

**APPLICATION AND AGREEMENT FOR USE OF
HIGHWAY RIGHT-OF-WAY FOR UTILITIES ACCOMMODATION**

FOR DEPARTMENT USE ONLY

Permit Number <u>914-2014-033</u>	Highway Number <u>92</u>	County <u>WARREN</u>		
DOT Project Number <u>WHSX-092-5(51)-34-91</u>		Expiration/Completion Date <u>9-30-2014</u>		
APPLICANT (INDIVIDUAL OR COMPANY)				
First Name	Middle	Last Name	Phone Number	Ext.
Company Name Indianola Municipal Utilities		City/Town Indianola	Phone Number (515) 961-9444	Ext.
Street Address P.O. Box 356, 111 South Buxton St.		State IA	ZIP Code 50125	

INSTALLATION TO BE ACCOMMODATED

Approval is hereby requested to enter within the state highway right-of-way for the accommodation of a utility installation as detailed on the attachments and further described as follows.

The installation shall consist of:

Overhead cable for electric transmission at 69 KV Crossing over the highway 92 between Hwy sta. 255+49 and 257+34
Run longitudinally on the south side of Hwy 92 within DOT ROW from Hwy Sta. 257+34 to 273+21
8 poles will be set on DOT ROW.

Conductors:

One shield wire top (steel 3/8" 7 strand, class B galvanized, EHS)
Three 69 KV nominal wire vertically - tangentially arranged (T-2-336.4 ACSR, Bare)

Traffic control plan: TC-202 for Hwy 92 while installing the poles and down guys if necessary, TC-251 for Hwy 92 while pulling conductors, coordination with local officials for closures of county roads.

See drawings E8958-P16 Thru E8958-P18 for the plan view.

and shall be located as shown on the detailed plan attached hereto. (See current Iowa Department of Transportation Utility Accommodation Policy for submittal of detailed plan requirements.)

WORK SITE LOCATION

The proposed work as described above is located in Section 29 630, Twp. 76N
Range 24W on Highway No. Hwy. 92 generally located 2.5 - 2.0 (miles) West
(direction) from Indianola, IA
specifically located as being from 125.93 (Milepost #) and 255+49 (Highway Station)
to 126.27 (Milepost #) and 273+21 (Highway Station) on the Both side of highway.

Applicant Signature and Agreement

I have read this Agreement, understand its provisions, and agree to abide by it and the utility accommodation policy of the Iowa Department of Transportation

Name of Agent (Print or Type) Bob Miller	Agent/Owner (Signature) 	Title <u>Superintendent</u>
Name of Owner (Print or Type) Indianola Municipal Utilities		Date

CITY ACTION (IF PROPOSED WORK IS WITHIN AN INCORPORATED CITY, CITY ACTION IS REQUIRED)

"The undersigned city joins in the grants embodied in the above permit executed by the Iowa Department of Transportation on condition that all of the covenants and undertakings therein running to the Iowa Department of Transportation shall inure to the benefit of the undersigned city and recommends action on said permit application as noted below by the delegated city official".

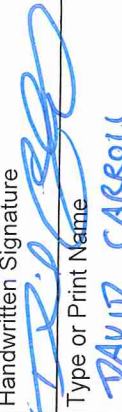
Recommend Approval Do Not Recommend Approval None Required

Handwritten Signature	Title	Date
Type or Print Name	Authorized Official for the City of	

COUNTY ACTION (IF PROPOSED WORK CROSSES COUNTY RIGHT-OF-WAY, COUNTY ACTION IS REQUIRED)

"The undersigned county joins in the grants embodied in the above permit executed by the Iowa Department of Transportation on condition that all of the covenants and undertakings therein running to the Iowa Department of Transportation shall inure to the benefit of the undersigned county and recommends action on said permit application as noted below by the delegated county official".

Recommend Approval Do Not Recommend Approval None Required

Handwritten Signature 	Title <u>COUNTY ENGINEER</u>	Date <u>6/30/14</u>
Type or Print Name <u>DAVID CARROLL</u>	Authorized Official for the County of Warren Co.	

FOR DEPARTMENT USE ONLY

Special Requirements - in addition to the stipulations below, the following special requirements shall apply to this permit:

FEDERAL HIGHWAY ADMINISTRATION ACTION (WHEN REQUIRED)

Recommend Approval Do Not Recommend Approval None Required

Authorized FHWA Representative Signature

Date

DEPARTMENT OF TRANSPORTATION FINAL ACTION

Application Approved Application Denied

Permit Number: 9IU-2014-033

Authorized Highway District Representative
Dale O'Brien

Signature

Date

7-3-2014

Notice of intention to start construction or maintenance activities on the highway right-of-way shall be made to:

Local DOT Contact Person (Type or Print Name)
Scott Sommers, P.E.

Phone Number
641-774-5056

Street Address
21922 480th St

City/Town
Chariton

State ZIP Code
IA 50049

AGREEMENTS

The utility company, corporation, applicant, permit holder or licensee, (hereinafter referred to as the Permit Holder) agrees with the Iowa Department (hereafter referred to as Department) that the following stipulations and those special requirements as listed on this page shall govern under this permit.

A. General

1. The installation shall meet the requirements of local municipal, county, state, and federal Iowa franchise rules and regulations, regulations and directives of the Iowa State Commerce Commission; the Department of Natural Resources, all rules and regulations of the Department and any other laws or regulations applicable.
2. The Permit Holder shall be fully responsible for any future adjustments of the facilities within the established highway right-of-way caused by highway construction or maintenance operations.
3. Non-compliance with any of the terms of the Department's policy, permit or agreement, may be considered cause for shut-down of utility construction operations or withholding of relocation reimbursement until compliance is assured, or revocation of the permit. The cost of any work caused to be performed by the State in removal of non-complying construction will be assessed against the Permit Holder.
4. The work described in this permit shall be completed as proposed in compliance with the stipulations and special requirements within one year from the date Department approval is received for said request. Failure on the part of the Permit Holder to abide by the stipulations or in constructing the work described as stipulated and within the time frame stated shall render this agreement and request null and void. The Permit Holder also agrees to save the State of Iowa and the Department harmless of any damages or losses that may be sustained by any person, or persons, on account of the conditions and requirements of this agreement.

B. Construction and Maintenance

1. The location, construction and maintenance of the utility installation covered by this application shall be in accordance with the current Department's Utility Accommodation Policy.
2. Before beginning any work in the highway right-of-way, it is the responsibility of the Permit Holder to obtain an easement from the drainage district if necessary. The Department assumes no responsibility for advising the Permit Holder of each location of a drainage district crossing. It is the Permit Holder's responsibility to locate these crossings and obtain any necessary easements or permission from the drainage district. See Code of Iowa, Chapter 468 for additional information.
3. A copy of the approved permit shall be available on the job site at all times for examination by Department officials.
4. All traffic control including sign placement and flagging are the responsibility of the Permit Holder. The original placement of signs and their removal upon completion of the work shall be accomplished by the Permit Holder.
5. Operations in the construction and maintenance of said utility installation shall be carried on in such a manner as to cause minimum interference to or distraction of traffic on said highway.
6. After November 24, 2008, all personnel in the highway right-of-way shall wear ANSI 107 Class 2 apparel at all times when exposed to traffic or construction equipment.

C. Liability

1. The Permit Holder shall indemnify and save harmless the State of Iowa, its agencies and employees, from any and all causes of action, suits at law or in equity, for losses, damages, claims or demands, and from any and all liability and expense of whatsoever nature, arising out of or in connection with the Permit Holder's use or occupancy of the public highway.
2. The state of Iowa and the Department assume no responsibility for damages to the Permit Holder's property occasioned by any construction or maintenance operations on said highway if Permit Holder has been notified in accordance with stipulation number D.3. or if the facilities are not located in accordance with this permit.
3. The State of Iowa, its agencies or employees, will be liable for expense incurred by the Permit Holder in its use and occupancy of the highway right-of-way only when negligence of the State, its agencies or employees, is the sole proximate cause of such expense. Whether in contract, tort or otherwise, the liability of the State, its agencies and employees, is limited to the reasonable, direct expense to repair damaged utilities, and in no event will such liability extend to loss of profits or business, indirect, special, consequential or incidental damages.

D. Notification

1. The Permit Holder is responsible for contacting Iowa One-Call (1-800-292-8989) and request the location of any underground utilities forty-eight (48) hours before excavation. Before beginning work in the highway right-of-way, the Permit Holder shall also contact any other known utility located in the area of the proposed work.
2. The Permit Holder agrees to give the Department forty-eight hours notice of its intention to start construction or to perform routine maintenance on the highway right-of-way. Said notice shall be made to the contact person whose name is shown on this page.
3. The Department shall give the Permit Holder at least forty-eight hours notice of any proposed construction or maintenance work, on either existing or newly acquired right-of-way when the proposed work will be ten feet of a utility location as previously approved by the Department by permit or written agreement. The Permit Holder shall be responsible within this time frame to arrange to protect its facilities.

Disclosure Statement: The information furnished on this form will be used by the Department of Transportation to determine approval or denial of the application. Failure to provide all information will result in denial of the application. Information furnished is public information and copies may be provided to the public upon request.

COPY FOR
FILE

Prepared by

& Return to: Katherine A Beanken, 100 Court Avenue, Suite 600, Des Moines, Iowa 50309-2231, (515) 243-7611

Individual's Name

Street Address

City

Phone

SPACE ABOVE THIS LINE
FOR RECORDER

EASEMENT

Robert Hutt and Verna Hutt, husband and wife, owners of the property described herein, (collectively, the "Grantor") in exchange for one dollar (\$1.00) and other valuable consideration, receipt of which is hereby acknowledged, do hereby grant to the City of Indianola acting through the Indianola Municipal Utilities, an Iowa municipal corporation, ("Grantee"), and to its successors or assigns, including MidAmerican Energy Company, a non-exclusive electric utility easement upon the conditions herein and located on the following described property situated in the County of Warren, State of Iowa:

Part of the NE1/4 SE1/4 Section 30, T76N, R24W of the 5th P.M. in Warren Co., IA, Commencing at the NE corner of said NE1/4 SE1/4, thence S0°43'04"E (Assumed for this description) along the east line of said NE1/4 SE1/4, 238.82 ft to the Point of Beginning; thence continuing S0°43'04"E, 680.11 ft to the centerline of Iowa Hwy 92, thence N53°32'14"W along said centerline, 304.99 ft; thence N0°43'04"W, 495.79 ft; thence N89°16'56"E, 243.00 ft to the point of beginning.

The Easement Areas, as shown on Exhibit A, are located in the northeast quarter of the southeast quarter of Section 30, Township 76 North, Range 24 West of the 5th principal meridian in Warren County, Iowa. The Easement Areas include the following.

Easement Area 'A'

A triangular area bounded by lines connecting the following points

Point A1: the intersection of the east line of the property and the north right of way line of Iowa Hwy 92.

Point A2: located on the east line of the property, 60 ft north of Point A1 as measured along the east line of the property.

Point A3: located on the north right of way line of Iowa Hwy 92, 40 ft northwest of Point A1 as measured along the right of way line.

All as shown on Exhibit A and by this reference made a part hereof.

Easement 'B'

An area bounded by lines connecting the following points

Point B1: the southeast corner of the property

Point B2: the intersection of the east line of the property and the north right of way line of Iowa Hwy 92.

Point B3: located on the north right of way line of Iowa Hwy 92, 150 ft northwest of Point B2 as measured along the right of way line.

Point B4: located on the south line of the property which is also the centerline of Iowa Hwy 92, 150 ft northwest of Point B1

All within the existing right of way of Iowa Hwy 92 as shown on Exhibit A and by this reference made a part hereof. Easement 'B' is being granted by Grantor to cover his underlying fee title to the center of said highway 92.

The Easement will allow the installation of poles, conductors, supports, crossarms, guy wires, anchors, apparatus, and all other required appurtenances for a 69 kV electric transmission line and associated 13.2 kV distribution line upon and above the Easement Areas. The Easement includes the ongoing existence, repair, maintenance, replacement, upgrading, or removal of the poles, conductors, and other apparatus and appurtenances (the "Purpose").

The Grantee agrees to restore damage caused while constructing or maintaining facilities on the above described easement.

The Easements shall be subject to the following terms and conditions:

1. **Limited Use/Purpose.** The Grantee may use the Easement only for the Purpose stated herein.

2. **Cancellation.** Grantor has the right to cancel this Easement to Grantee by mailing a 'Notice of Cancellation' to the Grantee at its principal place of business by certified mail with return requested. The Notice must be received by Grantee within seven (7) days of the date of this Easement, excluding Saturday and Sunday. Grantor acknowledges receipt of this written information as to the right to cancel prior to signing of this easement agreement and acknowledges receipt of the form in duplicate which can be used to mail Grantee a 'Notice of Cancellation'. Grantee will not record this agreement until after the period for cancellation has expired. This right of cancellation may be exercised only once for each transmission line project.

3. **No Structures or Plantings.** The Grantor agrees not to place, or allow to be placed, any building, structure, or object of any kind beneath or in such close proximity of said wires as to encroach upon the easement rights of Grantee until proper notification is given to and subsequent approval given by said Grantee. Grantor shall have the right to use said strip for

purposes not inconsistent with the Grantee's full enjoyment of the rights hereby created. The Easement granted shall be perpetual and shall be binding on the parties and their assigns.

4. **Protection of Lines.** With due care, Grantee shall have the right to trim or remove trees or other vegetation within the Easement Area as may interfere with the proper construction, reconstruction, maintenance, operation and/or repair of the lines authorized by this easement.

5. **Easement Runs With Land.** This Easement will be deemed to run with the land and shall be binding on the successors and assigns of Grantor and Grantee.

6. **Construction and Maintenance.** Grantee shall construct and maintain the transmission lines described herein in accordance with good utility practice.

7. **Indemnification.** To the extent allowed by Iowa law, Grantee shall indemnify and hold harmless Grantor from any and all claims, injury, damage, liability, costs, fees (including reasonable attorneys' fees), expenses, or other loss, whether to persons or property, including persons and property controlled by others, arising from Grantee's exercise of Grantee's rights under this Easement.

8. **Applicable Law.** Wires constructed following this easement grant shall not be less than the minimum height as required by the National and State Electrical Safety Code above the surface of the ground beneath said wires. Grantee shall have the exclusive right to the space occupied by said wires beneath and on either side thereof as is necessary to provide reasonably safe isolation of the wires from contact by any person or object. Any dispute arising from this Easement shall be decided in accordance with the laws of the State of Iowa.

The Grantor herein covenants that he has full and lawful right to convey the interest created by this instrument.

Dated this 30th day of JUNE, 2014

Robert Hutt Verna Hutt
Signature Signature

Robert Hutt Verna Hutt
Print Print

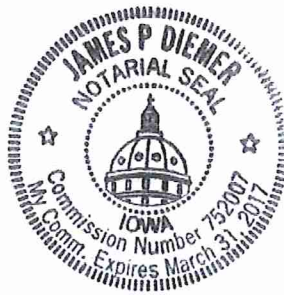
On this 30th day of JUNE, 2014,
before me, the undersigned, a Notary Public in and for said County and State, personally

appeared ROBERT HUTT + VERNA HUTT

to me known to be the identical persons named in and who executed the within and foregoing instrument and acknowledged that they executed the same as their voluntary act and deed.

James P Diemer
Notary Public

My Commission Expires _____

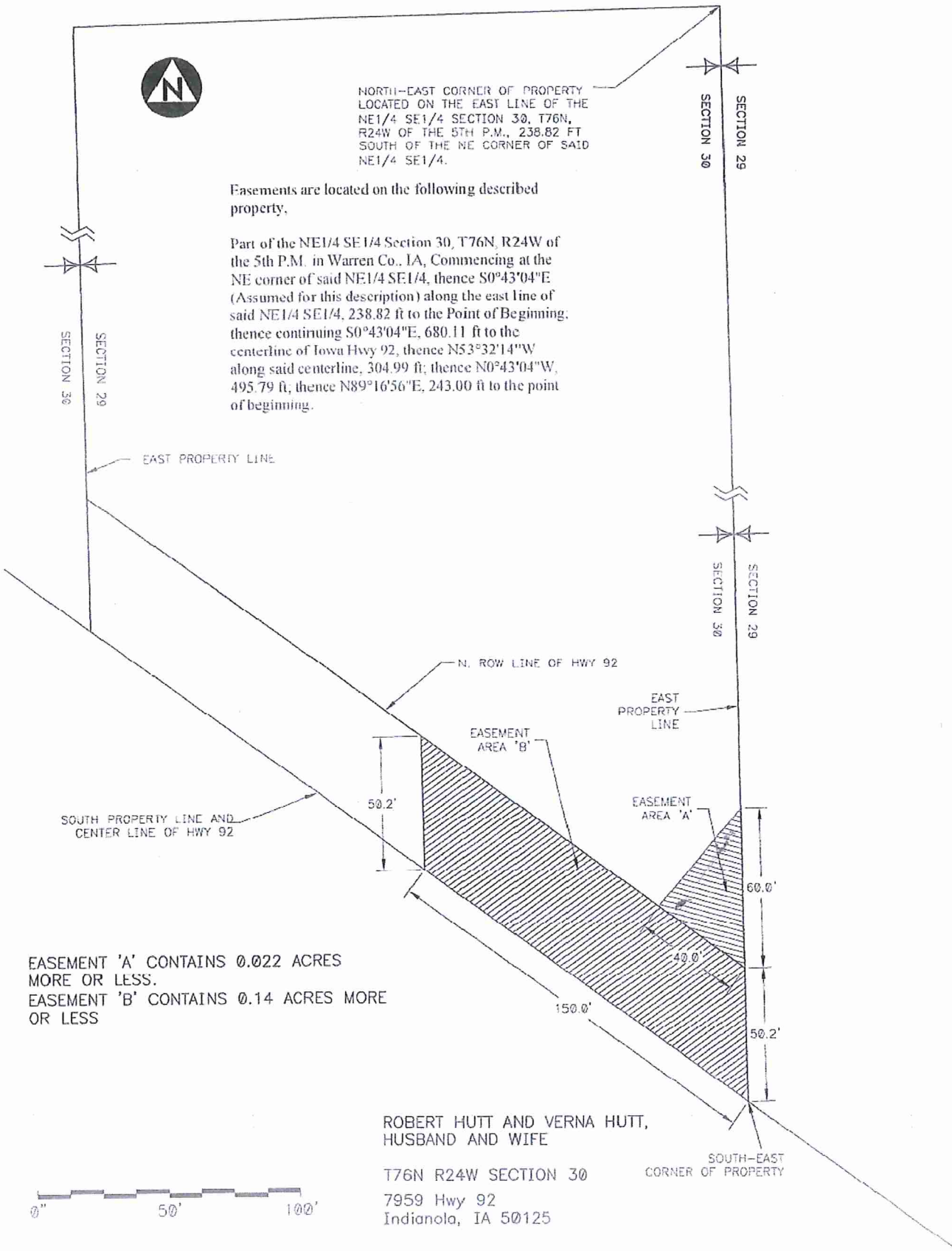




NORTH-EAST CORNER OF PROPERTY
 LOCATED ON THE EAST LINE OF THE
 NE1/4 SE1/4 SECTION 30, T76N,
 R24W OF THE 5TH P.M., 238.82 FT
 SOUTH OF THE NE CORNER OF SAID
 NE1/4 SE1/4.

Easements are located on the following described
 property.

Part of the NE1/4 SE1/4 Section 30, T76N, R24W of
 the 5th P.M. in Warren Co., IA, Commencing at the
 NE corner of said NE1/4 SE1/4, thence S0°43'04"E
 (Assumed for this description) along the east line of
 said NE1/4 SE1/4, 238.82 ft to the Point of Beginning;
 thence continuing S0°43'04"E, 680.11 ft to the
 centerline of Iowa Hwy 92, thence N53°32'14"W
 along said centerline, 304.99 ft; thence N0°43'04"W,
 495.79 ft, thence N89°16'56"E, 243.00 ft to the point
 of beginning.



EASEMENT 'A' CONTAINS 0.022 ACRES
 MORE OR LESS.
 EASEMENT 'B' CONTAINS 0.14 ACRES MORE
 OR LESS

ROBERT HUTT AND VERNA HUTT,
 HUSBAND AND WIFE

T76N R24W SECTION 30
 7959 Hwy 92
 Indianola, IA 50125

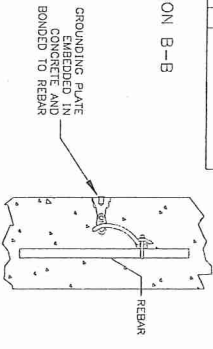
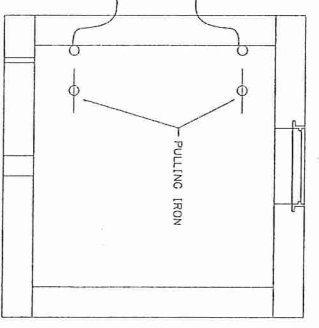
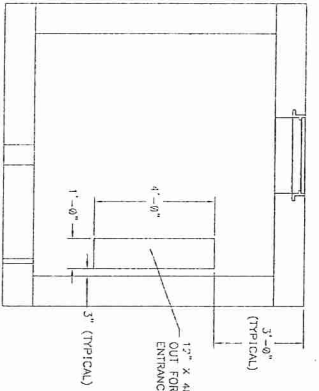
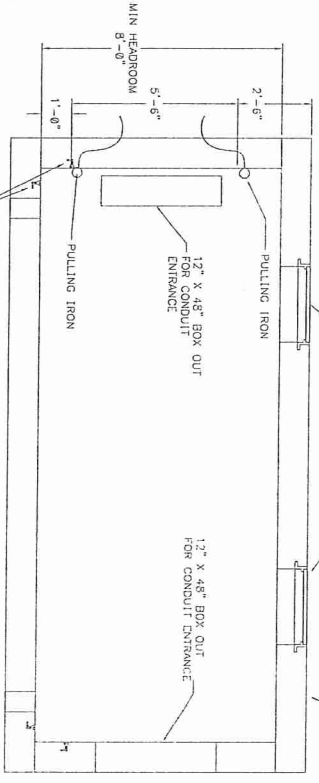
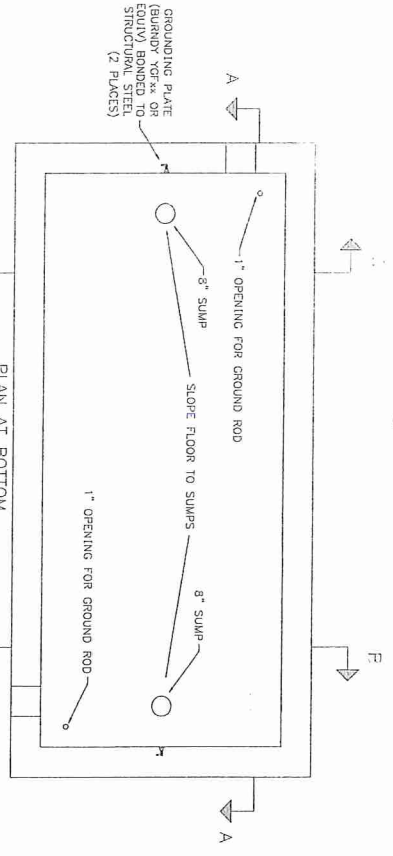
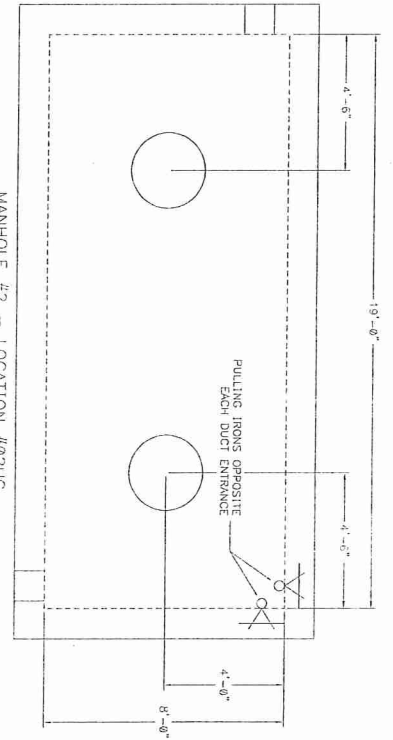


SCALE: AS SHOWN
 DATE: 06-30-14
 DESIGNED: P&E
 DRAWN: RWB
 APPROVED: ARP

P & E ENGINEERING CO.
 POWER SYSTEM ANALYSIS AND DESIGN

SECTION DRAWING NO

Exhibit A



- FABRICATION NOTES**
1. MANHOLE DESIGN SHALL BE SUITABLE FOR INSTALLATION ALONG STATE HIGHWAYS AND WITH REQUIREMENTS OF MASTO H-20.
 2. PROVIDE PULLING IRONS (CONDUY G828, 101 OR EQUIVALENT) AND MANHOLE FRAMES & COVERS AS NOTED.
 3. PROVIDE MANHOLE AREAS AS NOTED. KNOCK OUT AREAS SHALL BE VOID OF REBAR AND SHALL HAVE NO MORE THAN A 3" THICKNESS OF CONCRETE.
 4. PRE-CAST SUPPLIER IS RESPONSIBLE FOR STRUCTURAL DESIGN OF MANHOLE.
 5. SEE SPECIFICATION PARAGRAPH 17.0 IN SECTION 162222 FOR ADDITIONAL REQUIREMENTS.

**PRELIMINARY
NOT FOR CONSTRUCTION**

REV	DATE	BY	CHKD	DESCRIPTION
1	02-11-13	WAE	WAE	ADDITIONAL VOLUME OF MATERIAL FOR REBAR AND MANTON
2	02-11-13	WAE	WAE	ADDITIONAL VOLUME OF MATERIAL FOR REBAR AND MANTON
3	02-11-13	WAE	WAE	ADDITIONAL VOLUME OF MATERIAL FOR REBAR AND MANTON

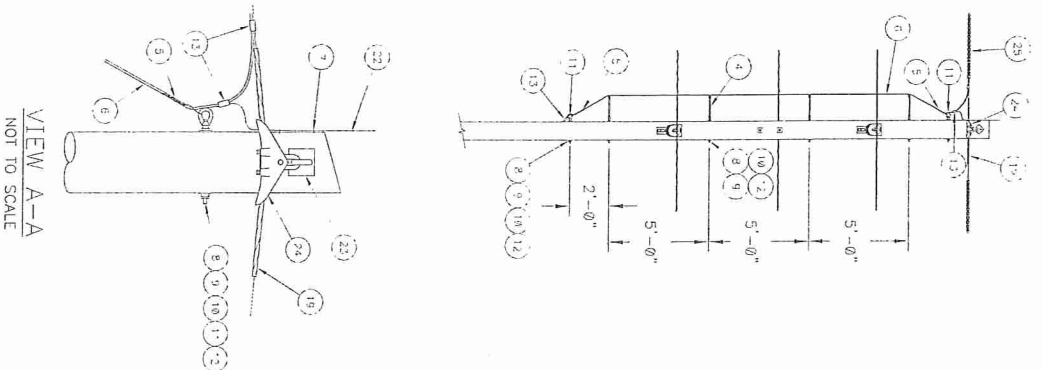
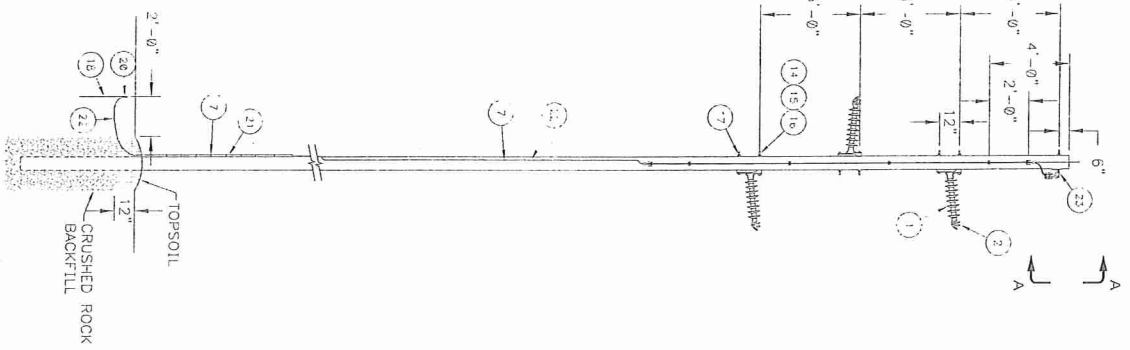
INDIANA MUNICIPAL UTILITIES
 ENGINEERING DIV.
 100 N. MARKET STREET
 INDIANAPOLIS, IN 46204
 PHONE: 317.434.2000
 FAX: 317.434.2001
 WWW: www.imu.org



DATE	DESIGNED	DATE	SCALE
01-08-12	P&E	AS NOTED	REV B
	DRAWN		
	APPROVED		
	APP		

INDIANA MUNICIPAL UTILITIES
 HIGHWAY 92 DOT PROJECT
 PREFABRICATED MANHOLE CONSTRUCTION LOCATION 02UG

SCALE: AS NOTED
 REV B
 DWG NO: E8958-U120



159-021

ITEM	QTY	UNIT	DESCRIPTION
1	1	EA	INSULATOR, HORIZ LINE POST, 69 KV, GAIN BASE, CLAMP TOP= 1225 JD, RCL
2	2	EA	CLAMP, TRUNNION, CLAMP TOP-286-T2 - 477-12 ACSR
3	3	EA	INSULATOR, DOWN LEAD, FIBERGLASS, 5/8" X 12"
4	4	EA	GRIP, DEAD-END, PREFORMED, 1/8" ACSR, AAC, AAC
5	25	EA	CONDUCTOR, #1/2 ACSR, BARE
6	40	EA	SAMPLE, GROUND WIRE, 2" X 5/8"
7	1	EA	ROU, DOUBLE ARDING, 5/8" GALVANIZED, VARIOUS LENGTHS
8	6	EA	WASHER, SQUARE, FLAT, 5/8" GALVANIZED
9	1	EA	LOCKNUT, 5/8" GALVANIZED
10	2	EA	WASHER, SQUARE, FLAT, 5/8" GALVANIZED
11	2	EA	ROU, DOUBLE ARDING, 5/8" GALVANIZED, VARIOUS LENGTHS
12	2	EA	WASHER, SQUARE, FLAT, 5/8" GALVANIZED
13	2	EA	LOCKNUT, 5/8" GALVANIZED
14	2	EA	WASHER, SQUARE, FLAT, 5/8" GALVANIZED
15	2	EA	ROU, DOUBLE ARDING, 5/8" GALVANIZED, VARIOUS LENGTHS
16	2	EA	WASHER, SQUARE, FLAT, 5/8" GALVANIZED
17	2	EA	LOCKNUT, 5/8" GALVANIZED
18	2	EA	WASHER, SQUARE, FLAT, 5/8" GALVANIZED
19	2	EA	ROU, DOUBLE ARDING, 5/8" GALVANIZED, VARIOUS LENGTHS
20	2	EA	WASHER, SQUARE, FLAT, 5/8" GALVANIZED
21	2	EA	LOCKNUT, 5/8" GALVANIZED
22	2	EA	WASHER, SQUARE, FLAT, 5/8" GALVANIZED
23	2	EA	ROU, DOUBLE ARDING, 5/8" GALVANIZED, VARIOUS LENGTHS
24	2	EA	WASHER, SQUARE, FLAT, 5/8" GALVANIZED
25	2	EA	LOCKNUT, 5/8" GALVANIZED

PRELIMINARY
NOT FOR CONSTRUCTION

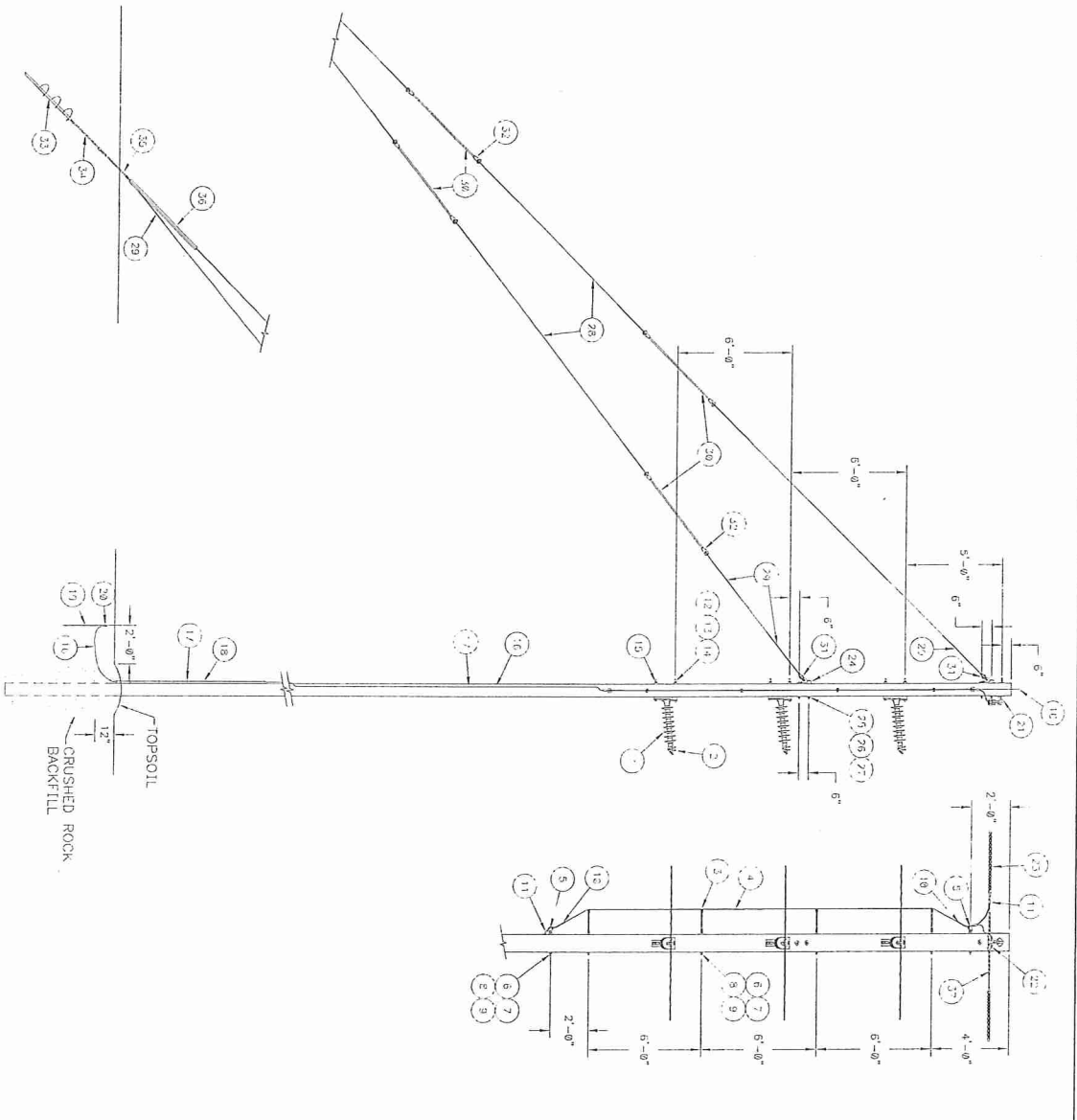
REV	DATE	BY	CHKD	APP
A	05-16-12	PMB	JME	ASP

DESIGNED BY: P & S ENGINEERING CO.
 DRAWN BY: P & S ENGINEERING CO.
 CHECKED BY: P & S ENGINEERING CO.
 APPROVED BY: P & S ENGINEERING CO.

DATE: 05-16-12
 DESIGNED: P & S
 DRAWN: P & S
 CHECKED: P & S
 APPROVED: P & S

69KV TANGENT STRUCTURE T2 CONDUCTOR

SCALE: NONE
 REV: A
 DWG NO: T69-021

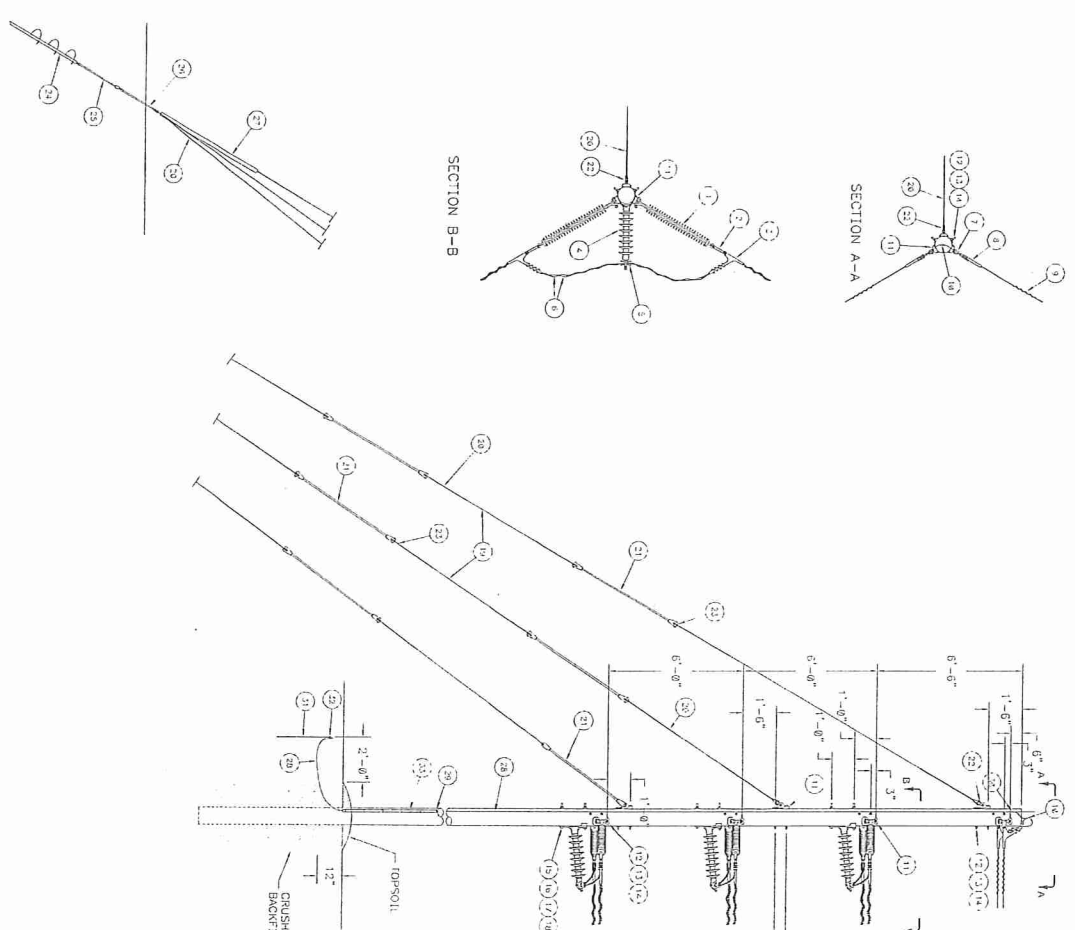


ITEM NO.	QTY	DESCRIPTION
1	1	INSULATOR, HERY 11NF POST, 60 KV, GAIN BASE, CLAMP TOP, 1235 LB. RSJ
2	1	CLAMP, TRIMLINE, CLAMP TOP 216, 12" x 1477 1/2 ACGR
3	1	INSULATOR, DOWN LEAD, FIBERGLASS, 5/8" x 12"
4	25	CONDUCTOR, #17/0 ACGR, BARE
5	2	EYE HOOK, 5/8" GALVANIZED
6	6	BOLT, DOUBLE ARMING, 5/8" GALVANIZED, VARIOUS LENGTHS
7	12	WASHER, SQUARE, FLAT, 5/8"
8	6	WASHER, TWIN COILS, 5/8"
9	6	LOCKNUT, 5/8" GALVANIZED
10	2	GRIP, DDOG-CND, PREFORMED, 1/8" ACGR, AVG. AVG
11	3	CONNECTOR, 4L COMPRESSION, H-T-6P, VARIOUS SIZES
12	8	BOLT, MACHINE, 3/4" GALVANIZED, VARIOUS LENGTHS
13	8	WASHER, SQUARE, CURVED, GALVANIZED, 3/4"
14	8	LOCKNUT, 3/4" GALVANIZED
15	8	WASHER, TWIN COILS, 3/4" BARE
16	8	STAKE, #8010 COPPER, 5/8" DIA
17	40	NO DING, #8010 COPPER, 1/2" DIA
18	8	ROD, #8010 COPPER, 1/2" DIA
19	8	CLAMP, 5/8" ROUND ROD TO #8, 1/2" DIA
20	1	CUPPOINT, 5/8" ROUND ROD TO #8, 1/2" DIA
21	1	CLAMP, 5/8" ROUND ROD TO #8, 1/2" DIA
22	1	CLAMP, 5/8" ROUND ROD TO #8, 1/2" DIA
23	2	CLAMP, 5/8" ROUND ROD TO #8, 1/2" DIA
24	2	CLAMP, 5/8" ROUND ROD TO #8, 1/2" DIA
25	4	WASHER, SQUARE, CURVED, GALVANIZED, 7/8"
26	4	LOCKNUT, 7/8" GALVANIZED
27	4	WIRE, GUY, 7/16" 7 STR, CLASS A GALVANIZED, EHS STEEL
28	120	GRIP, GUY, PREFORMED, 7/16"
29	12	THROAT, GUY, FIBERGLASS, 94", 36000 POUND, 3/4" PINS, ONE ROLLER
30	4	ROLLER, GUY, 1 1/2" DIA, 3/4" PIN
31	2	ANCHOR, 8-10" 1/2" TRIPLE HELIX
32	4	ROD, EXTENSION, 1-1/2" x 5"
33	2	ROD, EXTENSION, 1-1/2" x 5"
34	1	ANCHOR, 8-10" 1/2" TRIPLE HELIX
35	1	ANCHOR, 8-10" 1/2" TRIPLE HELIX
36	1	ANCHOR, 8-10" 1/2" TRIPLE HELIX
37	1	ROD, ANKOR, 3/8" HS/EHS

NO.	REV.	DATE	BY	CHKD.	DESCRIPTION
1		03-16-12	JME		DESIGNED
2		03-16-12	JME		DRAWN
3		03-16-12	JME		APPROVED

SCALE:	NONE
REV:	A
DWG NO:	T69-022

69kV LIGHT ANGLE-GUYED
T2 CONDUCTOR



ITEM	QTY	UNIT	DESCRIPTION
109-0256A	1	EA	69 KV DOUBLE DEADEND, MEDIUM ANGLE, BIASECT GUYING 3 DOWN GUYS
1	6	EA	INSULATOR, SUSPENSION, POLYMER, 69 KV, 36"
2	10647	EA	SOCKET EYE, 8 3/8" EXTENSION LINK
3	10508	EA	CLAMP, DEADEND, SEE VAR MAT LIST
4	10680	EA	INSULATOR, HORIZ LINE POST, 69 KV, GAIN BASE, CLAMP TOP, 1275 LB RCL
5	14,991	EA	CLAMP, THROUNION, CLAMP TOP, SEE VAR MAT LIST
6	14,991	EA	CLAMP, THROUNION, CLAMP BOT, SEE VAR MAT LIST
7	14,991	EA	CLAMP, DEADEND, SEE VAR MAT LIST
8	10500	EA	CLAMP, DEADEND, SEE VAR MAT LIST
9	10700	EA	CLAMP, DEADEND, SEE VAR MAT LIST
10	14205	EA	CLAMP, DEADEND, SEE VAR MAT LIST
11	10201	EA	BOLT, POLE EYE, 6"
12	12005	EA	BOLT, MACHINE, 7/8", VARIOUS LENGTHS
13	12507	EA	WASHER, SQUARE, CURVED, GALVANIZED, 7/8"
14	12405	EA	WASHER, SQUARE, CURVED, GALVANIZED, 3/4"
15	12004	EA	BOLT, MACHINE, 3/4" GALVANIZED, VARIOUS LENGTHS
16	12506	EA	WASHER, SQUARE, CURVED, GALVANIZED, 3/4"
17	12404	EA	WASHER, SQUARE, CURVED, GALVANIZED, 3/4"
18	12519	EA	WASHER, TWIN COLLIS, 3/4"
19	200	EA	WASHER, TWIN COLLIS, 3/4"
20	09707	EA	GRIP, GUY, PREFORMED, 7/16"
21	09722	EA	GRIP, GUY, PREFORMED, 7/16"
22	10901	EA	INSULATOR, GUY, FIBREGLASS, 3/4", 35,000 POUND, 3/4" PINS, ONE ROLLER
23	15511	EA	INSULABLE GUYING, 40,000 POUND
24	10252	EA	ANCHOR, 8-1/2" X 2-1/8" DIA, 3/4" PIN
25	10272	EA	ANCHOR, 8-1/2" X 1-1/2" X 5"
26	10262	EA	ROD, ANCHOR, 1-1/2" DIAPETER WITH TRIPLE END
27	10350	EA	GUANO, GUY
28	02941	EA	WIRE, #4 SOLID COPPER, SD, BARE
29	12550	EA	STAPLE, GROUND WIRE, 2" X 5/8"
30	14220	EA	CONNECTOR, COPPER CRIP-PIT, #2 SOL-#4 STR TO #8 SOL-#4 STR
31	10412	EA	ROD, GROUND, 5/8" X 18", CUP-HEMMED, INCREASING SECTIONAL
32	10406	EA	CLAMP, 5/8" GROUND ROD TO #8 - 1/2" CU
33	10410	EA	MOLDING, GROUND WIRE, 1/2" PLASTIC

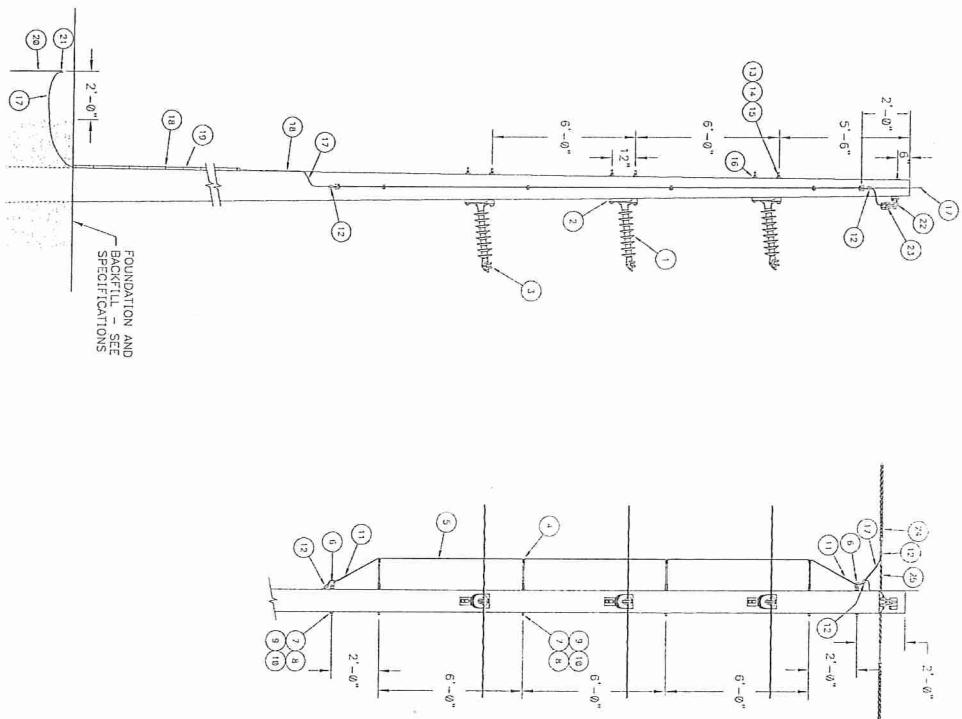
69KV DOUBLE DEADEND, MEDIUM ANGLE BIASECT GUYING 3 DOWN GUYS

SPECIFY VARIABLE MATERIAL BY:
 CONDUCTOR BOLTED DEADEND: 6-10065x
 CLAMP THROUNION CLAMP TOP: 3-10025x
 SHIELD WIRE BOLTED DEADEND: 2-10065x
 DAMPER VIBRATION, SPIRAL: 2-10045x

REV	DATE	DESCRIPTION	BY	CHECKED

P. K. & R. ENGINEERING, INC.
 200 S. WILSON AVENUE
 FORT WORTH, TEXAS 76106
 (817) 735-1111

DATE	04-19-13	SCALE	NONE
DESIGNED	P&E	DWG NO	T69-026A
DRAWN	MWB	REV	A
APPROVED	MWB		
APP	AWP		



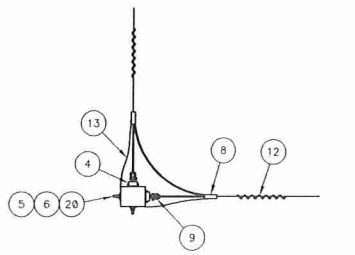
ITEM	QTY	MAT'D	UNIT	DESCRIPTION
1	1	106801	EA	INSULATOR, HORN LINE POST, 69 KV, GAIN BASE, CLAMP TOP, 1225 LB RCL SHIM, TO ADAPT GAIN BASE INSULATOR TO FLAT, XX" BOLT SPACING
2	2	151510	EA	CLAMP, TRUNION, CLAMP TOP, SEE VAR MAT LIST
3	2	151510	EA	INSULATOR, DOWN LEAD, FIBERGLASS, 5/8" X 12"
4	2	085110	EA	CONDUCTOR, #1/0 ACSR, BASE
5	25	132613	EA	EYE NUT, 5/8" GALVANIZED, VARIOUS LENGTHS
6	6	135803	EA	BOLT, DOUBLE ARMING, 5/8" GALVANIZED, VARIOUS LENGTHS
7	7	135803	EA	WASHER, SQUARE, FLAT, 5/8" GALVANIZED
8	12	135803	EA	LOCKNUT, 5/8" GALVANIZED
9	6	135803	EA	WASHER, TWIN COLLS, 5/8"
10	2	106781	EA	CRIP, DEAD-END, PREFORMED, 1/8" ACSR, AAC, AAC
11	2	142803	EA	CONNECTOR, AL COMPRESSION, H-TAP, VARIOUS SIZES
12	8	152804	EA	BOLT, MACHINE, 3/4" GALVANIZED, VARIOUS LENGTHS
13	14	152804	EA	WASHER, SQUARE, FLAT, 3/4" GALVANIZED
14	15	152804	EA	LOCKNUT, 3/4" GALVANIZED
15	6	135110	EA	WASHER, TWIN COLLS, 3/4"
16	6	065821	EA	WIRE, #4 SOLID COPPER, SD, BASE
17	50	132500	EA	SPRUE, GROUND WIRE, 2" X 5/8"
18	40	106410	EA	MODULING, GROUND WIRE, 1/2" PLASTIC
19	8	106482	EA	ROD, GROUND, 5/8" X 10', CORNERWELD, THREADED SECTIONAL
20	1	106187	EA	CLAMP, 5/8" GROUND ROD TO #8 - 1/0 CU
21	1	106187	EA	SUPPORT, SHIELD WIRE, SIDE MOUNTED, 5/8" X 14", FLAT BASE
22	2	106540	EA	CLAMP, SUSPENSION, SEE VAR MAT LIST
23	1	106780	EA	DAMPER, VIBRATION, SPIRAL, SEE VAR MAT LIST
24	2	106780	EA	ROD, ARMOR, SEE VAR MAT LIST
25	1	106780	EA	

SPECIFY VARIABLE MATERIAL BY:
 ARMOR ROD 1-T001XX
 CLAMP, TRUNION, CLAMP TOP 3-T002XX
 SUSPENSION CLAMP 1-T003XX
 DAMPER, VIBRATION, SPIRAL 2-T004XX

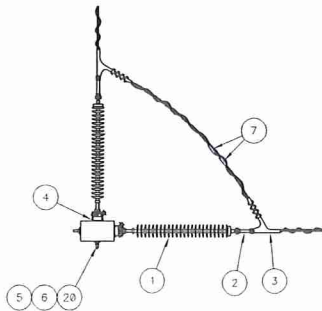
PRELIMINARY
 NOT FOR CONSTRUCTION

REV	DATE	BY	CHKD	DATE	DESCRIPTION
A	04-02-13	DAV	AWB		

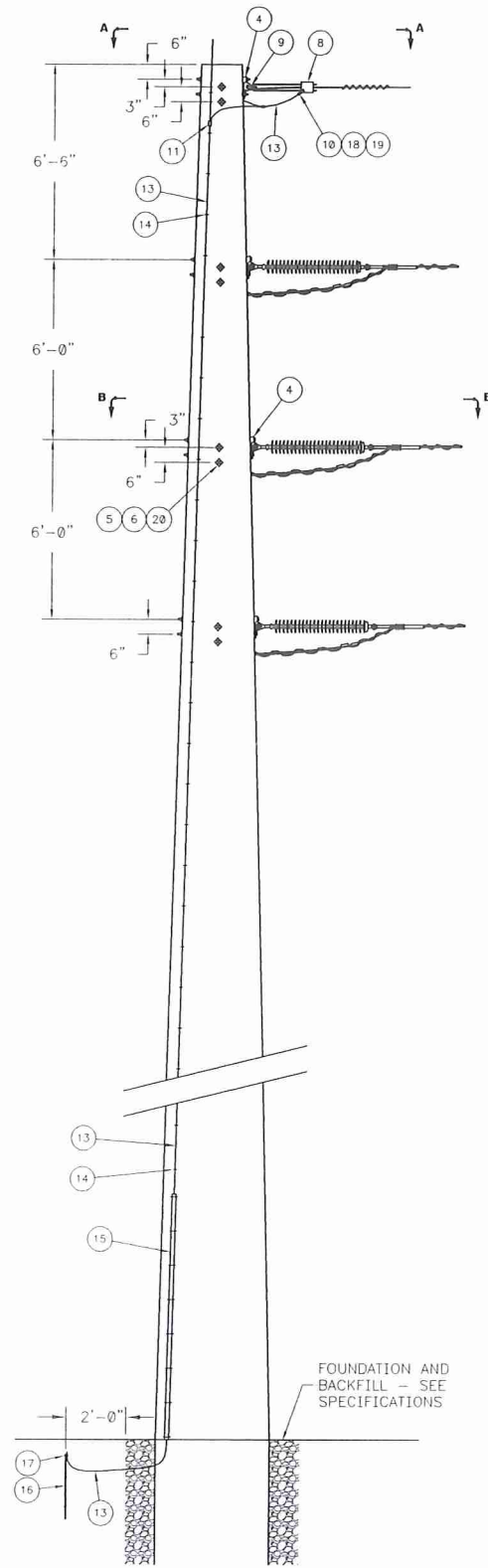
SCALE: AS NOTED
 REV A
 DWG NO T69-064



SECTION A-A



SECTION B-B



69kV DEADEND
 90° CORNER
 TENSION CHANGE
 LAMINATED WOOD POLE

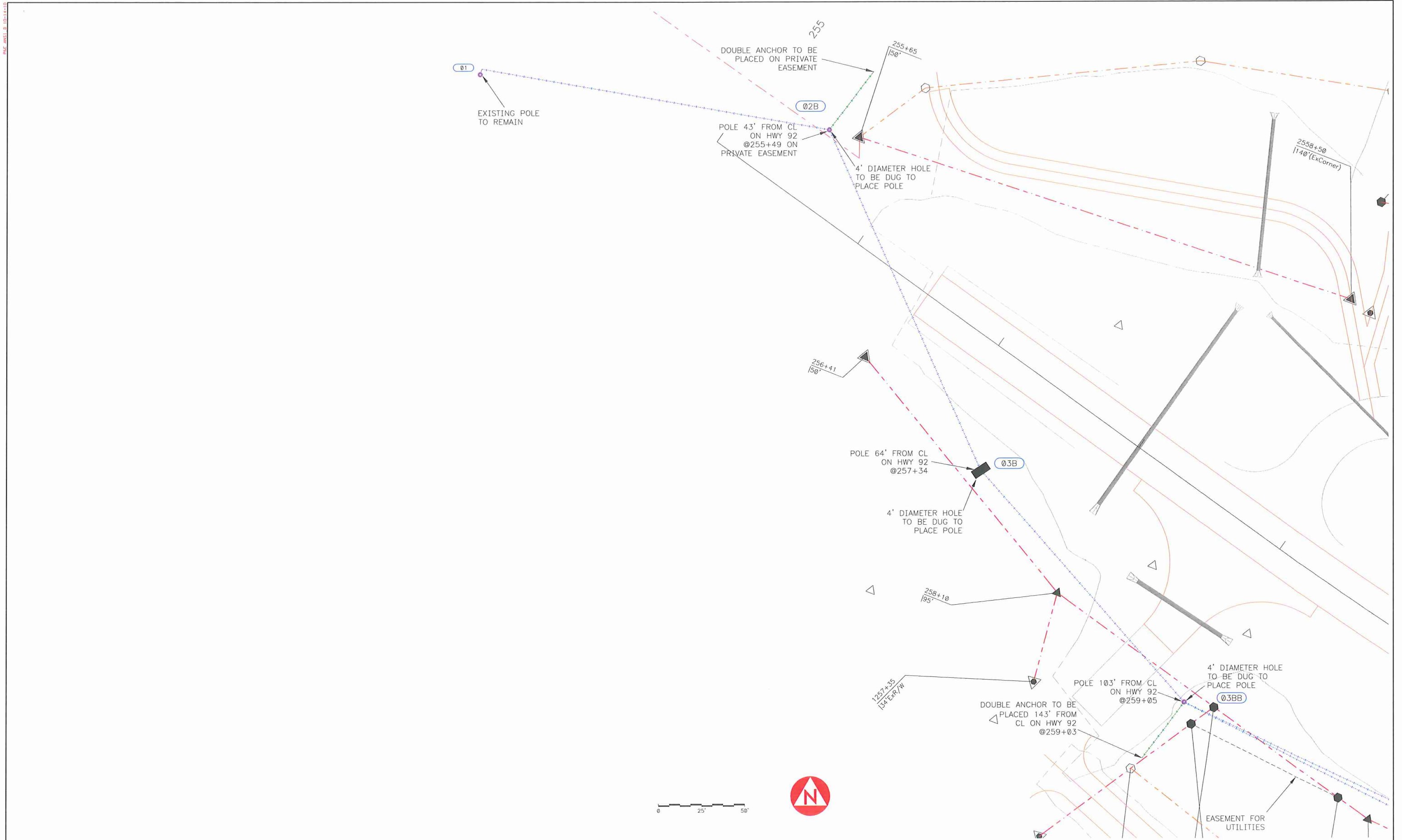
SPECIFY VARIABLE MATERIAL BY:
 VIBRATION DAMPER: 2-T004xx
 SHIELD WIRE DEADEND CLAMP: 2-T006xx
 CONDUCTOR DEADEND CLAMP: 6-T006xx

SCALE	N.T.S.
DATE	12-12-11
DESIGNED	P&E
DRAWN	DAW
APPROVED	JWE
APPROVED	ARP

P & E ENGINEERING CO.
 POWER SYSTEM ANALYSIS AND DESIGN

SECTION	DRAWING NO.
T	T69-169

P&E: MWL, B, JG-14-14-0



**PRELIMINARY
NOT FOR CONSTRUCTION**

REV	DATE	DESIGN	DFTR	APP	DESCRIPTION
B	06-26-14	P&E	RWB	ARP	REVISED TO LATEST PLAN
A	06-03-14	P&E	MRB	ARP	ADD POLES 02B THRU 09B

P & E ENGINEERING CO.
POWER SYSTEM ANALYSIS AND DESIGN
245 S. 5th
P.O. Box 620
Carlisle, IA 50047
Office: 515-699-3033
Fax: 515-699-3138
pecon@pecon.com

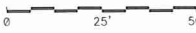
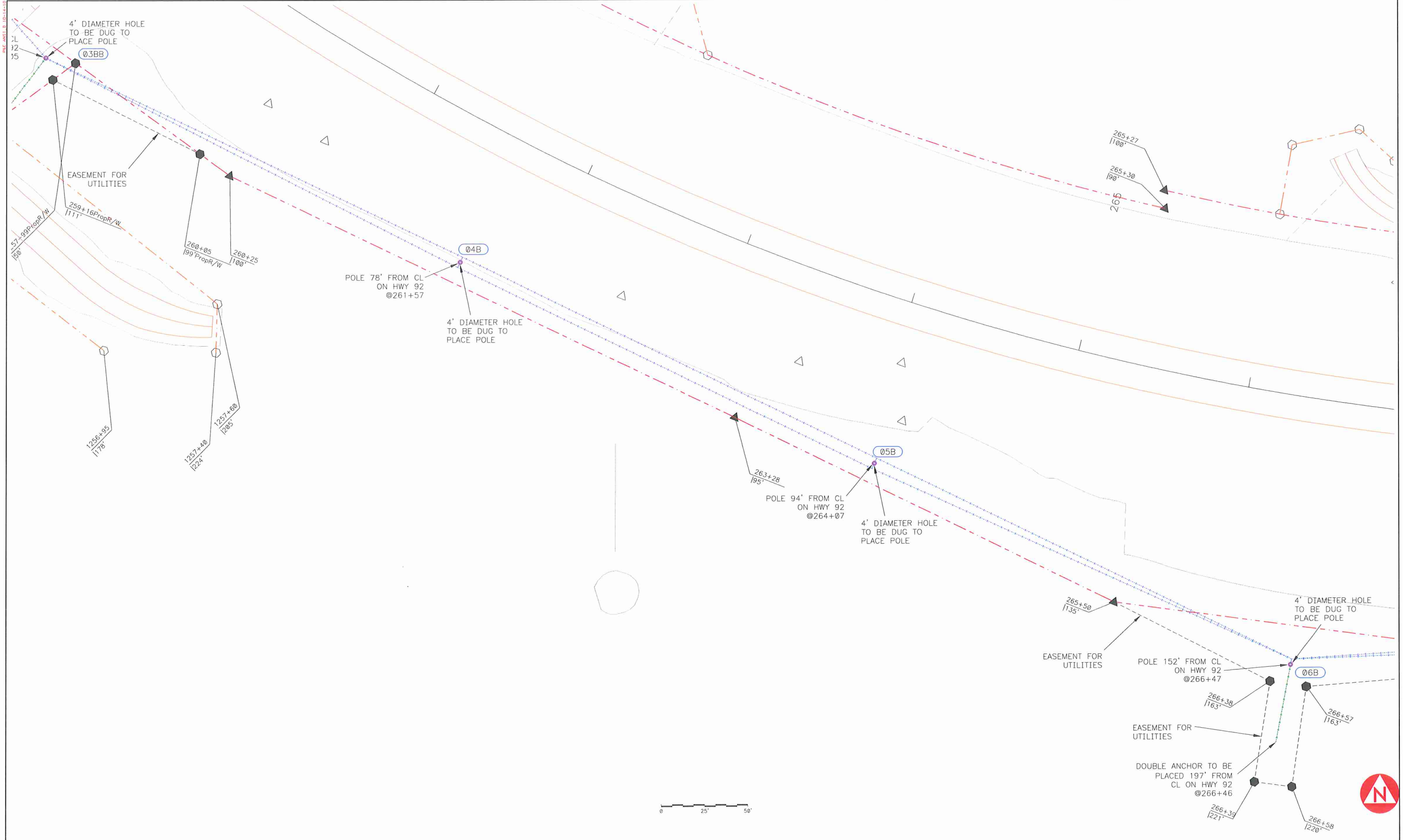
INDIANOLA MUNICIPAL UTILITIES
IMU
Electric • Network Services • Water

DATE 06-02-14
DESIGNED P&E
DRAWN MRB
APPROVED RWB
APPROVED ARP

INDIANOLA MUNICIPAL UTILITIES
HIGHWAY 92 DOT PROJECT
HWY 92 PERMIT DRAWINGS

SCALE: AS NOTED
REV B
DWG NO E8958-P16

SCALE: 1"=40'



**PRELIMINARY
 NOT FOR CONSTRUCTION**

REV	DATE	DESIG	DFTR	APP	DESCRIPTION
B	06-26-14	P&E	RWB	ARP	REVISED TO LATEST PLAN
A	06-03-14	P&E	MRB	ARP	ADD POLES 02B THRU 09B

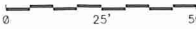
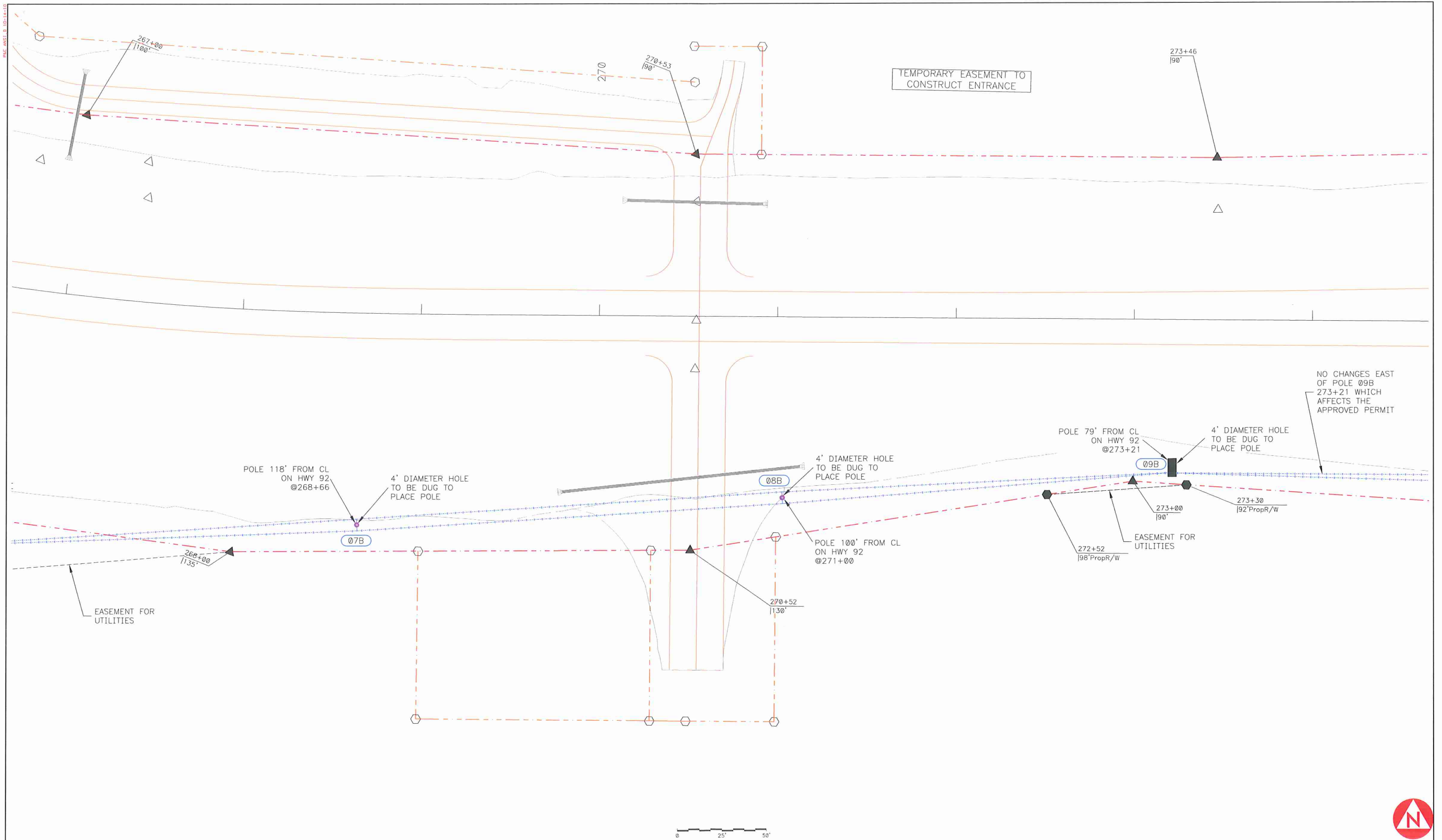
P & E ENGINEERING CO.
 POWER SYSTEM ANALYSIS AND DESIGN
 245 S. 5th
 P.O. Box 620
 Carlisle, IA 50047
 Office: 515-989-3083
 FAX: 515-989-3138
 p&e@p&eeng.com

INDIANOLA MUNICIPAL UTILITIES
IMU
 Electric • Network Services • Water

DATE 06-02-14
 DESIGNED P&E
 DRAWN MRB
 APPROVED RWB
 APPROVED ARP

INDIANOLA MUNICIPAL UTILITIES
 HIGHWAY 92 DOT PROJECT
 HWY 92 PERMIT DRAWINGS

SCALE: AS NOTED
 REV B
 DWG NO
E8958-P17



**PRELIMINARY
NOT FOR CONSTRUCTION**

REV	DATE	DESG	DFTR	APP	DESCRIPTION
E	06-26-14	P&E	RWB	ARP	REVISED TO LATEST PLAN
D	06-03-14	P&E	MRB	ARP	ADD POLES 02B THRU 09B
C	05-02-14	P&E	RWB	ARP	CORRECTED TO LATEST PLAN
B	08-05-13	P&E	RMB	ARP	ADDED OVERHEAD LINETYPE
A	07-16-13	P&E	RMB	ARP	ORIGINAL ISSUE

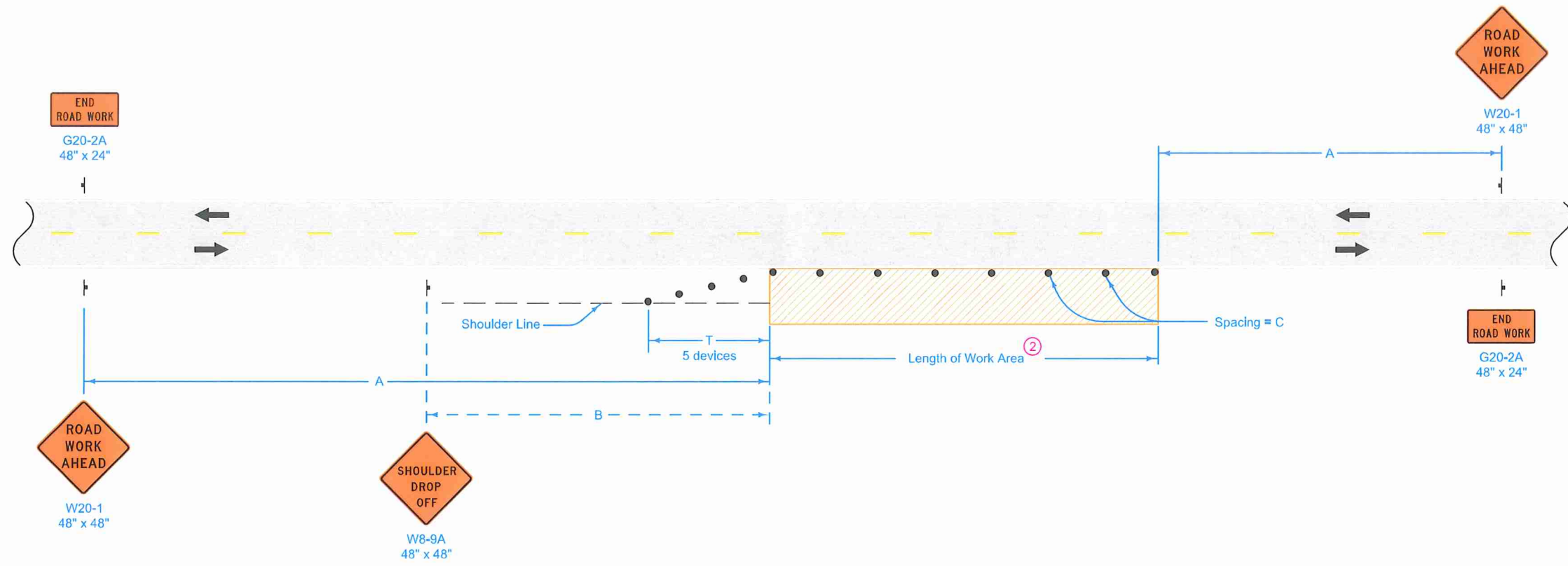
P & E ENGINEERING CO.
POWER SYSTEM ANALYSIS AND DESIGN
245 S. 5th
P.O. Box 620
Carlisle, IA 50047
OFFICE: 515-899-3363
FAX: 515-899-3138
CELL: 515-899-3363

INDIANOLA MUNICIPAL UTILITIES
IMU
Electric • Network Services • Water

DATE	01-08-12
DESIGNED	P&E
DRAWN	RMB
APPROVED	JWE
APPROVED	ARP

INDIANOLA MUNICIPAL UTILITIES
HIGHWAY 92 DOT PROJECT
HWY 92 PERMIT DRAWINGS

SCALE:	AS NOTED	REV	E
		DWG NO	E8958-P18



LEGEND

- ⊥ Traffic Sign
- 42" Channelizer
- ▨ Work Area
- ← Direction of Traffic

SPEED LIMIT (mph)	A	B	C ^②	T
35 or less	500'	250'	40'	100'
40 - 45	700'	350'	80' ^①	200'
50 or greater	1000'	500'	100' ^①	200'

When a pavement edge drop-off exists, install a SHOULDER DROP-OFF sign.

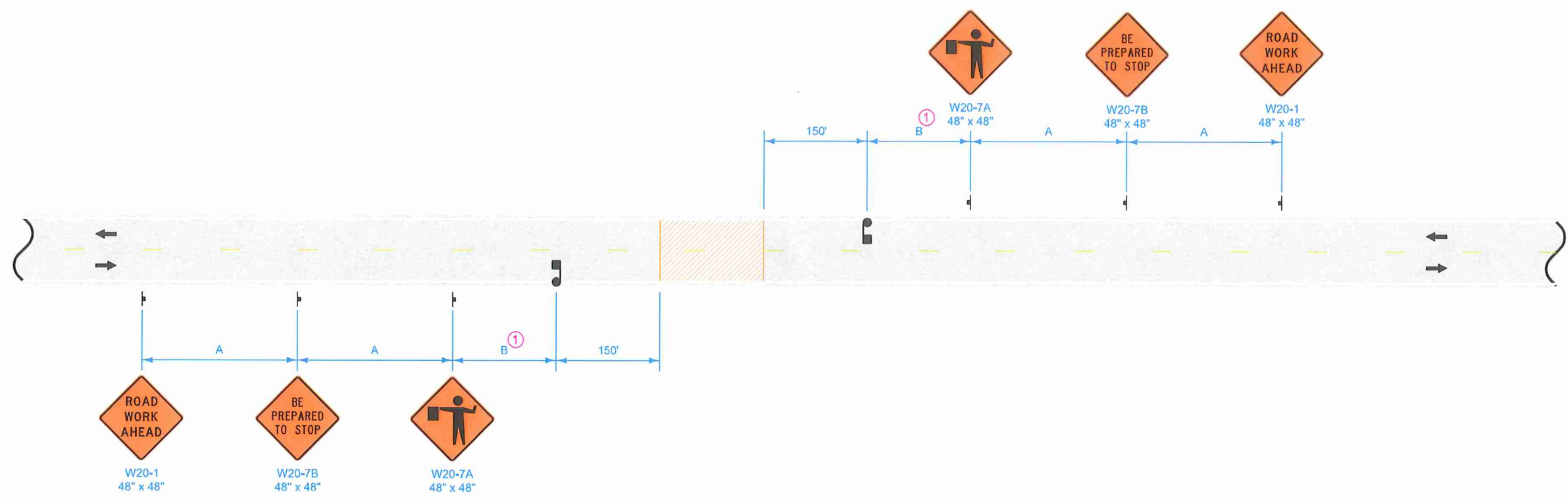
No pavement edge drop-offs greater than pavement depth will be allowed during non-working hours.

Shoulder edge drop-offs shall be mitigated according to Article 1107.08.L2 of the Standard Specifications.

- ① When the length of a pavement edge drop-off is 1000 feet or less, the temporary fillet requirement of Article 1107.08 of the Standard Specifications does not apply. Reduce channelizer spacing to 40 feet.
- ② For work areas less than 200 feet long, use channelizers spaced at 20 foot centers or use a vehicle with an amber revolving light or amber strobe light.

Possible Contract Item:
Traffic Control

	REVISION
	7 10-15-13
STANDARD ROAD PLAN	TC-202
SHEET 1 of 1	
REVISIONS: Modified circle note 1.	
 APPROVED BY DESIGN METHODS ENGINEER	
SHOULDER CLOSURE (ONE LANE)	



- LEGEND**
- Traffic Sign
 - Work Area
 - Flagger
 - Direction of Traffic

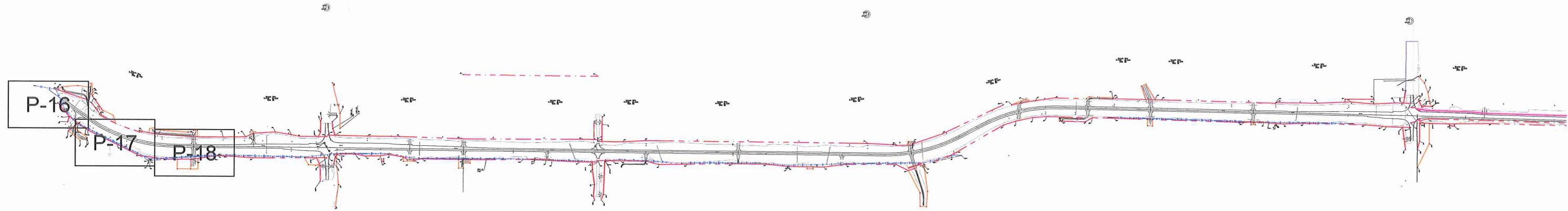
SPEED LIMIT (mph)	A	B ^① (minimum)
35 or less	250'	250'
40 - 45	350'	350'
50 or greater	500'	500'

This layout is intended for a preplanned closure of 20 minutes or less.

^① The Engineer will determine the storage length, B, necessary to accommodate stopped traffic during the closure.

Possible Contract Item:
Traffic Control
Flaggers

Iowa Department of Transportation STANDARD ROAD PLAN	REVISION
	2 04-17-12
TC-251	
SHEET 1 of 1	
REVISIONS: No significant changes. Changed to color.	
 <small>APPROVED BY DESIGN METHODS ENGINEER</small>	
TEMPORARY ROAD CLOSURE	



**PRELIMINARY
NOT FOR CONSTRUCTION**

REV	DATE	DESIG	DFTR	APP	DESCRIPTION
D	06-02-14	P&E	MRB	ARP	ADD PAGES P16 & P17
C	05-02-14	P&E	RWB	ARP	CORRECTED TO LATEST PLAN
B	08-05-13	P&E	RWB	ARP	ADDED OVERHEAD LINETYPE
A	07-16-13	P&E	RMB	ARP	ORIGINAL ISSUE

P & E ENGINEERING CO.
POWER SYSTEM ANALYSIS AND DESIGN
245 S. 5th
P.O. Box 620
Carlisle, IA 50047
Office: 515-959-3083
FAX: 515-959-3138
pe@pe.com



DATE 01-08-12
DESIGNED P&E
DRAWN RMB
APPROVED JWE
APPROVED ARP

INDIANOLA MUNICIPAL UTILITIES
HIGHWAY 92 DOT PROJECT
HWY 92 PERMIT DRAWINGS

SCALE: AS NOTED
REV **D**
DWG NO **E8958-INDEX**