DORSCHNER ASSOCIATES

Architecture
Planning

Dorschner|Associates, Inc.
849 E. Washington Ave., Ste. 112
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LAKE FARM STORAGE FACILITY

RFB NO.
313094

DORSCHNER ASSOCIATES
13020-00

LAKE FARM COUNTY PARK
4401 LIBBY ROAD
MADISON, WI

ABBREVIATIONS

PROJECT ABBREVIATIONS:

ADA	AMERICANS WITH DISABILITIES ACT
A/C	AIR CONDITIONING
ACT	ACOUSTICAL CEILING TILE
ADD	ADDENDUM/ ADDITION(AL)
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AL	ALUMINUM
ALT	ALTERNATE(ING)
ANOD	ANODIZED
AP	ACCESS PANEL
APPROX	APPROXIMATE
AVG	AVERAGE
BB	BULLETIN BOARD
BD	BOARD
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
B.O.	BOTTOM OF
BRG	BEARING
BYND	BEYOND
CAB	CABINET
CC	CORNER GUARD
CHW	CLOTHES HOOK MOUNTED ON WALL
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR(ANCE)
CMU	CONCRETE MASONRY UNIT
CO	CLEAN-OUT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS, CONTINUE
CORR	CORRIDOR
CRS	COURSE
CPT	CARPET
CT	CERAMIC TILE
CTR	CENTER
CUH	CABINET UNIT HEATER
CW	CURTAINWALL
DBL	DOUBLE
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DN	DOWN
DR	DOOR
DTL	DETAIL
DW	DISH WASHER
DWG	DRAWING
DWR	DRAWER
E	EAST
EA	EACH
EJ	EXPANSION JOINT
ED	ELECTRIC HAND DRYER
EL	ELEVATION
ELEC	ELETRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
EP	ELECTRIC PANELBOARD
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQ	EQUAL
EXST	EXISTING
EXT	EXTERIOR
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WALL HEATER
FA	FIRE ALARM
FD	FLOOR DRAIN
FIXT	FIXTURE
FLOUR	FLUORESCENT
FLR	FLOOR
FND	FOUNDATION
FO	FACE OF
FOB	FACE OF BRICK
FOC	FACE OF CENTER
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FRT	FIRE RETARDANT TREATMENT
FS	FOLDING SHOWER SEAT
FTG	FOOTING
FX-#	FIRE EXTINGUISHER AND CABINET - TYPE
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GL	GLASS, GLAZING
GWB	GYPSUM WALL BOARD
HB	HOSE BIBB
HCP	HANDICAPPED
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HM	HOLLOW METAL
HT	HEIGHT
HVAC	HEATING/VENTILATING/AIR CONDITIONING
HB	HOSE BIBB
HCP	HANDICAPPED
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HM	HOLLOW METAL
HT	HEIGHT
HVAC	HEATING/VENTILATING/AIR CONDITIONING
ID	INSIDE DIAMETER
IN	INCH
INCL	INCLUDE(D), (ING)
INFO	INFORMATION
INSUL	INSULATE(D), (ION)
INT	INTERIOR
INV	INVERT
JAN	JANITOR
JT	JOINT
KIT	KITCHEN
KO	KNEE OPENING
LAV	LAVATORY
LVL	LEVEL
LP	LOW POINT
M	MIRROR
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MISC	MISCELLANEOUS
MB	MARKER BOARD
MO	MASONRY OPENING
MTL	METAL
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
ND	NON-OPERATIONAL DOOR
NRC	NOISE REDUCTION
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER(S)
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OPNG	OPENING
OPP	OPPOSITE
OPP HD	OPPOSITE HAND
PC	PRECAST CONCRETE
PERF	PERFORATE(D)
PL	PLATE
PLAM	PLASTIC LAMINATE
PLWD	PLYWOOD
PNL	PANEL
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRE-TREATED
PVC	POLY-VINYL CHLORIDE
QT	QUARRY TILE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REF	REFRIGERATOR
REINF	REINFORCE(D), (ING)
REQD	REQUIRED
REV	REVERSE
RM	ROOM
RO	ROUGH OPENING
S	SOUTH
SD	WALL MOUNTED SOAP DISPENSER
SDL	LAVATORY MOUNTED SOAP DISPENSER
SDT	STATIC DISSIPATIVE TILE
SECT	SECTION
SF	SQUARE FOOT (FEET)
SHT	SHEET
SIM	SIMILAR
SLS	SOLID SURFACE
SND	SANITARY NAPKIN DISPENSER
SNL	SANITARY NAPKIN DISPOSAL
SOG	SLAB ON GRADE
SPEC	SPECIFICATION
SPKR	SPEAKER
SQ	SQUARE
SS	STAINLESS STEEL
ST	STAIR
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STL	STEEL
SUSP	SUSPENDED
SYS	SYSTEM
TB	TACK BOARD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TC	TERRA COTTA
TD	TOWEL DISPENSER
TEL	TELEPHONE
TEMP	TEMPORARY/TEMPERED
THK	THICKNESS
TYP	TYPICAL
TZO	TERRAZZO
UL	UNDERWRITERS LABORATORIES
UC	UNDERCUT
UNO	UNLESS NOTED OTHERWISE
UW	WALL MOUNTED URINAL
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VIN	VINYL
W	WEST, WIDTH, WIDE
WC	WATER CLOSETS
WD	WOOD
WH	WATER HEATER
WHY	WALL HYDRANT
WP	WATER PROOFING
WPT	WORK POINT
WR	WASTE RECEPTICLE
W/	WITH
W/O	WITHOUT

CODE INFORMATION

PROPOSED USE:	S-1 - STORAGE, UNHEATED
FUTURE USE:	S-1 - STORAGE, HEATED
AREA ENCLOSED:	7650 SF
AREA OF OPEN AIR STORAGE:	3700 SF
OCCUPANTS:	<15

DATE: 09.26.14

INDEX OF DRAWINGS

Drawing List

Sheet Number	Sheet Name
GENERAL	
G100	COVER SHEET
CIVIL	
C100	SITE AND GRADING PLAN
C101	FIRE ACCESS
ARCHITECTURAL	
A101	EXTERIOR ELEVATIONS
A201	FIRST FLOOR PLANS AND BUILDING SECTIONS
A500	WALL SECTIONS, ENLARGED PLANS, AND DOOR SCHEDULE
STRUCTURAL	
S001	STRUCTURAL NOTES AND SCHEDULES
S201	FOUNDATION PLAN
MECHANICAL	
PME100	MEP FLOOR PLANS, PLUMBING ISOMETRICS AND RADIANT HEATING ZONE SCHEDULE
PME101	ELECTRICAL SITE PLANS, DETAILS AND ONE LINE DIAGRAM AND SCHEDULE
PME102	MECHANICAL, ELECTRICAL, AND PLUMBING SPECIFICATIONS
V100	VENTILATION NEW WORK FLOOR PLAN

TOILET ACCESSORY SCHEDULE:

ABBREVIATION	STD. MOUNTING HEIGHT
AP	SEE PLAN AND ELEVATION
CHW	(1) 5'-6" A.F.F., (1)4'-0" A.F.F. SEE ELEVATIONS FOR OTHER LOCATIONS
EWC	(1) 2'-11" A.F.F. TO SPOUT OUTLET, (1) 3'-5" A.F.F. TO SPOUT OUTLET
ED	TOP @ 41.25" MALE, 38.25" FEMALE
FD	SEE PLUMBING SPECIFICATION
FS	TOP @ 17-1/9" A.F.F.
GB8	CENTER @ 2'-10" A.F.F., 3'-2" A.F.F. IN SHOWER
GB18	HORIZ: CENTER @ 3'-4" A.F.F.; VERT: 3'-4" @ B.O. BAR HORIZ: CENTER @ 3'-2" A.F.F., VERT: 3'-7" @ B.O. BAR IN SHOWER
GB36	CENTER @ 2'-10" A.F.F., 3'-2" A.F.F. IN SHOWER
GB48	CENTER @ 2'-10" A.F.F., 3'-2" A.F.F. IN SHOWER
GB60	CENTER @ 2'-10" A.F.F., 3'-2" A.F.F. IN SHOWER
LAV	TYPICAL: TOP @ 2'-10" A.F.F. PRESCHOOL: TOP @ 1'-8" A.F.F.
M	BOTTOM @ 3'-4" MAX A.F.F.
SD	TOP @ 48" A.F.F.
SDL	LAVATORY MOUNTED
SND	48" A.F.F. MAX TO OPERATING COMPONENTS (SEE PLAN)
SNL	TOP @ 15" MIN, 48" MAX A.F.F.
TD	48" A.F.F. MAX. TO OPERATING COMPONENTS (SEE PLAN)
TPH	OUTLET 15" MIN, 48" MAX A.F.F., 7-9" IN FRONT OF WC TO CL (SEE PLAN)
WC	SEE PLUMBING
WHJ	17" AFF MAX AT BOWL
WR	TOP @41-45" A.F.F. MAX., BASED ON SPECIFIED PRODUCT (SEE PLAN)

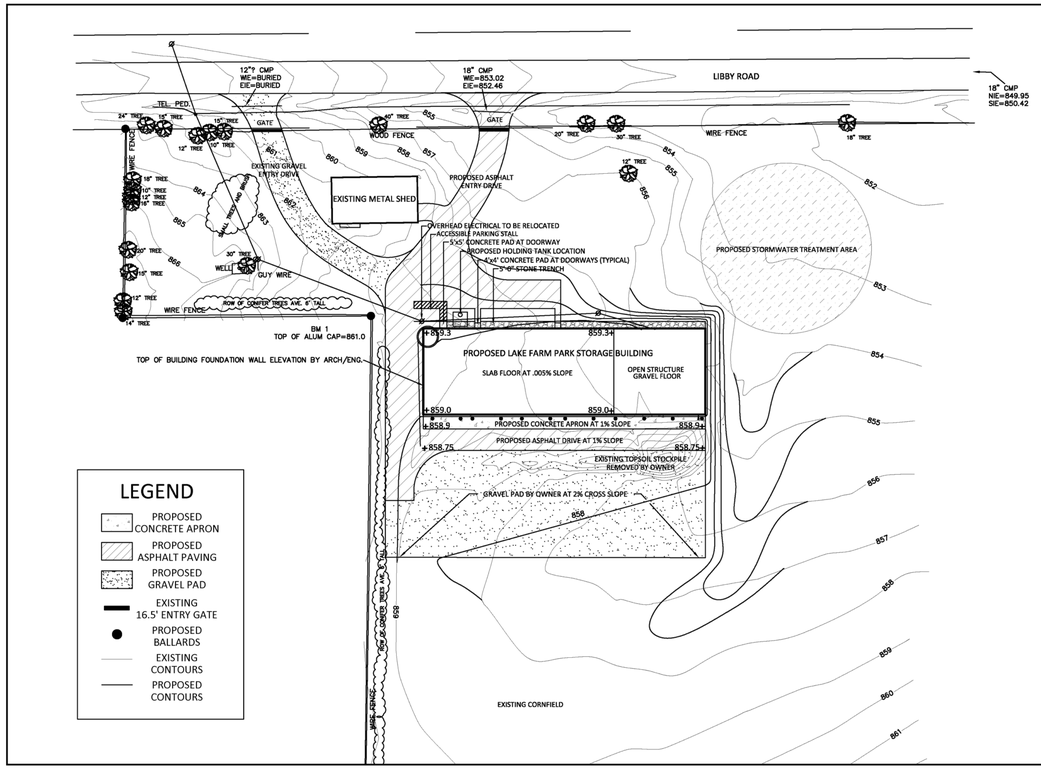
ARCHITECTURAL SYMBOLS AND LEGEND

GENERAL ARCHITECTURAL SYMBOLS:

- DETAIL REFERENCE — SHEET REFERENCE - TOP OF BUBBLE; DETAIL NUMBER - BOTTOM OF BUBBLE
- WALL SECTION REFERENCE — SHEET REFERENCE - TOP OF BUBBLE; DETAIL NUMBER - BOTTOM OF BUBBLE
- BUILDING SECTION REFERENCE — SHEET REFERENCE - TOP OF BUBBLE; DETAIL NUMBER - BOTTOM OF BUBBLE
- CALL OUT REFERENCE — SHEET REFERENCE - TOP OF BUBBLE; DETAIL NUMBER - BOTTOM OF BUBBLE
- INTERIOR ELEVATION REFERENCE
- EXTERIOR ELEVATION REFERENCE
- PARTITION TYPE REF
- NEW WALLS
- WINDOW TYPES
- 1 HOUR FIRE RATED WALL
- 2 HOUR FIRE RATED WALL
- NEW DOOR SWING W/ NUMBER
- EXISTING DOOR SWING
- REQUEST FOR INFORMATION (RFI) SYMBOL AND ADDENDUM (ADD) SYMBOL
- CONSTRUCTION BULLETIN (CB) SYMBOL
- REVISION CLOUD
- FX-1 RECESSED FIRE EXTINGUISHER
- FX-2 SURFACE MOUNT FIRE EXTINGUISHER
- FX-3 SURFACE MOUNT FIRE EXTINGUISHER, HOOK MOUNTED
- x70-1 SPOT ELEVATION (FEET-INCHES)
- x70-83 SPOT ELEVATION (FEET-DECIMAL)
- OFFICE B 12 ROOM NAME & NUMBER: SEE ROOM FINISH SCHEDULE
- 15 KEY NOTE
- DEMOLITION

ACCESSIBILITY SYMBOLS:

- ADA ACCESSIBLE ROUTE
- ADA ACCESSIBLE ENTRANCE/ EXIT OR PATH
- 90 BUILDING EXIT AND EXIT CAPACITY



PROPOSED LIBBY ROAD STORAGE FACILITY

CAPITAL SPRINGS RECREATION AREA

4401 LIBBY ROAD
MADISON, WI 53711

SITE AND GRADING PLAN

SCALE: 1" = 50'

CREATED BY:
ERIC GUMM

REVISED BY:
LINDSAY SPERBER

ORIGINAL DATE:
8.21.2012

REVISED DATE:
1.8.2014

H:\Parks\Mapping\Parks\CapitalSpringsRecreationArea\LibbyRdShop\LibbyRoadSitePlan_1_2_14

Dane County Parks
Always In Season

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ISSUE

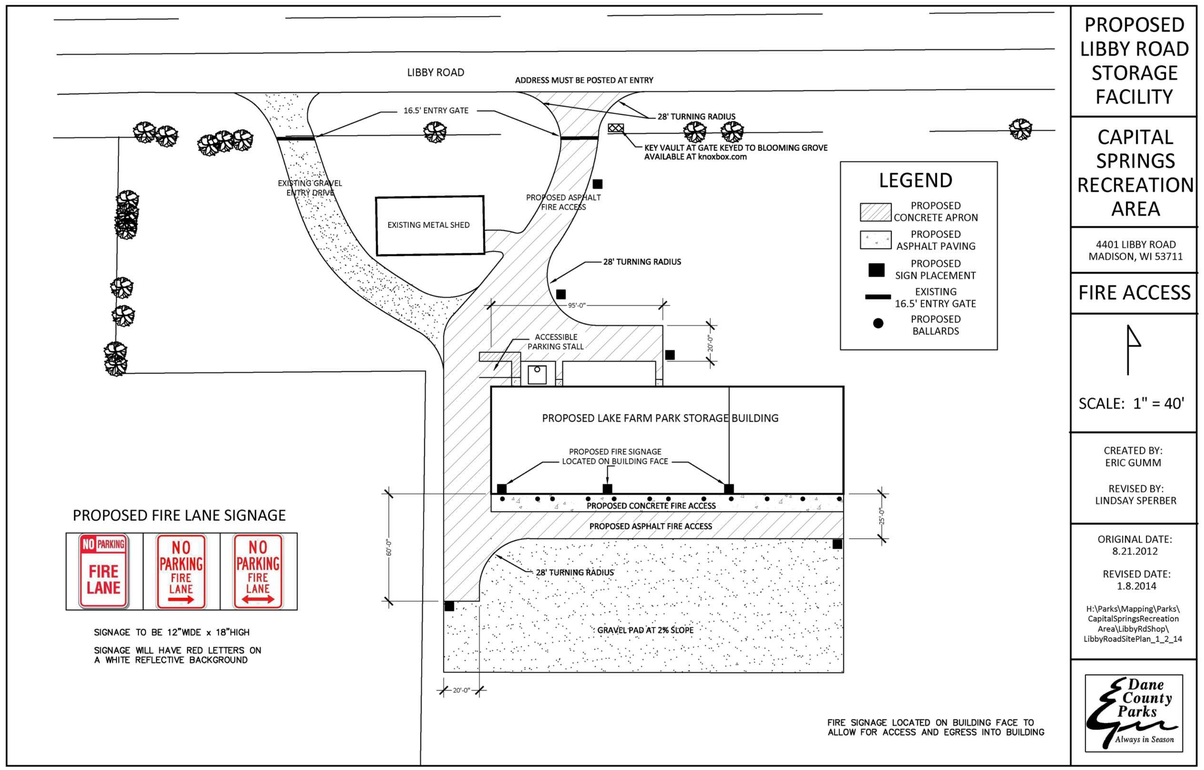
PROJECT
LAKE FARM STORAGE FACILITY

LAKE FARM COUNTY PARK
4401 LIBBY ROAD
MADISON, WI

RFB NO.
313094

DRAWING
SITE AND GRADING PLAN

DATE
09.26.14



PROPOSED LIBBY ROAD STORAGE FACILITY

CAPITAL SPRINGS RECREATION AREA

4401 LIBBY ROAD
MADISON, WI 53711

FIRE ACCESS

SCALE: 1" = 40'

CREATED BY:
ERIC GUMM

REVISED BY:
LINDSAY SPERBER

ORIGINAL DATE:
8.21.2012

REVISED DATE:
1.8.2014

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Dane County Parks
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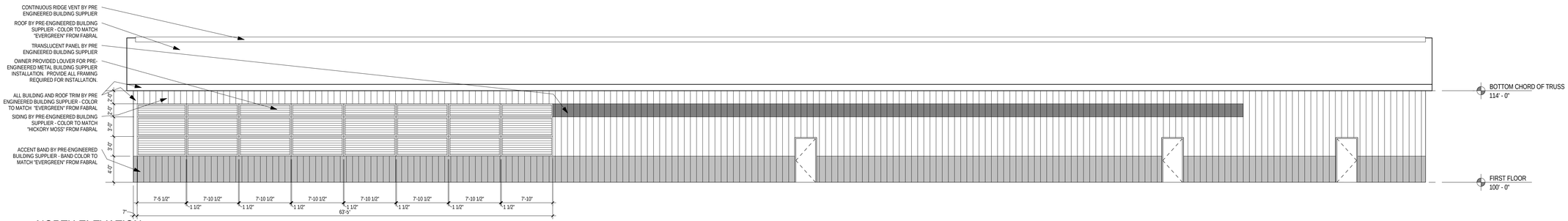
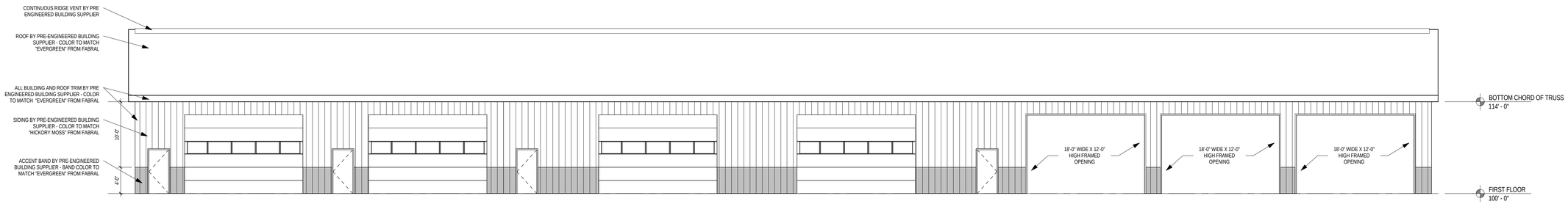
DRAWING
FIRE ACCESS

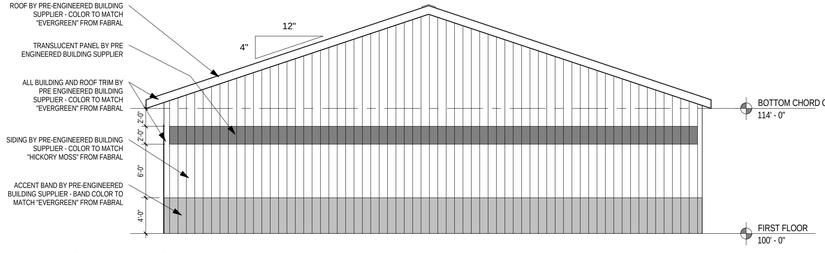
DATE
09.26.14



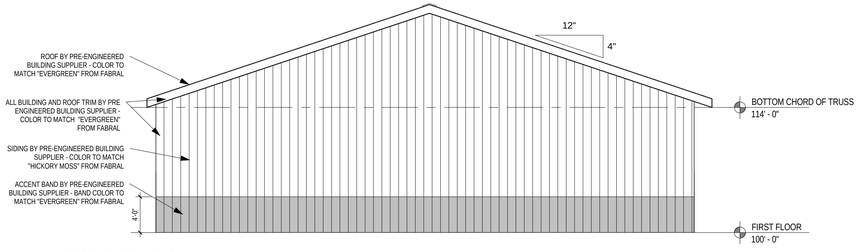
1 NORTH ELEVATION
1/8" = 1'-0"



2 SOUTH ELEVATION
1/8" = 1'-0"



3 EAST ELEVATION
1/8" = 1'-0"



4 WEST ELEVATION
1/8" = 1'-0"

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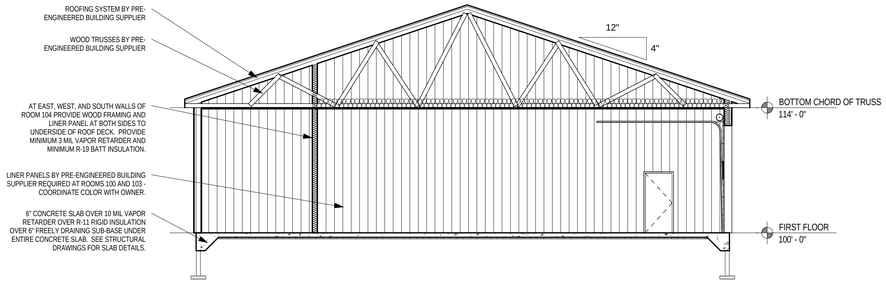
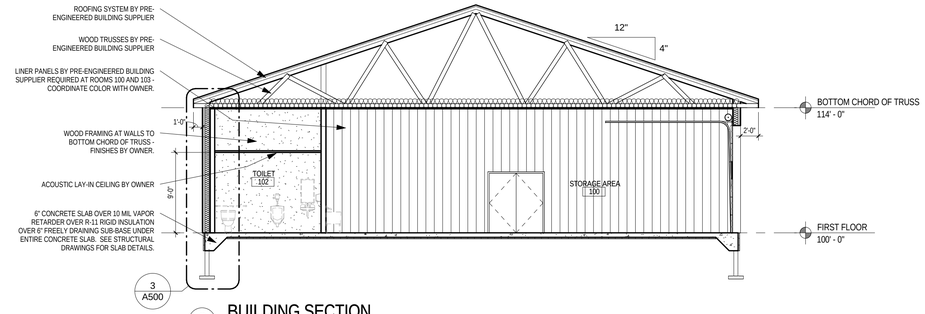
DRAWING
EXTERIOR ELEVATIONS

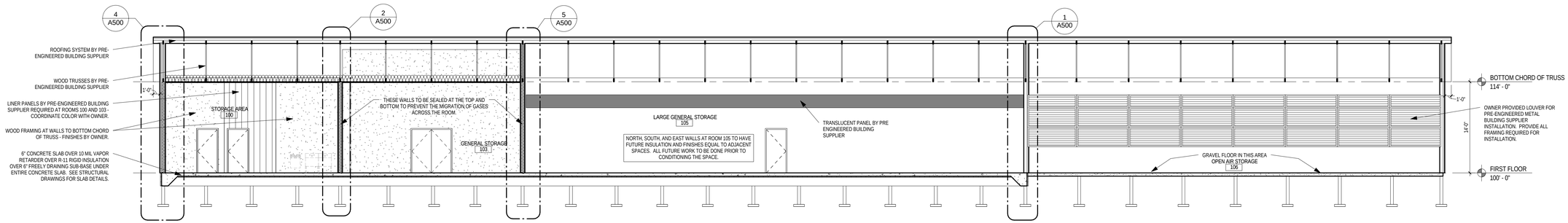
DATE
09.26.14



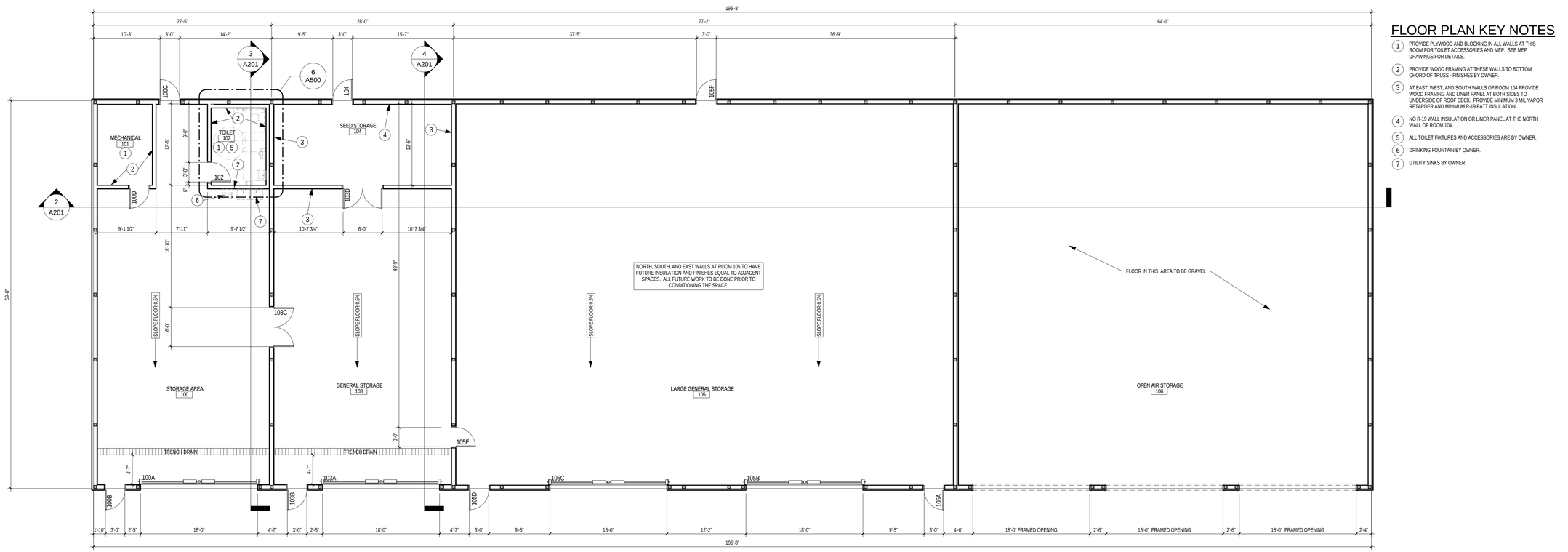
4 BUILDING SECTION
1/8" = 1'-0"



3 BUILDING SECTION
1/8" = 1'-0"



2 BUILDING SECTION
1/8" = 1'-0"



1 FIRST FLOOR PLAN
1/8" = 1'-0"

NORTH

FLOOR PLAN KEY NOTES

1. PROVIDE PLYWOOD AND BLOCKING IN ALL WALLS AT THIS ROOM FOR TOILET ACCESSORIES AND MEP. SEE MEP DRAWINGS FOR DETAILS.
2. PROVIDE WOOD FRAMING AT THESE WALLS TO BOTTOM CHORD OF TRUSS - FINISHES BY OWNER.
3. AT EAST, WEST, AND SOUTH WALLS OF ROOM 104 PROVIDE WOOD FRAMING AND LINER PANEL AT BOTH SIDES TO UNDERSIDE OF ROOF DECK. PROVIDE MINIMUM 3 MIL VAPOR RETARDER AND MINIMUM R-19 BATT INSULATION.
4. NO R-19 WALL INSULATION OR LINER PANEL AT THE NORTH WALL OF ROOM 104.
5. ALL TOILET FIXTURES AND ACCESSORIES ARE BY OWNER.
6. DRINKING FOUNTAIN BY OWNER.
7. UTILITY SINKS BY OWNER.

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DRAWING
FIRST FLOOR PLANS AND BUILDING SECTIONS

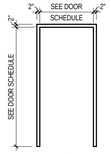
DATE
09.26.14

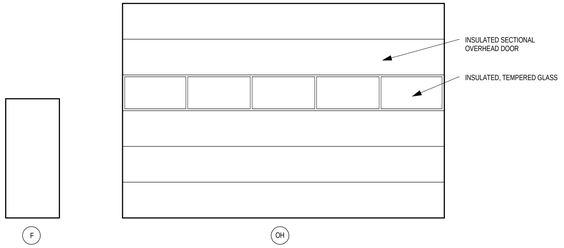
A201

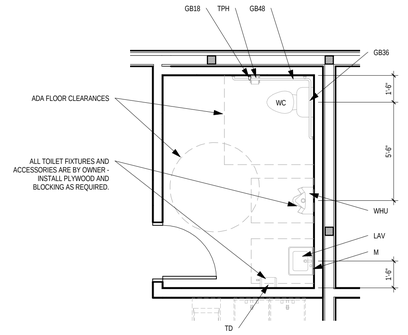
DOOR SCHEDULE															
		DOOR		DOOR		DOOR	FRAME	FRAME	FRAME	FRAME	FRAME	GLAZE			
DOOR NUMBER	ROOM NAME	W	H	T	DOOR ELEVATION	MATERIAL	ELEV	MATERIAL	HEAD	JAMB	SILL		FIRE RATING	HARDWARE	COMMENTS
FIRST FLOOR															
100A	STORAGE AREA	18' - 0"	12' - 0"	2"	OH	ALUM									
100B	STORAGE AREA	3' - 0"	6' - 8"	1 3/4"	F	HM	A	HM							
100C	STORAGE AREA	3' - 0"	6' - 8"	1 3/4"	F	HM	A	HM							
100D	STORAGE AREA	3' - 0"	6' - 8"	1 3/4"	F	HM	A	HM							NO DOOR CLOSER
102	TOILET	3' - 0"	6' - 8"	1 3/4"	F	HM	A	HM						PRIVACY	NO DOOR CLOSER
103A	GENERAL STORAGE	18' - 0"	12' - 0"	2"	OH	ALUM									
103B	GENERAL STORAGE	3' - 0"	6' - 8"	1 3/4"	F	HM	A	HM							
103C	GENERAL STORAGE	6' - 0"	6' - 8"	1 3/4"	F	HM	A	HM							
103D	GENERAL STORAGE	6' - 0"	6' - 8"	1 3/4"	F	HM	A	HM							INCLUDE THRESHOLD AND SEALS
104	SEED STORAGE	3' - 0"	6' - 8"	1 3/4"	F	HM	A	HM							
105A	LARGE GENERAL STORAGE	3' - 0"	6' - 8"	1 3/4"	F	HM	A	HM							
105B	LARGE GENERAL STORAGE	18' - 0"	12' - 0"	2"	OH	ALUM									
105C	LARGE GENERAL STORAGE	18' - 0"	12' - 0"	2"	OH	ALUM									
105D	LARGE GENERAL STORAGE	3' - 0"	6' - 8"	1 3/4"	F	HM	A	HM							
105E	LARGE GENERAL STORAGE	3' - 0"	6' - 8"	1 3/4"	F	HM	A	HM							
105F	LARGE GENERAL STORAGE	3' - 0"	6' - 8"	1 3/4"	F	HM	A	HM							

DOOR SCHEDULE NOTES

1. ALL DOORS TO BE STOREROOM FUNCTION UNLESS NOTED OTHERWISE.







7 DOOR FRAME ELEVATIONS

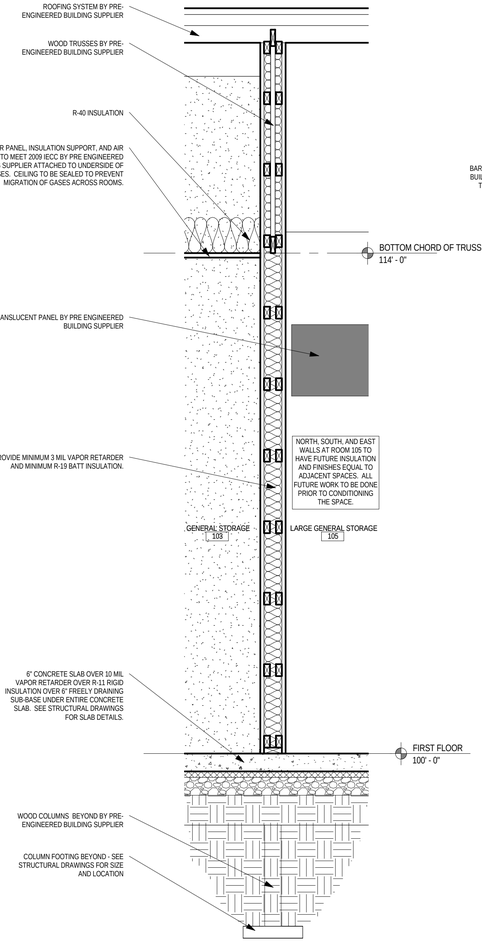
1/4" = 1'-0"

8 DOOR TYPE ELEVATIONS

1/4" = 1'-0"

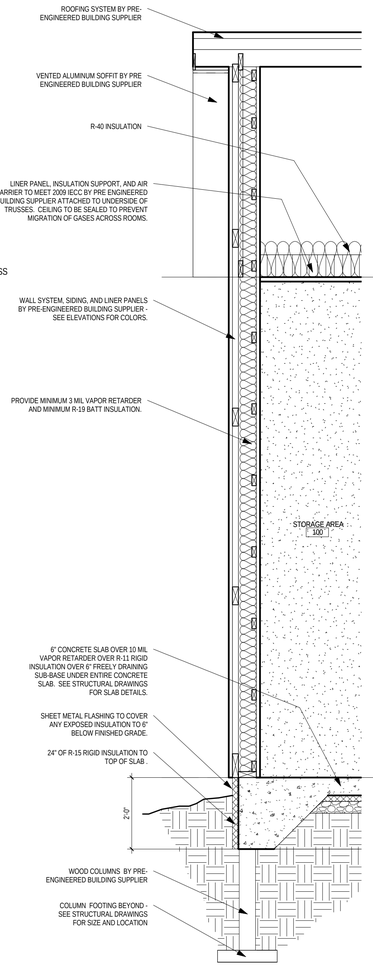
6 ENLARGED BATHROOM FLOOR PLAN

1/4" = 1'-0"



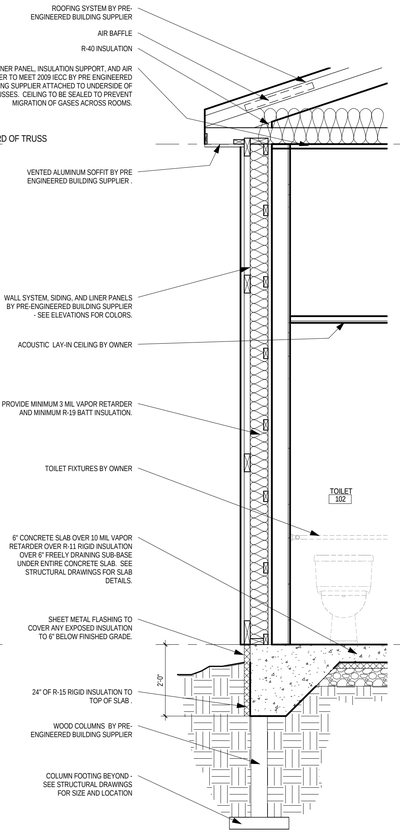
5 WALL SECTION

1/2" = 1'-0"



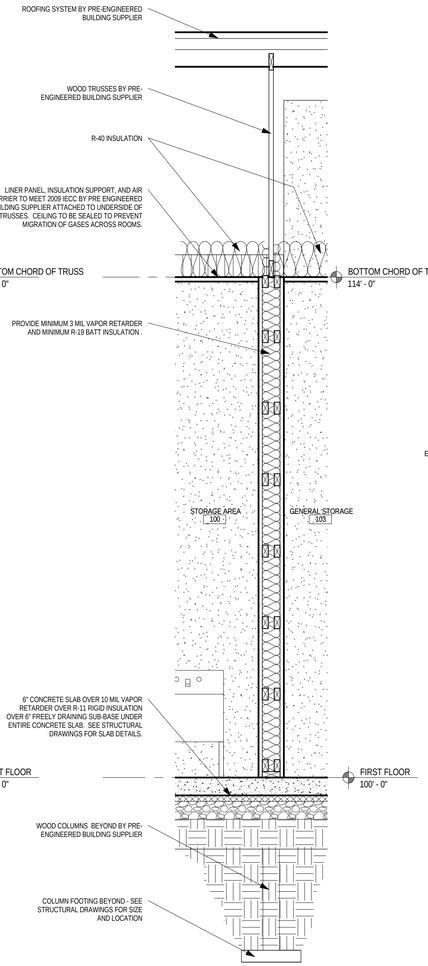
4 WALL SECTION

1/2" = 1'-0"



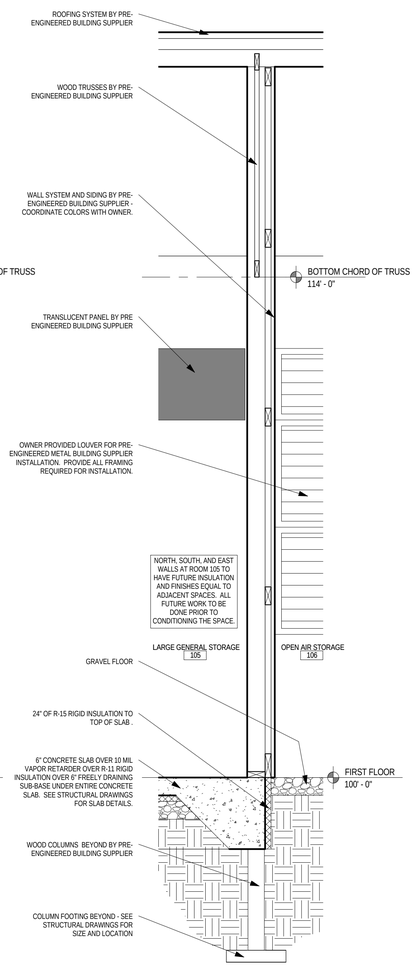
3 WALL SECTION

1/2" = 1'-0"



2 WALL SECTION

1/2" = 1'-0"



1 WALL SECTION

1/2" = 1'-0"

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ISSUE

PROJECT
LAKE FARM STORAGE FACILITY

LAKE FARM COUNTY PARK
4401 LIBBY ROAD
MADISON, WI

RFB NO.
313094

DRAWING
WALL SECTIONS, ENLARGED PLANS, AND DOOR SCHEDULE

DATE
09.26.14

A500

DESIGN DATA

DESIGN CODE:
2011 WISCONSIN COMMERCIAL BUILDING CODE

WIND LOAD INFORMATION:

BASIC WIND SPEED	90 MPH		
BUILDING OCCUPANCY CATEGORY	II		
WIND LOAD IMPORTANCE FACTOR (Iw)	1.00		
WIND EXPOSURE (PARTIALLY ENCLOSED)	C		
INTERNAL PRESSURE COEFFICIENTS	± .18		
COMPONENTS AND CLADDING (GROSS WIND PRESSURES): (FOR ZONE DEFINITIONS & DIAGRAMS SEE DESIGN GUIDE ASCE/SEI 7 SECTION 6)			
WIDTH OF PRESSURE COEFFICIENT ZONE (a)	8 ft		
TRIBUTARY WIND LOAD AREAS:	10 ft²	50 ft²	100 ft²
ROOF (GABLE/HIP/MONOSLOPE):			
NEGATIVE ZONE 1	-24 psf	-23 psf	-22 psf
NEGATIVE ZONE 2	-36 psf	-29 psf	-25 psf
NEGATIVE ZONE 3	-52 psf	-34 psf	-25 psf
POSITIVE PRESSURE ALL ZONES	13 psf	12 psf	12 psf
WALLS:			
ZONE 4	-24 psf	-22 psf	-22 psf
ZONE 5	-28.1 psf	-25 psf	-23 psf
POSITIVE ZONE 4/5	23 psf	20 psf	20 psf

SEISMIC LOAD INFORMATION:

SEISMIC USE GROUP / OCCUPANCY CATEGORY	II
SEISMIC LOAD IMPORTANCE FACTOR (Ie)	1.00
SEISMIC SITE CLASS	D
MAPPED SPECTRAL RESPONSE ACCELERATION (Ss)	10.40
MAPPED SPECTRAL RESPONSE ACCELERATION (S1)	4.40
SPECTRAL RESPONSE COEFFICIENT (Sds)	0.1222
SPECTRAL RESPONSE COEFFICIENT (Sd1)	0.080
SEISMIC DESIGN CATEGORY	B
RESPONSE MODIFICATION FACTOR	1.5
SEISMIC RESPONSE COEFFICIENT (Cs)	0.081
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE

SNOW LOAD INFORMATION:

GROUND SNOW LOAD (Pg)	30 psf
SNOW EXPOSURE FACTOR (Ce)	1.00
SNOW LOAD IMPORTANCE FACTOR (Is)	1.00
THERMAL FACTOR (Ct)	1.2
	1.20 AT OVERHANGS
DESIGN/BALANCED SNOW LOAD (Ps)	25 psf

SOIL LOAD INFORMATION:

COEFFICIENT OF SLIDING FRICTION (μ)	0.40
LATERAL EARTH PRESSURE:	
ACTIVE	35 pcf
AT-REST	55 pcf
PASSIVE	200 pcf
ALLOWABLE NET SOIL BEARING PRESSURE	Qa = 2000 psf (PRESUMED)
MODULUS OF SUB-GRADE REACTION	k = 125 pci (PRESUMED)
FROST DEPTH	48"

LIVE LOAD:

STORAGE	125psf

MATERIAL DESIGN PROPERTIES

CIP CONCRETE STRENGTHS:

FOOTINGS	f'c = 3000 psi
SLAB ON GRADE	f'c = 4000 psi
EXTERIOR SLAB ON GRADE	f'c = 4500 psi

REINFORCING STEEL STRENGTHS:

BARS (ASTM A 615, grade 60)	Fy = 60,000 psi
WWF (ASTM A 185)	Fy = 65,000 psi

WOOD STRENGTHS:
WOOD MATERIAL PROPERTIES PER PRE-ENGINEERED BUILDING SUPPLIER

EARTHWORK NOTES

1. ALLOWABLE SOIL BEARING PRESSURE ASSUMED TO BE 2000psf. GENERAL CONTRACTOR TO FIELD VERIFY w/TEST PITS OR OTHER MEANS WITH A QUALIFIED GEOTECHNICAL ENGINEER AT TIME OF EXCAVATION.
2. ALL TOPSOIL, DEBRIS, SILTS, AND ORGANIC MATERIAL SHALL BE STRIPPED AND REMOVED FROM LIMITS OF EXCAVATIONS AND EXISTING SUBGRADE SHALL BE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY PRIOR TO PLACEMENT OF FILL MATERIAL.
3. FILL MATERIAL SHALL BE PLACED AND COMPACTED IN LIFTS NO THICKER THAN 8". EACH LIFT SHALL MEET COMPACTION REQUIREMENTS PRIOR TO PLACEMENT AND COMPACTION OF ADDITIONAL LIFTS.
4. FILL MATERIAL SHALL BE PLACED AND COMPACTED AT +1% TO -4% OPTIMUM MOISTURE CONTENT TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY, UNLESS RECOMMENDED OTHERWISE BY A QUALIFIED SOILS ENGINEER.
5. UNSATISFACTORY SOILS LOCATED BELOW FOUNDATIONS SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE SOILS ENGINEER.

GENERAL FOUNDATION NOTES

1. PROTECT IN-PLACE FOUNDATIONS AND SLABS ON GRADE FROM FROST PENETRATION UNTIL PROJECT COMPLETION
2. REFER TO ARCHITECTURAL DRAWINGS OR PLUMBING DRAWINGS FOR SPECIFIC FLOOR DRAIN LOCATIONS & ELEVATIONS.
3. NO PROVISION HAS BEEN MADE FOR FUTURE EXPANSION.
4. VERIFY SIZES OF ALL STOOPS WITH ARCHITECT PRIOR TO CONSTRUCTION.

CAST-IN-PLACE CONCRETE NOTES

1. DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST PROVISIONS OF ACI 318/318R.
2. CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER AT LEAST 48 HOURS PRIOR TO PLACING CONCRETE TO FACILITATE ON SITE OBSERVATION OF REBAR.
3. ARRANGEMENT AND BENDING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI DETAILING MANUAL (ACI SP-66), LATEST EDITION.
4. WHEN THE AVERAGE TEMPERATURE FROM MIDNIGHT TO MIDNIGHT IS EXPECTED TO DROP BELOW 40 DEGREES FAHRENHEIT FOR THREE SUCCESSIVE DAYS, COLD WEATHER CONCRETING REQUIREMENTS MUST BE FOLLOWED.
5. WHEN AMBIENT AIR OR CONCRETE TEMPERATURES EXCEED 90 DEGREES FAHRENHEIT, STEEL REINFORCING AND/OR FORMING SURFACES ARE ABOVE 120 DEGREES, OR WHEN WIND VELOCITY, HUMIDITY, OR SOLAR RADIATION CREATE CONDITIONS OF ACCELERATED MOISTURE LOSS AND INCREASED RATE OF HYDRATION, HOT WEATHER CONCRETING REQUIREMENTS SHALL BE FOLLOWED.
6. ALL HOOKS IN STEEL REINFORCING SHALL BE ACI STANDARD HOOKS, UNLESS NOTED OTHERWISE IN CONSTRUCTION DOCUMENTS.
7. ALL CONCRETE SURFACES SHALL BE FORMED, UNLESS OTHERWISE NOTED.
8. CONTROL JOINTS SHALL BE PLACED IN SLAB ON GRADE AND SLAB ON METAL DECK CONSTRUCTION WITHIN 24 HOURS OF INITIAL POUR.
9. WIRE SPACERS, CHAIRS, TIES, ETC., FOR SUPPORT OF STEEL REINFORCING SHALL BE PROVIDED BY THE CONTRACTOR TO ENSURE REINFORCING IS PLACED IN THE PROPER POSITION DURING CONCRETE PLACEMENT.
10. STEEL REINFORCING SPLICES OF ADJACENT BARS SHALL BE STAGGERED SUCH THAT SPLICES ARE 4 FEET APART, MINIMUM.
11. PROVIDE (2) #5 BARS AROUND ALL OPENINGS AND (2) #5 DIAGONALLY AT ALL OPENING CORNERS UNLESS OTHERWISE SPECIFIED. EXTEND 2'-6" PAST OPENING TYPICALLY.
12. WELDED WIRE REINFORCING SHALL BE IN FLAT SHEETS ONLY, AND LAPPED A MINIMUM OF 6 INCHES.
13. WELDING OF STEEL REINFORCING IS NOT PERMITTED.
14. SLEEVES, CONDUITS, OR PIPES THROUGH SLABS AND WALLS SHALL BE PLACED AT THREE DIAMETERS ON CENTER, OR 4 INCHES MINIMUM.
15. ALUMINUM CONDUIT OR PIPING SHALL NOT BE CAST IN CONCRETE.
16. PROVIDE A ¾" CHAMFER ON EXPOSED CORNERS OF CONCRETE UNO. TOP EDGES OF WALLS SHALL BE TOOLED UNO.
17. FINISH & COVER CONCRETE SLABS w/ FILM FORMING CURING COMPOUND OR VAPOR RETARDER UNO OR SPECIFIED OTHERWISE.

HOT WEATHER CONCRETING NOTES

1. CONCRETE MIXES TO BE PLACED DURING DRY AND WINDY CONDITIONS SHALL BE MODIFIED BY THE ADDITION OF RETARDING ADMIXTURES OR SLOWER CURING CEMENT SUBSTITUTES TO MINIMIZE THE EFFECTS OF ACCELERATED CURING.
2. WATER SHALL NOT BE ADDED TO CONCRETE MIXES ON SITE FOR WORKABILITY. MID OR HIGH RANGE WATER REDUCERS SHALL BE APPROVED BY ENGINEER BEFORE ADDING TO CONCRETE MIX FOR INCREASED WORKABILITY.
3. INGREDIENTS USED IN CONCRETE MIXES SHALL BE COOLED TO MAINTAIN A CONCRETE TEMPERATURE BELOW 90 DEGREES FAHRENHEIT AT TIME OF PLACEMENT.
4. CHILLED WATER AND CHOPPED ICE MAY BE USED IN CONCRETE MIXTURES TO CONTROL CONCRETE TEMPERATURES. AMOUNT OF CHOPPED ICE SHALL NOT EXCEED THE EQUIVALENT AMOUNT OF MIXING WATER REQUIRED FOR THE DESIGN MIX.
5. RETARDING ADMIXTURES SHALL NOT BE USED IN CONCRETE MIXES WITHOUT THE APPROVAL OF THE ENGINEER.

COLD WEATHER CONCRETING NOTES

1. SNOW, FROST, AND ICE SHALL BE REMOVED FROM ALL SURFACES, INCLUDING REINFORCING, AGAINST WHICH THE CONCRETE IS TO BE PLACED
2. DO NOT PLACE CONCRETE ON FROZEN SUBGRADE.
3. THE MINIMUM PLACEMENT AND PROTECTION TEMPERATURE OF CONCRETE SHALL BE AS FOLLOWS:

LEAST DIMENSION OF SECTION	MINIMUM TEMP OF CONCRETE AS PLACED AND MAINTAINED DURING PROTECTION PERIOD (DEGREES FAHRENHEIT)
LESS THAN 12"	55
12" TO LESS THAN 36	50
36" TO 72"	45
GREATER THAN 72"	40

4. TEMPERATURES OF CONCRETE SHALL BE MEASURED AT THE CONCRETE SURFACE.
5. CONCRETE TEMPERATURES SHALL BE MEASURED AND RECORDED FOR THE FIRST 3 DAYS UPON PLACEMENT OF CONCRETE, AT THE BEGINNING, MIDDLE, AND END OF EACH WORK DAY AT 4 HOUR INTERVALS. OVERNIGHT TEMPERATURE MEASUREMENTS ARE NOT REQUIRED.
6. HEATED AIR TEMPERATURES SHALL NOT EXCEED THE REQUIRED CONCRETE TEMPERATURES LISTED IN TABLE ABOVE BY MORE THAN 20 DEGREES.
7. CONCRETE SHALL BE CURED AND PROTECTED AGAINST DAMAGE FROM FREEZING FOR A MINIMUM PERIOD OF 3 DAYS.
8. DURING PERIODS NOT DEFINED AS COLD WEATHER, BUT WHEN FREEZING TEMPERATURES MAY OCCUR, PROTECT CONCRETE SURFACES FROM FREEZING FOR THE FIRST 24 HOURS AFTER PLACEMENT.
9. IF TEMPERATURE REQUIREMENTS DURING PROTECTION PERIOD ARE NOT MET, BUT CONCRETE WAS PREVENTED FROM FREEZING, CONTACT ARCHITECT/ENGINEER FOR EXTENT OF ADDITIONAL PROTECTION TIME REQUIRED.

CLASS 'B' TENSION LAP SPLICE LENGTHS (INCHES)

BAR SIZE	f'c = 3000		f'c = 4000	
CLASS	BOT	TOP	BOT	TOP
#3	22	28	19	24
#4	29	37	25	33
#5	36	47	31	41
#6	43	56	37	49
#7	63	81	54	71
#8	72	93	62	81
#9	81	105	70	91
#10	91	118	79	102
#11	101	131	87	113

NOTES (d_b = BAR DIAMETER, C-C = CENTER TO CENTER):

1. SCHEDULE BASED ON CLEAR COVER >1 d_b AND C-C > $2d_b$
2. TOP BARS OF BEAMS AND JOIST AND HORIZONTAL WALL REINFORCING
THIS SCHEDULE IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR AND IS NOT INTENDED TO COVER ALL SITUATIONS. SHOP DRAWINGS SHALL CLEARLY INDICATE ALL REQUIRED LAP LENGTHS

CAST-IN-PLACE CONCRETE TOLERANCES

1. CONCRETE COVER MEASURED PERPENDICULAR FROM THE SURFACE IN DIRECTION OF TOLERANCES:
   - MEMBERS 12" OR LESS ±⅜"
   - MEMBERS OVER 12" ±½"
2. STEEL REINFORCEMENT SPACING SHALL BE WITHIN THE FOLLOWING TOLERANCES:
   - ½" SPACING DISTANCE, NOT TO EXCEED 1"
3. PLACEMENT OF EMBEDDED ITEMS SHALL BE WITHIN THE FOLLOWING TOLERANCES:
   - VERTICAL ALIGNMENT ±1"
   - LATERAL ALIGNMENT ±1"
   - LEVEL ALIGNMENT ±1"
4. PLACEMENT OF FOOTINGS SHALL BE WITHIN THE FOLLOWING TOLERANCES:
   - LATERAL ALIGNMENT ±2"
   - LEVEL ALIGNMENT +½" TO -2"
   - (LEVEL ALIGNMENT SUPPORTING MASONRY) ±½"
5. CROSS-SECTIONAL DIMENSION OF FOOTINGS SHALL BE WITHIN THE FOLLOWING TOLERANCES:
   - FORMED FOOTINGS +2" TO -½"
   - EARTHCAST FOOTINGS:
     - 2' OR LESS +3" TO -½"
     - GREATER THAN 2' BUT LESS THAN 6' +6" TO -½"
     - GREATER THAN 6' +12" TO -½"
   - FOOTING THICKNESS ±5%
6. TOP OF FOOTING SLOPE 1" IN 10'
7. SEE DRILLED PIER NOTES FOR ADDITIONAL INFORMATION AT DRILLED PIER FOUNDATIONS.

MILD STEEL PROTECTION

FOOTINGS - BOTTOM & SIDES	3"
FOOTING - TOP	2"
PERIMETER WALLS - #5 & SMALLER	1½"
PERIMETER WALLS - #6 & LARGER	2"
INTERIOR WALLS	¾"
BEAMS, PIERS, & COLUMNS	1½"
SLABS - BOTTOM & SIDES	1"
SLABS - TOP	¾"

ROOF TRUSS DESIGN NOTES

1. DESIGN UPLIFT ON ROOF TRUSSES AS INDICATED IN THE DESIGN DATA. PROVIDE A TIE DOWN CLIP AT EACH TRUSS, AT EVERY POINT OF BEARING.

DEFLECTION LIMITS:

ROOF	
LIVE LOAD	L/360
TOTAL LOAD	L/240

LOADS:

SNOW LOAD	-	PER DESIGN DATA INCLUDING APPLICABLE UNBALANCED LOADING CONDITION
DEAD LOAD	-	TYPICAL PRE-ENGINEERED BUILDING DEAD LOADS (FRAMING, SHEATHING, ROOFING, INSULATION, AND LIGHTS, HVAC, PLUMBING) PLUS 10psf COLLATERAL DEAD LOAD APPLIED TO BOTTOM CHORD OF TRUSS

STRUCTURAL ABBREVIATIONS

ABBRV.	WORD OR PHRASE
@	AT
&	AND
AB	ANCHOR BOLT
ALT	ALTERNATE
APA	AMERICAN PLYWOOD ASSOC.
ARCH	ARCHITECT(URAL)
BC	BOTTOM CHORD
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BRG	BEARING
℄	CENTERLINE
CB	COLUMN BASE
CIP	CAST-IN-PLACE
CL	CENTERLINE
CLR	CLEAR
CJ	CONTROL OR CONSTRUCTION JOINT
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
DBA	DECK BEARING ANGLE
DEFL	DEFLECTION
DEMO	DEMOLITION
DFL	DOUGLAS FIR LARCH
DIA (Ø)	DIAMETER
DIM	DIMENSION
DL	DEAD LOAD
DTL	DETAIL
DWL	DOWEL
DWG	DRAWING
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
EMBED	EMBEDMENT
EOSL	EDGE OF SLAB
EOS	EDGE OF STEEL
EQ	EQUAL
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FD	FLOOR DRAIN
FND	FOUNDATION
FF	FINISH FLOOR
FIN	FINISH
FLR	FLOOR
FRMG	FRAMING
FTG	FOOTING
GA	GAGE
GALV.	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GT	GIRDER TRUSS
GYP	GYPSUM
HORIZ	HORIZONTAL
HIF	HORIZONTAL INSIDE FACE
HOF	HORIZONTAL OUTSIDE FACE
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
HVAC	HEATING, VENTILATING & AIR COND.
HWS	HEADED WELD STUD
I.F.	INSIDE FACE
INFO	INFORMATION
JST	JOIST
KSI	KIPS PER SQUARE INCH
L	ANGLE
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSL	LAMINATED STRAND LUMBER
LVL	LAMINATED VENEER LUMBER
LW	LONG WAY
MFR	MANUFACTURER
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MISC	MISCELLANEOUS
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
O.F.	OUTSIDE FACE
OPP	OPPOSITE
PARA	PARALLEL
PIC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PERP	PERPENDICULAR
℄	STEEL PLATE
PLY	PLYWOOD
PSI	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
PSL	PARALLEL STRAND LUMBER
P/T	POST TENSIONED CONCRETE
PT	PRESSURE TREATED
REINF	REINFORCEMENT
REQD	REQUIRED
RTU	ROOF TOP UNIT
SCHD	SCHEDULE
SHT	SHEET
SIM	SIMILAR
SMS	SHEET METAL SCREWS
SOG	SLAB ON GRADE
SPEC	SPECIFICATION
SPF	SPRUCE-PINE-FIR
SQ	SQUARE
SS	STAINLESS STEEL
STL	STEEL
STR	STRUCTURAL
SW	SHORT WAY
SYM	SYMMETRICAL
SYP	SOUTHERN YELLOW PINE
T&B	TOP AND BOTTOM
TC	TOP CHORD
T&G	TONGUE AND GROOVE
TF	TOP OF FOOTING ELEVATION
TL	TOP OF LEDGE ELEVATION
TOC	TOP OF CONCRETE ELEVATION
TOSL	TOP OF SLAB ELEVATION
TOS	TOP OF STEEL ELEVATION
TP	TOP OF PIER ELEVATION
T/PC	TOP OF PILE CAP
TRANS	TRANSVERSE
TS	TUBE STEEL
TW	TOP OF WALL ELEVATION
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERTICAL INSIDE FACE
VOF	VERTICAL OUTSIDE FACE
w/	WITH
WF	WIDE FLANGE
w/o	WITHOUT
WP	WORKPOINT
WT	WEIGHT
WWF	WELDED WIRE FABRIC
SLRS	SEISMIC LOAD RESISTING SYSTEM
SMF	SPECIAL MOMENT FRAME
SCBF	SPECIAL CONCENTRIC BRACED FRAME

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PROJECT
LAKE FARM STORAGE FACILITY

LAKE FARM COUNTY PARK
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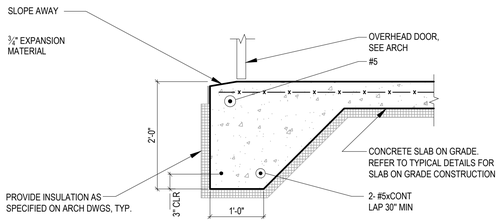
MADISON, WI

RFB NO.
313094

DRAWING
STRUCTURAL NOTES & SCHEDULES

DATE
09.26.14

S001



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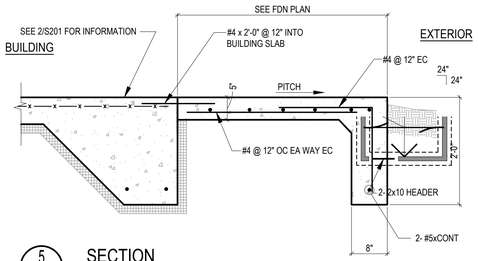

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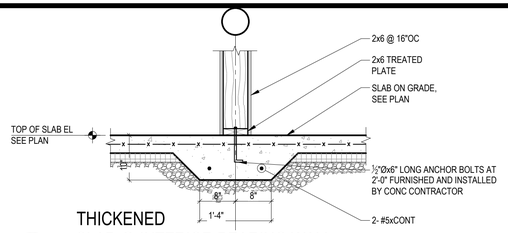

THICKENED SLAB @ INTERIOR BEARING WALL

7 S201
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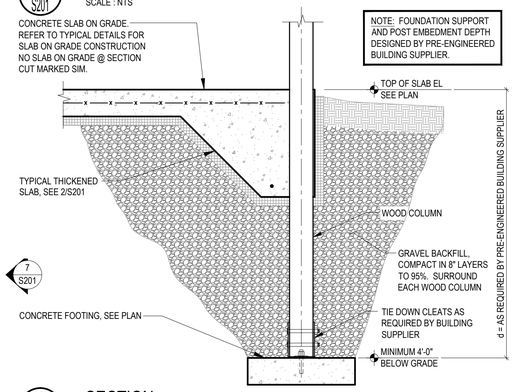

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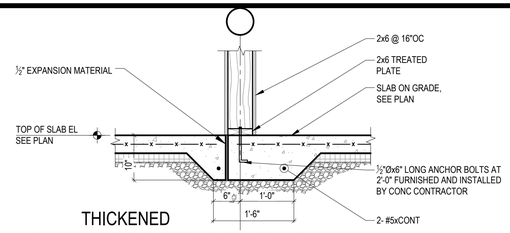

THICKENED SLAB @ INTERIOR BEARING WALL

8 S201
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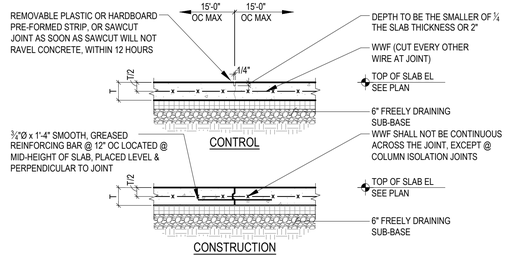
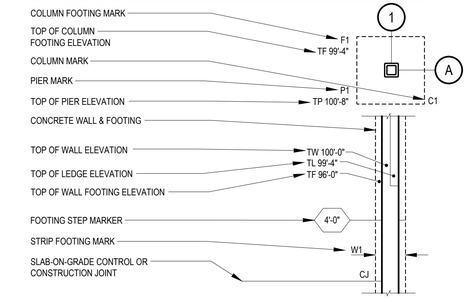


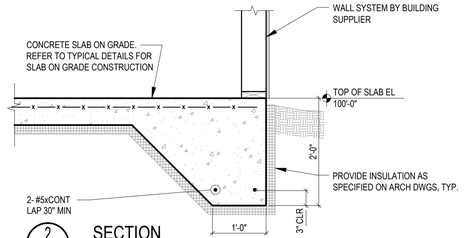
NOTES:
1. SEE THE FOUNDATION PLAN FOR SLAB THICKNESS, REINFORCEMENT, AND JOINT LOCATIONS.
2. SLAB SHALL BE PLACED USING "STRIP" OR "LANE" CONSTRUCTION.
3. FILL JOINTS WITH SEMI-RIGID EPOXY MATERIAL.
4. SMOOTH DOWEL BARS SHALL BE SAWN, NOT SHEARED.

SLAB ON GRADE CONSTRUCTION/CONTROL JOINT

3 S201
SCALE : NTS

FOUNDATION LEGEND





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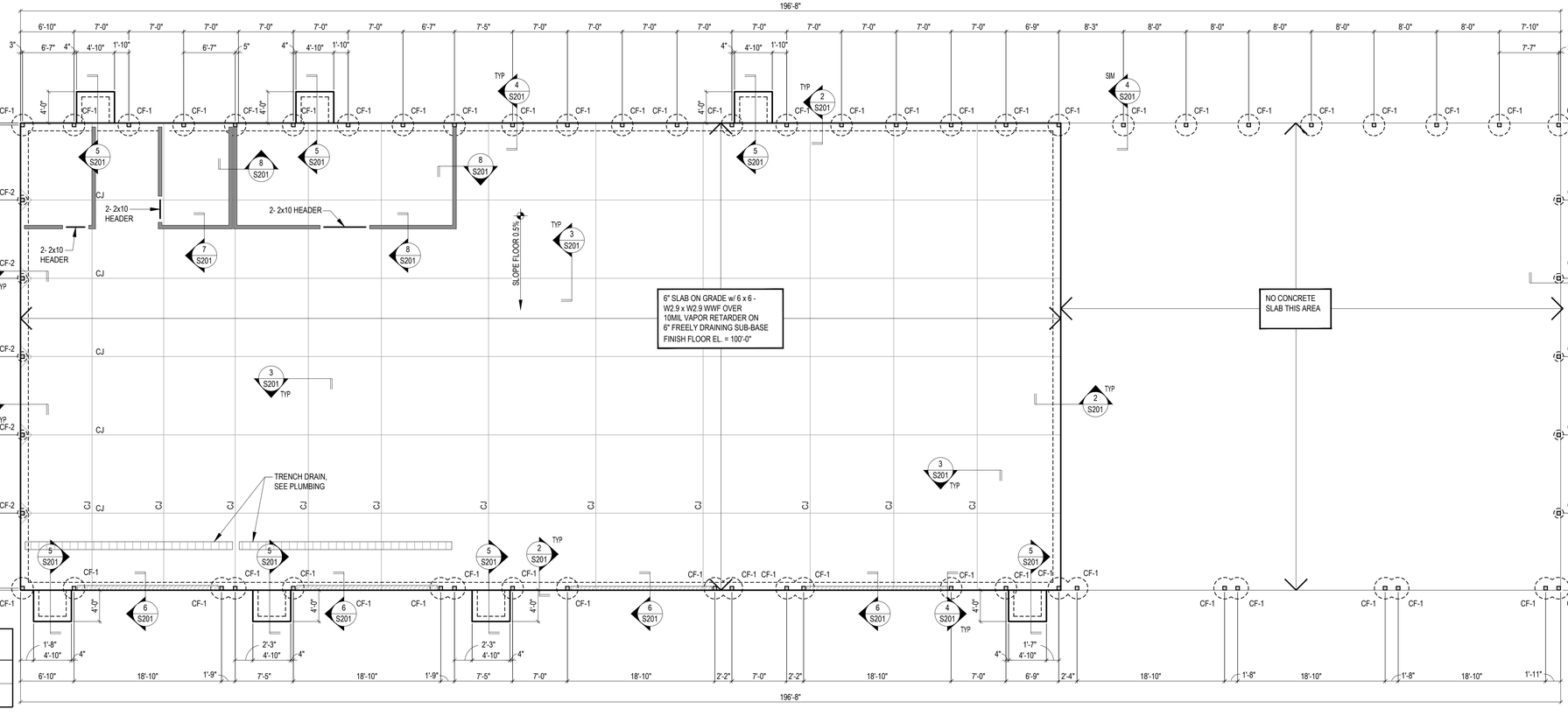

FOOTING SCHEDULE

MARK	DIMENSIONS		REINFORCEMENT	REMARKS
	DIAMETER	DEPTH		
CF-1	2'-9"	0'-6"	SEE NOTE 2	
CF-2	1'-3"	0'-6"	SEE NOTE 2	

FOOTING SCHEDULE NOTES:
1. AT GD OPTION THE LARGER FOOTING MAY BE USED IN ALL LOCATIONS.
2. THE FOOTINGS ARE UNREINFORCED IF SITE CAST. PRECAST FOOTINGS HAVE 2- #3 REBARS EACH WAY.
3. CONCRETE STRENGTH IS 3000psi.

1 S100 FOUNDATION PLAN
SCALE : 1/8" = 1'-0"

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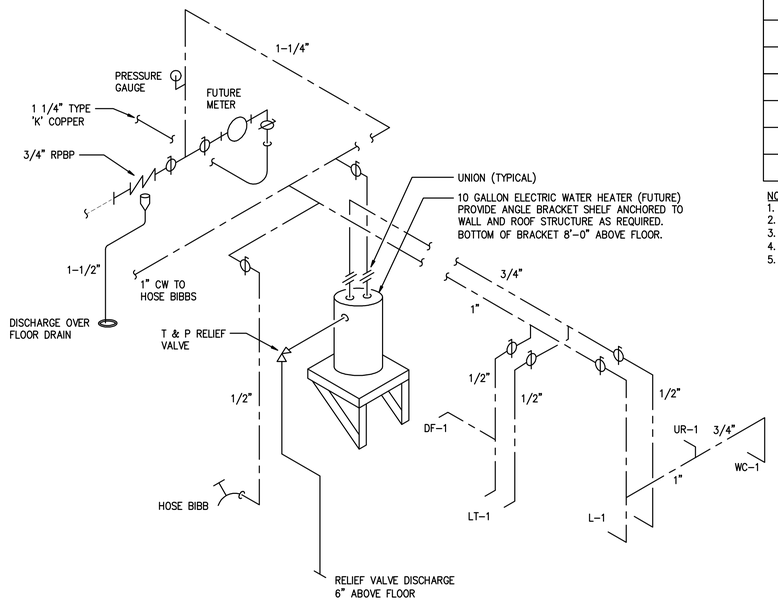


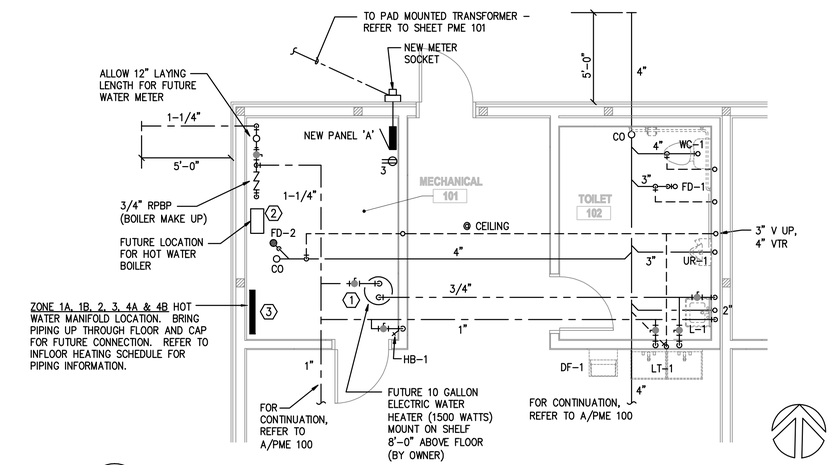
D PME100 WATER DIAGRAM

NOT TO SCALE

RADIANT FLOOR HEATING ZONE SCHEDULE

ZONE	AREA (SF)	REQUIRED HEATING (BTU/HR)	NUMBER OF CIRCUITS	TUBE DIA (IN)	CIRCUIT LENGTH (FT) (APPROX.)	EWT	SURFACE TEMP °F	FLOW (GPM)	DELTA T (°F)	PD (FT)	NOTES
1A	915	20,000	4	1/2"	249	110°F	75.9	2.3	20	3.5	1 THRU 5
1B	400	16,500	2	1/2"	220	110°F	85.6	1.9	20	7.7	1 THRU 5
2	105	4,700	1	1/2"	125	110°F	87.4	0.53	20	1.6	1 THRU 5
3	105	4,700	1	1/2"	125	110°F	87.4	0.53	20	1.6	1 THRU 5
4A	835	20,500	4	1/2"	229	110°F	77.3	2.3	20	3.3	1 THRU 5
4B	410	16,700	2	1/2"	225	110°F	85.4	1.9	20	8.1	1 THRU 5
5A	3335	71,600	15	1/2"	243	110°F	75.7	8.1	20	3.1	1 THRU 5
5B	1160	47,800	6	1/2"	214	110°F	85.6	5.8	20	8.1	1 THRU 5

NOTES:
1. PEX-A TUBING SIZED FOR A 72°F INDOOR DESIGN TEMP AND 87.5°F MAXIMUM FLOOR TEMP.
2. HOT WATER IS A 30% GLYCOL SOLUTION.
3. TYPICAL TUBE SPACING IS 12".
4. INSTALL CONTINUOUS IN-SLAB HOT WATER TUBING AS PER MANUFACTURES'S WRITTEN INSTRUCTIONS. TUBING SPLICES IN SLAB ARE PROHIBITED.
5. TUBING MANUFACTURER TO VERIFY ACTUAL NUMBER OF CIRCUITS AND CIRCUIT LENGTH PRIOR TO INSTALLATION. SUBMIT CALCULATIONS TO A/E DURING SUBMITTAL.



B PME100 LIBBY ROAD STORAGE FACILITY - HVAC & PLUMBING NEW WORK

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

PLUMBING LEGEND

SYMBOL	DESCRIPTION
	SANITARY WASTE
	VENT
	COLD WATER (CW)
	HOT WATER (HW)
	RISER UP
	RISER DOWN
	END CAP
	BALL VALVE
CO	CLEAN OUT
FD	FLOOR DRAIN
WC	WATER CLOSET (FLOOR SET)
UR	URINAL (WALL HUNG)
L	LAVATORY
LT	LAUNDRY TRAY
DF	DRINKING FOUNTAIN
HB	HOSE BIBB
WH	WALL HYDRANT
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER

HEATING GENERAL NOTES - DRAWING PME 100

1. ALL VENTILATION EQUIPMENT AND GAS DETECTION SYSTEM WILL BE PURCHASED AND INSTALLED BY OWNER AND WILL NOT BE PART OF THE CONSTRUCTION BID PACKAGE.
2. ONLY THE IN-FLOOR HYDRONIC HEATING PIPING WILL BE INSTALLED DURING THE INITIAL CONSTRUCTION OF THE BUILDING. THIS PIPING WILL BE PURCHASED AND INSTALLED BY THE OWNER. INSTALLATION SHALL BE COORDINATED WITH THE BUILDING CONSTRUCTION CONTRACTOR.
3. BOILERS, PUMPS, IN-FLOOR MANIFOLDS AND HYDRONIC ACCESSORIES WILL BE PURCHASED AND INSTALLED IN THE FUTURE.
4. FOR ROOMS 100, 101, 102 AND 103 THE BOILER AND ASSOCIATED HOT WATER HEATING EQUIPMENT IS TO BE INSTALLED BY THE OWNER AS PART OF PHASE TWO OF THE PROJECT AND WILL BE INSTALLED BEFORE THE BUILDING IS OCCUPIED.

PLUMBING GENERAL NOTES - DRAWING PME 100

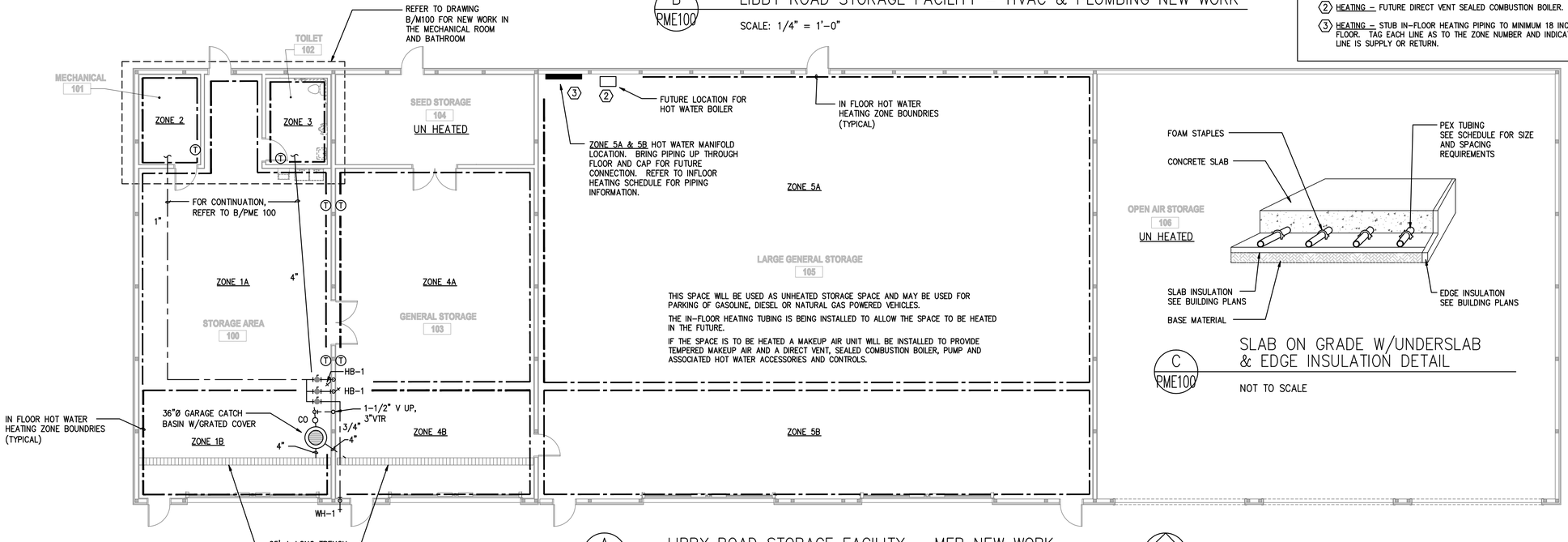
1. PLUMBING FIXTURES WC-1, UR-1, L-1, LT-1, DF-1 AND WATER HEATER WILL BE PURCHASED AND INSTALLED BY THE OWNER.

ELECTRICAL GENERAL NOTES - DRAWING PME 100

1. THE ONLY ELECTRICAL WORK TO BE INCLUDED IN THE CONSTRUCTION CONTRACT IS THE WORK INDICATED ON THE DRAWINGS.
2. ALL LIGHTING AND POWER DISTRIBUTION IN THE BUILDING WILL BE BY THE OWNER.

KEYED NOTES - DRAWING PME 100

1. PLUMBING - CONTRACTOR TO TERMINATE THE WATER HEATER COLD INLET AND HOT OUTLET PIPING FOR FUTURE CONNECTION TO WATER HEATER.
2. HEATING - FUTURE DIRECT VENT SEALED COMBUSTION BOILER.
3. HEATING - STUB IN-FLOOR HEATING PIPING TO MINIMUM 18 INCHES ABOVE FLOOR. TAG EACH LINE AS TO THE ZONE NUMBER AND INDICATE IF THE LINE IS SUPPLY OR RETURN.



A PME100 LIBBY ROAD STORAGE FACILITY - MEP NEW WORK

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

C PME100 SLAB ON GRADE W/UNDERSLAB & EDGE INSULATION DETAIL

NOT TO SCALE

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Project No. 13-0808

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SELECT PLUMBING DESIGN, LLC
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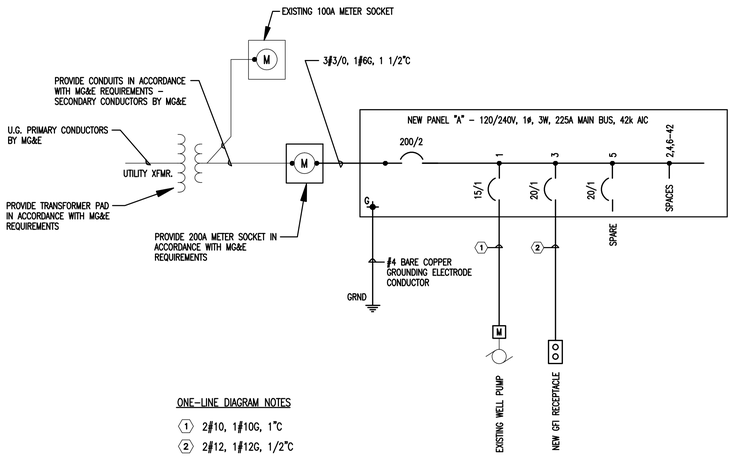
Date	Issuance/Revisions	Symbol
9/26/14	ISSUED FOR APPROVAL & BIDDING	
4/7/14	ISSUED FOR REVIEW	

LAKE FARM STORAGE FACILITY
LAKE FARM COUNTY PARK
4401 LIBBY ROAD
MADISON, WI
(BID NUMBER 313094)

Dane County Department of Public Works, Highway and Tranportation
Public Works Engineering Division
1919 Alliant Energy Center Way
Madison, WI 53713

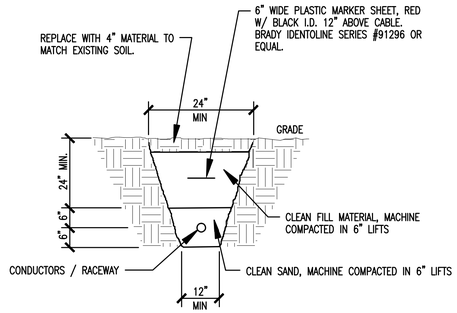
Drawing Title:
MEP FLOOR PLANS, PLUMBING ISOMETRICS AND RADIANT HEATING ZONE SCHEDULE

Eng. 370 Project Number: 13-0808
Drawn By: FBN
Drawing No. PME100



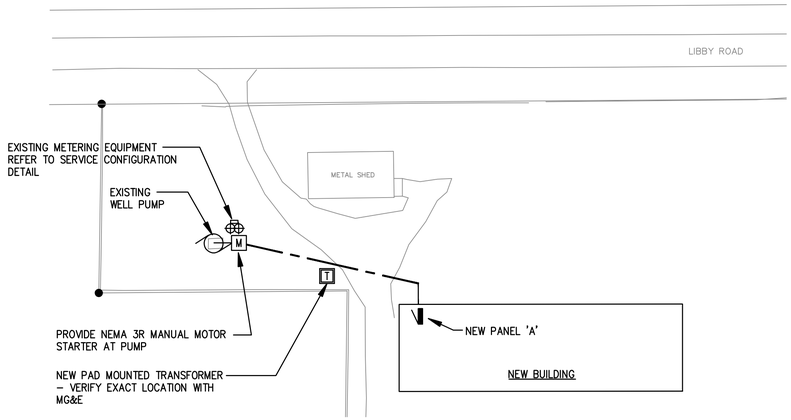
C PME101 ONE LINE DIAGRAM – POWER

NOT TO SCALE



D PME101 TRENCHING DETAIL

NOT TO SCALE



ELECTRICAL SYMBOLS

- POWER POLE
- NEW UNDERGROUND FEEDER OR BRANCH CIRCUIT
- DISTRIBUTION OR BRANCH PANELBOARD
- MANUAL MOTOR STARTER
- MOTOR CONNECTION
- CIRCUIT BREAKER, SIZE AS INDICATED
- DUPLEX RECEPTACLE, GFCI TYPE

ELECTRICAL ABBREVIATIONS

AFF	---	ABOVE FINISHED FLOOR
C	---	CONDUIT
E.C.	---	ELECTRICAL CONTRACTOR
ETR	---	EXISTING TO REMAIN
G	---	GROUND
TYP	---	TYPICAL
UG	---	UNDERGROUND
UNO	---	UNLESS NOTED OTHERWISE
WP	---	WEATHER PROOF

PANEL SCHEDULE

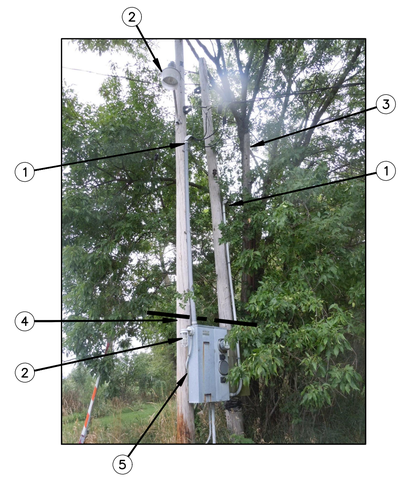
PANEL NO.	VOLTS	MAINS		NEW BREAKERS						CABINET TYPE	REMARKS
		BUS	BRKR	1 POLE		2 POLE		3 POLE			
				AMP	QTY	AMP	QTY	AMP	QTY		
A	120/240, 1Ø, 3W	225A	200A	15	1	--	--	--	--	SURFACE	NEW NEMA 1 PANELBOARD, 42 SPACE MIN, 42k AIC.
				20	2	--	--	--	--		
				--	--	--	--	--	--		

GENERAL INSTALLATION NOTES:

1. COORDINATE ALL WORK WITH LOCAL UTILITY COMPANY. PROVIDE ALL LABOR AND MATERIALS INCLUDING, BUT NOT LIMITED TO, CONDUIT, WIRE, METER SOCKETS, AND TRANSFORMER PADS.
2. ALL CONDUCTORS ARE SIZED FOR COPPER UNO. SEE SPECIFICATIONS FOR DETAILS.
3. ALL CONDUCTORS INSTALLED BENEATH ROADS OR DRIVEWAYS SHALL BE IN SCHEDULE 80 PVC CONDUIT.
4. SOME FEEDERS MAY BE SIZED LARGER THAN THE LOAD DUE TO VOLTAGE DROP AND N.E.C. REQUIREMENTS.
5. ALL EXPOSED EXTERIOR CONDUIT SHALL BE GALVANIZED RIGID STEEL.

B PME101 LIBBY ROAD STORAGE FACILITY – NEW WORK SITE PLAN

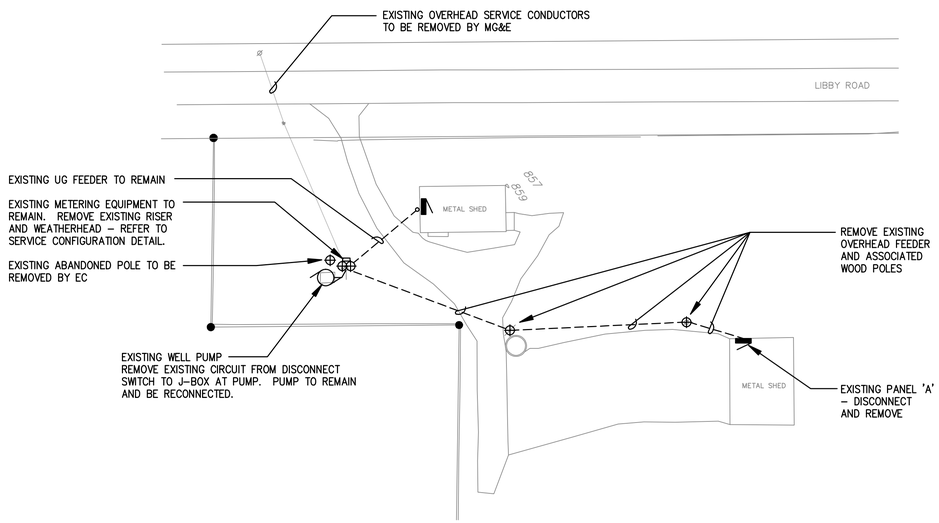
SCALE: 1" = 50'-0"



1. REMOVE EXISTING RISER AND WEATHERHOOD.
2. REMOVE EXISTING LIGHT FIXTURE AND ASSOCIATED WIRE AND CONDUIT.
3. REMOVE EXISTING POLE ENTIRELY.
4. CUT WOOD POLES (2) OFF APPROXIMATELY 6" ABOVE METERING CABINET.
5. ON SOUTH SIDE OF BACKBOARD, REMOVE DISCONNECT SWITCH AND ASSOCIATED WIRE & CONDUIT TO EXISTING WELL PUMP JUNCTION BOX.

E PME101 EXISTING ELECTRICAL SERVICE CONFIGURATION

NOT TO SCALE



A PME101 LIBBY ROAD STORAGE FACILITY – DEMOLITION SITE PLAN

SCALE: 1" = 50'-0"

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Date	Issuance/Revisions	Symbol
9/26/14	ISSUED FOR APPROVAL & BIDDING	
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LAKE FARM STORAGE FACILITY
LAKE FARM COUNTY PARK
4401 LIBBY ROAD
MADISON, WI
(BID NUMBER 313094)

Dane County Department of Public Works, Highway and Transportation
Public Works Engineering Division
1919 Alliant Energy Center Way
Madison, WI 53713

Drawing Title:

ELECTRICAL SITE PLANS, DETAILS AND ONE LINE DIAGRAM & SCHEDULE

Eng. 370 Project Number: 13-0808

Drawn By: FBN

Drawing No. **PME101**

PLUMBING OUTLINE SPECIFICATIONS

A. GENERAL

1. PLUMBING SYSTEMS SHALL CONFORM TO ALL LOCAL AND STATE CODES THAT ARE IN FORCE AT THE TIME OF EXECUTION OF WORK.

2. VERIFY THE LOCATION AND SIZE OF EXISTING PLUMBING SERVICES THAT ARE RELEVANT TO THE INSTALLATION OF NEW SYSTEMS.

3. THE PLUMBING CONTRACTOR SHALL APPLY FOR AND PAY FOR ALL APPROVALS AND FEES RELATED TO COMMENCEMENT OF THE PLUMBING WORK.

4. PLUMBING CONTRACTOR SHALL CUT AND PATCH WALLS, FLOORS, CEILINGS, ETC. AFFECTED BY NEW PLUMBING WORK.

5. PLUMBING SHALL COORDINATE HIS WORK WITH ALL CONTRACTORS.

6. PLUMBING CONTRACTOR TO PROVIDE ONE YEAR GUARANTEE ON ALL PARTS, MATERIALS AND LABOR.

7. PLUMBING CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF SHOP DRAWINGS FOR ALL PIPING, VALVES, FLOOR DRAINS, AND CLEANOUTS.

8. PLUMBING CONTRACTOR SHALL PROVIDE OPERATION AND MAINTENANCE MANUALS.

B. BASIC MATERIALS AND METHODS

1. WATER PIPING SUSPENDED

(A) TYPE L COPPER WATER TUBE, H (DRAWN) TEMPER, ASTEM B88; WROUGHT COPPER PRESSURE FITTINGS, ANSI B16.22; LEAD FREE (<.2%) SOLDER, ASTM B32; FLUX, ASTM B813; COPPER PHOSPHORUS BRAZING ALLOY, AWS A5.8 BCUP. PRESS FITTINGS: COPPER PRESS FITTINGS SHALL CONFORM TO MATERIAL AND SIZING REQUIREMENTS OR ASME B16.18 OR ASME B16.22. O-RINGS FOR COPPER PRESS FITTINGS SHALL BE EPDM.

BELOW GROUND, TYPE K COPPER WATER TUBE ASTM B88.

(B) WATER SYSTEM VALVES

BALL VALVES

3" AND SMALLER: TWO PIECE BRONZE, FULL PORT BODY; SWEAT ENDS, STAINLESS STEEL BALL; GLASS FILLED TEFLON SEAL TEFLON PACKING AND THREADED PACKING NUT; BLOWOUT-PROOF STEM; 600 PSIG WOG. PROVIDE VALVE STEM EXTENSIONS FOR VALVES INSTALLED IN ALL PIPING WITH INSULATION. EQUAL TO APOLLO 77C. (77W-PRESS SYSTEMS) NIBCO, MILWAUKEE AND WATTS ARE CONSIDERED EQUAL.

(C) PIPE INSULATION

CLOSED CELL, WITH MINIMUM NOMINAL DENSITY OF 5.5 LBS. PER CU. FT., THERMAL CONDUCTIVITY OF NOT MORE THAN 0.27 AT 75EF MEAN TEMPERATURE, AND MAXIMUM WATER VAPOR TRANSMISSION OF 0.17 PERM INCH. THE MATERIAL SHALL BE SUITABLE FOR A TEMPERATURE RANGE FROM 220 DEGREES F. TO MINUS 40 DEGREES F. ARMSTRONG AP ARMAFLEX OR ARMAFLEX II, RUBATEX, OR HALSTEAD F/R INSUL-TUBE INSULATION.

(D) PLUMBING SPECIALTIES

HOSE BIB (HB-1) SIOUX CHIEF 117-22 W/ 117-03 VACUUM BREAKER. WALL HYDRANT (WH-1) WOODFORD MODEL 67. REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) WATTS MODEL 909

2. SANITARY WASTE & VENT

(A) CAST IRON SOIL PIPING AND FITTINGS, HUB AND SPIGOT, SERVICE WEIGHT, ASTM A74, WITH NEOPRENE RUBBER COMPRESSION GASKETS, ASTM C564, CISPI 301 AND CISPI HSN 85. PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON PIPE INSTITUTE.

(B) PVC PLASTIC PIPE, SCHEDULE 40, CLASS 12454-B (PVC 1120), ASTM D1785; PVC PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM D2665; SOCKET FITTINGS PATTERNS, ASTM D3311; PRIMER, ASTM F656; SOLVENT CEMENT, ASTM D2564.

3. FLOOR DRAINS/CLEANOUTS/TRENCH DRAINS

(A) FD-1: SIOUX CHIEF #833-3PNR

(B) FD-2: SIOUX CHIEF #860-641

(C) CLEANOUT: ZURN ZN-1400-/ZN-1400T

(D) TRENCH DRAINS: STANDARD 4 INCH POLYMER CONCRETE PRE-SLOPED DRAIN CHANNELS WITH GRATES, FRAMES, END PLATES AND BOTTOM PLATE WITH 4" PVC OUTLET. TRENCH DRAIN EQUAL TO POLYDRAIN AS MANUFACTURED BY ABT, INC. DUCTILE IRON GRATE WITH ANCHOR FRAME EQUAL TO POLYDRAIN PART NO. 2513, LOAD CLASS C. TRENCH DRAINS MANUFACTURED BY ACO, NDS AND ZURN AND ARE CONSIDERED EQUAL.

4. PIPE HANGERS

(A) HANGERS FOR PIPE SIZES 1/2" THROUGH 2": CARBON STEEL, ADJUSTABLE SWIVEL RING. B-LINE B3170NF, ANVIL 69 OR 70.

5. WATER PIPING SUSPENDED EXECUTION:

(A) TEST NEW PIPING BY SECTIONS, BEFORE CONNECTING FIXTURES WITH HYDROSTATIC PRESSURE OF 100 PSI WITHOUT LOSS OF PRESSURE FOR AT LEAST TWO HOURS.

(B) DISINFECTION: PROVIDE CHLORINE DISINFECTION AS OUTLINED IN SPS 382.40 (8) (I). OTHER APPROVED DISINFECTION METHODS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

ELECTRICAL OUTLINE SPECIFICATIONS

TABLE OF CONTENTS

GENERAL REQUIREMENTS

1) BID SHALL BE BASED UPON THIS ELECTRICAL SPECIFICATION AND THE SEPARATE ELECTRICAL DRAWINGS.

2) THIS ELECTRICAL SPECIFICATION AND SEPARATE ELECTRICAL DRAWINGS ARE TO ESTABLISH A MINIMUM LEVEL OF WORK REQUIRED. ADDITIONAL WORK, INCLUDING BOTH LABOR AND MATERIALS, MAY BE REQUIRED BY LOCAL AND STATE AUTHORITIES AND THE ELECTRICAL CONTRACTOR SHALL VERIFY AND INCLUDE ANY ADDITIONAL WORK REQUIRED AS PART OF HIS BID.

3) THIS CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL LOCAL AND STATE CODE REQUIREMENTS AS WELL AS ALL UTILITY REQUIREMENTS. OBTAIN AND PAY FOR ALL PERMITS REQUIRED FOR ELECTRICAL WORK.

4) THIS CONTRACTOR SHALL SUBMIT FIVE (5) SETS OF SHOP DRAWINGS AND PRODUCT DATA SHEETS ON ALL EQUIPMENT INDICATED BELOW, FOR REVIEW AND APPROVAL PRIOR TO THE PURCHASE OF ANY EQUIPMENT.

5) THIS CONTRACTOR SHALL CARRY LIABILITY INSURANCE FOR THE PERIOD OF CONSTRUCTION AS PART OF THE GENERAL CONDITIONS.

6) INCLUDE THE FOLLOWING WITH THE BID:
a) LIST OF MATERIALS TO BE USED.
b) BROCHURES SHOWING ALL EQUIPMENT TO BE USED.

7) BEFORE FINAL PAYMENT IS MADE, PROVIDE THE FOLLOWING:
a) TWO COMPLETE SET OF AS-BUILT PLANS.
b) THREE SETS OF OPERATING MANUALS AND GUARANTEES FOR EQUIPMENT INSTALLED.
c) INSTRUCT OWNERS' PERSONNEL AS TO PROPER OPERATING PROCEDURES.

8) THE WORD "PROVIDE" AS USED HEREIN SHALL MEAN "FURNISH AND INSTALL".

9) ELECTRICAL SYSTEMS MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER.

10) ALL MATERIALS SHALL BE NEW.

11) EXACT LOCATIONS OF DEVICES AND EQUIPMENT ARE IMPORTANT TO THE OPERATION OF THE FACILITY, AND SHALL BE COORDINATED WITH THE OWNER.

12) KEEP THE WORK AREA FREE OF DEBRIS AT ALL TIMES AND DISPOSAL OF REMOVED MATERIAL SHALL BE AS DIRECTED BY THE OWNER.

13) NO STRUCTURAL MEMBER SHALL BE CUT OR DRILLED WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER'S STRUCTURAL ENGINEER.

RACEWAYS

1) MINIMUM CONDUIT SIZE: 1/2".

2) PROVIDE RACEWAYS WHERE REQUIRED BY NFPA 70 AND ALL STATE AND LOCAL CODES.

3) ALL INTERIOR CONDUIT SHALL BE CONCEALED EXCEPT IN MECHANICAL ROOMS OR AS NOTED OTHERWISE.

4) INSTALL CONDUIT PARALLEL TO BUILDING LINES AND SUPPORT INDEPENDENTLY OF OTHER TRADES' WORK. LOCATE SO AS TO PRESERVE HEADROOM, ROOM FOR PASSAGE, AND ACCESS TO ALL ITEMS WHICH MAY REQUIRE MAINTENANCE AND ADJUSTMENT.

5) INSTALL NO MORE THAN THE EQUIVALENT OF THREE 90 DEGREE BENDS BETWEEN BOXES.

6) EMT WITH SET-SCREW FITTINGS SHALL BE USED IN INTERIOR AREAS.

7) PVC SCHEDULE 40 CONDUIT SHALL BE USED UNDERGROUND MORE THAN FIVE (5) FEET FROM BUILDING.

8) RIGID GALVANIZED STEEL CONDUIT WITH THREADED FITTINGS SHALL BE USED IN EXTERIOR LOCATIONS AND UNDERGROUND WITHIN FIVE (5) FEET OF BUILDING.

9) PVC CONDUIT SHALL TRANSITION TO GALVANIZED RIGID METAL CONDUIT BEFORE IT ENTERS A CONCRETE FOUNDATION, WALL (WHERE EXPOSED) OR UP THROUGH A CONCRETE FLOOR.

10) SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH GENERAL REQUIREMENTS

WIRE AND CABLE

1) ALL CONDUCTORS SHALL BE COPPER. ALUMINUM CONDUCTORS ARE NOT ACCEPTABLE.

2) ALL CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID, TYPE THHN/THWN.

3) ALL CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED, TYPE THHN/THWN.

4) USE CONDUCTORS NOT SMALLER THAN #12 FOR POWER AND LIGHTING CIRCUITS.

5) USE STRANDED CONDUCTORS FOR CONTROL CIRCUITS.

6) NEATLY TRAIN AND LACE WIRING INSIDE BOXES, EQUIPMENT, AND PANELBOARDS.

7) USE INSULATED SPRING WIRE CONNECTORS WITH PLASTIC CAPS FOR CONDUCTOR SPLICES AND TAPS, #10 AWG AND SMALLER.

8) IDENTIFY EACH CONDUCTOR WITH ITS CIRCUIT NUMBER OR OTHER DESIGNATION INDICATED ON DRAWINGS.

9) VERIFY CONTINUITY OF EACH BRANCH CIRCUIT CONDUCTOR.

10) INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

11) SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH GENERAL REQUIREMENTS.

BOXES

1) USE GALVANIZED STEEL BOXES IN INTERIOR LOCATIONS AND CAST BOXES WITH WEATHERPROOF COVERS IN EXTERIOR LOCATIONS.

2) ALL BOXES SHALL BE SECURELY AND RIGIDLY FASTENED TO THE SURFACE ON WHICH THEY ARE MOUNTED OR FASTENED TO A SUBSTANTIAL METALLIC HANGER WHICH IS FASTENED TO A STRUCTURAL MEMBER.

3) SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH GENERAL REQUIREMENTS.

WIRING DEVICES

1) SPECIFICATION GRADE DEVICES SHALL BE USED.

2) RECEPTACLES SHALL BE 15 OR 20 AMPERES, 120 VOLT, DUPLEX, NYLON FACE, GROUNDED WITH SEPARATE GROUNDING SCREW AND NEMA 5-20R PLUG CONFIGURATION. RECEPTACLES SHALL BE IVORY COLORED.

3) INSTALL PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

4) INSTALL DEVICES PLUMB AND LEVEL.

5) INSTALL RECEPTACLES WITH GROUNDING POLE AT THE TOP.

6) CONNECT WIRING DEVICE GROUNDING TERMINAL TO BRANCH CIRCUIT EQUIPMENT GROUNDING CONDUCTOR.

7) CONNECT WIRING DEVICES BY WRAPPING CONDUCTOR AROUND SCREW TERMINAL

8) OPERATE EACH WIRING DEVICE WITH CIRCUIT ENERGIZED AND VERIFY PROPER OPERATION.

9) TEST EACH RECEPTACLE DEVICE FOR PROPER POLARITY.

10) ADJUST DEVICES AND WALL PLATES TO BE FLUSH AND LEVEL.

11) SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH GENERAL REQUIREMENTS.

IDENTIFICATION

1) ALL EQUIPMENT SHALL BE IDENTIFIED WITH PERMANENT TAGGING OR STENCILING TO THE OWNER'S STANDARDS.

2) JUNCTION BOXES THAT ARE IN CEILING SPACES SHALL HAVE IDENTIFICATION SHOWN ON COVER PLATES WITH PERMANENT MARKING PEN. EXPOSED JUNCTION BOXES SHALL HAVE IDENTIFICATION SHOWN ON COVER PLATES WITH PERMANENT TYPE LABELS.

3) STARTERS, PANELBOARDS AND DISCONNECT SWITCHES SHALL BE LABELED WITH PERMANENT ENGRAVED NAMEPLATES.

4) PANELBOARD DIRECTORIES SHALL BE TYPEWRITTEN AND AFFIXED TO THE INSIDE OF DOOR.

DISCONNECT SWITCHES

1) PROVIDE DISCONNECT SWITCHES WHERE REQUIRED BY NFPA 70 AND ALL STATE AND LOCAL CODES.

2) FUSIBLE SWITCH ASSEMBLIES: NEMA TYPE HD; QUICK_MAKE, QUICK_BREAK, LOAD INTERRUPTER, ENCLOSED KNIFE SWITCH WITH EXTERNALLY OPERABLE HANDLE INTERLOCKED TO PREVENT OPENING FRONT COVER WITH SWITCH IN ON POSITION. HANDLE LOCKABLE IN OFF POSITION. FUSE CLIPS: DESIGNED TO ACCOMMODATE CLASS R CARTRIDGE TYPE FUSES.

3) ENCLOSURES: NEMA TYPE 1 OR 3R AS INDICATED ON DRAWINGS.

4) SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH GENERAL REQUIREMENTS.

PANELBOARDS

1) GENERAL:
a) PANELBOARDS SHALL USE STANDARD SINGLE POLE BREAKERS; NO TANDEM, DUAL OR HALF-SIZE TYPE.
b) PANELBOARDS SHALL CONTAIN AN EQUIPMENT-GROUNDING BAR, IN ADDITION TO THE NEUTRAL BAR.
c) CIRCUIT BREAKERS SHALL HAVE A MINIMUM U.L. LISTED INTERRUPTING CAPACITY RATING OF 10,000 AMPERES (SYMMETRICAL).

2) BRANCH CIRCUIT BREAKER PANELBOARDS:
a) ALL PANELBOARDS SHALL HAVE HINGED COVERS WITH HINGED DOORS AND KEYED LOCKS.
b) ALL PANELBOARDS SHALL HAVE COPPER BUS BARS.
c) ALL PANELBOARDS SHALL HAVE SEPARATE GROUND BUS.
d) ALL CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE.

3) SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH GENERAL REQUIREMENTS.

MOTOR CONTROLS

1) MANUAL MOTOR STARTER SHALL BE NEMA ICS 2; SIZE AS SHOWN ON DRAWINGS. AC GENERAL PURPOSE CLASS A MANUALLY OPERATED FULL VOLTAGE CONTROLLER FOR INDUCTION MOTORS RATED IN HORSEPOWER, WITH OVERLOAD PROTECTION, RED PILOT LIGHT AND TOGGLE OPERATOR.

2) SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH GENERAL REQUIREMENTS.

GARAGE VENTILAITON — Revised 5/2/2014

Project: Dane County Parks - Lake Farms Park Storage Facility

Location: 4401 Lake Farm Road, Madison, WI — Use Classification: Zone 1 & 4 — MINOR Repair Garage — Note 2

2012 NFPA 30A, 3.3.12.2
2009 IMC, 502.16, 502.16.1, 502.16.2
SPS 364 TABLE 364.040. Automotive Service

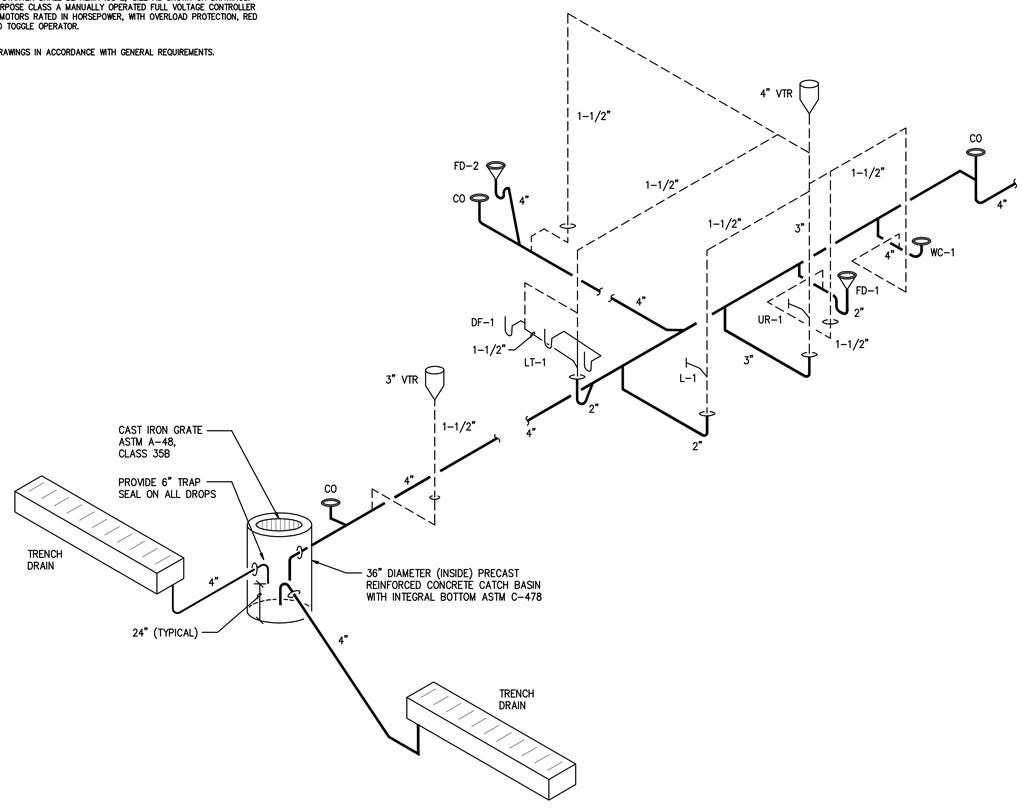
Use Classification: Zone 5 — Equipment Parking - No Repair — Note 3

SPS 364.0404 & Table 364.0403
Enclosed Parking Garages

Room Name or Number	Length Feet	Width Feet	Height Average Feet	Floor Area SF	Room Volume CF	Air Volume Calculates CFM @ Low 0.05 / SF	CFM @ Low 0.5 / SF	CFM @ Low 0.75 / SF	CFM @ High 1/12 CF	Air Changes CFM 5 ACH	Air Changes ACH Installed	Air Volumes Design CFM Low 0.05 / SF	CFM Low 0.5 / SF	CFM Low 0.75 / SF	CFM High CNG	Notes
				0	0	0	0	0	0	0						
Zone 1	59.5	29	14	1,726	24,157	86	863	1,294	2,013	2,013	5.22	150	900		2,100	1, 2, 4
General Stor																
Room 100																
Zone 4	46	28.5	14	1,311	18,354	66	656	983	1,530	1,530	5.23	75	700		1,600	2, 4
General Stor																
Room 103																
Total Zones 1 & 4							1,519		3,543				1,600		3,700	
Zone 5	77	59.5	19	4,582	87,049	229	2,291	3,436	7,254	7,254	5.10	250	3,500		7,400	3, 4, 5
Large Gen																
Storage																
Room 105																

NOTES

1 INCLUDES ZONE 2, ROOM 101 & ZONE 3, ROOM 102 AREA.
2 APPLIES TO ROOMS 100 AND 103. USE IN MINOR VEHICLE SERVICE, OIL CHANGES ETC. & SHORT TERM PARKING FOR LOADING AND UNLOADING
3 APPLIES TO ROOM 105.
4 A gas detection system will be used for CNG (CH4) ventilation control refer to project manual for sequence
5 A gas detection system will be used for CO and NO2 ventilation control refer to project manual for sequence



A / PME102 SOIL / WASTE & VENT DIAGRAM

NOT TO SCALE

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Project No. 13-0808

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Date	Issuance/Revisions	Symbol
9/26/14	ISSUED FOR APPROVAL & BIDDING	
4/7/14	ISSUED FOR REVIEW	

LAKE FARM STORAGE FACILITY
LAKE FARM COUNTY PARK
4401 LIBBY ROAD
MADISON, WI
(BID NUMBER 313094)

Dane County Department of Public Works, Highway and Tranportation
Public Works Engineering Division
1919 Alliant Energy Center Way
Madison, WI 53713

Drawing Title:

MECHANICAL, ELECTRICAL AND PLUMBING SPECIFICATIONS

Eng. 370 Project Number: 13-0808

Drawn By: FBN

Drawing No. PME102

GAS FIRED MAKE-UP AIR UNIT THE EQUIPMENT IN THIS SCHEDULE WILL BE PURCHASED AND INSTALLED BY THE OWNER

MARK	MANUFACTURER	MODEL NO.	UNIT ARRANG	DISCH. POSITION	CAPACITY						FAN					ELECTRICAL DATA					REMARKS
					HEATING TYPE	GAS PRESS. PSI	HEATING MBH				CFM	EXT SP IN. WC	TOTAL SP	MOTOR RPM	FAN RPM	BHP	HP	MOP AMPS	MCA AMPS	VOLTS / PHASE	
							EAT °F	LAT °F	INPUT MBH	OUTPUT MBH											
MUA-1	GREENHECK	DG-110-H10	HORIZ	HORIZ	DIRECT LP GAS	1/2	-15	75	169	155.5	1600	0.5	1	1725	968	0.5	0.5	15	4.6	230/60/1	1, THROUGH 17

NOTES

1. DIRECT SPARK IGNITION
2. CAST ALUMINUM BURNERS WITH STAINLESS STEEL MIXING PLATES
3. 25:1 TURNDOWN
4. MAXITROL ELECTRONIC MODULATION BURNER CONTROL
5. DISCHARGE TEMPERATURE CONTROL - WITH ROOM OVERRIDE
6. REMOTE CONTROL PANEL
7. SERVICE RECEPTACLE
7. ETL & IRI LISTED TO ANSI Z83.4
8. FLAME ROD FLAME SENSING
9. CARBON DIOXIDE SENSOR
10. HIGH AND LOW GAS PRESSURE SWITCHES
11. GAS PRESSURE REGULATOR
12. FILTER SECTION WITH 2" MERV 8 FILTERS
13. INLET DAMPER
14. UNIT INSULATION
15. 100 PERCENT OUTSIDE AIR
16. EXTERIOR UNIT ENCLOSURE - GALVANIZED
17. WEATHER HOOD WITH BIRDSCREEN

FAN SCHEDULE THE EQUIPMENT IN THIS SCHEDULE WILL BE PURCHASED AND INSTALLED BY THE OWNER

MARK	MANUFACTURER	MODEL NO.	FAN DATA								CURB OR WALL DATA		MOTOR DATA				REMARKS
			AIR FLOW (CFM)	STATIC PRESS	FAN TYPE	WHEEL TYPE	DRIVE TYPE	RPM		TIP SPEED	OPENING SIZE		ENCL	BHP	HP	VOLTS / PHASE	
								MOTOR	FAN								
EF-1	GREENHECK	SP-B150	150	0.25	CEILING	FC	DIRECT	1050	1050					1.7 AMPS		120/1	1, 2
EF-2	GREENHECK	CW-141-B	1600	0.3	WALL	BI	DIRECT	1140	1043	3992	15.5 X 15.5		ODP	0.21	1/4	120/1	3, 4, 5, 8
EF-3	GREENHECK	CWB-161-3	2100	0.3	WALL	BI	BELT	1725	880	3829	15.5 X 15.5		TEFC	0.29	1/3	120/1	3, 4, 8
EF-4	GREENHECK	CWB-121.3	1600	0.3	WALL	BI	BELT	1725	1490	5096	12.5 X 12.5		TEFC	0.3	1/3	120/1	3, 4, 8
EF-5	GREENHECK	SBE-3H24-7	3500	0.4	WALL/PROP	PROP	BELT	1725	1056	6699	26.5 X 26.5		TEFC	0.47	3/4	230/1	3, 4, 6, 7, 8
EF-6	GREENHECK	CWB-300-15	7400	0.4	WALL	BI	BELT	1725	546	4360	25.5 X25.5		TEFC	1.16	1 1/2	230/1	3, 4, 8
EF-7	GREENHECK	CAP-A390	250	0.375	INLINE	FC	DIRECT	1047	1047				ODP	1.33 AMPS		120/1	5, 9
EF-3 ALT	GREENHECK	CWB-180-7	3700	0.35	WALL	BI	BELT	1725	1080	5233	17.5 X 17.5		TEFC	0.079	3/4	230/1	2, 3, 4, 8

Notes

1. WC-1 WALL CAP - MODEL WC-6
2. ACCESSORY TIME DELAY SWITCH TO CONTROL FAN AND ROOM LIGHTS.
3. ALUMINUM SPARK RESISTANT WHEEL OR PROPELLER
4. ALUMINUM RUB RING
5. SOLID STATE SPEED CONTROL
6. LONG WALL HOUSING, FLUSH EXTERIOR, OSHA GUARD,
7. GALVANIZED WEATHER HOOD, 45 DEG, BIRD SCREEN
8. DISCONNECT SWITCH, JUNCTION BOX MOUNTED & WIRED, MOTOR OPERATED DAMPER, END SWITCH, DAMPER ACTUATOR SAME VOLTAGE AS MOTOR
9. WC-2 WALL CAP - GREENHECK MODEL WC-8

LOUVER SCHEDULE THE EQUIPMENT IN THIS SCHEDULE WILL BE PURCHASED BY THE OWNER

MARK	MFGR	MODEL NO.	INTAKE OR RELIEF	AIR FLOW CFM	SIZE W X H X D INCHES	FREE AREA MIN SF	AIR PRESSURE DROP MAX " W.C.	CONSTRUCTION BLADE STYLE	MATERIAL	THICKNESS (IN) BLADE	THICKNESS (IN) FRAME	FRAME TYPE	BLADE ANGLE	BLADE ALIGNMENT	REMARKS
L-1	GREENHECK	EADC-401	INTAKE	7,400	54 X 56 X 4	7.58	0.19	DRAIN	ALUM	0.081	0.125	FLANGE	45 ADJ	HORIZ	1, 2, 3, 4, 5, 6, 7, 11
L-2	GREENHECK	ESID-430	DISCHARGE		756 X 71.625 X 4	288		K	ALUM	0.081	0.081	FLANGE	30	HORIZ	1, 2, 3, 8, 9, 10, 11, 12

NOTES

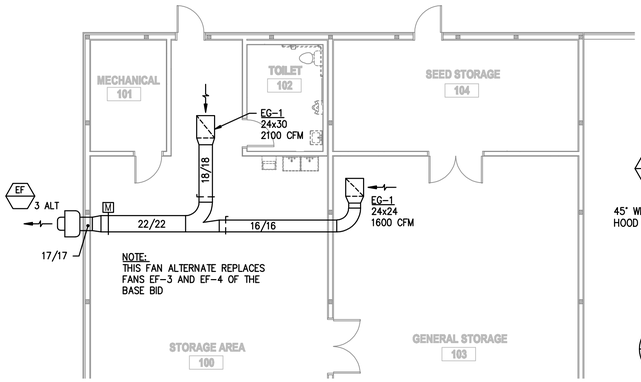
1. FREE AREA IS FOR SCHEDULED SIZE
2. BIRDSCREEN
3. MILL FINISH - TO BE VERIFIED WITH OWNER
4. MOTOR OPERATED ADJUSTABLE BLADES
5. 120 VOLT ACTUATOR, 2 POSITION SPRING RETURN
6. OUT OF AIR STREAM SIDE LINKAGE, CONCEALED IN FRAME
7. VINYL BLADE AND STAINLESS STEEL JAMB SEALES
8. DISCHARGE ONLY STYLE UNIT FOR FREE AREA REQUIRED FOR NATURAL VENTILATION
9. MULTIPLE SECTIONS REQUIRED FOR 63"-0" TOTAL WIDTH
10. MINIMUM FREE AREA TO BE 264 SQ. FT.
11. INSTALLATION TO BE COORDINATED WITH THE PREFABRICATED BUILDING CONTRACTOR
12. REFER TO ARCHITECTURAL DRAWINGS FOR LOUVER LOCATION.

GRILLE SCHEDULE THE EQUIPMENT IN THIS SCHEDULE WILL BE PURCHASED AND INSTALLED BY THE OWNER

MARK	MFGR	MODEL NO.	DESCRIPTION	MATERIAL	MOUNTING	DAMPER	SIZE	CFM RANGE	REMARKS
SG-1	CARNES	RTDBH	DOUBLE DEFLECTION, ADJUSTABLE BLADES	STEEL	WALL OR DUCT	YES	SEE PLAN	SEE PLAN	
EG-1	CARNES	RSRBH	FIXED DEFLECTION, ZERO DEGREES	STEEL	CEILING	NO	SEE PLAN	SEE PLAN	1

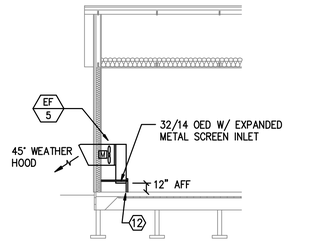
REMARKS

1. COORDINATE PLACEMENT IN CEILING WITH TRUSS LOACTIONS AND CEILING SYSTEM



B V100 PARTIAL FIRST FLOOR PLAN – ALTERNATE FAN (EF-3 ALT)

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

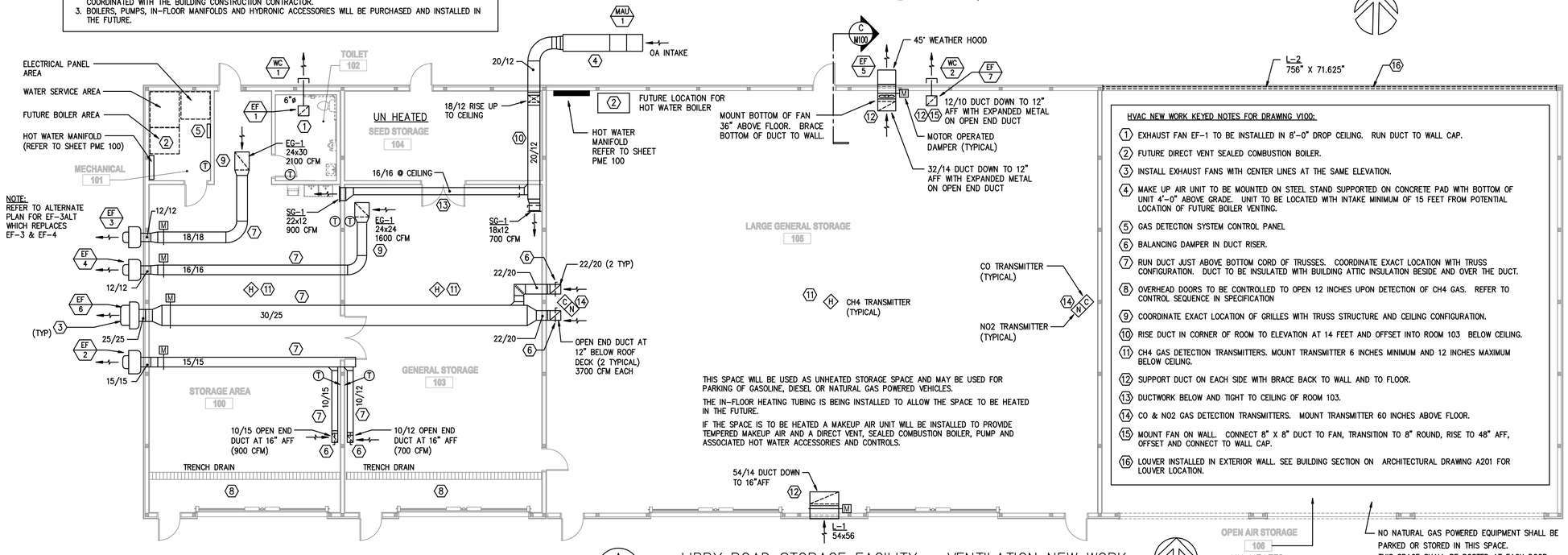


C V100 SECTION EF-3

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

GENERAL NOTES – DRAWING V100

1. ALL VENTILATION EQUIPMENT AND GAS DETECTION SYSTEM WILL BE PURCHASED AND INSTALLED BY OWNER AND WILL NOT BE PART OF THE CONSTRUCTION BID PACKAGE.
2. ONLY THE IN-FLOOR HYDRONIC HEATING PIPING WILL BE INSTALLED DURING THE INITIAL CONSTRUCTION OF THE BUILDING. THIS PIPING WILL BE PURCHASED AND INSTALLED BY THE OWNER. INSTALLATION SHALL BE COORDINATED WITH THE BUILDING CONSTRUCTION CONTRACTOR.
3. BOILERS, PUMPS, IN-FLOOR MANIFOLDS AND HYDRONIC ACCESSORIES WILL BE PURCHASED AND INSTALLED IN THE FUTURE.



HVAC NEW WORK KEYED NOTES FOR DRAWING V100:

1. EXHAUST FAN EF-1 TO BE INSTALLED IN 8'-0" DROP CEILING. RUN DUCT TO WALL CAP.
2. FUTURE DIRECT VENT SEALED COMBUSTION BOILER.
3. INSTALL EXHAUST FANS WITH CENTER LINES AT THE SAME ELEVATION.
4. MAKE UP AIR UNIT TO BE MOUNTED ON STEEL STAND SUPPORTED ON CONCRETE PAD WITH BOTTOM OF UNIT 4'-0" ABOVE GRADE. UNIT TO BE LOCATED WITH INTAKE MINIMUM OF 15 FEET FROM POTENTIAL LOCATION OF FUTURE BOILER VENTING.
5. GAS DETECTION SYSTEM CONTROL PANEL
6. BALANCING DAMPER IN DUCT RISER.
7. RUN DUCT JUST ABOVE BOTTOM CORD OF TRUSSES. COORDINATE EXACT LOCATION WITH TRUSS CONFIGURATION. DUCT TO BE INSULATED WITH BUILDING ATTIC INSULATION BESIDE AND OVER THE DUCT.
8. OVERHEAD DOORS TO BE CONTROLLED TO OPEN 12 INCHES UPON DETECTION OF CH4 GAS. REFER TO CONTROL SEQUENCE IN SPECIFICATION
9. COORDINATE EXACT LOCATION OF GRILLES WITH TRUSS STRUCTURE AND CEILING CONFIGURATION.
10. RISE DUCT IN CORNER OF ROOM TO ELEVATION AT 14 FEET AND OFFSET INTO ROOM 103 BELOW CEILING.
11. CH4 GAS DETECTION TRANSMITTERS. MOUNT TRANSMITTER 6 INCHES MINIMUM AND 12 INCHES MAXIMUM BELOW CEILING.
12. SUPPORT DUCT ON EACH SIDE WITH BRACE BACK TO WALL AND TO FLOOR.
13. DUCTWORK BELOW AND TIGHT TO CEILING OF ROOM 103.
14. CO & NO2 GAS DETECTION TRANSMITTERS. MOUNT TRANSMITTER 60 INCHES ABOVE FLOOR.
15. MOUNT FAN ON WALL. CONNECT 8" X 8" DUCT TO FAN, TRANSITION TO 8" ROUND, RISE TO 48" AFF, OFFSET AND CONNECT TO WALL CAP.
16. LOUVER INSTALLED IN EXTERIOR WALL. SEE BUILDING SECTION ON ARCHITECTURAL DRAWING A201 FOR LOUVER LOCATION.

A V100 LIBBY ROAD STORAGE FACILITY – VENTILATION NEW WORK

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

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Public Works Engineering Division
1919 Alliant Energy Center Way
Madison, WI 53713

Drawing Title:

VENTILATION NEW WORK FLOOR PLAN

Eng. 370 Project Number: 13-0808

Drawn By: FBN

Drawing No. **V100**