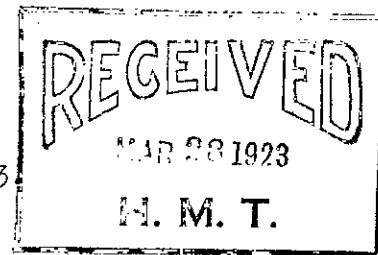


PERE MARQUETTE RAILWAY COMPANY

G. W. TROUT  
Supt. Telegraph and Signal Engineer

DETROIT, MICH..

March 23rd, 1923



The Detroit Edison Co.,  
Detroit.

\*\*Mr. T.L. Hinks\*\*

Gentlemen:

Referring to yours of February 5th relative installation of line which your Company is constructing between Berville and Memphis, and requesting permission to remove three trees which are located on our right-of-way.

This will be your authority to cut down and remove the trees in question.

Yours very truly,

A handwritten signature in dark ink, appearing to be "G. W. Trout", written in a cursive style.

Signal Engineer.  
Supt. Telegraph.

GWT\*MK

CC - Mr. J.E. Johnson, Div. Engr.  
Saginaw, Mich.

RECORDED RIGHT OF WAY NO.

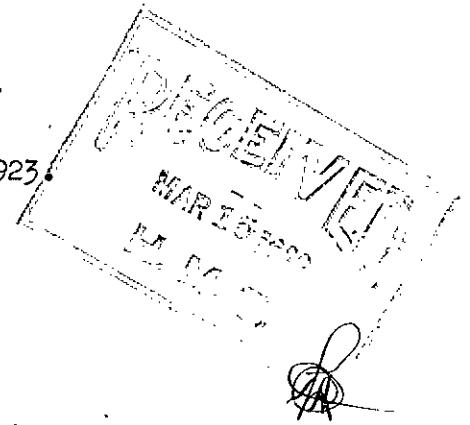
33222  
p62

PERE MARQUETTE RAILWAY COMPANY

G. W. TROUT  
Supt. Telegraph and Signal Engineer

DETROIT, MICH..

March 12th, 1923.



The Detroit Edison Co.,  
Detroit, Michigan.

\*\*Mr. T.L. Hinks\*\*

Gentlemen:

In accordance with our conversation.

I am enclosing herewith - waiver of hearing before the Michigan Public Utilities Commission for permission to construct your transmission line carrying 110,000 volts over our Almont Branch track in the vicinity of Berville.

This waiver is issued with the understanding that your Company will execute our usual form of agreement when presented covering the entire situation and also in accordance with our conversation - that the Western Union Telegraph Co. urge a separation of at least 90 ft. in the parallelism which is being constructed for a distance of approximately  $3\frac{1}{2}$  miles between Memphis and Berville. However, they agree to proposed 66 ft. separation with the understanding that one transposition barrel be installed in the supply line within the exposure and that you agree to adopt suitable means to remove static or ground current induction in case either subsequently appear and that the line be constructed outside conflicting distance.

Yours very truly,

Signal Engineer.  
Supt. Telegraph.

GWT\*MK

RECORDED RIGHT OF WAY NO.

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The Detroit Edison Co.  
Detroit, Michigan

Form 4-a-1-26-39-5M



STATE OF MICHIGAN  
Office of the Michigan Public ~~Utilities~~ <sup>SERVICE</sup> Commission, } ss.

I, S. A. Lund, Secretary of the Michigan Public ~~Utilities~~ <sup>SERVICE</sup> Commission

Do Hereby Certify, That I have compared the annexed copy of

Permit No. ED2-8-930

with the original

recorded in

File No. ED2-8-930

and that it is a true and correct transcript therefrom, and of the whole of such original.

In Testimony Whereof, I have hereunto set my hand and affixed

the seal of the Commission, at Lansing, this **First**

day of **June** in the year of our Lord

one thousand nine hundred **Thirty-nine**

**SERVICE**  
Secretary Michigan Public ~~Utilities~~ Commission

RECORDED RIGHT OF WAY NO.

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4773

4773

STATE OF MICHIGAN,  
Office of the Michigan Public Utilities Commission, } ss.

I, Peter Fagan, Secretary of the Michigan Public Utilities Commission,

Do Hereby Certify, That I have compared the annexed copy of **Permit No. U-1239**

with the original

recorded in **Liber B**

and that it is a true and correct transcript therefrom, and of the whole of such original.

In Testimony Whereof, I have hereunto set my hand and affixed the

seal of the Commission, at Lansing, this **twenty-third**

day of **March** in the year of our Lord

one thousand nine hundred **twenty-three**

*Peter Fagan*  
Secretary, Michigan Public Utilities Commission.

RECORDED RIGHT OF WAY NO.

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File no. 1437

File no. 1437

STATE OF MICHIGAN  
BEFORE MICHIGAN PUBLIC UTILITIES COMMISSION

Standard Railroad Wire-Crossing Permit No. **ED2-8-930**

In Re Application of

**The Detroit Edison Co.  
Detroit, Michigan.**

Pursuant to Act No. 171 of the Session Laws of 1893, as amended, application having been made to Michigan Public Utilities Commission by said

**//////  
Service**

**The Detroit Edison Co.**

for permission to string wires across the tracks of the

**Pere Marquette R.R.**

and said

**Detroit Edison Co.**

having conformed to the Commission's rules governing the filing of notices and issuing of permits for the construction of electrical lines and said rail road company having waived the right of notice and hearing provided for in said act

THEREFORE, It is ordered that said

**Detroit Edison Co.**

be permitted to string the following described wires across the tracks of said railroad at the following described place:

**Riley Twp  
St. Clair  
Michigan.**

**In Riley Center Rd, 1/2 mile N of  
Macomb -St. Clair County line in Sec. 32  
T 6NR14E  
2-#6 TBWP Copper wires @ 4800 Volts.**

as indicated on the attached plans, when, as and if approved.

At the point of crossing said wires shall be constructed in accordance with this Commission's rules and regulations.

Given under our hands and the Official Seal of this Commission at the City of Lansing, State of Michigan, this **1st** day of **June** A. D. 19 **39.**

MICHIGAN PUBLIC UTILITIES COMMISSION  
By

**John J. O'Hara**

Chairman,

**Ivan E. Hull**

Commissioner,

**Florence M. Kiely**

Commissioner,

Countersigned

**S.A. Lund**

Secretary

**Don McIntyre**

Commissioner,

**G.T. Shilson**

Commissioner.

RECORDED RIGHT OF WAY NO.

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R/ 474A

STATE OF MICHIGAN

BEFORE MICHIGAN PUBLIC UTILITIES COMMISSION

Wire Crossing Permit No. U-1239 - Liber B

In Re Application of

Detroit Edison Company

Pursuant to Act No. 171 of the Session Laws of 1893, as amended, application having been made to Michigan Public Utilities Commission by said

Detroit Edison Company

for permission to string wires over the tracks of the

Pere Marquette Railway Co.

and said railway company having waived the right of notice and hearing provided for in said act THEREFORE, It is ordered that said

Detroit Edison Company

be permitted to string the following described wires over and across the tracks of said railroad at the following described place:

St. Clair County, Mich.,: Over tracks of the Pere Marquette Railway at the curve in Northwest quarter of Section 34, Riley Township, T-6-N, R-14-E, with six #3/0 wires carrying 110,000 volts, three phase.

At the point of crossing said wires shall be constructed in accordance with the attached specifications, which are hereby made a part of this order.

Given under our hands and the Official Seal of this Commission at the City of Lansing, State of Michigan, this March A. D. 19 23 day of

MICHIGAN PUBLIC UTILITIES COMMISSION

By

Samuel Odell Chairman.

Earl R. Stewart Commissioner.

William M. Smith Commissioner.

William W. Potter Commissioner.

Sherman T. Handy Commissioner.

RECORDED RIGHT OF WAY NO.

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STATE OF MICHIGAN  
MICHIGAN PUBLIC UTILITIES COMMISSION

LAW GOVERNING WIRE CROSSING

(Secs. 6349-6355 C. L. 1897 as amended.)

AN ACT to regulate the construction of the tracks of railroads and street railroads across each other, and the stringing of wires, electric or other, over railroad tracks, and relative to the maintenance of such tracks heretofore so constructed and wires heretofore so strung.

Section 1. The People of the State of Michigan enact, It shall hereafter be unlawful for any railroad company to construct its tracks across the tracks of any street railroad, or for any street railroad company, whether operated by horses, cable, electricity, or other motive power, to construct its tracks across the tracks of any railroad company or across the tracks of any other street railroad company until the place where and the manner in which such crossing shall be made shall have been approved by the Commissioner of Railroads.

Sec. 2. Any railroad company or street railroad company desiring to make any such crossing shall give the company whose tracks are to be crossed notice in writing of the place where and the manner in which it desires to make such crossing, and the place where and the time when it will apply to the Commissioner of Railroads for approval thereof, which notice shall be served at least ten days before the hearing of the proposed application.

Sec. 3. Such crossings shall, in all cases where the Commissioner of Railroads deems it reasonably practicable, be made otherwise than at grade, and in accordance with plans to be approved by said commissioner, and when made at grade said commissioner shall prescribe the safeguards which shall be provided by the company desiring to make such crossing, to prevent accidents thereat.

Sec. 4. It shall hereafter be unlawful for any corporation or person to string any wire, electrical or other, over the tracks of any railroad company, except at such places and in such manner as shall be approved by the Commissioner of Railroads, and any corporation or person desiring to so string any wire shall give the railroad company notice in writing of the place where and the manner in which it desires to string the same, and the place where and the time when it will apply to the Commissioner of Railroads for his approval as above required, which notice shall be served at least ten days before the time of hearing of such application.

Sec. 5. The Commissioner of Railroads shall, as soon as possible after the passage of this act, examine the crossings of the tracks of railroads and street railroads then existing, and order such changes made in the manner of such crossings, or such safeguards for protection against accidents to be provided thereat, as in his judgment ought to be so made or provided; and shall apportion any expense incident thereto between the companies affected as he may deem just and reasonable.

Sec. 6. Said commissioner shall also, as soon as possible after the passage of this act, either by personal examination or otherwise, obtain information as to all places where the tracks or railroads are crossed by wires strung over said tracks, and whenever, in his judgment, such wires should be raised to a greater height or other thing done with reference thereto, to guard against accidents, he shall order such change or changes to be made, and shall apportion any expense incident thereto between the companies or persons affected as he may deem just and reasonable. Provided, That in no case shall the height of any wire strung across such railroad [tracks] track be less than twenty-two feet from the established grade of said railroad tracks.

Sec. 7. It shall be the duty of every corporation and person to whom an order made by the Commissioner of Railroads under this act shall be directed, to comply with such order in accordance with its terms, and for any neglect to so comply, and for any violation of the provisions of this act, or for construction of any such crossing before the same shall have been authorized by the Commissioner of Railroads, any such corporation or person shall be liable to a penalty of two hundred and fifty dollars and to a penalty of one hundred dollars for every ten days during which said neglect shall continue, or during which such crossing shall be permitted to remain in existence without the necessary approval. Any such penalty may be recovered in an action of assumpsit brought in the name of the people of this State, and it shall be the duty of the prosecuting attorney of the proper county to bring any such action at the request of the Commissioner of Railroads.

Act 312 of the Public Acts of 1907 abolished the office of Commissioner of Railroads and conferred the powers, duties and privileges of that office upon the Michigan Railroad Commission. Act 419 of the Public Acts of 1919, in turn, abolished the Michigan Railroad Commission and conferred the powers, duties and privileges of that Commission upon the Michigan Public Utilities Commission. All applications under the statute above quoted should be addressed to Michigan Public Utilities Commission, Lansing, Mich.

FILE No. 1437



STATE OF MICHIGAN  
MICHIGAN PUBLIC UTILITIES COMMISSION

SPECIFICATIONS  
FOR STRINGING POWER WIRES OVER RAILROADS IN MICHIGAN.

1. All power wires carrying over 800 volts and less than 10,000 volts shall be stranded copper cable, of section not less than No. 4 B. & S. gauge, securely fastened to poles on each side of such crossing, poles to be properly guyed so as to be in effect self supporting. The line wires in the crossing are not to be considered in any way as guy wires for the poles supporting them.

2. Poles for use at railroad crossings shall be of good sound timber, not less than 7 in. in diameter at top end, and shall not be set farther apart than 125 ft., and shall be provided with double cross arms, and stenciled, showing plainly the ownership of same.

Where it is impracticable to use poles at railroad crossings on account of buildings, cross arms must be attached to buildings with bolts passing through the wall; all such cross arms to be properly braced.

3. Each end of all double cross arms shall be provided with a  $\frac{5}{8}$  in. space bolt or wood blocking between the arms, securely fastened by one  $\frac{1}{2}$  in. bolt through cross arms and block.

4. All cross arms must be fastened upon poles in a "gain" of sufficient depth to maintain them at right angles to pole, and shall be fastened to pole by bolts through cross arms and pole. All double cross arms on pole must be at least 2 ft. from center to center. As an additional safeguard all cross arms shall be braced from pole to cross arms with galvanized iron braces,  $\frac{1}{4}$  in. thick by  $1\frac{1}{4}$  in. wide and 26 in. long, to be fastened to pole with  $\frac{1}{2}$  in. by 4 in. galvanized iron lag bolts and to cross arms by  $\frac{1}{2}$  in. bolt through cross arms and braces. All bolts to be supplied with necessary washers.

5. All cross arms shall be placed on poles so that wires shall be maintained at a height of not less than twenty-five (25) ft. above the surface of the rail in the tracks crossed, and not less than five (5) ft. from all existing wires.

6. Each double cross arm shall be provided with insulator pins made of malleable iron, cast steel or other approved metal, and shall be provided with insulators of porcelain or other approved insulation sufficient to carry the voltage.

7. All power wires carrying 10,000 volts and over shall be of stranded copper cable, of section not less than No. 4 B. & S. gauge, and shall be constructed as per specifications Nos. 1, 3 and 4, and shall be maintained at a height of not less than thirty (30) ft. above the surface of the rail in the tracks crossed, and not less than five (5) ft. from all existing wires.

8. Steel towers or poles set in concrete are preferred. If poles are used, they must be of good sound timber, and not less than 8 in. in diameter at top end. Towers or poles supporting the crossing span shall be so guyed as to be in effect self supporting. Towers or poles supporting the crossing span and the adjacent span on either side of crossing shall be as nearly as possible in a straight line. Towers or poles supporting the crossing span shall not be set farther apart than 125 ft., and shall be provided with double cross arms, and stenciled, showing plainly ownership of same.

Guy wires shall be of galvanized stranded steel, not less than 5-16 in., which shall be connected to anchor rods, thoroughly grounded.

9. The regular pole line arrangement of wires shall be carried over the tracks and right of way of the railroad company separating the crossing span from the adjacent span on each side of crossing, by dead ending each wire at each side of crossing. This shall be accomplished by connecting with disc strain insulators the wires in the crossing span and the wires in the adjacent span at each side of crossing to eye bolts, which have been securely fastened by passing through the double cross arms on tower or pole at each side of crossing, and then connecting each wire in crossing span with that of adjacent span at each side of crossing by a wire spanning between the wires fastened to eye bolts in cross arms on tower or pole at each side of crossing. Wires carrying 10,000 volts shall be equipped with one  $6\frac{1}{2}$  in. strain insulator at each attachment or eye bolt; from 10,000 to 20,000 volts, two  $6\frac{1}{2}$  in. or one 10 in. strain insulator; over 20,000 volts, use one 10 in. strain insulator for each 20,000 volts, strain insulators to be of high tension porcelain, of equivalent quality to that manufactured by the General Electric Company. Eye bolts shall be not less than  $\frac{5}{8}$  in. in diameter, and threaded from eye to end of bolt, for the purpose of placing washers and jam nuts on both sides of cross arms.

10. At crossings where it is impracticable to comply with these specifications, plans of construction of crossing must be submitted to the Commission for approval before construction is commenced.

Adopted by Michigan Railroad Commission, June 8, 1910.

MICHIGAN PUBLIC UTILITIES COMMISSION.

RECORDED RIGHT OF WAY NO.

33002

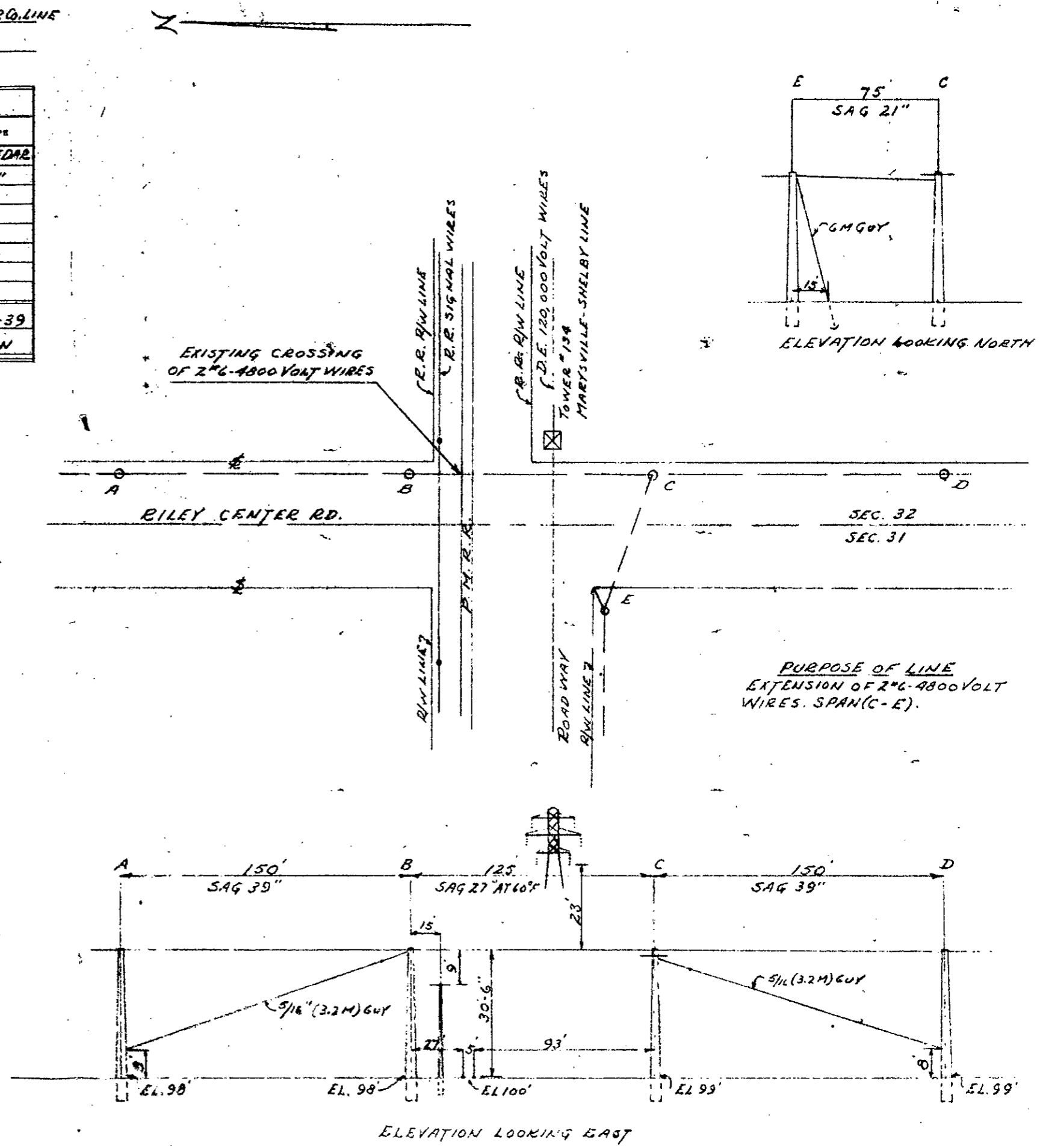
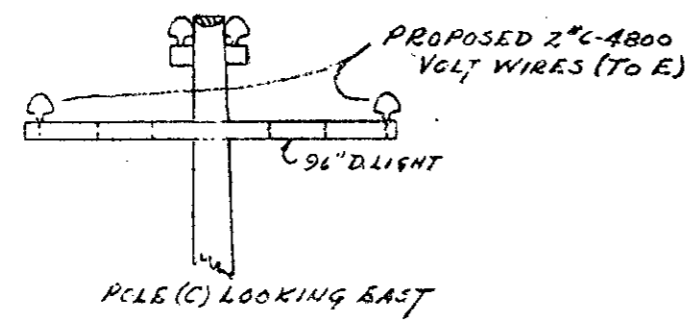
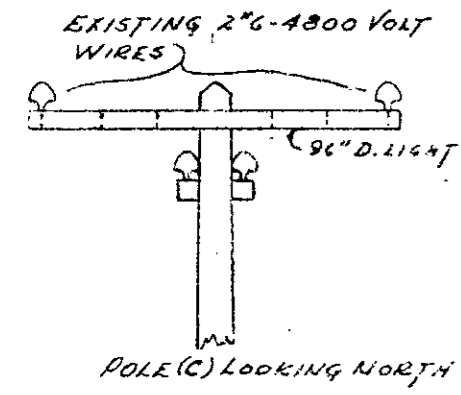
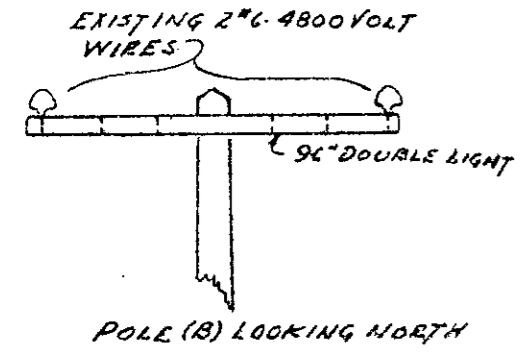
1062

THE DETROIT EDISON COMPANY

RX 474A

PROPOSED LINE CROSSING OVER PEL MARQUETTE R.R. EXISTING PERMIT NUMBER U-3269  
 IN RILEY CENTER RD. (SECTION LINE RD.) CITY OF 1/2 MILE N. OF MACOMB-ST. CLAIR Q. LINE  
 SECTION 32 NW 1/4 TOWNSHIP RILEY T. 6N R. 14E COUNTY ST. CLAIR

NOTES		CONDUCTORS				POLES			
MATERIALS SHALL BE AS NOTED IN THE DETROIT EDISON COMPANY'S STANDARD SPECIFICATIONS FOR OVERHEAD LINE CONSTRUCTION AT RAILROAD CROSSINGS DATED MARCH 23, 1939.									
ACTUAL FIELD DIMENSIONS MAY VARY SOMEWHAT FROM THOSE SHOWN BUT THE REQUIREMENTS OF ORDER NO. 1679 WILL BE COMPLIED WITH.									
MINIMUM CLEARANCES									
NEAREST POLE TO RAIL	SIDING	7 FT.							
	MAIN LINE	12 FT.							
WIRES OVER TRACKS	0 - 500 VOLTS	27 FT.							
	500 - 7500 VOLTS	28 FT.							
	24000 VOLTS	30 FT.							
WIRES OVER R. R. SIGNAL	0 - 500 VOLTS	2 FT.							
	500 - 7500 VOLTS	4 FT.							
	24000 VOLTS	6 FT.							
DRAWN BY <u>J.W.</u> ENGINEERING DIVISION		DATE <u>5-23-39</u>							
ESTIMATOR <u>DAVIES</u> OVERHEAD LINES DEPT.		PORT HURON							



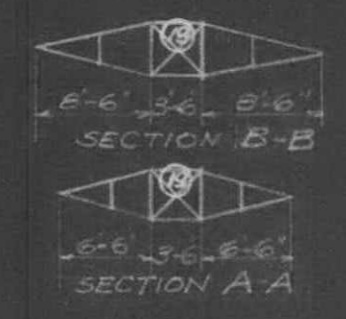
APPROVED  
 FOR MICHIGAN PUBLIC SERVICE COMMISSION  
*Ray K. Hollan*  
 CHIEF ENGINEER  
 ED2-8-930  
 FILE DATE JUN 1 1939

RECORDED RIGHT OF WAY NO. 33222  
P62

*Handwritten signature or scribble*



PLAN OF CROSSING  
SCALE 1" = 50'-0"

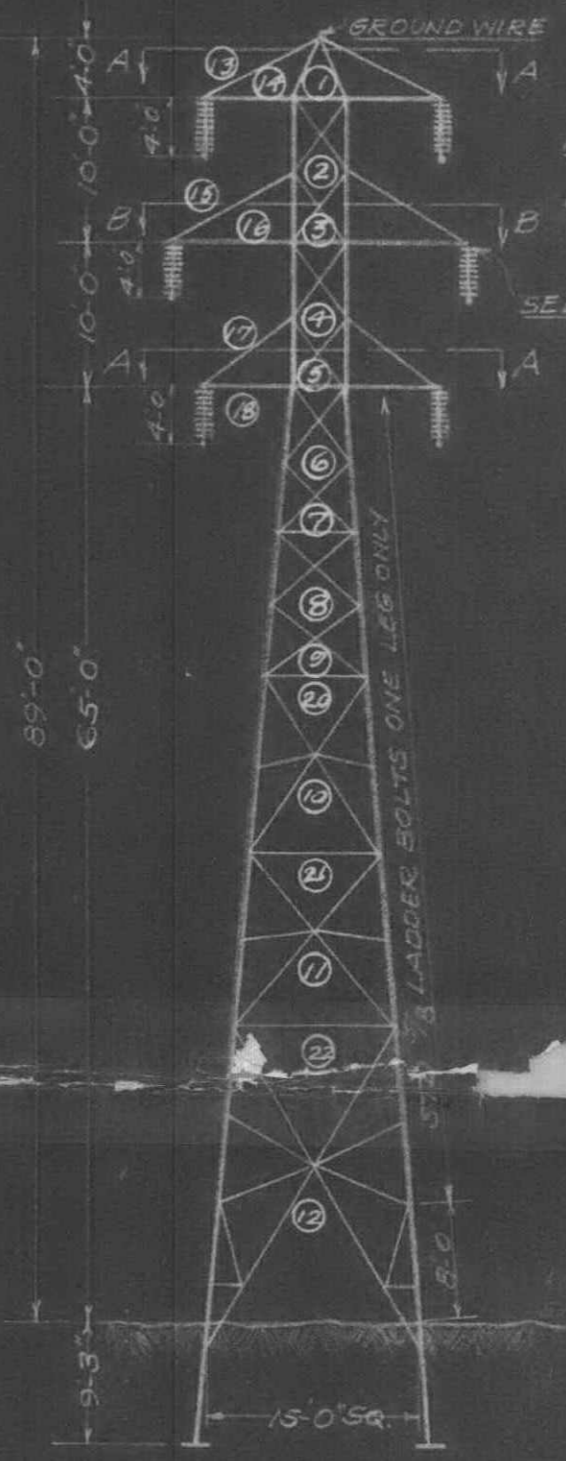


**LOADS**  
 A VERTICAL LOAD AT EACH CABLE SUPPORT OF 1300# TOTAL 2100#  
 A HORIZONTAL LOAD TRANSVERSE TO LINE OF 1000# AT EACH CABLE SUPPORT TOTAL 7000#  
 A HORIZONTAL LOAD IN DIRECTION OF LINE OF 3500# AT ANY ONE CONDUCTOR SUPPORT  
 WIND LOAD ON TOWER OF 80' PER LIN. FT. OF TOWER HEIGHT  
 DEAD LOAD OF TOWER

**UNIT STRESSES**  
 TENSION ON NET SECTION 20,000#/IN<sup>2</sup>  
 COMPRESSION ON GROSS 20,000-65%#/IN<sup>2</sup>  
 SHEAR ON BOLTS 12,500#  
 BEARINGS 27,000#

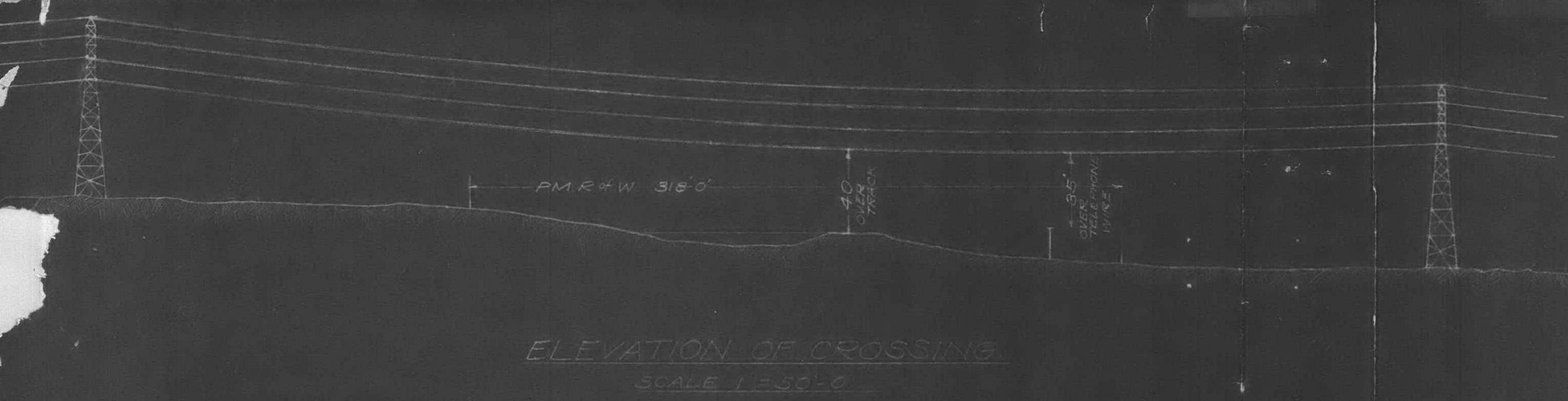
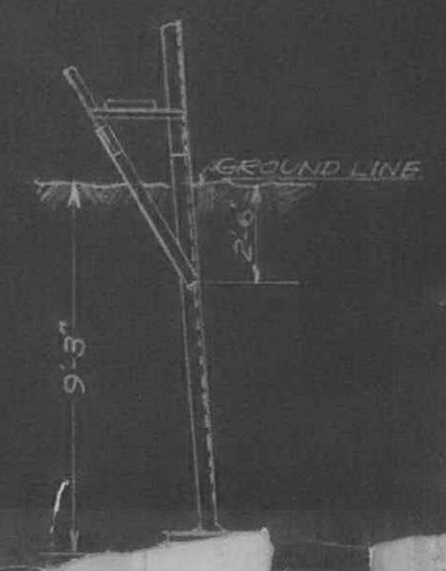
**MATERIAL**  
 OH. STEEL FOR BUILDINGS ASTM STD SPEC.  
 COATING MATERIAL INCLUDING BOLTS TO BE GALVANIZED

SEE SKETCH BELOW



**TOWER A**

MEMBER	STRESS	MATERIAL
5	+216	L3 1/2 x 3 1/4
9	+30.2	L4 x 4 1/2
11	+34.4	L4 x 4 1/2
12	+36.9	L 40
1	+0.6	L2 1/2 x 3 1/8
2	+4.9	do
3	+4.2	do
4	+6.8	L1 1/4 x 1 3/8
5	+8.6	do
6	+5.0	do
7	+3.7	do
8	+3.0	do
9	+2.6	do
10	+5.8	L1 1/2 x 1 1/2
11	+4.3	do
12	+3.8	do
13	+3.0	Bar 1/2 x 1/4
14	+8.7	L3 x 2 1/2
15	+1.4	2B x 1 1/2
16	+10.6	L3 x 2 1/2
17	+1.2	2B x 1 1/2
18	+8.2	L3 x 2 1/2
19	+4.5	do
20	+3.8	do
21	-3.0	L3 x 2 1/2
22	-2.7	L3 x 1 1/2



ELEVATION OF CROSSING  
SCALE 1" = 50'-0"

CROSS ARM  
 SUSPENSION HOOK FORGED STEEL O.B. CO. CAT# 3894  
 GROUP OF 9 O.B. CO. SUSPENSION INSULATORS O.B. CAT# 25620  
 SUSPENSION WIRE CLAMP O.B. CO. CAT# 11531

AMERICAN BRIDGE CO. STD. EARTH ANCHOR (PATENTED) UPLIFT 25000#  
 MATERIAL FOR GRILLAGE  
 2 CHANNELS 7" - 9.75" x 33#  
 2 TIES 3" - 9.5" x 33#  
 4 L'S 3" x 1/4" x 1'-9"

SHOWING STRAIN INSULATOR SUPPORT AT TOWERS.

RECORDED ROW FILE #  
R33222P62

**TRANSMISSION LINE DATA**

PURPOSE OF LINE - TRANSMISSION OF POWER	SOFT OR HARD DRAWN	HARD DRAWN
DURATION OF SERVICE - CONTINUOUS	MAX. STRESS ON WIRES - 39,000#	
MAX. VOLTAGE BETWEEN WIRES - 110,000 VOLTS	TYPE OF INSULATORS - OHIO BAYLESS CO. S	SUSPENSION
MAX. CURRENT TRANSMITTED - 800 AMPS	FLASH OVER TEST DRY - 210,000 VOLTS	
FREQUENCY - 60 CYCLES	FLASH OVER TEST WET - 150,000 VOLTS	
NO. AND GAUGE OF WIRE - 3/8" WIRE STRAND	CATALOGUE NO. OF INSULATOR - O.B. CO. # 25620	
MATERIAL OF WIRE - COPPER	NO. AND SIZE OF BRACES - 2" x 2" x 1/2"	
SOLID OR STRANDED - STRANDED	TYPE OF CONDUCTOR ATTACHMENT - SEE SKETCH	
INSULATION - BARE	NO. OF WIRES TO BE SPACED - 6	
CLEARANCE OF LOWEST WIRE AT MAX. SAG OVER TRACK - FEET	ULTIMATE NO. OF WIRES - 6	
CLEARANCE OF LOWEST WIRE AT MAX. SAG OVER EXISTING WIRES - FEET		
NO. OF INSULATORS SUPPORTING CONDUCTORS OVER CROSSING		

THE DETROIT EDISON CO.  
 FROM THE OFFICE OF THE  
 DISTRIBUTION ENGINEER  
 DETROIT MICHIGAN

MARYSVILLE - BLOOMFIELD  
 TRANSMISSION LINE CROSSING  
 OF THE PERE MARQUETTE R.R.  
 AT CURVE IN N.W. 1/4 SECTION 34  
 OF RILEY TWP. ST. CLAIR CO.  
 STATE OF MICHIGAN

RAILROAD PERMIT NO.  
 DRG NO R-325-131

	NAME	DATE
DRAWN	RWS	
CHECKED		
APPROVED		

RECORDED RIGHT OF WAY NO. 33222  
P62