

# NORTHERN PACIFIC RAILWAY COMPANY

## Duluth and Superior Terminals

# TIME TABLE 225

In Effect at 12:01 A. M.  
Central Standard Time.

**Sunday, May 2, 1948**

For the Government of Employees only. The Company reserves the right to vary therefrom at pleasure. Be positive that you have the Current Time Table and destroy all previous numbers. Read carefully the Special Instructions and always carry for reference a copy of OPERATING RULES.

**C. CORSER,**  
Superintendent.

**C. V. BERGLUND,**  
General Manager.

**R. E. MATTSON,**  
General Superintendent of  
Transportation.

**SPEED TABLE**

Time Per mile		Miles Per Hour	Time Per mile		Miles Per Hour
Minutes	Seconds		Minutes	Seconds	
0	45	80	1	12	50
0	46	78.3	1	15	48
0	47	76.6	1	20	45
0	48	75	1	25	42.3
0	49	73.5	1	30	40
0	50	72	1	40	36
0	51	70.6	1	45	34.3
0	52	69.2	1	50	32.7
0	53	67.9	2	..	30
0	54	66.6	2	10	27.6
0	55	65.4	2	15	26.6
0	56	64.2	2	20	25.7
0	57	63.1	2	30	24
0	58	62.0	2	40	22.5
0	59	61.0	2	45	21.8
1	..	60	2	50	21.2
1	1	59	3	..	20
1	2	58	3	9	19
1	3	57.1	3	20	18
1	4	56.2	3	31	17
1	5	55.3	3	45	16
1	6	54.5	4	..	15
1	7	53.7	5	..	12
1	8	52.9	6	..	10
1	9	52.1	7	30	8
1	10	51.4	10	..	6

**2 WESTWARD**

**FIRST SUBDIVISION**

FIRST CLASS												Distance from East D. M. & I. R. Jct.	Time Table No. 225 May 2, 1948	
65	35	57	303	405	19	401	61	201	23	407	55		STATIONS	Telegraph Offices and Calls
Passenger	G. N. 35	Passenger	D. W. & P. 19	Passenger	G. N. 19	Passenger	D.M.&I.R. 10	Passenger	D.M.&I.R. 1	Passenger	G. N. 23	Passenger		
Daily	Ex. Sun.	Daily	Ex. Sun.	Daily	Daily	Daily	Daily	Ex. Sun.	Daily	Daily	Daily	Daily	Daily	Daily
				L 5.41 PM		L 8.25 AM						L 7.45 AM	0.0	... EAST D. M. & I. R. JCT. ...
L 11.30 PM	L 9.30 PM	L 7.40 PM		A 5.45 PM	L 4.30 PM	A 8.30 AM	L 8.45 AM	L 8.20 AM	L 8.00 AM	A 7.50 AM	L 7.30 AM	0.9	DU..... DULUTH..... DN	DOUBLE TRACK
11.33	A 9.32 PM	A 7.43 PM	L 7.19 PM		A 4.32 PM		8.47	8.23	A 8.02 AM		A 7.33 AM	1.9	..... GARFIELD AVE. ....	
f 11.35			7.21				f 8.48	8.24				2.2	..... 20TH AVE. W. ... PD	
11.37			7.23				8.50	A 8.26 AM				2.8	WEST D. M. & I. R. JCT.	
												3.6	... SOO LINE CROSSING ...	
11.40			A 7.29 PM				8.53					4.5	... D. W. & P. JCT. ....	
s 11.44							s 8.55					5.1	WU.. WEST DULUTH.. DN	
A 11.50 PM							A 8.57 AM					5.9	... WEST DULUTH JCT.. P	
												6.9	..... D. T. CROSSING .....	
												8.1	..... RIVERSIDE .....	
												9.7	..... MORGAN PARK .....	
												12.4	..... NEW DULUTH .....	
												15.1	..... FOND DU LAC .....	
Daily	Ex. Sun.	Daily	Ex. Sun.	Daily	Daily	Daily	Ex. Sun.	Daily	Daily	Daily	Daily	Daily		
.20	.02	.08	.10	.04	.02	.05	.12	.06	.02	.05	.03			Time Over Subdivision
14.7	30.0	20.0	15.0	18.5	30.0	10.8	24.5	19.0	30.0	10.8	20.0			Average Speed Per Hour

**EASTWARD TRAINS ARE SUPERIOR TO TRAINS OF THE SAME CLASS IN THE OPPOSITE DIRECTION.**

**EASTWARD**

**FIRST SUBDIVISION**

FIRST CLASS												Distance from Fond du Lac.	Time Table No. 225 May 2, 1948	
56	20	204	62	24	304	400	36	58	66	STATIONS	Telegraph Offices and Calls			
Passenger	G. N. 20	Passenger	D.M.&I.R. 2	Passenger	G. N. 24	D. W. & P. 20	D.M.&I.R. 5	Passenger	G. N. 36			Passenger	Daily	Daily
Daily	Daily	Daily	Ex. Sun.	Daily	Ex. Mon.	Daily	Ex. Mon.	Daily	Ex. Mon.	Daily	Daily	Daily	Daily	
							A 9.04 AM						15.1	... EAST D. M. & I. R. JCT. ...
CTW XYZ	Yard	WB 71	A 10.50 PM	A 8.00 PM	A 4.10 PM	A 12.35 PM	A 11.58 AM	L 9.00 AM	A 7.00 AM	A 8.00 AM	A 6.30 AM		14.2	DU..... DULUTH..... DN
X		L 2	L 10.45 PM	L 7.58 PM	4.07	12.32	L 11.56 AM	A 9.00 AM		L 6.57 AM	L 7.57 AM	6.25	13.2	..... GARFIELD AVE. ....
X		L02			4.06	f 12.31		8.58			f 6.22		12.9	..... 20TH AVE. W. ... PD
X					L 4.03 PM	12.29		8.56				6.19	12.3	WEST D. M. & I. R. JCT.
X													11.5	... SOO LINE CROSSING ...
X		L04				12.25		L 8.50 AM				6.14	10.6	... D. W. & P. JCT. ....
X						s 12.23					s 6.12		10.0	WU WEST DULUTH DN
XY		L 5				L 12.21 PM					L 6.03 AM		9.2	... WEST DULUTH JCT.. P
													8.2	..... D. T. CROSSING .....
		18											7.0	..... RIVERSIDE .....
													5.4	..... MORGAN PARK .....
		13 LB6											2.7	..... NEW DULUTH .....
		82 LB8											0.0	..... FOND DU LAC .....
			Daily	Daily	Daily	Ex. Sun.	Daily	Ex. Mon.	Daily	Ex. Mon.	Daily	Daily		
			.05	.02	.07	.14	.02	.10	.04	.03	.03	.27		Time Over Subdivision
			12.0	30.0	10.3	21.0	30.0	15.0	13.5	20.0	20.0	10.9		Average Speed Per Hour

**EASTWARD TRAINS ARE SUPERIOR TO TRAINS OF THE SAME CLASS IN THE OPPOSITE DIRECTION.**

**FIRST SUBDIVISION Westward**
**3**

Time Table No. 225 May 2, 1948	SECOND CLASS	
	623	627
<b>STATIONS</b>	Freight	Freight
<b>Telegraph Office: and Calls</b>	Daily	Daily
...EAST D. M. & I. R. JCT....		
DU.....DULUTH.....DN	L 6.00 PM	L 7.35 PM
.....GARFIELD AVE.....	A 6.03 PM	7.39
.....20TH AVE. W...PD		7.40
WEST D. M. & I. R. JCT.		7.42
..SOO LINE CROSSING..		
....D. W. & P. JCT.....		7.48
WU..WEST DULUTH..DN		7.51
..WEST DULUTH JCT..P	A 7.55 PM	
.....D. T. CROSSING.....		
.....RIVERSIDE.....		
.....MORGAN PARK.....		
.....NEW DULUTH.....PD		
.....FOND DU LAC.....		
	Daily	Daily
Time Over Subdivision	.03	.20
Average Speed Per Hour	20.0	14.7

**SPECIAL INSTRUCTIONS PAGES 6, 7, 8 AND 9.**
**EASTWARD TRAINS ARE SUPERIOR TO TRAINS OF THE SAME CLASS IN THE OPPOSITE DIRECTION.**
**FIRST SUBDIVISION Eastward**

Time Table No. 225 May 2, 1948	SECOND CLASS				
	624	626	628	404	402
<b>STATIONS</b>	Freight	C. M. St. P. & P. 626 Freight	Freight	D.M.&I.R. 7 Passenger	D.M.&I.R. 9 Passenger
<b>Telegraph Offices and Calls</b>	Daily	Daily	Daily	Daily	Daily
...EAST D. M. & I. R. JCT....				A 4.25 PM	A 5.55 PM
DU.....DULUTH.....DN			A 4.30 AM	L 4.20 PM	L 5.50 PM <sup>406</sup>
.....GARFIELD AVE.....			4.20		
.....20TH AVE. W...PD	A 3.50 AM	A 4.00 AM	4.09		
WEST D. M. & I. R. JCT.	3.43	3.53	4.06		
..SOO LINE CROSSING..					
....D. W. & P. JCT.....	3.37	3.46	4.00		
WU WEST DULUTH DN	3.35	3.43	3.58		
..WEST DULUTH JCT..P	L 3.30 AM	L 3.40 AM	L 3.55 AM		
.....D. T. CROSSING.....					
.....RIVERSIDE.....					
.....MORGAN PARK.....					
.....NEW DULUTH.....PD					
.....FOND DU LAC.....					
	Daily	Daily	Daily	Daily	Daily
Time Over Subdivision	.20	.20	.35	.05	.05
Average Speed Per Hour	10.8	10.8	8.4	10.8	10.8

**SPECIAL INSTRUCTIONS PAGES 6, 7, 8 AND 9.**
**EASTWARD TRAINS ARE SUPERIOR TO TRAINS OF THE SAME CLASS IN THE OPPOSITE DIRECTION.**

**4 WESTWARD**

**SECOND SUBDIVISION**

SECOND CLASS			FIRST CLASS									Time Table No. 225 May 2, 1948	Distance from Garfield Ave.
629	625	623	35	89	57	93	19	23	55	65			
N. P. 630	C. M. St. P. & P. 625		G. N. 35	Omaha 510		Omaha 512	G. N. 19	G. N. 23					
Freight	Freight	Freight	Passenger	Passenger	Passenger	Passenger	Passenger	Passenger	Passenger	Passenger	Passenger	STATIONS	Double Track
Mon., Wed., Fri., Sat.	Daily	Daily	Ex. Sun.	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily		
		L 6.03 PM	L 9.32 PM		L 7.43 PM		L 4.32 PM	L 8.02 AM	L 7.33 AM			.....GARFIELD AVE.....	0.0
L 6.00 AM	L 7.50 PM	6.04	9.34		7.45		4.34	8.04	7.35			.....RICES POINT.....P	0.7
6.05	7.55	6.06	9.36	L 8.22 PM	7.46	L 4.50 PM	4.36	8.06	7.37			.....BRIDGE SWITCH.....	1.3
6.09	7.59	6.09	9.39	8.25	7.49	4.53	4.40	8.10	7.40			.....ELEVATOR STATION.....	2.2
6.11	8.00	6.11	9.42	A 8.28 PM	7.51	A 4.55 PM	4.42	8.12	7.42			.....OMAHA CONN.....	2.9
												0.3	

**BETWEEN OMAHA CONNECTION AND BELKNAP STREET TRAINS USING L. S. T. & T. RAILWAY WILL BE GOVERNED BY L. S. T. & T. RY. TIME TABLE AND SPECIAL INSTRUCTIONS.**

				s 9.45		s 7.52		s 4.45	s 8.15	s 7.45	L 12.06 AM	BY.....SUPERIOR U. D.....PDN	3.2
6.20	8.25	6.22		9.46		7.54		4.46	8.16	7.46	12.08	.....BELKNAP ST.....P	3.7
A 6.45 AM	A 8.40 PM	A 6.50 PM		A 9.55 PM		A s 8.05 PM		A 4.53 PM	A 8.23 AM	A s 7.54 AM	A s 12.20 AM	{ AJ...CENTRAL AVE...DN }	7.4
Mon., Wed., Fri., Sat.	Daily	Daily		Ex. Sun.	Daily	Daily	Daily	Daily	Daily	Daily	Daily		Double Track
.45	.50	.47		.28	.08	.22	.06	.21	.21	.21	.14		Time Over Subdivision
8.7	7.8	9.3		19.0	13.7	19.9	19.1	20.9	20.9	20.8	17.1		Average Speed Per Hour

**EASTWARD TRAINS ARE SUPERIOR TO TRAINS OF THE SAME CLASS IN THE OPPOSITE DIRECTION. SINGLE TRACK OPERATION OVER MINNESOTA DRAW ON ST. LOUIS RIVER BRIDGE, BETWEEN BRIDGE SWITCH AND ELEVATOR STATION—INTERLOCKED. FIRST CLASS TRAINS USE L. S. T. & T. RAILWAY BETWEEN OMAHA CONNECTION AND BELKNAP STREET.**

**SECOND SUBDIVISION**

**EASTWARD**

				FIRST CLASS								SECOND CLASS
Time Table No. 225 May 2, 1948				66	36	94	58	96	24	20	56	630
STATIONS				Passenger	Passenger	Passenger	Passenger	Passenger	Passenger	Passenger	Passenger	Freight
Telegraph Offices and Calls				Daily	Ex. Mon.	Daily	Daily	Daily	Daily	Daily	Daily	Mon., Wed., Fri., Sat.
X		7.4	.....GARFIELD AVE.....									
CTW	Yard	L 1	.....RICES POINT.....P	A 6.57 AM		A 7.57 AM		A 11.56 AM	A 7.58 PM	A 10.45 PM		
X		6.1	.....BRIDGE SWITCH.....	6.55		7.54		11.54	7.56	10.43		A 4.30 PM
X		6.2	.....ELEVATOR STATION.....	6.53	A 7.48 AM	7.52	A 11.21 AM	11.52	7.54	10.42		4.27
X		4.5	.....OMAHA CONN.....	6.49	7.44	7.49	11.18	11.47	7.49	10.38		4.23
				6.47	L 7.42 AM	7.46	L 11.15 AM	11.45	7.46	10.35		4.20

**BETWEEN OMAHA CONNECTION AND BELKNAP STREET TRAINS USING L. S. T. & T. RAILWAY WILL BE GOVERNED BY L. S. T. & T. RY. TIME TABLE AND SPECIAL INSTRUCTIONS.**

X	WB 87	4.2	BY.....SUPERIOR U. D.....PDN	A s 5.40 AM	s 6.45		s 7.44		s 11.43	s 7.45	s 10.34	
X		3.7	.....BELKNAP ST.....P	5.38	6.39		7.41		11.40	7.39	10.30	4.10
WXY	Yard	87	{ AJ...CENTRAL AVE...DN }	L 5.29 AM	L 6.33 AM		L 7.33 AM		L 11.33 AM	L 7.34 PM	L 10.25 PM	L 4.00 PM
				Daily	Ex. Mon.	Daily	Daily	Daily	Daily	Daily	Daily	Mon., Wed., Fri., Sat.
			Time Over Subdivision.....	.11	.24	.06	.24	.06	.28	.24	.20	.30
			Average Speed Per Hour	22.3	18.5	16.0	18.2	16.0	19.0	18.2	21.9	18.0

**EASTWARD TRAINS ARE SUPERIOR TO TRAINS OF THE SAME CLASS IN THE OPPOSITE DIRECTION. SINGLE TRACK OPERATION OVER MINNESOTA DRAW ON ST. LOUIS RIVER BRIDGE, BETWEEN BRIDGE SWITCH AND ELEVATOR STATION—INTERLOCKED. FIRST CLASS TRAINS USE L. S. T. & T. RAILWAY BETWEEN OMAHA CONNECTION AND BELKNAP STREET. SPECIAL INSTRUCTIONS PAGES 6, 7, 8 AND 9.**

## WESTWARD

## THIRD SUBDIVISION

## EASTWARD 5

Water, Fuel, Scales, Turn Tables, Wyes and Yard Limits.	Car Capacity of Sidings.	Station Numbers.	FIRST CLASS					Distance from West Duluth Jct.	Time Table No. 225 May 2, 1948	Distance from L. S. T. & T. Ry. Jct.	FIRST CLASS				
			65	53	317	313	311				54	66	318	312	314
				D. S. S. & A. 8	Soo Line 18	Soo Line 63	Soo Line 65				D. S. S. & A. 7		Soo Line 17	Soo Line 64	Soo Line 62
			Passenger	Passenger	Passenger	Passenger	Passenger				Passenger	Passenger	Passenger	Passenger	Passenger
		Daily	Ex. Sat.	Daily	Daily	Ex. Sun.		Ex. Sun.	Daily	Daily	Ex. Sun.	Daily			
XY		L5	L 11.50 PM				0.0	..... WEST DULUTH JCT. .... P	8.3		A 6.03 AM				
X			11.53				0.3	..... ZENITH FURNACE. ....	3.0		6.01				
X			11.55 PM	L 8.28 PM	L 6.13 PM	L 1.13 PM	L 8.43 AM	1.1	..... BERWIND JCT. .... P	2.2	A 5.16 AM	5.58	A 7.43 AM	A 4.02 PM	A 5.39 PM
							1.8	..... (GRASSY POINT DRAWBRIDGE) ....	1.5						
X			A 12.05 AM	A 8.33 PM	A 6.18 PM	A 1.18 PM	A 8.48 AM	3.3	..... L. S. T. & T. RY. JCT. ....	0.0	L 5.11 AM	L 5.49 AM	L 7.38 AM	L 3.57 PM	L 5.34 PM

TRAINS USING L. S. T. & T. RAILWAY WEST OF L. S. T. & T. RY. JCT. WILL BE GOVERNED  
BY L. S. T. & T. RY. TIME TABLE AND SPECIAL INSTRUCTIONS.

Daily	Ex. Sat.	Daily	Daily	Ex. Sun.	Ex. Sun.	Daily	Daily	Ex. Sun.	Daily
.15	.05	.05	.05	.05		.05	.14	.05	.05
13.2	24.0	24.0	24.0	24.0		24.0	14.1	24.0	24.0

EASTWARD TRAINS ARE SUPERIOR TO TRAINS OF THE SAME CLASS IN THE OPPOSITE DIRECTION.

## WESTWARD

## FOURTH SUBDIVISION

## EASTWARD

Water, Fuel, Scales, Turn Tables, Wyes and Yard Limits.	Car Capacity of Sidings.	Station Numbers.	SECOND CLASS		FIRST CLASS		Distance from East End.	Time Table No. 225 May 2, 1948	Distance from Central Ave.	FIRST CLASS		SECOND CLASS	
			629	631		53				54		632	630
				D. S. S. & A. 21		D. S. S. & A. 7				D. S. S. & A. 8		D. S. S. & A. 22	
			Freight	Freight		Passenger				Passenger	Freight	Freight	
		Mon., Wed., Fri., Sat.	Daily		Ex. Sun.		Daily	Mon., Wed., Fri., Sat.					
WXY	Yard	63	L 3.45 PM	L 5.20 AM		L 4.51 AM	0.0	..... EAST END. .... P	4.1	A 9.10 PM	A 12.15 AM	A 6.58 AM	
X	Yard	65	3.47	A 5.21 AM		A 4.52 AM	0.2	..... NEWTON AVENUE. ....	3.9	L 9.09 PM	L 12.14 AM	6.56	
	Yard		3.52				1.6	..... HILL AVE. .... P	2.5			6.51	
X							3.0	..... SOO LINE CROSSING. ....	1.1				
WXY	Yard	67	A 3.59 PM				4.1	AJ. .... CENTRAL AVE. .... DN	0.0			L 6.45 AM	
			Mon., Wed., Fri., Sat.	Daily		Ex. Sun.				Ex. Sat.	Daily	Mon., Wed., Fri., Sat.	
			.14	.01		.01				.01	.01	.13	
			17.6	12.0		12.0				12.0	12.0	18.9	

EASTWARD TRAINS ARE SUPERIOR TO TRAINS OF THE SAME CLASS IN THE OPPOSITE DIRECTION.  
SPECIAL INSTRUCTIONS PAGES 6, 7, 8 AND 9.

## SPECIAL INSTRUCTIONS

### ALL SUBDIVISIONS.

#### 1. Speed Restrictions—

Maximum Speeds Permitted:

Passenger trains.....75 MPH.  
 Freight and mixed trains.....50 MPH.

The above speeds are subject to the restrictions of maximum speeds in miles per hour as shown by zones under each subdivision.

Reduce speed limits, within the zones listed, are designated by Advance-warning signs (diagonally upwards); Reduce speed signs (square with clipped corners); and Resume speed signs (vertical).

The Advance-warning signs are, except as otherwise specified, located approximately 3000 feet in advance of the Reduce speed signs, and the numerals on both signs indicate in miles per hour the maximum speed permitted from the Reduce speed sign to another Reduce speed limit, or to a sign indicating a higher speed, or to a Resume speed sign (RS).

If speeds authorized by zones or Reduce speed signs, are greater than that prescribed below for certain trains or engines, such trains or engines must not exceed the prescribed speeds.

Locations where reduced speeds are required, but not indicated by signs, are listed under the zones of maximum speeds permitted for each subdivision.

All trains and engines, except as otherwise specified:

Through crossovers, turnouts and gantlets,  
 except where fixed signals provide otherwise.....15 MPH.

Handling steam wrecking cranes, pile drivers,  
 locomotive cranes and similar equipment.....30 MPH.

Handling 4-wheel scale test cars { Main Line.....35 MPH.  
 { Branch Lines.....25 MPH.

Picking up train orders from operators .....30 MPH.

Engines— Classes—	Handling trains.	Running light.
All A and Q (except on passenger trains where higher speed is authorized).....	60 MPH.	60 MPH.
Z-6, Z-7 and Z-8.....	60 MPH.	50 MPH.
Z-5, Y, Y-1, Y-3.....	40 MPH.	35 MPH.
Z-3, Z-4.....	35 MPH.	30 MPH.
S-4, T, T-1, W to W-5 inc. Y-2.....	50 MPH.	45 MPH.
Steam switch engines, without engine trucks, under all conditions.....	15 MPH.	15 MPH.
660 HP diesel-electric switch engines, Nos. 125 to 131 inc.....	45 MPH.	45 MPH.
5400 HP and 6000 HP diesel-electric road engines, 6000 series.....	65 MPH.	65 MPH.
4500 HP diesel-electric passenger engines, 6500 series.....	75 MPH.	65 MPH.
900 HP and 1000 HP diesel-electric switch engines and combination road-switch engines.....	60 MPH.	60 MPH.

Coming from shops, under steam, to prevent running hot:

All A and Q and classes Z-6, Z-7 and Z-8.....	50 MPH.
S-4, T, T-1, W to W-5 inc., Y-2, Z-5.....	35 MPH.
Y, Y-1, Y-3.....	30 MPH.
Z-3, Z-4.....	25 MPH.

Main Line—With main and side rods removed:

All A and Q and classes Z-6, Z-7 and Z-8.....	30 MPH.
Z-5, S-4, T, T-1, W to W-5 inc., Y to Y-3 inc.....	25 MPH.
Z-3, Z-4.....	20 MPH.

With main rods removed and side rods in place:

All A and Q and classes Z-6, Z-7 and Z-8.....	35 MPH.
Z-5, S-4, T, T-1, W to W-5, inc., Y to Y-3 inc.....	30 MPH.
Z-3, Z-4.....	25 MPH.

Branch Lines—With either or both main and side rods removed:

All A and Q classes.....25 MPH.  
 All other classes.....20 MPH.

On bridges—With either or both main and side rods removed;  
 Steam switch engines, without engine trucks.....15 MPH.  
 Other engines.....20 MPH.

In the event the above speeds are in excess of 50% of the permissible speed for operating the engine in working order over any bridge carrying speed restrictions, speed on such bridges shall be 50% of the permissible speed for engine in working order.

Dead engines going to shops or being transferred from one district to another with all rods up or in place, the piston rod parted from the crosshead and removed and the valve motion disconnected and blocked, may be moved in trains at not to exceed the permissible speed of freight trains operating in the territory over which the engines are to be moved, or the operating speed restriction for track or bridges for that class of engine, whichever is the lower.

Engines handled in this manner when coming from shops must not exceed the operating speeds specified for engines coming from shops under steam.

Diesel-electric, 660 HP Nos. 125 to 131 inc., when handled dead in train.....45 MPH.

Diesel-electric, other engines, when handled dead in train.....50 MPH.

Bridge or other restrictions must be observed for these engines the same as when in operating condition.

#### 2. Single and Double Headers; operation—track and bridges— general.

Except as otherwise provided, double header operation of engines of the same class carry the restrictions applicable to single headers of that class. Double headers of engines of different classes carry the restrictions applicable to double headers of the heavier class of the combination.

Diesel engines—except as otherwise provided, diesel-electric engines of the 6000 and 6500 series and all diesel switch engines may be operated over bridges under the same restrictions shown for Class T engines.

Wrecking cranes—250 tons, 45 to 48 inc. must not be coupled directly to engine or tender of engines Classes A-2 to A-5 inc. or Z-5 to Z-8 inc., but must be separated from them by at least two cars of not over 169,000 pounds total weight, for movement over bridges.

#### 3. Use of Mars headlight on engines so equipped—

The Mars headlight may display either a white or red, stationary or oscillating light, to be used in addition to the standard headlight. The Mars white light may be used in a stationary position as a substitute headlight in case of failure of the standard headlight, but will normally be used as an oscillating light during the time full display of standard headlight is required. The Mars oscillating red light will be used when head end protection is required, either by day or by night by engineer control, if the train becomes disabled or is stopped suddenly due to unusual occurrence with the possibility of an adjacent track being obstructed, or if it overruns the clearance point at a meeting or waiting point, or at the end of double track or at a junction, or in any other emergency situation.

The engineer of an approaching train, finding oscillating red light displayed, must stop and then be governed by conditions existing. If on an adjacent track which he finds unobstructed and safe for operation, he may proceed at restricted speed until the standing train displaying the oscillating red light has been passed.

The use of the red headlight does not in any manner relieve the train or engine men of responsibility for compliance with the provisions of Rules 99 and 102.

#### 4. Rule D-97 applies to all subdivisions.

5. Except in case of fog, storms, or otherwise bad weather, yellow signals may be used, without flagmen, when placed as prescribed by Rule 10(h) to indicate approach to a red signal in special cases when authorized by the Superintendent and protected by train order.
6. Rule 606: Emergency Signals are not used at inter-lockings or draw-bridges operated by the Northern Pacific Railway.
7. Test of hand brakes of gas-electric motor cars must be made once each trip. If crew has charge of moving car prior to leaving initial station, test will be made during such movement; otherwise, as soon as possible after leaving initial station. On cars equipped with "Deadman's Control," conductor and engineer will cooperate in making test.
8. Gas-electric motor cars, when handled dead in freight trains, must be behind caboose. Scale test cars must be handled only in local freight trains, and placed immediately ahead of the caboose. Cranes or similar machines geared for self-propulsion moving on commercial billing, must not be handled in time freight trains.
9. Precautions must be taken on double track to prevent accidents from swinging doors or other loose construction attached to cars or locomotives. Trains handling logs must stop when being met or passed by passenger trains.
10. Electric Switch Locks—To operate, open door of electric switch lock and, if indicator shows "proceed", move lock lever to the left, which will unlock switch and permit it to be opened and movement may be made at once. If indicator shows "stop", and conflicting train movement is not evident, open door of release box and push the push button. This will start operation of clockwork release which will run down in three minutes and, at the end of that time, indicator will show "proceed" and switch can be unlocked by moving lever to the left. Restore lock lever, close and lock doors of electric locks and release boxes when switches are restored to normal position.
11. Signal Operation at Spring Switches Equipped for Switch Key Operation—Unless otherwise provided, the normal position of the spring switch is for main track. The normal indication of main track signals is Proceed. The normal indication of siding signal is Stop. To clear the siding signal when train is ready to enter main track, insert switch key in control box and turn to right. If route is clear the siding signal will immediately clear. If siding signal does not clear by switch key operation, open release box and push the button which will put the time release mechanism into operation. After time release has operated, the siding signal will clear if there is no conflicting train movement. The release box door must be left open until leading wheels of train on the siding have passed the siding signal, then close and lock the release box door. If the siding signal has been cleared and train on the siding is not ready to depart, if necessary to clear signals for a main track movement, open the release box door and push the button which will start the time release mechanism. After the time release mechanism has started to operate, close and lock the release box door.
12. Pusher engines must not push on cabooses not equipped with steel sills.
13. Second class, inferior trains, and engines may run ahead of delayed first class trains without train order authority. Flagman must be stationed on the rear car, at all times. In case train is stopped on main track, flagman must protect as prescribed by Rule 99. Conductors and switch foremen will be held responsible for the strict observance of this rule.
14. Extra trains, and yard engines may move with current of traffic between West Duluth Jct. and Duluth (1st sub.); between Central Avenue and Rice's Point (2nd sub.); between Central Avenue and Allouez (4th sub.), and in either direction on single track and with the current of traffic on double track between West Duluth Jct. and Superior (3rd sub.) without train order authority.
15. The D. T. Ry. main track is the northmost track between the Hanna Coal Dock crossing and connection with Grassy Point main track. All switches leading from this track, when not in use, will be left lined for D. T. Ry.
16. All trains and engines using D. T. Ry. main track from connection of Missabe coal dock to east end of Zenith Furnace Company's lead, on Grassy Point line, will move in both directions at restricted speed, expecting to find the D. T. Ry. main track occupied.
17. D. T. Ry. connection, located at east end of Zenith Furnace Company's lead, Grassy Point line, will be considered a railroad crossing. Trains and engines using this connection will come to a full stop and make sure that track is clear before proceeding.
18. Bulletin Stations—  
Duluth. Union Depot, Rices Point Yard and Roundhouse  
Soo Line Passenger Station.  
Superior. Soo Line Yard and Roundhouse.
19. Standard Time Clocks—  
Duluth—Union Depot, Rices Point Yard Office and Round House.
20. Watch Inspectors—  
Duluth.....Kanter's Jewelry Co.  
Duluth.....Herbert W. Schmidt.  
Duluth.....Harlan Wells.  
West Duluth.....W. F. Hurst.  
Superior.....L. J. Howatt.

### FIRST SUBDIVISION

1. **Speed Restrictions—** Maximum Speeds Permitted  
Zone—Between: Freight and Mixed Passenger  
East D. M. & I. R. Jct., and West Duluth Jct. 30 30  
West Duluth Jct., and Fond du Lac..... 15 15  
Fond du Lac and Upper Power Plant..... 8 8  
Over 21st Avenue West Crossing..... 15 15  
First class trains, within yard limits..... Restricted Speed.
2. **Bridge and Engine Restrictions—**Between Duluth and West Duluth Junction—Engines classes A-2 to A-5 inc. and Z-5 to Z-8 inc., not permitted.  
All bridges—Trains handling wrecking cranes of 250 tons, or heavier, NP cranes 45, 46, 47 and 48.....15 MPH.  
Between West Duluth Junction and Fond du Lac—engines heavier than Class Q-4 not permitted.  
Between Fond du Lac and upper Power Plant—engines heavier than Classes L-9 or L-10 not permitted.
3. **At Fifth Avenue West—**Normal position of main track switch is for Union Depot.
4. **At Garfield Avenue—**Junction switches will be kept set for First Subdivision.  
Trains stop not less than two hundred (200) feet from junction switch and crossover used by D. W. & P. and not proceed until track is known to be clear.
5. **At Nineteenth Avenue West—**Trains using the Dick tracks must not block crossing.
6. **At Twenty-first Avenue West—**Telephone at crossover—Eastward trains call yard (3 rings) for route when necessary.
7. **At West D. M. & I. R. Jct. Interlocking—**Trains will call for route as follows:  
o o o Martins track to D. M. & I. R. yard.  
o o o D. M. & I. R. yard to Martins track.  
o o o— Martins track to westward main.  
o o o o Martins track to D. T. main.  
o o o o D. T. main to Martins track.  
— o Westward main to D. M. & I. R. yard.  
— o D. M. & I. R. yard to eastward main.  
— — Through main track movements.
8. **At West Duluth Jct.—**Switch at west end wye will be kept set and locked for First Subdivision.  
Yard engines will use west leg of wye and Fond du Lac line but will not leave cars on these tracks.  
Switch at end of double track is dual control. Normal position is for the westward track.  
To secure a restricting proceed interlocking indication, as per Rule 601-F, Figure (8), at the Westward Dwarf Signal, covering reverse movements on eastward track, engines or trains moving eastward through the dual control switch must, before reversing direction, clear the track circuit, the east end of which is located just east of the switch leading to the new Western Brass Company near 61st Avenue West.
9. **At Fond du Lac—**Trains will call upper Power Plant (Douglas 50) from New Duluth and secure permission to use track between Fond du Lac and Power Plant, but must secure authority from chief dispatcher to use track to lower Power Plant.

10. **Yard Limits**—Between East D. M. & I. R. Jct. at Fifth Ave. East and Lake Superior Division yard limit sign west of West Duluth Jct.
11. **Derail Switches**—Duluth—House Track No. 4. Fond du Lac, on main track.
12. **Register Stations**—Duluth Union Depot for trains arriving at or departing from Fifth Ave. Yard or Union Depot, Rice's Point Yard office for other trains. West Duluth.
13. **Register Exceptions**—At Duluth first class trains arriving may register by Form 608, using tube at foot of east stairway for delivery to operator in "DU" office. At West Duluth trains register by form 608. A check of register on form 602 may be issued by operator when authorized by train dispatcher, either instead of, or addition to, train order check.
14. **Clearance Exceptions**—Trains originating at East D. M. & I. R. Jct., Garfield Ave., 20th Ave. West, West D. M. & I. R. Jct., D. W. & P. Jct., West Duluth Jct. and Fond du Lac will not require clearance.

## SECOND SUBDIVISION

1. <b>Speed Restrictions</b> — Zone Between:	Maximum Speeds Permitted	
	Freight and Mixed	Passenger
Garfield Ave., and Central Ave.....	45	55
Superior and Central Ave., Great Northern engines Class P-2.....	40	
Trains handling loaded ore cars.....	40	
At Superior—Over switches at Belknap Street and Omaha Conn.....	15 MPH.	
First Class trains, within yard limits.....	Restricted Speed.	

2. **Bridge and Engine Restrictions**—Engines classes A-2 to A-5 inc. and Z-5 to Z-8 inc., not permitted.  
Bridge 2.1, St. Louis Bay..... 20 MPH.  
All bridges—Trains handling wrecking cranes of 250 tons, or heavier, NP cranes 45, 46, 47 and 48..... 15 MPH.

3. **At Garfield Avenue**—Junction switches will be kept set for First Subdivision.  
Trains will stop not less than two hundred (200) feet from junction switch and crossover used by D. W. & P. and not proceed until track is known to be clear.

4. **At Rice's Point**—Spring switches not equipped with facing point locks, roundhouse lead, 900 feet south of coal dock, indicate—  
Yellow—Straight Track.  
Green—Roundhouse Lead.

Normal position of switches designated below is as follows:

South End Rice's Point Yard,  
switch from B to C yard lead (top switch). when lined for B yard lead;  
No. 26 and 31 crossovers on Hump  
(A Yard)..... when lined for Hump (A Yard) lead;  
No. 26 and 31 crossovers on Load  
(B Yard) lead..... when lined for Load (B Yard) lead.  
North End Rice's Point Yard,  
switch off outside lead for  
lead to C Yard..... when lined for Load (B Yard) lead;  
Crossover switch on inside lead..... when lined for inside lead;  
Crossover switch off outside lead..... when lined for outside lead.  
Roundhouse, hand throw switches No. 2 and No. 4 from the outgoing roundhouse tracks..... when lined for lead  
Crossover switches from yard tracks to main track must be set for yard tracks when not in use.

5. **Between Bridge Switch and Elevator Station, St. Louis River Bridge**—Interlocking signals govern use of tracks. Single track over Minnesota Draw. The three-light semaphore on eastward track west of Minnesota Draw indicates position of double track switch, position of draw and route:  
Top Light—C. St. P. M. & O.  
Middle Light—Great Northern  
Bottom Light—Northern Pacific

The two-light semaphore on westward track east of Elevator Station indicates route:

Top Light—Straight main track.  
Bottom Light—Great Northern freight track.

Westward trains will stop before entering onto Wisconsin Draw. Eastward trains will stop before entering onto Minnesota Draw. Westward trains entering onto Minnesota Draw and Eastward trains entering onto Wisconsin Draw will be governed by signal at the approach and, if proceed signal is received, will not be required to stop

6. **At Central Avenue**—Westward trains and engines may use eastward main track between west lead from yard and junction with Fourth (Terminal) Subdivision without protection.
7. **Yard Limits**—From Garfield Ave. to yard limit sign west of 28th Street, Superior, and from yard limit sign east of Central Ave. to the yard limit sign just east of Soo Line crossing on Terminal Fourth Subdivision, and yard limit sign west of Central Ave. on Second Subdivision of Lake Superior Division.
8. **Derail Switches**—At approach to Minnesota Draw from Duluth. At Elevator Station.  
At Superior—just East of N. P. freight house.
9. **Register Stations:**  
Rice's Point for second class and inferior trains, except passenger extras.  
Central Avenue.

10. **Register Exceptions**—At Central Avenue trains register by form 608. A check of register on form 602 may be issued by operator when authorized by train dispatcher, either instead of, or in addition to, train order check.

11. **Clearance Exceptions:**

Trains originating at Garfield Ave., Rice's Point (Yard), Bridge Switch, Elevator Station, Omaha Conn. and Belknap St. will not require clearance.

At Central Ave. eastward trains will not require clearance if train order signal is in the proceed position. Westward Great Northern trains enroute to Great Northern tracks, at the Interlocking, not governed by train order signal.

## THIRD SUBDIVISION

1. <b>Speed Restrictions</b> — Zones—Between:	Maximum Speeds Permitted	
	Freight and Mixed	Passenger
West Duluth Jct. and Zenith Furnace.....	30	30
Zenith Furnace and L. S. T. & T. Jct.....	40	40
First class trains, within yard limits.....	Restricted Speed.	
At West Duluth Jct., around east leg of wye and passing Zenith Furnace Plant.....	Restricted Speed.	

2. **Bridge and Engine Restrictions**—Engines classes A-2 to A-5 inc. and Z-5 to Z-8 inc., not permitted.  
All bridges—Trains handling wrecking cranes of 250 tons, or heavier, NP cranes 45, 46, 47 or 48..... 15 MPH.  
Bridge 94.6, Grassy Point..... 20 MPH.

3. **At West Duluth Jct.**—Normal position of switches on east leg of wye is for Third (Terminal) Subdivision main track.

4. **Clearance Exceptions:**

Trains originating at West Duluth Jct., Berwind Jct. and L. S. T. & T. Ry. Jct. will not require clearance.



**AUTHORIZED SURGEONS**

Dr. B. I. Derauf, Chief Surgeon..... St. Paul.  
 Dr. J. W. Jesion,  
 Dr. A. McEwan,  
 Dr. C. H. Decker,  
 Dr. J. A. Evert. } Assistant Surgeons,  
 N. P. B. A. Hospital,  
 St. Paul.

**SPECIALISTS**

Dr. L. A. Nelson, Oculist.....830 Lowry Bldg., St. Paul  
 Dr. H. E. Binger, Eye, Ear, Nose  
 & Throat.....1039 Lowry Bldg., St. Paul  
 Dr. L. T. Simons, Eye, Ear, Nose  
 & Throat.....1039 Lowry Bldg., St. Paul  
 Dr. K. A. Phelps, Oculist and Aurist, 1137 Medical Arts Bldg.,  
 Minneapolis.  
 Dr. M. F. Fellows, Oculist and Aurist, 1209 Medical Arts Bldg.,  
 Duluth.

**SURGEONS**

Dr. J. W. McGill.....1225 Tower Ave., Superior  
 Dr. Victor E. Ekblad.....1507 Tower Ave., Superior  
 Dr. C. M. Smith.....1115 Medical Arts Bldg., Duluth  
 Dr. C. L. Haney.....2004 West Superior St., Duluth  
 Dr. Daniel F. Pennie.....706 Medical Arts Bldg., Duluth

**C. M. ST. P. & P. RY. SURGEONS**

Dr. Cyril M. Smith, 1115 Medical Arts Bldg., Duluth

**LOCATION OF STRETCHERS**

East End Station.  
 Central Avenue Station.  
 Superior Freight Station.  
 Duluth—Fifth Avenue Yard Office, Dock 6, Union Depot, Store  
 Room, Tool Car, Dock 2, Car Shops, Roundhouse.  
 West Duluth Station.  
 Superior Ore Dock.

**NOTE.**

N. P. B. A. physicians and surgeons, when called upon, will attend to all cases of sickness and accident to employes, passengers, and others. In a case of illness or in any case of injury unrelated to Railway operation, surgeon should endeavor to collect a reasonable fee for service from person attended, other than members of the N. P. B. A. If unable to collect, Chief Surgeon should be notified.

Where injuries are directly related to Railway operation, charge for service should be sent to the General Claim Agent of the Railway Company.

In case of emergency, proper aid should be procured until arrival of local surgeon, when case must be placed in his hands.

5. **Derails**—Winter St. just east of junction with Second Subdivision.
6. **Yard Limits**—Between West Duluth Jct. and yard limit sign west of Grassy Point drawbridge, and between yard limit sign east of L. S. T. & T. Ry. Jct. and Superior.

**FOURTH SUBDIVISION**

1. **Speed Restrictions**— Maximum Speeds Permitted  
 Zone—Between: All Trains  
 and Engines  
 East End and Central Ave.....Restricted Speed.  
 Engines heavier than Classes A-2 and W-5.....20 MPH.  
 Trains Handling Loaded Ore Cars.....20 MPH.
2. **Bridge and Engine Restrictions:**  
 Engines Class W or heavier, over trestle approach to  
 Ore Dock.....15 MPH.
3. **At East End**—Normal position of switch at end of double track is for westward trains.  
 The approach signal of interlocking is an automatic block signal governing single track to end of double track and westward track to Newton Ave. interlocking. Eastward D. S. S. & A. and C. St. P. M. & O. trains and engines will use westward main track between Newton Ave. interlocking and end of double track as single track, under single track and yard limit rules.
4. **At Soo Line Crossing**—When using Soo Line tracks, Northern Pacific crews must have in their possession and be governed by current Soo Line Duluth and Superior Terminal Division Time Table, a supply of which is maintained at Rice's Point Yard office and roundhouse.
5. **At Central Ave.**—Normal position of spring switch at end of double track is for eastward trains.  
 Normal position of wye switch connection, between Terminal Second and Fourth Subdivisions, will be for direct route for Pokegama. These switches are governed by interlocking signals, equipped for switch-key operation. If use of switch key does not give "restricting" signal, proceed according to rule.  
 Normal position of switch at junction of Fourth and Second (Terminal) Subdivisions is for Second Subdivision.  
 Normal position of wye switch, adjacent to Tower Avenue, is for movements from Second Subdivision main track to Terminal Fourth Subdivision.
6. **Yard Limits**—Tracks between yard limit signs west of East End and east of Allouez, and from yard limit sign east of Central Avenue to the yard limit sign just east of Soo Line crossing on terminal Fourth Subdivision.
7. **Register Stations:**  
 Central Ave.  
 Soo Line 21st St. Yard Office, Superior, for D. S. S. & A. Ry.
8. **Register Exceptions**—At Central Ave. trains register by form 608. A check of register on Form 602 may be issued by operator when authorized by train dispatcher, either instead of, or in addition to, train order check.
9. **Clearance Exceptions**—Trains originating at East End and Hill Ave. will not require clearance.

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## RAILROAD CROSSINGS AND INTERLOCKINGS.

**First Sub-division**

West D. M. & I. R. Jct., Interlocking.  
 Soo Line Crossing, Interlocking.  
 D. W. & P. Jct., Interlocking.  
 West Duluth Jct., Automatic Interlocking.  
 D. T. Crossing, Duluth Terminal Ry.  
 Morgan Park, Minnesota Steel Co. Crossing.

**Second Sub-division**

Bridge Switch and Elevator Station, Interlocking.  
 St. Louis River Drawbridge;  
 Minnesota Draw, Interlocking.  
 Wisconsin Draw, Interlocking.  
 Superior, Winter St., near Omaha Connection.

**Third Sub-division**

Zenith Furnace—D. M. & I. R. Ry. Crossing.  
 Berwind Jct., Interlocking, is also junction with Soo Line and D. W. & P.  
 Grassy Point Drawbridge, Interlocking.  
 G. N. Ry. Crossing.  
 L. S. T. & T. Ry. Jct.

**Fourth Sub-division**

Newton Avenue—C. St. P. M. & O. Crossing, Interlocking.  
 Soo Line Crossing, Interlocking.

## MAXIMUM CLEARANCES.

Governing Structure—1st Sub-division, Lake Ave. viaduct. Clearance on balance of sub-division Max. 20'-3" obtains for all widths of loads	LIMIT OF LOAD MEASUREMENT										
	HEIGHT ABOVE TOP OF RAIL										
	1 ft. Wide	2 ft. Wide	3 ft. Wide	4 ft. Wide	5 ft. Wide	6 ft. Wide	7 ft. Wide	7 ft. 6 in. Wide	8 ft. Wide	Max. Height	Max. Width
1st Sub-division, Duluth to Fond du Lac.....	18' 5"	18' 5"	18' 5"	18' 5"	18' 5"	18' 5"	18' 5"	18' 5"	18' 5"	18' 5"	11' 6"
2nd Sub-division, Garfield Ave. to Central Ave.	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	11' 6"
3rd Sub-division, W. Duluth Jct. to Superior U. D.	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	11' 6"
4th Sub-division, East End to Central Ave.....	21' 0"	21' 0"	21' 0"	21' 0"	21' 0"	21' 0"	21' 0"	21' 0"	21' 0"	21' 0"	11' 6"

  

Governing Structure—1st Sub-division, Lake Ave. viaduct. Clearance on balance of sub-division Max. 20'-3" obtains for all widths of loads	LIMIT OF LOAD MEASUREMENT									
	HEIGHT ABOVE TOP OF RAIL									
		8 ft. 6 in. Wide	9 ft. Wide	9 ft. 6 in. Wide	10 ft. Wide	10ft. 2in. Wide	10ft. 6in. Wide	11 ft. Wide	11ft. 6in. Wide	Max. Height
1st Sub-division, Duluth to Fond du Lac.....	.....	18' 5"	18' 5"	18' 5"	18' 5"	18' 5"	18' 5"	18' 5"	18' 5"	11' 6"
2nd Sub-division, Garfield Ave. to Central Ave.	.....	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	11' 6"
3rd Sub-division, W. Duluth Jct. to Superior U. D.	.....	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	20' 3"	11' 6"
4th Sub-division, East End to Central Ave.....	.....	21' 0"	21' 0"	21' 0"	21' 0"	21' 0"	21' 0"	21' 0"	21' 0"	11' 6"

**Note:** Length of load 52 ft. Heights and widths in table allow 9 inches clearance.  
 Table is based on open car loading equally divided on either side of center line of car.

**C. T. SPONSEL,**  
Asst. Supt.

**C. B. WOLF,**  
Trainmaster.

**G. W. MINKEL,**  
Trainmaster-Roadmaster.

**N. M. LORENTZSEN,**  
Asst. Trainmaster.

**E. J. WIGG,**  
Chief Dispatcher.