

**City of Ramsey**  
**Agenda**  
**City Council Work Session**  
**Tuesday November 20, 2012**  
**Immediately Following Public Works Committee**  
**Lake Itasca Room 7550 Sunwood Drive NW**

- 1. Call to Order**
- 2. Topics for Discussion**
  1. Review Request for Alternative Mechanical Screening at 7333 Sunwood Dr NW; Case of NAU Country Insurance Company
- 3. Future Topics for Discussion - *See Attached Calendar***
  1. Review Future Work Session Topics/Calendar
- 4. Mayor/Council/Staff Input**
- 5. Adjournment**

**CC Work Session****2. 1.****Meeting Date:** 11/20/2012**By:** Tim Gladhill, Community Development

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**Title:**

Review Request for Alternative Mechanical Screening at 7333 Sunwood Dr NW; Case of NAU Country Insurance Company

**Background:**

On October 30th, 2012, City Staff received an Application for Building Permit to construct multiple pieces of mechanical equipment at 7333 Sunwood Dr NW, home of NAU Country Insurance. On November 8th, 2012, the Applicant supplied supplemental information at the request of Staff.

The request includes upgrades to the data center portion of the building, and requires upgrades and additions to certain mechanical equipment, including a second transformer, a backup/emergency generator, and four pieces of cooling equipment proposed to be constructed at ground level west of the existing building along Sunwood Drive. The Design Framework for The COR (City Code) states on page 28 that "equipment, mechanical systems, transformers, etc. must be screened from view in a way that is integral to the architecture of the building; screening should be accomplished with materials similar to or compatible with materials used on the main structure; metal fencing or mechanical vent screens alone are not sufficient." The Applicant is proposing to utilize a vinyl coated, mesh fabric covered chain-link fence with vegetative screening along Sunwood Drive.

**Notification:**

No notification required.

**Observations:**

The Design Framework sets minimum design standards for all future development to follow in The COR, including architectural standards. The Framework also allows some flexibility in creativity in design, provided that the design intent is met. Certain architectural review can be approved administratively by Staff. Some architectural approval requires consideration and approval by the City Council. Staff believes that the current proposal is not a design that Staff could approve administratively under current City Code, but may be a proposal that could be approved by City Council. There are six larger pieces of mechanical equipment in close proximity to Sunwood Drive.

In its review, Staff divided the review into primary mechanical equipment (transformer and backup generator) and accessory mechanical equipment (cooling system). As the electrical transformer and generator serve a primary purpose related to the functional capability of the building and placement is somewhat dependent upon placement by the utility company, the City has allowed flexibility in screening for these components. The City has consistently required that this accessory mechanical equipment be screened in some capacity.

The Applicant has stated, based on general structural review, that the mechanical equipment cannot be located on the roof of the building. There are several pieces of mechanical equipment that currently serve the data center. According to the Applicant, this equipment must remain in operation during the construction phases to avoid disruption in service. According to the Applicant, the structural capability of the roof cannot adequately sustain the existing equipment (to be removed) and the proposed equipment. Thus, the Applicant has focused its efforts on the proposed 'equipment courtyard' at ground level.

Additionally, the Applicant has stated that it is cost-prohibitive to require an architectural screening wall consistent with materials used on the building itself. A copy of the response by the Applicant is included for your review.

If the City Council does approve the request as presented, Staff would recommend that the Applicant enter into a Maintenance Agreement and supply a Landscape Maintenance Guarantee to ensure the long-term survival of

landscaping that will serve as screening.

**Recommendation:**

Ideally, Staff would recommend a combination of fencing and architectural wall as a solution to the mechanical equipment needs of NAU Country Insurance and the screening requirements of City Code. Staff would recommend, under current City Code, a screening wall with materials compatible with the existing building along Sunwood Drive, and the use of the proposed fence for the remaining two (2) sides.

Alternatively, Staff would support the use of fencing and vegetative screening, if the City Council decides that this is an acceptable screening mechanism for future development. Staff would recommend documenting this policy at a future date to guide future reviews administratively. Staff recommends that vegetative screening include a maintenance agreement and surety to ensure long-term maintenance and survival. The Design Framework is intended to provide baseline design standards, while encouraging and providing for creative and flexibility in design.

**Funding Source:**

Review of the Building Permit is included as part of the Plan Review Fee collected with the Building Permit.

**Council Action:**

Motion to approve/deny the request for mechanical screening with use of a vinyl coated, chain-link fence with mesh fabric and vegetative screening along Sunwood Drive.

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**Attachments**

Site Location Map

Aerial Photo

Site Plan Sheet T-1

Site Plan Sheet A101

Site Plan Sheet M-1

Site Plan Sheet M-2

Site Plan Sheet E-4

Sample Cooler

Sample Cooler Specifications

Sample Condenser

Sample Condenser Specification

Artist Rendering

Response from Applicant

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**Form Review**

**Inbox**

Kurt Ulrich

Form Started By: Tim Gladhill

**Reviewed By**

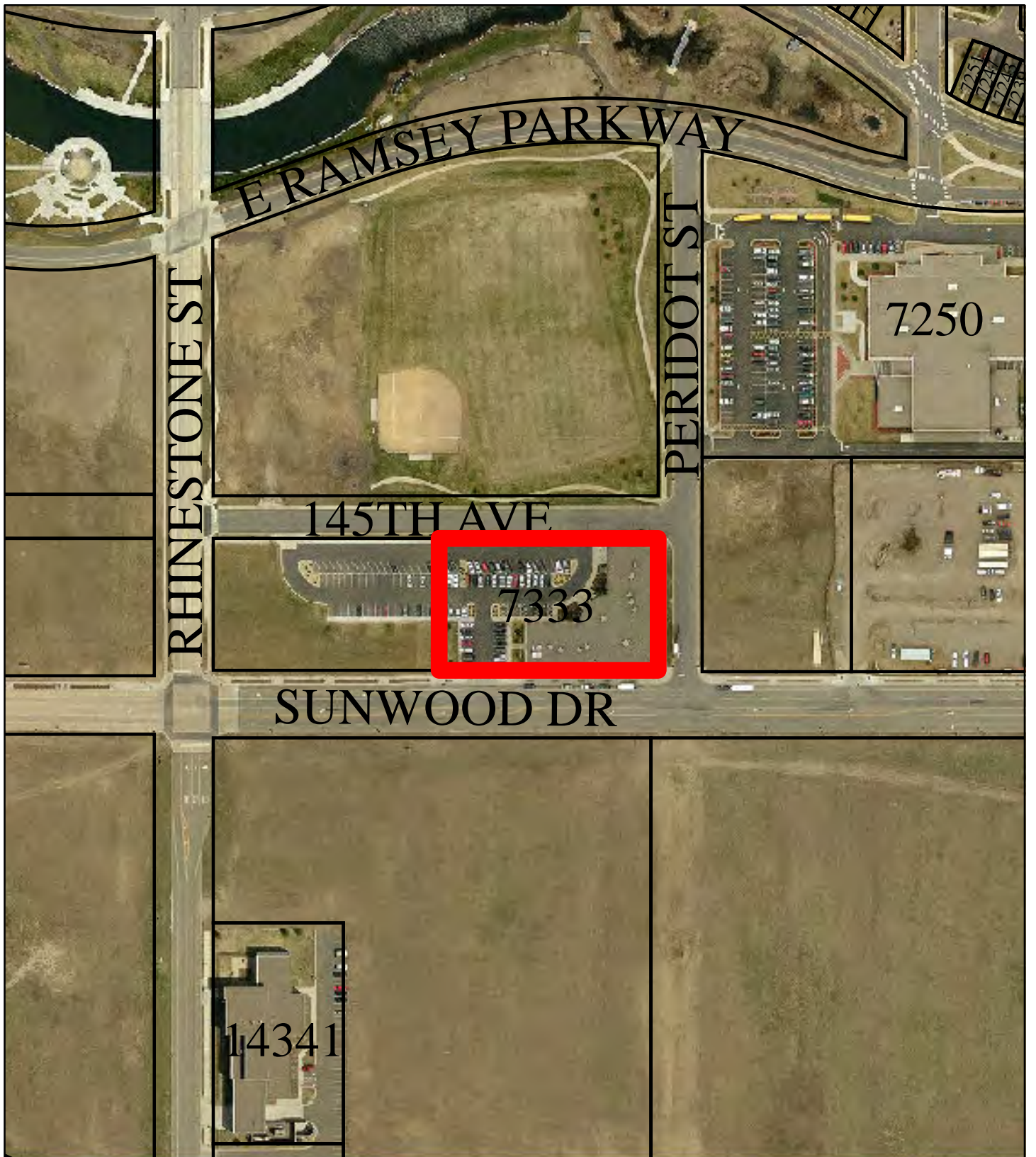
Kurt Ulrich

**Date**



11/15/2012 04:06 PM

Started On: 11/14/2012 10:21 AM

Final Approval Date: 11/15/2012




NAU Country Insurance  
7333 Sunwood Dr NW

Legend  
 Site  
 Parcels



0 237.5 475 Feet

A horizontal scale bar with three segments, corresponding to the 0, 237.5, and 475-foot markings.



Sunwood Dr NW

Sunwood Dr NW

Sunwood Dr NW



**GENERAL NOTES (NEW CONSTRUCTION)**

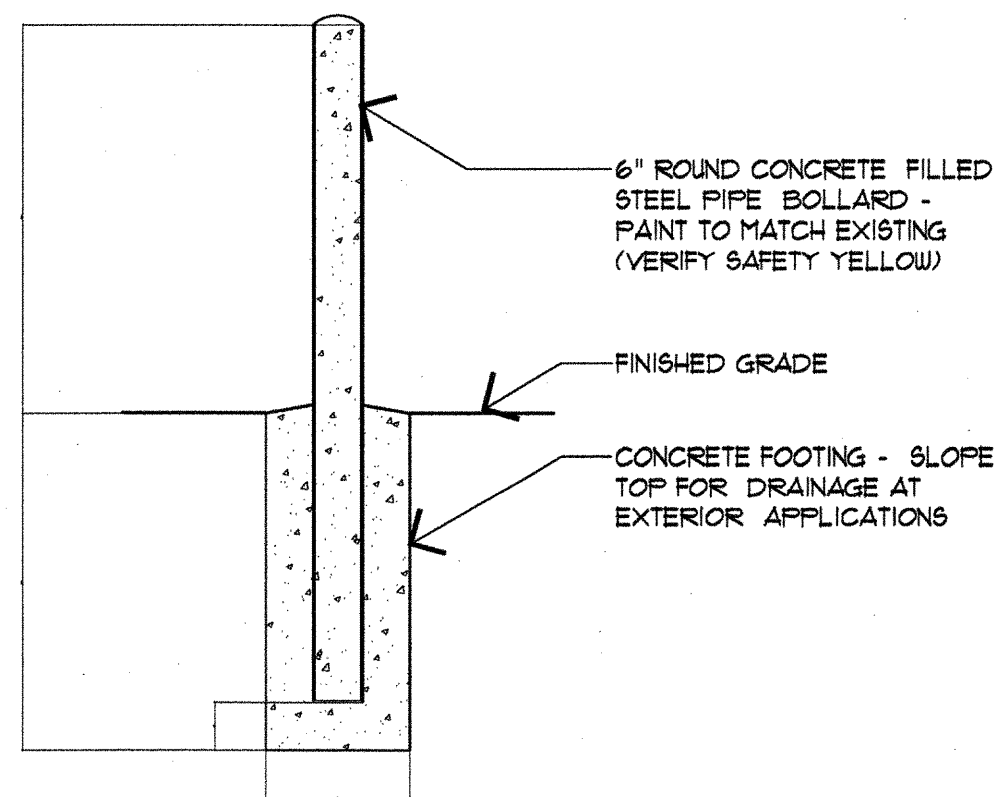
1. SEE MECH & ELEC EQUIPMENT REQUIREMENTS FOR CONCRETE PAD THICKNESS
2. DEMO SPRINKLER HEADS AS SHOWN AND MODIFY REMAINING HEADS FOR NEW EQUIP LAYOUT. EXISTING CONTROL VALVE BOXES TO REMAIN @ SOUTH END OF MECH COURTYARD.
3. RE-STRIPE PARKING AS REQ'D FOR NEW TRANSFORMER. SEE OWNER FOR ANY SPECIAL STRIPING AROUND TRANSFORMER
4. SEE ELECTRICAL & MECHANICAL ENGINEER FOR ALL NEW INSTALLED EQUIPMENT.

**KEYNOTES (NEW CONSTRUCTION)**

- 1 DEMO PORTION OF THE SIDEWALK
- 2 NEW CONC SIDEWALK - MATCH EXISTING FINISH
- 3 BLACK VINYL COATED CHAIN LINK FENCE - 8'-0" HEIGHT
- 4 WEED BLOCK FABRIC AND LANDSCAPE ROCK TO MATCH EXISTING
- 5 LANDSCAPE TREE PLANTINGS - SEE OWNER FOR SELECTION
- 6 (2) 3'-0" VINYL COATED CHAIN LINK GATES (OWNER TO PROVIDED LOCKING DEVICE)
- 7 CONCRETE SLAB FOR EQUIPMENT - SEE MANUFACTURER'S REQUIREMENTS FOR SLAB THICKNESS
- 8 (1) 3'-0" VINYL COATED CHAIN LINK GATE (OWNERS TO PROVIDE LOCKING DEVICE)
- 9 EXISTING TREE, LIGHT POLE, TURF, & SPRINKLER SYSTEM TO REMAIN. MODIFY LOCATION OF SPRINKLER HEADS AS SHOWN.
- 10 NEW CONCRETE BOLLARD - SEE DETAIL 3(A)0
- 11 DEMO PORTION OF THE SIDEWALK FOR UNDERGROUND WORK. CUT AT CONTROL JOINTS. REPLACE TO MATCH EXISTING. SEE ELEC FOR EXACT LOCATIONS
- 12 EXISTING (2) SPRINKLER CONTROL VALVE BOXES TO REMAIN

**SPRINKLER HEAD LEGEND**

- SPRINKLER HEAD TO REMAIN OR MODIFIED
- ⊗ SPRINKLER HEAD TO REMOVED
- SPRINKLER HEAD TO RELOCATED
- EXISTING SPRINKLER CONTROL VALVE BOX TO REMAIN



**3 TYP. PIPE BOLLARD**  
1/2" = 1'-0"

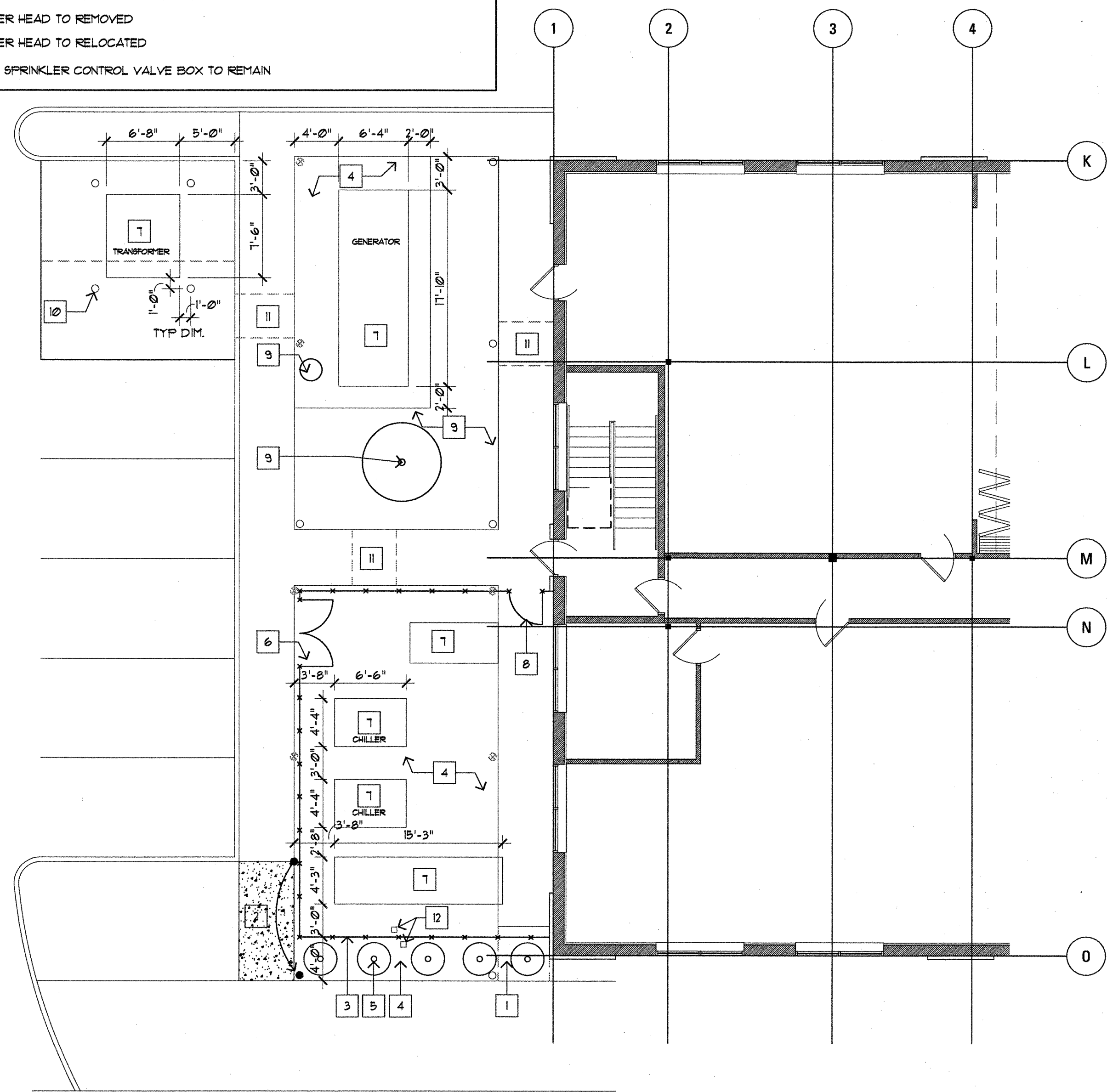
PARTITION TYPES	DESCRIPTION	FIRE RATING
A3	EXISTING WINDOW 3 5/8" MTL STUDS BATT INSULATION 10 MIL POLY VAPOR BARRIER 5/8" TYPICAL GYP. BD. J-BEAD AROUND PERIMETER OF OPENING	NO RATING

**GENERAL NOTES (NEW CONSTRUCTION)**

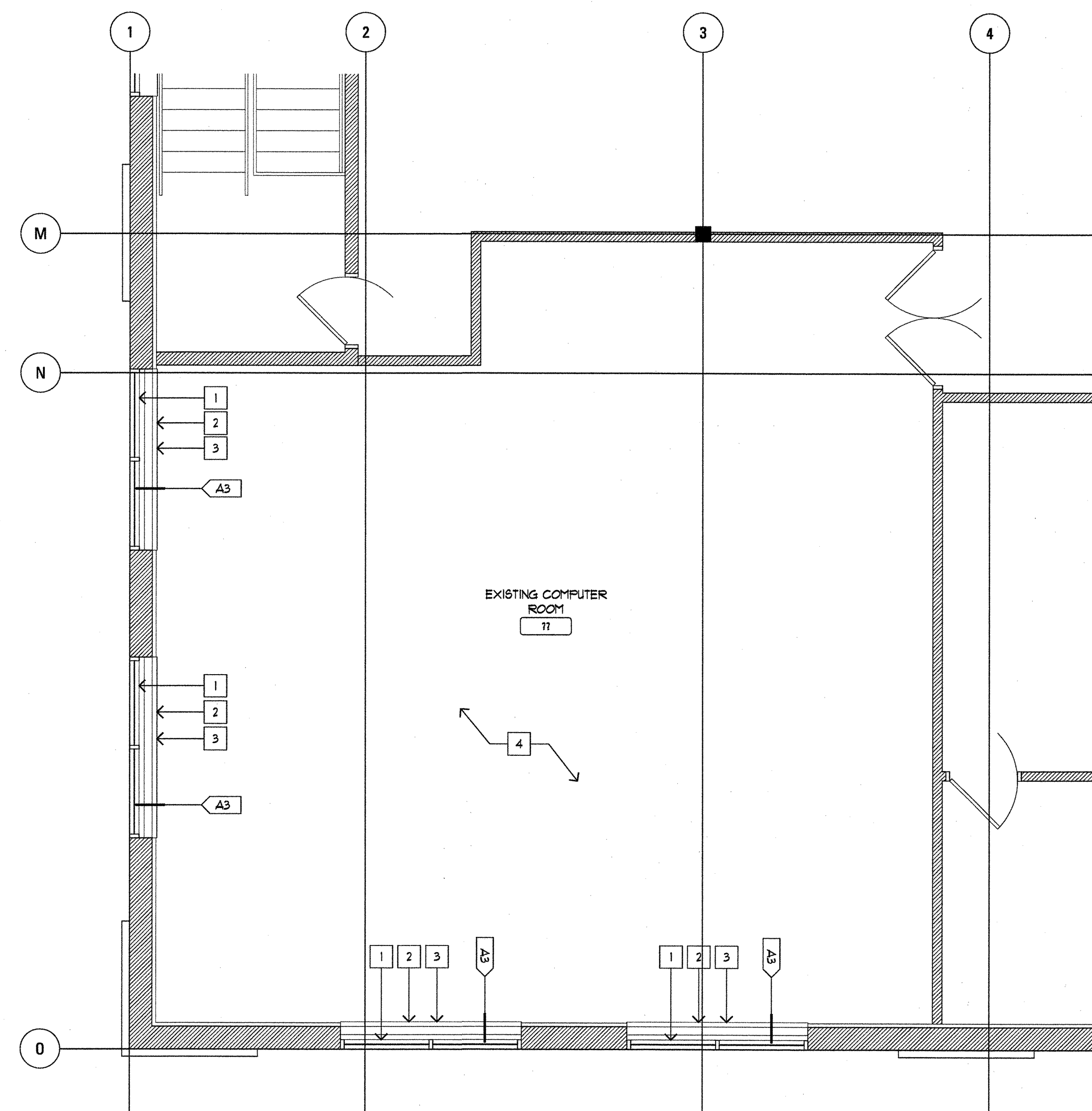
1. REPLACEMENT OF THE RAISED FLOOR TILES WITHIN THE DATA CENTER WILL BE PERFORMED BY A SPECIALTY CONTRACTOR, NOT THE G.C.
2. REPLACEMENT OF THE (8) EXISTING GLASS PANELS WITH SPANDREL PANELS WILL BE DONE BY A SPECIALTY CONTRACTOR, NOT THE G.C.
3. MINIMIZE DUST WHEN FINISHING NEW PORTIONS OF GYP BD (WET SANDING). PROVIDE VACUUMING WHILE FINISHING NEW GYP BD WALLS
4. PAINTING FOR THE PROJECT SHALL BE CONFINED TO THE NEW WINDOW OPENING (4). PAINT COLOR TO MATCH EXISTING.

**KEYNOTES (NEW CONSTRUCTION)**

- 1 GLAZING TO BE REMOVED AND REPLACED WITH SPANDREL GLASS - BY OTHERS
- 2 EXISTING SILL TO REMAIN
- 3 WALL GRAPHIC OR PAINT - VERIFY WITH OWNER
- 4 DAMAGED AND DELAMINATED TILES TO BE REPLACED - BY OTHERS

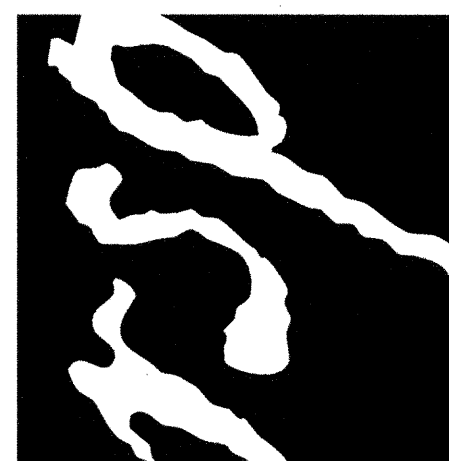


**1 OUTDOOR EQUIPMENT YARD**  
1/8" = 1'-0"



**2 2ND FLOOR COMPUTER ROOM**  
1/4" = 1'-0"

RSP Architects  
1220 Marshall Street NE  
Minneapolis  
MN 55412-1038  
612.677.1100  
612.677.7489 fax  
www.rsparch.com

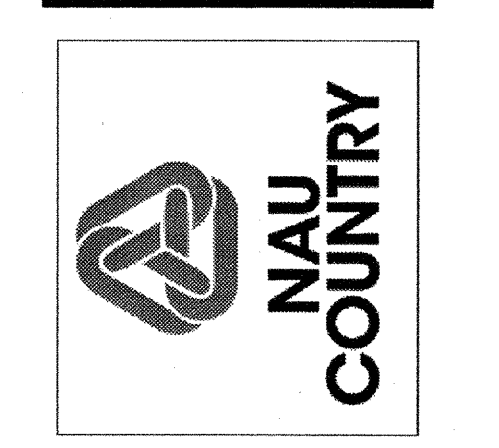


I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Architect under the laws of the State of Minnesota.

Signature: *[Signature]*

Registration No. **14066**  
Date **10/19/12**

CLIENT NO.	PROJECT NO.	ISSUE DATE	DRAWN BY	CHECKED BY	SCALE
	246900100	10/19/12	TAK	ML	



REVISION NO.	DATE	REVISION NO.	DATE	REVISION NO.	DATE	REVISION NO.	DATE

**2ND FLOOR PLAN & SITE PLAN**  
DATA CENTER PROJECT  
NAU COUNTRY INSURANCE  
7333 SUNWOOD DRIVE NW  
RAMSEY, MN 55303

DRAWING NUMBER  
**A101**





I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

*Greg K. Nelson*  
 Greg K. Nelson  
 45474  
 Registration No.  
 Date 10/26/2012

LEO A DAILY  
 PLANNING ARCHITECTURE ENGINEERING INTERIORS  
 EST. 1915  
 730 Second Avenue South, Suite 1100  
 Minneapolis, MN 55402-2455 USA  
 Tel 612-338-8741  
 Fax 612-338-4840



REVISION NO.	DATE	REVISION NO.	DATE	REVISION NO.	DATE	REVISION NO.	DATE	REVISION NO.	DATE

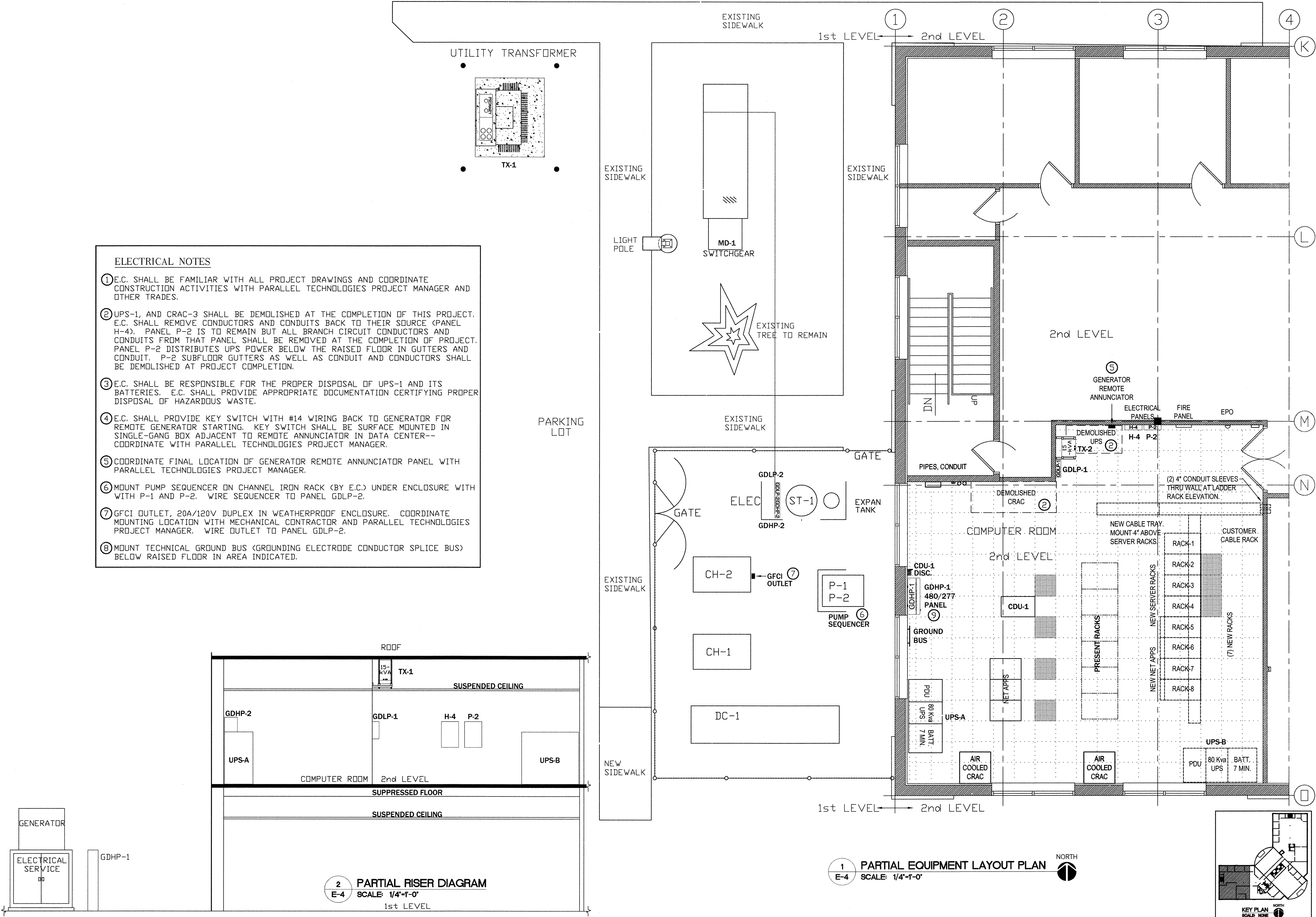
ISSUE DATE: 10/19/2012

ELECTRICAL EQUIPMENT LAYOUT  
 DATA CENTER PROJECT  
 NAU COUNTRY INSURANCE  
 7333 SUNWOOD DRIVE NW  
 RAMSEY, MN 55303

PROJECT #: 436  
 DRAWN BY: GAN SCALE: 1/4" = 1'-0"  
 CHECKED BY: RAJ

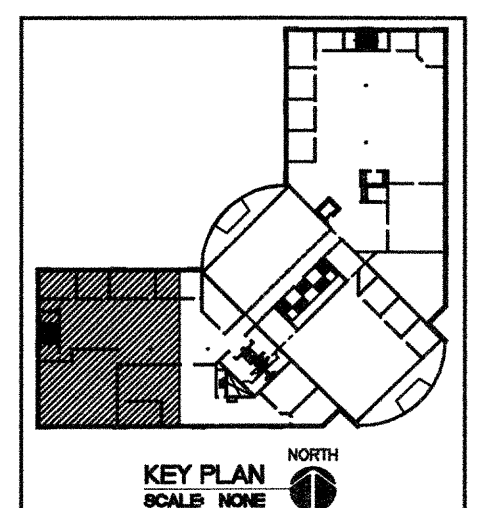
DRAWING NUMBER:  
**E-4**

- ELECTRICAL NOTES**
- E.C. SHALL BE FAMILIAR WITH ALL PROJECT DRAWINGS AND COORDINATE CONSTRUCTION ACTIVITIES WITH PARALLEL TECHNOLOGIES PROJECT MANAGER AND OTHER TRADES.
  - UPS-1, AND CRAC-3 SHALL BE DEMOLISHED AT THE COMPLETION OF THIS PROJECT. E.C. SHALL REMOVE CONDUCTORS AND CONDUITS BACK TO THEIR SOURCE (PANEL H-4). PANEL P-2 IS TO REMAIN BUT ALL BRANCH CIRCUIT CONDUCTORS AND CONDUITS FROM THAT PANEL SHALL BE REMOVED AT THE COMPLETION OF PROJECT. PANEL P-2 DISTRIBUTES UPS POWER BELOW THE RAISED FLOOR IN GUTTERS AND CONDUIT. P-2 SUBFLOOR GUTTERS AS WELL AS CONDUIT AND CONDUCTORS SHALL BE DEMOLISHED AT PROJECT COMPLETION.
  - E.C. SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF UPS-1 AND ITS BATTERIES. E.C. SHALL PROVIDE APPROPRIATE DOCUMENTATION CERTIFYING PROPER DISPOSAL OF HAZARDOUS WASTE.
  - E.C. SHALL PROVIDE KEY SWITCH WITH #14 WIRING BACK TO GENERATOR FOR REMOTE GENERATOR STARTING. KEY SWITCH SHALL BE SURFACE MOUNTED IN SINGLE-GANG BOX ADJACENT TO REMOTE ANNUNCIATOR IN DATA CENTER--COORDINATE WITH PARALLEL TECHNOLOGIES PROJECT MANAGER.
  - COORDINATE FINAL LOCATION OF GENERATOR REMOTE ANNUNCIATOR PANEL WITH PARALLEL TECHNOLOGIES PROJECT MANAGER.
  - MOUNT PUMP SEQUENCER ON CHANNEL IRON RACK (BY E.C.) UNDER ENCLOSURE WITH WITH P-1 AND P-2. WIRE SEQUENCER TO PANEL GDLP-2.
  - GFCI OUTLET, 20A/120V DUPLEX IN WEATHERPROOF ENCLOSURE. COORDINATE MOUNTING LOCATION WITH MECHANICAL CONTRACTOR AND PARALLEL TECHNOLOGIES PROJECT MANAGER. WIRE OUTLET TO PANEL GDLP-2.
  - MOUNT TECHNICAL GROUND BUS (GROUNDING ELECTRODE CONDUCTOR SPLICE BUS) BELOW RAISED FLOOR IN AREA INDICATED.



2 PARTIAL RISER DIAGRAM  
 E-4 SCALE: 1/4"=1'-0"  
 1st LEVEL

1 PARTIAL EQUIPMENT LAYOUT PLAN  
 E-4 SCALE: 1/4"=1'-0"  
 NORTH





# Certified Drawing for CH-1

Project: Parallel Technologies  
Prepared By: Kevin Kerrigan

09/27/2012  
11:58AM

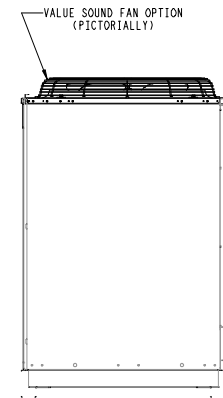
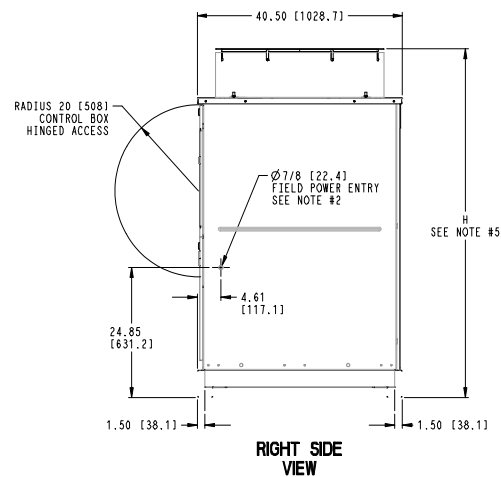
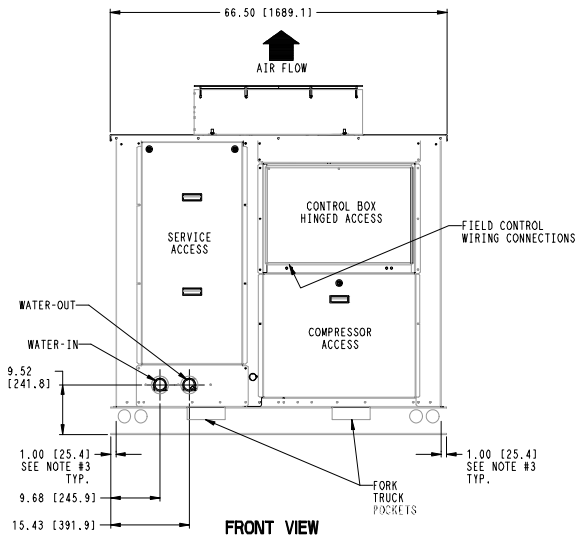
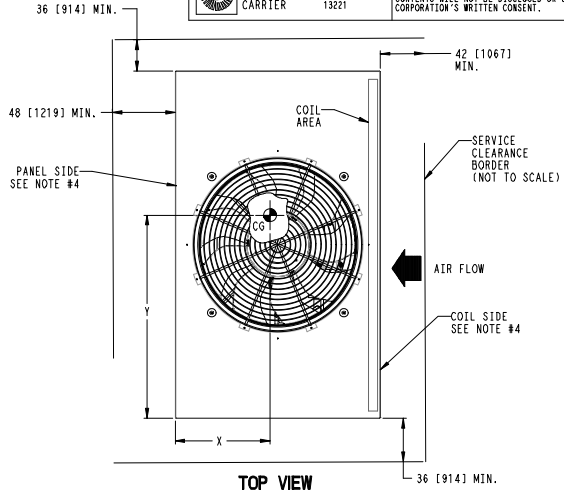
	UNIT	CENTER OF GRAVITY		UNIT HEIGHT		VICIAULIC CONNECTIONS	
		X	Y	H (STANDARD)	H (VALUE SOUND)	WATER IN/OUT	
STANDARD	30RA010	18.40 [467]	37.80 [960]	66.5 [1689]	61.0 [1549]	2"	
	30RA015	18.35 [466]	37.69 [957]	66.5 [1689]	61.0 [1549]	2"	

**NOTES:**

1. DO NOT CAP OR OTHERWISE OBSTRUCT THE LIQUID LINE TEMPERATURE RELIEF.
2.  $\varnothing 7/8$  [22.4] PILOT HOLE PROVIDED FOR LOCATING FIELD POWER WIRING. ACTUAL HOLE REQUIRED DEPENDS ON FIELD WIRE SIZING.
3.  $\varnothing 0.437$  [11.10] HOLE USED FOR MOUNTING UNIT.
4. UNIT MUST HAVE CLEARANCES AS FOLLOWS:  
TOP - DO NOT RESTRICT.  
COIL SIDE - 42 [1067] FROM SOLID SURFACE.  
PANEL SIDE - 48 [1219] PER NEC.
5. SEE TABLE COLUMN H; DIMENSION FOR STANDARD FAN OR VALUE SOUND FAN OPTION.
6. CARRIER DOES NOT RECOMMEND INSTALLATION IN A PIT.
7. UNIT CAN BE HANDLED USING THE FORK TRUCK LIFT POCKETS.
8. WATER CONNECTIONS RECESSED 2-3/8 INCHES INSIDE UNIT.

DIMENSIONS IN ( ) ARE IN MILLIMETERS

UNITED TECHNOLOGIES CARRIER	P.O. BOX 4800 SYRACUSE, NY 13221	THIS DOCUMENT IS THE PROPERTY OF CARRIER CORPORATION AND IS DELIVERED UPON THE EXPRESS CONDITION THAT THE CONTENTS WILL NOT BE DISCLOSED OR USED WITHOUT CARRIER CORPORATION'S WRITTEN CONSENT.	SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT.
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DATE 08/20/09	SUPERCEDES -	UNIT ASSY	30RA555554	REV 1.5
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# Certified Drawing for CH-1A

Project: Parallel Technologies  
Prepared By: Kevin Kerrigan

09/27/2012  
11:58AM

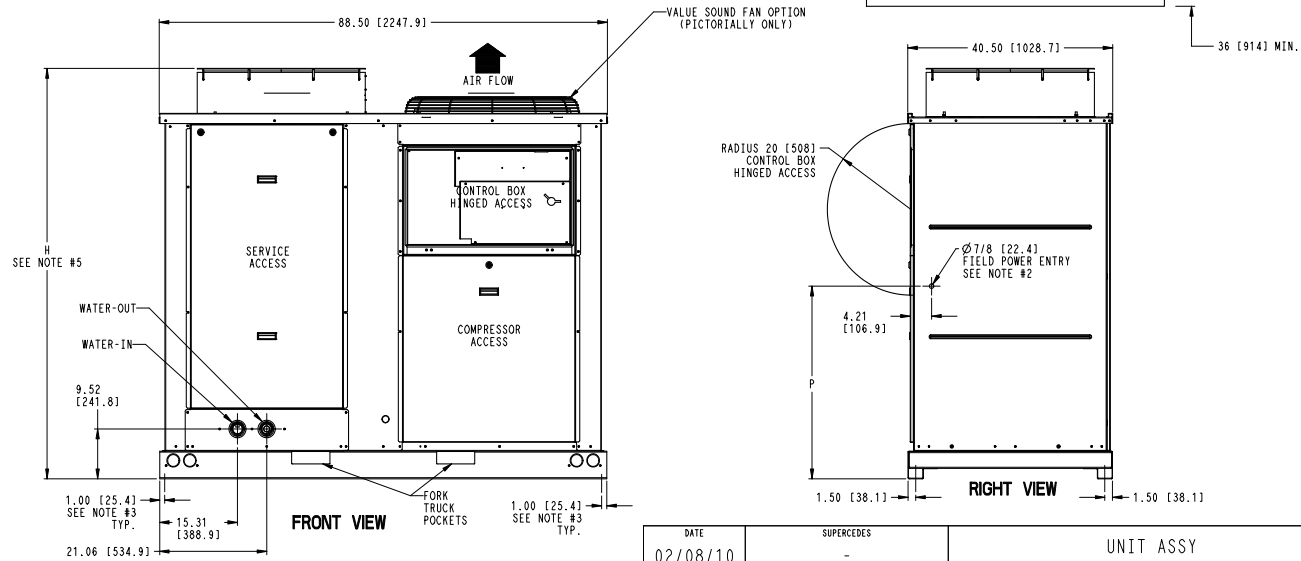
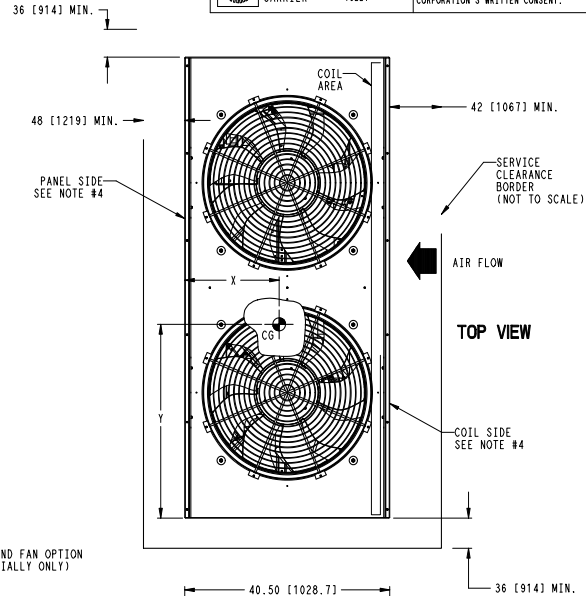
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	X	Y	H (STANDARD)	H (VALUE SOUND)		
30RA018	18.37 [467]	38.77 [985]	66.5 [1689]	61.0 [1549]	24.9 [631]	2"
30RA020	18.38 [467]	38.79 [985]	66.5 [1689]	61.0 [1549]	24.9 [631]	2"
30RA025	18.58 [472]	38.93 [989]	78.5 [1994]	73.0 [1854]	36.9 [936]	2"
30RA030	18.59 [472]	38.98 [990]	78.5 [1994]	73.0 [1854]	36.9 [936]	2"

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 SUBMISSION OF THESE DRAWINGS OR DOCUMENTS DOES NOT CONSTITUTE PART PERFORMANCE OR ACCEPTANCE OF CONTRACT.

**NOTES:**

1. DO NOT CAP OR OTHERWISE OBSTRUCT THE LIQUID LINE TEMPERATURE RELIEF.
2.  $\varnothing 7/8$  [22.4] PILOT HOLE PROVIDED FOR LOCATING FIELD POWER WIRING. ACTUAL HOLE REQUIRED DEPENDS ON FIELD WIRE SIZING.
3.  $\varnothing 0.437$  [11.10] HOLE USED FOR MOUNTING UNIT.
4. UNIT MUST HAVE CLEARANCES AS FOLLOWS:  
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PANEL SIDE - 48 [1219] PER NEC.
5. SEE TABLE COLUMN H; DIMENSION FOR STANDARD FAN OR VALUE SOUND FAN OPTION.
6. CARRIER DOES NOT RECOMMEND INSTALLATION IN A PIT.
7. UNIT CAN BE HANDLED USING THE FORK TRUCK LIFT POCKETS.
8. WATER CONNECTIONS RECESSED 2-3/8 INCHES INSIDE UNIT.

DIMENSIONS IN [ ] ARE IN MILLIMETERS



DATE	SUPERCEDES	UNIT ASSY	30RA55555	REV
02/08/10	-			B. 3





**Liebert Products & Service**

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**World Headquarters**

**United States**

1050 Dearborn Drive, P.O. Box 29186  
Columbus, Ohio 43229  
Telephone: 614-888-0246  
Facsimile: 614-841-6973

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**Europe**

Via Leonardo Da Vinci 8  
Zona Industriale Tognana  
35028 Piove Di Sacco  
Italy  
Telephone: 39-049-9719-111  
Facsimile: 39-049-5841-257

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**Asia**

29/F, The Orient Square Building  
F. Ortigas Jr. Road, Ortigas Center  
Pasig City 1605  
Philippines  
Telephone: 63 2 687 6615  
Facsimile: 63 2 730 9572

# Liebert Heat Rejection Air Cooled Drycooler

Job Name	NAU Country Financial
Model	DDNL225A16
Quantity	One (1)
Date	October 18, 2012
DCSI Job#	1836245
Purchaser	Graybar
P.O. #	4510769551
Tag #	
Submitted By	Data Center Systems, Inc. – Don Ewers



**DATA CENTER SYSTEMS, INC.**  
*Providing Solutions to Critical Problems*

# **ATTENTION:**

## **Startup and Warranty Procedures**

**For Liebert to properly warranty this equipment, it is necessary to complete and return the start-up papers attached to the unit to:**

**Data Center Systems Inc.  
12140 Nicollet Avenue S.  
Burnsville, MN 55337**

**Without these forms Liebert will NOT recognize your warranties.**

**~Thank you~**

# DRYCOOLER SPECIFICATION SHEET GLYCOL

Project Name NAU Country Insurance  
 DCSI Project Number 1836245  
 Model Number DDNL225A16-A  
 Quantity One (1)  
 Date October 18, 2012

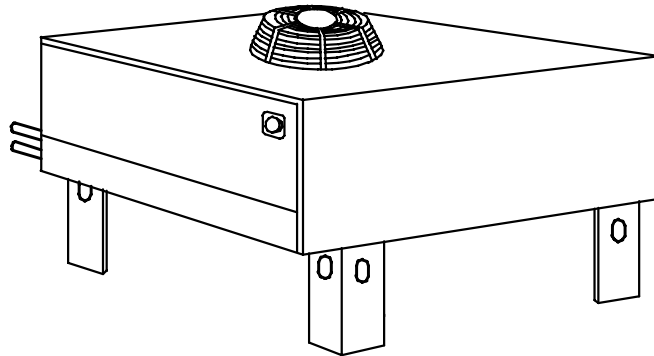


## Electrical Supply Requirements

Drycooler Only 460 Volt, 3 Phase, 60 Hertz, 3.4 FLA, 3.8 WSA / MCA, 15.0 OPD

<b>Cabinet</b>	<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> Quiet-line	
<b>Heat Rejection</b>	Fan Motor Horsepower (kW)		3/4 HP
	Quantity		Two (2)
	Air Volume - CFM (l/s)		12,177
	Total Heat Rejection		202,734
	Entering Air Temperature - °F		35.0°F
	Leaving Air Temperature - °F		50.3°F
	Entering Fluid Temperature - °F		60.0°F
	Leaving Fluid Temperature - °F		46.3°F
<b>Pump</b>	<input type="checkbox"/> Single Pump	<input type="checkbox"/> Dual Pump	
	<input checked="" type="checkbox"/> No Pump		
<b>Glycol Piping Requirements</b>	Flow Rate - GPM / Percent of Glycol		32 / 30% Ethylene Glycol
	Pump Horsepower / Total Head Pressure - Ft. of Water		N/A
	Drycooler Pressure Drop - Ft. of Water		19.4'
	Drycooler Design Ambient - °F		35.0°F
	Head Available for Piping Loss		N/A
<b>Control Section</b>	<input type="checkbox"/> DSO Singlr Pump Control	<input type="checkbox"/> DNC No Control	
	<input type="checkbox"/> DDO Dual Pump Control	<input checked="" type="checkbox"/> DNL Main Control	
	<input type="checkbox"/> DSF Fan Speed Control	<input type="checkbox"/> DNT Fan Control	
	<input type="checkbox"/> DDF Fan Speed Control		
<b>Optional Equipment</b>	<input checked="" type="checkbox"/> Locking Disconnect		
	<input type="checkbox"/> Phenolic Coated Coil		
	<input type="checkbox"/> Opt. Extended Leg Height _____"		
	<input type="checkbox"/> 1st Year Labor Warranty		
	<input type="checkbox"/> Factory Test, Check, & Start-Up		
<b>Remarks</b>	<input type="checkbox"/>		

# LIEBERT GLYCOL COOLED DIRECT DRIVE DRYCOOLERS



## STANDARD FEATURES

**COIL** Liebert **manufactured** coil is constructed of copper tubes in a staggered tube pattern. Tubes are expanded into continuous, rippled aluminum type fins. The fins have full depth fin collars completely covering the copper tubes which are connected to heavy wall type L headers. Inlet coil connector tubes pass through relieved holes in the tube sheet for maximum resistance to piping strain and vibration. Coils are **factory leak tested** at a minimum of 300 PSIG, dehydrated, then filled and sealed with a nitrogen holding charge for shipment.

**FAN(S)** Blades are constructed of zinc plated steel or aluminum with a maximum diameter of 30 inches and secured to the fan shaft by a heavy duty hub with set screw. Fan guards are heavy gauge, close meshed, steel wire with corrosion resistant finish. Fans are **factory balanced and tested** before shipment.

**FAN MOTOR(S)** Are provided with rain slingers, permanently lubricated bearings, and individual built-in overload protection. Motors are rigidly mounted on die-formed galvanized steel supports.

**HOUSING** The Drycooler housing is constructed of bright **aluminum sheet** and divided into individual fan sections by full width baffles. Structural support members, including coil support frame, motor, and drive support, are **galvanized steel** for strength and corrosion resistance. Aluminum legs are provided with rigging holes for hoisting the unit into position.

**FLUID TEMPERATURE CONTROL SYSTEM (Fan Cycling)** Is complete with aquastats and electrical control circuit factory wired in the integral control panel. Aquastats cycle fans to maintain fluid temperature as outdoor air temperature changes. Head pressure is controlled by the fluid regulating valve in the Liebert indoor unit.

**FAN SPEED CONTROL SYSTEM** Is complete with solid state fan speed control transducers operating variable speed fans and is factory wired in the integral control panel. This is available on single fan Drycoolers only.

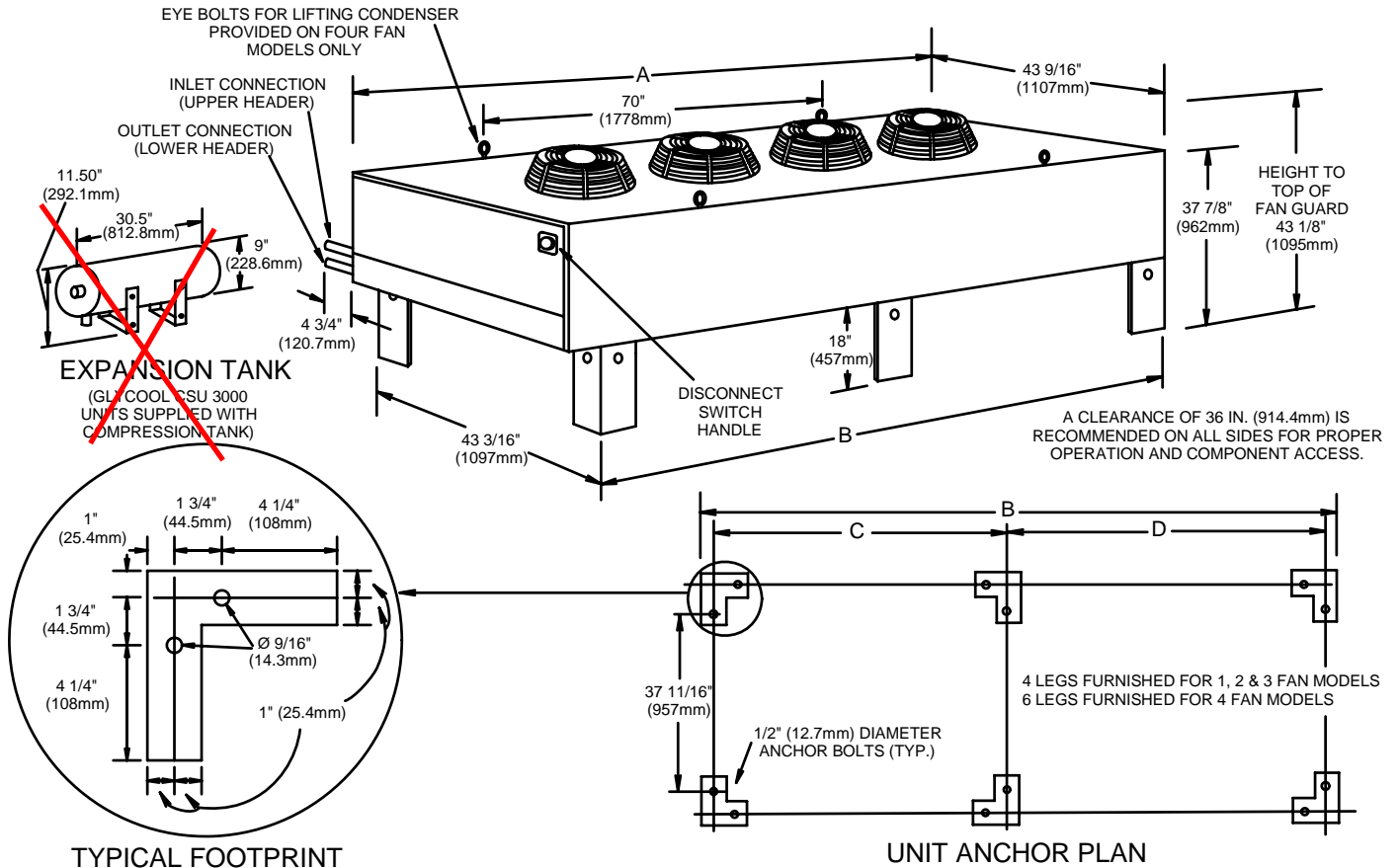
## OPTIONAL FEATURES

**UNIT DISCONNECT SWITCH** A locking disconnect factory installed and wired in enclosed control section (Standard with DSO, DDO & DSF Drycoolers).

**PUMP CONTROLS** Factory wired in the integral control panel. Single power feed to Drycooler supplies power to both Drycooler and pumps (electric service connection). Single pump (DSO/DSF) and dual pump (DDO/DDF) control options are available. DDO/DDF Drycooler keeps one pump in active mode and the other in standby mode. Switchover between pumps activated by factory-supplied pump selector switch or by contact closure on field-installed flow switch.

# CABINET & ANCHOR DIMENSIONAL DATA

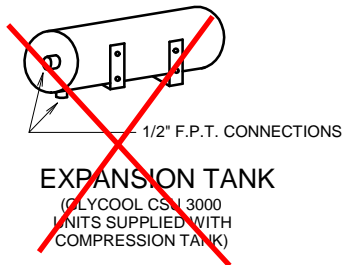
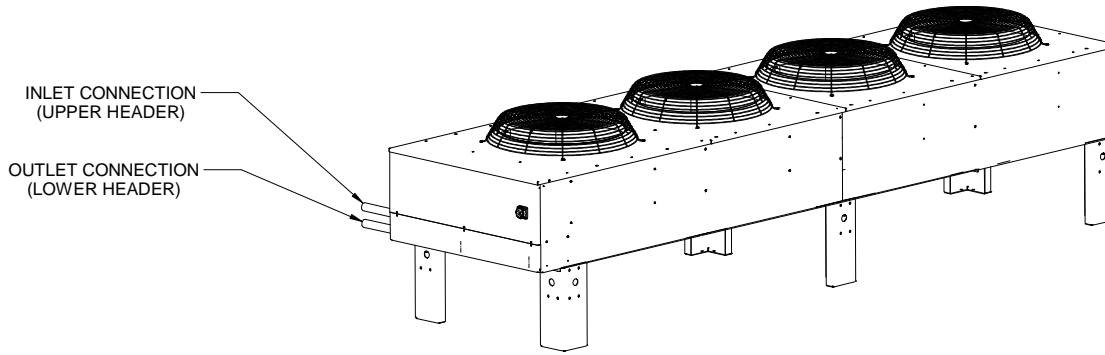
## DIRECT DRIVE DRYCOOLER



LIEBERT MODEL Note 2, 3, 4	NO. FANS	A		B		C		D		CFM (l/s) 60 HZ Note 1	CFM (l/s) 50 HZ Note 1	INTERNAL VOLUME GAL. (LITERS)	NET WEIGHT LBS. (KG)
		IN.	MM.	IN.	MM.	IN.	MM.	IN.	MM.				
-033	1	51 1/2	1308	44	1118	42	1067	--	--	7200 (3398)	6000 (2932)	1.2 (4.6)	390 (177)
-069	1	51 1/2	1308	44	1118	42	1067	--	--	6866 (3240)	5722 (2700)	2.4 (9.2)	410 (186)
-092	1	51 1/2	1308	44	1118	42	1067	--	--	6633 (3130)	5527 (2609)	3.7 (13.9)	430 (195)
-109	1	51 1/2	1308	44	1118	42	1067	--	--	6322 (2984)	5268 (2486)	4.9 (18.6)	450 (204)
-112	1	51 1/2	1308	44	1118	42	1067	--	--	6088 (2873)	5074 (2394)	5.8 (22.0)	470 (213)
-139	2	91 1/2	2324	84	2134	82	2083	--	--	13732 (6481)	11443 (5401)	4.8 (18.2)	565 (256)
-174	2	91 1/2	2324	84	2134	82	2083	--	--	13265 (6261)	11054 (5217)	6.9 (26.2)	605 (274)
-197	2	91 1/2	2324	84	2134	82	2083	--	--	12645 (5968)	10535 (4973)	9 (34)	645 (293)
-225	2	91 1/2	2324	84	2134	82	2083	--	--	12177 (5748)	10147 (4789)	11.1 (42.1)	685 (310)
-260	3	131 1/2	3340	124	3150	122	3099	--	--	19898 (9392)	16582 (7827)	10.0 (37.8)	826 (375)
-310	3	131 1/2	3340	124	3150	122	3099	--	--	18965 (8951)	15804 (7459)	13.1 (50.0)	886 (402)
-350	3	131 1/2	3340	124	3150	122	3099	--	--	17398 (8212)	14499 (6843)	19.4 (73.3)	946 (429)
-352	4	171 1/2	4356	164	4166	82	2083	80	2032	24800(11705)	20667 (9755)	13.1 (49.6)	1040 (471)
-419	4	171 1/2	4356	164	4166	82	2083	80	2032	23650 (11163)	19708 (9302)	17.4 (65.9)	1120 (508)
-466	4	171 1/2	4356	164	4166	82	2083	80	2032	22770 (10747)	18975 (8956)	22.0 (83.3)	1150 (522)
-491	4	171 1/2	4356	164	4166	82	2083	80	2032	21700 (10242)	18083 (8535)	26.3 (99.6)	1200 (544)

- All drycooler fan motors are 3/4 H.P.
- DSO model prefix indicates control section in drycooler includes controls for a single pump package. DDO model prefix indicates control section in drycooler includes controls for a dual pump package. DSF model prefix indicates control section in drycooler includes controls for a single pump package on a fan speed control drycooler.
- DNT prefix indicates a single circuit with fan cycling but no pump controls.
- DNC prefix indicates a single circuit with no fan or pump controls.

# PIPING: DIRECT DRIVE DRYCOOLERS

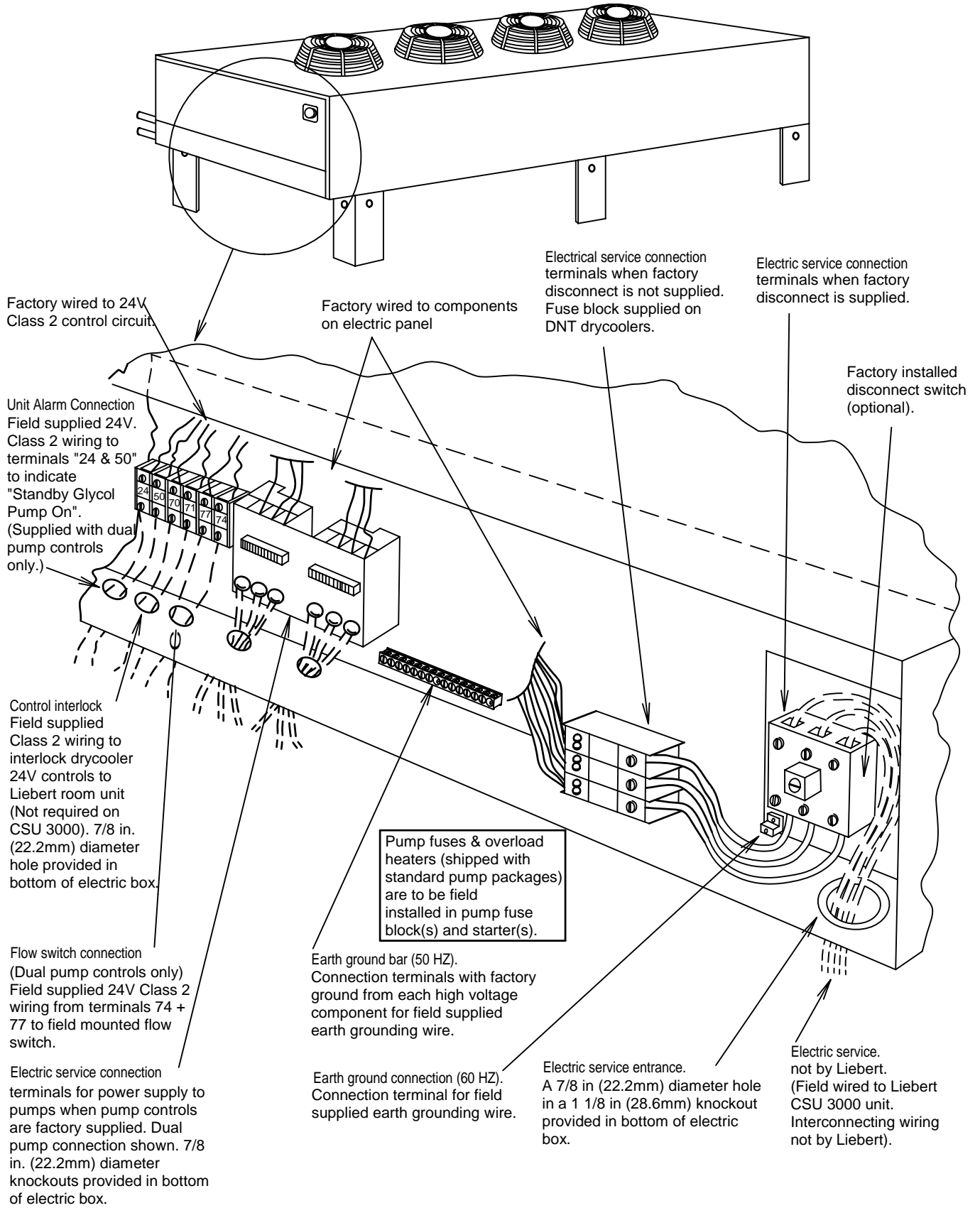


DRYCOOLER PIPING CONNECTION SIZES (O.D. Cu)		
DRYCOOLER MODEL NUMBER	NUMBER OF COIL CIRCUITS	INLET & OUTLET PIPE DIAMETER (INCHES)
-033	4*	1 3/8
-069	4, 8*	1 3/8
-092	6, 12*, 16	1 5/8
-109	8	1 3/8
-109	16*	2 1/8
-112	8	1 3/8
-112	16*, 26	2 1/8
-139	8, 16*	2 1/8
-174	8, 16*, 24	2 1/8
-197	8	1 3/8
-197	16*, 32	2 1/8
-225	16, 26*	2 1/8
-260	16, 24*	2 1/8
-310	16, 32*	2 1/8
-350	16, 32*	2 1/8
-350	48	2 5/8
-352	16, 24*	2 1/8
-419	16, 32*	2 1/8
-466	26	2 1/8
-466	40*	2 5/8
-491	16, 32	2 1/8
-491	48*	2 5/8

-FOR MODEL PREFIX DESIGNATION. REFER TO "CABINET & ANCHOR DIMENSIONAL DATA" PAGE.

# ELECTRICAL FIELD CONNECTIONS

## FLUID TEMPERATURE CONTROL DIRECT DRIVE DRYCOOLERS



NOTE: Refer to specification sheet for full load amp. and wire size amp. ratings.



## Applicant Responses

### Screening:

1. The project budget included a basic shadowbox type screening fence with an allowance of \$8500. In our subsequent discussions with the City of Ramsey we have come to understand that this is unacceptable. Thus, we next discussed on site with Tim Gladhill a metal fence with landscaping. The metal fence with landscaping could be accommodated with the same \$8500 screening in the project. From the most recent e-mail pertaining to the City Zoning Code, we understand that the city is requesting analysis of a screen wall of “similar material to the building”. We have developed a concept for an architectural screen wall, of similar materials to the building, that will completely screen the equipment from Sunwood Drive. Our estimated cost for this, including design and all associated costs, is approximately \$27-\$30K. This represents a net increase to the project of approximately \$21,500.
2. To the best of our knowledge, there is already an agreement in place with NAU Country as regards the landscaping maintenance.

### Location and Design of Chillers and Tanks

1. There are five primary mechanical components to be located outside – two (2) air cooled chillers, one (1) drycooler, one (1) duplex pump set and one (1) storage tank (150 gallons volume). The weights and PSF loading of these components are as follows:
  - a. Air cooled chiller – 752 lbs operating weight – 41 PSF loading
  - b. Drycooler – 685 lbs net weight – 4.8 PSF loading
  - c. Duplex pumps set – negligible
  - d. Storage Tank – 2150 lbs operating weight – 304 PSF loading
2. This project requires that this new mechanical equipment be installed, started up, tested and commissioned prior to demolition of any of the existing equipment that is already on the roof to avoid a costly extended outage to the data center.
3. Note - the existing equipment already occupies the “best” structural locations on the roof. This can be observed in that the existing equipment is lined up in the middle of the roof – straddling the structural beam under the roof.
4. Thus, even if the structural beams on the roof can support the new equipment, those locations are already taken with the existing mechanical equipment and it is not logistically possible to stage the new equipment in prior to demolition of the existing equipment.
5. The project has thus chosen a direction to locate the new equipment on grade, where it can be installed, start-up, tested and commissioned without affecting the existing equipment.

**CC Work Session**

**3. 1.**

**Meeting Date:** 11/20/2012

**Submitted For:** Jo Thieling

**By:** Jo Thieling, Administrative Services

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**Title:**

Review Future Work Session Topics/Calendar

**Background:**

Attached to this report is a list of future work session topics.

**Funding Source:**

N/A

**Council Action:**

For information - no formal action necessary.

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**Attachments**

Future Topics Calendar

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**Form Review**

<b>Inbox</b>	<b>Reviewed By</b>	<b>Date</b>
Kurt Ulrich	Kurt Ulrich	11/15/2012 04:18 PM
Jo Thieling (Originator)	Jo Thieling	11/15/2012 04:19 PM
Kurt Ulrich	Kurt Ulrich	11/15/2012 04:25 PM
Form Started By: Jo Thieling		Started On: 11/15/2012 10:19 AM
	Final Approval Date: 11/15/2012	

**Please Note: This document is a Draft Working Document. Any and/or all items are subject to change. The Schedule listed is Tentative**

**Future Topics – Tentative Calendar  
2012**

<b>Month</b>	<b>Date</b>	<b><u>CC Work Session</u> Topics for Discussion</b>
November	27	<ul style="list-style-type: none"> <li>• Review 2013 Budget</li> </ul>
December/January		<ul style="list-style-type: none"> <li>• Review Policy and/or Statutory Requirements w/re to Met Council Policy re RALF Lease Revenue (KU)</li> <li>• Review Options for Obtaining Feedback from Key Stakeholders (Image and Success of Ramsey) (KU)</li> <li>• Update on Prioritization and Exploration of Partnerships for Trail Grants and Funding (MR)</li> <li>• Lot Combination Policy (TG)</li> <li>• Volunteer Recognition Program (MR)</li> <li>• Review the Inventory and Rental Rates of Equipment and Facilities (KU)</li> <li>• Review Business Retention Program (PB)</li> </ul>
<b>Month</b>	<b>Date</b>	<b><u>HRA</u> Cases for Discussion</b>
November		<ul style="list-style-type: none"> <li>• Review COR Dashboard</li> </ul>
December		<ul style="list-style-type: none"> <li>• Review Center Street Project Schedule</li> </ul>
<b>Month</b>	<b>Date</b>	<b><u>FINANCE</u> Cases for Discussion – None Scheduled</b>
<b>Month</b>	<b>Date</b>	<b><u>PERSONNEL</u> Cases for Discussion – None Scheduled</b>
<b>Month</b>	<b>Date</b>	<b><u>PUBLIC WORKS</u> Cases for Discussion</b>
November		<ul style="list-style-type: none"> <li>• Review Project Management issues (e.g. 151<sup>st</sup> &amp; 167<sup>th</sup> Projects)</li> <li>• Review Different Forms of Correspondence to Residents from Project Development through Project Completion (Public Improvements) (Eng)</li> <li>• Discuss/Update Highway #47 Alignment through Anoka Study – discuss participation</li> <li>• Stop Light Timing at Hwy 47 &amp; Bunker/Sunfish and Hwy 10/Sunfish and Alpine (<i>may discuss triggers on right turn lane when shared with straight ahead – delay?</i>) Others? <i>Also left turn signals vs yellow flashing left turn signals or yield on green to turn left – Bunker &amp; Ramsey – Sunfish and Ramsey – others . . .</i>(KU)</li> <li>• Reconfiguration of and Additional Lanes at 47 and Bunker (KU)</li> <li>• Review History of Private Street West of Highway #47/Bunker (behind SA) (Eng)</li> </ul>
December		<ul style="list-style-type: none"> <li>• Review Post Construction Customer Satisfaction Survey (Public Improvements (Engineering))</li> <li>• Review History of Private Street West of Highway #47/Bunker (behind SA) (Engineering)</li> <li>• Review Project Management Issues (e.g. 151<sup>st</sup> &amp; 167<sup>th</sup> Projects)</li> </ul>
<b>Month</b>	<b>Date</b>	<b><u>PARK &amp; REC</u> Cases for Discussion</b>
<b>Month</b>	<b>Date</b>	<b><u>PLANNING</u> Cases for Discussion</b>

November		<ul style="list-style-type: none"> <li>Consider Additional Commercial Nodes (167/48 and Armstrong/181<sup>st</sup>)</li> <li>Review of Scope Process (Following Comp S/W Plan Update) (TG)</li> </ul>
<b>Month</b>	<b>Date</b>	<b><u>EDA</u> Cases for Discussion</b>
November		<ul style="list-style-type: none"> <li>Review List of Key Stakeholders in the Image and Success of Ramsey (KU)</li> </ul>