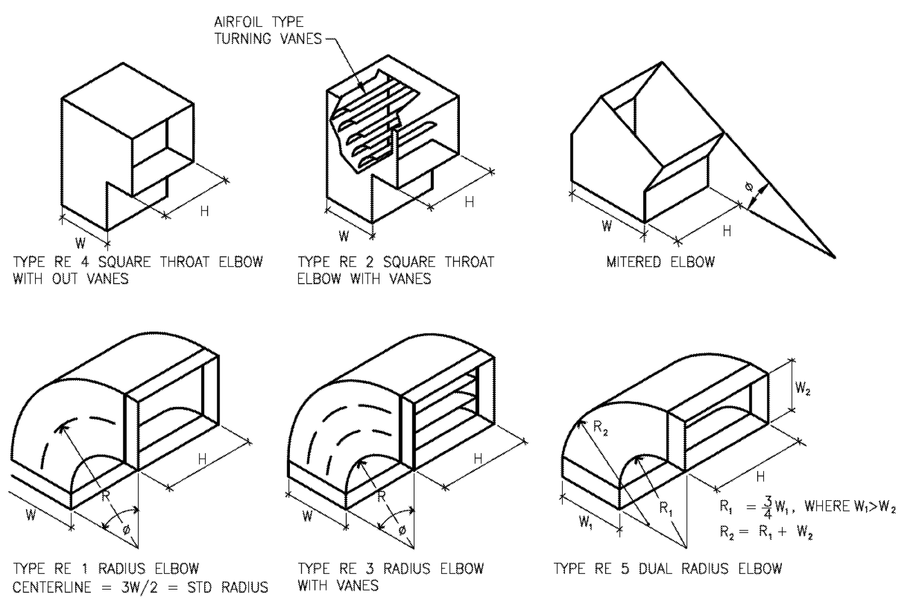
1. MODEL NUMBERS ARE QMARK UNLESS OTHERWISE NOTED.

ELECTRIC UNIT HEATER SCHEDULE

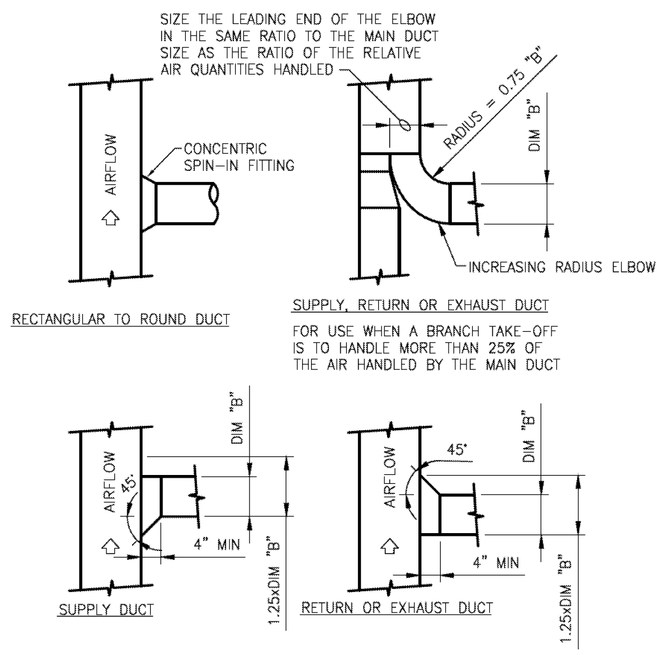
UNIT ID	CAPCITY (KW)	CAPACITY (MBH)	AIRFLOW (CFM)	TEMP RISE (°F)	ELECTRICAL			MODEL NO.	REMARKS
					VOLTS	PHASE	AMPS		
EUH-1	1.9	6.5	130	46.0	208	1	9.42	CHPR25	

NOTES:

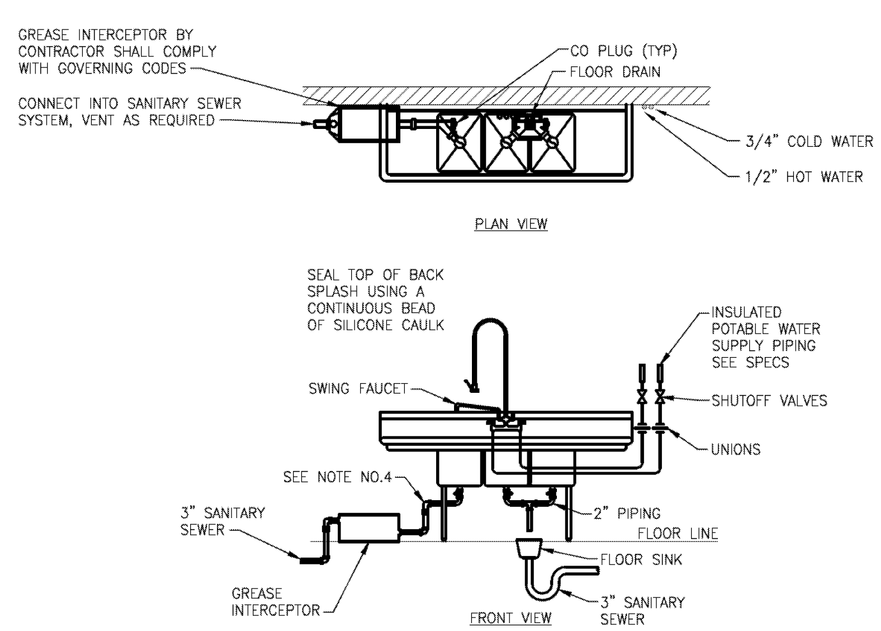
1. MODEL NUMBERS ARE QMARK UNLESS OTHERWISE NOTED.



RECTANGULAR SHEETMETAL ELBOWS
NO SCALE



RECTANGULAR DUCT BRANCH TAKE-OFF DETAILS
NO SCALE



3-COMPARTMENT SINK
NO SCALE

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PROJECT
KETTERING
HIGH SCHOOL
BID PACK #4
SALES ADDITION

Waterford,
Michigan

SHEET
Mechanical
Schedules And
Details

PROJECT NUMBER
2014–057.1

SHEET NUMBER
M6.00

LUMINAIRE SCHEDULE

FIXTURE MARK	DESCRIPTION	MANUFACTURER(S)	LAMP DESCRIPTION
FA	2'x4' TWO LAMP, RECESSED, GRID MOUNTED FLUORESCENT FIXTURE WITH 0.125 INCH A-12 ACRYLIC PRISMATIC DIFFUSER AND FLUSH WHITE ALUMINUM DOOR FRAME. PROGRAM RAPID START BALLASTING SHALL BE ELECTRONIC, HIGH POWER FACTOR WITH <10% THD. MVOLT OPERATION. WIRED FOR 277 VOLTS.	1. LITHONIA 2SP8 SERIES 2. LIGHTOLIER SPS SERIES 3. METALUX 2GC8 SERIES 4. DAY-BRITE 2SP SERIES	(2) F32T8/SP41/ECO
FAE	SIMILAR TO TYPE "FA" EXCEPT WITH INTEGRAL 1400 LUMEN BATTERY INVERTER TO OPERATE FOR 90 MINUTES MINIMUM.		
FC	4' TWO LAMP CHAIN HUNG INDUSTRIAL FLUORESCENT FIXTURE WITH 10% UPLIGHT COMPONENT AND POLYESTER-ACRYLIC PAINTED REFLECTOR. ONE 2-LAMP PROGRAM START ELECTRONIC BALLAST, HIGH POWER FACTOR WITH <10% THD. MVOLT OPERATION. WIRED FOR 277 VOLTS.	1. LITHONIA AF SERIES 2. LIGHTOLIER KW SERIES 3. METALUX DM SERIES 4. DAY-BRITE 1F SERIES	(2) F32T8/82CRI/ 4100K/ECO
XA	UNIVERSAL MOUNTING SELF POWERED "EXIT" LIGHT FIXTURE, DIE CAST ALUMINUM HOUSING WITH INVISIBLE, UNIVERSAL CHEVRON AND MOUNTING KNOCKOUTS, SINGLE FACE WITH ARROWS AS INDICATED ON PLAN, 6" HIGH RED LETTERS, WHITE HOUSING AND STENCIL, HIGH INTENSITY LED LAMPS WITH ACRYLIC DIFFUSING LENS, MOUNTING CANOPY WITH ADDITIONAL 22 WATT CAPACITY TO SERVE REMOTE HEADS "REM". SELF POWERED, SEALED NICKEL CADMIUM BATTERY, TWO WIRE, 120-277 VAC VOLTAGE INPUT, 6 VOLT OPERATION, AUTOMATIC, TEMPERATURE COMPENSATING CHARGER, CHARGE MONITOR LED AND TEST SWITCH, LOW VOLTAGE DISCONNECT, BROWNOUT CIRCUIT, SHORT CIRCUIT PROTECTION, 25 YEAR LIFE EXPECTANCY WITH THREE YEAR WARRANTY.	1. LIGHTALARMS GALAXY XLED SEIRES 2. SURE-LITES 3. PRESCOLITE	HIGH OUTPUT LED PANEL
REM	TWO (2) 10 WATT MR-16 LAMPS IN A NEMA 4X RATED SURFACE MOUNTED REMOTE MOUNTED EMERGENCY LIGHT FIXTURE TO BE POWERED FROM ADJACENT INTERIOR EXIT LIGHT WITH #12 GAUGE WIRING MINIMUM (IN CONCEALED CONDUIT). FULLY GASKETED CAST ALUMINUM BACKPLATE, CLEAR, IMPACT RESISTANT POLYCARBONATE COVER, TOOL-LESS LAMP AIMING, TAMPER-PROOF SCREWS. 6 VOLT OPERATION, UL LISTED. COLOR AS SELECTED BY ARCHITECT..	1. LIGHTALARMS SEVERE ELF650SERIES 2. SURE-LITES 3. PRESCOLITE	(2) 10W MR-16
MC	WALL MOUNTED DECORATIVE WALLPACK LED FIXTURE. ONE PIECE DIE CAST ALUMINUM HOUSING 14"W X 13" L 9" D WITH 60 LED'S, 73W, TYPE IV PHOTOMETRIC DISTRIBUTION DOWN, 277V OPERATION. COLOR TO BE SELECTED BY ARCHITECT.	1. KIM LIGHTING WD14 STYLE SERIES	5000K LED'S

LIGHTING SYMBOL LIST

SYMBOL	DESCRIPTION
	FLUORESCENT LIGHT FIXTURE
	FLUORESCENT NIGHT LIGHT FIXTURE
	FLUORESCENT EMERGENCY LIGHT FIXTURE
T	WALL MOUNTED FLUORESCENT LIGHT FIXTURE
	DOWNLIGHT
	DOWNLIGHT WALL WASH FIXTURE
	WALL SCONCE LIGHT FIXTURE
	SURFACE MOUNTED LIGHT FIXTURE
	INTERIOR WALL MOUNTED LIGHT FIXTURE
	TRACK AND TRACK MOUNTED LIGHT FIXTURES
	CEILING MOUNTED EXIT LIGHT - ARROWS AS INDICATED ON PLAN (SHADED AREA INDICATES FACE(S) OF FIXTURE)
	WALL MOUNTED EXIT LIGHT - ARROWS AS INDICATED ON PLAN (SHADED AREA INDICATES FACE(S) OF FIXTURE)
	EMERGENCY BATTERY UNIT
	COMBINATION EMERGENCY BATTERY UNIT/EXIT SIGN
	EXTERIOR POLE MOUNTED LIGHT FIXTURE
	EXTERIOR WALL MOUNTED LIGHT FIXTURE
	EXTERIOR POST TOP LIGHT FIXTURE
	BOLLARD LIGHT FIXTURE
$	SINGLE POLE SWITCH
$2	TWO POLE SWITCH
$3	THREE WAY SWITCH
$4	FOUR WAY SWITCH
$K	KEYED SWITCH
$D	DIMMER SWITCH
$L	LOW VOLTAGE SWITCH
$P	SWITCH WITH PILOT LIGHT
$$	DUAL SWITCH

LIGHTING CONTROLS LEGEND

SYMBOL	DESCRIPTION
$T	DIGITAL TIMER SWITCH
$O	WALL OCCUPANCY SENSOR SWITCH
OS	OCCUPANCY SENSOR
DLS	DAYLIGHT SENSOR
P	PHOTOCELL

NOTES:
1. DRAWINGS INDICATE DESIGN INTENT ONLY.
2. SENSOR SELECTION, QUANTITY AND LOCATION TO BE DETERMINED BY MANUFACTURER BASED ON AREA TO BE COVERED.

LUMINAIRE SCHEDULE GENERAL NOTES

1. REFER TO ELECTRICAL SPECIFICATIONS FOR MORE INFORMATION.
2. ALL LIGHT FIXTURES SHALL BE UL LABELED.
3. FIRST MANUFACTURER LISTED IS BASIS OF DESIGN. OTHER MANUFACTURERS LISTED ARE APPROVED MANUFACTURERS.
4. ELECTRICAL TRADES SHALL PROVIDE COMPLETE SUBMITTALS (SHOP DRAWINGS) ON ALL LIGHT FIXTURES, LAMPS, CONTROLS AND ACCESSORIES, ETC. REFER TO SPECIFICATION FOR SUBMITTAL FORMAT AND PROCESS.
5. ALL LUMINARIES AND CONTROLS SHALL COMPLY WITH THE MICHIGAN UNIFORM ENERGY CODE AND ASHRAE 90.1.

FIRE ALARM SYMBOL LIST

SYMBOL	DESCRIPTION
F	AUDIBLE DEVICE
F	COMBINATION AUDIBLE/VISUAL DEVICE
	CEILING MOUNTED AUDIBLE/VISUAL DEVICE
S	VISUAL DEVICE
S	CEILING MOUNTED VISUAL DEVICE
FD	FIRE DEPARTMENT COMMUNICATION OUTLET
F	MANUAL PULL STATION
DH	DOOR HOLDER
S	SMOKE DETECTOR (ZONED AS INDICATED)
SP	PHOTOELECTRIC SMOKE DETECTOR (ZONED AS INDICATED)
H	HEAT DETECTOR (ZONED AS INDICATED)
TS	TAMPER SWITCH
FS	FLOW SWITCH
D	DUCT MOUNTED SMOKE DETECTOR
FAA	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL

ELECTRICAL ABBREVIATIONS

ABBREV.	DESCRIPTION
AF	AMP FUSE
AFF	ABOVE FINISHED FLOOR
AIC	AVAILABLE INTERRUPTING CURRENT (AMPS)
ATS	AUTOMATIC TRANSFER SWITCH
CB	CIRCUIT BREAKER
(E)	EXISTING ELECTRICAL EQUIPMENT OR WORK
EMT	ELECTRICAL METALLIC TUBING
EWC	ELECTRIC WATER COOLER
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
G/GRD	GROUND
GFI	GROUND FAULT INTERRUPTER
HOA	HAND-OFF-AUTO
IG	ISOLATED GROUND
LP	LIGHTING PANEL
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MLO	MAIN LUG ONLY
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NF	NON-FUSIBLE
NIC	NOT IN CONTRACT
P	POLE
(R)	RELOCATED EXISTING ELECTRICAL EQUIPMENT
(RR)	REMOVE AND REINSTALL
RMC	RIGID METALLIC CONDUIT
RP	RECEPTACLE PANEL
TBB	TELEPHONE BACKBOARD
TYP.	TYPICAL
WG	WIRE GUARD
WP	WEATHERPROOF

POWER SYMBOL LIST

SYMBOL	DESCRIPTION
TC	TIME CLOCK
C	CONTACTOR
J	HARD WIRE CONNECTION BY ELECTRICAL CONTRACTOR
	SINGLE RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET
	DUPLEX RECEPTACLE OUTLET MOUNTED 6" ABOVE FINISH COUNTER
C	CEILING MOUNTED DUPLEX RECEPTACLE OUTLET
	EMERGENCY DUPLEX RECEPTACLE OUTLET
	DEDICATED DUPLEX RECEPTACLE OUTLET
	QUAD RECEPTACLE OUTLET
	DEDICATED QUAD RECEPTACLE OUTLET
	FLOOR MOUNTED DUPLEX RECEPTACLE OUTLET
	NEMA RECEPTACLE OUTLET (CONFIGURATION AS NOTED)
	PLUG STRIP
J	JUNCTION BOX (C=CEILING MOUNTED)
	RECEPTACLE PANEL
	LIGHTING PANEL
	DISTRIBUTION/EQUIPMENT POWER PANEL
T	TRANSFORMER
	SINGLE PHASE MOTOR
	THREE PHASE MOTOR
	CONDUIT DOWN
	CONDUIT UP
	GROUNDING ROD
	GROUND
	GROUNDING BAR
M	METER
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	COMBINATION MAGNETIC MOTOR STARTER
$M	MOTOR RATED SWITCH
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR

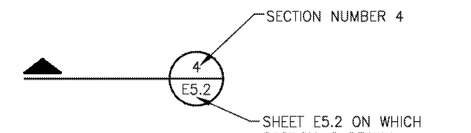
AUXILIARY SYST. SYMBOL LIST

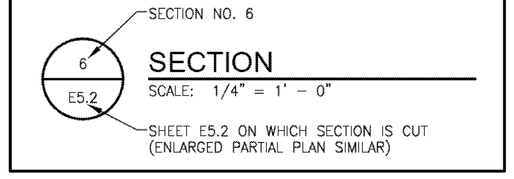
SYMBOL	DESCRIPTION
	TELEPHONE OUTLET
T	FLOOR MOUNTED TELEPHONE OUTLET BOX (TYP.)
	TELEPHONE OUTLET MOUNTED 6" ABOVE FINISHED COUNTER
	DATA OUTLET
	COMBINATION OUTLET (VOICE, VIDEO, AND/OR DATA)
	PUSH BUTTON
	BELL
CR	CARD READER
DH	MAGNETIC DOOR HOLD
TV	TELEVISION OUTLET
	WALL CLOCK
	DOUBLE SIDED WALL CLOCK
S	COMBINATION WALL CLOCK / SPEAKER
S	SPEAKER
	CAMERA

DRAWING INDEX

DRAWING NOTATION

SYMBOL	DESCRIPTION
FA	LIGHTING FIXTURE TAG
1	CONSTRUCTION KEY NOTE NUMBER 1
1	DEMOLITION KEY NOTE NUMBER 1
EF 1	EQUIPMENT DESIGNATION, (I.E. EXHAUST FAN NUMBER 1)
	EXISTING DEVICES OR EQUIPMENT
	NEW OR MODIFIED DEVICES OR EQUIPMENT
	NEW OR MODIFIED UNDERGROUND WIRING
	EXISTING SYSTEM COMPONENT TO BE REMOVED
	POINT OF NEW CONNECTION.





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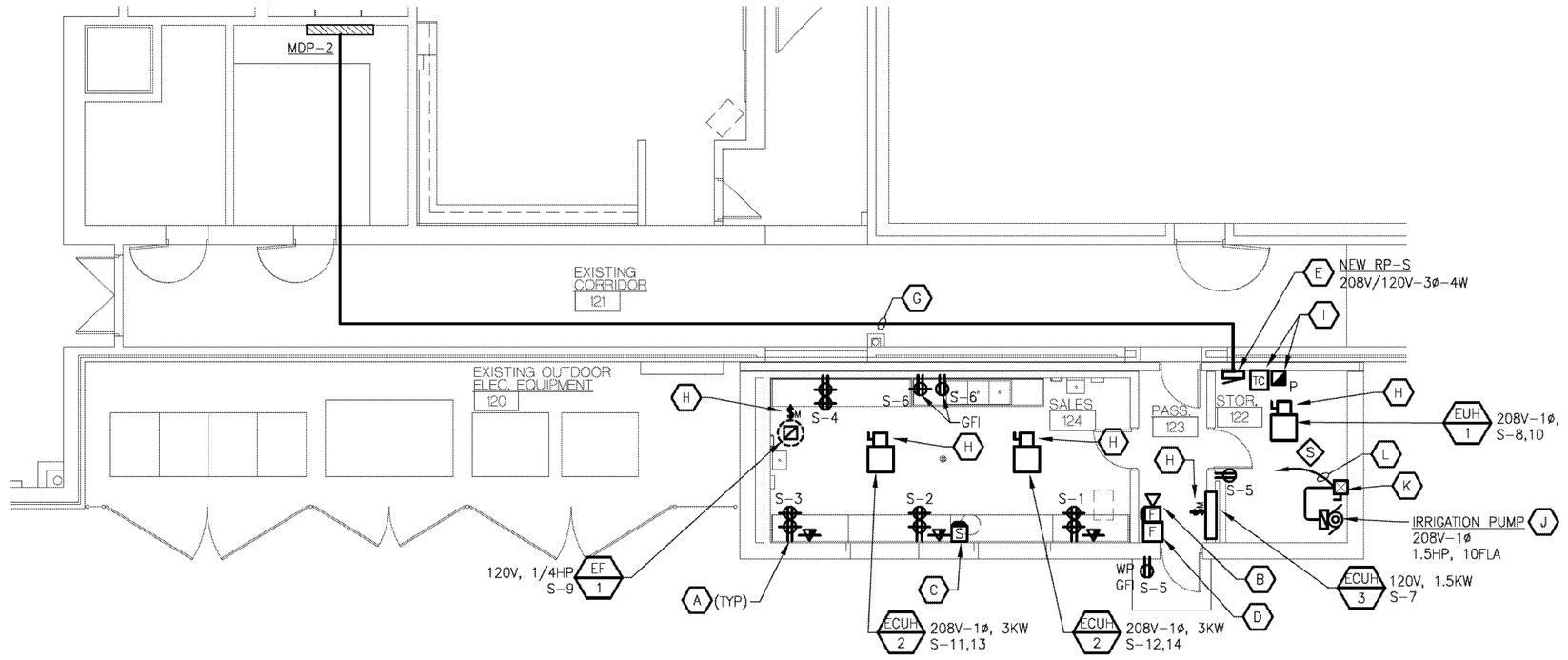
PROJECT
KETTERING
HIGH SCHOOL
BID PACK #4
SALES ADDITION

Waterford,
Michigan

SHEET
Electrical
General
Information

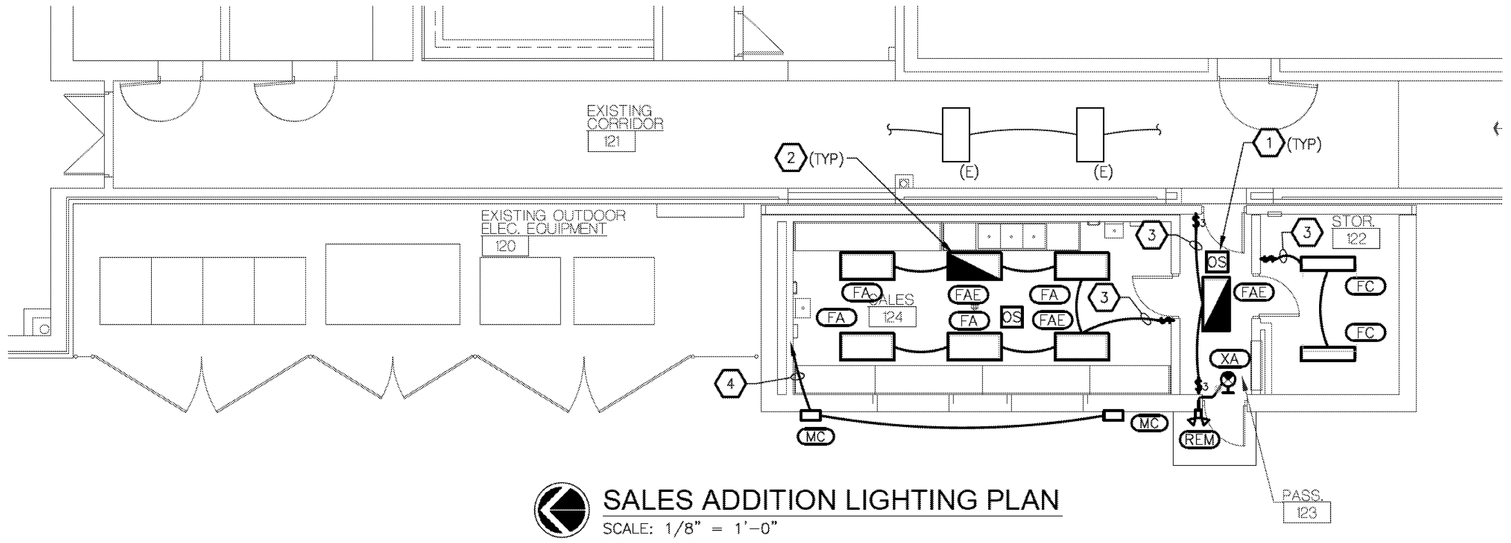
PROJECT NUMBER
2014-057.1

SHEET NUMBER
E0.00



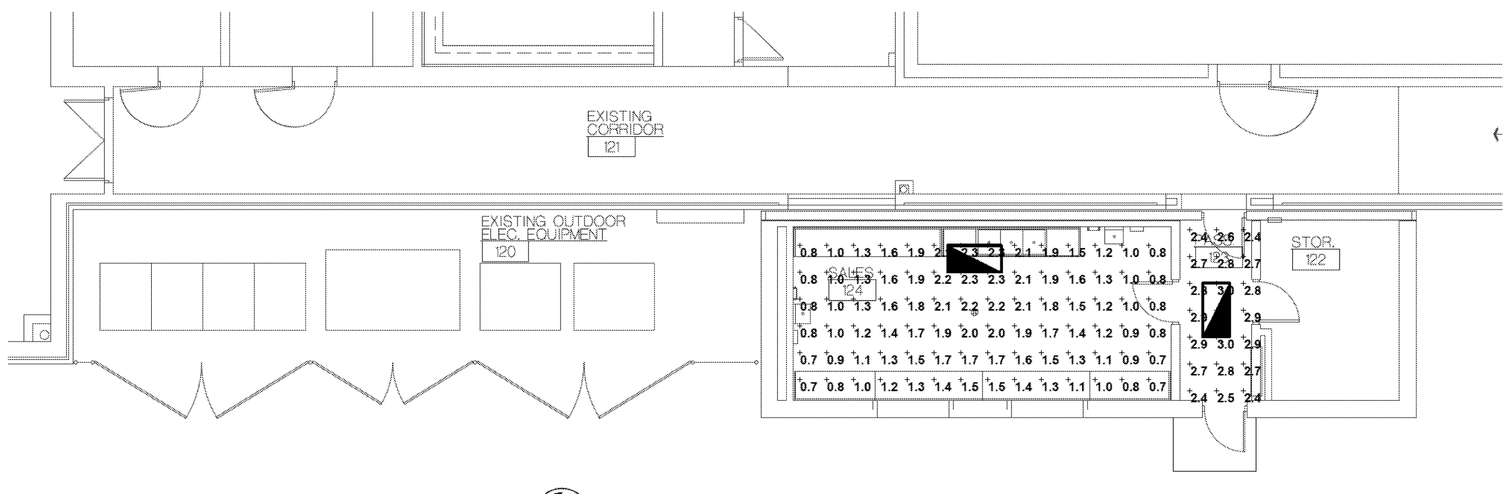
SALES ADDITION POWER AND SYSTEMS PLAN

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



SALES ADDITION LIGHTING PLAN

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



SALES ADDITION PHOTOMETRICS PLAN

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

NOTE: FOOTCANDLE LEVELS ARE AT FLOOR.

POWER GENERAL NOTES

1. ALL ELECTRICAL DEVICES ON THIS PLAN SHOWN DARK SHALL BE NEW UNLESS NOTED AS RELOCATED. ALL ELECTRICAL DEVICES ON THIS PLAN SHOWN LIGHT ARE EXISTING TO REMAIN, FIELD VERIFY EXISTING CONDITIONS PRIOR TO BIDDING.
2. REFER TO ARCHITECTURAL FLOOR PLANS AND ELEVATIONS FOR EXACT LOCATION OF ALL DEVICES.
3. ALL JUNCTION BOXES SERVING BRANCH CIRCUIT WIRING SHALL BE LABELED WITH CIRCUITS SERVED. USE INDELIBLE MARKER ON BOX COVER.
4. ALL WALL MOUNTED DEVICES (RECEPTACLES AND LOW VOLTAGE OUTLETS, ETC.) SHALL BE MOUNTED AT 18" AFF UNLESS OTHERWISE INDICATED. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION OF ALL DEVICES WITH ARCHITECTURAL PLANS AND ELEVATIONS PRIOR TO ROUGH-IN.
5. ALL RECEPTACLES WITHIN 6'-0" OF A SINK (OR OTHER WATER SUPPLY) SHALL BE GFI TYPE RECEPTACLES.
6. ALL 120 VOLT, 20 AMP BRANCH CIRCUITS LONGER THAN 100'-0" SHALL UTILIZE A MINIMUM OF #10 WIRES.
7. ALL 120 VOLT CIRCUITS SHALL UTILIZE A SEPARATE NEUTRAL.
8. ALL CONDUITS SERVING WIRING 120 VOLTS OR GREATER SHALL INCLUDE A GROUND WIRE.
9. ALL CONDUIT HOMERUNS TO PANELBOARDS SHALL BE WITH EMT.
10. ALL VOICE AND DATA CABLING SHALL BE INSTALLED BY AN IT CONTRACTOR.
11. PROVIDE NEW 20A-1P. CIRCUIT BREAKER IN EXISTING PANELS TO SATISFY CIRCUITING REQUIREMENTS.
12. WHERE POSSIBLE, UTILIZE 120 VOLT CIRCUITS MADE AVAILABLE THRU DEMOLITION FOR NEW CIRCUITING REQUIREMENTS.

POWER KEYED NOTES

A. NEW RECEPTACLE. COORDINATE MOUNTING WITH ARCHITECTURAL TRADES PRIOR TO ROUGH-IN.

B. NEW FIRE ALARM SPEAKER / STROBE, 80"AFF, SERVE FROM FIRE ALARM POWER SUPPLY AS DIRECTED BY EXISTING FIRE ALARM SYSTEM MANUFACTURER. PROVIDE RE-CERTIFICATION AS REQUIRED. 2#14 MINIMUM.

C. NEW FIRE ALARM STROBE, 80"AFF, SERVE FROM FIRE ALARM POWER SUPPLY AS DIRECTED BY EXISTING FIRE ALARM SYSTEM MANUFACTURER. PROVIDE RE-CERTIFICATION AS REQUIRED. 2#14 MINIMUM.

D. NEW FIRE ALARM PULL STATION. WIRE AS DIRECTED BY EXISTING FIRE ALARM SYSTEM MANUFACTURER. PROVIDE RE-CERTIFICATION AS REQUIRED.

E. NEW RP-S. SEE PARTIAL POWER RISER DIAGRAM AND E3.00 FOR FURTHER INFORMATION.

F. NOT USED.

G. RUN NEW FEEDER ABOVE CEILING TO NEW PANEL RP-S, RUN 4#3, 1#8G IN 1"C.

H. DISCONNECT SWITCH FURNISHED WITH UNIT, WIRED BY ELECTRICAL CONTRACTOR.

I. MANUAL MOTOR STARTER WITH PILOT LIGHT SERVING EF-1. WIRE THRU ASTRONOMICAL TIMECLOCK. TORK OR APPROVED EQUAL.

J. CONFIRM IRRIGATION PUMP REQUIREMENTS WITH MANUFACTURER.

K. MAGNETIC MOTOR STARTER (WITH HAND OFF AUTO SELECTOR SWITCH) FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.

L. 2#12+1#12GRD-3/4"C. TO 20A-2P CIRCUIT BREAKER. CIRCUIT S-16,18.

LIGHTING GENERAL NOTES

1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN AND ELEVATIONS FOR EXACT LOCATION OF ALL LIGHT FIXTURES.
2. WHERE MORE THAN ONE LIGHT SWITCH IS INDICATED TO BE INSTALLED AT THE SAME LOCATION, THEY SHALL BE GROUPED UNDER A COMMON COVERPLATE. ALL SWITCHES SHALL BE MOUNTED AT 48"AFF UNLESS OTHERWISE NOTED.
3. ALL LIGHT FIXTURES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN ACCORDANCE WITH N.E.C. AND LOCAL REQUIREMENTS.
4. ALL JUNCTION BOXES SERVING BRANCH CIRCUIT WIRING SHALL BE LABELED WITH CIRCUITS BEING SERVED. USE INDELIBLE MARKER ON BOX COVER.
5. FOR LIGHTING CONTROL AND OCCUPANCY SENSOR REQUIREMENTS, REFER TO SPECIFICATIONS.
6. ALL OCCUPANCY SENSORS AND POWER PACKS SHALL BE RATED FOR THE LOAD INDICATED TO BE SERVED.
7. ALL 120 VOLT, 20 AMP BRANCH CIRCUITS LONGER THAN 100'-0" SHALL UTILIZE A MINIMUM OF #10 WIRES. ALL 277 VOLT, 20 AMP BRANCH CIRCUITS LONGER THAN 200'-0" SHALL UTILIZE A MINIMUM OF #10 WIRES.
8. ALL CONDUIT SHALL BE CONCEALED IN WALL CONSTRUCTION (NOT BE EXPOSED). FIXTURE CONNECTIONS SHOWN DIAGRAMMATICALLY ONLY FOR CIRCUITING AND CONTROLS.
9. DURING NORMAL OPERATION EMERGENCY LIGHTING (EM) FIXTURES SHALL BE CONTROLLED WITH NORMAL ROOM (OR AREA) LIGHTING WHICH IS CONTROLLED BY AN OCCUPANCY SENSOR. UPON LOSS OF ROOM NORMAL LIGHTING CIRCUIT, EMERGENCY LIGHTING FIXTURES SHALL BE AUTOMATICALLY ENERGIZED VIA INTERNAL BATTERY INVERTER. SEE LIGHTING FIXTURE SCHEDULE AND WIRING DIAGRAM ON SHEET E3.01.

LIGHTING KEYED NOTES

1. CEILING MOUNTED OCCUPANCY SENSOR OPERATING WITH A LIGHTING CONTROL MODULE (NOT SHOWN) TO CONTROL ROOM LIGHTING. SEE CONTROL WIRING DIAGRAM, SHEET E3.01.
2. FIXTURE SHALL INCLUDE INTEGRAL BATTERY OPERATED EMERGENCY LIGHTING INVERTER. SEE FIXTURE DESCRIPTION. DURING NORMAL OPERATION FIXTURE SHALL BE CONTROLLED BY OCCUPANCY SENSOR IN CONJUNCTION WITH ROOM LIGHTING. UPON LOSS OF NORMAL POWER, FIXTURE TO AUTOMATICALLY ILLUMINATE. SEE LIGHTING CONTROL DIAGRAM ON SHEET E3.01.
3. SERVE NEW LIGHTING INDICATED FROM EXISTING ADJACENT 277V LIGHTING CIRCUIT. FIELD CONFIRM.
4. SERVE NEW EXTERIOR LIGHTING FROM EXISTING ADJACENT 277V EXTERIOR LIGHTING CIRCUIT. FIELD CONFIRM.

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
PASSAGE	+	2.7 fc	3.1 fc	2.4 fc	1.3:1	1.1:1	0.9:1
SALES	+	1.4 fc	2.3 fc	0.7 fc	3.3:1	2.0:1	0.6:1

Luminaire Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage	
	FA		Lithonia Lighting	2SP8 2 32 A12125 GEB10IS	SP8 SPECIFICATION PREMIUM T8 TROFFER 2'X4' 2 LP T8 #A12125 LENS ELEC	TWO 32-WATT T8 LINEAR FLUORESCENT.	2	2SP8 2 32 A1 2125 GEB10IS.ies	675	0.82	58	

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PROJECT

KETTERING
HIGH SCHOOL
BID PACK #4
SALES ADDITION

Waterford,
Michigan

SHEET

Sales Addition
Electrical Plans

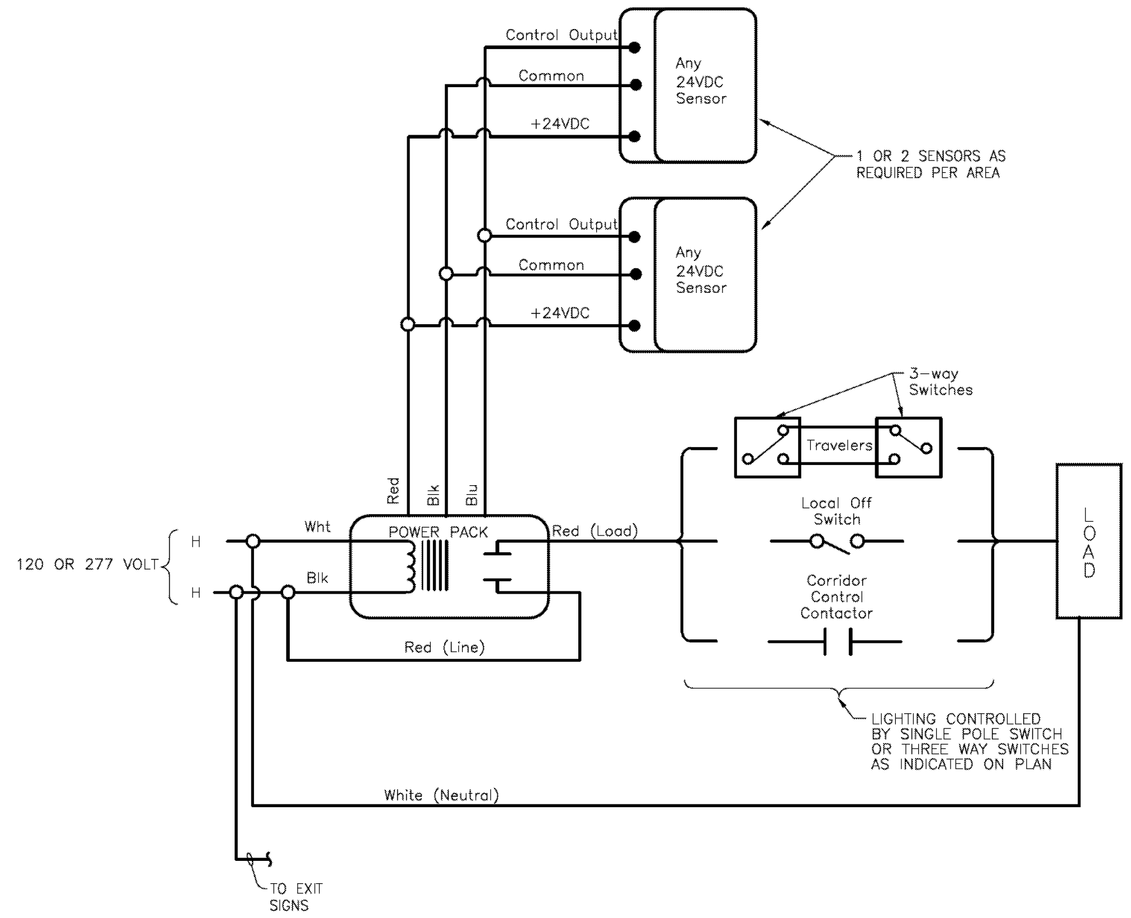
PROJECT NUMBER

2014-057.1

SHEET NUMBER

E2.01

2014-057.1 Kettering High School Bid Pack #4 Sales Addition

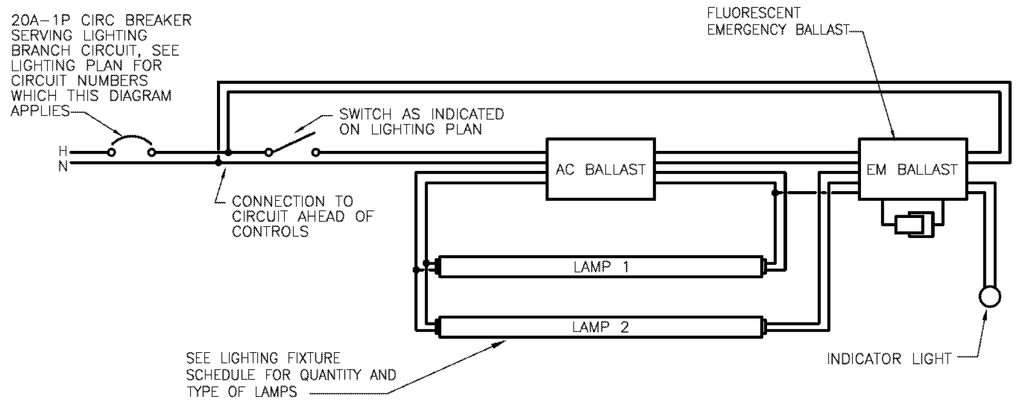


OCCUPANCY SENSOR CONTROL DIAGRAM

NO SCALE

OCCUPANCY SENSOR CONTROL DIAGRAM GENERAL NOTES

1. ALL AUTOMATIC LIGHTING CONTROL DEVICES SHALL BE INSTALLED AND WIRED IN ACCORDANCE WITH MANUFACTURERS DIAGRAMS AND INSTRUCTIONS.
2. ALL OCCUPANCY SENSORS (EXCEPT WALL SWITCH TYPE) SHALL INCLUDE A SPARE NORMALLY OPEN AND NORMALLY CLOSED CONTACT, 1 AMP AT 24VDC RATED.
3. POWER PACKS TO BE LOCATED OVERHEAD ABOVE LIGHT SWITCH CONTROLLING ROOM OR AREA LIGHTING. WHERE LOCATED ABOVE A LAY-IN CEILING.
4. TIME DELAYS SHALL BE SET TO A MINIMUM OF 30 MINUTES.



EMERGENCY LIGHTING WIRING DIAGRAM

NO SCALE

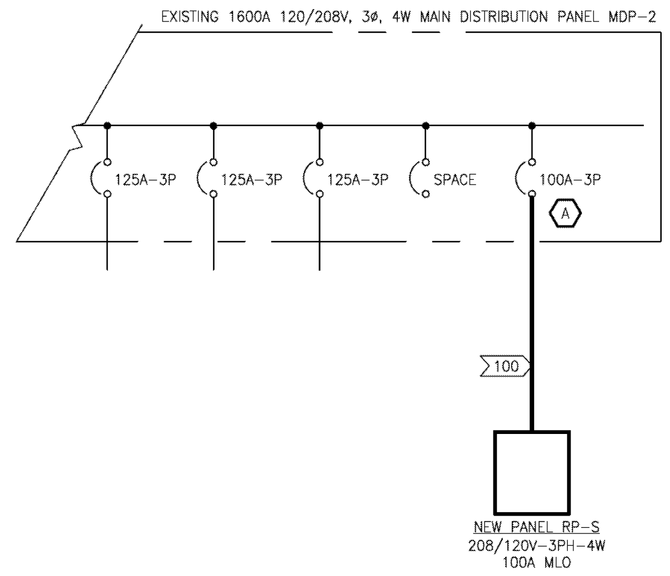
Panel Designation: RP-S
Panel Location: Kettering
Fed From: See PRD
Feeder Size: See PRD

Main: MLO
Bussing: 100A
Ground Bus: STANDARD
Mounting: SURFACE
Neutral: 100%

P-P Voltage: 208
P-N Voltage: 120
Phase: 3
Wire: 4
Min SC Interrupting Rating: See Spec

Remarks	Light Load	Recept Load	Cont Load	nonC Load	OC Prot	CKT	Ø A	Ø B	Ø C	CKT	OC Prot	nonC Load	Cont Load	Recept Load	Light Load	Remarks
1 DOUBLE DUPLEX RECEPTALE - SALES		540			20	1	X			2	20			540		1 DOUBLE DUPLEX RECEPTACLE - SALES
1 DOUBLE DUPLEX RECEPTALE - SALES		540			20	3		X		4	20			540		1 DOUBLE DUPLEX RECEPTACLE - SALES
2 RECEPTACLES - SALES		540			20	5			X	6	20			540		2 RECEPTACLES - SALES
ECUH-3				1500	20	7	X			8	20	950				EUH-1
EF-1				696	20	9		X		10		950				
ECUH-2				1500	20	11			X	12	20	1500				ECUH-2
				1500		13	X			14		1500				
SPARE					20	15		X		16	20					SPARE
SPARE					20	17			X	18	20					SPARE
SPARE					20	19	X			20	20					SPARE
SPARE					20	21		X		22	20					SPARE
SPACE					--	23			X	24	--					SPACE
SPACE					--	25	X			26	--					SPACE
SPACE					--	27		X		28	--					SPACE
SPACE					--	29			X	30	--					SPACE

Load Description	Connected Load ØA	ØB	ØC	Total	Demand Factor	Demand Load ØA	ØB	ØC	Total	
Lighting or Continous Load (Volt-Amps)	0	0	0	0	1.00	0	0	0	0	
180VA Receptacle Load (Volt-Amps)	1080	1080	1080	3240	1.00 (First 10kVA)	1080	1080	1080	3240	Receptacle Demand Factor per Article
	Amount over 10kVA			0	0.50 (> 10kVA)	0	0	0	0	220.44 of the National Electrical Code.
Continuous Load (Volt-Amps)	0	0	0	0		0	0	0	0	
Non-Continuous Load (Volt-Amps)	5450	1646	3000	10096		3270	988	1800	6058	
Total Load (kVA)	6.53	2.73	4.08	13.34	125% of Light/Cont and Recept	4.35	2.07	2.88	9.30	
Total Ampacity (Amps)	54.4	22.7	34.0	37.0	(<10kVA) load plus other load	36.2	17.2	24.0	25.8	
Minimum Feeder Sizing (Amps)	56.6	24.9	36.2	39.3	<---- per NEC Article 215.2 ---->	38.5	19.5	26.2	28.1	



KETTERING HIGH SCHOOL - PARTIAL ONE LINE DIAGRAM

KEYED NOTES

(A) EXISTING 100A 240V CIRCUIT BREAKER TO BE USED TO FEED THE NEW PANEL RP-S.

FEEDER (AMPS)	COND. SIZE	COPPER FEEDER AND CONDUIT SIZES 3 WIRE WITH GROUND	4 WIRE WITH GROUND
>100	3	1 1/4"C, 3#3 & 1#8 GRD.	1 1/4"C, 4#3 & 1#8 GRD.

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PROJECT
KETTERING
HIGH SCHOOL
BID PACK #4
SALES ADDITION

Waterford,
Michigan

SHEET
Electrical
Miscellaneous
Details and
Diagrams

PROJECT NUMBER
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SHEET NUMBER
E3.00