Central Nebraska Veterans Home
Addendum 1

Kearney, Nebraska
1404

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Date Issued: November 20, 2015
Bid Date: December 17, 2015

TO ALL BID DOCUMENT HOLDERS OF RECORD:

Acknowledge receipt of this addendum by inserting its number in the space provided on the BID FORM. Failure to do so may subject Bidder to disqualification. This Addendum forms a part of the BIDDING DOCUMENTS and modifies them as follows.

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Addendum 1 - 1 **Project Manual – Table of Contents**
Delete Specification Section: 09 7710 Prefinished Wall Panels.
Add Specification Section: 09 7720 Wood Wall Panel System.

Addendum 1 - 2 **Specification Section - 03 3000 CAST-IN-PLACE CONCRETE**
Under 2.8.A.1., add the following acceptable substitute manufacturers:
"e. Poly-America, L.P."
"f. Interplast Group."
"g. Insulation Solutions, Inc."

Addendum 1 - 3 **Specification Section - 03 3000 CAST-IN-PLACE CONCRETE**
Under 2.10.H., delete paragraph in its entirety and replace with the following:
"For all concrete in all areas that are to receive a floor covering cure with Concrete Cure & Moisture Vapor & Alkalinity Control Sealer as per See Section 03 3930."

Addendum 1 - 4 **Specification Section - 04 2000 UNIT MASONRY**
Under 2.5.C.1., add the following acceptable substitute manufacturer:
"b. Hohmann & Barnard, Inc; Mortar Trap: www.h-b.com."

Addendum 1 - 5 **Specification Section – 07 2500 WEATHER BARRIERS**
Under 2.1.C., add the following acceptable substitute manufacturer:
"9. TK Products: www.tkproducts.com"

Addendum 1 - 6 **Specification Section – 07 4213 METAL SOFFIT PANELS**
Under 2.1.A., add the following acceptable substitute manufacturer:
"9. Rollex Corporation: www.rollex.com"

Addendum 1 - 7 **Specification Section – 07 4213 METAL SOFFIT PANELS**

Under 2.2.B.1, delete paragraph in its entirety and replace with the following:

"1. Type 1 (Buildings A, B, C, D, E, F, G, H, L and all Walkways):
   a. Profile: 12 inch wide, 1/2 inch thick, V-groove at 6 inches on center.
   b. Style: Center vented.
   c. Material: .032 inch precoated aluminum sheet.
   d. Color: As selected by Architect from manufacturer's standard line.
   e. Basis of Design: Rollex Corporation; System 3 Aluminum Soffit."

Under 2.2.B.2., delete paragraph in its entirety and replace with the following:

"2. Type 2 (Building J):
   a. Profile: 12 inch wide, 1 1/2 inch thick.
   b. Style: Smooth.
   c. Material: .040 inch precoated aluminum sheet.
   d. Color: As selected by Architect from manufacturer's standard line.
   e. Basis of Design: Centria; IW-10A."

Addendum 1 - 8 **Specification Section – 08 5212 ANDERSEN VINYL-CLAD WOOD WINDOWS (ALTERNATE NO. 9)**

Delete paragraph 1.3.B. in its entirety.

Addendum 1 - 9 **Specification Section – 08 7100 DOOR HARDWARE**

Under Hardware Schedule, change the following:

Set 1.0, under Classroom Lock, delete prefix "21".
Set 5.0, under Exit Device, delete prefix "21".
Set 5.0, under Exit Device, delete prefix "55".
Set 5.0, under Notes, delete reference "timer".
Set 6.0, under Rim Exit Device, delete prefix "21".
Set 6.0, under Notes, delete reference "timer".
Set 7.0, under Office Lock, delete prefix "21".
Set 8.0, add the following Note: "Astragal by Door Supplier".
Set 9.0, under Integrated Card Reader Lock, delete prefix "21".
Set 10.0, under Integrated Card Reader Lock, delete prefix "21".
Set 11.0, under Integrated Card Reader Lock, delete prefix "21".
Set 12.0, under Classroom Lock, delete prefix "21".
Set 12.0, delete Door "J131B".
Set 13.0, add Door "D238".
Set 14.0, under Classroom Lock, delete prefix "21".
Set 15.0, under Integrated Card Reader Lock, delete prefix "21".
Set 16.0, under Integrated Card Reader Lock, delete prefix "21".
Set 17.0, add Doors "G127" and "J420".
Set 17.0, add note "Astragal by Door Supplier".
Set 18.0, under Rim Exit Device, delete prefix "21".
Set 18.0, under Notes, delete reference "timer".
Set 20.0, under Classroom Lock, delete prefix "21".
Set 20.0, change to Door "A224" in lieu of "C226".
Set 22.0, under Integrated Card Reader Lock, delete prefix "21".
Set 23.0, under Classroom Lock, delete prefix "21".
Set 24.0, under Integrated Card Reader Lock, delete prefix "21".
Set 25.0, under Office Lock, delete prefix "21".
Set 27.0, under Office Lock, delete prefix "21".
Set 28.0, under Exit Device, delete prefix "21".
Set 29.0, under Exit Device, delete prefix "21".
Set 29.0, add note "Astragal by Door Supplier".
Set 30.0, under Classroom Lock, delete prefix "21".
Set 33.0, under Integrated Card Reader Lock, delete prefix "21".
Set 34.0, under Rim Exit Device, delete prefix "21".
Set 36.0, delete Door "L101.2".
Set 36.0, under Integrated Card Reader Lock, delete prefix "21".
Set 37.0, under Office Lock, delete prefix "21".
Set 38.0, under Integrated Card Reader Lock, delete prefix "21".

Set 40.0, under Exit Device, delete prefix “55”.
Set 41.0, add note “Astragal by Door Supplier”.
Set 42.0, under Office Lock, delete prefix “21”.
Set 43.0, under Multi-Point Lock, delete prefix “21”.
Set 44.0, add Doors “WG01.2” and “WH01.2”.
Set 44.0, under Rim Exit Device, delete prefix “21”.
Set 44.0, under Notes, delete reference “timer”.
Set 45.0, under Storeroom Lock, delete prefix “21”.
Set 46.0, under Classroom Lock, delete prefix “21”.
Set 47.0, under Office Lock, delete prefix “21”.
Set 48.0, under Cylinder, delete prefix “21”.
Set 49.0, under Office Lock, delete prefix “21”.
Set 51.0, under Integrated Card Reader Lock, delete prefix “21”.
Set 52.0, under Classroom Lock, delete prefix “21”.
Set 52.0, under Cylinder, delete prefix “21”.
Set 54.0, under Exit Device, delete prefix “55”.
Set 54.0, under Notes, delete reference “timer”.
Set 57.0, under Dormitory Lock, delete prefix “21”.
Set 58.0, under Office Lock, delete prefix “21”.
Set 59.0, under Office Lock, delete prefix “21”.
Set 60.0, under Dormitory Lock, delete prefix “21”.
Set 61.0, under Store Door Lock, delete prefix “21”.
Set 62.0, under Integrated Card Reader Lock, delete prefix “21”.
Set 63.0, delete Door “J140”.
Set 63.0, under Exit Device, delete prefix “21”.
Set 63.0, under Exit Device, delete prefix “55”.
Set 63.0, under Notes, delete reference “timer”.
Set 67.0, under Storeroom Lock, delete prefix “21”.
Set 68.0, under Integrated Card Reader Lock, delete prefix “21”.
Set 71.0, under Exit Device, delete prefix “55”.
Set 71.0, under Notes, delete reference “timer”.
Set 72.0, under Rim Exit Device, delete prefix “55”.
Set 72.0, under Notes, delete reference “timer”.
Set 74.0, delete set in its entirety.
Set 75.0, under Multi-Point Lock, delete prefix “21”.
Set 76.0, under Exit Device, delete prefix “21”.
Set 77.0, under Storeroom Lock, delete prefix “21”.
Set 78.0, under Store Door Lock, delete prefix “21”.
Set 79.0, under Exit Device, delete prefix “21”.
Set 80.0, under Office Lock, delete prefix “21”.
Set 81.0, under Classroom Lock, delete prefix “21”.
Set 82.0, under Rim Exit Device, delete prefix “55”.
Set 82.0, under Notes, delete reference “timer”.
Set 83.0, under Classroom Lock, delete prefix “21”.
Set 85.0, under Rim Exit Device, delete prefix “55”.
Set 85.0, add the following hardware: “1 ea Pull RM221”.
Set 86.0, under Multi-Point Lock, delete prefix “21”.
Set 86.0, change Multi-Point Lock quantity to “2” in lieu of “1”.
Set 87.0, under Exit Device, delete prefix “21”.
Set 87.0, under Notes, delete reference “timer”.
Set 89.0, under Classroom Lock, delete prefix “21”.
Set 91.0, under Electric Exit Device, delete prefix “21”.
Set 92.0, under Dormitory Lock, delete prefix “21”.
Set 93.0, under Integrated Card Reader Lock, delete prefix “21”.
Set 94.0, delete Doors “WG01.2” and “WH01.2”.
Set 94.0, under Exit Device, delete prefix “21”.

Addendum 1 - 10 Specification Section – 08 8000 GLAZING

Under 2.1.C., change Type to “IC” in lieu of “ITC”.

Addendum 1 - 11 Specification Section – 08 8000 GLAZING

Under 2.1. Glazing Types, add the following:

"H. Type IT - Sealed Insulating Glass Units: Vision glazing, low-E.

1. Application(s): Exterior glazing where indicated.
2. Between-lite space filled with argon.
3. Outboard Lite: Annealed float glass, 1/4 inch thick, minimum.
    a. Tint: Gray.
    b. Coating: Low-E on #2 surface.
4. Inboard Lite: Heat-strengthened float glass, 1/4 inch thick.
5. Glazing Method: Gasket.
6. Total Thickness: 1 inch."

Addendum 1 - 12 Specification Section – 09 5100 ACOUSTICAL CEILINGS

Under 2.1.C.1., change ACP-1 to "Cast" in lieu of "Painted".

Under 2.1.C.5., change Surface Pattern to "E" in lieu of "D".

Under 2.1.C.6.a., change USG product to "Frost" in lieu of "F Fissured".

Addendum 1 - 13 Specification Section – 09 5100 ACOUSTICAL CEILINGS

Under 2.1.D.1., change ACP-2 to "Vinyl faced gypsum core, ASTM E1264 Type XX" in lieu of "Wet-formed mineral fiber with factory-applied transparent water-repellent membrane, ASTM E1264 Type IV".

Under 2.1.D.5., change Surface Pattern to "G, Smooth" in lieu of "E".

Under 2.1.D.6. delete Products in its entirety and replace with the following:

a. CertainTeed Corporation; Vinylrock X.
b. USG; Sheetrock Lay-In Ceiling Panel Climaplus.

Approved equal substitutions will be allowed.

Addendum 1 - 14 Specification Section – 09 5100 ACOUSTICAL CEILINGS

Under 2.1.F.5., delete paragraph "b. No Substitutions." Approved equal substitutions will be allowed.

Addendum 1 - 15 Specification Section – 09 5100 ACOUSTICAL CEILINGS

Under 2.1.G.4., delete paragraph "b. No Substitutions." Approved equal substitutions will be allowed.

Addendum 1 - 16 Specification Section – 09 7710 PREFINISHED WALL PANELS

Delete specification section in its entirety.

Addendum 1 - 17 Specification Section – 09 7720 WOOD WALL PANEL SYSTEMS

Insert attached specification section.

Addendum 1 - 18 Specification Section – 11 7313 PATIENT LIFTS

Under 2.1., add the following acceptable substitute manufacturer and product:

"C. Prism Medical; C-625: www.prismmedicalltd.com."

Addendum 1 - 19 Specification Section – 11 7313 PATIENT LIFTS

Under 2.2.A.3.s., change to "Ceiling track turn-table with metal chain controls" in lieu of "Inspection reminder".

Under 2.2.A.3.t., change to "Uni-strut supports and associated installation hardware" in lieu of "Continuous charge".

Under 2.2.A.3.u., delete paragraph in its entirety.

Under 2.2.A., add the following: " 4. Provide and install ceiling tracks, turn-tables and associated hardware for all member rooms as shown on drawings. Provide forty (40) portable ceiling lift motors and power chargers."

Addendum 1 - 20 Specification Section – 21 1000 WATER BASED FIRE SUPPRESSION SYSTEMS

a. Paragraph 3.5 – Sprinkler System Piping Applications. Delete CPVC piping for sprinkler mains and for branch piping. CPVC not allowed.
b. Sprinkler mains shall be either steel piping with wall thickness of schedule 10 or greater or copper piping as allowed by NFPA 13 and Authority Having Jurisdiction.

c. Branch piping shall be either steel piping with wall thickness of schedule 10 or greater or copper piping as allowed by NFPA 13 and Authority Having Jurisdiction.

Addendum 1 - 21 Specification Section – 22 4000 PLUMBING FIXTURES

a. Add the following
3.8 SHAMPOOO BOWL SCHEDULE
A. Shampoo Bowl SB-1: Accessible System LLC, K-100 "Adjust-A-Sink" Multi Stage System. Alternates must be submitted for prior approval.
1. Fixture Color: Black; color must be approved by architect
2. Cultured marble shampoo bowl with basket strainer and hair trap
3. Painted steel shroud
4. Adjustable height bowl, with hydraulic foot pump and control

Addendum 1 - 22 Specification Section – 23 0720 PIPE INSULATION FOR HVAC

a. Paragraph 3.5 – Insulation Application Schedule. Clarification: All refrigerant piping associated with the Variable Refrigerant Flow HVAC system shall be provided with 3/4" flexible elastomeric insulation.

Addendum 1 - 23 Specification Section – 23 2113 HYDRONIC PIPING

a. Paragraph 3.1 – Piping Applications. Revise Condensate Drain Lines (CD) as follows: Type L drawn-temper copper tubing with soldered joints or Schedule 40, PVC pipe with solvent-welded joints. ***Do not install PVC piping in return air plenums.***

Addendum 1 - 24 Specification Section – 23 2115 GROUND LOOP HEAT PUMP PIPING

a. Paragraph 1.6 – Test Loop Information. The Geothermal thermal conductivity test report is included in its entirety with this addendum for reference and information.
b. The site will not be made available for contractor drill tests and borings.

Addendum 1 - 25 Specification Section – 25 0100 GENERAL ELECTRICAL REQUIREMENTS

a. Section 1.9.B.2 – Delete. Division 1 sections "Submittals" shall be utilized for requirements.

Addendum 1 - 26 Specification Section – 25 0500 BASIC ELECTRICAL MATERIALS AND METHODS

a. Add Submittals section to PART 1 as follows:
Submittals
1. Product Data: Include data on size, finish and construction for each component specified:
a. Conduit

Addendum 1 - 27 Sheet A7.13 – Wall Sections – Building J – Veterans Home Center

At Detail 1/A7.13, change the following:
Change note to "Prefinished Metal Soffit (Type 2)"
Change soffit depth dimension to 1 ½" in lieu of ½".
Change fascia dimension to 12" in lieu of 11".

Addendum 1 - 28 Sheet A7.13 – Wall Sections – Building J – Veterans Home Center

At Detail 2/A7.13, change the following:
Change note to "Prefinished Metal Soffit (Type 2)"
Change soffit depth dimension to 1 ½" in lieu of ½".
Change fascia dimension to 9" in lieu of 8".

Addendum 1 - 29 Sheet A7.13 – Wall Sections – Building J – Veterans Home Center

At Detail 9/A7.13, change the following:
Change note to "Prefinished Metal Soffit (Type 2)"
Change soffit depth dimension to 1 ½" in lieu of ½".
Change dimension between bottom of deck and soffit to 4" in lieu of 6".
Change metal studs to 3 5/8" in lieu of 6".
Change fascia dimension to 1'-1" in lieu of 1'-2".

Addendum 1 - 30 **Sheet A7.13 – Wall Sections – Building J – Veterans Home Center**
At Detail 14/A7.13, replace with revised detail on attached sketch SKA1.

Addendum 1 - 31 **Sheet A7.13 – Wall Sections – Building J – Veterans Home Center**
At Detail 15/A7.13, replace with revised detail on attached sketch SKA2.

Addendum 1 - 32 **Sheet A8.09 – Door Types & General Notes**
Under Glass Types, add the following:
"IT = 1" INSULATED TINTED (LOW-E)"

Addendum 1 - 33 **Sheet A8.12 – Window Types**
At Window Types A, B, C and C.1, change glass type to "IC" in lieu of "IT".

Addendum 1 - 34 **Sheet A8.12 – Window Types**
At Window Type V, change glass type to "IC" in lieu of "TC-1".

Addendum 1 - 35 **Sheet E2.J.01 – Partial Floor Plan – Building J – Area 1 – Power**
Provide electrical connections to kiln exhaust fans per attached sketch sheet SKE1.

Addendum 1 - 36 **Sheet E7.07 – Electrical Schedules**
Revise schedule for Panel LJ11 per attached sketch sheet SKE2.

Addendum 1 - 37 **Sheet E7.10 – Electrical Schedules**
Revise Dry-Type Transformer schedule per attached sketch sheet SKE3.

PRE-BID ATTENDEES

See attachment.

STATE OF NEBRASKA
PRE-BID MEETING
REGISTRATION SHEET
NOVEMBER 19, 2015 - 2:00 pm
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21	AJ Dahlgren	Integrity Const	415 Main St Axtell NE 68924	308-440-4024	intllceaol.com
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23	Doug Snyder	ADAMS Const	ARAPAHOE NE	308-962-7918	adamsc@atcjet.net
24	Mevl. Adams	Adams Const	Arap. Nebr.	962-7918	" " " "
25	Peter Leising	Leising Inc	Arapahoe, NE	962-4224	leising2005@atcjet.net
26	Ryan Gibbs	Kiewit	3555 Folk Woods Cir Lincoln, NE	475-9151	rgibbs@kiewit.us.com
27	Doug Anderson	IES Commercial	Holdrege NE	308-995-4462	doug.anderson@iesci.net
28	Bret King	Kearney Glass	16 E. 23rd St. Kearney	3082369970	bking@kearneyglass.com
29	Nick Killough	"	"	"	estimating@kearneyglass.com
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34	Ron Miles	Stanley Security	8105 Cobblestone Cir Lincoln, NE 68510	402-681-5275	ron.miles@sbdinc.com
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36	Troy Lathrop	Chiefland	2070 N. 2nd GI, NE 68801	308-320-9183	troy.lathrop@chiefind.com
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40	SCOTT WHITE	MIDLANDS CONTRACTING	KEARNEY	308-237-7579	SCOTT@MIDLANDSCONTRACTING.COM

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42	CRAIG THURSTON	ICMS, INC	777 W Anna Grand Island	308-385-5573	craigthurston@icmsbuild.com
43	Phillip Leising	Leising Inc	72760 Hwy 283 Arapahoe NE	308-962-6149	Pfleising@actjet.net
44	Gitzy Loder	Kidwell	5609 1st Ave Kearney 68845	308-233-5111	gloder@kidwell.us.com
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47	Jesse Cobb	Central Nebraska Steel	2540 E 10th St Kearney	308-627-6683	jcobb.cns@clthink.net
48	JEREMY ROGERS	MEAD LUMBER	1440 W. 56TH, KEARNEY	308-830-9878	JEREMY.ROGERS@MEADLUMBER.COM
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54	Rich Trumbo	Sargent Irrigation Co.	79788 Hwy 21 Broken Bow NE	308-872-6451	Bow@SargentIrrigation.Com
55	MIKE McHUGH	CHIEF CONST	GI	308 389 7429	MIKE.MCHUGH@CHIEFIND.COM
56	Nick Valente	Chem-Aqua	1113 Leavenworth Plaza Omaha, NE 68108	402-639-6507	Nicholas.Valente@chemaqua.com
57	NATE KASTENS	SAMPSON CONSTRUCTION	3730 S. 14TH ST. LINCOLN, NE 68502	402 434-5450	ESTIMATING@sampson-construction.com
58	Dallas Wagner	Midlands Contracting	PO Box 1065 Kearney NE 68848	308 237-7979	dallas@midlandscontracting.com
59	Terry Broadfoot	Broadfoot Sand & Gravel	716 2nd Ave So. Kearney NE	308-236-5301 308 233 4168	tbroadfoot@kearney.net
60	Brian Mosken	IES	120 S Lincoln St Holdrege N 68949	308-995-4462	brian.moskel@iesci.net

STATE OF NEBRASKA PRE BID 11/19/15 CENTRAL NEBRASKA VETERANS HOME

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64 Rick Kucera	Kucera Painting	559 Street 20th Kearney NE	308-893-2075	Kucerapainting@gmail.com
65 Michael Pennington	RCI Roofing Supply	2029 25th rd Kearney NE	308-672-7819	mpennington@rciroofingsupply.com
66 Andy Tidwell	Prairie View Roofing	6105 S Ave Kearney NE	308 335 0174	andy@prairie-view.com
67 DAVE ZIOLA	ISCO	7701 Cornhusker NW	402.305.4251	DAVE.ZIOLA@ISCO-PIPE.com
68 Jeff Waggoner	Waggoner Plbg, Htg	2617 W 24th St	308-236-6850	
69 Travis Sorick	T.C Sorick Const.	P.O Box 826	308-324-5186	
70 Randy McDonald	General Excavating	Lincoln,	402-467-1627	rmcdonald@generalexcavating.com
71 Eddy Burmood	Commonwealth Elect	1917 Central Ave Kearney	308-234-6950	

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75	Regg Rutt	Rutts Heating + AC	315 Keystone	402-467-4957	rutte rutts heating.com
76	Doug Boell	DESIGNER CRAFT	601 EAST COMMERCE ROAD	308-324-5925	Doug@DESIGNERCRAFT.NET
77	Curtis Bolz	RMW Const	8645 Rose Hill	308-893-2910	Curtis@rmwconst.com
78	Lance Blythe	Patriot Gardens Inc	10572 747 Rd Overton NE 68863	308 3259721	lblythe@live.com
79	Ryan Kuta	A-1 HEATING + A/C	1449 N. BROWN MINDEN, NE	308-832-0251	a1heating@hotmail.com
80	Phil Cook	Capitol Electric	4771 Lucile Dr Lincoln NE	402-420-7435	pcook@CapitolCityElectric.com

SECTION 09 7720

WOOD WALL PANEL SYSTEM

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Wood panel system, including trim and attachment system.

1.2 RELATED REQUIREMENTS

A. Section 09 2116 - Gypsum Board Assemblies.

B. Section 09 9000 - Painting and Coating: Field-applied finish on wood panel surfaces.

1.3 REFERENCE STANDARDS

A. American Society for Testing and Materials: Standard Specifications (ASTM)
   1. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. Architectural Woodwork Standards as published by the Architectural Woodwork Institute, the Architectural Woodwork Manufacturers Association of Canada, and the Woodwork Institute.
   1. Architectural Woodwork Standards - Edition 1.

1.4 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Submit elevations of each wall showing location of paneling and trim members with respect to all discontinuities in the wall elevation.

C. Product Data: Submit sufficient manufacturer's data to indicate compliance with these specifications, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

D. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.

E. Samples for Verification: Submit 6 inches by 10 inches section of panel for each panel selected indicating the color, texture, and pattern required.
   1. Submit complete with specified applied finish.
   2. Exposed Molding and Trim: Include 4 inch long samples of each type, finish, and color.

F. Manufacturer's Installation Instructions: Indicate special procedures.

G. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

1.5 MOCK-UP

A. Construct mock-up, 8 feet long by 9 feet 4 inches tall, illustrating two (2) typical panels, edge trim, joints, and applied finish.

B. Locate where directed.

C. Mock-up may remain as part of the Work.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver panels and associated materials factory packaged on strong pallets and properly packaged or protected.

B. Upon delivery carefully inspect all cartons, packages, pallets and protective wrap for damage or material shortage.

C. Open and inspect suspect packages, cartons or wrapped pallets for damage.

D. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.7 FIELD CONDITIONS

A. Wood composite panels are subject to the effects of humidity and temperature. Do not use in kitchens, rest rooms, or other high humidity areas.

B. Partition walls are to be finished and the building completely closed. Walls shall be thoroughly dry and concrete cured and dry before starting installation.

C. HVAC system must be operable and installation area must be balanced to normal operating conditions.

D. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. To ensure product performance, a temperature range of 60°-80°F (16°C-27°C) and a humidity range of 35-55% must be maintained during storage, installation and product life cycle. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.8 WARRANTY

A. All products shall be warranted to be free from defects for a period of one (1) year after installation.

PART 2 PRODUCTS

2.1 WOOD PANEL SYSTEM

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following.
   1. Marlite: www.marlite.com.

2.2 MATERIALS

A. All wood panel system shall be “SURFACE SYSTEMS”, designated as **System Forty.**
   1. Shall consist of panels with square cut or chamfered edges, installed utilizing an exposed horizontal narrow mainrunner and exposed vertical narrow crossrunner, for proper panel alignment.
   2. All exposed application hardware finish:
      a. **Black Satin Anodized**.

B. All decorative interior wall surfaces shall be “SURFACE SYSTEMS” with panel construction and finish as follows:
   1. Finish: Plastic laminate.
      a. Color: Wilsonart; 7948K-07 Mambo, Premium.
   2. Thickness: 3/4 inch.
   3. Grain direction (if any) shall be manufacturer’s standard.
   4. All panel sizes to be custom sizes as shown on drawings.

2.3 TRIM ACCESSORIES

A. All trim specified shall be heavy weight extruded aluminum 6063-T5 alloy prefinished at the factory.
   1. Trim Profile: Standard Narrow Line Edge Trim.
      a. Size: 1/4 inch.
      b. Profiles: Edge Trim/Inside Corner, Outside Corner, Main Rail and Cross Spline.

2.4 FABRICATION

A. All hardware and accessories shall be factory finished and ready to install. Field fabrication will be required at perimeter conditions.

B. Panels to be field finished.

C. Panel edges must be finished per manufacturer's instruction after field cutting, before installation.

PART 3 EXECUTION

3.1 EXAMINATION

A. Many panels are man made wood fiber products and are subject to the effects of humidity and temperature. Do not use in high humidity areas.

B. Open cartons and carefully inspect all panels.

C. Due to textures, woodgrain patterns, materials and manufacturing techniques, some panels may vary in color consistency, tone and pattern. These variations are not to be considered as defects.

D. For the most pleasing appearance, arrange panels on each wall to achieve the best combination of color, texture and grain, before installing. Contact Marlite with questions or problems.

3.2 PREPARATION

A. Structural walls should be finished, with building completely closed. Walls shall be thoroughly dry before starting installation. A vapor barrier should be used on exterior walls behind backing to discourage warping.

B. Panels must be applied over a smooth, solid, flat backing such as plywood or drywall. All drywall joints should be taped and finished. Walls should be primed before installation begins.

C. Protect existing surfaces with drop cloths.

3.3 CONDITIONING

A. All panels shall be allowed to equalize to the moisture and temperature in the room environment prior to installation. To ensure product performance, a temperature range of 60°-80°F and a humidity range of 35-55% must be maintained during storage, installation and product life cycle.

3.4 INSTALLATION

A. Install all materials in strict accordance with the manufacturer's installation instructions.

B. Marlite Brand C-702 Premium Adhesive is the adhesive recommended for installation of Surface Systems. Marlite Brand C-702 Premium Adhesive is a solvent based material and local code restrictions may require substitution. Any adhesive substitution must have the manufacturer's approval. It is the responsibility of the specifier and/or contractor to determine conformance of Marlite's, or any other adhesive, with local code restrictions.

C. Avoid contamination of the panel faces with adhesives, solvents or cleaners during installation.

3.5 CLEANING

A. Clean panels, trim and hardware according to the manufacturer's recommendations.

END OF SECTION

Formation Thermal Conductivity
Test & Data Analysis

Test location **Kearney Veterans Home**
Kearney, NE

Test Date July 6-8, 2015

Analysis For Charles Sargent Irrigation Co. Inc.
79788 Hwy 21
Broken Bow, NE 68822
Phone: 308-872-6451
Fax: 308-872-6912

Test Performed By Geothermal Resource Technologies, Inc.

EXECUTIVE SUMMARY

A formation thermal conductivity test was performed at the Kearney Veterans Home site in Kearney, Nebraska at a GPS location of N 40° 43' 49.9" (latitude), W 99° 1' 31.2" (longitude). The vertical bore was completed on June 25, 2015 by Sargent Irrigation. Geothermal Resource Technologies' (GRTI) test unit was attached to the vertical bore on the afternoon of July 6, 2015.

This report provides an overview of the test procedures and analysis process, along with plots of the loop temperature and input heat rate data. The collected data was analyzed using the "line source" method and the following average formation thermal conductivity was determined.

Formation Thermal Conductivity = 1.02 Btu/hr-ft-°F

Due to the necessity of a thermal diffusivity value in the design calculation process, an estimate of the average thermal diffusivity was made for the encountered formation.

Formation Thermal Diffusivity ≈ 0.74 ft^2/day

The undisturbed formation temperature for the tested bore was established from the initial loop temperature data collected at startup.

Undisturbed Formation Temperature ≈ 54.6-56.4°F

The formation thermal properties determined by this test do not directly translate into a loop length requirement (i.e. feet of bore per ton). These parameters, along with many others, are inputs to commercially available loop-field design software to determine the required loop length. Additional questions concerning the use of these results are discussed in the frequently asked question (FAQ) section at www.grti.com.

TEST PROCEDURES

The American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) has published recommended procedures for performing formation thermal conductivity tests in the ASHRAE HVAC Applications Handbook, Geothermal Energy Chapter. The International Ground Source Heat Pump Association (IGSHPA) also lists test procedures in their Design and Installation Standards. GRTI's test procedures meet or exceed those recommended by ASHRAE and IGSHPA, with the specific procedures described below:

Grouting Procedure for Test Loops – To ensure against bridging and voids, it is recommended that the bore annulus is uniformly grouted from the bottom to the top via tremie pipe.

Time Between Loop Installation and Testing – A minimum delay of five days between loop installation and test startup is recommended for bores that are air drilled, and a minimum waiting period of two days for mud rotary drilling.

Undisturbed Formation Temperature Measurement – The undisturbed formation temperature should be determined by recording the loop temperature as the water returns from the u-bend at test startup.

Required Test Duration – A minimum test duration of 36 hours is recommended, with a preference toward 48 hours**.**

Data Acquisition Frequency - Test data is recorded at five minute intervals.

Equipment Calibration/Accuracy – Transducers and datalogger are calibrated per manufacturer recommendations. Manufacturer stated accuracy of power transducers is less than ±2%. Temperature sensor accuracy is periodically checked via ice water bath.

Power Quality – The standard deviation of the power should be less than or equal to 1.5% of the average power, with maximum power variation of less than or equal to 10% of the average power.

Input Heat Rate – The heat flux rate should be 51 Btu/hr (15 W) to 85 Btu/hr (25 W) per foot of installed bore depth to best simulate the expected peak loads on the u-bend.

Insulation – GRTI's equipment has 1 inch of foam insulation on the FTC unit and 1/2 inch of insulation on the hose kit connection. An additional 2 inches of insulation is provided for both the FTC unit and loop connections by insulating blankets.

Retesting in the Event of Failure – In the event that a test fails prematurely, a retest may not be performed until the bore temperature is within 0.5°F of the original undisturbed formation temperature or until a period of 14 days has elapsed.

Data Analysis

Geothermal Resource Technologies, Inc. (GRTI) uses the "line source" method of data analysis to determine the thermal conductivity of the formation. The line source method assumes an infinitely thin line source of heat in a continuous medium. A plot of the late-time temperature rise of the line source temperature versus the natural log of elapsed time will follow a linear trend. The linear slope is inversely proportional to the thermal conductivity of the medium. When a u-bend grouted in a borehole is used to inject heat into the ground at a constant rate in order to determine the average formation thermal conductivity, the test must be run long enough to allow the finite dimensions of the u-bend pipes and the grout to become insignificant. Experience has shown that approximately ten hours is required to allow the error of early test times and the effects of finite borehole dimensions to become insignificant.

In order to analyze real data from a formation thermal conductivity test, the average temperature of the water entering and exiting the u-bend heat exchanger is plotted versus the natural log of elapsed testing time. Using the Method of Least Squares, linear coefficients are then calculated that produce a line that fits the data. This procedure is repeated for various time intervals to ensure that variations in the power or other effects are not producing inaccurate results.

The calculated results are based on test bore information submitted by the driller/testing agency. GRTI is not responsible for inaccuracies in the results due to erroneous bore information. All data analysis is performed by personnel that have an engineering degree from an accredited university with a background in heat transfer and experience with line source theory. The test results apply specifically to the tested bore. Additional bores at the site may have significantly different results depending upon variations in geology and hydrology.

Through the analysis process, the collected raw data is converted to spreadsheet format (Microsoft Excel®) for final analysis. If desired, please contact GRTI and a copy of the data will be made available in either a hard copy or electronic format.

Contact: Galen Streich
Regional Managing Engineer
Elkton, SD
(605) 692-9069
gstreich@grti.com

TEST BORE DETAILS
(AS PROVIDED BY SARGENT IRRIGATION)

Site Name	Kearney Veterans Home
Location	Kearney, NE
Driller	Sargent Irrigation
Installed Date	June 25, 2015
Borehole Diameter	6 ½ inches
U-Bend Size	1 inch DR-11 HDPE
U-Bend Depth Below Grade	292 ft
Grout Type	Wyo-Ben Therm-Ex
Grout Mixture	200 lb sand per 50 lb bentonite
Grouted Portion	Entire bore

DRILL LOG

FORMATION DESCRIPTION	DEPTH (FT)
Clay	0'-20'
Fine gravel/medium gravel	20'-40'
Fine/medium gravel	40'-60'
Fine/medium gravel	60'-72'
Clay	72'-80'
Clay/lime	80'-90'
Coarse sand/fine gravel	90'-100'
Clay	100'-120'
Coarse sand/clay	120'-140'
Clay/lime	140'-160'
Clay/lime	160'-173'
Coarse sand	173'-180'
Clay/lime	180'-182'
Lime	182'-183'
Coarse sand/sandstone	183'-200'
Ochre/shale	200'-220'
Shale	220'-300'

THERMAL CONDUCTIVITY TEST DATA

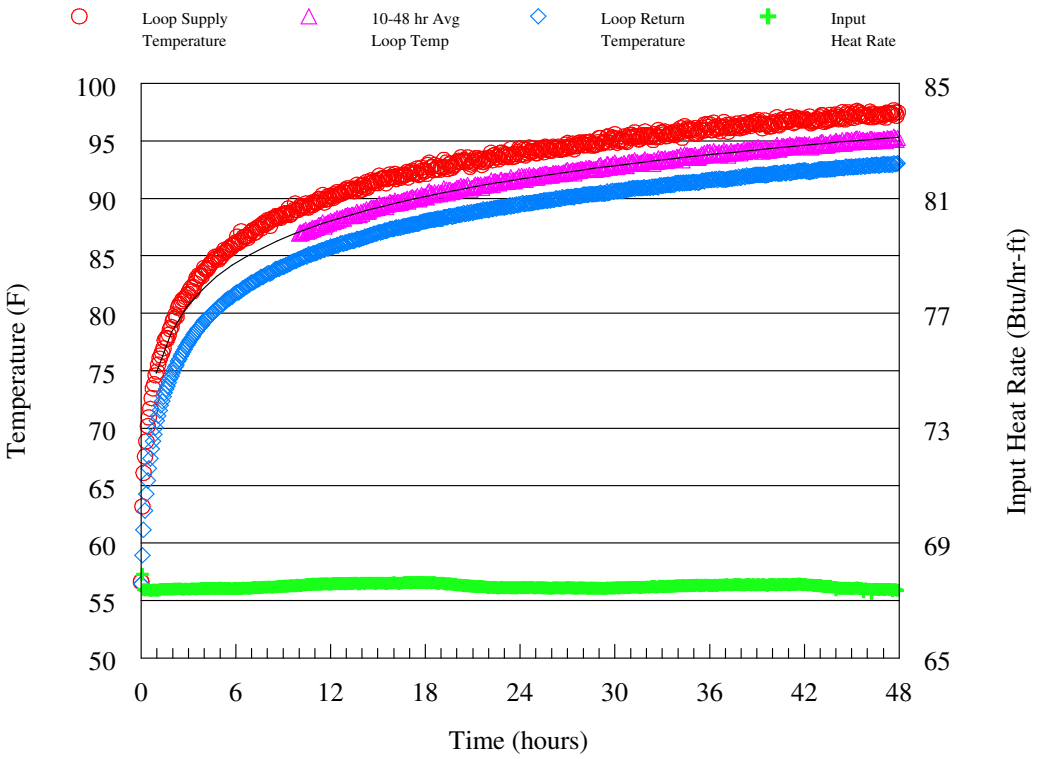


FIG. 1: TEMPERATURE & HEAT RATE DATA VS TIME

Figure 1 above shows the loop temperature and heat input rate data versus the elapsed time of the test. The temperature of the fluid supplied to and returning from the U-bend are plotted on the left axis, while the amount of heat supplied to the fluid is plotted on the right axis on a per foot of bore basis. In the test statistics below, calculations on the power data were performed over the analysis time period listed in the Line Source Data Analysis section.

SUMMARY TEST STATISTICS

Test Date	July 6-8, 2015
Undisturbed Formation Temperature	Approx. 54.6-56.4°F
Duration	48.0 hr
Average Voltage	233.0 V
Average Heat Input Rate	19,713 Btu/hr (5,776 W)
Avg Heat Input Rate per Foot of Bore	67.5 Btu/hr-ft (19.8 W/ft)
Calculated Circulator Flow Rate	8.8 gpm
Standard Deviation of Power	0.11%
Maximum Variation in Power	0.39%

LINE SOURCE DATA ANALYSIS

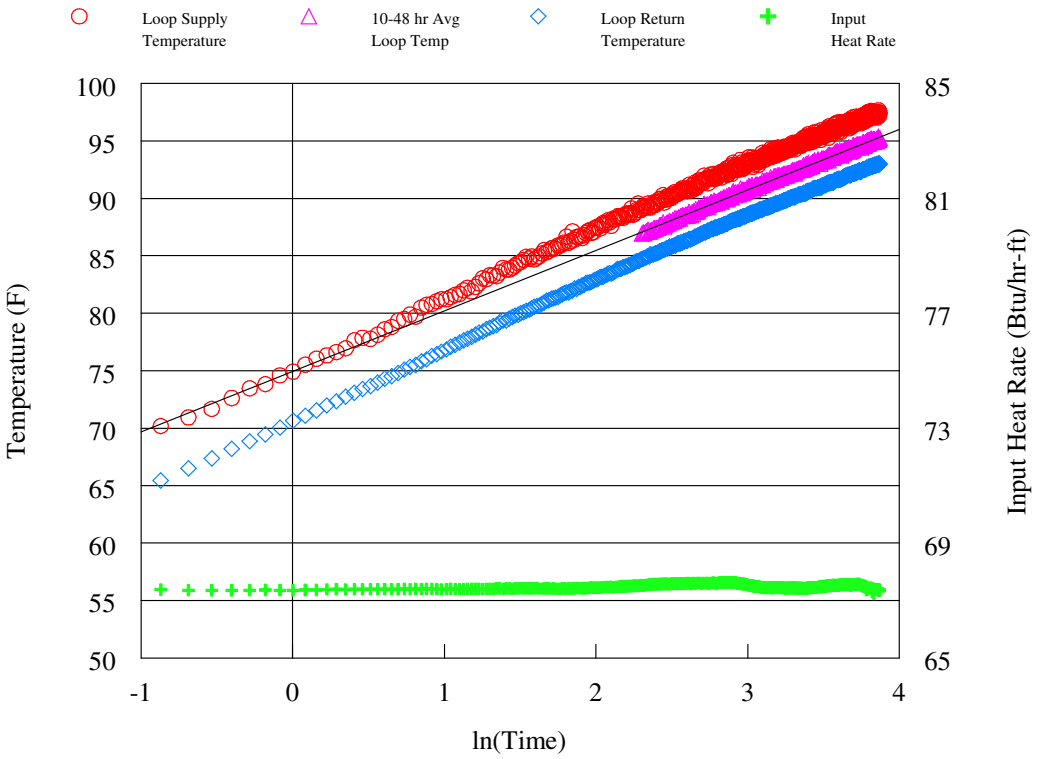


FIG. 2: TEMPERATURE & HEAT RATE VS NATURAL LOG OF TIME

The loop temperature and input heat rate data versus the natural log of elapsed time are shown above in Figure 2. The temperature versus time data was analyzed using the line source method (see page 3) in conformity with ASHRAE and IGSHPA guidelines. A linear curve fit was applied to the average of the supply and return loop temperature data between 10 and 48.0 hours. The slope of the curve fit was found to be 5.26. The resulting thermal conductivity was found to be **1.02 Btu/hr-ft-°F**.

THERMAL DIFFUSIVITY

The reported drilling log for this test borehole indicated that the formation consisted of clay, sand, gravel, lime, sandstone and shale. Heat capacity values for sandstone and shale were calculated from specific heat and density values listed by Kavanaugh and Rafferty (Ground-Source Heat Pumps - Design of Geothermal Systems for Commercial and Institutional Buildings, ASHRAE, 1997). A weighted average of heat capacity values based on the indicated formation was used to determine an average heat capacity of 33.3 Btu/ft^3-°F for the formation. A diffusivity value was then found using the calculated formation thermal conductivity and the estimated heat capacity. The thermal diffusivity for this formation was estimated to be **0.74 ft^2/day**.

CERTIFICATE OF CALIBRATION

GRTI maintains calibration of the datalogger, current transducer and voltage transducer on a biannual schedule per the manufacturers recommendations. The components are calibrated by the manufacturer using recognized national or international measurement standards such as those maintained by the National Institute of Standards and Technology (NIST).

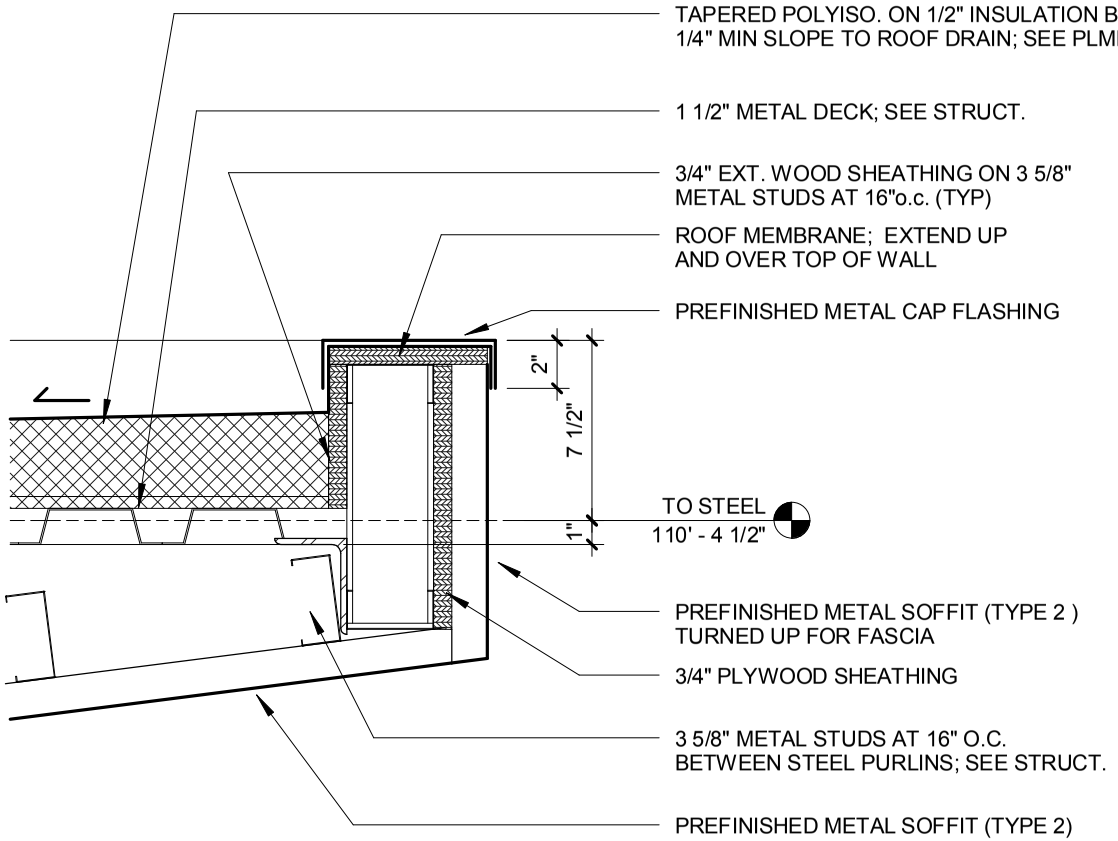
FTC Unit 248

DA Unit 48

PRIMARY EQUIPMENT		
COMPONENT	LAST CALIBRATION DATE	CALIBRATION DUE DATE
Datalogger	12/2/2014	12/2/2016
Current Transducer	12/5/2014	12/5/2016
Voltage Transducer	12/5/2014	12/5/2016

GRTI periodically verifies the combined temperature sensor/datalogger accuracy via a water bath. Temperature readings are simultaneously taken with a digital thermometer that has been calibrated using instruments traceable to NIST.

DATE	12/17/2014	5/15/2015		
THERMOCOUPLE 1 (°F)	31.7 31.7 31.7	31.7 31.7 31.7		
THERMOCOUPLE 2 (°F)	31.7 31.7 31.7	31.7 31.7 31.7		
THERMOCOUPLE 3 (°F)	31.7 31.7 31.7	31.7 31.7 31.7		
THERMOCOUPLE 4 (°F)	31.7 31.7 31.7	31.7 31.7 31.7		
DIGITAL THERMOMETER (°F)	31.9 31.9 31.9	31.9 31.9 31.9		



1
SKA1

ROOF DETAIL - CANOPY PARAPET

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

WILKINS
ARCHITECTURE | DESIGN | PLANNING

Central Nebraska Veterans Home

Kearney, Nebraska

Project Number: **FAI-31-015**

Addendum No. 1

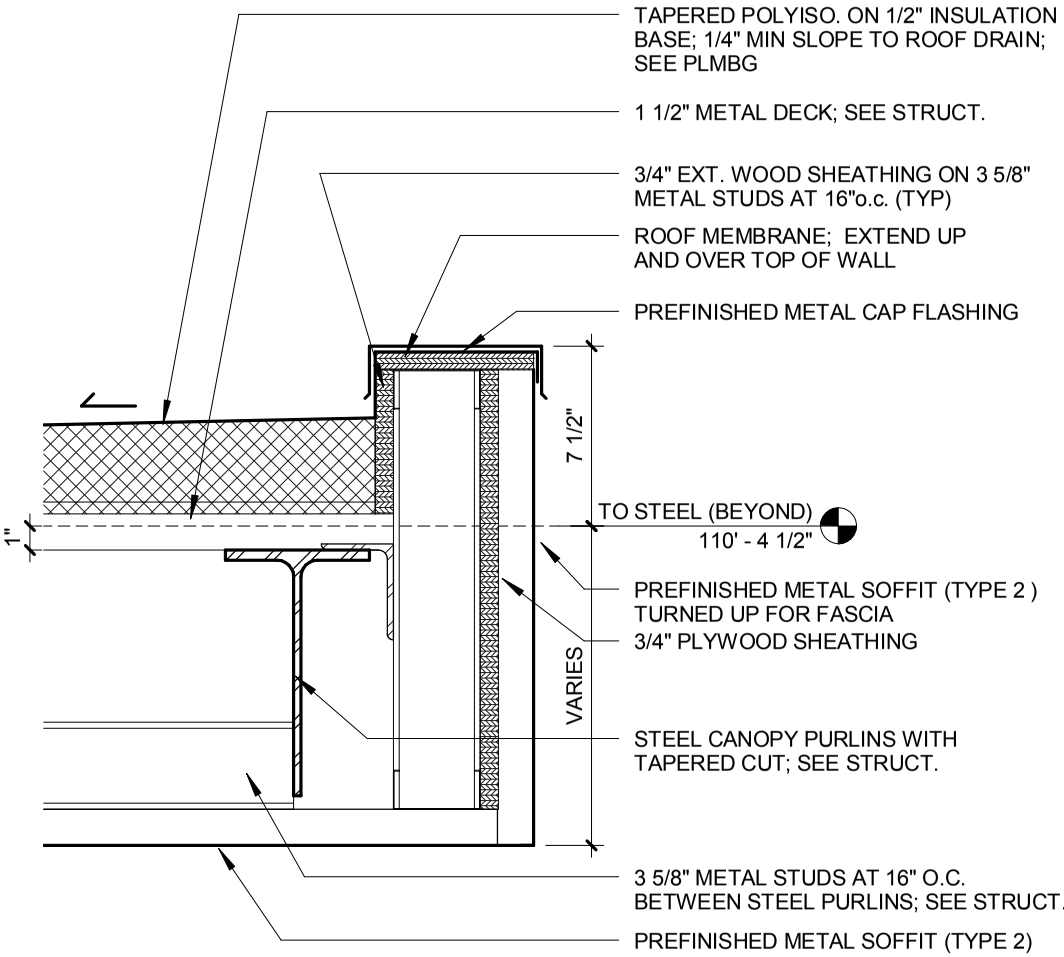
Wall Sections - Building J - Veterans Home Center

Sheet Ref: 14/A7.13

Sketch Date: **11-20-2015**

Sketch Number:

SKA1



1 / SKA2 **ROOF DETAIL - CANOPY PARAPET**

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

WILKINS
ARCHITECTURE | DESIGN | PLANNING

Central Nebraska Veterans Home

Kearney, Nebraska

Project Number: **FAI-31-015**

Addendum No. 1

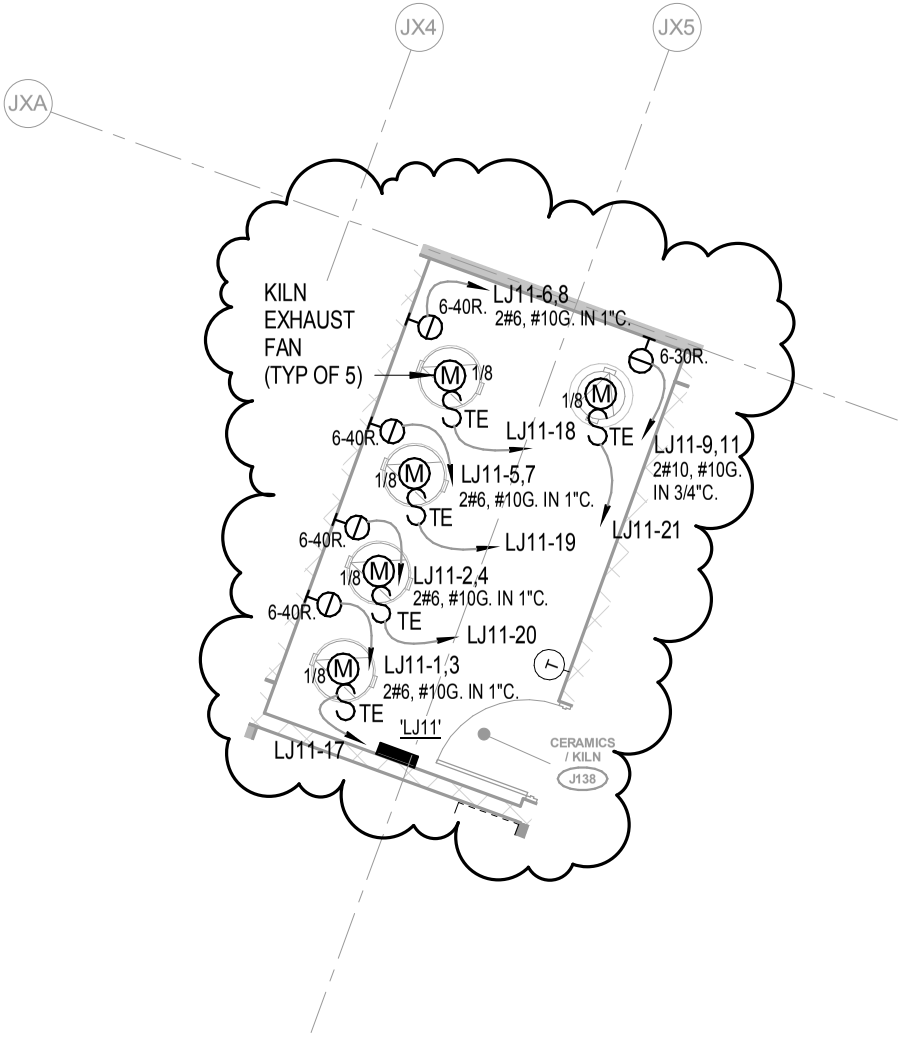
Wall Sections - Building J - Veterans Home Center

Sheet Ref: 15/A7.13

Sketch Date: **11-20-2015**

Sketch Number:

SKA2



1
SKE1

CERAMICS/KILN J138

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

WILKINS
ARCHITECTURE | DESIGN | PLANNING

Central Nebraska Veterans Home

Kearney, Nebraska

Project Number: **FAI-31-015**

Addendum No. 1

BUILDING J - POWER - CERAMICS/KILN J138

Sheet Ref: E2.J.01

Sketch Date: **11/20/15**

Sketch Number:

SKE1

Lighting Panel: LJ11

Rating: 225 A
Mounting: Surface
Type: MCB W/ GRD. BAR

Voltage: 120/240 Single
Phase: 1
Wire: 3
A.I.C. Rating: SERIES

Circuit Description	O/C		CKT			CKT	O/C		Circuit Description
LARGE KILN	40	2	1			2	2	40	LARGE KILN
--	--	--	3			4	--	--	--
LARGE KILN	40	2	5			6	2	40	LARGE KILN
--	--	--	7			8	--	--	--
SMALL KILN	30	2	9			10	1	20	REC - CERAMICS GREEN RM.
--	--	--	11			12	1	20	SPARE
SPARE	30	2	13			14	2	40	SPARE
--	--	--	15			16	--	--	--
KILN EXHAUST	20	1	17			18	1	20	KILN EXHAUST
KILN EXHAUST	20	1	19			20	1	20	KILN EXHAUST
KILN EXHAUST	20	1	21			22	1	20	SPARE
SPACE	--	--	23			24	--	--	SPACE
SPACE	--	--	25			26	--	--	SPACE
SPACE	--	--	27			28	--	--	SPACE
SPACE	--	--	29			30	--	--	SPACE
SPACE	--	--	31			32	--	--	SPACE
SPACE	--	--	33			34	--	--	SPACE
SPACE	--	--	35			36	--	--	SPACE
SPACE	--	--	37			38	--	--	SPACE
SPACE	--	--	39			40	--	--	SPACE
SPACE	--	--	41			42	--	--	SPACE

Notes:

Central Nebraska Veterans Home

Kearney, Nebraska

Project Number: **FAI-31-015**

Addendum No. 1

ELECTRICAL SCHEULDES - PANEL LJ11

Sheet Ref: E7.07

Sketch Date: **11/20/15**

Sketch Number:

SKE2

DRY-TYPE TRANSFORMER SCHEDULE

MARK	TYPE (NOTE 1)	KVA	VOLTAGE		MOUNTING	REMARKS
			PRIMARY	SECONDARY		
TJ1	GP	225	480	208Y/120	FLOOR	#3/0 - 1"C.
TJ2	GP	225	480	208Y/120	FLOOR	#3/0 - 1"C.
TJ11	GP	75	480	120/240	FLOOR	#2 - 3/4"C.
TJLS1	GP	45	480	208Y/120	WALL	#6 - 1/2"C.
TK1	GP	45	480	208Y/120	WALL	#6 - 1/2"C.
TK2	GP	45	480	208Y/120	WALL	#6 - 1/2"C.
TK3	GP	45	480	208Y/120	WALL	#6 - 1/2"C.

NOTES:

1. TRANSFORMER TYPE DESCRIPTION: GP=GENERAL PURPOSE, BB=BUCK BOOST, DI=DRIVE ISOLATION, CS=CONTROL AND SIGNAL