

50X1-HUM

Page Denied

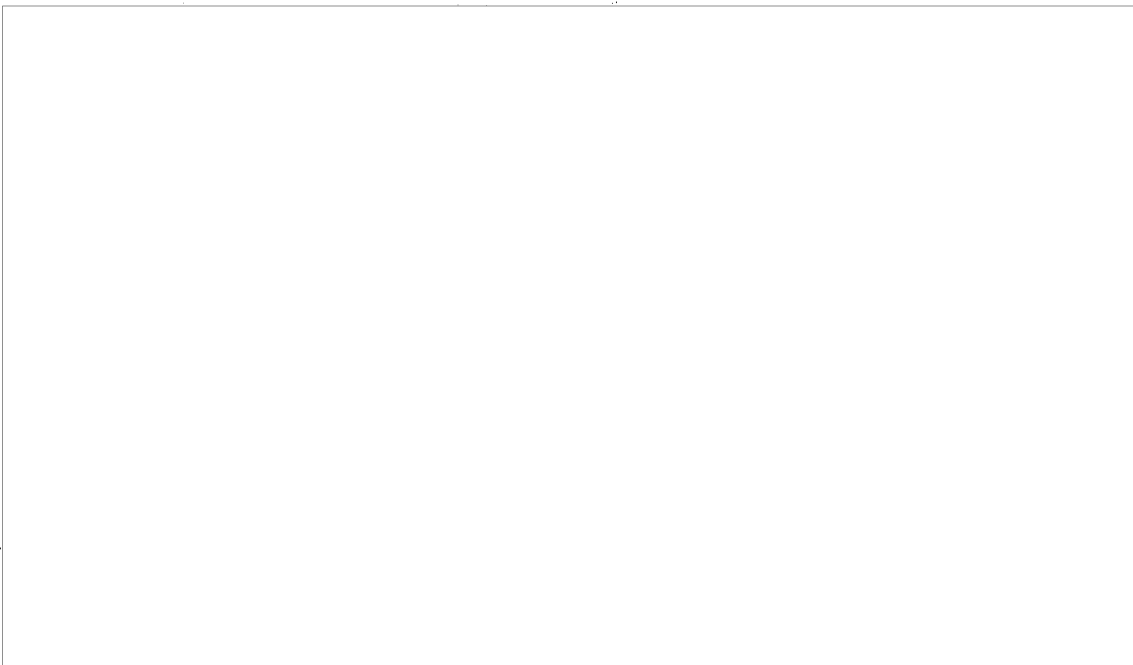
WARNING

This Document Contains Information Affecting the National Defense of the United States Within the Meaning of the Espionage Laws, Title 18, U.S.C., Sections 793 and 794. The Transmission or Revelation of Its Contents in Any Manner to an Unauthorized Person is Prohibited by Law. Reproduction of the Intelligence in This Publication is Prohibited Without Special Authority From the Assistant Chief of Staff, Intelligence, Department of the Army.

CONFIDENTIAL

CHARACTERISTICS OF THE BREST-MOSCOW HIGHWAY

U. S. S. R. (U)



This paper was prepared by analysts in the Area Analysis Section of Technical Branch, Production Division, Office of the Assistant Chief of Staff, Intelligence.

50X1-HUM

CONFIDENTIAL

CONFIDENTIAL**F O R E W O R D**

The strategically important highway from Brest-Litovsk on the Polish-U.S.S.R. border to Moscow has undergone significant change and improvement since the publication, in April 1951, of the current Section 32, Chapter III, NIS 26.

This intelligence study, derived from exhaustive area analysis and representing the latest and most accurate information available to the Office of the Assistant Chief of Staff, Intelligence, reflects those significant changes and provides additional data concerning the Brest-Moscow highway.

It is intended to supplement pertinent portions of Section 32, NIS 26, pending publication of the maintenance edition of that section of the National Intelligence Survey.

CONFIDENTIAL

CONFIDENTIAL

PROJECT NO. A 412

CHARACTERISTICS OF THE BREST-MOSCOW HIGHWAY - U. S. S. R. (U)

T A B L E O F C O N T E N T S

	page
I. GENERAL CHARACTERISTICS	1
II. ROUTE SECTIONS	
1. Brest-Kobrin	2
2. Kobrin-Baranovichi	2
3. Baranovichi-Minsk Bypass-Borisov	2
4. Borisov-Vyaz'ma	4
5. Vyaz'ma-Moscow	4
III. INDEXED BRIDGE LIST	5
IV. RECOMMENDATIONS	8
V. OVERLAY REFERENCE TABLE	15

CONFIDENTIAL

CONFIDENTIAL

PROJECT NO. A 412

CHARACTERISTICS OF THE BREST-MOSCOW HIGHWAY - U. S. S. R. (U)

LIST OF ILLUSTRATIONS

	page
Fig. 1 - Map, Brest-Moscow highway	9
Fig. 2 - Brest-Moscow highway southwest of the Shchara River .	10
Fig. 3 - Brest-Moscow highway northeast of the Shchara River .	11
Fig. 4 - Newly constructed highway northeast of Dzerhinsk . .	12
Fig. 5 - Newly constructed highway near the interchange with the Minsk-Slutsk highway	13
Fig. 6 - Roadside guide map along the newly constructed highway near Baranovichy	14

CONFIDENTIAL

CONFIDENTIAL

PROJECT NO. A 412

CHARACTERISTICS OF THE BREST-MOSCOW HIGHWAY, U. S. S. R. (U)

I. GENERAL CHARACTERISTICS

The Brest-Moscow highway is a major trunk road connecting Moscow with Poland via Brest-Litovsk on the Polish-U.S.S.R. border. Affording the best route of approach to Moscow from the west north of the extensive and formidable Pripet Marshes, this highway is of particular strategic significance and is the most important road from Moscow to western Europe.

Completion of the section of this highway between Minsk and Baranovichi provides a more direct route from Minsk to Kobrin than the former more devious route through Slutsk, reducing the highway distance from Moscow to Brest to approximately 635 miles (1020 km).

The Brest-Moscow highway has a high type, bituminous surfaced roadway with an over-all width of 35 to 45 feet and a surfaced width of 25 to 30 feet. Grades are generally gentle and curvature moderate throughout the route. The only significant physical bottleneck occurring along the entire route is attributable to the restrictive features of some city streets in Minsk. This obstacle will be eliminated, however, with the completion of a bypass presently being constructed along the southern outskirts of the city. This bypass has characteristics comparable to all other sections of the highway, and its completion will enable through traffic to bypass Minsk entirely. All other towns of appreciable size are bypassed except Borisov, where streets which carry the route have been widened and straightened to eliminate restrictions to through traffic.

The Brest-Moscow highway has a total of 87 bridges exceeding 20 feet in length. Fifty of these are designated as major bridges having a length greater than 100 feet. The remaining 37 may be considered as less significant and have a length of less than 100 feet. The aggregate length of all 87 bridges totals 13,371 feet. The major bridges average 221 feet in length, and the group of minor bridges averages 62 feet in length. The average length of all 87 structures is 153 feet. Structures less than 20 feet long which occur along the Brest-Moscow highway are mainly culverts and are omitted from this study.

Almost all of the 87 bridges are deck-type structures of reinforced concrete construction. Vertical clearances on all bridges are unrestricted except for one through truss bridge at Borisov. (No. 20 on the Indexed Bridge List.)

CONFIDENTIAL

CONFIDENTIAL

Characteristics of the major bridges are shown in the Indexed Bridge List, and their locations are indicated on the overlays which accompany the text of this study.

Locations of the 37 bridge structures which are less than 100 feet in length also are shown on the overlays, and their length in feet is shown by the numeral adjacent to the symbol indicating their location.

II. ROUTE SECTIONS

1. Brest-Kobrin

This section of the Brest-Moscow highway (48 km) exits Brest via city streets and follows a tangent line in an ENE direction to Kobrin, traversing marshy terrain in several areas between those cities. It has a high-type roadway with a bituminous surface and will support heavy traffic.

The Brest-Kobrin section crosses the Mukhavets River at a point approximately one-third of the distance between Brest and Kobrin (No. 1 on the Indexed Bridge List). Two additional major bridges (Nos. 2 and 3) and one minor bridge also occur on this section of the Brest-Moscow highway.

2. Kobrin-Baranovichi

This section of the Brest-Moscow highway (153 km) follows a tangent in a NE direction from Kobrin for a distance of 109 km to a point 2 km NE of the Shohara River crossing. At that point it joins the newly constructed highway which bypasses Baranovichi to the north and continues in a northeasterly direction to Minsk.

The Kobrin-Baranovichi section of the highway has the same high-type, bituminous-surfaced roadway that typifies other sections of the Brest-Moscow route. It traverses the northwest corner of the Pipet Marshes, and, for practically the entire distance from Kobrin to the point where it passes closest to Baranovichi, the adjacent terrain is low, swampy ground typical of the area.

The marshy nature of the terrain throughout this section restricts off-road movement in the vicinity of the drainage features. The water table in this area is high, and the ground surface is extremely boggy. This condition is responsible also for the high incidence of bridges occurring on this section of the highway. The 153 km of road from Kobrin to Baranovichi has a total of 15 bridges, 10 of which are of the major category.

3. Baranovichi-Minsk Bypass-Borisov

This section of the Brest-Moscow highway is 204 km in length, extending from a point opposite Baranovichi at its closest proximity to the town, to the center of the city of Borisov. From Baranovichi to its junction with the Minsk-Slutsk highway (a portion of the route presently

CONFIDENTIAL

CONFIDENTIAL

designated in Section 32, NIS 26, as Route 6), a distance of 132 km, this section is entirely newly constructed highway. Bypassing Baranovichi to the north, it continues toward Minsk on a course parallel to that of the Baranovichi-Minsk railroad. It skirts north of the towns of Stolpise and Negoreloye but passes through Dzerhinsk.

This newly constructed section is a high type highway with few curves, little gradient, and has a 30-foot-wide paved surface. For much of its length, it is constructed on fill borrowed along each side of the roadway.

From the point at which the newly constructed portion ends at its junction with the Minsk-Slutsk highway, the Baranovichi-Borisov section of the Brest-Moscow highway follows present NIS Route 6 through Minsk and on to Borisov.

The Baranovichi-Minsk-Borisov section can support heavy traffic, but off-road movement would be restricted by the borrow pits and borrow trenches along each side of the roadway of the newly constructed portion and by boggy terrain in the vicinity of the drainage features throughout the section. There are no known bottlenecks to impede traffic flow over the section except some city streets in Minsk.

The Baranovichi-Minsk-Borisov section contains 13 bridges, 6 of which are major bridges exceeding 100 feet in length (Nos. 14 thru 19, in the Indexed Bridge List). One of these bridges is the very important crossing of the Neman River at Stolpise (No. 15), which has an alternate crossing one-half mile to the south (No. 16).

A bypass is being constructed around the southwestern, southern, and southeastern edges of the city of Minsk. Beginning at the junction of the newly constructed section of the Brest-Moscow highway with the Minsk-Slutsk highway (NIS Route 6), where an interchange is being constructed, it follows an easterly course for a distance of 8 km and then turns NNE, crosses the Minsk-Cherven highway, and continues toward the Minsk-Borisov road.

This bypass will be a high type paved road 30 feet wide with easy grades. From the interchange with the Minsk-Slutsk highway to a point where the bypass turns NNE, grading and draining is completed. From this point northward to the Cherven highway, cutting, filling, and grading are in progress. The right-of-way has been cleared for a distance of one mile north of the Cherven highway. Present trace of the bypass indicates that it will continue in a NNE course and connect with the Minsk-Borisov road at a point well east of the outskirts of Minsk. Such a course, however, will pass through an extensive military reservation east of the city.

The bypass will necessitate the construction of several new bridges. One of these, an overpass over the Minsk-Baranovichi railroad, has been completed and is shown on Overlay No. 4. Two others are part of the interchange with the Minsk-Slutsk highway. One will cross a gully west of the Slutsk highway, and the other will provide the overpass over that highway. Both are presently under construction. Another overpass is

CONFIDENTIAL

CONFIDENTIAL

under construction at a point two km east of the Slutsk highway. This overpass will cross the Minsk-Bobruysk railroad. The approach fills for this bridge are nearing completion.

4. Borisov-Vyaz'ma

This section of the Brest-Moscow highway (385 km), like the portion from Baranovichi to Minsk, follows a course parallel to and north of the Brest-Moscow railroad. Only in the vicinity of and east of Smolensk is there any deviation in this respect; here the railroad curves away from the highway and follows a course more to the south.

This section skirts or bypasses virtually all urban areas along its course.

The road is of a high type construction, paved with asphalt, with the paved surface varying in width from 25 to 30 feet. There are few curves in this section, and gradients are gentle. Cuts, fills, and water crossings are numerous, however.

Information indicates that the foundation and drainage facilities for this section of the highway are not up to desirable standards. The amount of maintenance required for this section is probably much greater than for the other sections between Brest and Moscow. Stockpiles of crushed rock used in road repairs are quite common along the sides of the road throughout this section but have not been noted in appreciable quantity in other sections.

The shoulders of the road throughout this section are comparatively narrow and will support little traffic. Streams and bogs present the only obstacles to off-road movement, but they would restrict such movement to a lateral course.

Forty-two bridges occur throughout this section of the Brest-Moscow highway. Twenty-four of these are major bridges exceeding 100 feet in length. The most important of these is the 6-span, 615-foot-long bridge over the Dnepr River (No. 38 in the Indexed Bridge List). There is no alternate crossing in the immediate vicinity of this bridge.

5. Vyaz'ma-Moscow

This section of the Brest-Moscow highway (230 km) is of the same high type construction as the preceding sections of the route. The roadway widens to 45 feet over this section, but the paved surface remains 30 feet in width as in other sections. At the edge of the city of Moscow, the 30-foot pavement broadens to a wide city street.

This section of the Brest-Moscow highway is laid out predominately along a ridge-line and avoids the water crossings and drainage problems common to most of the remainder of the route. Off-road deployment would be easy throughout this section, and no bottlenecks are encountered along this section of the highway.

CONFIDENTIAL

CONFIDENTIAL

Thirteen bridges occur throughout this section. Seven of these are major structures exceeding 100 feet in length. (Nos. 44 thru 50 in the Indexed Bridge List).

III. INDEXED BRIDGE LIST

The following 2 pages contain an indexed list of the 50 bridges occurring throughout the Brest-Moscow highway that exceed 100 feet in length and may be considered major structures. Those bridges which are less than 100 feet long are shown on the overlays with their lengths stated in feet, but they are omitted from the Indexed Bridge List.

The Indexed Bridge List is keyed to the overlays, with the Index Number and the Overlay Number shown in the extreme left columns. The Indexed List includes other information concerning the bridges, and comments are listed under "REMARKS" when appropriate.

CONFIDENTIAL

Brest-Moscow Highway

INDEXED BRIDGE LIST

CONFIDENTIAL

INDEX NUMBER	OVERLAY NUMBER	CROSSING	TYPE	STRUCTURAL MATERIAL	DIMENSIONS	REMARKS
1	1	MUKHAVETS River	6-span, girder	steel	400'/500' long	A strategically important, 2-lane bridge situated 20 km from Brest.
2	2	OSIPOVA River		concrete	165' long	
3	2	TRUSTAYEVKA River	3-span	concrete	135' long	A strategically important bridge in the city of KORBIN.
4	2	MUKHAVETS River	5-span, girder	concrete	400' long	
5	2	MUKHAVETS River		concrete	155' long	The proximity of this bridge (Index No. 6) to the next listed bridge (Index No. 7) and the marshy nature of the surrounding terrain contribute to the strategic importance of these two bridges.
6	2	YASEL'DA River	3-span	concrete	270' long	(See remark next above).
7	2	East channel of the YASEL'DA River	3-span	steel	190' long	
8	2	ZHEGULYANKA River		concrete	135' long	This bridge site is surrounded by marshy terrain. Off-road movement to a temporary crossing site would be restricted.
9	2	Railroad	3-span	concrete	400' long	
10	2	GRIVDA River		concrete	400' long	Strategically important bridge surrounded by marshy terrain.
11	2	SHECHARA River		concrete	310' long, 2 lanes	
12	3	BARANOVICHI-VOLKOVYISK Railroad	deck	concrete	105' long, 2 lanes	Longest bridge between BREST and MOSCOW.
13	3	Marshy terrain	deck	concrete	1000' long, 2 lanes	
14	4	BARANOVICHI-VILNIUS Railroad	deck	concrete	104' long, 2 lanes	The water-gap at this crossing is 200 feet wide. This is the most strategic bridge between BARANOVICHI and MINSK.
15	4	EMAN River	deck	concrete	410' long, 30' wide	This bridge is on a road which provides an alternate route through STOLTSIE.
16	4	EMAN River	9-span, deck	concrete	500' long 2 spans 40' long 7 spans 60' long	
17	4	USSA River	deck	concrete	130' long, 2 lanes	Viaduct.
18	4	Railroad	deck	concrete	780' long, 50' wide	
19	4	SVISLOCH River	deck	concrete	250' long, 100' wide	This is a new bridge on realigned road through BORISOV. The single-lane bridge by which the former alignment crossed the BEREZINA River at BORISOV now can be used as an alternate crossing.
20	5	BEREZINA River	multispan, through truss, deck	concrete	750' long 2 principal spans each 160' long	New bridge on new road alignment. This bridge can be bypassed by using a ford on the secondary road through nearby NACHA.
21	5	SKHA River	through truss, deck	concrete	270' long, 40' wide	
22	5	Unnamed tributary of the BEREZINA River	deck	concrete	150' long, 30' wide	
23	5	Unnamed tributary of the BOBER River	deck	concrete	105' long, 30' wide	
24	5	BOBER River	deck	concrete	190' long, 30' wide	This is a new bridge on new road alignment which provides a bypass to the south of the city of BOBER.
25	5	Headwater tributary of the DEPT River	deck	concrete	102' long, 30' wide	
26	5	DEPT River	deck	concrete	130' long, 30' wide	
27	6	ADROY River	deck	concrete	190' long, 30' wide	
28	6	Tributary of the DNEPR River	deck	concrete	140' long, 30' wide	
29	6	Tributary of the DNEPR River	deck	concrete	150' long, 30' wide	
30	6	Minor tributary of the DNEPR River	deck	concrete	130' long, 30' wide	
31	6	BEREZINA River	deck	concrete	130' long	

CONFIDENTIAL

CONFIDENTIAL

Brest-Moscow Highway

INDEXED BRIDGE LISTS

CONFIDENTIAL

INDEX NUMBER	OVERLAY NUMBER	CROSSING	TYPE	STRUCTURAL MATERIAL	DIMENSIONS	REMARKS
32	6	Feeder stream of OZERO KUPRINO	deck	concrete	150' long	
33	8	KIMOST' River	5-span, deck	concrete	220' long	
34	8	Tributary of the VOP River	deck	concrete	100' long	
35	8	Headwater tributary of the VOP River	3-span, deck	concrete	1 span, 240' long 1 span, 150' long 1 span, 110' long	
36	8	VOPETS River	3-span, deck	concrete	Each span 45' long	
37	8	VERCHA River	3-span, deck	concrete	Each span 50' long	
38	8	DNEPR River	6-span, deck	concrete	1 approach span is 105' in length Other approach span is 130' in length Intervening spans are 95' long. Total - 615'	This is a strategically important bridge over a major water-barrier with no adjacent alternate crossings.
39	8	DYMA River	2-span, deck	concrete	110' long	
40	9	NOVOSELEKA River	deck	concrete	130' long, 45' wide	
41	9	VYAZ'NA River	deck	concrete	160' long, 2 lanes	
42	9	Low, marshy terrain	deck	concrete	380' long, 2 lanes	
43	9	BEREA River	deck	concrete	120' long, 2 lanes	
44	9	North branch of the VYAZ'NA River	deck	concrete	175' long, 2 lanes	
45	9	VYAZ'NA-SYCHEVKA Railroad	deck overpass	concrete	100' long, 2 lanes	
46	9	VYAZ'NA-MOSCOW Railroad	deck overpass	concrete	100' long, 2 lanes	
47	9	West fork tributary of the GZHAT' River	deck	concrete	140' long, 2 lanes	
48	10	Railroad in city of KUBINKA	deck overpass	concrete	130' long, 2 lanes	
49	10	Railroad in MOSCOW	deck overpass	concrete	160' long, 90' wide	
50	10	MOSCOW River in MOSCOW	deck, arch	masonry	455' long, 115' wide	

CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

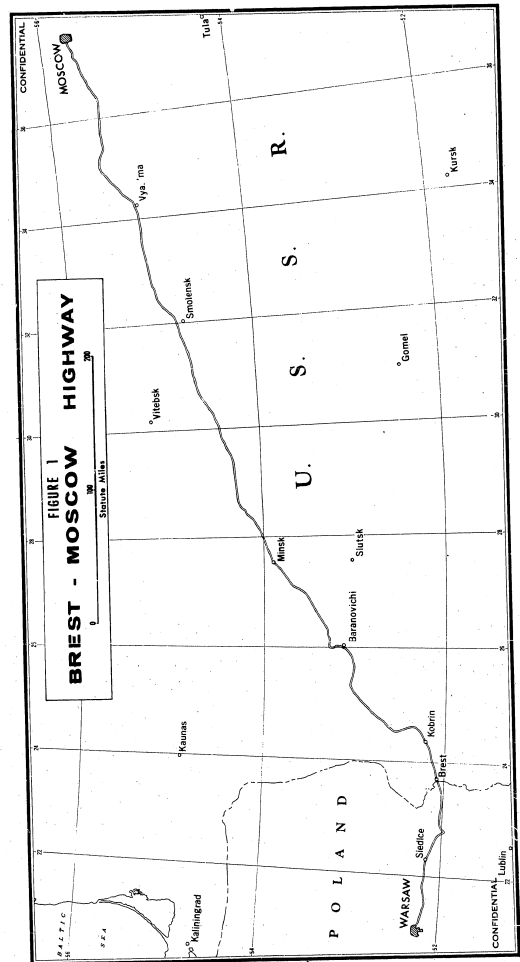
IV. RECOMMENDATIONS

The highway from Brest to Moscow via Kobrin-Slutsk-Minsk-Vyas'ma is designated in the current Section 32, NIS 26, as NIS Selected Route No. 6. The distance from Brest to Moscow via this route is 1,118 km (695 miles).

The newly completed highway, between Minsk and its junction with the Kobrin-Slutsk section of NIS Route 6 at a point approximately 5 miles NE of the Shohara River crossing, shortens this distance considerably and provides a better and more direct route between Brest and Moscow by eliminating the deviation eastward to Slutsk thence northward to Minsk.

It is recommended that the forthcoming maintenance edition of Section 32, NIS 26, reflect this shortened and improved route from Brest to Moscow and that it be designated as NIS Selected Route No. 6. The portions of present NIS Route No. 6 between Slutsk and Minsk and between Slutsk and its junction with the newly completed highway can either be redesignated or omitted from the NIS Selected Routes, according to the needs of the NIS.

CONFIDENTIAL



CONFIDENTIAL

CONFIDENTIAL

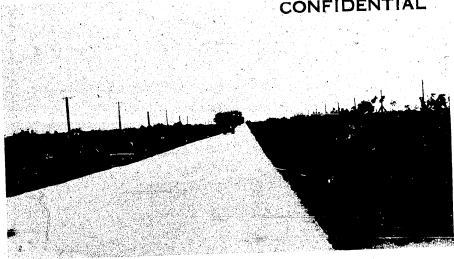
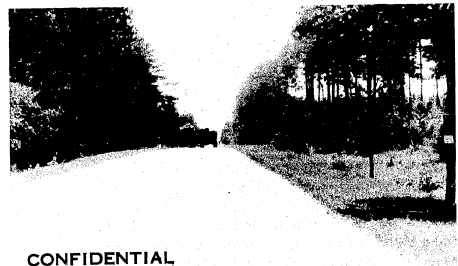


FIG 2. View of section of the Brest - Moscow highway. Looking SW toward Kobrin from a point 4 miles SW of the SHCHARA River crossing. (C)

CONFIDENTIAL

CONFIDENTIAL



CONFIDENTIAL

FIG 3. View of section of the Brest - Moscow highway. Looking SW from a point 3 miles NE of the SHCHARA River crossing. (C)

CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

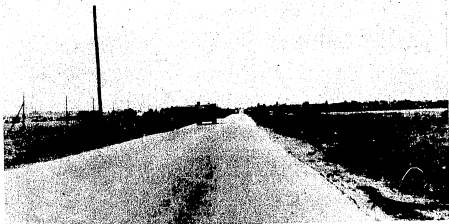


FIG 4. View of section of the Brest - Moscow highway. Looking SW along the newly-constructed road from a point between the Minsk By-pass and Dzerhinsk. (C)

CONFIDENTIAL

CONFIDENTIAL



FIG 5. View of the newly-constructed section of the Brest-Moscow highway. Looking SW from a point 2 miles West of the interchange with the Minsk-Slutsk highway. (C)

CONFIDENTIAL

CONFIDENTIAL

CONFIDENTIAL

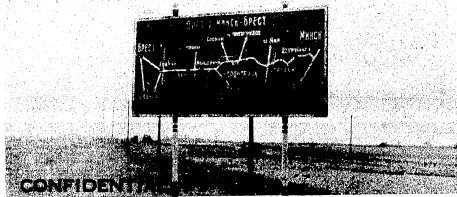


FIG 6. Roadside guide map along the newly constructed section of the Brest-Moscow highway. Looking SW from a point 5 miles SW of Baranovich. (C)

CONFIDENTIAL

CONFIDENTIAL

PROJECT NO. A 412

CHARACTERISTICS OF THE BREST-MOSCOW HIGHWAY - U. S. S. R. (U)

OVERLAY REFERENCE TABLE

EASTERN EUROPE 1:250,000

AMS Series N501

<u>Overlay Number</u>	<u>Sheet Number</u>	<u>City</u>
1	NN 34-12	BREST
2	NN 35-10	KOBRIN
3	NN 35-7	LIDA
4	NN 35-8	MINSK
5	NN 35-6	BORISOV
6	NN 36-4	ORSHA
7	NN 36-5	SMOLENSK
8	NN 36-2	BELY
9	NN 36-3	VYAZ'MA
10	NN 37-1	MOSCOW

CONFIDENTIAL

CONFIDENTIAL

OVERLAY NUMBER 1
1:250,000

— EXISTING HIGHWAY

- - - HIGHWAY UNDER CONSTRUCTION

BRIDGES:

70' ● 20 ft to 100 ft (Number Denotes Length in feet)

31 ■ 100 ft to 250 ft (Number Denotes Bridge List Index)

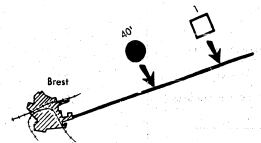
18 □ Longer than 250 ft (Number Denotes Bridge List Index)

- - - RAILROAD (For Orientation)

URBAN AREA (For Orientation)

NOTE 1: Stream Crossings on Base Map Not Shown on Overlay are Culverts (Less than 20 feet)

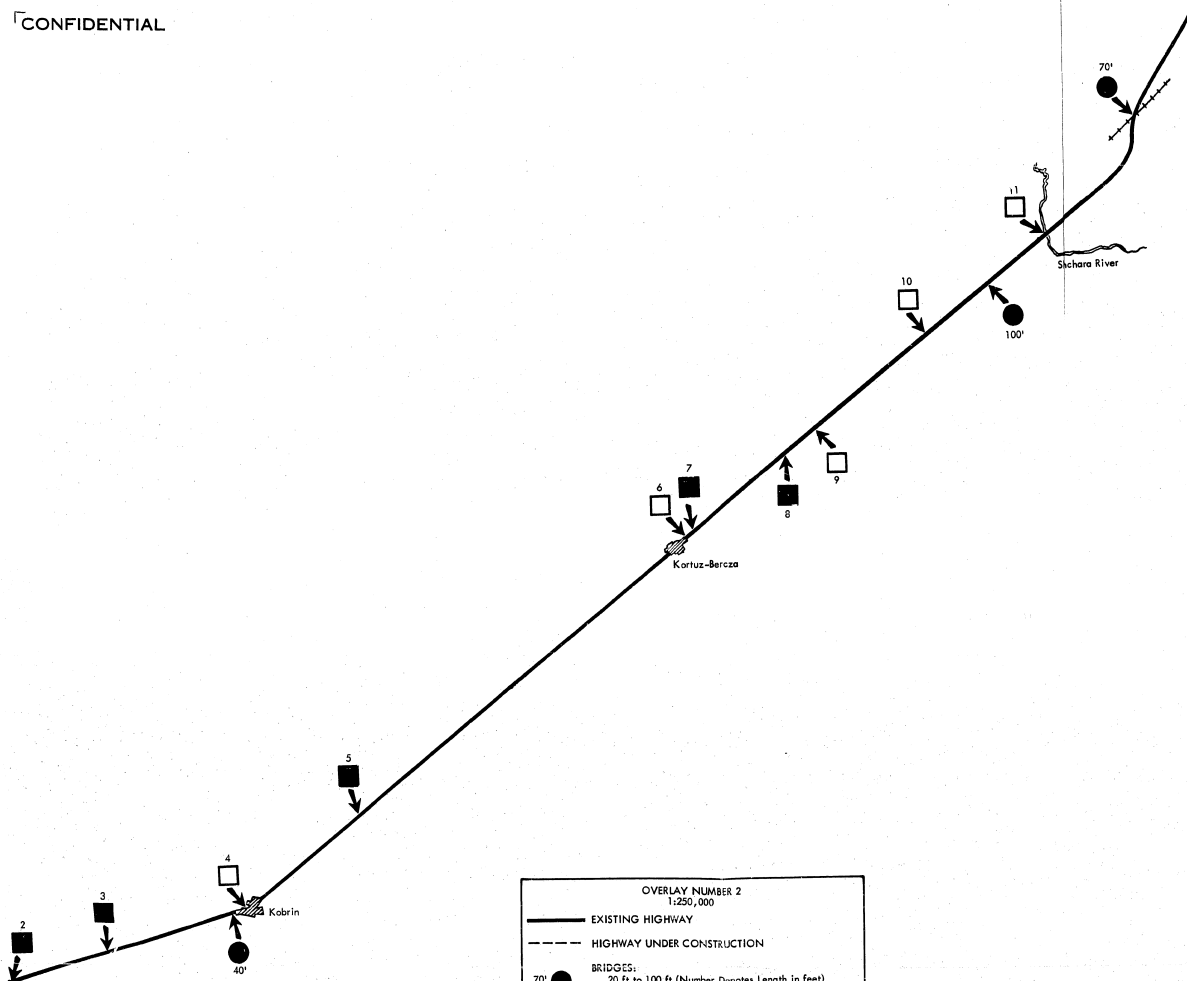
NOTE 2: Railroad Crossings on Base Map Not Shown on Overlay are Grade Crossings



AMS Series N501
Sheet No. NN 34-12

CONFIDENTIAL

CONFIDENTIAL



OVERLAY NUMBER 2
1:250,000

— EXISTING HIGHWAY
 - - - HIGHWAY UNDER CONSTRUCTION

BRIDGES:
 70' ● 20 ft to 100 ft (Number Denotes Length in feet)
 31 ■ 100 ft to 250 ft (Number Denotes Bridge List Index)
 18 □ Longer than 250 ft (Number Denotes Bridge List Index)

- - - RAILROAD (For Orientation)
 ▨ URBAN AREA (For Orientation)

NOTE 1: Stream Crossings on Base Map Not Shown on Overlay are Culverts (Less than 20 ft)
 NOTE 2: Railroad Crossings on Base Map Not Shown on Overlay are Grade Crossings

AMS Series N501
Sheet No. NN 35-10

CONFIDENTIAL

CONFIDENTIAL

OVERLAY NUMBER 3
1:250,000

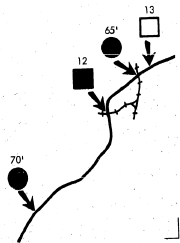
— EXISTING HIGHWAY
- - - HIGHWAY UNDER CONSTRUCTION

BRIDGES:

70' ● 20 ft to 100 ft (Number Denotes Length in feet)
31 ■ 100 ft to 250 ft (Number Denotes Bridge List Index)
18 □ Longer than 250 ft (Number Denotes Bridge List Index)

—+—+—+—+—+ RAILROAD (For Orientation)
URBAN AREA (For Orientation)

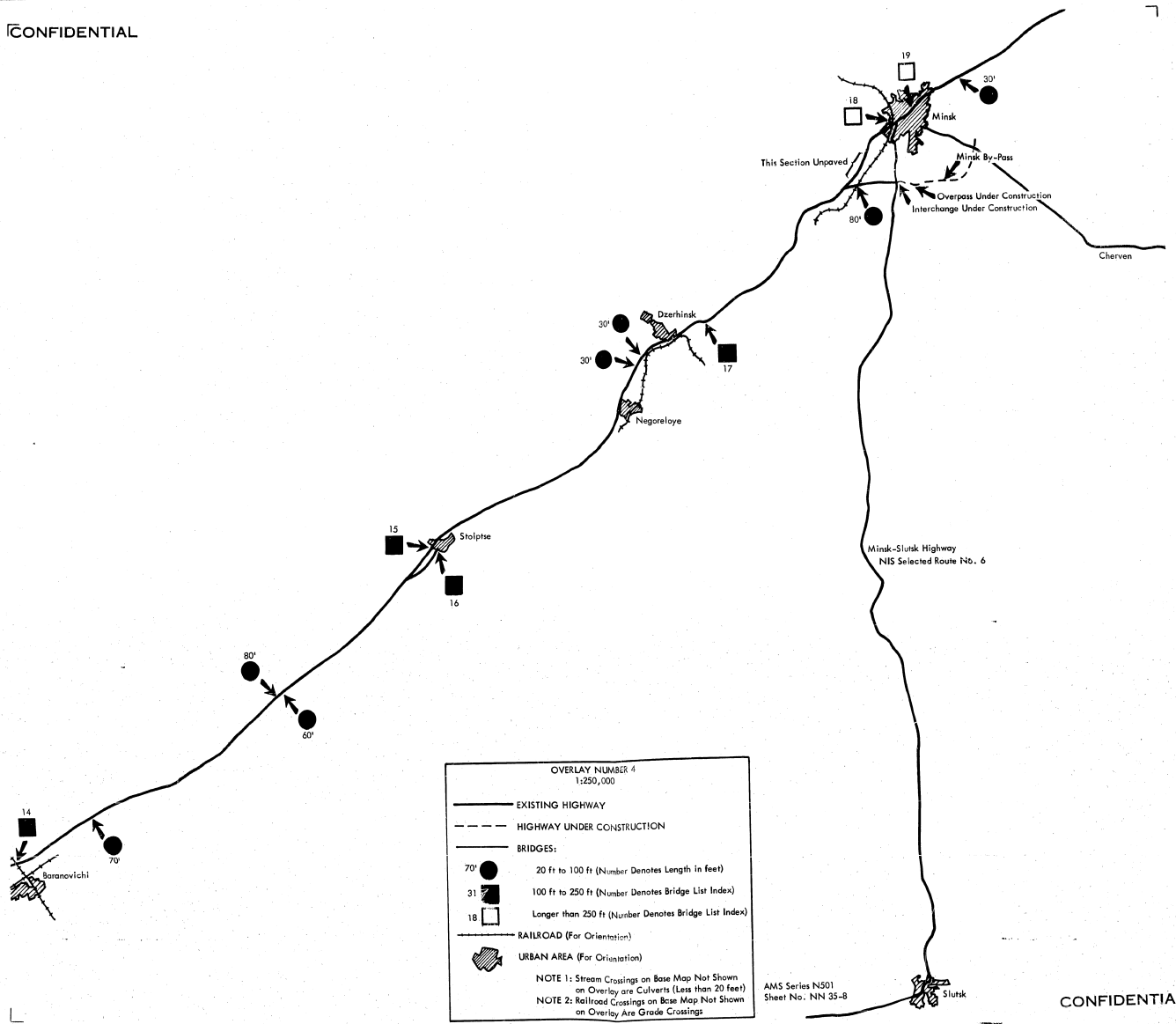
NOTE 1: Stream Crossings on Base Map Not Shown on Overlay are Culverts (Less than 20 feet)
NOTE 2: Railroad Crossings on Base Map Not Shown on Overlay are Grade Crossings



CONFIDENTIAL

AMS Series NS01
Sheet No. NN 35-7

CONFIDENTIAL



OVERLAY NUMBER 4
1:250,000

— EXISTING HIGHWAY
- - - HIGHWAY UNDER CONSTRUCTION

BRIDGES:

70 ● 20 ft to 100 ft (Number Denotes Length in feet)
31 ◐ 100 ft to 250 ft (Number Denotes Bridge List Index)
18 ◑ Longer than 250 ft (Number Denotes Bridge List Index)

- - - RAILROAD (For Orientation)
▨ URBAN AREA (For Orientation)

NOTE 1: Stream Crossings on Base Map Not Shown on Overlay are Culverts (Less than 20 feet)
NOTE 2: Railroad Crossings on Base Map Not Shown on Overlay are Grade Crossings

AMS Series N501
Sheet No. NN 35-8

CONFIDENTIAL

CONFIDENTIAL

OVERLAY NUMBER 5
1:250,000

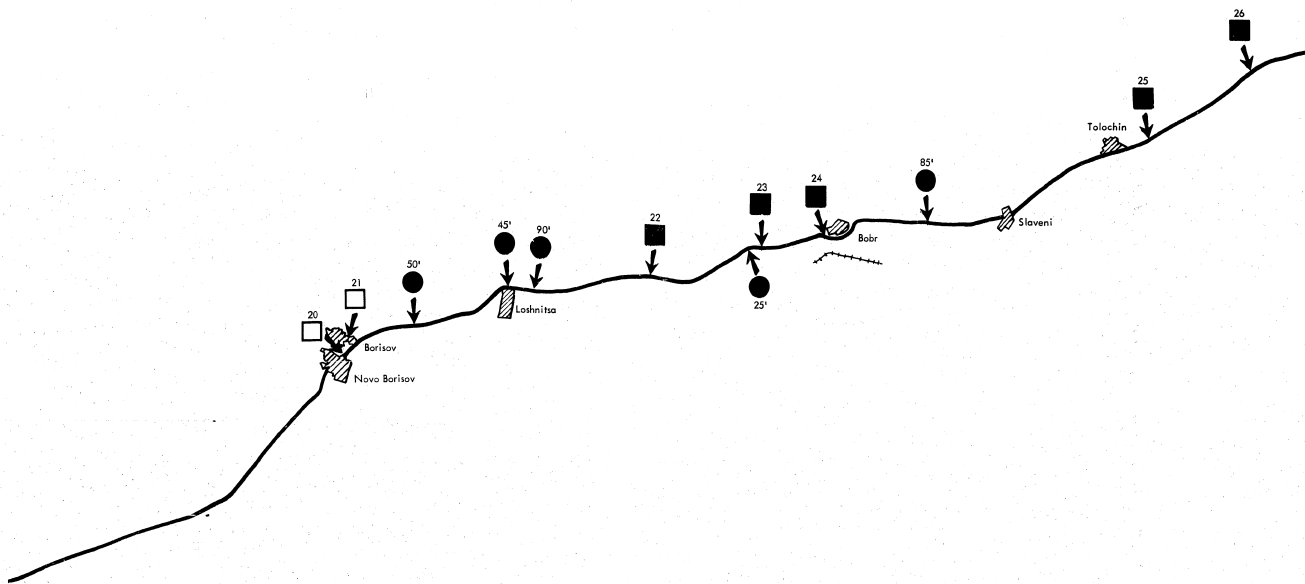
— EXISTING HIGHWAY
- - - HIGHWAY UNDER CONSTRUCTION

BRIDGES:
70' ● 20 ft to 100 ft (Number Denotes Length in feet)
31 ■ 100 ft to 250 ft (Number Denotes Bridge List Index)
18 □ Longer than 250 ft (Number Denotes Bridge List Index)

— RAILROAD (For Orientation)
▨ URBAN AREA (For Orientation)

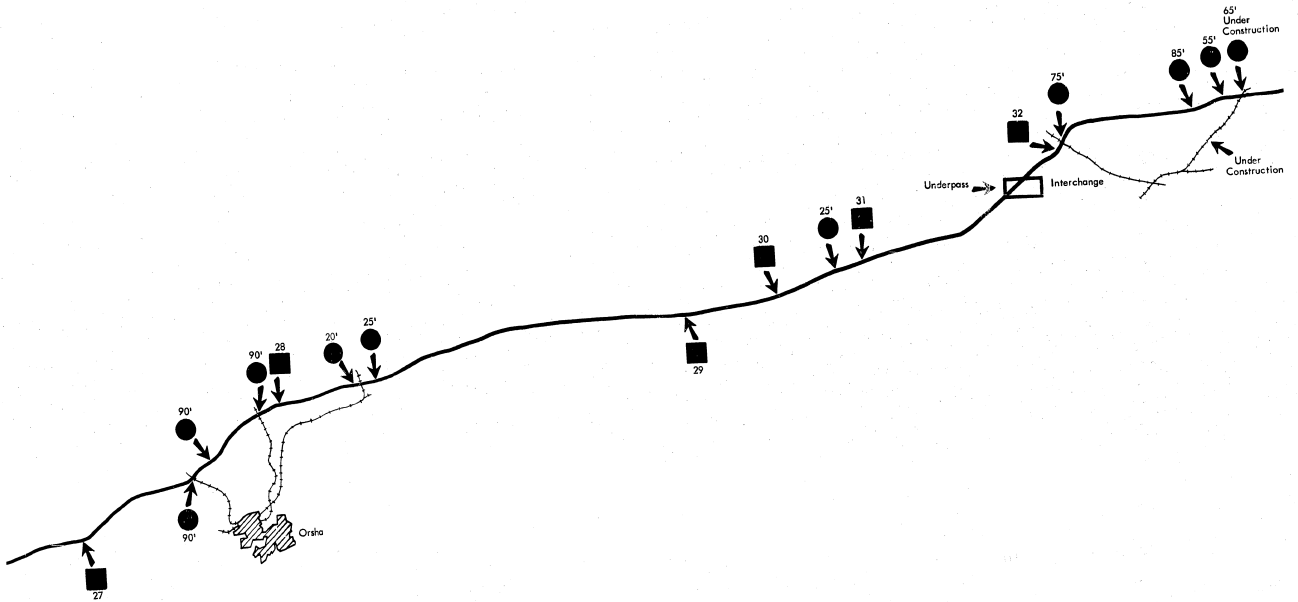
NOTE 1: Stream Crossings on Base Map Not Shown on Overlay Are Culverts (Less than 20 feet)
NOTE 2: Railroad Crossings on Base Map Not Shown on Overlay Are Grade Crossings

AMS Series N501
Sheet No. NN 35-6



CONFIDENTIAL

CONFIDENTIAL



OVERLAY NUMBER 6
1:250,000

— EXISTING HIGHWAY
- - - HIGHWAY UNDER CONSTRUCTION

BRIDGES:

70' ● 20 ft to 100 ft (Number Denotes Length in feet)
31 ■ 100 ft to 250 ft (Number Denotes Bridge List Index)
18 □ Longer than 250 ft (Number Denotes Bridge List Index)

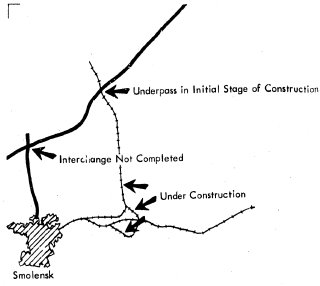
— RAILROAD (For Orientation)
▨ URBAN AREA (For Orientation)

NOTE 1: Stream Crossings on Base Map Not Shown on Overlay Are Culverts (Less than 20 feet)
NOTE 2: Railroad Crossings on Base Map Not Shown on Overlay Are Grade Crossings

AMS Series NS01
Sheet No. NN 36-4

CONFIDENTIAL

CONFIDENTIAL



OVERLAY NUMBER 7
1:250,000

————— EXISTING HIGHWAY
- - - - - HIGHWAY UNDER CONSTRUCTION

BRIDGES:

70' ● 20 ft to 100 ft (Number Denotes Length in feet)
31 ■ 100 ft to 250 ft (Number Denotes Bridge List Index)
18 □ Longer than 250 ft (Number Denotes Bridge List Index)

----- RAILROAD (For Orientation)
▨ URBAN AREA (For Orientation)

NOTE 1: Stream Crossings on Base Map Not Shown on Overlay Are Culve (Less than 20 feet)
NOTE 2: Railroad Crossings on Base Map Not Shown on Overlay Are Grade Crossings

CONFIDENTIAL

AMS Series NS01
Sheet No. NN 36-5

CONFIDENTIAL

OVERLAY NUMBER 8
1:250,000

— EXISTING HIGHWAY
- - - HIGHWAY UNDER CONSTRUCTION

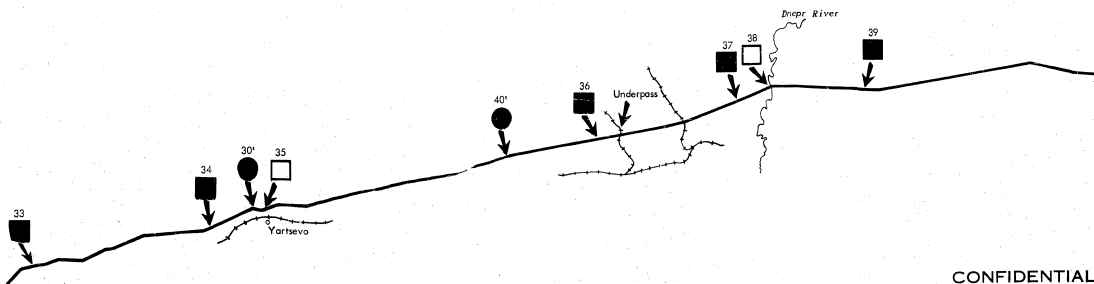
BRIDGES:

70' ● 20 ft to 100 ft (Number Denotes Length in feet)
31 □ 100 ft to 250 ft (Number Denotes Bridge List Index)
18 ■ Longer than 250 ft (Number Denotes Bridge List Index)

RAILROAD (For Orientation)
URBAN AREA (For Orientation)

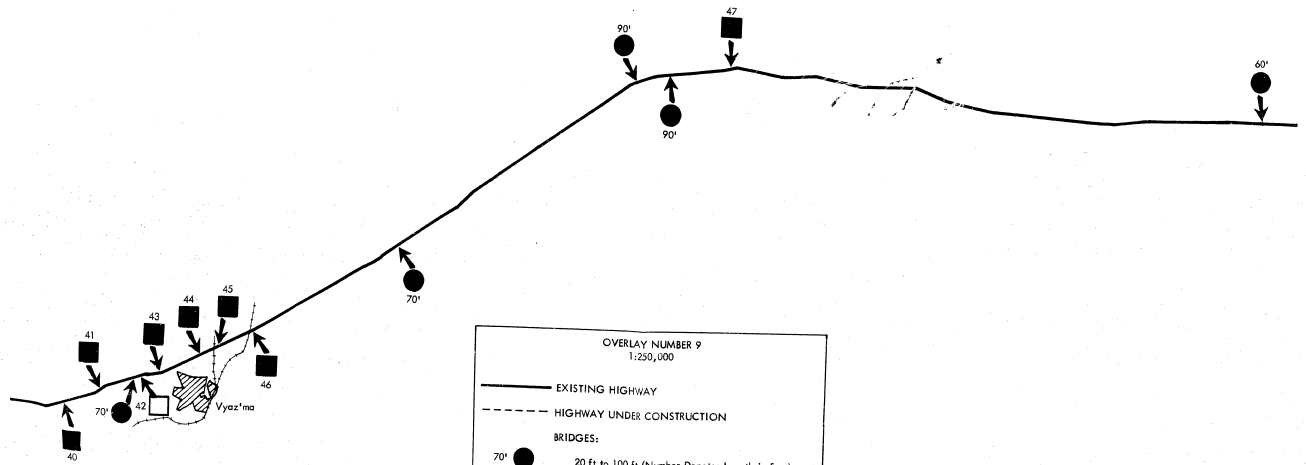
NOTE 1: Stream Crossings on Base Map Not Shown
on Overlay Are Culverts (Less than 20 Feet)
NOTE 2: Railroad Crossings on Base Map Not Shown
on Overlay Are Grade Crossings

AMS Series NS01
Sheet No. NN 36-2



CONFIDENTIAL

CONFIDENTIAL



OVERLAY NUMBER 9
1:250,000

— EXISTING HIGHWAY
- - - HIGHWAY UNDER CONSTRUCTION

BRIDGES:

70' ● 20 ft to 100 ft (Number Denotes Length in feet)
31' ■ 100 ft to 250 ft (Number Denotes Bridge List Index)
18' □ Longer than 250 ft (Number Denotes Bridge List Index)

- - - RAILROAD (For Orientation)

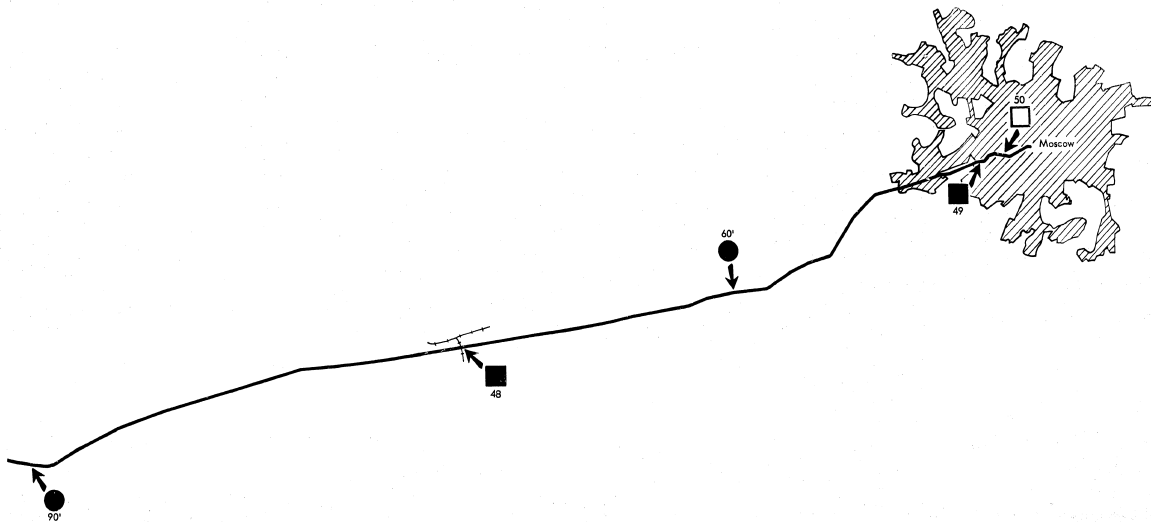
URBAN AREA (For Orientation)

NOTE 1: Stream Crossings on Base Map Not Shown on Overlay Are Culverts (Less than 20 feet)
NOTE 2: Railroad Crossings on Base Map Not Shown on Overlay Are Grade Crossings

AMS Series NS01
Sheet No. NN 36-3

CONFIDENTIAL

CONFIDENTIAL



OVERLAY NUMBER 10
1:250,000

— EXISTING HIGHWAY
- - - HIGHWAY UNDER CONSTRUCTION

BRIDGES:

70 ● 20 ft to 100 ft (Number Denotes Length in feet)
48 ■ 100 ft to 250 ft (Number Denotes Bridge List Index)
50 □ Longer than 250 ft (Number Denotes Bridge List Index)

RAILROAD (FOR Orientation)
URBAN AREA (For Orientation)

NOTE 1: Stream Crossings on Base Map Not Shown on Overlay Are Culverts (Less than 20 feet)
NOTE 2: Railroad Crossings on Base Map Not Shown on Overlay Are Grade Crossings

AMS Series N501
Sheet No. NN 37-1

CONFIDENTIAL

50X1-HUM

Page Denied