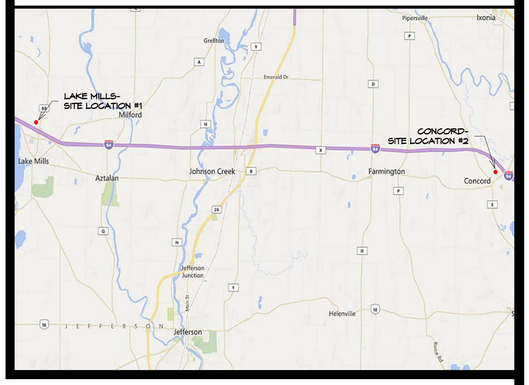
SITE MAP



GENERAL NOTES

1. All concrete to test 4000 psi in 28 days.
2. Verify all dimensions, access, utilities and working conditions in the field.
3. Conform to all applicable codes, ordinances and safety standards.
4. Obtain and pay for all required permits and fees.
5. Notify Architect immediately if work cannot proceed as shown on Drawings or as described in the Specifications.
6. No concrete to be poured without Architect's prior review.
7. All Contractor's to co-operate with all trades, Owner's and Architect's representatives.
8. Leave site clean, neat and free of debris at all times.
9. Each Prime and Sub-contractor is responsible for having read each page of the Specifications, Drawings, Addenda and Change Orders.
10. Guard against interfering with Owner's operations.
11. These Drawings contain no provisions or procedures for on-site safety. Each Contractor and their employees are responsible to follow all laws and ordinances and provide their own engineering to provide a safe work place.
12. The locations of existing underground utilities, shown on these Drawings, are shown in an approximate way only and have not been independently verified by the Owner or its representatives. The Contractor shall determine the exact location of all existing utilities before commencing work, and agrees to be fully responsible for any and all damages which might be occassioned by the Contractor's failure to exactly locate and preserve any and all underground utilities.
13. Services perform for this project have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in this area under similar budget and time constraints. No warranty, expressed or implied, is made.

MATERIAL INDICATIONS

Earth Backfill		Sand Fill	
Rigid Insulation		Concrete	
Concrete Block		Finished Wood	
Aluminum		Stone Fill	
Lumber (Rough)		Plywood	
Steel		Batt Insulation	

DRAWING LEGEND

+ 100.0	New or Required Point Elevation
+ 100.0	Existing Point Elevation
+ 100.0	Existing Contours
+ 100.0	New or Required Contours
A	Grid Lines
Room 1	Room/Space Number
101	Door Number
1	Wall Tag
1 / 5.1	Detail Number / Page Number
1 / 3.1	Building Section
1 / 4.1	Wall Section
1 / 5.1	Detail Section
1 / 7.1	Interior Elevation
1 / 2.1	Exterior Elevation

CONSULTANTS

ARCHITECT	**Kueny Architects** (262) 857-8101 Architect of Record - Jon P. Wallenkamp	10505 Corporate Drive Suite 100 Pleasant Prairie, Wisconsin 53158
PLUMBING	**Southport Engineered Systems** (262) 818-4409 Project Manager - Robert F. Novak	205 N. Dewey Street Eau Claire, Wisconsin 54703
H.V.A.C.	**Southport Engineered Systems** (262) 824-8675 Project Manager - Tim Pann	1343 S. 27th Street Caledonia, Wisconsin 53108
ELECTRICAL	**Root Engineering Services, P.C.** (847) 249-8398 Project Manager - Richard Root, P.E.	4215 Grove Ave Gurnee, Illinois 60031

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Satellite Facilities
Jefferson County

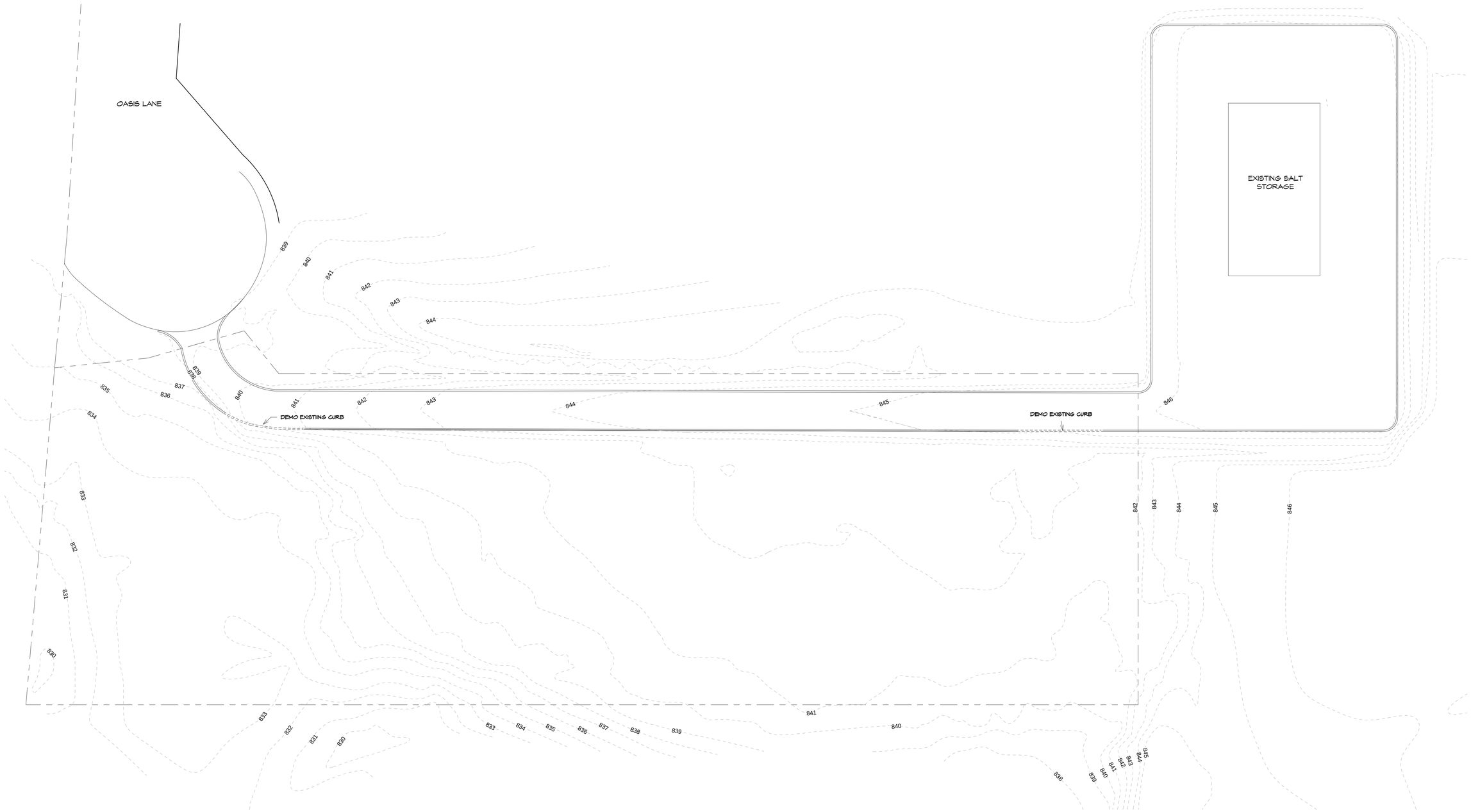
Lake Mills Site & Concord Site

KUENY ARCHITECTS, LLC
10505 CORPORATE DRIVE - SUITE 100 PLEASANT PRAIRIE, WI 53158
PHONE (262) 857-8101 FAX (262) 857 8103

Jefferson County
Satellite Facilities

March 22, 2016

1.0



PLAN NORTH
SCALE: 1" = 30'-0"

Lake Mills Existing Site

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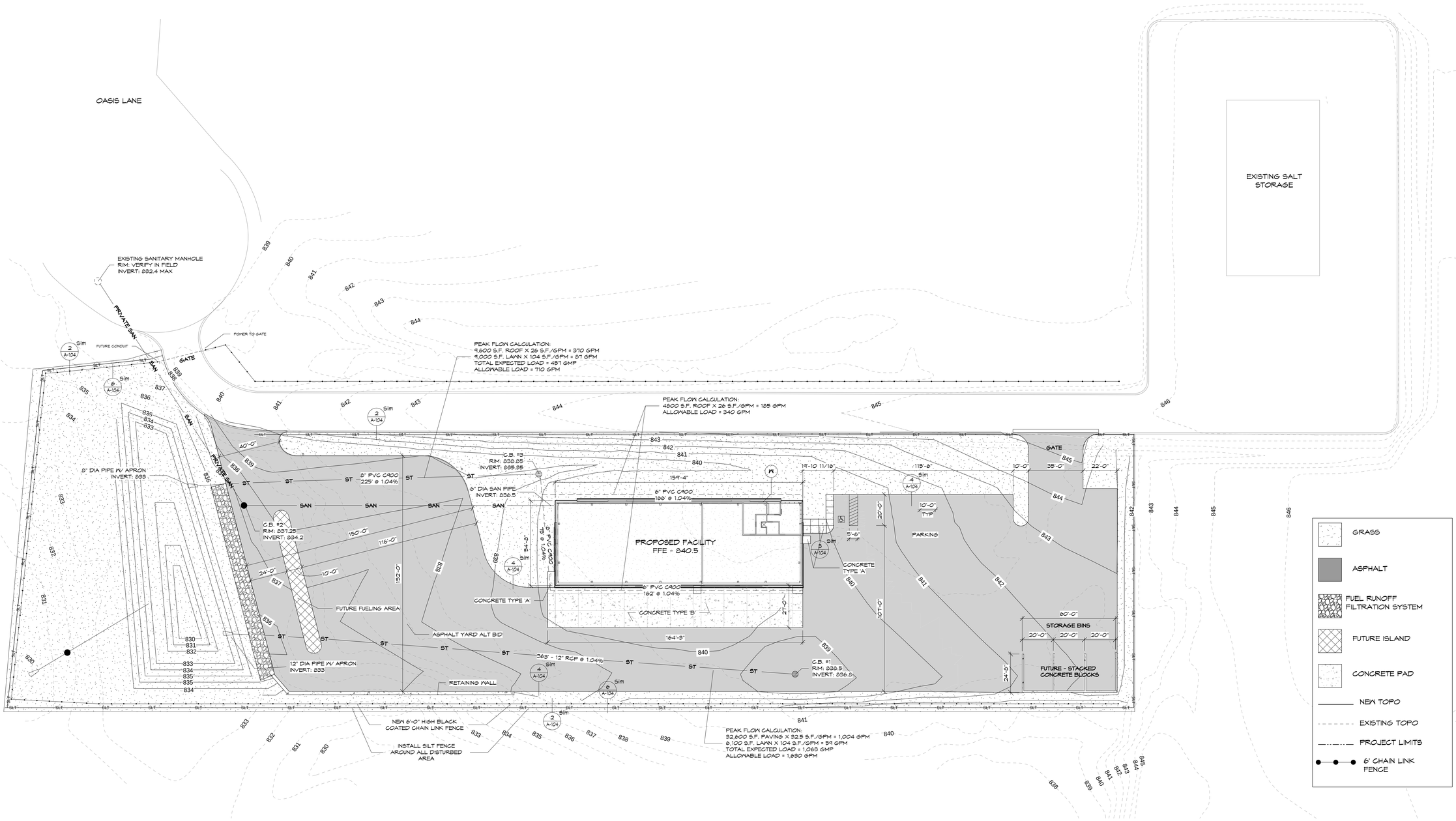
March 22, 2016

A-101



1 Lake Mills Site
1" = 30'-0"

NOTE

SEE SHEET A-104 FOR SITE PLAN DETAILS

PLAN NORTH
SCALE: As indicated

Lake Mills Site

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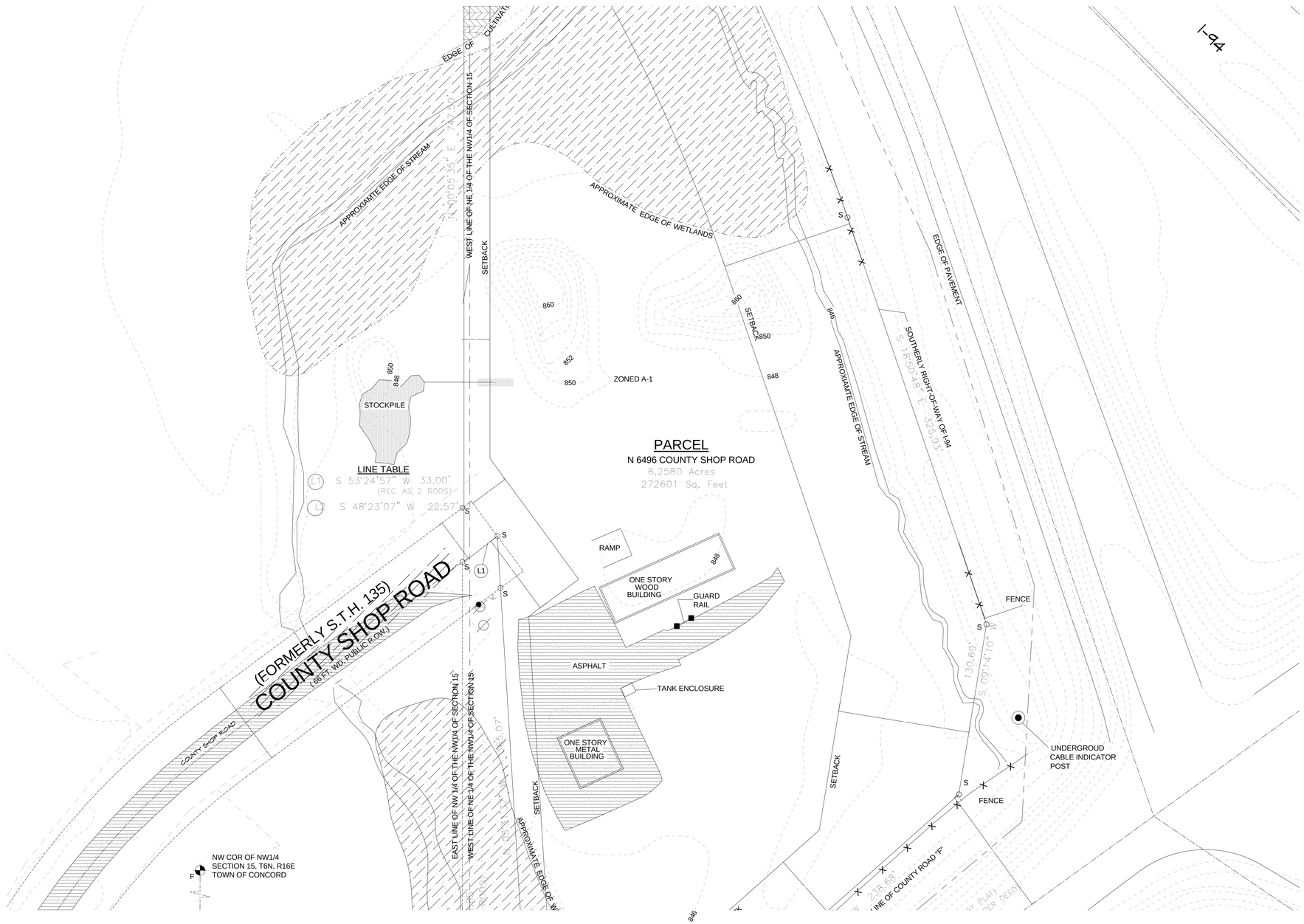

PLAN NORTH
SCALE: 1" = 40'-0"

Concord Existing Site

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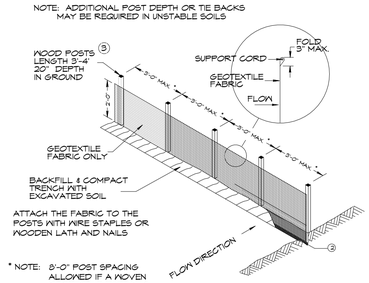
March 22, 2016

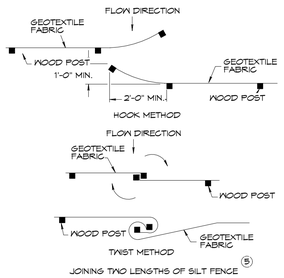
A-103

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS



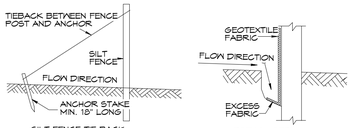
* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE



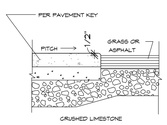
GENERAL NOTES

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1" X 1" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



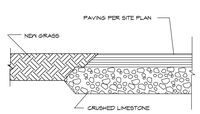
SILT FENCE

2 Silt Fence Details
3/4" = 1'-0"



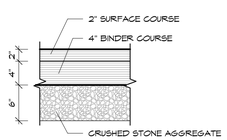
Asphalt @ Concrete

3 Asphalt @ Concrete - Typ.
3/4" = 1'-0"

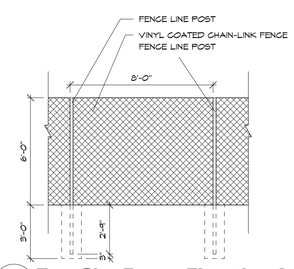


Asphalt @ Topsoil

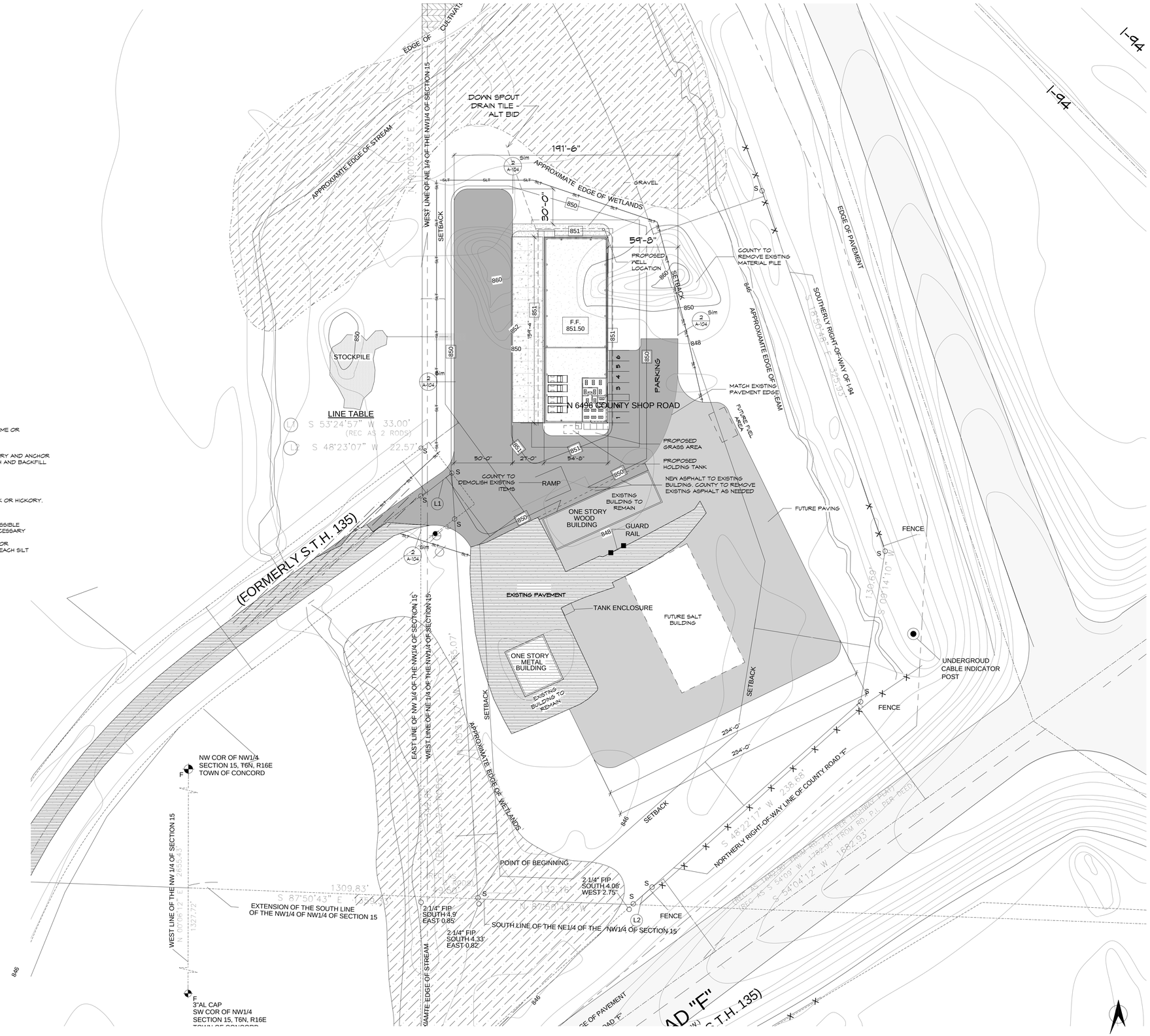
4 Asphalt @ Topsoil - Typ.
3/4" = 1'-0"



5 Typ. Site Asphalt
1" = 1'-0"



6 Typ. Site Fence- Elevation 1
1/4" = 1'-0"



N6469 County Shop Road, Concord, WI 53066

Concord Site

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PLAN NORTH
SCALE: As indicated

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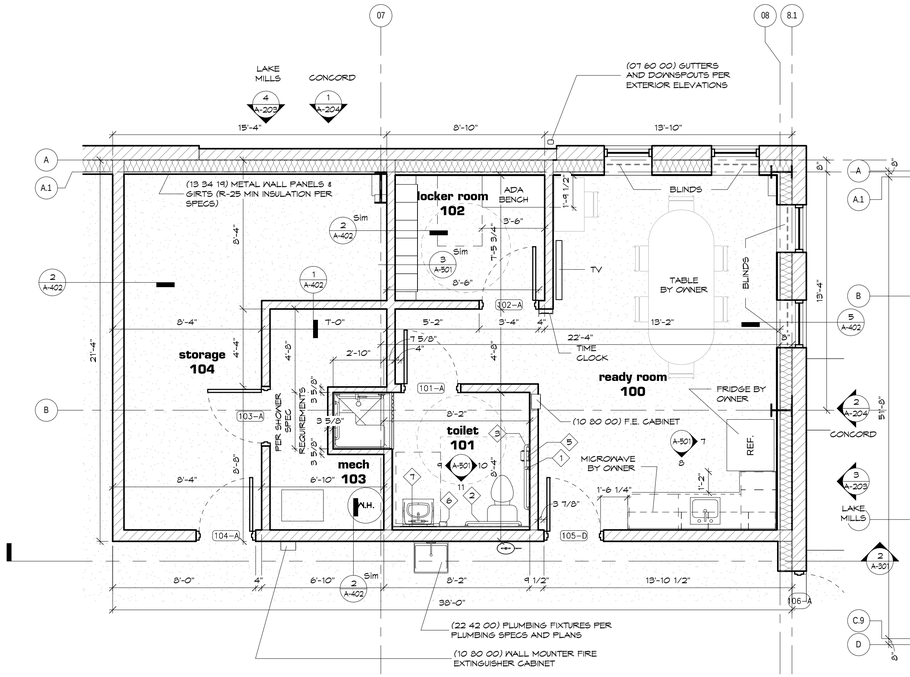
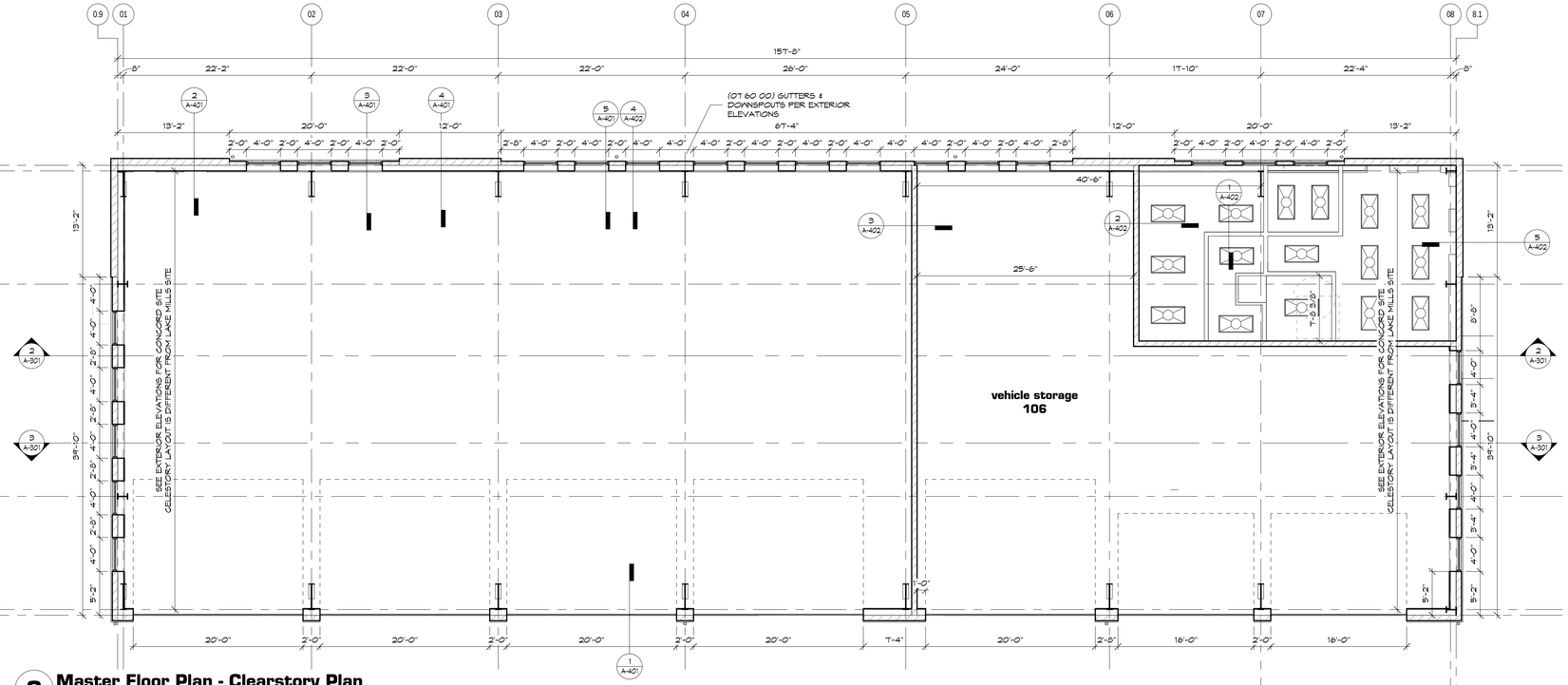


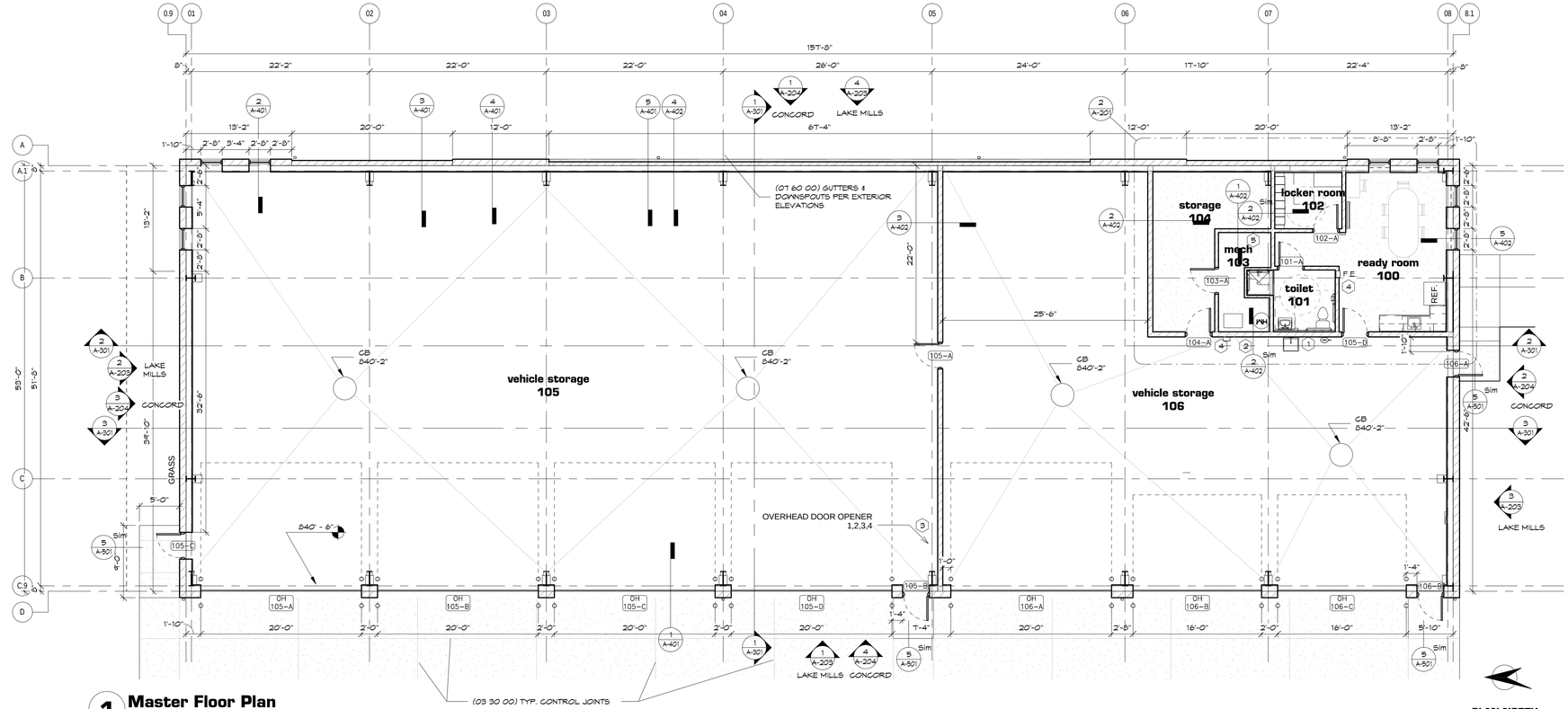
2 Break Area Plan1
1/4" = 1'-0"



3 Master Floor Plan - Clearstory Plan
1/8" = 1'-0"

#	SPECIALTY EQUIPMENT SCHEDULE	
MARK	DESCRIPTION	COUNT
1	18" Heavy-Duty Grab Bar	1
2	36" Heavy Duty Grab Bar	1
3	42" Heavy-Duty Grab Bar	1
5	Standard Toilet Tissue Dispenser (By Owner)	1
6	Soap Dispenser (By Owner)	1
7	Mirror - 24" x 36"	1

#	SHEET INDEX
MARK	DESCRIPTION
1	1-1/2" WATER
2	AIR
3	GARAGE DOOR CONTROL 1,2,3,4
4	FIRE EXTINGUISHER
5	CABLE PROVIDER



1 Master Floor Plan
1/8" = 1'-0"

Floor Plan

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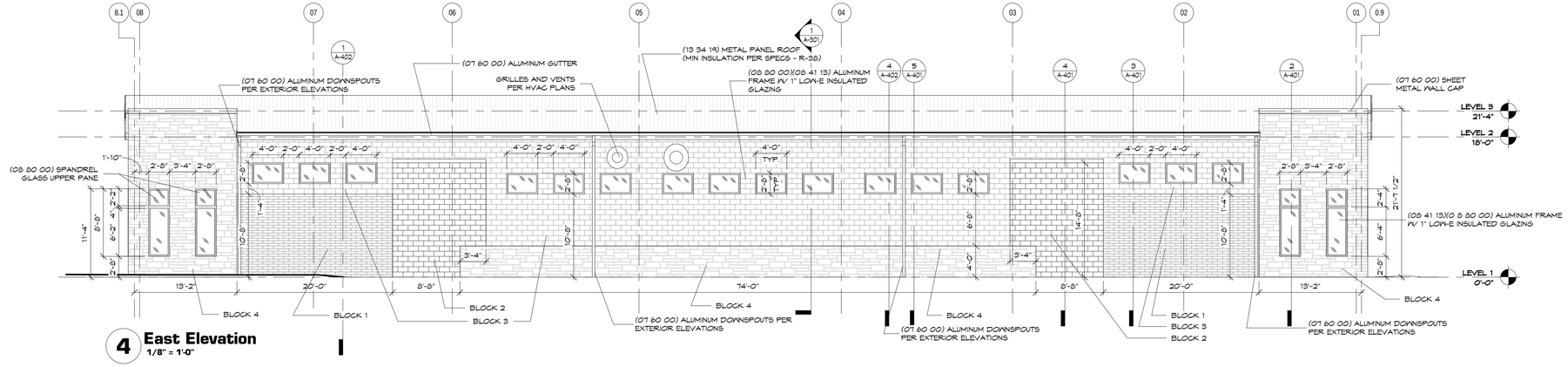
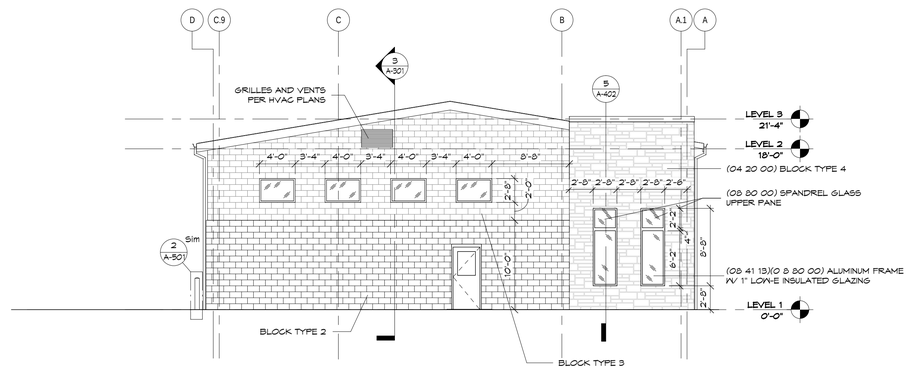
PLAN NORTH
Not To Scale

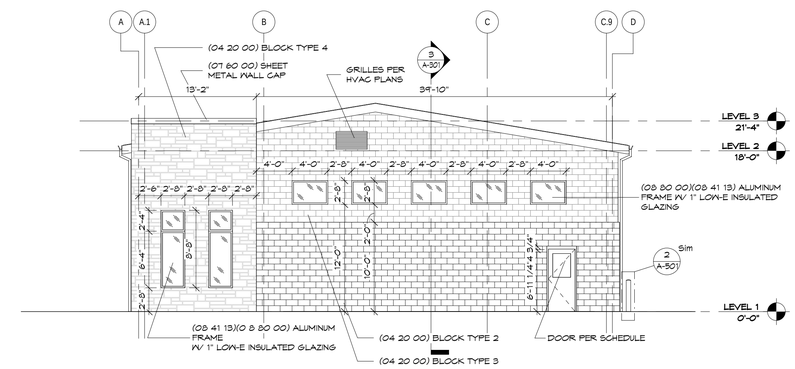
A-201



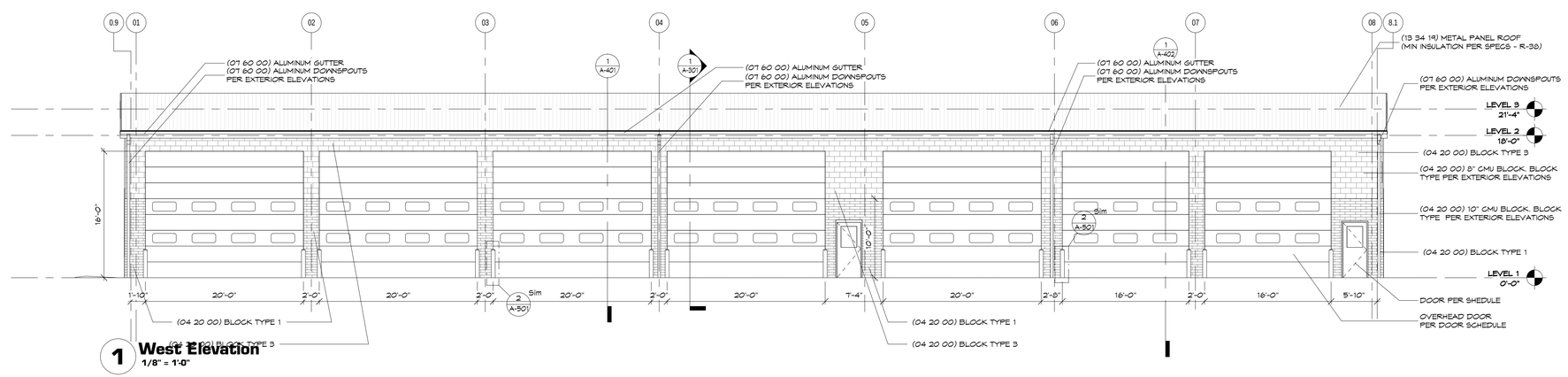
4 East Elevation
1/8" = 1'-0"



3 South Elevation
1/8" = 1'-0"



2 North Elevation
1/8" = 1'-0"



1 West Elevation
1/8" = 1'-0"

Exterior Elevations - Lake Mills Site

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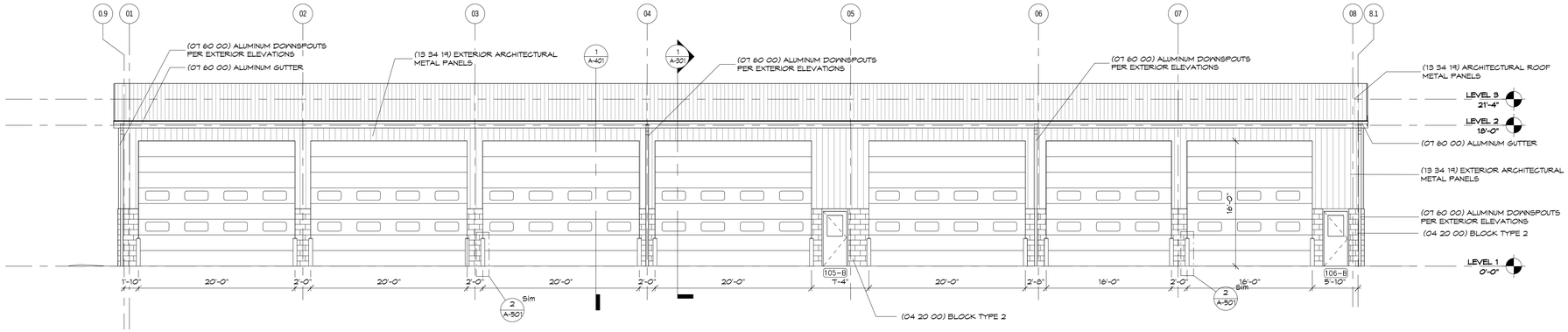
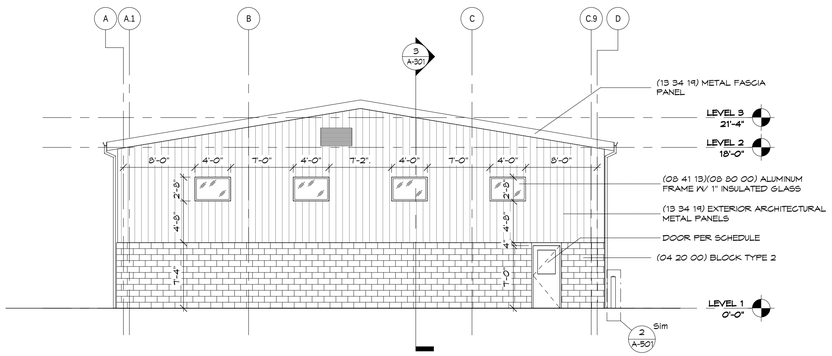
SCALE: 1/8" = 1'-0"

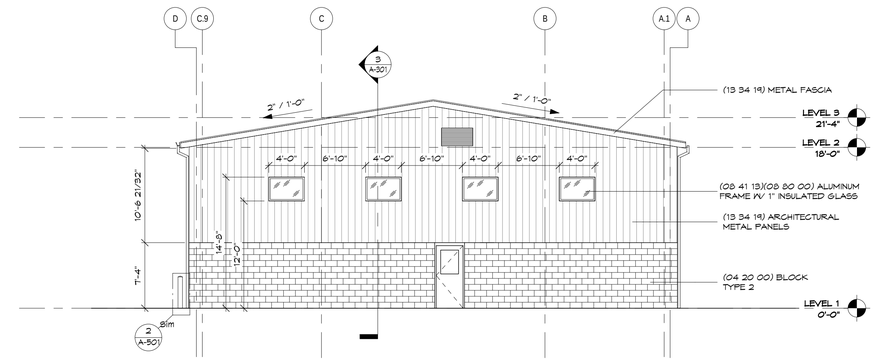
A-203



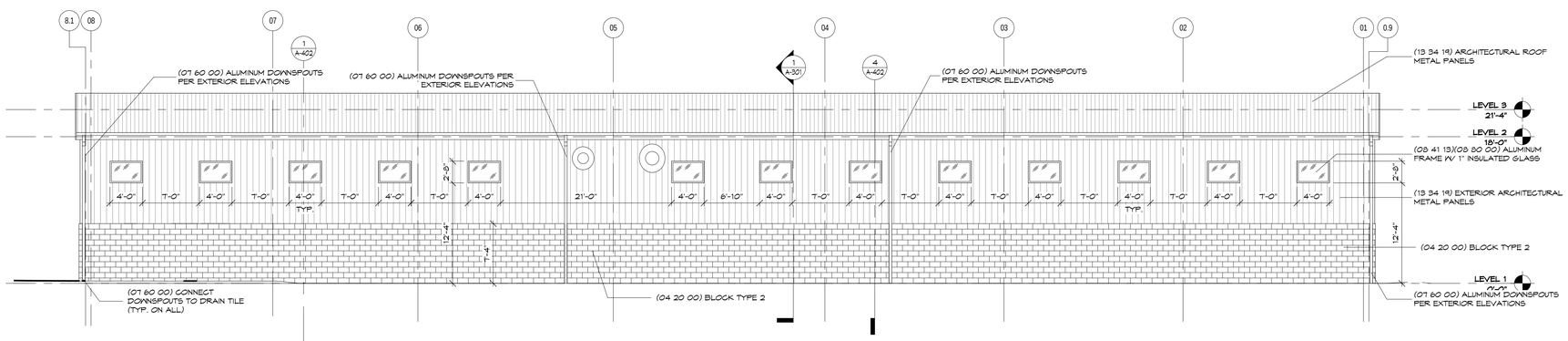
4 West Elevation - Concord Site
1/8" = 1'-0"



3 North Elevation - Concord Site
1/8" = 1'-0"



2 South Elevation - Concord Site
1/8" = 1'-0"



1 East Elevation - Concord Site
1/8" = 1'-0"

Exterior Elevations- Concord Site

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

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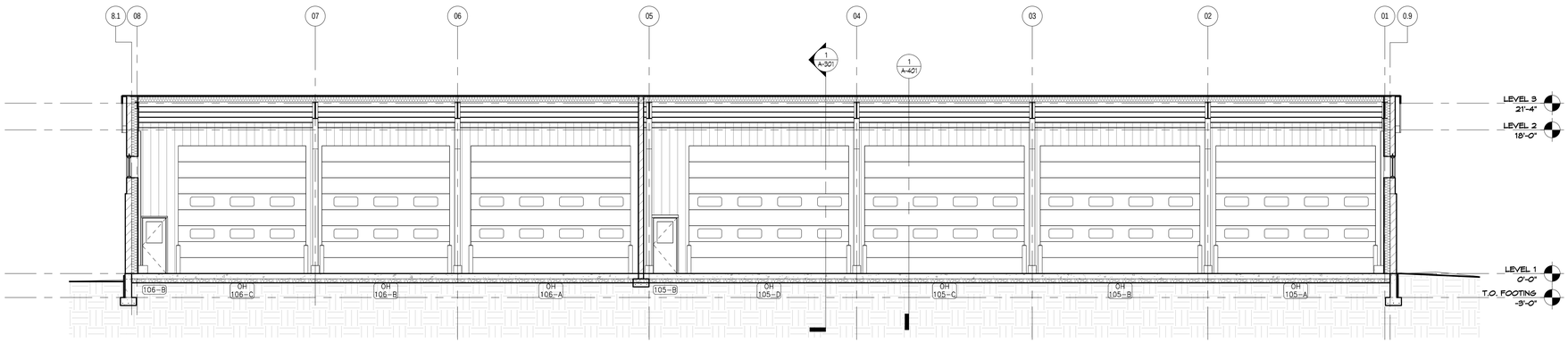
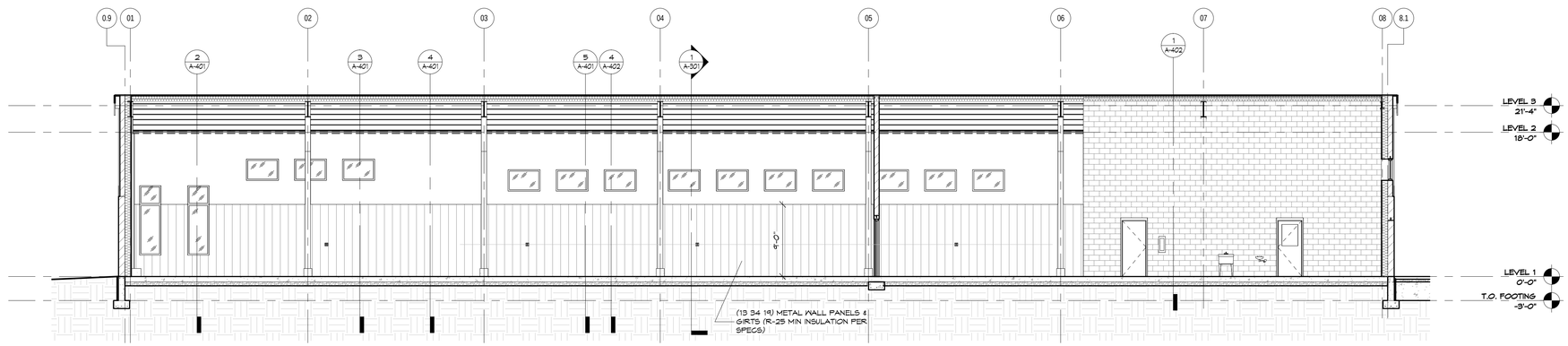
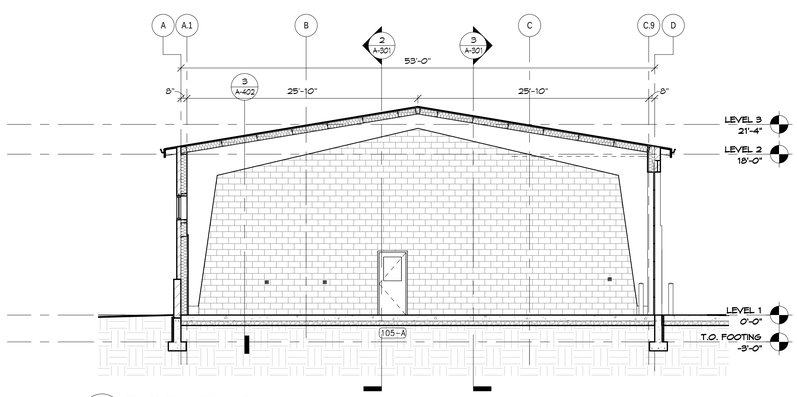


3 **Building Section**
1/8" = 1'-0"



2 **Building Section.**
1/8" = 1'-0"



1 **Building Section**
1/8" = 1'-0"

Building Section

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

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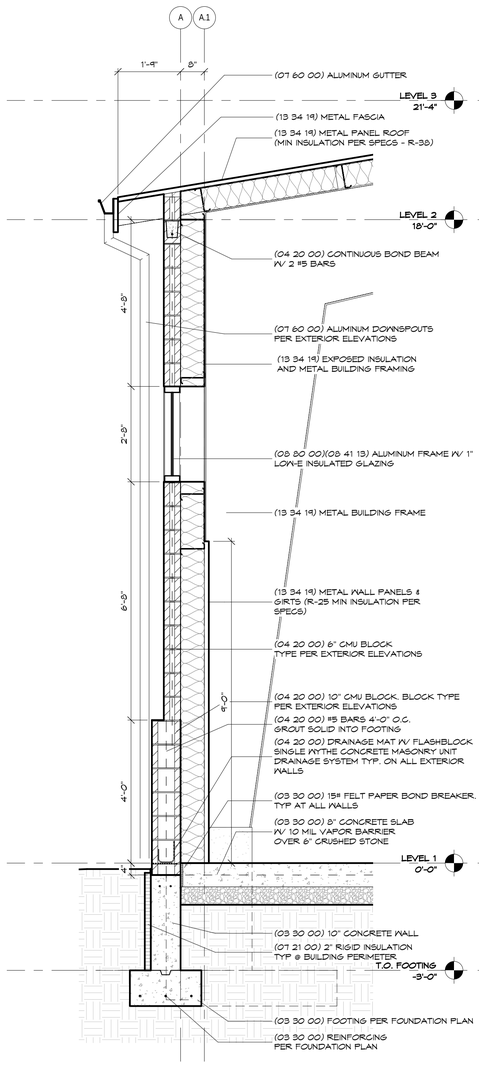
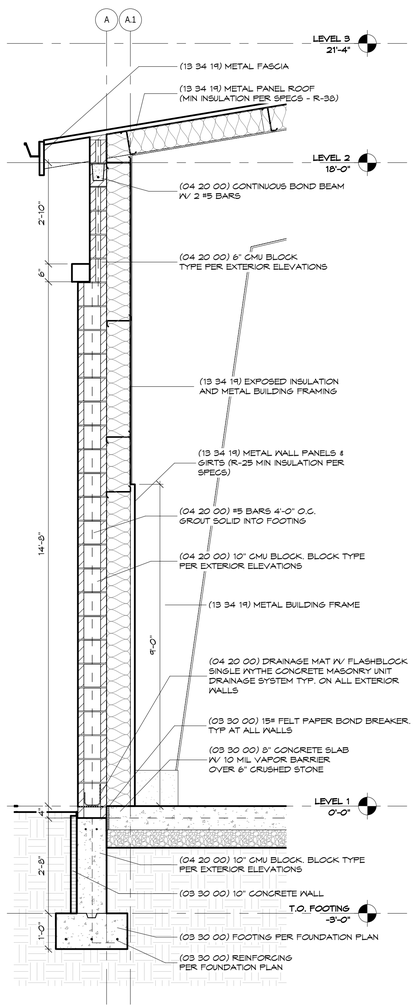
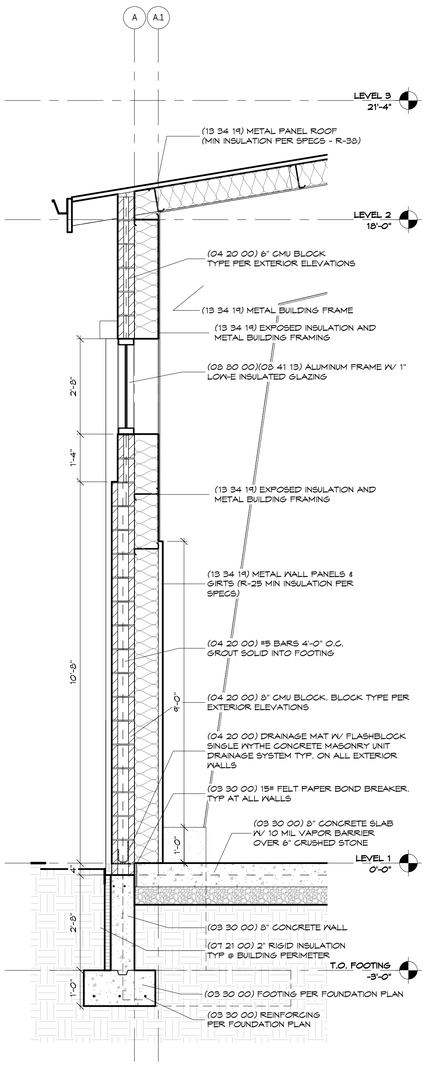


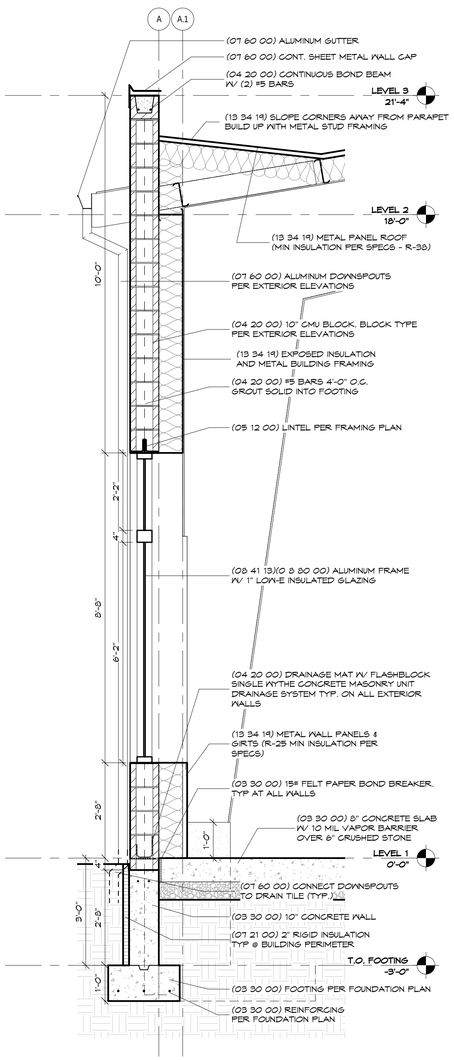
5 **Wall Section**
1/2" = 1'-0"



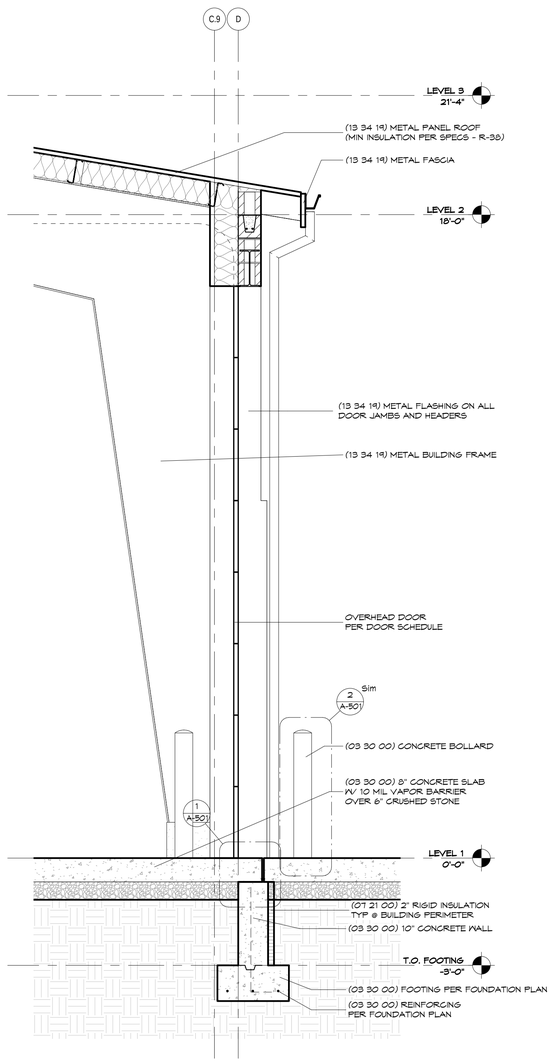
4 **Wall Section**
1/2" = 1'-0"



3 **Wall Section**
1/2" = 1'-0"



2 **Wall Section**
1/2" = 1'-0"



1 **Wall Section**
1/2" = 1'-0"

Wall Sections

SCALE: 1/2" = 1'-0"

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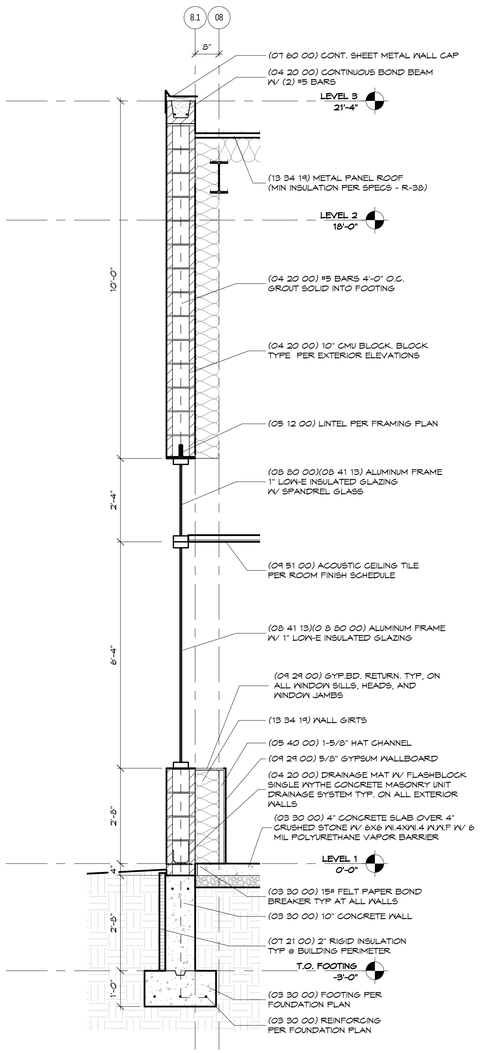
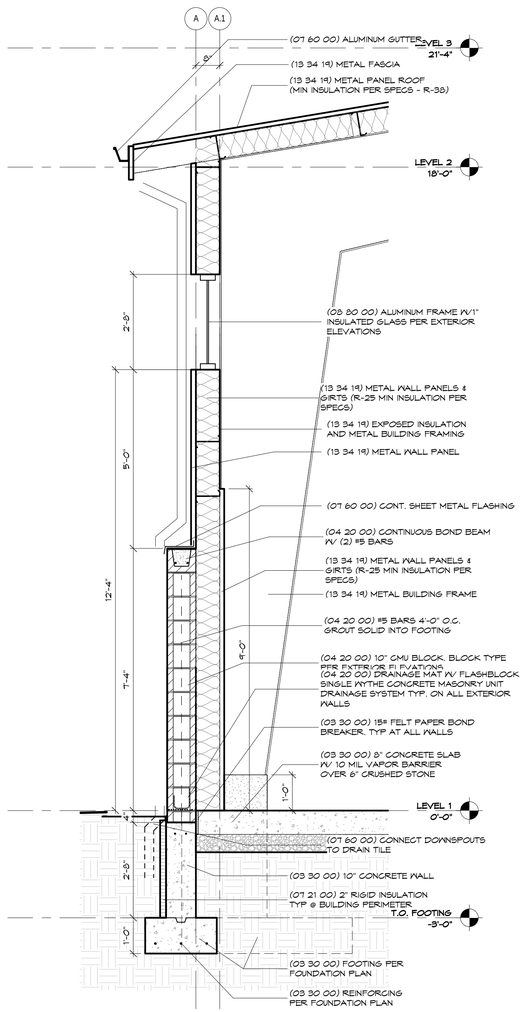
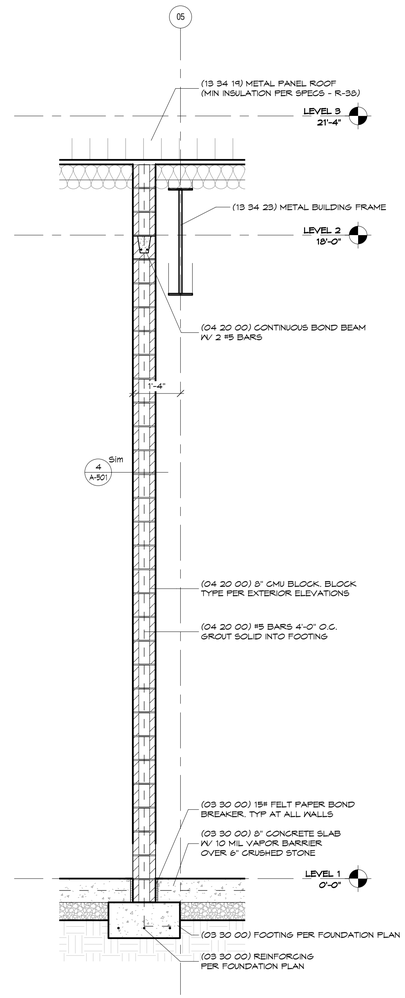
A-401



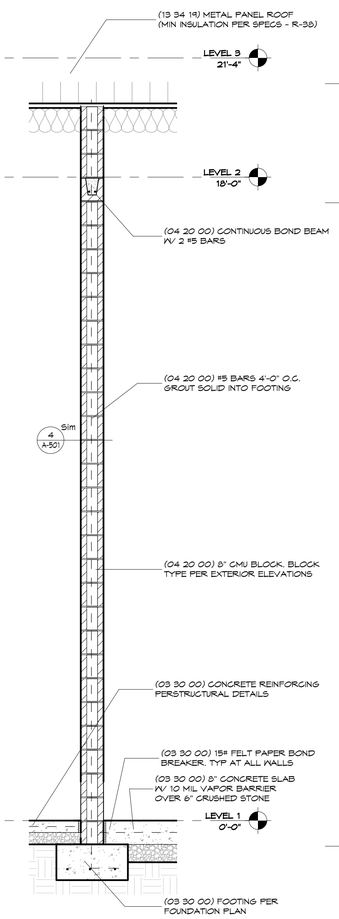
5 Wall Section
1/2" = 1'-0"



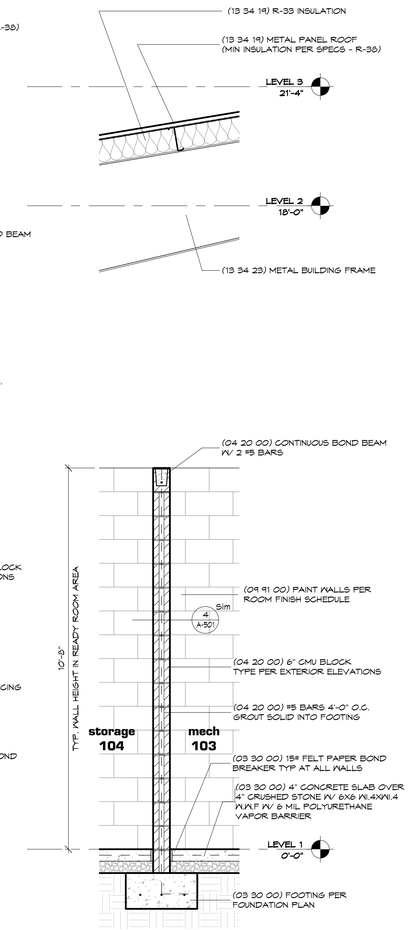
4 Concord Wall Section - Typ
1/2" = 1'-0"



3 Wall Section
1/2" = 1'-0"



2 Wall Section
1/2" = 1'-0"



1 Wall Section
1/2" = 1'-0"

Wall Sections

SCALE: 1/2" = 1'-0"

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March 22, 2016

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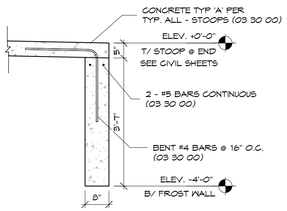
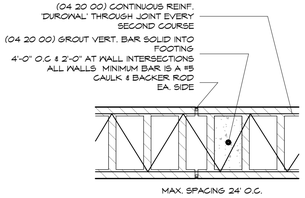
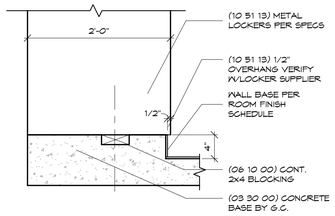


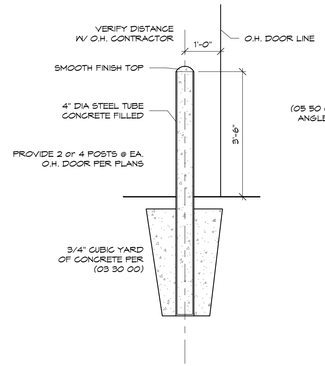
5 Stoop Frost Wall
1/2" = 1'-0"



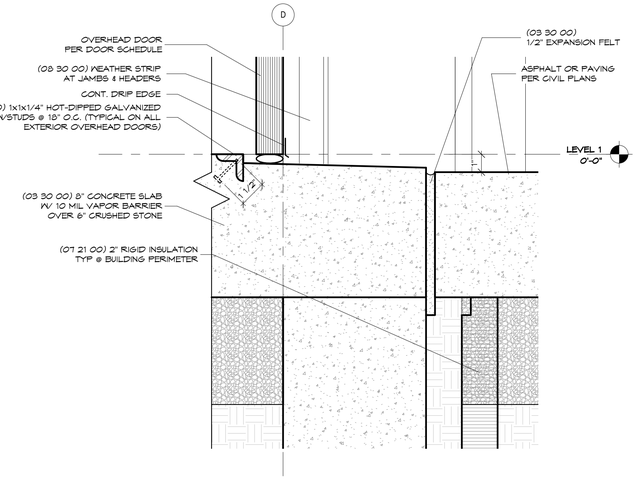
4 Masonry Control Joint
1 1/2" = 1'-0"



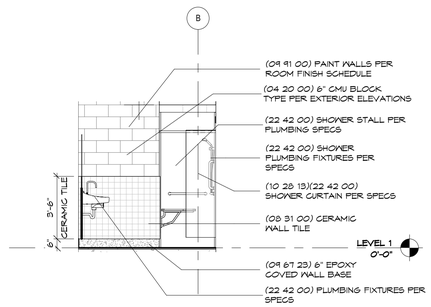
3 Locker Base
1" = 1'-0"



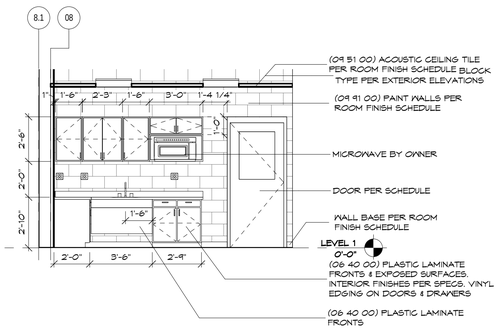
2 Bollard
1/2" = 1'-0"



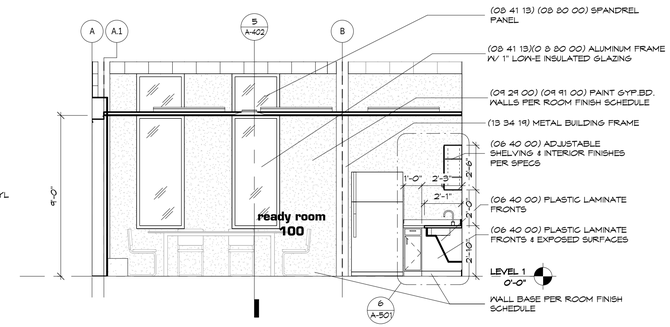
1 OH Door Threshold
3" = 1'-0"



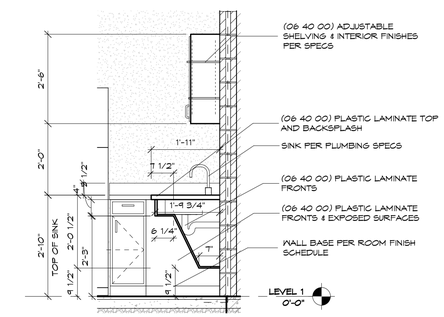
9 Toilet Room Elevation
1/4" = 1'-0"



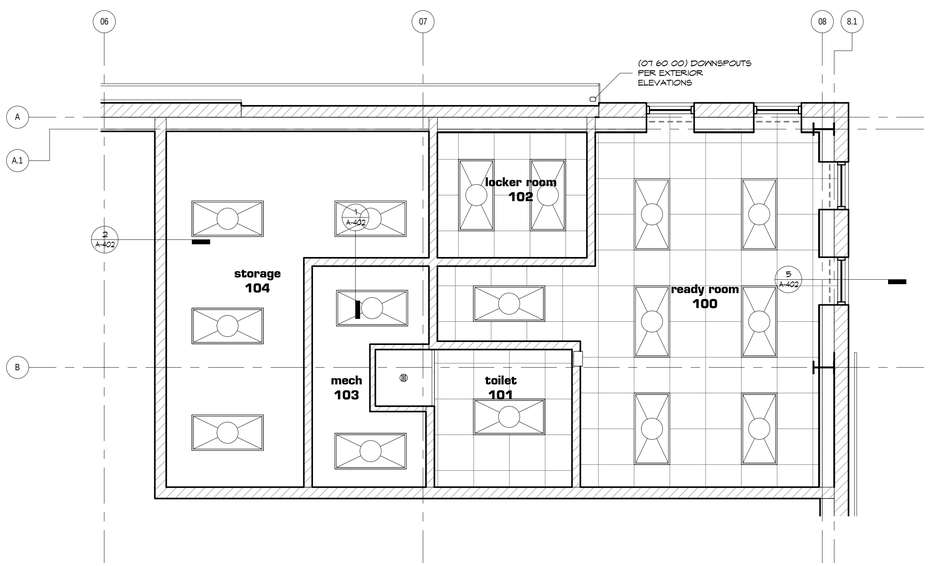
8 Ready Room - Kitchen - West
1/4" = 1'-0"



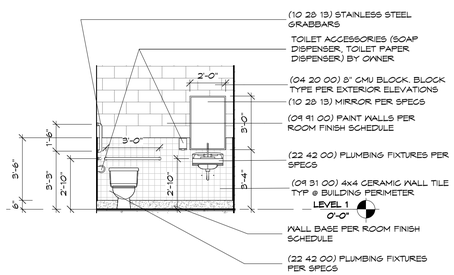
7 Interior Elevation
1/4" = 1'-0"



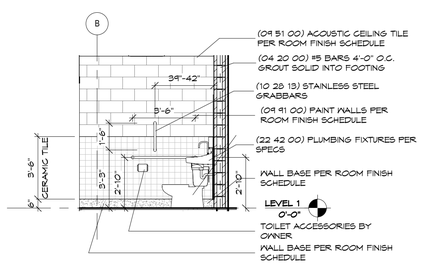
6 Ready Room 100 - ADA Sink Detail
1/2" = 1'-0"



12 Break Area Ceiling Plan
1/4" = 1'-0"



11 Toilet Room Elevation
1/4" = 1'-0"



10 Toilet Room Elevation
1/4" = 1'-0"

Break Area Ceiling Plan, Interior Elevations and Details

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Lake Mills Site & Concord Site
March 22, 2016

SCALE: As indicated

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ROOM MATERIAL SCHEDULE

				WALL FINISH				CEILING		
NUMBER	NAME	FLOOR TYPE	BASE	NORTH	SOUTH	EAST	WEST	TYPE	HEIGHT	REMARKS
100	ready room	Epoxy	4" Epoxy	CMU-1	GB-W1 / GL-2	GB-W1 / GL-2	CMU-1	ACT-1	9'-0"	
101	toilet	Epoxy	6" Epoxy	CMU-1 / CT	CMU-1 / CT	CMU-1 / CT	CMU-1 / CT	ACT-2	8'-0"	Ceiling tiles to have lock down clips / CT per interior elevations
102	locker room	Epoxy	6" Epoxy	CMU-1	CMU-1	GB-W1	CMU-1	ACT-1	9'-0"	
103	mech	Epoxy	4" Epoxy	CMU-1	CMU-1	CMU-1	CMU-1	Steel Deck	21'-0"	
104	storage	Epoxy	4" Epoxy	CMU-1	CMU-1	GB-W1	CMU-1	Steel Deck	21'-0"	
105	vehicle storage	Concrete	-	CMU-1 / GL-2	CMU-1	CMU-1 / GL-2	CMU-1 / GL-2	Steel Deck	21'-0"	
106	vehicle storage	Concrete	-	CMU-1	CMU-1	CMU-1 / GL-2	CMU-1 / GL-2	Steel Deck	21'-0"	

PAINT SCHEDULE

ROOM			WALLS							
NUM	NAME	FLOOR	NORTH	SOUTH	EAST	WEST	CEILING	METAL	WOOD	REMARKS
100	ready room	Epoxy	Latex-S	Latex-S	Latex-S	Latex-S	-	Enamel	Varnish	-
101	toilet	Epoxy	Latex-SG	Latex-SG	Latex-SG	Latex-SG	-	Enamel	Varnish	Latex-SG on Gyp.Bd. ceiling over shower Stall
102	locker room	Epoxy	Latex-S	Latex-S	Latex-S	Latex-S	-	Enamel	Varnish	-
103	mech	Epoxy	Epoxy	Epoxy	Epoxy	Epoxy	Dryfall	Enamel	Varnish	-
104	storage	Epoxy	Epoxy	Epoxy	Epoxy	Epoxy	Dryfall	Enamel	Varnish	-
105	vehicle storage	Densifier	Epoxy	Epoxy	Epoxy	Epoxy	Dryfall	Enamel	Varnish	-
106	vehicle storage	Densifier	Epoxy	Epoxy	Epoxy	Epoxy	Dryfall	Enamel	Varnish	-

DOOR SCHEDULE

	FROM ROOM		TO ROOM			DOOR								FRAME			
MARK	NUM	NAME	NUM	NAME	LABEL	TYPE	MATERIAL	SWING	WIDTH	HEIGHT	THICKNESS	LOUVER	GLASS	TYPE	MATERIAL	GLASS	REMARKS
101-A	100	ready room	101	toilet	-	F	HM	RHR	3' - 0"	7' - 0"	1 3/4"	-	-	B	HM	-	-
102-A	100	ready room	102	locker room	-	F	HM	RH	3' - 0"	7' - 0"	1 3/4"	-	-	B	HM	-	-
103-A	104	storage	103	mech	-	F	HM	LHR	3' - 0"	7' - 0"	1 3/4"	-	-	B	HM	-	-
104-A	106	vehicle storage	104	storage	-	F	HM	RH	3' - 0"	7' - 0"	1 3/4"	-	-	B	HM	-	-
105-A	106	vehicle storage	105	vehicle storage	-	HG	HM	RH	3' - 0"	7' - 0"	1 3/4"	-	X	A	HM	-	4" Header
105-B	-	exterior	105	vehicle storage	-	HG	HM	RHR	3' - 0"	7' - 0"	1 3/4"	-	1" Insulated	B	HM	-	-
105-C	-	exterior	105	vehicle storage	-	HG	HM	LHR	3' - 0"	7' - 0"	1 3/4"	-	1" Insulated	B	HM	-	-
105-D	106	vehicle storage	100	ready room	-	HG	HM	LH	3' - 0"	7' - 0"	1 3/4"	-	1" Insulated	B	HM	-	-
106-A	-	exterior	106	vehicle storage	-	HG	HM	LHR	3' - 0"	7' - 0"	1 3/4"	-	1" Insulated	B	HM	-	4" Header
106-B	-	exterior	106	vehicle storage	-	HG	HM	RHR	3' - 0"	7' - 0"	1 3/4"	-	1" Insulated	A	HM	-	4" Header

HARDWARE SCHEDULE

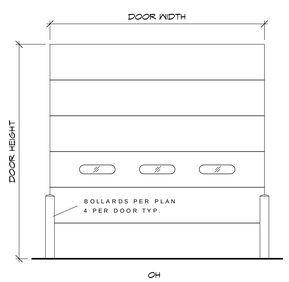
MARK	LOCKSET	PUSH-PULL	HOLD OPEN	CLOSER	HINGE	DOOR STOP	THRESHOLD	WEATHERSTRIP	KICKPLATE	SOUNDSTOP	NAMEPLATE	NOTES
101-A	Privacy	-	-	X	B.B.	X	-	-	X	X	UNISEX	-
102-A	Privacy	-	-	X	B.B.	X	-	-	X	X	LOCKER	-
103-A	Storage	-	X	-	X	-	-	-	X	-	MECHANICAL ROOM	-
104-A	Storage	-	X	-	X	X	-	-	X	-	STORAGE	-
105-A	Entrance	-	-	X	B.B.	-	-	-	X	-	-	-
105-B	Entrance	-	-	X	B.B.	-	X	X	X	-	-	-
105-C	Entrance	-	-	X	B.B.	-	X	X	X	-	-	-
105-D	Entrance	-	-	X	B.B.	-	X	X	X	-	-	-
106-A	Entrance	-	-	X	B.B.	-	X	X	X	-	-	-
106-B	Entrance	-	-	X	B.B.	-	X	X	X	-	-	-

SPECIAL DOOR SCHEDULE

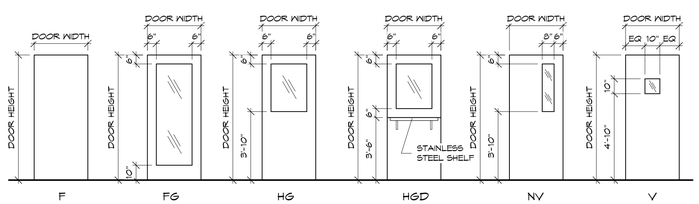
	FROM ROOM		TO ROOM						
MARK	NUM	NAME	NUM	NAME	Door Panel Type	Width	Height	R-Value	Remarks
OH 105-A	-	exterior	105	vehicle storage	OH	20' - 0"	16' - 0"	18	
OH 105-B	-	exterior	105	vehicle storage	OH	20' - 0"	16' - 0"	18	
OH 105-C	-	exterior	105	vehicle storage	OH	20' - 0"	16' - 0"	18	
OH 105-D	-	exterior	105	vehicle storage	OH	20' - 0"	16' - 0"	18	
OH 106-A	-	exterior	106	vehicle storage	OH	20' - 0"	16' - 0"	18	
OH 106-B	-	exterior	106	vehicle storage	OH	16' - 0"	16' - 0"	18	
OH 106-C	-	exterior	106	vehicle storage	OH	16' - 0"	16' - 0"	18	

MATERIAL KEY

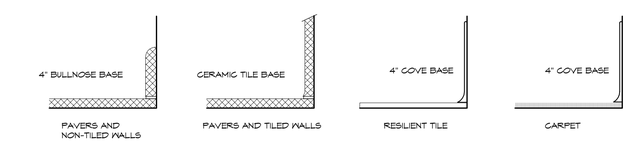
CODE	ITEM	DESCRIPTION
CEILING TYPE		
ACT-1	Acoustical Ceiling Tile	2x2 Acoustical Ceiling Panels (or 2x4 panels with 2x2 appearance)
ACT-2	Acoustical Ceiling Tile	2x2 Vinyl Faced Gypsum Panels
FLOOR TYPE		
CONC	Concrete	Sealed Concrete
CPT-1	Carpet	Carpet Tile
ECB	Epoxy	6" Epoxy Cove Base
EPOXY	Epoxy	Epoxy Resin Flooring
VB	Vinyl Base	4" Vinyl Base
PAINT SCHEDULE KEY		
EPOXY	PAINT	Epoxy Paint
LATEX-E	PAINT	Latex Wall Paint - Enamel
LATEX-S	PAINT	Latex Wall Paint - Satin Finish
WALL TYPE		
CMU	Concrete Masonry	Painted Concrete Masonry Unit
CT	Ceramic Tile	6x6 Ceramic Wall Tile
GL-1	Glass	3/8" Glass
GL-2	Glass	1" Insulated Glass
GWB1	Gypsum Wallboard	5/8" G.W.B. Taped and Finished on Stud Framing per Wall Type
GWB2	Gypsum Wallboard	5/8" Moisture & Mold Resistant Gypsum Wallboard Taped & Finished on Stud Framing per Wall Type
PC	Precast Concrete	Painted Precast Concrete



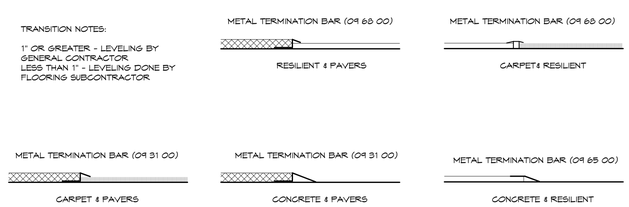
Typ. OH Door
1/4" = 1'-0"



Door Panel Types (Not all are in use)
1/4" = 1'-0"

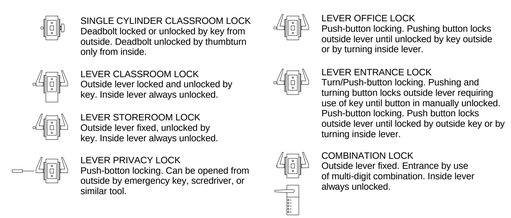


Base Details

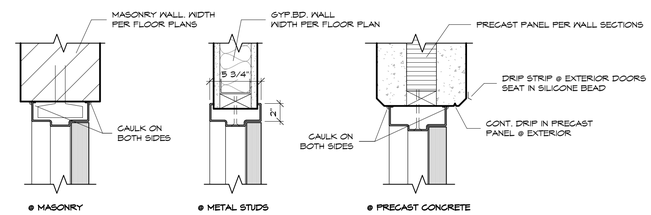


Flooring Transition Details

1 Flooring Details



LOCKSET TYPES



2 Door Frame Details
1 1/2" = 1'-0"

Room and Door Schedules

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Lake Mills Site & Concord Site
March 22, 2016

SCALE: As indicated

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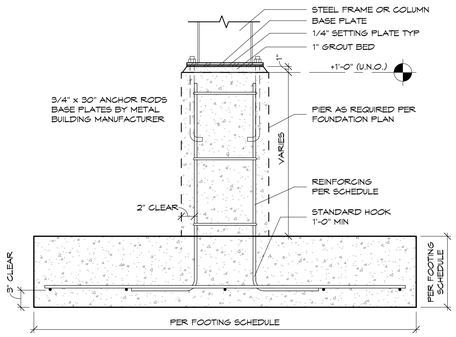
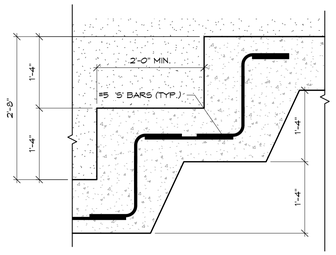
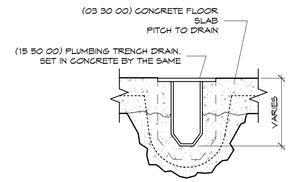


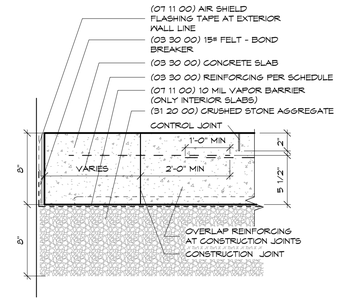
6 **Pad Footing - Typ.**
1" = 1'-0"



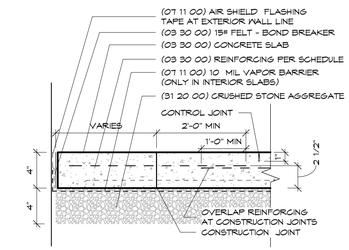
5 **Footing Step - Typ.**
3/4" = 1'-0"



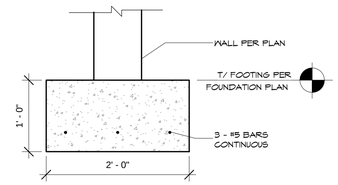
4 **Trench Drain**
1 1/2" = 1'-0"



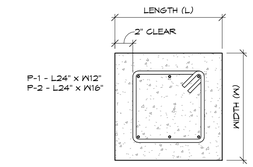
3 **Concrete Slab - Type B**
1 1/2" = 1'-0"



2 **Concrete Slab - Type A**
1 1/2" = 1'-0"



8 **Strip Footing - Typ.**
1" = 1'-0"



7 **Pier Reinforcing**
1 1/2" = 1'-0"

FOOTING SCHEDULE

MARK	SIZE	REINFORCING
F-1	4'-3" x 4'-3" x 1'-0"	5 - #5 BARS EACH WAY - T & B
F-2	6'-9" x 6'-9" x 1'-0"	7 - #5 BARS EACH WAY - T & B
F-3	7'-6" x 7'-6" x 1'-0"	6 - #6 BARS EACH WAY - T & B
ST-1	24" x 12"	3 - #5 BARS CONTINUOUS

PIER SCHEDULE

MARK	SIZE	REINFORCING
P-1	12 x 24	6 - #7 BARS VERTICAL W/ #3 TIES @ 14" O.C.
P-2	16 x 24	6 - #7 BARS VERTICAL W/ #3 TIES @ 14" O.C.

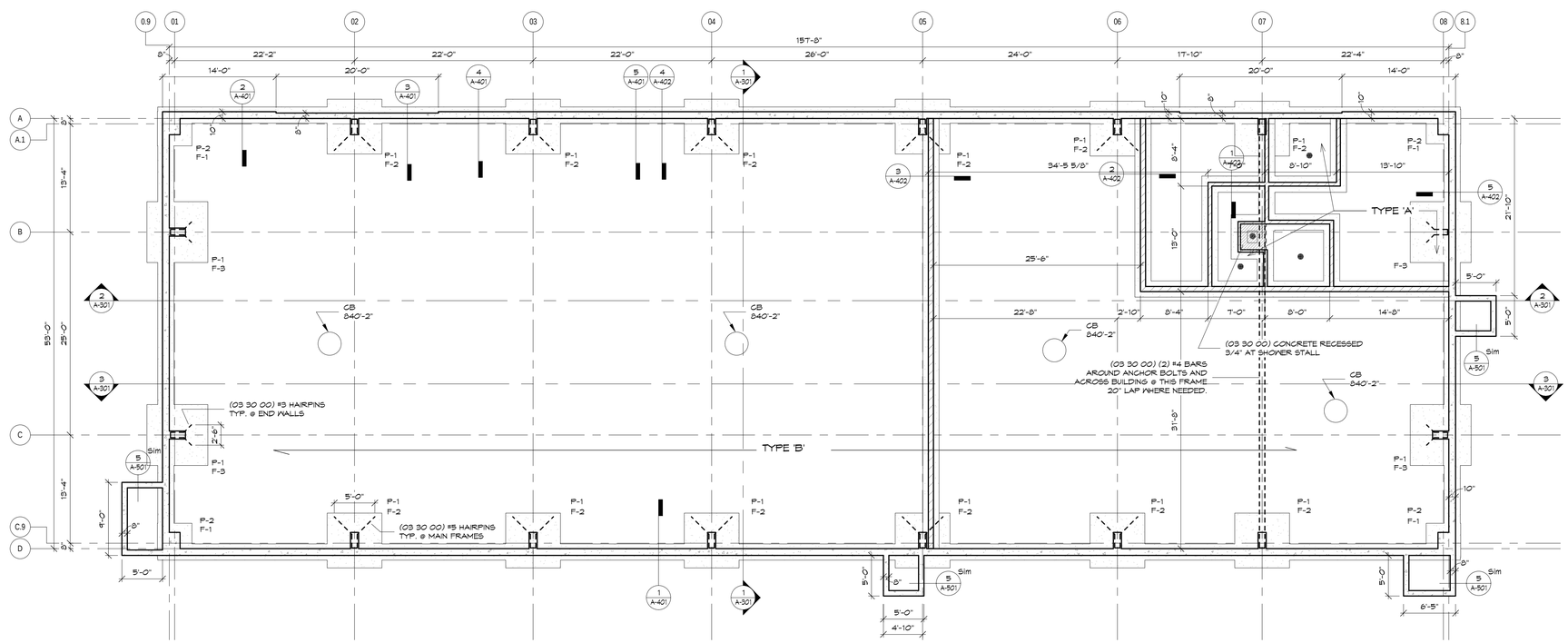
CONCRETE SLAB NOTES

CONCRETE TYPE "A"

4" CONCRETE SLAB - 6 x 6 W1.4 x W1.4 WWF
w/ 10 MIL POLYETHYLENE VAPOR BARRIER
OVER 4" COMPACTED CRUSHED STONE
(VAPOR BARRIER ONLY REQUIRED IN INTERIOR SLABS)

CONCRETE TYPE "B"

8" CONCRETE w/#3 EPOXY COATED REINF. @ 16" O.C. E.W.
'01' 6 x 6 W1.2 x W1.2 EPOXY COATED HIGHWAY MESH
w/ 10 MIL POLYETHYLYNE VAPOR BARRIER
OVER 8" COMPACTED LIMESTONE.
#5 EPOXY COATED BARS REQ @ EXPANSION JOINTS OR
END OF CONSTRUCTION JOINTS 16" O.C. 2'-0" LONG
(VAPOR BARRIER ONLY REQUIRED IN INTERIOR SLABS)



1 **Foundation Plan**
1/8" = 1'-0"

PLAN NORTH
SCALE: As indicated

Foundation Plan

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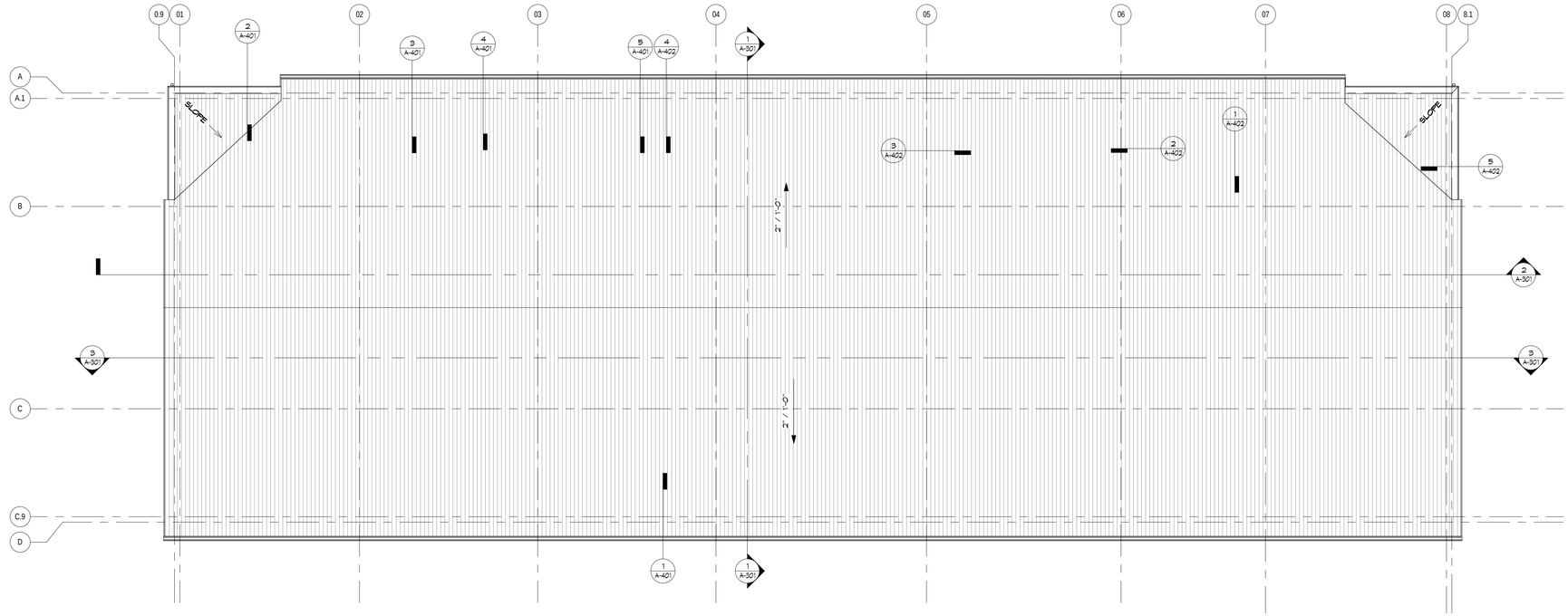


2 Roof Plan
1/8" = 1'-0"

STRUCTURAL LOADS

	CONCENTRATED LOAD			UNIFORM LOAD		
MARK	LL (k)	DL (k)	TL (k)	LL (plf)	DL (plf)	TL (plf)
0	0.0	0.0	0.0	0	0	0

(#) = LOAD TAG

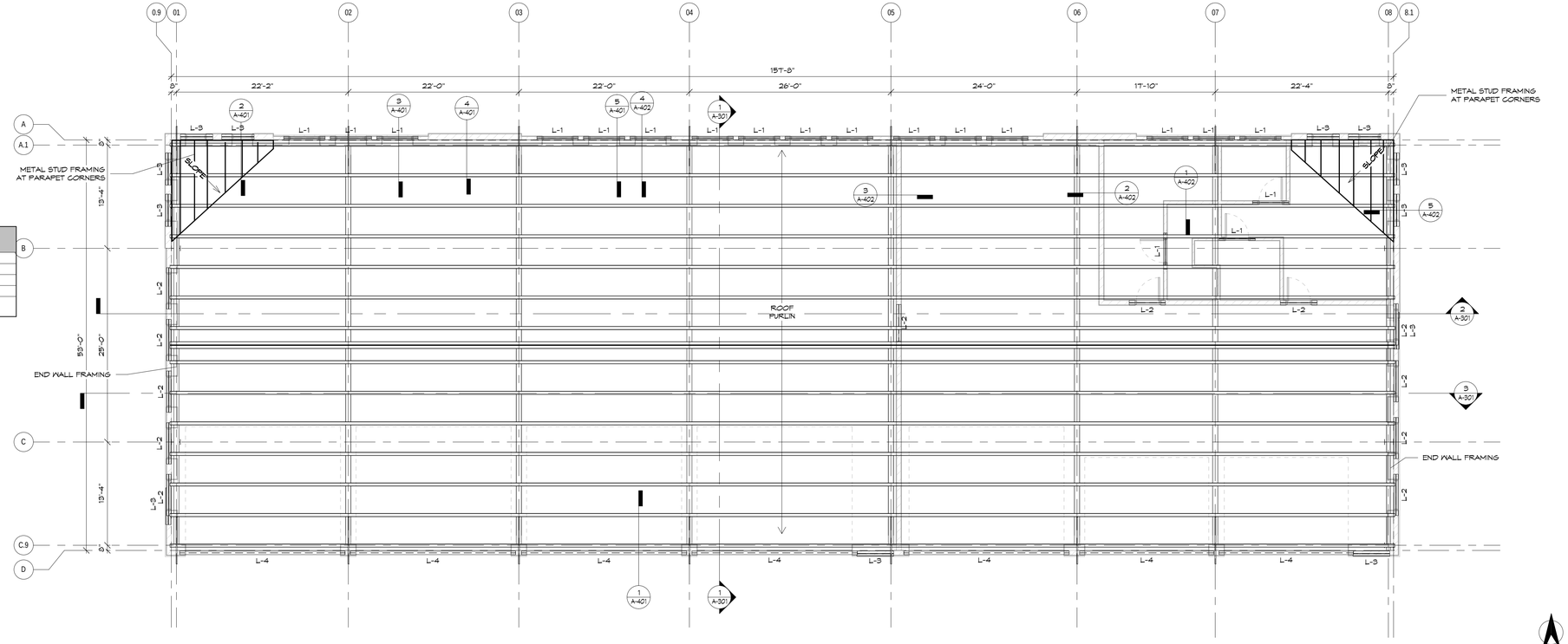
LINTEL SCHEDULE

MARK	TYPE	PLATE SIZE	REINFORCING AND END BEARING
L-1	2L2-1/2X2-1/2X1/4	-	GROUT 3 COURSES
L-2	2L3-1/2X3-1/2X1/4	-	GROUT 3 COURSES
L-3	2L4X4X1/4	-	GROUT 3 COURSES
L-4	W16X26	7" X 1/4"	7"X16"X1/4" BEARING PLATE W/ 4" STUDS GROUT (1) CORE TO FOOTING W/ #5 BAR

VERIFY LINTEL BEARING WITH PLAN --
16" SHARED BEARING AT SIDE BY SIDE OPENINGS

LINTEL REQUIRED AT DUCT/BLOCK PENETRATION
SIZED PER WALL THICKNESS
SEE HVAC SHEETS FOR LOCATIONS

LINTELS ON EXTERIOR WALLS REQUIRED AT LAKE MILLS SITE ONLY
FRAMING AT OPENINGS AT CONCORD SITE BY (13 34 14)



1 Roof Framing Plan
1/8" = 1'-0"

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

Roof and Framing Plan

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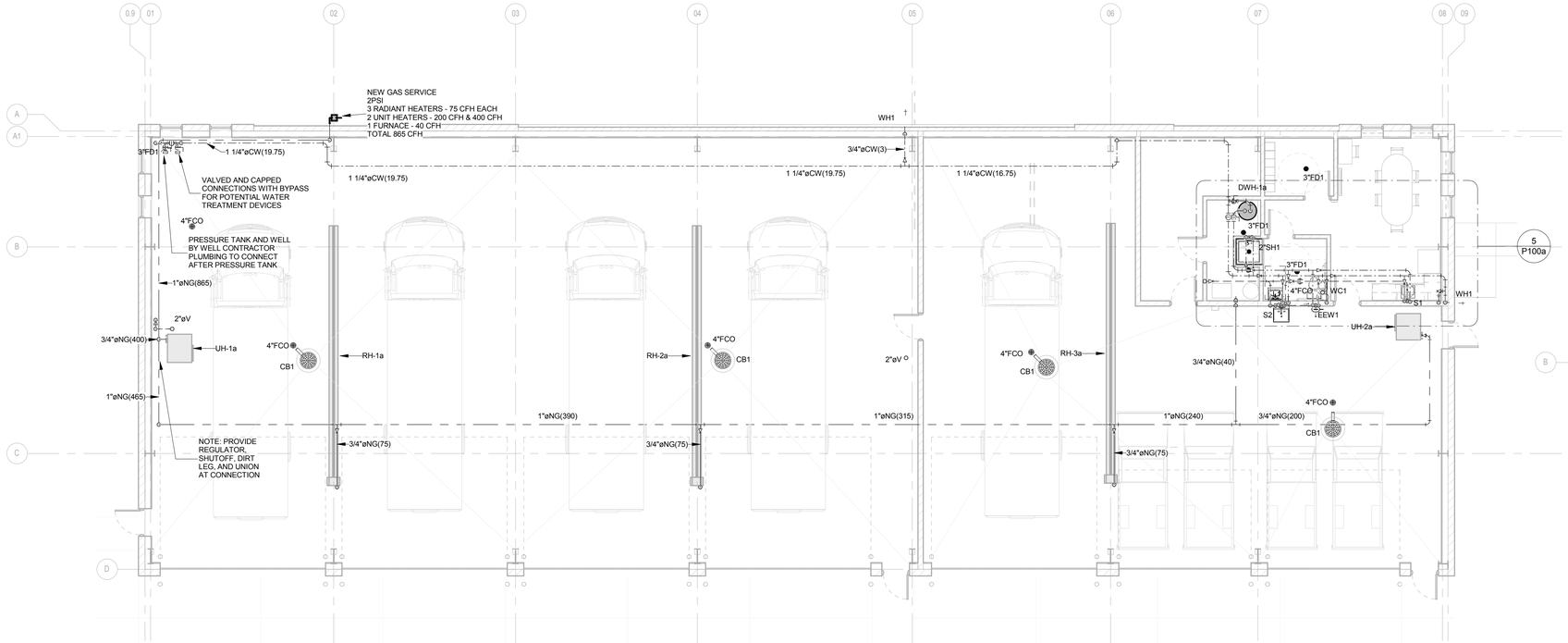
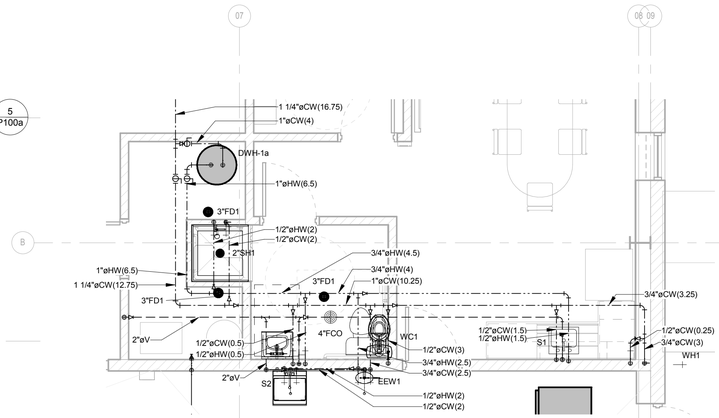
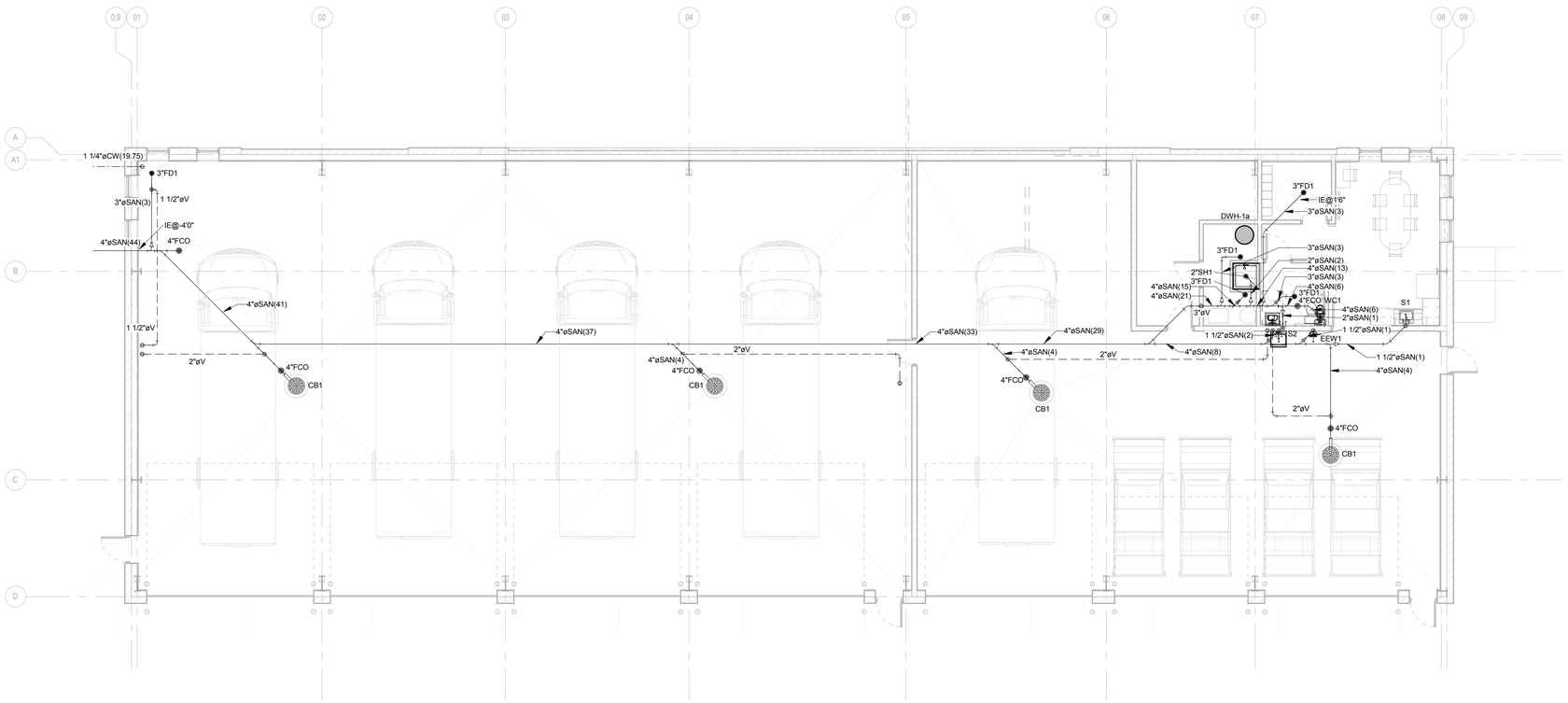


1 P100a Lake Mills Plumbing Above Ground Plan
SCALE: 1/8" = 1'-0"



5 P100a Lake Mills Plumbing Above Ground Detail
SCALE: 1/4" = 1'-0"



2 P100a Lake Mills Plumbing Underground Plan
SCALE: 1/8" = 1'-0"

PLUMBING SYMBOLS AND ABBREVIATIONS

CW	COLD DOMESTIC WATER
HW	HOT DOMESTIC SUPPLY
HWC	HOT DOMESTIC RETURN
CHW	COLD HARD WATER
V	VENT
NG	NATURAL GAS
	RISER DOWN
	RISER UP
	P-TRAP
	SHUTOFF VALVE
	CHECK VALVE
	BALANCING VALVE
SAN	SANITARY PIPE
ST	STORM PIPE
RPZBP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
CWW	CLEARWATER WASTE
CWV	CLEARWATER VENT
FCO	FLOOR CLEAN OUT
WCO	WALL CLEAN OUT
CWF	FILTERED COLD WATER
M	WATER METER
VTR	VENT THROUGH ROOF
	CONNECTION TO EXISTING
NPCW	NON-POTABLE COLD WATER
NPHW	NON-POTABLE HOT WATER

PIPE TAG NOMENCLATURE:

3" XSAN (21)
1 2 3 4

1 - PIPE SIZE

2 - MODIFIER (E.G. X-EXISTING, F-FILTERED, S-SOFT)

3 - SYSTEM TYPE (E.G. SAN - SANITARY, CW - COLD WATER, ETC.)

4 - QUANTITY OF FLOW,
SAN - DFU (DRAINAGE FIXTURE UNITS)
CW, HW - WSFU (WATER SERVICE FIXTURE UNITS)
STORM - GPM (GALLONS PER MINUTE)
GAS - CFH (CUBIC FEET PER HOUR)

PLAN NORTH
SCALE: As indicated

Plumbing Plans

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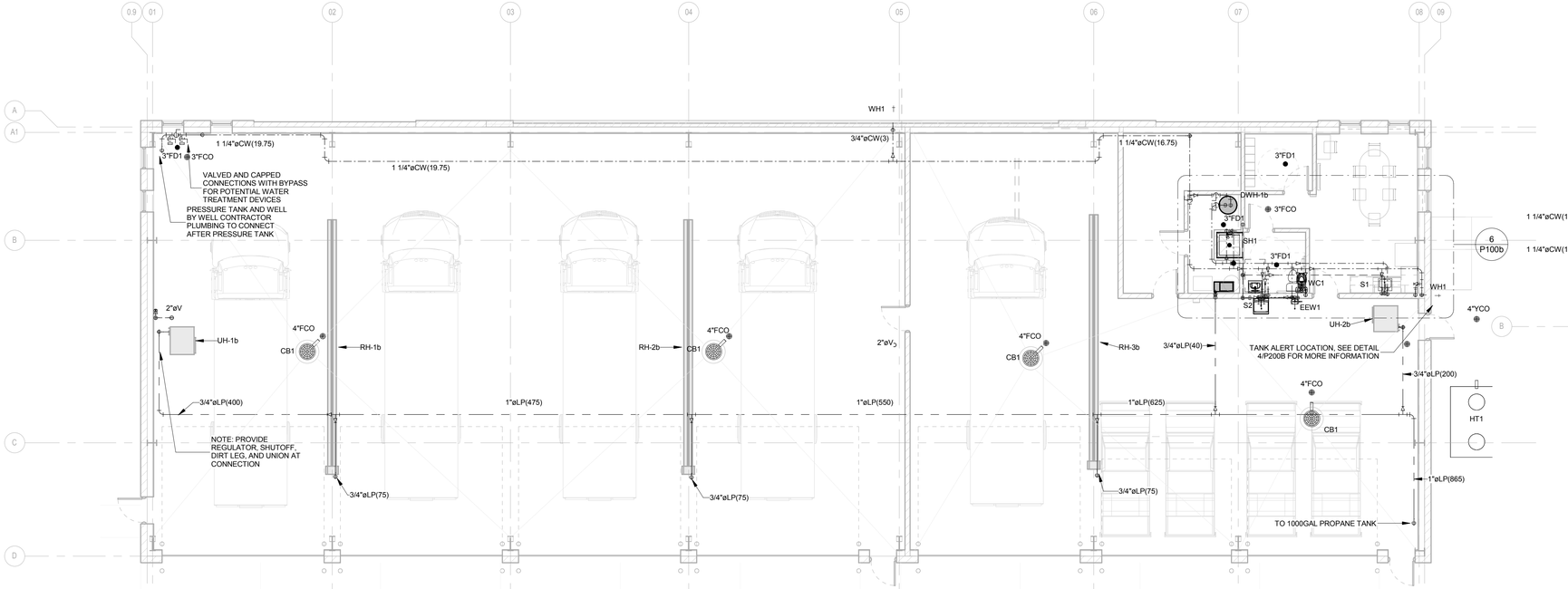
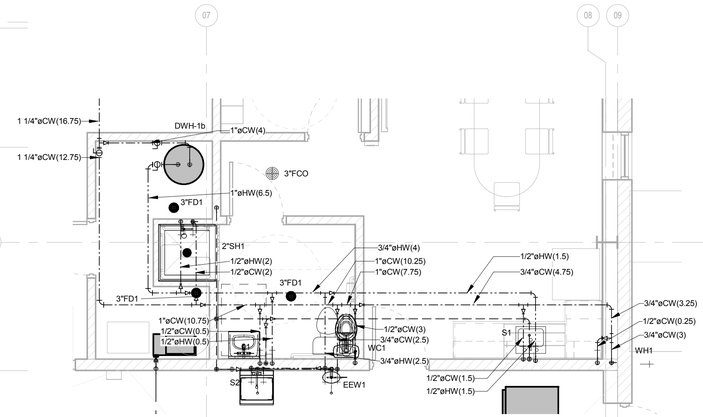
Jefferson County - Satellite Facility

March 22, 2016

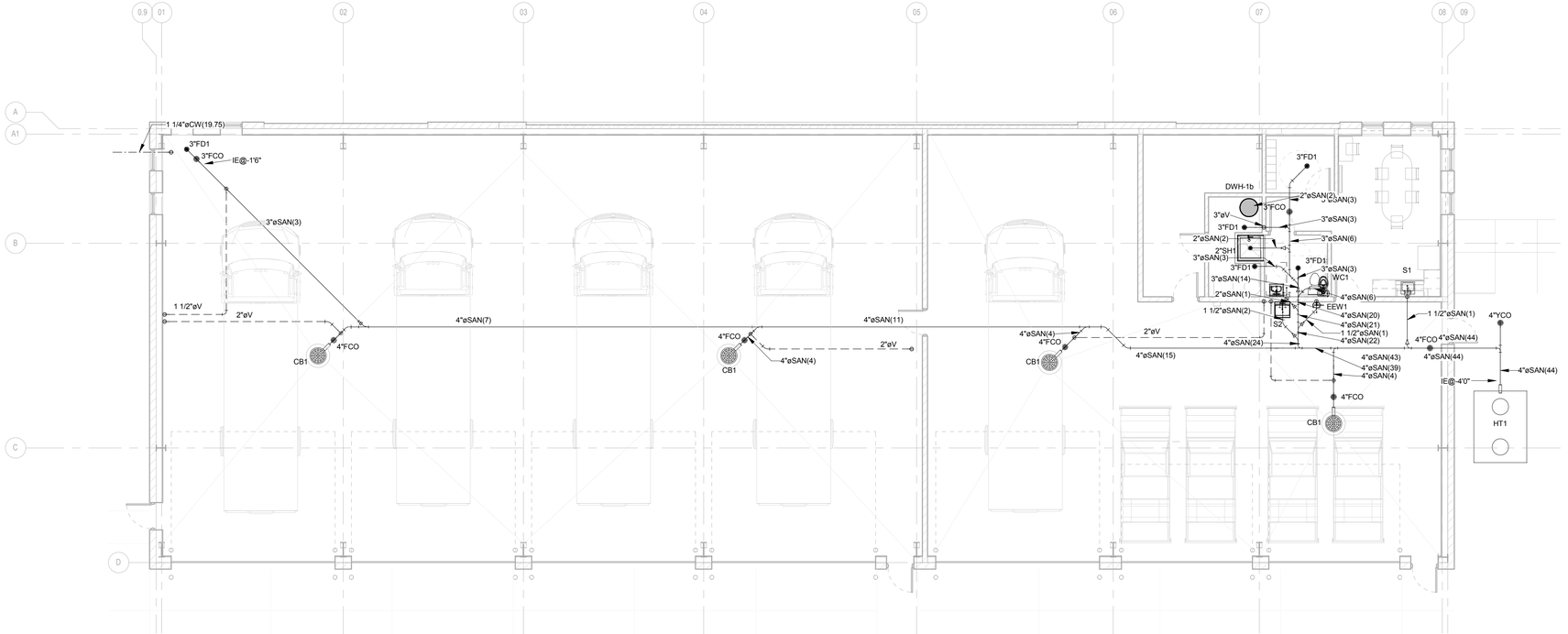
P100a



1 P100b Concord Plumbing Above Ground Plan
SCALE: 1/8" = 1'-0"



6 P100b Concord Plumbing Above Ground Detail
SCALE: 1/4" = 1'-0"



2 P100b Concord Plumbing Underground Plan
SCALE: 1/8" = 1'-0"

PLUMBING SYMBOLS AND ABBREVIATIONS

CW	COLD DOMESTIC WATER
HW	HOT DOMESTIC SUPPLY
HWC	HOT DOMESTIC RETURN
CHW	COLD HARD WATER
V	VENT
NG	NATURAL GAS
	RISER DOWN
	RISER UP
	P-TRAP
	SHUTOFF VALVE
	CHECK VALVE
	BALANCING VALVE
SAN	SANITARY PIPE
ST	STORM PIPE
RPZBP	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
CWW	CLEARWATER WASTE
CWV	CLEARWATER VENT
FCO	FLOOR CLEAN OUT
WCO	WALL CLEAN OUT
CWF	FILTERED COLD WATER
M	WATER METER
VTR	VENT THROUGH ROOF
	CONNECTION TO EXISTING
NPCW	NON-POTABLE COLD WATER
NPHW	NON-POTABLE HOT WATER

HOLDING TANK SIZING

7 EMPLOYEES
13 GALLONS/EMPLOYEE/DAY
=91 GALLONS/DAY

4 CATCH BASINS
50 GALLONS/CATCH BASIN/DAY
=200 GALLONS/DAY

TOTAL
=300 GALLONS/DAY

REQUIRED HOLDING CAPACITY OF 5 DAYS
=1500 GALLON TANK

TANK SELECTED:

MANUFACTURER: LAKESHORE BURIAL VAULT COMPANY
MODEL: 1700 GALLON LP, SINGLE COMPARTMENT, MID-SEAM TANK
ACTUAL CAPACITY: 1778 GAL.

PIPE TAG NOMENCLATURE:

3" XSAN (21)
1 2 3 4

1 - PIPE SIZE

2 - MODIFIER (E.G. X-EXISTING, F-FILTERED, S-SOFT)

3 - SYSTEM TYPE (E.G. SAN - SANITARY, CW - COLD WATER, LP - PROPANE, ETC.)

4 - QUANTITY OF FLOW,
SAN - DFU (DRAINAGE FIXTURE UNITS)
CW, HW - WSFU (WATER SERVICE FIXTURE UNITS)
STORM - GPM (GALLONS PER MINUTE)
GAS - CFH (CUBIC FEET PER HOUR)

PLAN NORTH
SCALE: As indicated

Plumbing Plans

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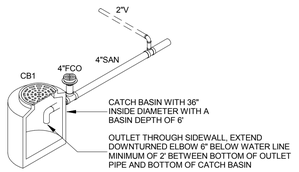
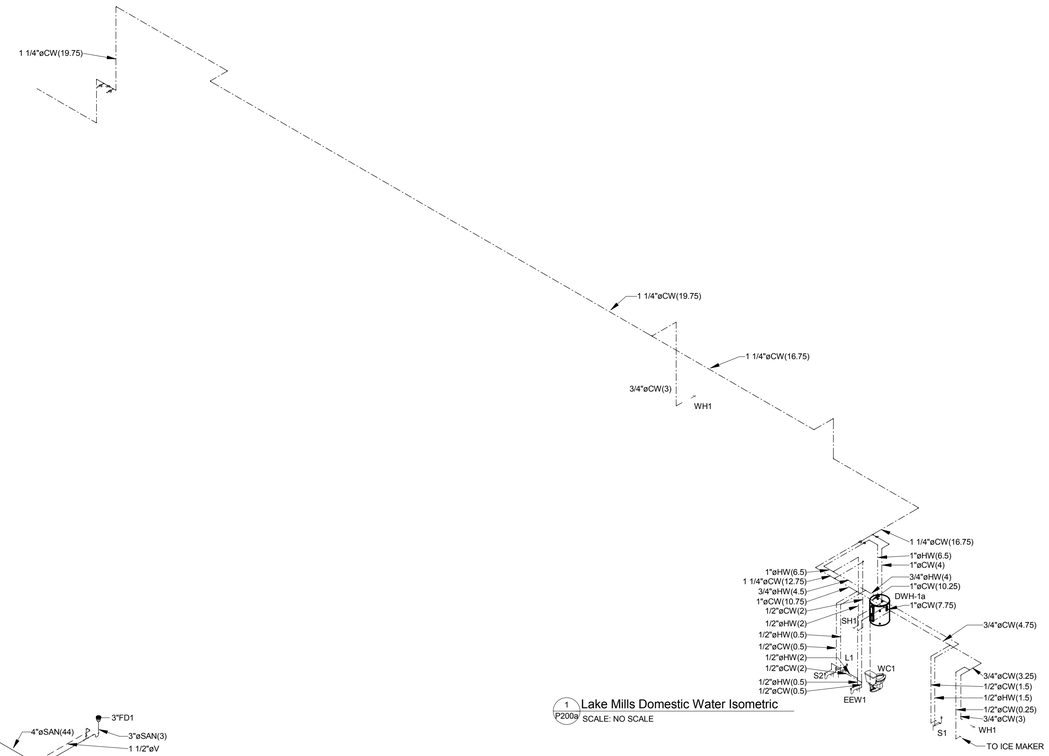
P100b

LAKE MILLS ELECTRIC WATER HEATER SCHEDULE

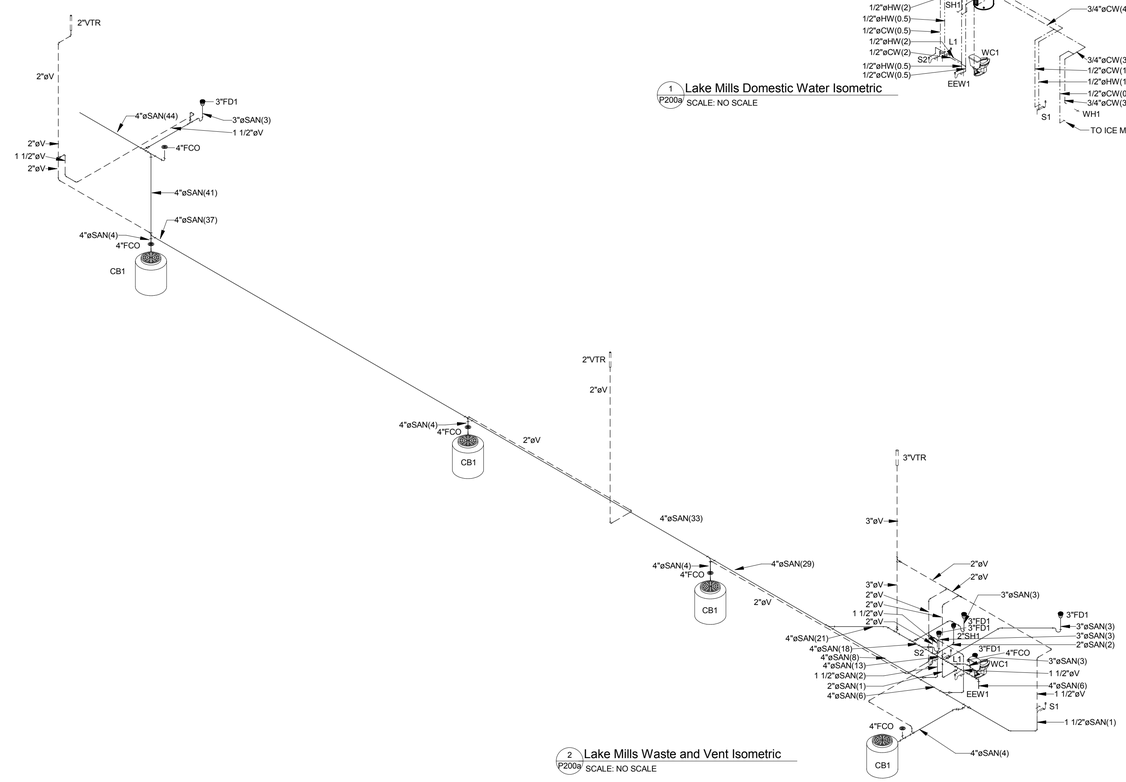
TAG	VOL	RECOVERY (GPH)	ELECTRICAL W	V	PH	HZ	NO. ELEMENTS	TEMP RISE (°F)	MFG	MODEL	WEIGHT	NOTES
DWH-1a	50.0 gal	0	4500 W	240 V	1	60 Hz	2	0 °F	A. O. Smith	DEL-50	166	



3 P200a Lake Mills Catch Basin Detail
SCALE: NO SCALE



1 P200a Lake Mills Domestic Water Isometric
SCALE: NO SCALE



2 P200a Lake Mills Waste and Vent Isometric
SCALE: NO SCALE

WATER CALCULATION WORKSHEET

INFORMATION REQUIRED TO CALCULATE WATER SERVICE SIZE FOR LAKE MILLS

1.	TOTAL DEMAND OF BUILDING: WSFU'S: 24	GPM: 16
2.	DIFFERENCE IN ELEVATION FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE:	0
3.	SIZE OF THE WATER METER (WHEN APPLICABLE):	N/A
4.	DEVELOPED LENGTH FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE:	0
5.	LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK:	40

CALCULATED WATER SERVICE PRESSURE LOSS

6.	LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK:	40
7.	WATER SERVICE (MAIN TO BLDG CTRL VALVE) DIAMETER:	4"
	MATERIAL IS:	N/A
	PRESSURE LOSS/100FT:	0
	LENGTH OF SERVICE:	0
	PRESSURE LOSS:	0
	SUBTOTAL:	40
8.	DETERMINE PRESSURE GAIN/LOSS DUE TO ELEVATION	0
9.	AVAILABLE PRESSURE BEFORE BUILDING CONTROL/PRESSURE REDUCING VALVE:	40

CALCULATED PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")	**HOT WATER**	**COLD WATER**
10. AVAILABLE PRESSURE AFTER THE BUILDING PRESSURE REDUCING VALVE IF APPLICABLE	40	40
11. PRESSURE LOSS OF WATER METER IF APPLICABLE	0	0
SUBTOTAL:	40	40
12. PRESSURE AT CONTROLLING FIXTURE: SHOWER	20	20
SUBTOTAL:	20	20
13. ELEVATION DIFFERENCE AT CONTROLLING FIXTURE:	0	0
PRESSURE LOSS DUE TO ELEVATION DIFFERENCE:	0	0
SUBTOTAL:	20	20
14. PRESSURE LOSS DUE TO WATER TREATMENT DEVICES, INSTANTEOUS WATER HEATERS, AND BACKFLOW PREVENTERS THAT SERVE THE CONTROLLING FIXTURE:	12	12
POTENTIAL WATER SOFTENER [12]		
SUBTOTAL:	8	8
15. DEVELOPED LENGTH FROM BUILDING CONTROL VALVE TO CONTROLLING FIXTURE IN FEET:	150	150
WATER DISTRIBUTION PIPING MATERIAL IS:	TYPE L COPPER	TYPE L COPPER
16. "A VALUE" - PRESSURE AVAILABLE FOR UNIFORM LOSS (PSI/100FT):	3.5	3.5

WATER PIPE SIZING CHART

MATERIAL: TYPE L COPPER **A =** 3.5 **PSI/100FT**
TYPE: FLUSH TANK **SYSTEM:** COLD WATER/HOT WATER

TAG	**PIPE SIZE** 1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
WSFU	2	6	14	27.5	52	175	-	-
GPM	2	5	10.5	18.5	29	60	-	-

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

Plumbing Isometrics and Details

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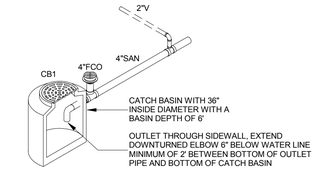
P200a



3 P200b Concord Catch Basin Detail
SCALE: NO SCALE

CONCORD ELECTRIC WATER HEATER SCHEDULE

TAG	VOL	RECOVERY (GPH)	ELECTRICAL W	V	PH	HZ	NO. ELEMENTS	TEMP RISE (°F)	MFG	MODEL	WEIGHT	NOTES
DWH-1b	50.0 gal	0	4500 W	240 V	1	60 Hz	2	0 °F	A. O. Smith	DEL-50	166	

WATER CALCULATION WORKSHEET

INFORMATION REQUIRED TO CALCULATE WATER SERVICE SIZE FOR CONCORD

1. TOTAL DEMAND OF BUILDING:	WSFU'S: 24	GPM: 16	60/40 PSI WELL PRESSURE TANK
2. DIFFERENCE IN ELEVATION FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE:		0	
3. SIZE OF THE WATER METER (WHEN APPLICABLE):		N/A	
4. DEVELOPED LENGTH FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE:		0	
5. LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK:		40	

CALCULATED WATER SERVICE PRESSURE LOSS

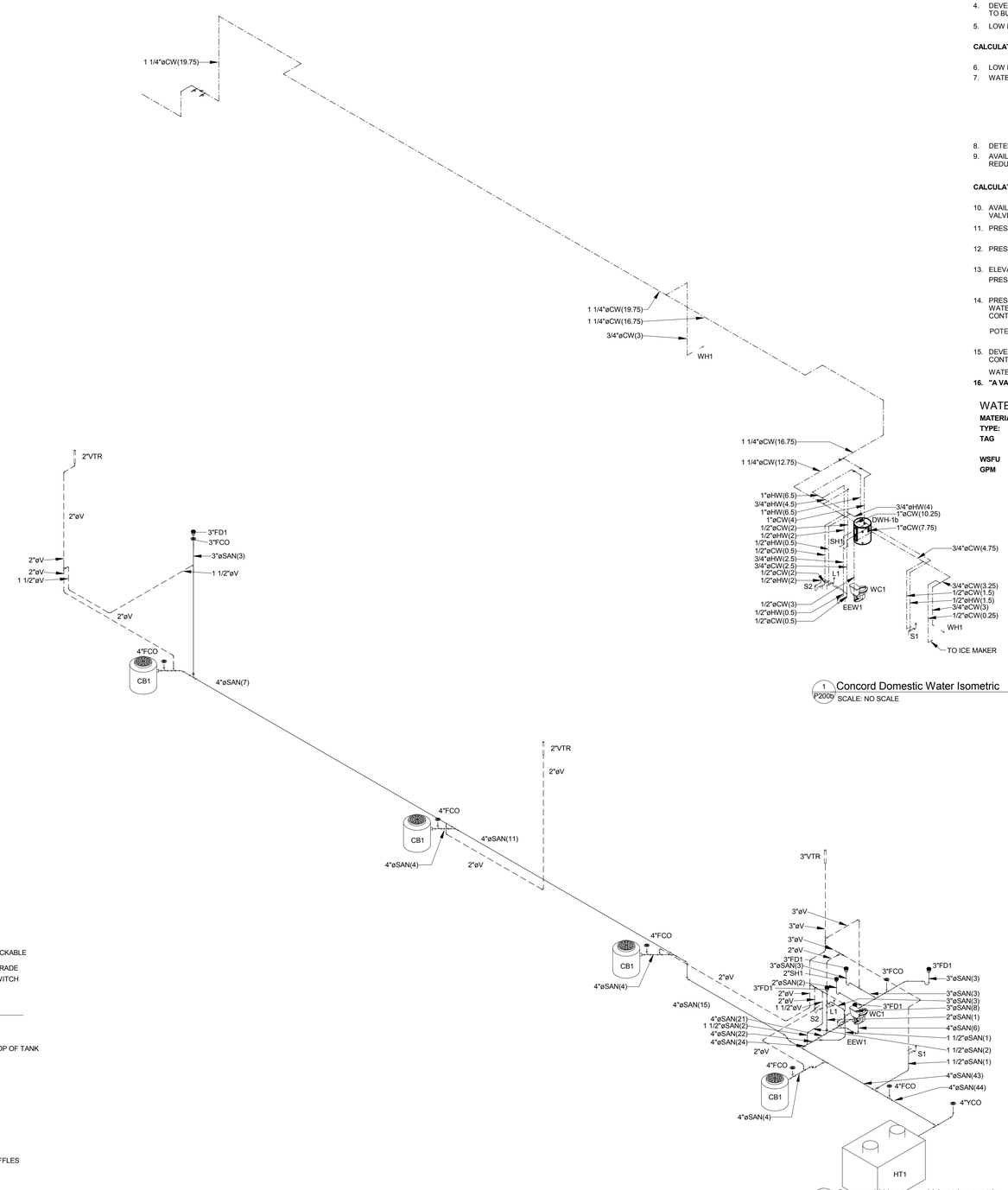
6. LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK:	40
7. WATER SERVICE (MAIN TO BLDG CTRL VALVE) DIAMETER:	4"
MATERIAL IS:	N/A
PRESSURE LOSS/100FT:	0
LENGTH OF SERVICE:	0
PRESSURE LOSS:	0
SUBTOTAL:	40
8. DETERMINE PRESSURE GAIN/LOSS DUE TO ELEVATION	0
9. AVAILABLE PRESSURE BEFORE BUILDING CONTROL/PRESSURE REDUCING VALVE:	40

CALCULATED PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")	**HOT WATER**	**COLD WATER**
10. AVAILABLE PRESSURE AFTER THE BUILDING PRESSURE REDUCING VALVE IF APPLICABLE	40	40
11. PRESSURE LOSS OF WATER METER IF APPLICABLE	0	0
SUBTOTAL:	40	40
12. PRESSURE AT CONTROLLING FIXTURE: SHOWER	20	20
SUBTOTAL:	20	20
13. ELEVATION DIFFERENCE AT CONTROLLING FIXTURE:	0	0
PRESSURE LOSS DUE TO ELEVATION DIFFERENCE:	0	0
SUBTOTAL:	20	20
14. PRESSURE LOSS DUE TO WATER TREATMENT DEVICES, INSTANTEOUS WATER HEATERS, AND BACKFLOW PREVENTERS THAT SERVE THE CONTROLLING FIXTURE:	12	12
POTENTIAL WATER SOFTENER [12]		
SUBTOTAL:	8	8
15. DEVELOPED LENGTH FROM BUILDING CONTROL VALVE TO CONTROLLING FIXTURE IN FEET:	150	150
WATER DISTRIBUTION PIPING MATERIAL IS:	TYPE L COPPER	TYPE L COPPER
16. "A VALUE" - PRESSURE AVAILABLE FOR UNIFORM LOSS (PSI/100FT):	3.5	3.5

WATER PIPE SIZING CHART

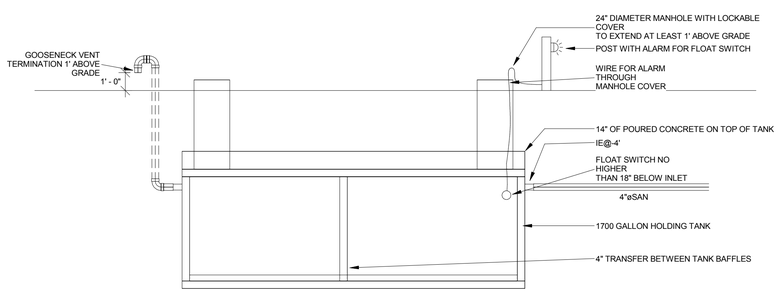
MATERIAL: TYPE L COPPER **A =** 3.5 **PSI/100FT**
TYPE: FLUSH TANK **SYSTEM:** COLD WATER/HOT WATER

TAG	**PIPE SIZE** 1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
WSFU	2	6	14	27.5	52	175	-	-
GPM	2	5	10.5	18.5	29	60	-	-



1 P200b Concord Domestic Water Isometric
SCALE: NO SCALE

2 P200b Concord Waste and Vent Isometric
SCALE: NO SCALE



INSTALLATION NOTE PER MANUFACTURER: THE EXCAVATED HOLE IS NOT TO BE MORE THAN ONE (1) FOOT LONGER AND WIDER THAN THE TANK. THERE SHALL BE A MINIMUM OF BEDDING OF 4" OF WASHED SAND OR STONE LESS THAN 1" IN SIZE IN SOIL TERRAIN AND 8" BEDDING IN ROCK TERRAIN. BACKFILLING AROUND TANKS WITH MATERIAL DESCRIBED ABOVE IS SUGGESTED WHEN COVER IS 4' OR GREATER.

4 P200b Holding Tank Detail
SCALE: NO SCALE

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

Plumbing Isometrics and Details

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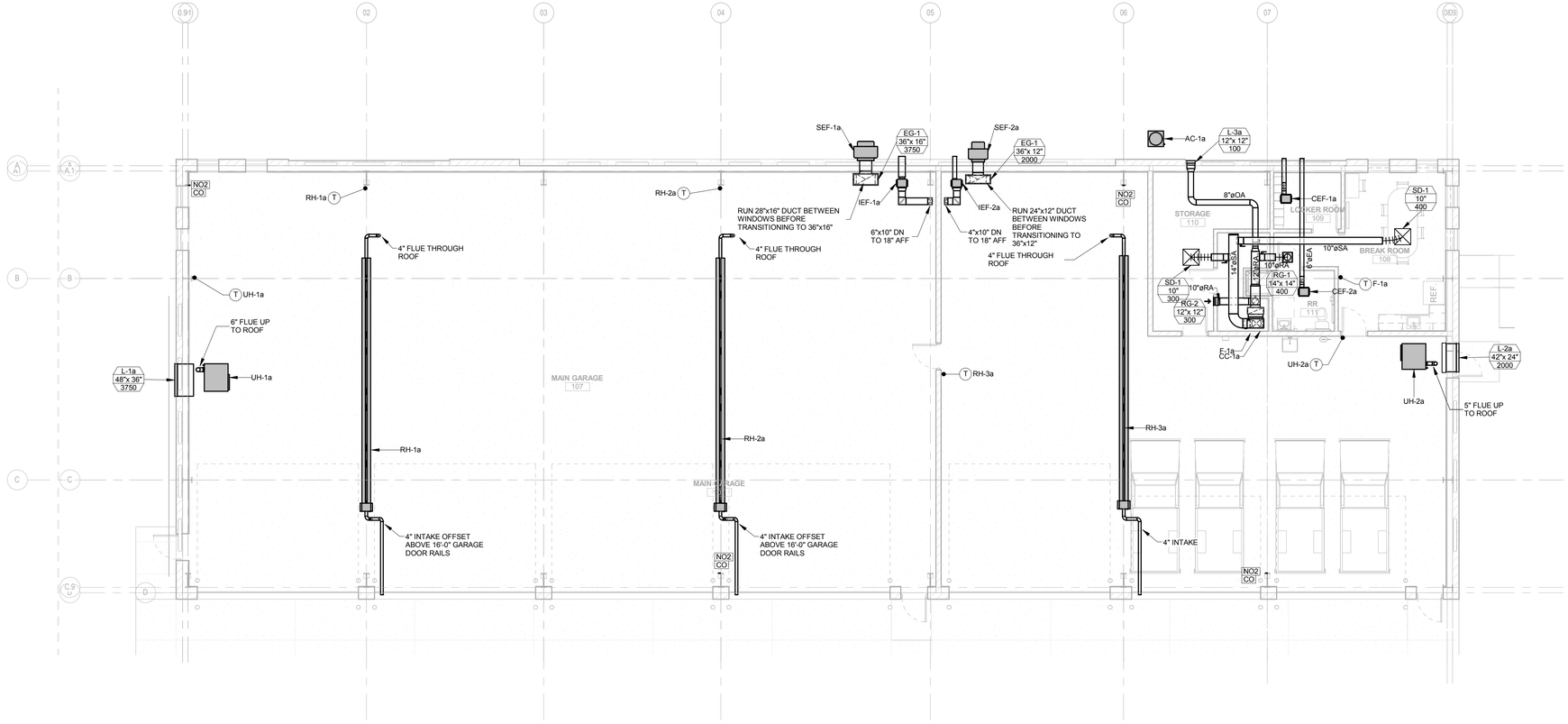
P200b



1 Lake Mills Mechanical Plan
M100a SCALE: 1/8" = 1'-0"

LAKE MILLS AIR COOLED CONDENSING UNIT SCHEDULE

TAG	SERVES	NOMINAL TONS	OA TEMP	CONNECTION SIZES LIQUID	CONNECTION SIZES SUCTION	ELECTRICAL V	PH	HZ	MCA	MOCP	MODEL	MFG	WEIGHT	NOTES
AC-1a	F-1a	1.5	95 °F	0' - 0 3/8"	0' - 0 3/4"	208 V	1	60 Hz	12 A	20 A	24ABB3-18	CARRIER	130.00 lb	1, 2, 3

NOTES:
1. MOUNT ON LIGHTWEIGHT CONCRETE PAD OR 6" ELEVATED BASE
2. MANUFACTURER TO MATCH FURNACE AND COIL MANUFACTURER
3. MOUNT ON ANGLE BRACKETS MOUNTED ON THE WALL

LAKE MILLS FURNACE SCHEDULE

MARK	SERVES	Unit Airflow	OA CFM	HEATING SECTION TYPE	HEATING SECTION INPUT	HEATING SECTION OUTPUT	HEATING SECTION LAT DB	ESP	ELECTRICAL V	PH	HZ	MCA	MOCP	MODEL	MFG	NOTES
F-1a	SOUTH EAST	770 CFM	100 CFM	PROPANE	40000 Btu	37000 Btu	95 °F	0.60 in-wg	115 V	1	60 Hz	8 A	15 A	59SC2b-040-10	CARRIER	1

NOTES:
1. PROVIDE FILTER CABINET

LAKE MILLS AC DX COIL SCHEDULE

TAG	SERVES	AIR FLOW CFM	OA CFM	COOLING TOTAL	COOLING SENSIBLE	COOLING LAT DB	MAX PD	MODEL	MFG	NOTES
CC-1a	F-1a	770 CFM	100 CFM	23400 Btu	19800 Btu	38.2 °F	0.30 in-wg	CNPVP1814	CARRIER	1

NOTES:
1. COIL MANUFACTURER TO MATCH FURNACE AND CONDENSING UNIT MANUFACTURER

LAKE MILLS RADIANT HEAT SCHEDULE

Mark	SERVES	BTU IN	TYPE	V	PH	MCA	MOCP	MODEL	MFG	WEIGHT	NOTES
RH-1a	107 MAIN GARAGE	75,000	PROPANE	120	1	2	15	DES3-30-75	Detroit Radiant Products Company	160	1, 2, 3
RH-2a	107 MAIN GARAGE	75,000	PROPANE	120	1	2	15	DES3-30-75	Detroit Radiant Products Company	160	1, 2, 3
RH-3a	VEHICLE GARAGE	75,000	PROPANE	120	1	2	15	DES3-30-75	Detroit Radiant Products Company	160	1, 2, 3

NOTES:
1. PROVIDE ROOF VENT CAP AND COMBUSTION AIR INTAKE THROUGH ROOF
2. PROVIDE 7-DAY PROGRAMMABLE TSTAT IN LOCATION
3. ANGLE DEFLECTORS AWAY FROM WALL

LAKE MILLS UNIT HEATER SCHEDULE

TAG	SPACE	AIRFLOW	TYPE	BTU IN	BTU OUT	FAN HP	V	ø	HZ	AMPS	MOCP	MODEL	MFG	WEIGHT	NOTES
UH-1a	107 MAIN GARAGE	5123 CFM	PROPANE	400000 Btu	332000 Btu	0.5 hp	115 V	1	60 Hz	11 A	20 A	UDAP 400	REZNOR	360.00 lb	1
UH-2a	106 VEHICLE STORAGE	2562 CFM	PROPANE	200000 Btu	166000 Btu	0.2 hp	115 V	1	60 Hz	5 A	15 A	UDAP 200	REZNOR	190.00 lb	1

NOTES:
1. PROVIDE 2 STAGE HEAT WITH STAINLESS STEEL HEAT ECHANGER

LAKE MILLS GRILLES REGISTERS AND DIFFUSERS SCHEDULE

TAG	TYPE	MOUNT	AIR FLOW CFM	NECK SIZE	FACE SIZE	MODEL	MFG	NOTES
SD-1	Supply Air	LAY-IN	AS SHOWN	10"ø	22"x22"	SPD	E.H. Price	1
RG-1	Return Air	LAY-IN	AS SHOWN	14"x14"	1">NECK	530	PRICE	1
RG-2	Return Air	SIDE WALL	AS SHOWN	12"x12"	1">NECK	530	PRICE	1
EG-1	Exhaust Air	EXPANDED METAL	AS SHOWN		DUCT SIZE	NA	NA	1

NOTES:
1. PROVIDE BAKED WHITE ENAMEL FINISH, VERIFY WITH ARCHITECT

LAKE MILLS LOUVER SCHEDULE

TAG	TYPE	SERVES	NOMINAL CFM	FREE AIR VELOCITY	PRESSURE DROP	SIZE WIDTH	SIZE HEIGHT	MODEL	MFG	NOTES
L-1a	INTAKE	107 MAIN GARAGE	3750 CFM	554	0.098	48"	36"	ESD-635	GREENHECK	1, 2
L-2a	INTAKE	106 VEHICLE STORAGE	2000 CFM	595	0.042	42"	24"	ESD-635	GREENHECK	1, 2
L-3a	INTAKE	F-1a OUTSIDE AIR	100 CFM	496	0.042	12"	12"	ESD-635	GREENHECK	1, 2

NOTES:
1. PROVIDE MOTORIZED DAMPER AND BIRDSCREEN
2. STANDARD COLOR FINISH, COORDINATE COLOR WITH ARCHITECT

LAKE MILLS SIDEWALL EXHAUST FAN SCHEDULE

Mark	SERVES	AIRFLOW	TSP	MOTOR HP	MOTOR BHP	MOTOR RPM	ELECTRICAL V	PH	HZ	MOUNTING LOCATION	SONES	MODEL	MFG	WEIGHT	NOTES
SEF-1a	01 MAIN GARAGE	3750 CFM	0.50 in-wg	1.00 hp	0.95 hp	1725	208 V	3	60 Hz	Belt Drive Centrifugal Sidewall Exhaust Fan	16.2	CWB-180-10	Greenheck	119.00 lb	1, 2, 3
SEF-2a	06 VEHICLE STORAGE	2000 CFM	0.50 in-wg	0.50 hp	0.50 hp	1725	115 V	1	60 Hz	Belt Drive Centrifugal Sidewall Exhaust Fan	11.8	CWB-161-5	Greenheck	80.20 lb	1, 2, 3

NOTES:
1. PROVIDE DISCONNECT
2. PROVIDE GRAVITY BACKDRAFT DAMPER
3. PROVIDE STARTER WITH 24V CONNECTION TO GAS DETECTION, INSTALLED BY EC

LAKE MILLS INLINE EXHAUST FAN SCHEDULE

TAG	SERVES	AIRFLOW	TSP	INLET SONES	MOTOR WATTS	MOTOR RPM	ELECTRICAL V	PH	HZ	MODEL	MFG	WEIGHT	NOTES
IEF-1a	106 VEHICLE STORAGE	250 CFM	0.38 in-wg	2	25.40 W	1350	115 V	1	60 Hz	CSP-A390	Greenheck	30.00 lb	1, 2, 3, 4
IEF-2a	106 VEHICLE STORAGE	130 CFM	0.38 in-wg	1.3	35.69 W	1050	115 V	1	60 Hz	CSP-B150	Greenheck	16.00 lb	1, 2, 3, 4

NOTES:
1. PROVIDE DISCONNECT
2. PROVIDE BACKDRAFT DAMPER
3. PROVIDE SPEED CONTROLLER
4. PROVIDE SIDE WALL TERMINATION

LAKE MILLS CEILING EXHAUST FAN SCHEDULE

TAG	SERVES	AIRFLOW	TSP	INLET SONES	MOTOR WATTS	MOTOR RPM	ELECTRICAL V	PH	HZ	MODEL	MFG	WEIGHT	NOTES
CEF-1a	109 LOCKER ROOM	75 CFM	0.25 in-wg	0.6	0.0 W	950	115 V	1	60 Hz	SP-B110	Greenheck	11.00 lb	1, 2, 3, 4
CEF-2a	112 RR	75 CFM	0.25 in-wg	0.6	0.0 W	950	115 V	1	60 Hz	SP-B110	Greenheck	11.00 lb	1, 2, 3, 4

NOTES:
1. PROVIDE DISCONNECT
2. PROVIDE BACKDRAFT DAMPER
3. PROVIDE TIMER CONTROL FOR OCCUPIED HOURS OPERATION
4. PROVIDE SIDE WALL TERMINATION

LAKE MILLS DUCT CONSTRUCTION SCHEDULE

SYSTEM TYPE	SYSTEM LOCATION	MATERIAL	SMACNA PRESSURE CLASS	SMACNA SEAL CLASS	INSULATION TYPE	R-VALUE	INSULATION THICKNESS	NOTES
EXHAUST	ALL	G-60 GALVANIZED	2"	B	NONE			
OUTSIDE AIR	ALL	G-60 GALVANIZED	2"	A	FLEXIBLE FIBERGLASS	R-5 MIN	2"	1
RETURN	ALL	G-60 GALVANIZED	2"	B	NONE			
SUPPLY	ALL	G-60 GALVANIZED	2"	A	FLEXIBLE FIBERGLASS	R-5 MIN	2"	1

NOTES:
1. OWENS CORNING, KNAUF, JOHNS MANVILLE, OR 3M INSULATION

PLAN NORTH
SCALE: As indicated

HVAC Plan and Schedules

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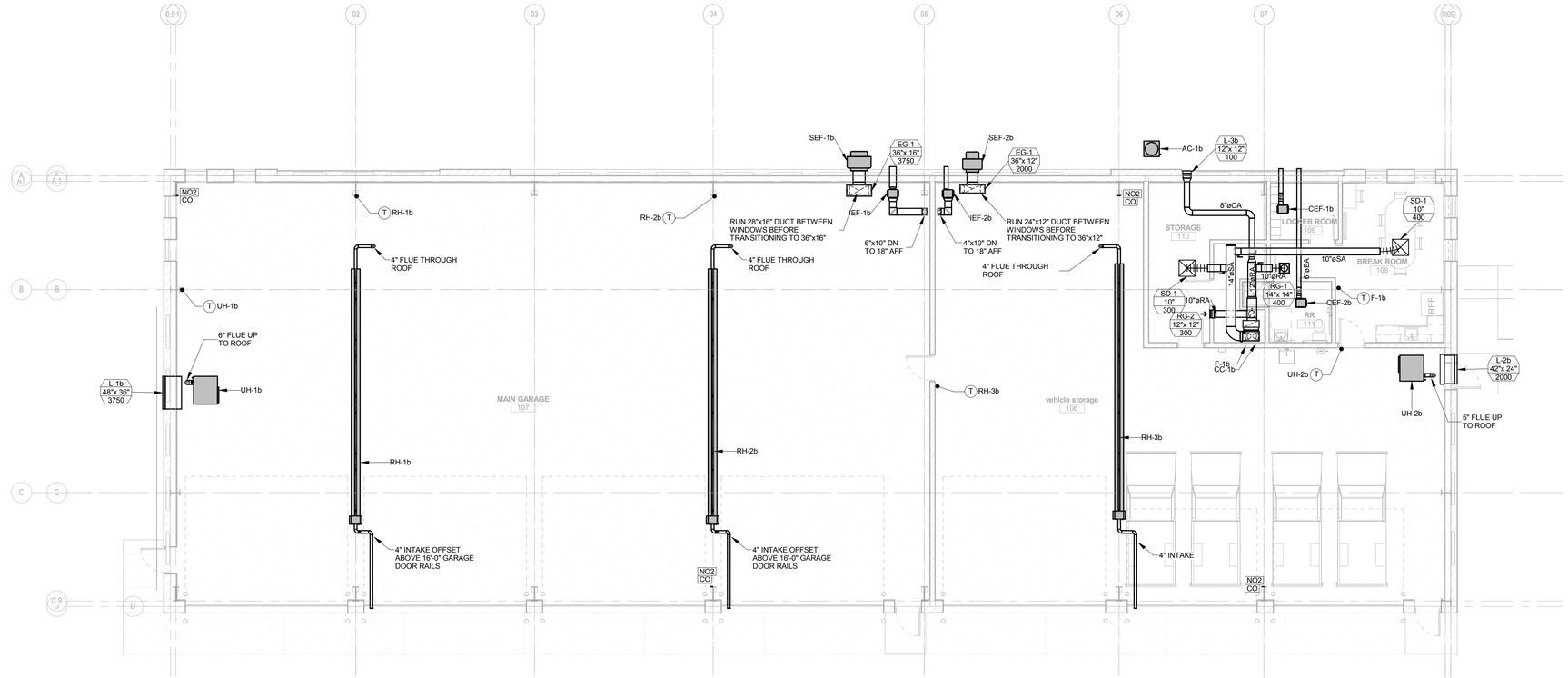
March 22, 2016

M100a



2 M100b Concord Mechanical Plan
SCALE: 1/8" = 1'-0"

CONCORD AIR COOLED CONDENSING UNIT SCHEDULE

TAG	SERVES	NOMINAL TONS	OA TEMP	CONNECTION SIZES LIQUID	CONNECTION SIZES SUCTION	ELECTRICAL V	PH	HZ	MCA	MOCP	MODEL	MFG	WEIGHT	NOTES
AC-1b	F-1b	1.5	95 °F	0' - 0 3/8"	0' - 0 3/4"	208 V	1	60 Hz	12 A	20 A	24ABB3-18	CARRIER	130.00 lb	1, 2, 3

NOTES:
1. MOUNT ON LIGHTWEIGHT CONCRETE PAD OR 6" ELEVATED BASE
2. MANUFACTURER TO MATCH FURNACE AND COIL MANUFACTURER
3. MOUNT ON ANGLE BRACKETS MOUNTED ON THE WALL

CONCORD FURNACE SCHEDULE

MARK	SERVES	Unit Airflow	OA CFM	HEATING SECTION TYPE	INPUT	OUTPUT	LAT DB	ESP	ELECTRICAL V	PH	HZ	MCA	MOCP	MODEL	MFG	NOTES
F-1b	SOUTH EAST	770 CFM	100 CFM	PROPANE	40000 Btu	37000 Btu	95 °F	0.60 in-wg	115 V	1	60 Hz	8 A	15 A	59SC2b-040-10	CARRIER	1

NOTES:
1. PROVIDE FILTER CABINET

CONCORD AC DX COIL SCHEDULE

TAG	SERVES	AIR FLOW CFM	OA CFM	COOLING TOTAL	COOLING SENSIBLE	COOLING LAT DB	MAX PD	MODEL	MFG	NOTES
CC-1b	F-1b	770 CFM	100 CFM	23400 Btu	19800 Btu	38.2 °F	0.30 in-wg	CNPVP1814	CARRIER	1

NOTES:
1. COIL MANUFACTURER TO MATCH FURNACE AND CONDENSING UNIT MANUFACTURER

CONCORD RADIANT HEAT SCHEDULE

Mark	SERVES	BTU IN	TYPE	V	PH	MCA	MOCP	MODEL	MFG	WEIGHT	NOTES
RH-1b	107 MAIN GARAGE	75,000	PROPANE	120	1	2	15	DES3-30-75	Detroit Radiant Products Company	160	1, 2, 3
RH-2b	107 MAIN GARAGE	75,000	PROPANE	120	1	2	15	DES3-30-75	Detroit Radiant Products Company	160	1, 2, 3
RH-3b	VEHICLE GARAGE	75,000	PROPANE	120	1	2	15	DES3-30-75	Detroit Radiant Products Company	160	1, 2, 3

NOTES:
1. PROVIDE ROOF VENT CAP AND COMBUSTION AIR INTAKE THROUGH ROOF
2. PROVIDE 7-DAY PROGRAMMABLE TSTAT IN LOCATION
3. ANGLE DEFLECTORS AWAY FROM WALL

CONCORD UNIT HEATER SCHEDULE

TAG	SPACE	AIRFLOW	TYPE	BTU IN	BTU OUT	FAN HP	V	ø	HZ	AMPS	MOCP	MODEL	MFG	WEIGHT	NOTES
UH-1b	107 MAIN GARAGE	5123 CFM	PROPANE	400000 Btu	332000 Btu	0.5 hp	115 V	1	60 Hz	11 A	20 A	UDAP 400	REZNOR	360.00 lb	1
UH-2b	106 VEHICLE STORAGE	2562 CFM	PROPANE	200000 Btu	166000 Btu	0.2 hp	115 V	1	60 Hz	5 A	15 A	UDAP 200	REZNOR	190.00 lb	1

NOTES:
1. PROVIDE 2 STAGE HEAT WITH STAINLESS STEEL HEAT ECHANGER

CONOCRD GRILLES REGISTERS AND DIFFUSERS SCHEDULE

TAG	TYPE	MOUNT	AIR FLOW CFM	NECK SIZE	FACE SIZE	MODEL	MFG	NOTES
SD-1	Supply Air	LAY-IN	AS SHOWN	10"ø	22"x22"	SPD	E.H. Price	1
RG-1	Return Air	LAY-IN	AS SHOWN	14"x14"	1">NECK	530	PRICE	1
RG-2	Return Air	SIDE WALL	AS SHOWN	12"x12"	1">NECK	530	PRICE	1
EG-1	Exhaust Air	EXPANDED METAL	AS SHOWN		DUCT SIZE	NA	NA	1

NOTES:
1. PROVIDE BAKED WHITE ENAMEL FINISH, VERIFY WITH ARCHITECT

CONCORD LOUVER SCHEDULE

TAG	TYPE	SERVES	NOMINAL CFM	FREE AIR VELOCITY	PRESSURE DROP	SIZE WIDTH	SIZE HEIGHT	MODEL	MFG	NOTES
L-1b	INTAKE	107 MAIN GARAGE	3750 CFM	554	0.098	48"	36"	ESD-635	GREENHECK	1, 2
L-2b	INTAKE	106 VEHICLE STORAGE	2000 CFM	595	0.042	42"	24"	ESD-635	GREENHECK	1, 2
L-3b	INTAKE	F-1b OUTSIDE AIR	100 CFM	496	0.042	12"	12"	ESD-635	GREENHECK	1, 2

NOTES:
1. PROVIDE MOTORIZED DAMPER AND BIRDSCREEN
2. STANDARD COLOR FINISH, COORDINATE COLOR WITH ARCHITECT

CONCORD SIDEWALL EXHAUST FAN SCHEDULE

Mark	SERVES	AIRFLOW	TSP	MOTOR HP	MOTOR BHP	MOTOR RPM	ELECTRICAL V	PH	HZ	MOUNTING LOCATION	SONES	MODEL	MFG	WEIGHT	NOTES
SEF-1b	01 MAIN GARAGE	3750 CFM	0.50 in-wg	1.00 hp	0.95 hp	1725	208 V	1	60 Hz	Belt Drive Centrifugal Sidewall Exhaust Fan	16.2	CWB-180-10	Greenheck	122.00 lb	1, 2, 3
SEF-2b	06 VEHICLE STORAGE	2000 CFM	0.50 in-wg	0.50 hp	0.50 hp	1725	115 V	1	60 Hz	Belt Drive Centrifugal Sidewall Exhaust Fan	11.8	CWB-161-5	Greenheck	80.20 lb	1, 2, 3

NOTES:
1. PROVIDE DISCONNECT
2. PROVIDE GRAVITY BACKDRAFT DAMPER
3. PROVIDE STARTER WITH 24V CONNECTION TO GAS DETECTION, INSTALLED BY EC

CONCORD INLINE EXHAUST FAN SCHEDULE

TAG	SERVES	AIRFLOW	TSP	INLET SONES	MOTOR WATTS	MOTOR RPM	ELECTRICAL V	PH	HZ	MODEL	MFG	WEIGHT	NOTES
IEF-1b	106 VEHICLE STORAGE	250 CFM	0.38 in-wg	2	25.40 W	1350	115 V	1	60 Hz	CSP-A390	Greenheck	30.00 lb	1, 2, 3, 4
IEF-2b	106 VEHICLE STORAGE	130 CFM	0.38 in-wg	1.3	35.69 W	1050	115 V	1	60 Hz	CSP-B150	Greenheck	16.00 lb	1, 2, 3, 4

NOTES:
1. PROVIDE DISCONNECT
2. PROVIDE BACKDRAFT DAMPER
3. PROVIDE TIMER CONTROL FOR OCCUPIED HOURS OPERATION
4. PROVIDE SIDE WALL TERMINATION

CONCORD CEILING EXHAUST FAN SCHEDULE

TAG	SERVES	AIRFLOW	TSP	INLET SONES	MOTOR WATTS	MOTOR RPM	ELECTRICAL V	PH	HZ	MODEL	MFG	WEIGHT	NOTES
CEF-1b	109 LOCKER ROOM	75 CFM	0.25 in-wg	0.6	15.35 W	950	115 V	1	60 Hz	SP-B110	Greenheck	11.00 lb	1, 2, 3, 4
CEF-2b	112 RR	75 CFM	0.25 in-wg	0.6	15.35 W	950	115 V	1	60 Hz	SP-B110	Greenheck	11.00 lb	1, 2, 3, 4

NOTES:
1. PROVIDE DISCONNECT
2. PROVIDE BACKDRAFT DAMPER
3. PROVIDE SPEED CONTROLLER
4. PROVIDE SIDE WALL TERMINATION

CONCORD DUCT CONSTRUCTION SCHEDULE

SYSTEM TYPE	SYSTEM LOCATION	MATERIAL	SMACNA PRESSURE CLASS	SMACNA SEAL CLASS	INSULATION TYPE	R-VALUE	INSULATION THICKNESS	NOTES
EXHAUST	ALL	G-60 GALVANIZED	2"	B	NONE			
OUTSIDE AIR	ALL	G-60 GALVANIZED	2"	A	FLEXIBLE FIBERGLASS	R-5 MIN	2"	1
RETURN	ALL	G-60 GALVANIZED	2"	B	NONE			
SUPPLY	ALL	G-60 GALVANIZED	2"	A	FLEXIBLE FIBERGLASS	R-5 MIN	2"	1

NOTES:
1. OWENS CORNING, KNAUF, JOHNS MANVILLE, OR 3M INSULATION

PLAN NORTH
SCALE: As indicated

HVAC Plan and Schedules

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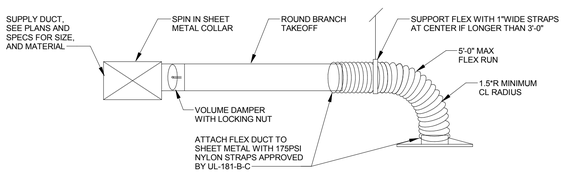
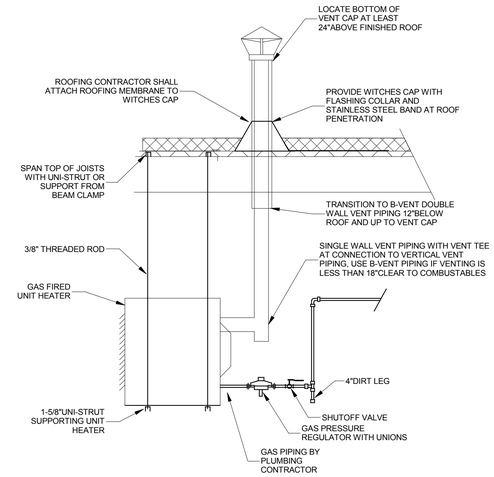
March 22, 2016

M100b



8 M101a BRANCH DUCT TAP
SCALE: NO SCALE



3 M101a GAS FIRED UNIT HEATER
SCALE: NO SCALE

GENERAL NOTES

1. ALL DUCTWORK IS DIAGRAMMATIC AND COORDINATED TO THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY STRUCTURE AND LOCATION OF OTHER TRADES PRIOR TO FABRICATION.
2. LIMIT FLEX RUNS TO A MAXIMUM OF 5'-0" AND ROUTE AS STRAIGHT AS POSSIBLE.
3. INSTALL ALL EQUIPMENT PER LOCAL AND STATE CODES AND PER MANUFACTURERS RECOMMENDATIONS.
4. SYSTEM SHALL BE BALANCED BY THE INSTALLING CONTRACTOR. BALANCE AIR FLOWS FOR GRILLES AND EQUIPMENT TO +/- 10% OF SCHEDULED AIRFLOWS. INCLUDE SYSTEM MANUFACTURER, MODEL, SERIAL NUMBER, RPM, HORSEPOWER, VOLTAGE, AMPERAGE, ETC. IN REPORTS. SUBMIT THE BALANCING REPORTS TO THE DESIGN PROFESSIONAL BEFORE A COMPLIANCE STATEMENT CAN BE SUBMITTED.
5. GAS PIPING SHALL BE SCHEDULE 40 BLACK IRON. PIPE 2" AND SMALLER SHALL HAVE THREADED PIPE CONNECTIONS AND FITTINGS. PIPE 2-1/2" AND LARGER SHALL HAVE WELDED CONNECTIONS AND FITTINGS. PROVIDE GAS REGULATOR AS NECESSARY.
6. OUTSIDE AIR INTAKES SHALL BE A MINIMUM OF 10'-0" FROM ANY BUILDING EXHAUST, FLUES, PLUMBING VENTS AND LOT LINE.
7. LOW VOLTAGE WIRING SHALL BE BY HVAC CONTRACTOR.
8. COORDINATE DIFFUSER LAYOUT WITH LIGHTING LAYOUT.
9. CONTRACTORS NEED PRIOR APPROVAL FOR QUOTING ALTERNATE EQUIPMENT. ALTERNATE EQUIPMENT MAY REQUIRE OPTION ACCESSORIES TO MATCH BASE BID EQUIPMENT. CONTRACTORS ARE RESPONSIBLE FOR FURNISHING ALL SUCH ITEMS.
10. DUCT SIZES LISTED ON PLANS ARE THE REQUIRED CLEAR INSIDE DIMENSIONS.
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12. THERMOSTAT LOCATIONS SHALL BE REVIEWED BY OWNER, TENANT AND CONTRACTOR BEFORE INSTALLATION. CONTROLS SHALL BE LOCATED 48" ABOVE FINISHED FLOOR.
13. PROVIDE RETURN AIR DUCT SMOKE DETECTOR FOR SYSTEMS OVER 2000 CFM PER IBC 907.11 &IMC 606. DUCT SMOKE DETECTORS SHALL BE CONNECTED TO THE BUILDING'S FIRE CONTROL PANEL AND SHALL INITIATE A VISIBLE AND AUDIBLE SUPERVISORY SIGNAL UPON ACTIVATION. SMOKE DETECTION SYSTEM SHALL SHUT DOWN THE AIR DISTRIBUTION SYSTEM UPON ACTIVATION.
14. UNITS SHALL BE SUSPENDED WITH NON-COMBUSTIBLE HANGERS.

HVAC SYMBOLS AND ABBREVIATIONS

12X10	12"WIDE X 10"DEEP DUCT
12X10	12"ROUND DUCT
	LINED DUCT
	RECT ELBOW
	RECT ELBOW WITH TURNING VANES
	RECT ELBOW UP OR DOWN
T	THERMOSTAT
S	SENSOR
CO	CO SENSOR
NO2	NO2 SENSOR
CO2	CO2 SENSOR
CP	CONTROL PANEL
$	WALL SWITCH
SD	SMOKE DETECTOR
TC	TIMECLOCK
VD	VOLUME DAMPER
	MOTORIZED DAMPER
	SUPPLY
	RETURN
	ROUND ELBOW
	RECTANGULAR RADIUS ELBOW
	FLEX DUCT
	ROUND TAP
12X10AL	12X10 ALUMINUN DUCT
12X10SS	12X10 STAINLESS STEEL DUCT
12X10BI	12X10 BLACK IRON DUCT
	CONNECTION TO EXISTING
HHWS	HEATING HOT WATER SUPPLY
HHWR	HEATING HOT WATER RETURN
F/S	FIRE SMOKE DAMPER
F	FIRE DAMPER
S	SMOKE DAMPER
RD	RADIATION DAMPER
RVD	REMOTE OPERATED VOLUME DAMPER
MOD	MOTOR OPERATED DAMPER
SA	SUPPLY AIR
RA	RETURN AIR
EA	EXHAUST AIR
RE	RELIEF AIR
OA	OUTSIDE AIR

DUCT TAG NOMENCLATURE:

10"øXSA 10"x10"XSA
1 2 4 5 1 2 3 4 5
ROUND RECTANGULAR

1 - DUCT SIZE (ROUND - DIAMETER)
(RECTANGULAR PLAN VIEW - WIDTH)
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4 - SYSTEM MODIFIER
X - EXISTING
NO MODIFIER - NEW

5 - SYSTEM TYPE
SA - SUPPLY AIR
RA - RETURN AIR
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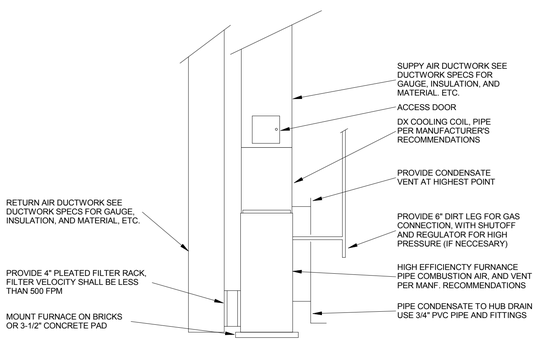
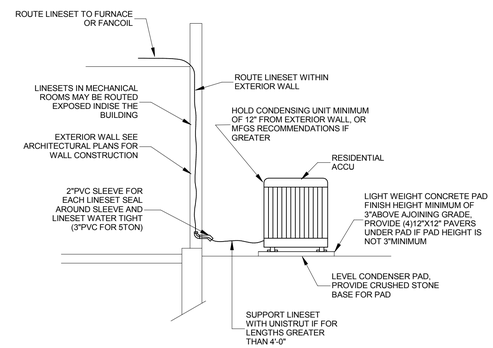
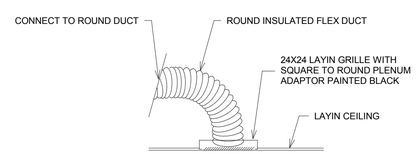


9 M101a FURNACE DETAIL
SCALE: NO SCALE



4 M101a GROUND MOUNTED ACCU DETAIL
SCALE: NO SCALE



5 M101a RETURN GRILLE DETAIL
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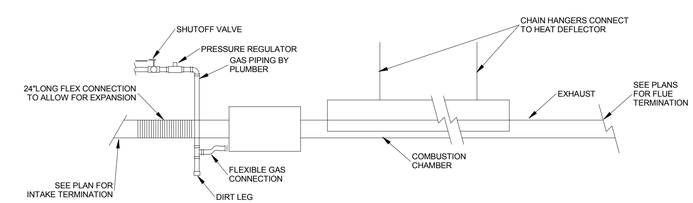

7 M101a GAS FIRED RADIANT HEATER DETAIL
SCALE: NO SCALE

PLAN NORTH
SCALE: As indicated

HVAC Details

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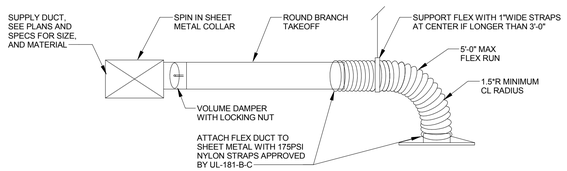
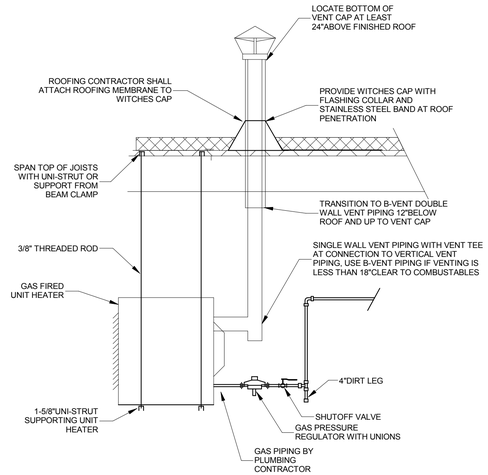
March 22, 2016

M101a



8 M101b BRANCH DUCT TAP
SCALE: NO SCALE



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MOD	MOTOR OPERATED DAMPER
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RA	RETURN AIR
EA	EXHAUST AIR
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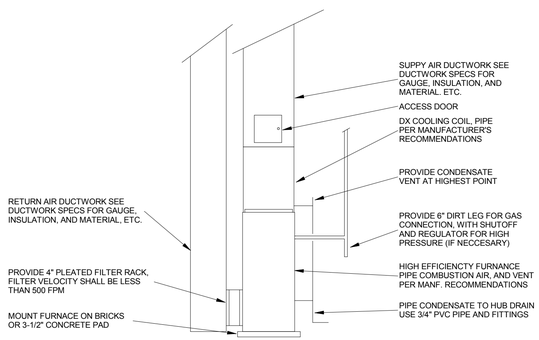
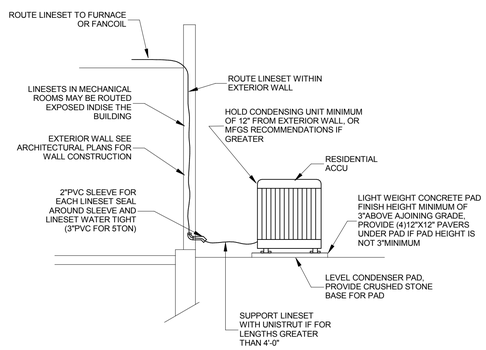


9 M101b FURNACE DETAIL
SCALE: NO SCALE



5 M101b GROUND MOUNTED ACCU DETAIL
SCALE: NO SCALE

DUCT TAG NOMENCLATURE:

10"øXSA 10"x10"XSA
1 2 4 5 1 2 3 4 5
ROUND RECTANGULAR

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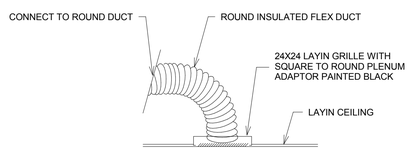

6 M101b RETURN GRILLE DETAIL
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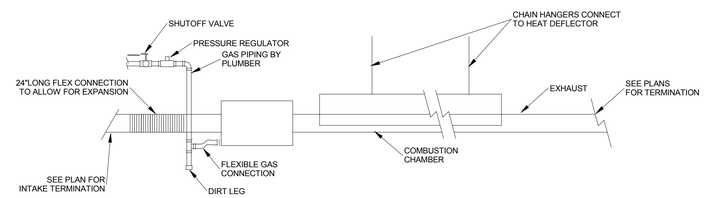

7 M101b GAS FIRED RADIANT HEATER DETAIL
SCALE: NO SCALE

PLAN NORTH
SCALE: As indicated

HVAC Details

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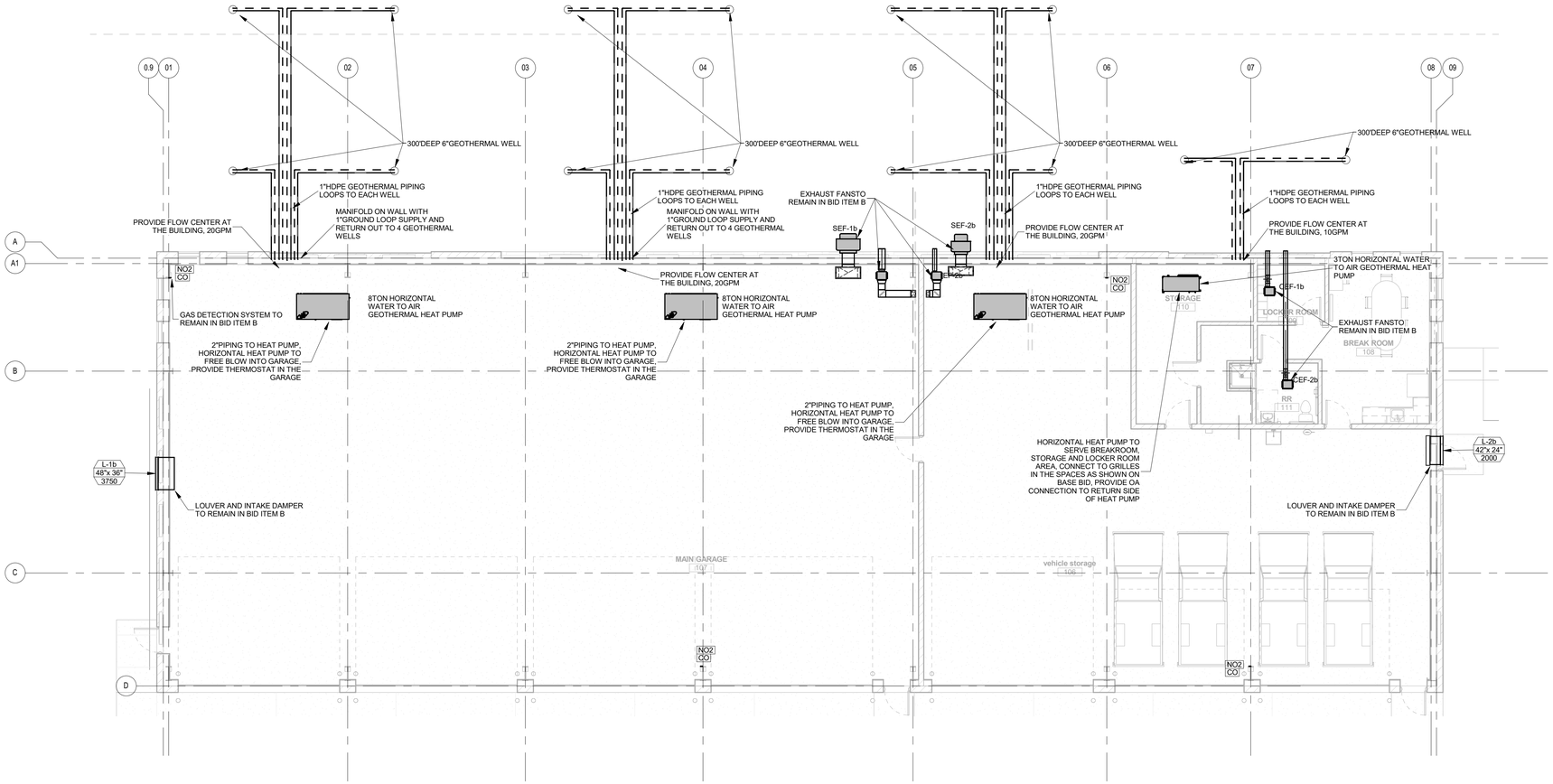
M101b



Informative Bid Geothermal Option

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

INFORMATIVE BID D NARRATIVE

- PROVIDE SEPARATELY PUMP STAND ALONE CONTROL GEOTHERMAL HEAT PUMP SYSTEMS TO HEAT THE GARAGE AND HEAT AND COOL THE BREAKROOM AREA
- GARAGE EXHAUST AND LOCKER ROOM EXHAUST SYSTEMS TO REMAIN
- GAS DETECTION SYSTEMS TO REMAIN.
- HORIZONTAL GEOTHERMAL HEAT PUMPS IN THE GARAGE ARE TO OPERATE BY SPACE THERMOSTAT CONTROL. WHEN GARAGE VENTILAATION SYSTEM IS IN ALARM THE HEAT PUMPS WILL "CATCH UP" THE STORAGE TEMPERATURE AFTER VENTILATION SYSTEM RESUMES TO NORMAL OPERATING MODE.

Informative Bid D Informational Plan

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March 22, 2016

PLAN NORTH

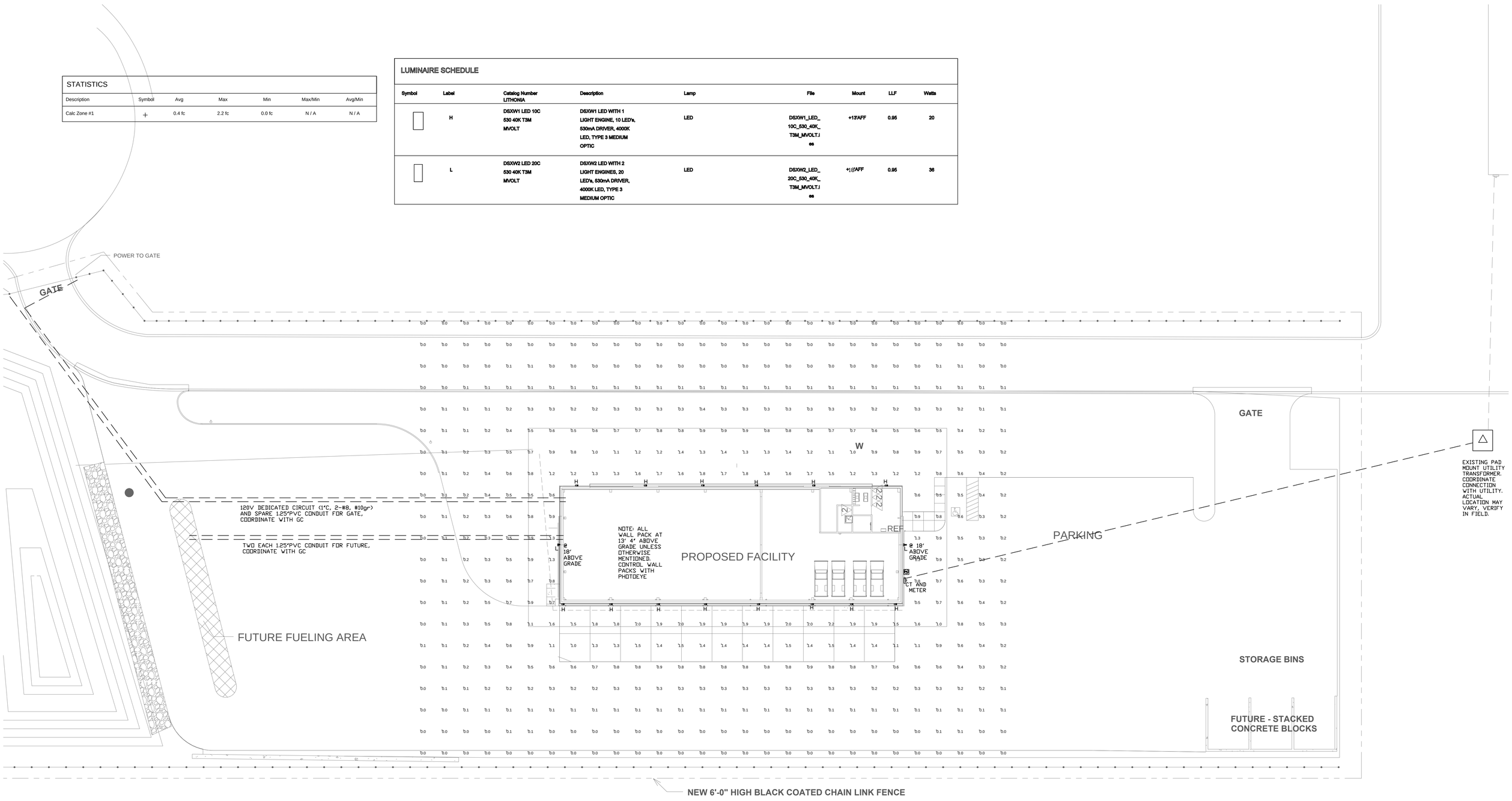
SCALE: 1/8" = 1'-0"

MIB D

STATISTICS						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	0.4 fc	2.2 fc	0.0 fc	N / A	N / A

LUMINAIRE SCHEDULE

Symbol	Label	Catalog Number LITHONIA	Description	Lamp	File	Mount	LLF	Watts
	H	DSXW1 LED 10C 530 40K T3M MVOLT	DSXW1 LED WITH 1 LIGHT ENGINE, 10 LED's, 530mA DRIVER, 4000K LED, TYPE 3 MEDIUM OPTIC	LED	DSXW1_LED_10C_530_40K_T3M_MVOLT.ies	+13'AFF	0.95	20
	L	DSXW2 LED 20C 530 40K T3M MVOLT	DSXW2 LED WITH 2 LIGHT ENGINES, 20 LED's, 530mA DRIVER, 4000K LED, TYPE 3 MEDIUM OPTIC	LED	DSXW2_LED_20C_530_40K_T3M_MVOLT.ies	+18'AFF	0.95	36



1 LAKE MILLS SITE PLAN
SCALE: 1" = 20'

Electrical Site Plan

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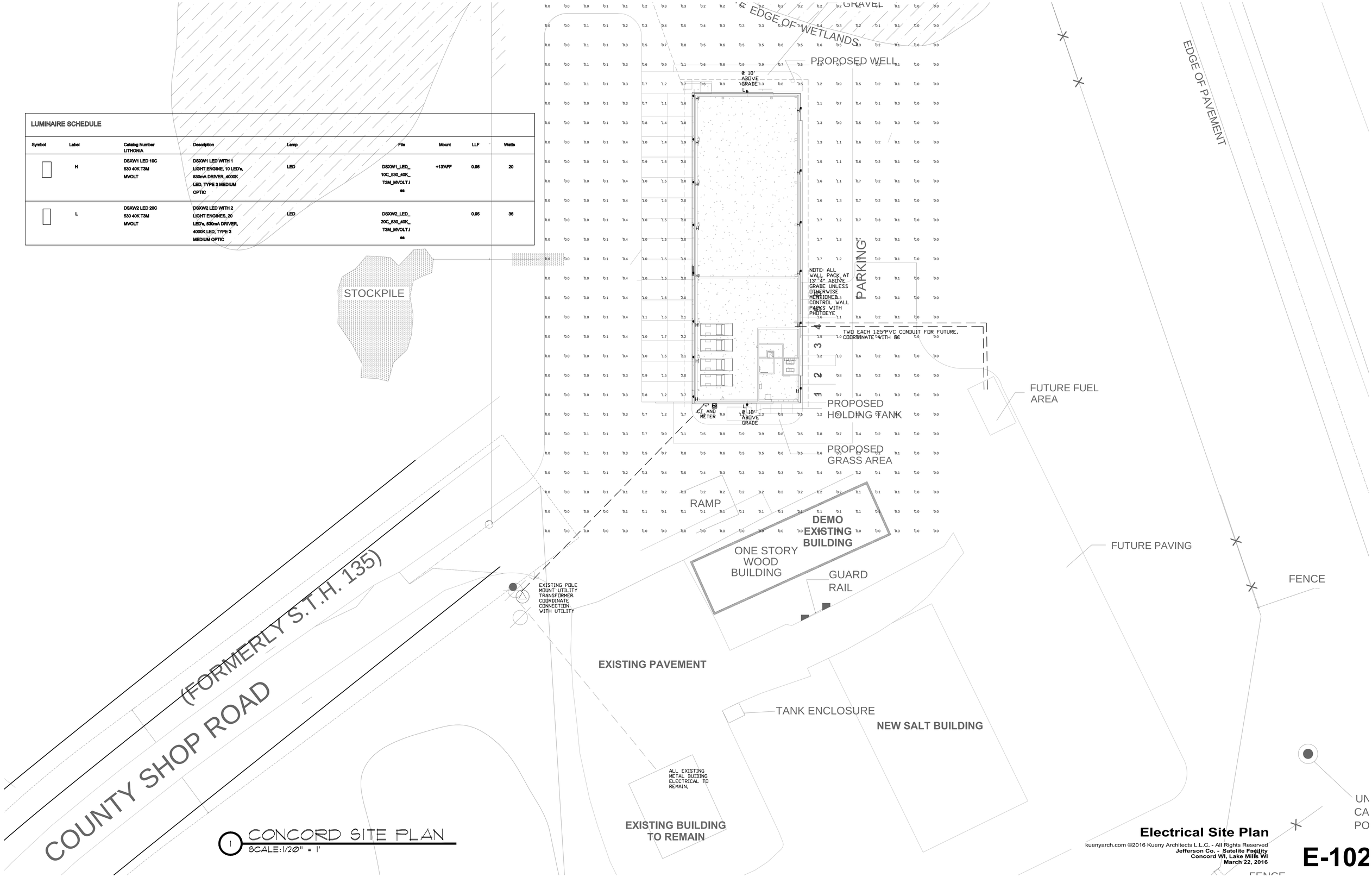
Jefferson Co. - Satelite Facility
Concord WI, Lake Mills WI
March 22, 2016

E-101

LUMINAIRE SCHEDULE

Symbol	Label	Catalog Number LITHONIA	Description	Lamp	File	Mount	LLF	Watts
	H	DSXW1 LED 10C 530 40K T3M MVOLT	DSXW1 LED WITH 1 LIGHT ENGINE, 10 LED's, 530mA DRIVER, 4000K LED, TYPE 3 MEDIUM OPTIC	LED	DSXW1_LED_10C_530_40K_T3M_MVOLT.ies	+13'AFF	0.95	20
	L	DSXW2 LED 20C 530 40K T3M MVOLT	DSXW2 LED WITH 2 LIGHT ENGINES, 20 LED's, 530mA DRIVER, 4000K LED, TYPE 3 MEDIUM OPTIC	LED	DSXW2_LED_20C_530_40K_T3M_MVOLT.ies		0.95	36



1 CONCORD SITE PLAN
SCALE: 1/20" = 1'

Electrical Site Plan

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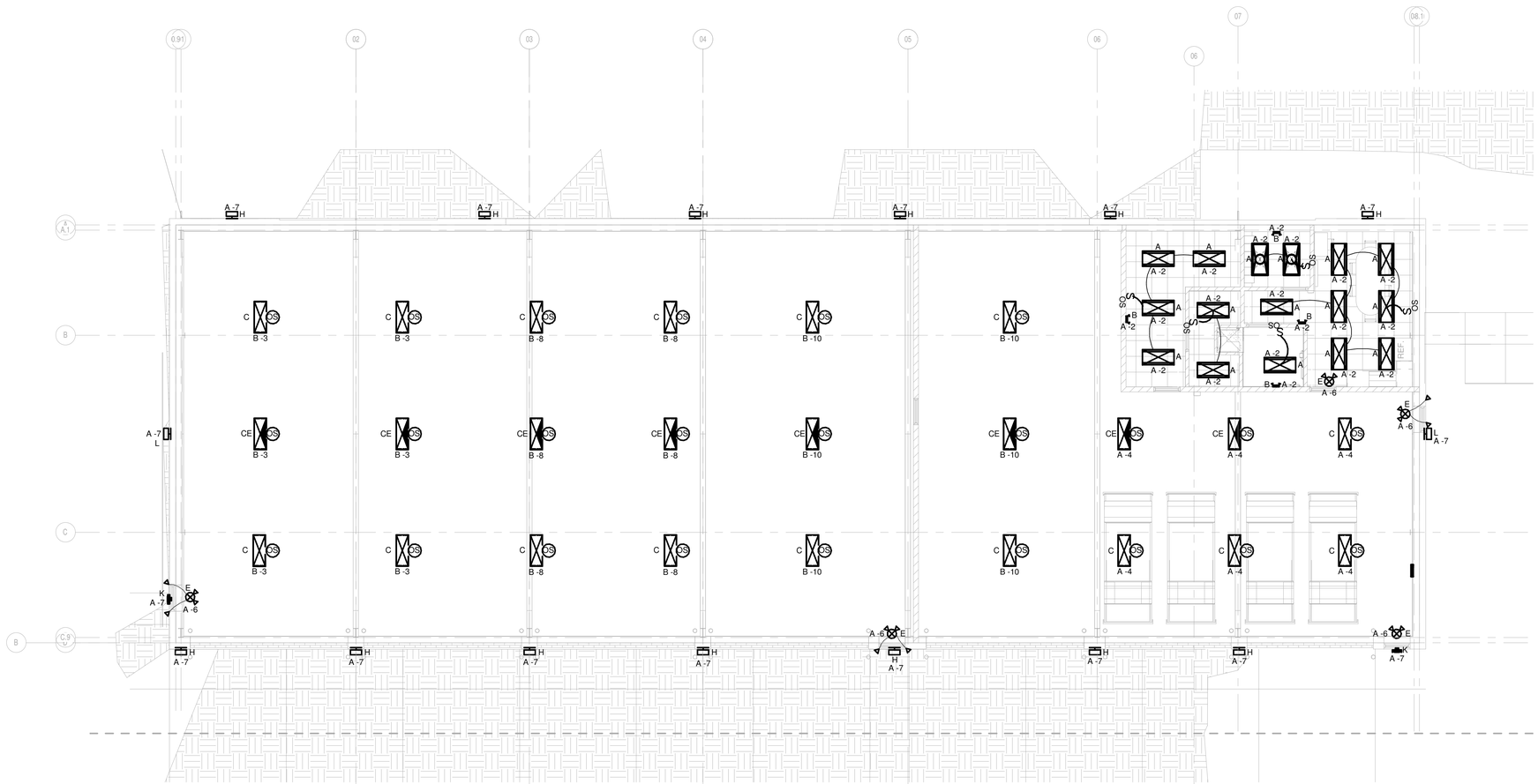
Jefferson Co. - Satelite Facility
Concord WI, Lake Mills WI
March 22, 2016

E-102



1 **1 - LIGHTING**
1/8" = 1'-0"

Master Lighting Plan

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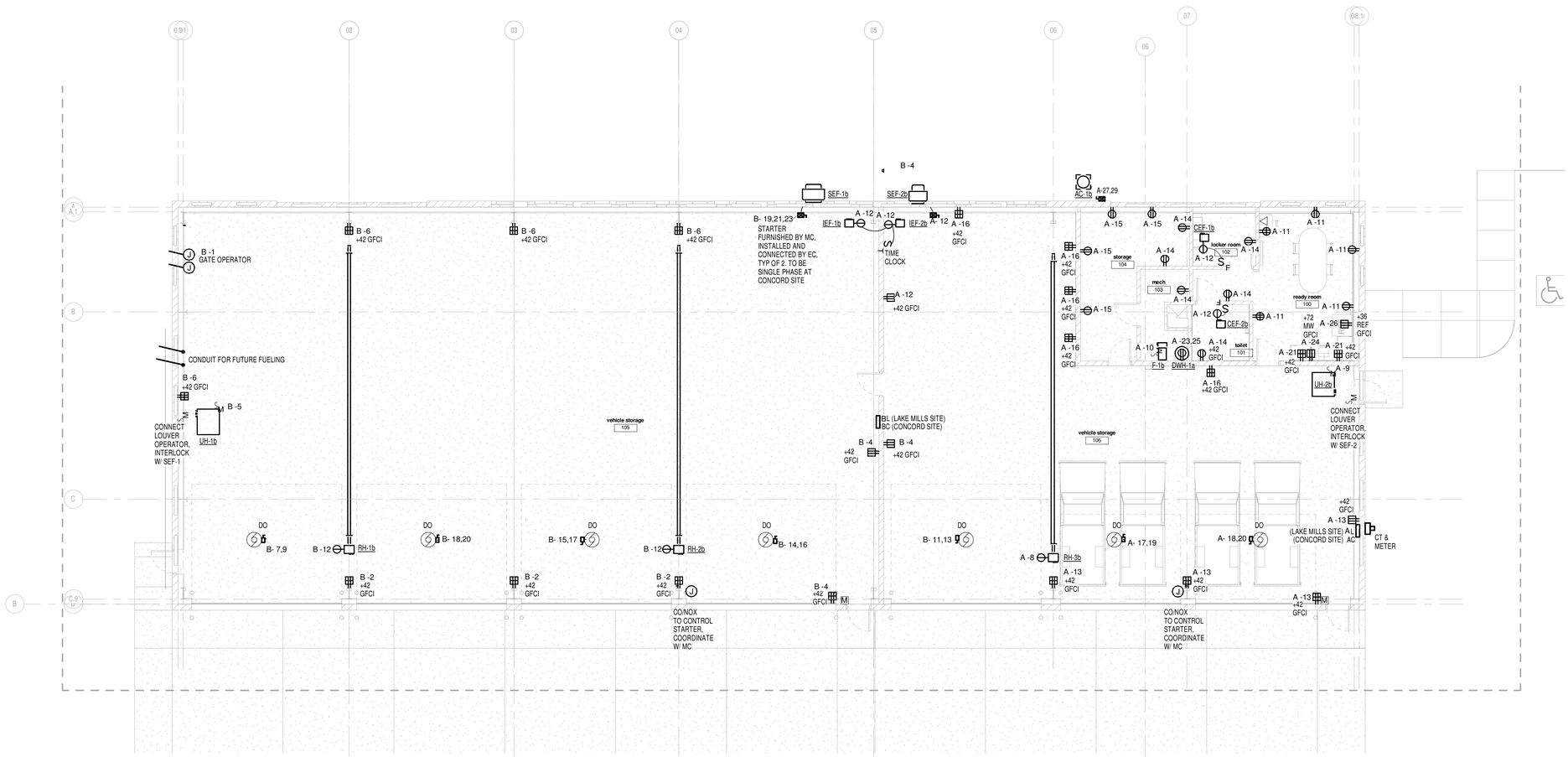
March 22, 2016

PLAN NORTH

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

E-201



1 - POWER

1/8" = 1'-0"

Master Power Plan

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Jefferson County - Satelite Facility

March 22, 2016

PLAN NORTH

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

E-301

PANELBOARD: AL

LOCATION:
SUPPLY FROM: UTILITY
MOUNTING: WALL
ENCLOSURE: N1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
SUBFEED LUGS:

A.I.C. RATING: 14000
TYPE:
MAIN BUS RATING: 400
MCB RATING: 400

NOTES: LAKE MILLS SITE

CKT	CIRCUIT DESCRIPTION	TRIP	POL...	A		B		C		POL...	TRIP	CIRCUIT DESCRIPTION	CKT
1	SUBPANEL B	100 A	3	7521...	1410...					1	20 A	LIGHTING	2
3	--	--	--			7293...	1152...			1	20 A	LIGHTING	4
5	--	--	--					5833...	25 VA	1	20 A	LIGHTING	6
7	LIGHTING - EXTERIOR	20 A	1	438 VA	576 VA					1	20 A	RECEPTACLE	8
9	EXHAUST FANS	20 A	1			600 VA	960 VA			1	20 A	FURNACE	10
11	RECEPTACLE	20 A	1					1260...	710 VA	1	20 A	RECEPTACLE	12
13	RECEPTACLE	20 A	1	1260...	1080...					1	20 A	RECEPTACLE	14
15	RECEPTACLE	20 A	1			720 VA	1800...			1	20 A	RECEPTACLE	16
17	DOOR OPERATOR	20 A	2					900 VA	900 VA	2	20 A	DOOR OPERATOR	18
19	--	--	--	900 VA	900 VA					--	--	--	20
21	RECEPTACLE	20 A	1			360 VA	0 VA			1	20 A	Spare	22
23	WATER HEATER	30 A	2					2250...	180 VA	1	20 A	RECEPTACLE	24
25	--	--	--	2250...	1000...					1	20 A	RECEPTACLE	26
27	AC-1B	20 A	2			1227...	0 VA			1	20 A	Spare	28
29	--	--	--					1227...	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	TVSS	0 A	1	0 VA	0 VA					1	20 A	Spare	38
39	TVSS	30 A	1			0 VA	0 VA			1	20 A	Spare	40
41	TVSS	0 A	1					0 VA	0 VA	1	20 A	Spare	42
			TOTAL LOAD:	17334 VA		14112 VA		13286 VA					
			TOTAL AMPS:	146 A		119 A		111 A					

LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	CALCULATED LOAD	PANEL TOTALS	
HVAC	3910 VA	100.00%	3910 VA		
HEATING	1152 VA	100.00%	1152 VA	**TOTAL CONNECTED LOAD:**	45113 VA
LIGHTING	5697 VA	125.00%	7121 VA	**TOTAL CALCULATED LOAD:**	42987 VA
LIGHTING - EXTERIOR	400 VA	125.00%	500 VA	**TOTAL CONNECTED AMPS.:**	125 A
POWER	16254 VA	100.00%	16254 VA	**TOTAL CALCULATED AMPS:**	119 A
RECEPTACLE	17300 VA	78.90%	13650 VA		
Lighting - Dwelling Unit	400 VA	100.00%	400 VA		

PANELBOARD: BL

LOCATION:
SUPPLY FROM: PANEL A
MOUNTING: WALL
ENCLOSURE: N1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4
SUBFEED LUGS:

A.I.C. RATING: 12000
TYPE:
MAIN BUS RATING: 100
MCB RATING: NONE

NOTES: LAKE MILLS SITE

CKT	CIRCUIT DESCRIPTION	TRIP	POL...	A		B		C		POL...	TRIP	CIRCUIT DESCRIPTION	CKT
1	GATE OPERATOR	20 A	1	1200...	1080...					1	20 A	RECEPTACLE	2
3	LIGHTING	20 A	1			1152...	1800...			1	20 A	RECEPTACLE	4
5	UNIT HEATER	20 A	1					50 VA	1440...	1	20 A	RECEPTACLE	6
7	DOOR OPERATOR	20 A	2	900 VA	1152...					1	20 A	LIGHTING	8
9	--	--	--			900 VA	1152...			1	20 A	LIGHTING	10
11	DOOR OPERATOR	20 A	2					900 VA	1152...	1	20 A	RADIANT HEATERS	12
13	--	--	--	900 VA	900 VA					2	20 A	DOOR OPERATOR	14
15	DOOR OPERATOR	20 A	2			900 VA	900 VA			--	--	--	16
17	--	--	--					900 VA	900 VA	2	20 A	DOOR OPERATOR	18
19	EXHAUST FAN	20 A	3	600 VA	900 VA					--	--	--	20
21	--	--	--			600 VA	0 VA			1	20 A	Spare	22
23	--	--	--					600 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31													32
33													34
35													36
37													38
39													40
41													42
			TOTAL LOAD:	7632 VA		7404 VA		5942 VA					
			TOTAL AMPS:	65 A		64 A		50 A					

LEGEND:

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	CALCULATED LOAD	PANEL TOTALS	
HVAC	1850 VA	100.00%	1850 VA		
HEATING	1152 VA	100.00%	1152 VA	**TOTAL CONNECTED LOAD:**	20978 VA
LIGHTING	3456 VA	125.00%	4320 VA	**TOTAL CALCULATED LOAD:**	21842 VA
POWER	10200 VA	100.00%	10200 VA	**TOTAL CONNECTED AMPS.:**	58 A
RECEPTACLE	4320 VA	100.00%	4320 VA	**TOTAL CALCULATED AMPS:**	61 A

Panel Schedules, Lake Mills Site

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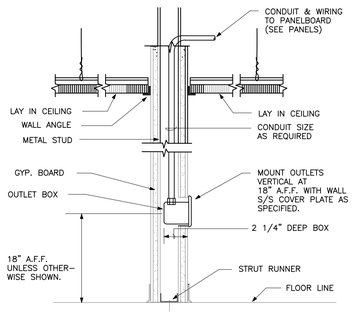
Jefferson County - Satelite Facility

March 22, 2016

PLAN NORTH

SCALE:

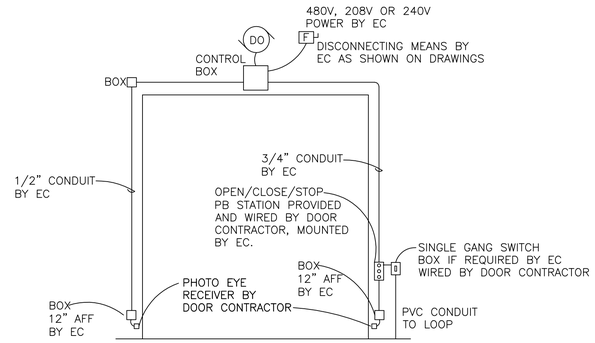
E-401



1 TYP. POWER RECEPTACLE INSTALLATION

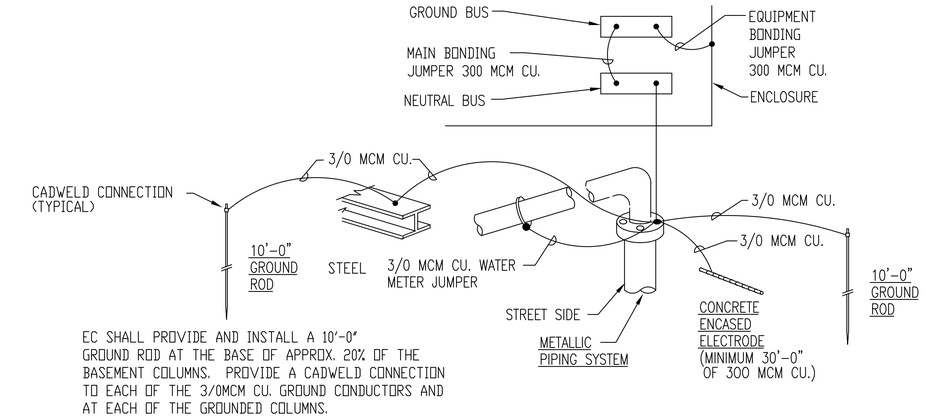
SCALE:NTS

NOTE: INSTALLATION SHALL BE MODIFIED AS REQUIRED FOR CMU WALLS OR OTHER WALL OR CEILING TYPES ENCOUNTERED.



4 TYPICAL OVERHEAD DOOR WIRING

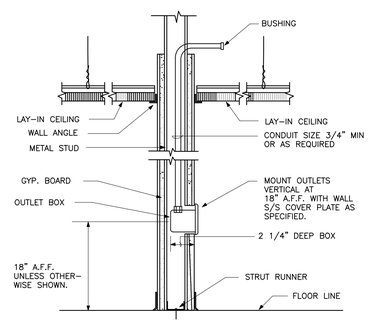
N.T.S.



EC SHALL PROVIDE AND INSTALL A 10'-0" GROUND ROD AT THE BASE OF APPROX. 20% OF THE BASEMENT COLUMNS. PROVIDE A CADWELD CONNECTION TO EACH OF THE 3/0MCM CU. GROUND CONDUCTORS AND AT EACH OF THE GROUNDED COLUMNS.

7 GROUNDING DETAIL

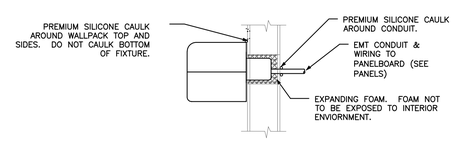
SCALE:NTS



NOTE: INSTALLATION SHALL BE MODIFIED AS REQUIRED FOR CMU WALLS OR OTHER WALL OR CEILING TYPES ENCOUNTERED.

2 TYP. TEL., TV AND DATA OUTLET INSTALLATION

SCALE:NTS



6 TYP WALLPACK INSTALLATION DETAIL

SCALE:NTS APPLIES TO WALLPACK 'Y'

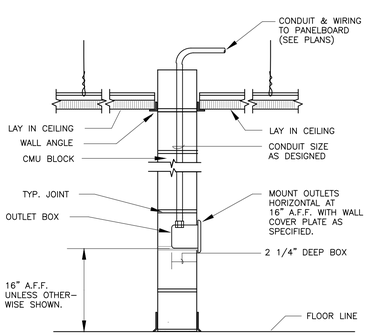
NOTE: INSTALLATION SHALL BE MODIFIED AS REQUIRED FOR CMU WALLS OR OTHER WALL OR CEILING TYPES ENCOUNTERED.

LIGHT CONTROL SCHEDULE

ITEM	DESCRIPTION	REFERENCE MODEL
$OS	SINGLE RELAY, PASSIVE DUAL TECH SENSING WALL SWITCH. AUTO ON SWITCHING.	SENSORSWITCH WSD PDT
$3OS	3-WAY SINGLE RELAY, PASSIVE DUAL TECH SENSING WALL SWITCH. AUTO ON SWITCHING. LOW VOLTAGE. ORDER WITH 1 POWER PACK PER STRING OF LIGHTS.	SENSORSWITCH WSD PDT LV WITH PP20
	SWITCH FOR DESTRATIFICATION FANS, COORDINATE WITH MC	TBD
OS 1P	LINE VOLTAGE CEILING MOUNT EXTENDED RANGE 360 DEG PIR SENSORSWITCH CMR-10 SENSOR. EC TO MOUNT ON BOTTOM OF STRUCTURE OR CEILING. 1200W MAX AT 277V, 800W MAX CONNECTED LOAD AT 120V. WHERE SHOWN, WIRE UPSTREAM OF WALL SWITCH	SENSORSWITCH CMR 10
$T	2 POLE 30A ELECTROMECHANICAL TIME CLOCK	INTERMATIC
PE	LINE VOLTAGE WALL MOUNT PHOTOEYE TO CONTROL SITE LIGHTING. 1600W CAPACITY MINIMUM. 277 OR 120V	INTERMATIC EK SERIES

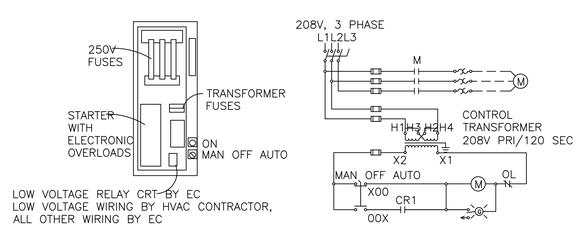
ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION
	MOTOR, HP OR FLA AS INDICATED
	DISCONNECT SWITCH, SIZE AS NOTED.
	JUNCTION BOX
	TIME CLOCK
	TRANSFORMER AS INDICATED
	INCANDESCENT OR HID WALL WASH FIXTURE, CEILING MOUNTED CLEAR SIDE INDICATES DIRECTION OF WASH
	FLUORESCENT FIXTURE, CEILING OR WALL MOUNTED, SUBSCRIPT INDICATES ASSOCIATED FIXTURE TYPE, SWITCHING, AND CIRCUIT ADDRESS.
	EMERGENCY FIXTURES AND OR NITE LIGHT FIXTURE TYPICAL.
EXIT	EXIT LIGHT,
	EMERGENCY LIGHT, BATTERY TYPE WITH CHARGER
	MOTOR STARTER, AS NOTED
	COMBINATION MOTOR STARTER/ DISCONNECT SWITCH, AS NOTED
	WALL MOUNTED SPEAKER
	CEILING MOUNTED SPEAKER
	HEADPHONE JACK FOR HEARING IMPAIRED
	PANELBOARD (SEE SCHEDULE)
	PLYWOOD TELEPHONE BACKBOARD, 4'X4'X3/4" THICK WITH TWO COATS OF INSULATING VARNISH
GFI INT A-TT	DUPLEX RECEPTACLE WITH CIRCUIT ADDRESS NOTED. 16" AFF UNLESS OTHERWISE NOTED. INTERRUPTING, WP=WEATHERPROOF, IG=ISOLTED GRND, E=EXISTING, GFI=GR FAULT INTERUPT.
	DOUBLE DUPLEX (QUADRUPLEX) RECEPTACLE 16" AFF UNLESS OTHERWISE NOTED
	DUPLEX GROUND FAULT RECEPTACLE 16" AFF UNLESS OTHERWISE NOTED
	QUADRUPLEX GROUND FAULT RECEPTACLE 16" AFF UNLESS OTHERWISE NOTED
	SPECIAL PURPOSE OUTLET WITH GROUND
▼ ▽	TELEPHONE/DATA OUTLET IN WALL 16" AFF. UNLESS OTHERWISE NOTED.
MIC	MICROPHONE J-BOX, FLOOR MOUNTED W/ BLANK BRASS COVER, 3/4" C TO ACCESSIBLE AREA WIRING BY OTHERS.
	SINGLE POLE SWITCH 120/277V, 48"AFF UNLESS OTHERWISE NOTED: -1P=WEATHERPROOF, -E=EXISTING, -2=DOUBLE POLE, -3=THREE-WAY, -4=FOUR-WAY, -SC=SPEED CONTROL, -D=DIMMER, M=RATED, F=FAN, T=TIMER
AC	ABOVE COUNTER, 44" AFF.
ACI	ABOVE CEILING
	MOTOR RATED SWITCH
	PILOT SWITCH
	OCCUPANCY SENSOR SWITCH, 3m THREE WAY OCCUPANCY SENSOR SWITCH.
	CEILING MOUNTED OCCUPANCY SENSOR SWITCH
FACP	FIRE ALARM CONTROL PANEL
FARA	FIRE ALARM ANNUNCIATOR PANEL
M	MANUAL FIRE ALARM PULL STATION, 48" AFF, ADA COMPLIANT W/ WIREGUARD
	FIRE ALARM AUDIO-VISUAL ANNUNCIATOR, AT 80" AFF, ADA COMPLIANT, W/ WIREGUARD. CEILING OR WALL MOUNTED
	DOOR HOLD OPEN DEVICES
	FIRE ALARM SPEAKER ANNUNCIATOR
	FIRE ALARM VISUAL ANNUNCIATOR, 80" AFF, ADA COMPLIANT
	HEAT DETECTOR
AM	ADDRESSABLE FIRE ALARM DEVICE, FLOW SWITCH, TAMPER SWITCH OR SIMILAR
	SMOKE DETECTOR
	SMOKE DETECTOR, DUCT MOUNTED, FURNISHED BY MECH SUB, CONNECTED BY ELECT.
	VALVE TAMPER SWITCH
	VALVE TAMPER SWITCH



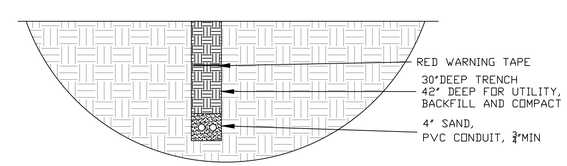
3 TYP.POWER OUTLET INSTALLATION

SCALE:NTS



5 208V COMINATION STARTERS FOR HVAC EQUIPMENT

N.T.S. SINGLE PHASE IS SIMILAR



8 UG ELECTRICAL CONDUIT TRENCHING DETAIL

SCALE:NTS

Electrical Details

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Jefferson Co. - Satelite Facility
Concord WI, Lake Mills WI
March 22, 2016

E-402

GENERAL ELECTRICAL NOTES DESIGN BASED ON 2011 NEC

1. THE ELECTRICAL SUBCONTRACTOR SHALL PROVIDE A COMPLETE AND USABLE SYSTEM WITHIN THE INTENT AND SPIRIT OF THAT INDICATED BY THESE DRAWINGS. WORK OR MATERIALS NOT SHOWN BY THE DRAWINGS, BUT NECESSARY TO COMPLETE THE SYSTEM SHALL BE INCLUDED AT NO ADDITIONAL COST.
   THE ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRICAL SYSTEM REQUIREMENTS INCLUDING FIRE ALARM DEVICES, SWITCHES, RACEWAY, DEVICES, CONDUCTOR, SPECIALTIES, CUTTING AND PATCHING, ETC.
2. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, MAKE ADJUSTMENTS TO AVOID CONFLICT. NOTIFY THE ENGINEER IN WRITING OF SIGNIFICANT CONSTRUCTABILITY ISSUES.
3. TELEPHONE/DATA OUTLETS, UNLESS NOTED, SHALL BE CIRCUITED BY OTHERS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE A CONDUIT TO AN ACCESSIBLE SPACE.
4. THE ELECTRICAL SUBCONTRACTOR SHALL VERIFY PLACEMENT OF ALL RECEPTACLES, WIRING DEVICES, SWITCHES, AND DISCONNECTS WITH ARCHITECTURAL, MECHANICAL AND PLUMBING DRAWINGS AND TRADES BEFORE ROUGHING IN.
5. WIRING MEANS AND METHODS SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL SUBCONTRACTOR. THE ELECTRICAL SUBCONTRACTOR SHALL VERIFY CEILING TYPE WITH FIXTURE SELECTION BEFORE ORDERING.
6. PANEL BOARDS SHALL BE SQUARE D NQOD OR EQUAL FROM CUTLER HAMMER, OR GE. BREAKERS SHALL BE BOLT–IN TYPE QOB OR EQUAL. 10kaic MINIMUM.
7. CONDUCTOR SHALL BE THW, THWN, OR THHN. CONDUIT SHALL BE GALV. EMT, IMC OR RIGID.
8. POWER RECEPS, WALL SWITCHES, COVER PLATES, ETC. SHALL BE COMMERCIAL GRADE 20 RATED MATCHING THE STYLE AND APPEARANCE OF THE EXISTING DEVICES.
9. EQUIPMENT SIZES ARE AS DESIGNED. CIRCUIT BREAKERS, CONDUIT, JUNCTION BOXES, DISC. SWITCHES, CONDUCTOR SIZES, DEVICE LOCATIONS, ETC., SHALL BE ADJUSTED TO THE EQUIPMENT SUBMITTED AND APPROVED FOR INSTALLATION ON THIS PROJECT
10. THE ELECT SUBCONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION BETWEEN THE ELECTRICAL AND MECHANICAL TRADES TO PROVIDE CLEARANCES ABOVE CEILING BETWEEN RECESSED LIGHT FIXTURES AND THERMAL INSULATION OR COMBUSTIBLE MATERIALS IN ACCORD WITH N.E.C. PARAGRAPH 410–65 & 66.
11. THE ELECTRICAL SUBCONTRACTOR SHALL PREPARE A SUBMITTAL PACKAGE WHICH DETAILS PROPOSED EQUIPMENT (FIVE COPIES). AT MINIMUM THE SUBMITTAL PACKAGE WILL CONTAIN DETAILED DATA ON LIGHTING FIXTURES, PANELBOARDS, AND ACCESSORIES. EQUAL EQUIPMENT TO THAT SPECIFIED WILL BE CONSIDERED IF PERFORMANCE, APPEARANCE, SERVICEABILITY AND QUALITY ARE JUDGED BY THE ENGINEER AND/OR ARCHITECT TO BE EQUAL.
12. ALL WORK SHALL COMPLY WITH COGNIZANT CODES, REGULATIONS, LAWS AND THE DETERMINATIONS OF THE LOCAL BUILDING OFFICIAL AT NO EXTRA COST. THE CONTRACTOR SHALL INFORM THE ENGINEER IN WRITING OF ANY CONFLICT BETWEEN THE PLANS AND APPLICABLE CODES.
13. ALL MATERIALS WILL BE NEW AND IN NEW CONDITION.
14. ALL ELECTRICAL CONNECTIONS 120V OR HIGHER SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL SUBCONTRACTOR. MECHANICAL SHALL FURNISH DUCT SMOKE DETECTORS AS REQUIRED TO ELECTRICAL FOR FIRE ALARM INSTALLATION. MECHANICAL SHALL PROVIDE HVAC CONTROL WIRING. ELECTRICAL SHALL COORDINATE EQUIPMENT CONNECTION WITH MECHANICAL AND PLUMBING.
15. WHEN SYSTEMS ARE COMPLETE AND OPERATIONAL, A 'PUNCH LIST' INSPECTION SHALL BE REQUESTED BY THE CONTRACTOR. SUCH AN INSPECTION SHALL NOT BE CONDUCTED ON INCOMPLETE OR NON–OPERATIONAL SYSTEMS.
16. UPON COMPLETION OF WORK, SUBMIT FOUR COPIES OF OPERATION AND MAINTENANCE MANUALS, AS BUILT DRAWINGS, GUARANTIES AND WARRANTIES. AT MINIMUM, THE CONTRACTOR WILL WARRANTY ALL WORK, EQUIPMENT AND MATERIALS FOR ONE YEAR PAST BENEFICIAL OCCUPANCY.
17. ALL RECEPS, LOCATED IN AREAS SUBJECT TO MOISTURE, OR ON THE EXTERIOR OF THE BUILDING SHALL BE G.F.I. TYPE, IN WEATHERPROOF, TYPE–FS, BOX WITH WEATHERPROOF COVER.
18. NO RECEP. OR DEVICE SHALL BE LOCATED WITHIN 4'–0" OF SINKS. OUTLETS NEAR SINKS, OR IN LOCATIONS SUBJECT TO MOISTURE SHALL BE G.F.I. TYPE.
19. ALL ELECTRICAL WIRING IN OR ON THE BUILDING SHALL BE IN IMC, RMC, OR EMT, IN ACCORDANCE WITH LOCAL CODE AMENDMENT. ALL EXTERIOR WIRING SHALL BE BURIED IN CONDUIT APPROVED FOR THE ENVIRONMENT IN ACCORDANCE WITH LOCAL CODE AMENDMENT.
20.

LIGHT FIXTURE SCHEDULE

ITEM	VOLTS	MOUNT	LAMPS	DESCRIPTION	REFERENCE MODEL
A	MVOLT	GRID	2-32W T8 4100K	VOLUMETRIC GRID MOUNT 2x4 FLUORESCENT. ELECTRONIC BALLAST. ARCHITECT SHALL SELECT FINISH.	LITHONIA 2RT8232 GEB10IS
AE	MVOLT	GRID	2-32W T8 4100K	SAME AS FIXTURE A, EXCEPT WITH EMERGENCY BATTERY BALLAST.	LITHONIA 2RT8232 GEB10IS
C	MVOLT	NOTE 1	6-32W T8 4100K	GENERAL PURPOSE T8 INDUSTRIAL HIGH BAY FIXTURE WIDE DISTRIBUTION 5% UPLIGHT. INCLUDE WIRE GUARD, ELECTRONIC RS BALLAST WHERE INDICATED, INCLUDE A 360deg INTEGRAL FACTORY OCCUPANCY SENSOR,	LITHONIA IBZ632 WD WGX LA0ZU (MSI360)
CE	MVOLT	NOTE 1	6-32W T8 4100K	GENERAL PURPOSE T8 INDUSTRIAL HIGH BAY FIXTURE WIDE DISTRIBUTION 5% UPLIGHT. INCLUDE WIRE GUARD, ELECTRONIC RS BALLAST, EMERGENCY BATTERY PACK BALLAST. WHERE INDICATED, INCLUDE A 360deg INTEGRAL FACTORY OCCUPANCY SENSOR,	LITHONIA IBZ632 WD WGX EL14 LA0ZU (MSI360)
E	MVOLT	WALL OR PENDANT	LED	COMBINATION EXIT EMERG LIGHT W/ BATTERY PACK. RED LENS, POLY BODY. BATTERY. WHERE INDICATED, INCLUDE EXTRA CAPACITY BATTERY, AND REMOTE EM LAMP FOR OUTSIDE	LITHONIA LHQM 3 R (HD), 2 EA ELATQ OR EQ
F	MVOLT	WALL	LED	COMPACT WALL MOUNT EMERGENCY LIGHT. POLYCARB BODY. BATTERY PACK.	LITHONIA QUANTUM ELM-120 OR EQ
H	MVOLT	WALL 13'AFF	REFER TO SCHEDULE ON E-101,102	LED WALL PACK. WALL MOUNT PHOTOEYE CONTROL	REFER TO SCHEDULE ON E-101
L	MVOLT	WALL 20'AFF	REFER TO SCHEDULE ON E-101,102	LED WALL PACK. WALL MOUNT PHOTOEYE CONTROL	REFER TO SCHEDULE ON E-101

NOTES:
1. HIGH BAY FLUORESCENT FIXTURES SHALL BE MOUNTED AT THE BOTTOM CHORD ELEVATION OF STRUCTURE. BRIDGE STRUCTURE WITH GALVANIZED UNISTRUT AS REQUIRED.

ELECTRICAL PANEL SCHEDULE

MARK: A CONCORD — LOCATION: CONCORD SITE
VOLTS: 240 120 — PHASE: 1 — WIRE: 3
MAIN CIRCUIT BREAKER: 400 A. — MAIN LUGS ONLY: A. — INTERRUPTING CAPACITY AIC (x1000): 14 A. SYM.
ENCLOSURE: SURFACE: X — RECESSED: — NEMA: 1

CIRC. NO.	CIRCUIT USE	TRIP AMPS	# OF POLES	WIRE SIZE	LOAD VA	TYPE	VA LOAD/PHASE A	VA LOAD/PHASE B	TYPE	LOAD VA	WIRE SIZE	# OF POLES	TRIP AMPS	CIRCUIT USE	CIRC. NO.
1	SUBPANEL BC	200	2	12	10224		11634		1	1410	12	1	20	LIGHTING	2
3				12	10294			11446	1	1152	12	1	20	LIGHTING	4
5	SPARE	20	1				424		1	424	12	1	20	LIGHTING	6
7	LIGHTING EXTERIOR	20	1	12	438	1		1014	4	576	12	1	20	RECEPTACLE	8
9	EXHAUST FANS	20	1	12	600	12	1560		2	960	12	1	20	FURNACE	10
11	RECEPTACLES	20	1	EX	1260	4		1793	4	533	12	1	20	RECEPTACLE	12
13	RECEPTACLES	20	1	12	1260	4	2340		4	1080	12	1	20	RECEPTACLE	14
15	RECEPTACLES	20	1	12	1260	4		3060	4	1800	12	1	20	RECEPTACLE	16
17	DOOR OPERATOR	20	2	12	900	8	1800		8	900	12	2	20	DOOR OPERATOR	18
19				12	900	8		1800	8	900	12				20
21	RECEPTACLES	20	1	12	1260	4	1260					1	20	SPARE	22
23	WATER HEATER	30	2	10	2250	8		2750	4	500	12	1	20	RECEPTACLE	24
25				10	2250	8	3250		4	1000	12	1	20	RECEPTACLE	26
27	AC-1B	20	2	12	1227	2		1227				1	20	SPARE	28
29	CONDENSING UNIT			12	1227	2	1227					1	20	SPARE	30
31	SPARE	20	1					0				1	20	SPARE	32
33	SPARE	20	1				0					1	20	SPARE	34
35	SPARE	20	1					0				1	20	SPARE	36
37	SPARE	20	1				0					1	20	SPARE	38
39	TVSS	30	2	8	0	8		0				1	20	SPARE	40
41				8	0	8	0					1	20	SPARE	42
							LOAD PER PHASE: 23495	23090							

PANELBOARD LOAD ANALYSIS

GENERAL DESCRIPTION	LOAD TYPE	CONNECTED KVA		DEMAND FACTOR		DESIGN KVA
LIGHTING	1	6.9	x	1	=	6.9
AIR COND.	2	3.4	x	1	=	3.4
HEATING	3	1.2	x	1	=	1.2
RECEPTACLES	4	15.6	x	NEC 220-13	=	12.8
MOTORS	5	0.0	x	NEC 220-26	=	0.0
ELEVATORS	6	0.0	x	NOTE 4	=	0.0
KITCHEN EQ.	7	0.0	x	NEC 220-20	=	0.0
OTHER	8	18.9	x	1	=	18.9
SUBTOTAL=		46.0		SUBTOTAL=		43.2
				RESERVE (0%)=		0.0
				TOTAL KVA=		43.2
				TOTAL AMPS=		179.9

NOTES:
1. NEW PANEL BOARD (LOAD CENTER NOT ACCE
2. NEUTRAL BUS SHALL BE ISO-
LATED FROM ENCLOSURE.
3. PROVIDE ISOLATED GROUND
BUS AND SAFETY GROUND BUS
FOR ALL PANELS.
4. PER NEC TABLE 430-22A; 430-
26; 620-13,14,15.

LEGEND:
*
**

ELECTRICAL PANEL SCHEDULE

MARK: B CONCORD — LOCATION: CONCORD SITE
VOLTS: 240 120 — PHASE: 1 — WIRE: 3
MAIN CIRCUIT BREAKER: A. — MAIN LUGS ONLY: 200 A. — INTERRUPTING CAPACITY AIC (x1000): 12 A. SYM.
ENCLOSURE: SURFACE: X — RECESSED: — NEMA: 1

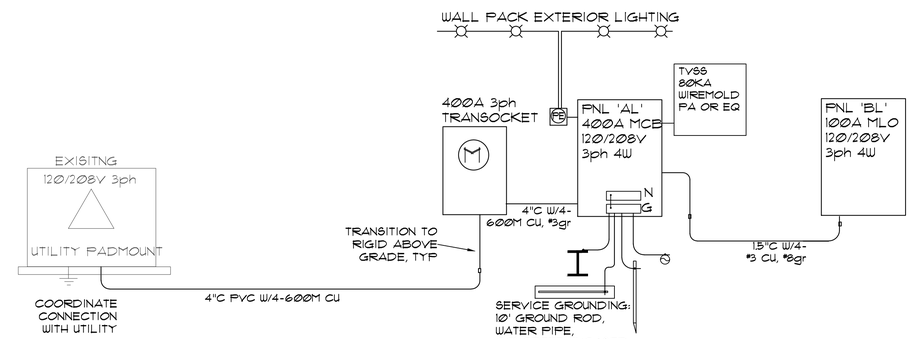
CIRC. NO.	CIRCUIT USE	TRIP AMPS	# OF POLES	WIRE SIZE	LOAD VA	TYPE	VA LOAD/PHASE A	VA LOAD/PHASE B	TYPE	LOAD VA	WIRE SIZE	# OF POLES	TRIP AMPS	CIRCUIT USE	CIRC. NO.
1	SPARE	20	1				1080		4	1080	12	1	20	RECEPTACLES	2
3	LIGHTING	20	1	12	1152	1		2592	4	1440	12	1	20	RECEPTACLES	4
5	UNIT HEATER	20	1	12	1152	3	2592		4	1440	12	1	20	RECEPTACLES	6
7	DOOR OPERATOR	20	2	12	900	8		2052	1	1152	12	1	20	LIGHTING	8
9				12	900	8	2052		1	1152	12	1	20	LIGHTING	10
11	DOOR OPERATOR	20	2	12	900	8		2050	4	1150	12	1	20	RADIANT HEATERS	12
13				12	900	8	1800		8	900	12	2	20	DOOR OPERATOR	14
15	DOOR OPERATOR	20	2	12	900	8		1800	8	900	12				16
17				12	900	8	1800		8	900	12	2	20	DOOR OPERATOR	18
19	EXHAUST FAN	20	2	12	900	8		1800	8	900	12				20
21				12	900	8	900					1	20	SPARE	22
23	SPARE	20	1	12				0				1	20	SPARE	24
25	SPARE	20	1	12			0					1	20	SPARE	26
27	SPARE	20	1	12				0				1	20	SPARE	28
29	SPARE	20	1	12			0					1	20	SPARE	30
31	SPARE	20	1	12				0				1	20	SPARE	32
33	SPARE	20	1	12			0					1	20	SPARE	34
35	SPARE	20	1	12				0				1	20	SPARE	36
37	SPARE	20	1	12			0					1	20	SPARE	38
39	SPARE	20	1	12				0				1	20	SPARE	40
41	SPARE	20	1	12			0					1	20	SPARE	42
							LOAD PER PHASE: 10224	10294							

PANELBOARD LOAD ANALYSIS

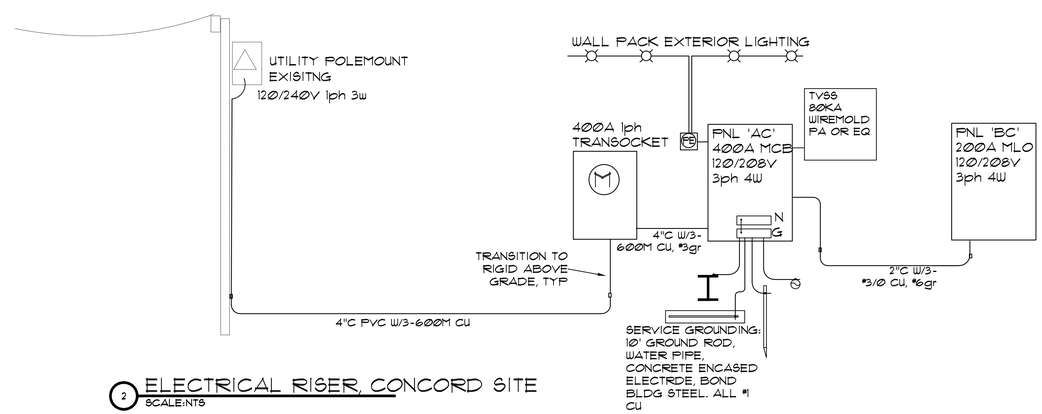
GENERAL DESCRIPTION	LOAD TYPE	CONNECTED KVA		DEMAND FACTOR		DESIGN KVA
LIGHTING	1	3.5	x	1	=	3.5
AIR COND.	2	0.0	x	1	=	0.0
HEATING	3	1.2	x	1	=	1.2
RECEPTACLES	4	5.1	x	NEC 220-13	=	5.1
MOTORS	5	0.0	x	NEC 220-26	=	0.0
ELEVATORS	6	0.0	x	NOTE 4	=	0.0
KITCHEN EQ.	7	0.0	x	NEC 220-20	=	0.0
OTHER	8	10.8	x	1	=	10.8
SUBTOTAL=		20.5		SUBTOTAL=		20.5
				RESERVE (0%)=		0.0
				TOTAL KVA=		20.5
				TOTAL AMPS=		85.5

NOTES:
1. NEW PANEL BOARD (LOAD CENTER NOT ACCE
2. NEUTRAL BUS SHALL BE ISO-
LATED FROM ENCLOSURE.
3. PROVIDE ISOLATED GROUND
BUS AND SAFETY GROUND BUS
FOR ALL PANELS.
4. PER NEC TABLE 430-22A; 430-
26; 620-13,14,15.

LEGEND:
*
**



1 ELECTRICAL RISER, LAKE MILLS SITE
SCALE:NTS



2 ELECTRICAL RISER, CONCORD SITE
SCALE:NTS

Electrical Riser and Details

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Jefferson Co. - Satelite Facility
Concord WI, Lake Mills WI
March 22, 2016

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