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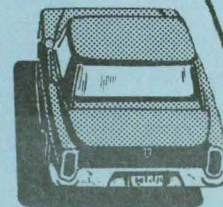
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# PLANNING REPORT

U.S. 69  
IN POLK COUNTY  
FROM INTERSTATE 80  
NORTH TO IOWA 160

OCTOBER 1969

IOWA STATE HIGHWAY COMMISSION



17-H53PP  
9:Un48



17-H53PP  
9: UN48

# **ROUTE LOCATION STUDY**

**OF**

**U. S. 69**

**IN**

**POLK COUNTY**

**INTERSTATE 80 NORTH TO IOWA 160**

**OCTOBER 1969 REPORT**



This report has been compiled by the

**PROJECT PLANNING SECTION**

of the

**PLANNING AND PROGRAMMING DEPARTMENT**

within the

**DIVISION OF PLANNING  
IOWA STATE HIGHWAY COMMISSION**

in cooperation with the

**UNITED STATES DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION  
BUREAU OF PUBLIC ROADS**



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## FOREWORD

At the turn of the century with the appearance of the horseless carriage it became apparent that through routes had to be charted and marked so that motorists could traverse strange country easily. For this purpose private associations were formed and were required to register each highway name with the Highway Commission. Establishments along a route would pay dues to the association, and in turn the association would map, sign, and advertise the route. While the names of these routes and their identifying road markers were replaced with route numbers almost a half century ago, some route names are still well known today. Some of these are the Lincoln Highway and the River to River Road.

By 1912, present U.S. 69 was known as the

Des Moines, Kansas City and St. Joseph Interstate Trail south of Des Moines. North of Des Moines it was known as the Des Moines, Mason City and Minneapolis Highway. In the late teens and early 1920's, it was called the Jefferson Highway extending from New Orleans, Louisiana, to Winnipeg, Canada.

As route numbers replaced highway names in the early 1920's, present U.S. 69 became #1 south of Des Moines. North of Des Moines #1 and #15 followed present U.S. 69 to U.S. 30. By 1930, #1 and #15 north of Des Moines had been changed to U.S. 65. In the mid 1930's, U.S. 69 and U.S. 65 shared duplicate route numbers from Indianola north through Des Moines to Ames. In the early 1940's, the diagonal highway northeast of Des



Moines became U.S. 65, and the route north of Des Moines was numbered as it is still known today - U.S. 69.

To provide a safe and fast transportation system for the movement of people and goods between the urban centers of the States, the National System of Interstate and Defense Highways was developed in 1956. Iowa was allotted a 710 mile portion of the original 41,000 miles. In 1968 Iowa was allocated an additional 74 miles of Interstate Highways.

To meet the needs created by the constantly increasing transportation demand, the Iowa State Highway Commission in November, 1965, adopted a program to construct 760 miles of Freeway during the 15 year period following the completion of

the Interstate System. In February, 1968, the proposed Freeway System was further supplemented by the addition of the Expressway System. Figure 1 shows the relationship of U.S. 69 in Polk County to the Interstate and Freeway-Expressway Systems.

Today, U.S. 69 begins in Port Arthur, Texas, and extends through Iowa to Albert Lea, Minnesota. North of Des Moines it is a minor arterial route, also providing local service to the communities of Carney, Ankeny, Alleman, Huxley, and Kelley.

With the increased industrial and population growth along U.S. 69, there has been a corresponding increase in the traffic flow. A modern and efficient highway must be provided for the commuter, as well as for the movement of goods to and from the industrial sites.

# IOWA'S PROPOSED NETWORK OF FREEWAYS AND EXPRESSWAYS

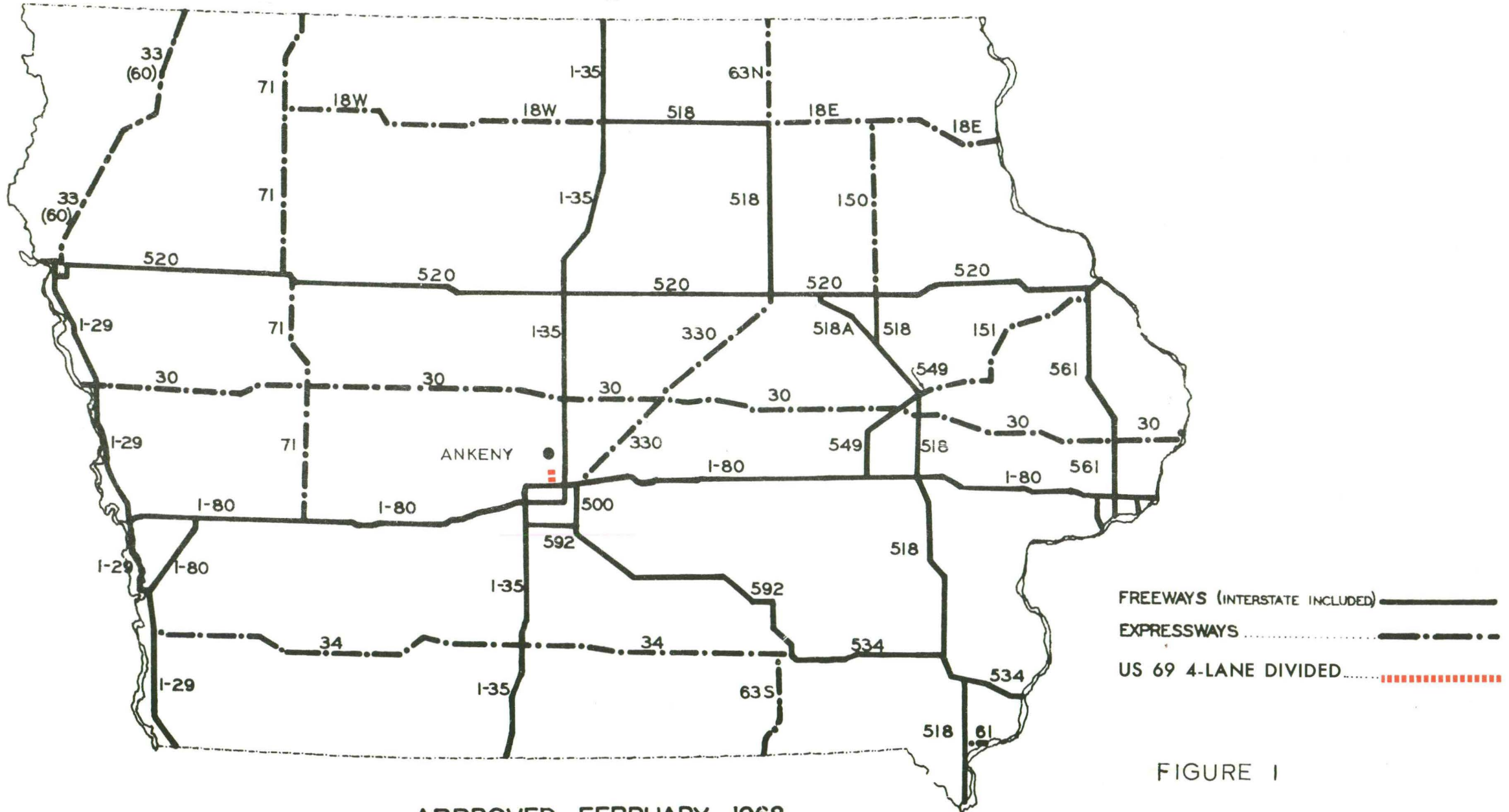
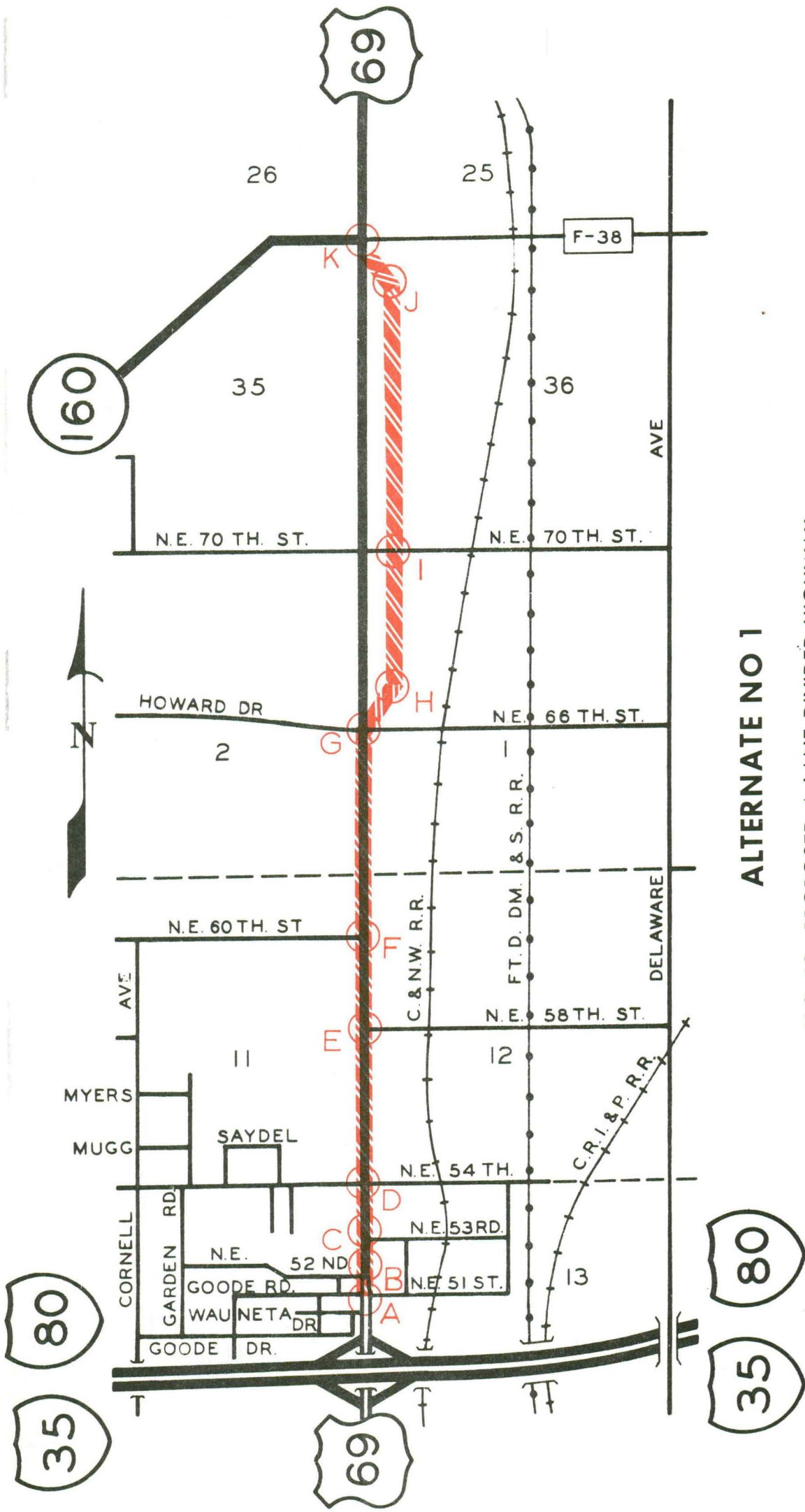


FIGURE 1



**ALTERNATE NO 1**

U.S. 69—PROPOSED 4-LANE DIVIDED HIGHWAY

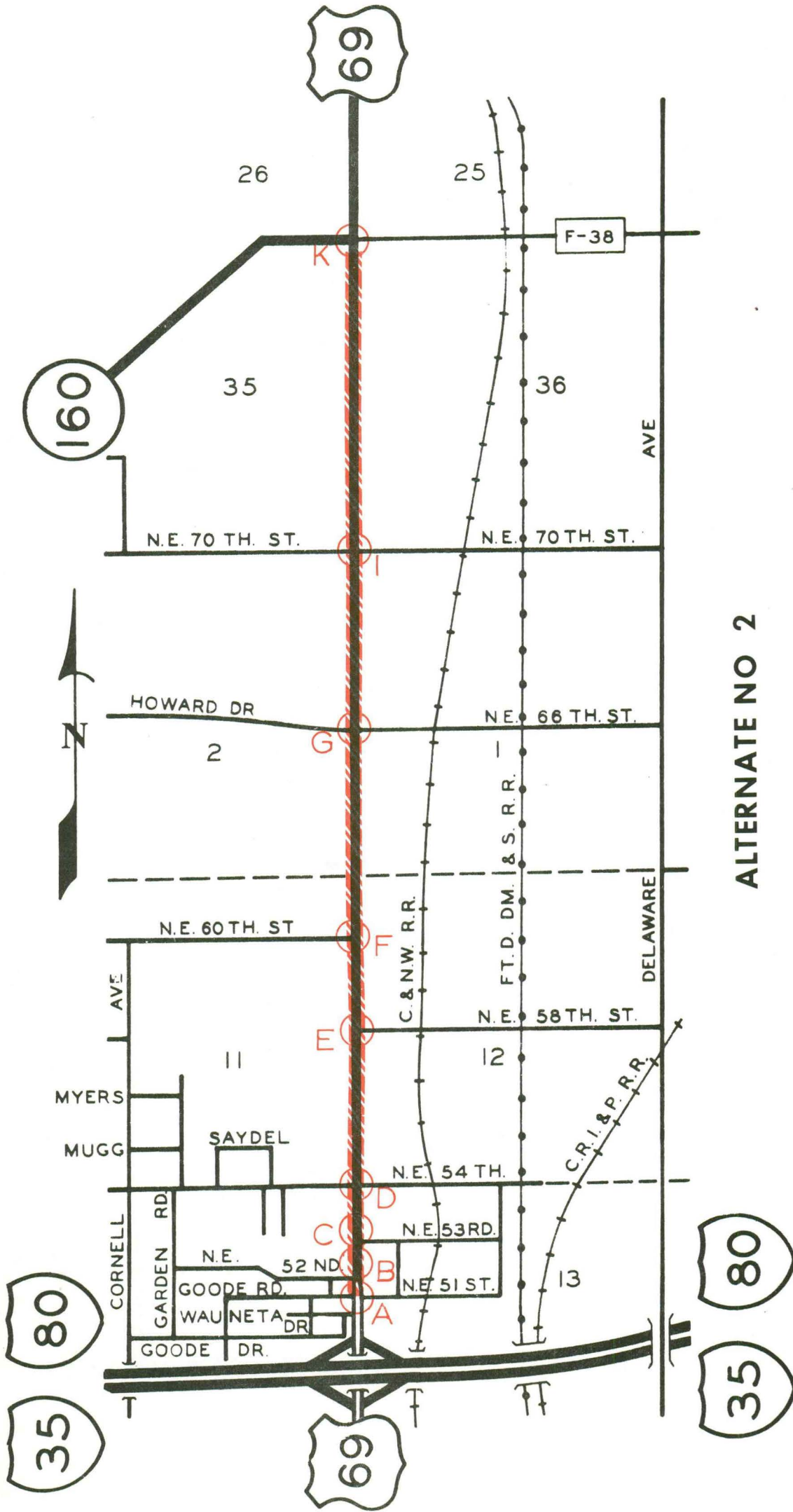
 WITH CARNEY BY PASS

 Vehicular Turning Points

FIGURE 2

(See Tables 3-14 For Traffic Counts)





**ALTERNATE NO 2**

U.S. 69—PROPOSED 4-LANE DIVIDED HIGHWAY

 ON PRESENT ALIGNMENT

 Vehicular Turning Points

FIGURE 3

(See Tables 3-14 For Traffic Counts)

## STUDY AREA

The vertical and horizontal alignment of U.S. 69 in the study area remain essentially as originally constructed and paved in 1920. The 18 ft. paving was widened to 24 ft. and resurfaced in 1948. Since most of the horizontal and vertical alignment through the gently rolling terrain in the study area meet present design standards, the existing paving will be incorporated into the four lane improvement concept. As the residential and industrial development increased through the years in Ankeny and Des Moines, so did the traffic on U.S. 69 connecting these two cities. Much of the land along U.S. 69 north of I-80 that was agricultural twenty years ago, has been developed into commercial, light industrial, and some residential uses.

The development accelerated in 1960 just after I-80 was opened around Des Moines to U.S. 69. An industrial park was platted and development started northeast of the I-80 and U.S. 69 interchange. Motels, restaurants, and service stations began to appear along the west side of U.S. 69 north of I-80. Development in the industrial park has intensified in the past three to four years. The aerial photographs shown at the end of this report were flown in the spring of 1965. At that time grading had just begun on some of the now established businesses, while no visible signs were even available for others that are now operating. Land along U.S. 69 from I-80 north to the Polk County Home is zoned light industrial to the east of U.S. 69 and com-

mercial to the west with a few parcels of residential mixed in on the west. North of the Polk County Home land and zoning varies with commercial, residential and some agricultural.

Existing land use in the study area indicates that much of the light industrial and commercial zoned land north of the industrial park is still being used for agricultural purposes. Some of these agricultural areas are posted for sale by real estate companies with the area zoning a prominent part of the sign. There also exists several undeveloped areas in the industrial park. Presumably, these areas will develop and add to the increasing traffic on U.S. 69.

Access to U.S. 69 has been provided for

existing property. This has generally been a direct connection between U.S. 69 and the property being served. The area immediately north of I-80 and the industrial park is served by frontage road and local street connections.

In Iowa, a numerical system of rating the adequacy of primary roads has been developed. This numerical system is called a sufficiency study. The purpose of the study is to measure the adequacy of a particular primary road section in its proper perspective with all other primary road sections in the state. Three basic factors enter into the establishment of a sufficiency rating on a section of road, structural adequacy, safety and service. The ratings are then adjusted for the amount of traffic on the road and for



variation along the entire route to obtain the final sufficiency rating. The number 100 is used to represent maximum sufficiency on a road section. On U.S. 69 the structural adequacy is rated 15 points, safety 20 points, service 20 points, with a total basic sufficiency rating of 55 points out of a possible 100 points. This basic rating is further adjusted to consider traffic volumes and continuity. The final sufficiency rating index for U.S. 69 in the study area is 28. This places this section of road in the critical classification group. This critical classification is readily apparent to motorists using U.S. 69 immediately beyond the study area where, both in Ankeny and from I-80 south to Des Moines, four lane paving has

been constructed providing a final sufficiency index of 100.

U.S. 69 from I-80 north to Iowa 160 passes through two community school districts, Saylor Community School District to the south and Ankeny Community School District to the north. The improvement of U.S. 69 in no way will affect the boundaries of the two community school districts.

The establishment of Iowa Area Vocational Schools and Area Community Colleges throughout the State provides normal pre-profession and undergraduate courses as well as vocational training programs. The districts are established with the school so located that it is within commuting distance of all areas in the

district. Polk County is in District XI with the Area Community College located in Section 26-T80N-R24W, approximately 1 mile south of Ankeny. The improvement of U.S. 69 will provide a modern four lane north-south connection for area commuters from Des Moines.

The number of accidents for the past five years in the project area on U.S. 69 from north of Interstate I-35 and I-80 Interchange, northerly to near Jct. of Iowa 160, south of Ankeny, appear in the following table. According to accident reports, 137 accidents have occurred in the study area. Nine of these were fatalities, fifty-one were personal injury and seventy-seven were listed as property damage accidents. Approximately 35% of the accidents were caused by ve-

hicles stopping on the highway for left turns and being struck from behind or turning in front of on-coming traffic. An improvement to four traffic lanes and left turn storage lanes should make a significant reduction in these types of accidents.

Estimated traffic on U.S. 69 is shown on Table 2 and turning movements in Tables 3 through 14. Considerations on which these estimates were based are listed on the tables. Turning points A through K are shown on Figures 2 and 3. These lettered locations correspond to the letters listed on Tables 3 through 14. These traffic estimates and turning movements were developed from information gathered in the "Ankeny Origin and Destination Traffic Report-Fall of 1966" and

special counts taken in January 1969 at NE 52nd Avenue, NE 53rd Avenue, NE 54th Avenue, NE 58th Avenue, NE 60th Avenue, NE 66th Avenue, NE 70th Avenue, and Iowa 160 and in February 1969 at NE 50th Place and NE 51st Avenue.

Examination of traffic volumes since 1962 indicate I-35 has had a significant impact on U.S. 69 traffic in the study area. In 1962 the average daily traffic on U.S. 69 was 6900. This increased to 8100 vehicles per day in 1965. With the opening of I-35 from Des Moines to Ames on November 11, 1965, and from Ames to U.S. 20 on December 6, 1967, resulted in the average daily traffic decreasing to 6400 vehicles per day. This decrease reflects the removal of external trips from U.S. 69 that are now using

I-35. Internal and external local trips are estimated to continually increase as shown in the estimated 1971 and 1991 ADT volumes listed in Table 2.

Aside from the continuing commercial and industrial growth along U.S. 69, another major contributing factor to traffic volume growth is the increasing population of Ankeny. Until the Federal Government in 1940 established the ordinance plant at Ankeny, the town had a population of less than 1000 people. Due to the establishment of the plant, Ankeny experienced a rapid population growth. This growth continued after 1947 when John Deere Company purchased the ordinance plant site. Census figures indicate Ankeny has nearly doubled in population in the



five year period from 1960 to 1965.

Some of this increased population is adding to the higher volumes of commuter traffic on U.S. 69 in the study area. This commuter traffic causes two peak hour volumes on U.S. 69. An early morning peak from 7 AM to 8 AM and an afternoon peak from 4 PM to 6 PM.

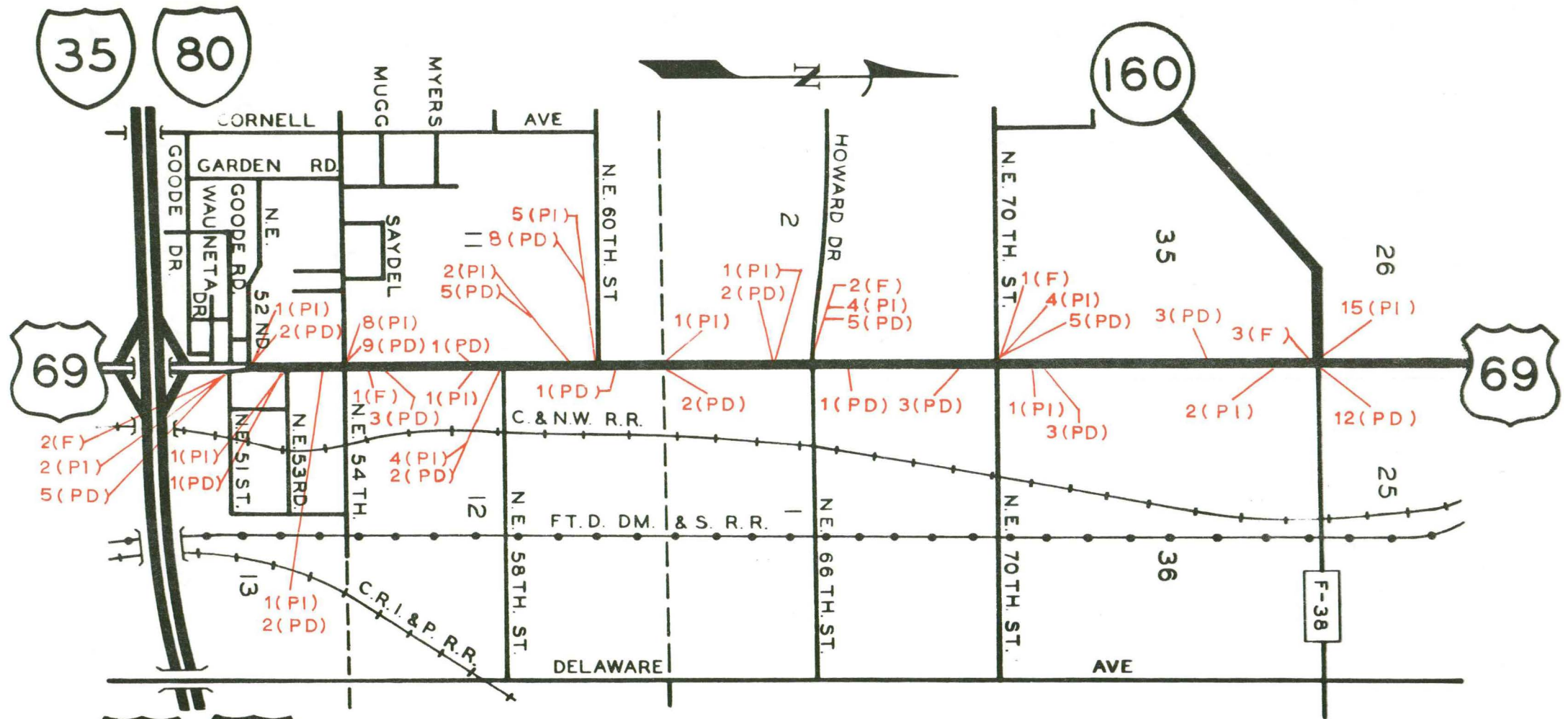
# REPORTABLE ACCIDENTS

On U.S. 69

From N.E. 51 St. North to Iowa 160

YEAR	FATAL ACCIDENTS	PERSONAL INJURY ACCIDENTS	PROPERTY DAMAGE ACCIDENTS	TOTAL
1968	4	4	20	28
1967	0	10	24	34
1966	1	12	8	21
1965	1	3	3	7
1964	2	16	18	36
1963	1	6	4	11
TOTAL	9	51	77	137

TABLE 1



1963-1968 REPORTABLE ACCIDENTS

FATAL (F)

PERSONAL INJURY (PI)

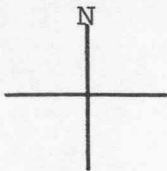
PROPERTY DAMAGE (PD)

FIGURE 4

HIGHWAY PLANNING SURVEYS DEPARTMENT  
DESIGN DESIGNATION DATA SHEET

County	Route No.	Project. No.	Location	Sect. Length	1968	Est. 1971	Est. 1991	Est. 1991	% Tks.
					ADT	ADT	ADT	DHV	
Polk	U.S.69	FN-69-4	From I-35 and I-80 Interchange North to Intersection with Ia. 160						
			Alt. #1 and #2	3.4	6400	7500	13500	1520	6
			Conditions:						
			1. Interstate and all programmed primary improvements completed						
			2. Saylorville Dam completed with attraction signs erected on Interstate						
			3. Area XI College is 15% completed in 1971 and 100% completed in 1990						
			4. Freeway and Expressway System as proposed February, 1968, is completed						





INDICATE NORTH BY ARROW

# VEHICULAR TURNING MOVEMENTS

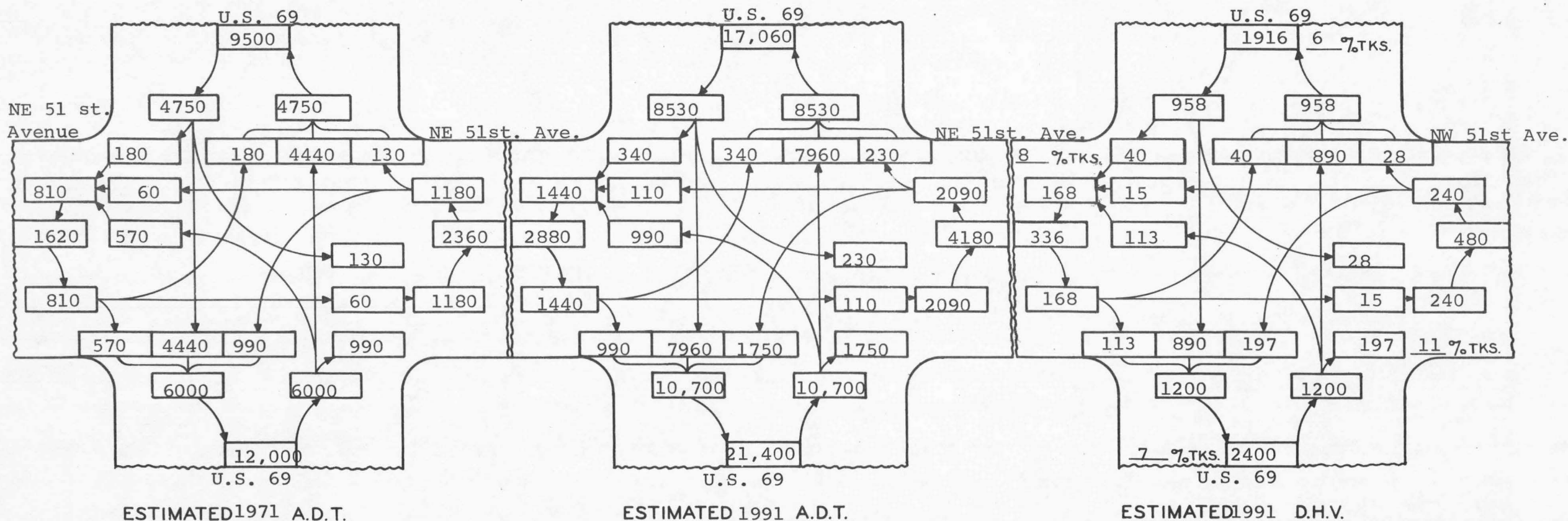
Conditions:

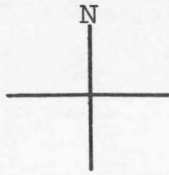
1. Interstate and all programmed improvements completed.
2. Saylorville Dam completed with attraction signs erected on the interstate.
3. Area XI College is 15% completed in 1971 and 100% completed in 1990.
4. Freeway and Expressway System as proposed February, 1968, is completed.

COUNTY Polk

LOCATION U.S. 69 & N.E. 51st. Avenue

Alt. 1 and 2 "A"





INDICATE NORTH BY ARROW

# VEHICULAR TURNING MOVEMENTS

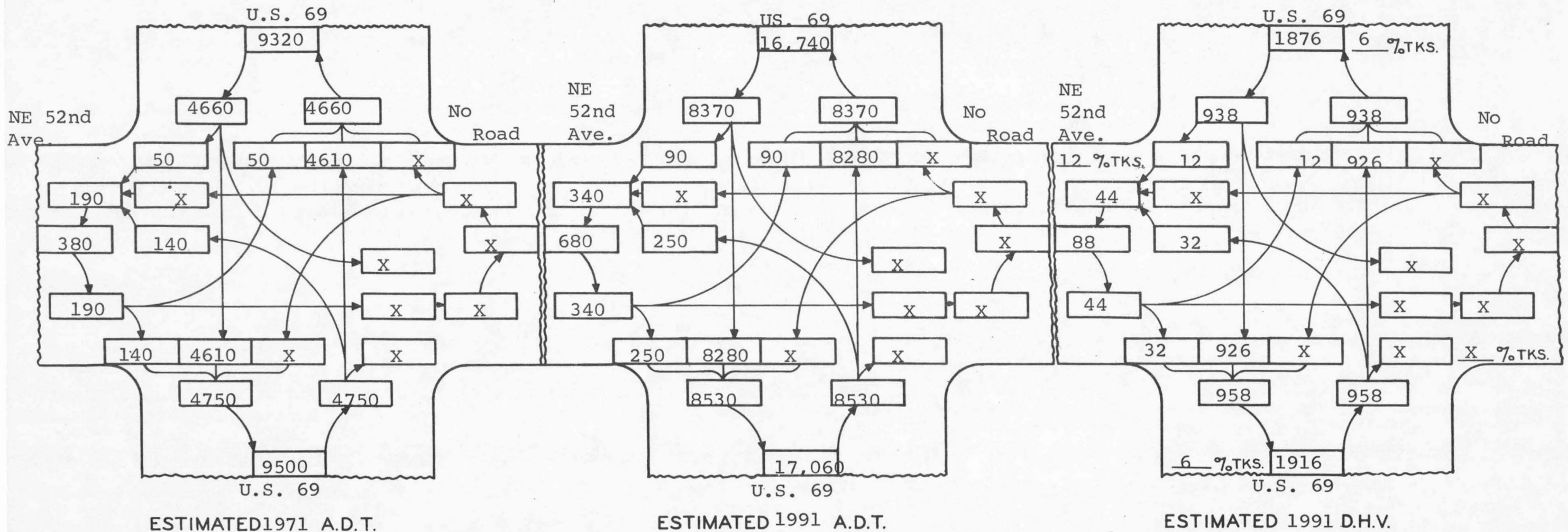
Conditions:

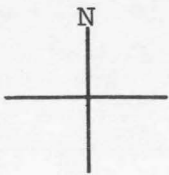
1. Interstate and all programmed improvements completed.
2. Saylorville Dam Completed with attraction signs erected on the Interstate.
3. Area XI College is 15% completed in 1971 and 100% completed in 1990.
4. Freeway and Expressway System as proposed February, 1968, is completed.

COUNTY Polk

LOCATION U.S. 69 and NE 52nd Ave.

Alt. 1 and 2 "B"





INDICATE NORTH BY ARROW

# VEHICULAR TURNING MOVEMENTS

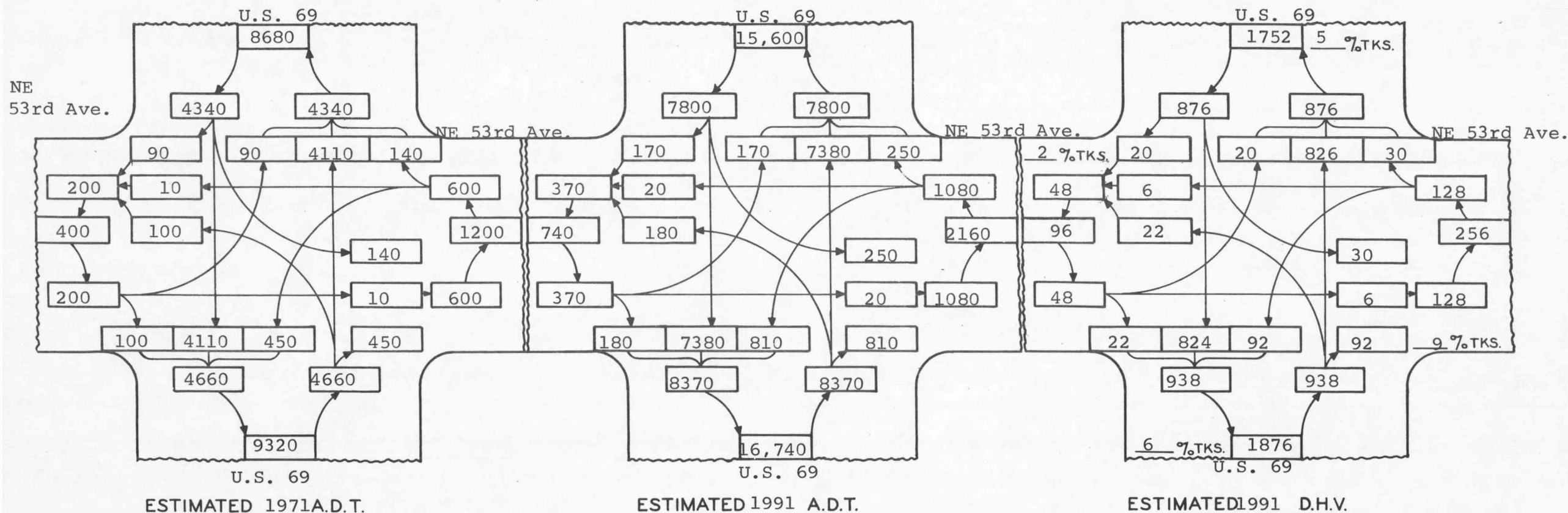
Conditions:

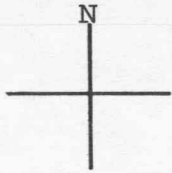
1. Interstate and all programmed improvements completed.
2. Saylorville Dam completed with attraction signs erected on the Interstate.
3. Area XI College is 15% completed in 1971 and 100% completed in 1990.
4. Freeway and Expressway System as Proposed February, 1968, is completed.

COUNTY Polk

LOCATION U.S. 69 and NE 53rd Ave.

Alt. 1 and 2 "C"





INDICATE NORTH BY ARROW

# VEHICULAR TURNING MOVEMENTS

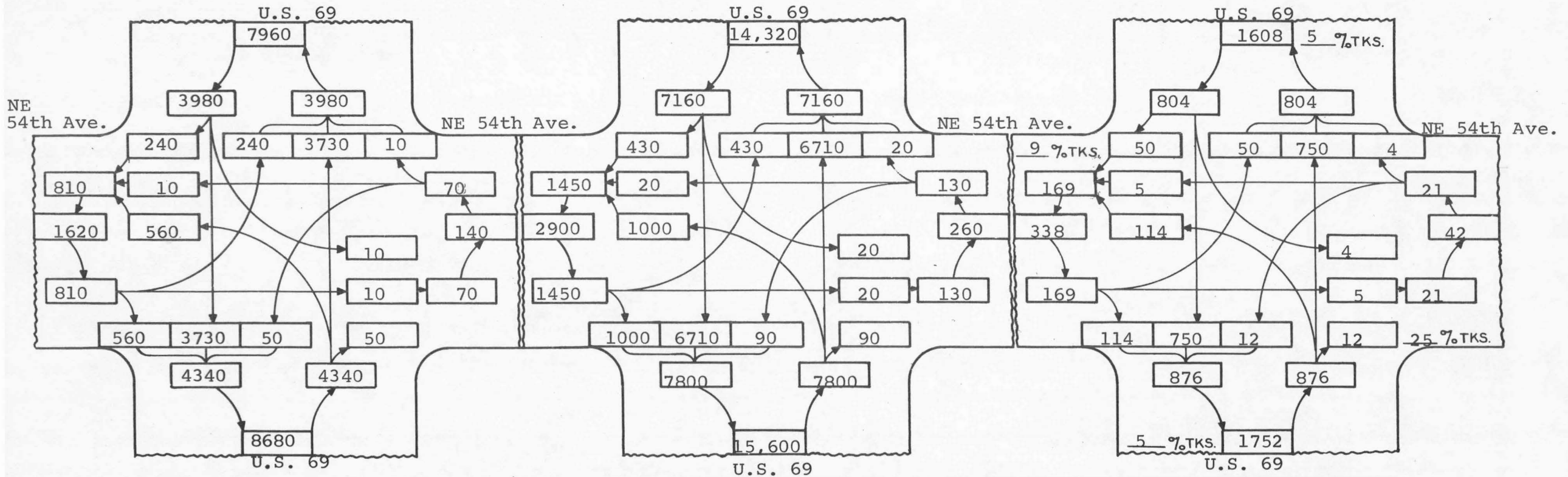
Conditions:

1. Interstate and all programmed improvements completed.
2. Saylorville Dam completed with attraction signs erected on the Interstate.
3. Area XI College is 15% completed in 1971 and 100% completed in 1990.
4. Freeway and Expressway System as proposed February, 1968, is completed.

COUNTY Polk

LOCATION U.S. 69 and NE 54th Ave.

Alt. 1 and 2 "D"

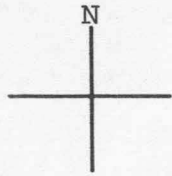


ESTIMATED 1971 A.D.T.

ESTIMATED 1991 A.D.T.

ESTIMATED 1991 D.H.V.





INDICATE NORTH BY ARROW

# VEHICULAR TURNING MOVEMENTS

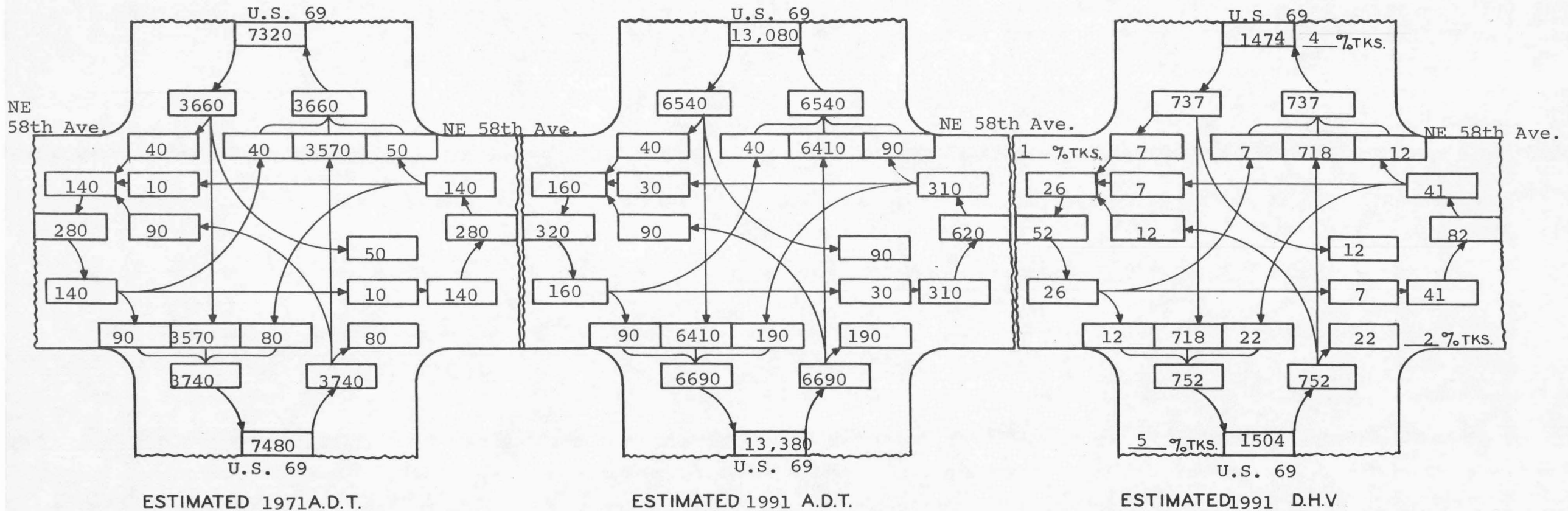
COUNTY Polk

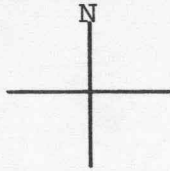
Conditions:

1. Interstate and all programmed improvements completed.
2. Saylorville Dam completed with attraction signs erected on the Interstate.
3. Area XI College is 15% completed in 1971 and 100% Completed in 1990.
4. Freeway and Expressway System as proposed February, 1968, is completed.

LOCATION U.S. 69 and NE 58th Ave.

Alt. 1 and 2 "E"





INDICATE NORTH BY ARROW

# VEHICULAR TURNING MOVEMENTS

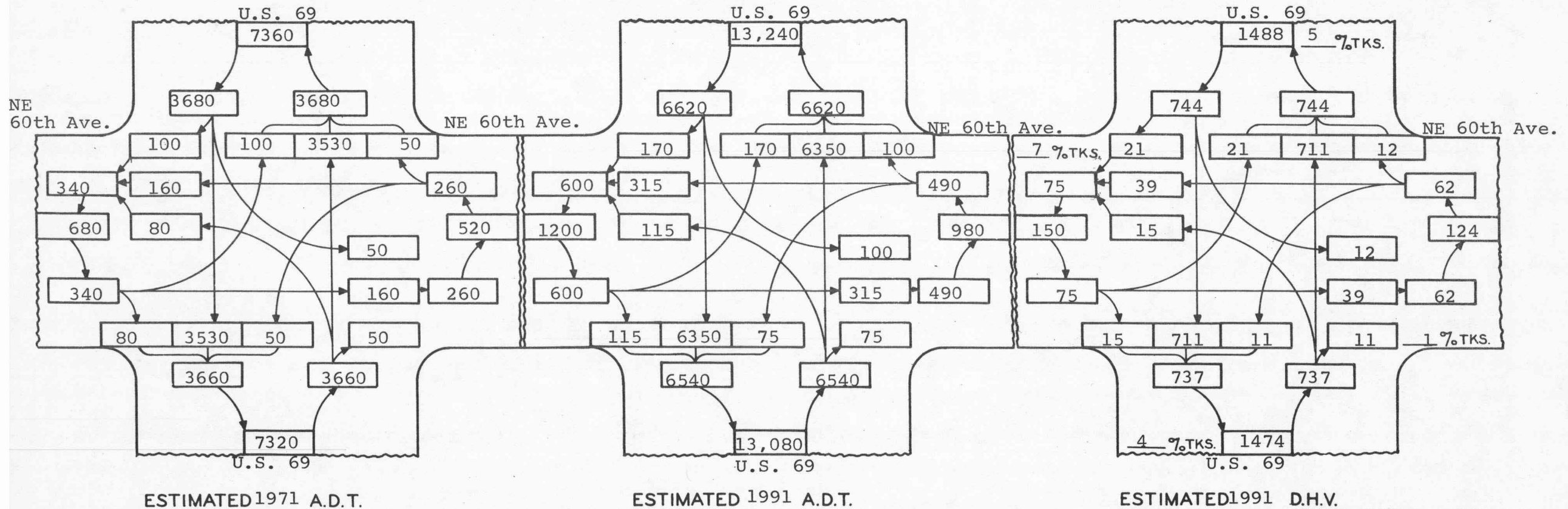
COUNTY Polk

Conditions:

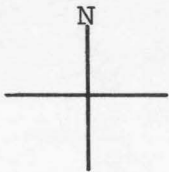
1. Interstate and all programmed improvements completed.
2. Saylorville Dam completed with attraction signs erected on the Interstate.
3. Area XI College is 15% completed in 1971 and 100% completed in 1990.
4. Freeway and Expressway System as proposed February, 1968, is completed.

LOCATION U.S. 69 and NE 60th Ave.

Alt. 1 and 2 "F"







INDICATE NORTH BY ARROW

# VEHICULAR TURNING MOVEMENTS

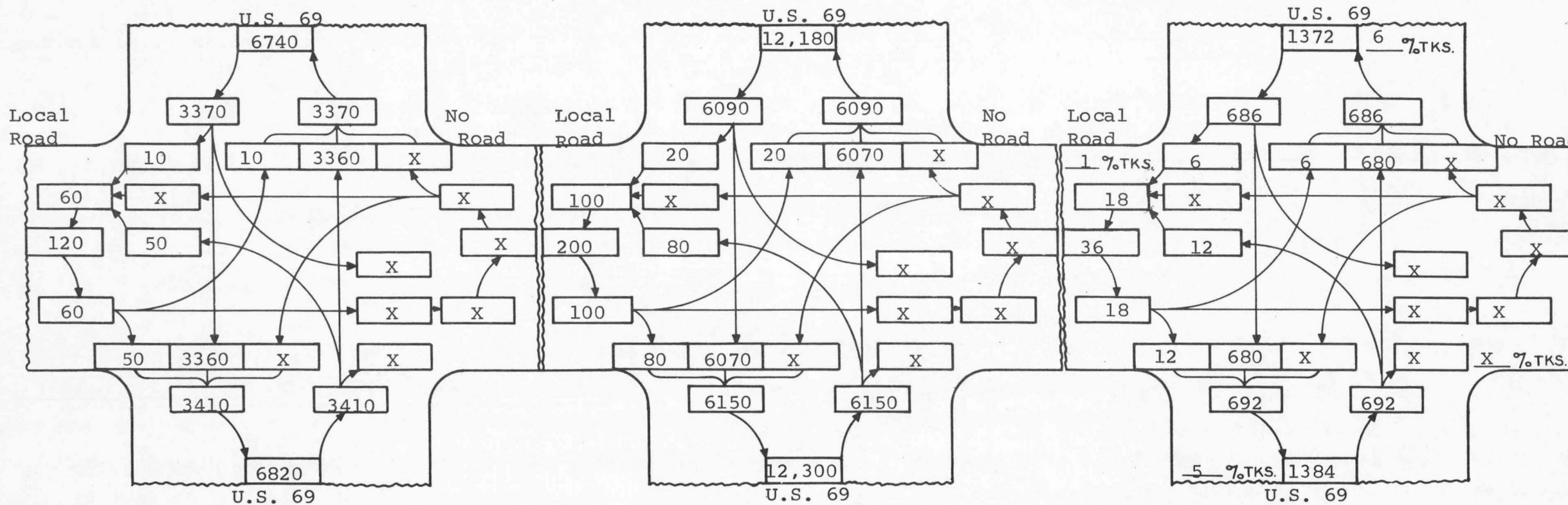
Conditions:

1. Interstate and all programmed improvements completed.
2. Saylorville Dam completed with attraction signs erected on the Interstate.
3. Area XI College is 15% completed in 1971 and 100% completed in 1990.
4. Freeway and Expressway System as proposed February, 1968, is completed.

COUNTY Polk

LOCATION U.S. 69 and Local Road  
South connection to Carney

Alt. 1 "H"

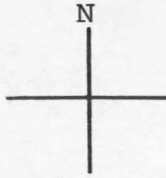


ESTIMATED 1971 A.D.T.

ESTIMATED 1991 A.D.T.

ESTIMATED 1991 D.H.V.





INDICATE NORTH BY ARROW

# VEHICULAR TURNING MOVEMENTS

Conditions:

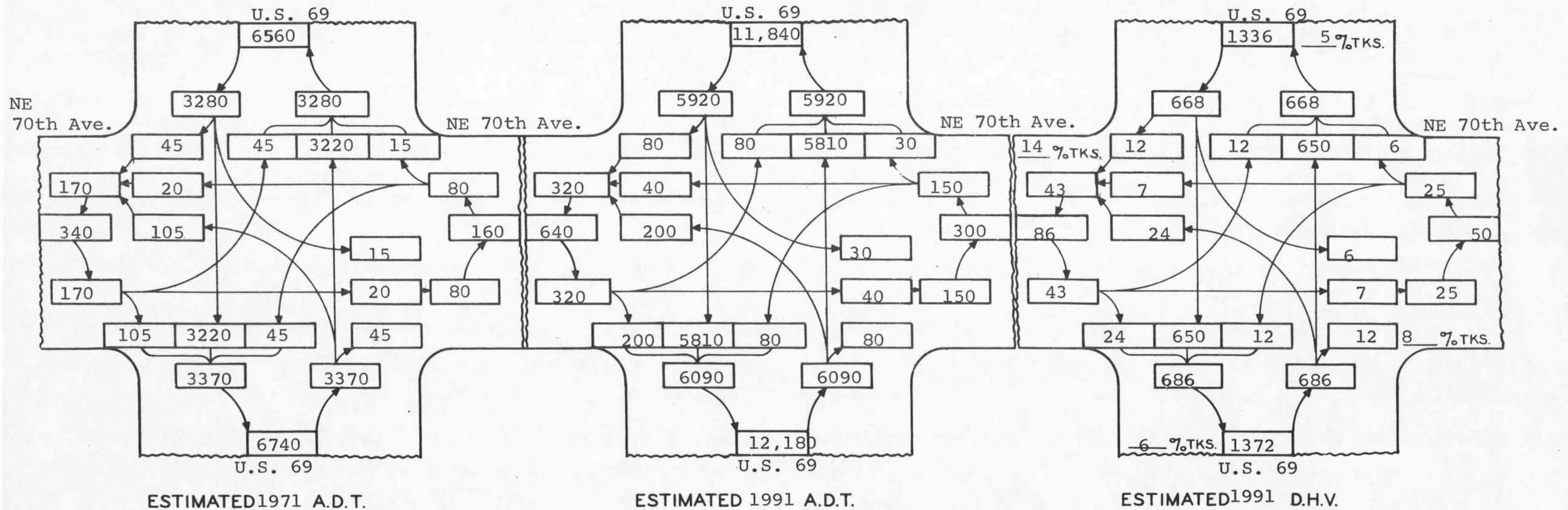
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2. Saylorville Dam completed with attraction signs erected on the Interstate.
3. Area XI College is 15% completed in 1971 and 100% completed in 1990.
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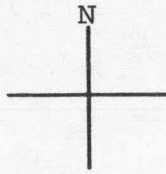
COUNTY Polk

LOCATION U.S. 69 and NE 70th Ave.

Alt. 1

"I"





INDICATE NORTH BY ARROW

# VEHICULAR TURNING MOVEMENTS

COUNTY Polk

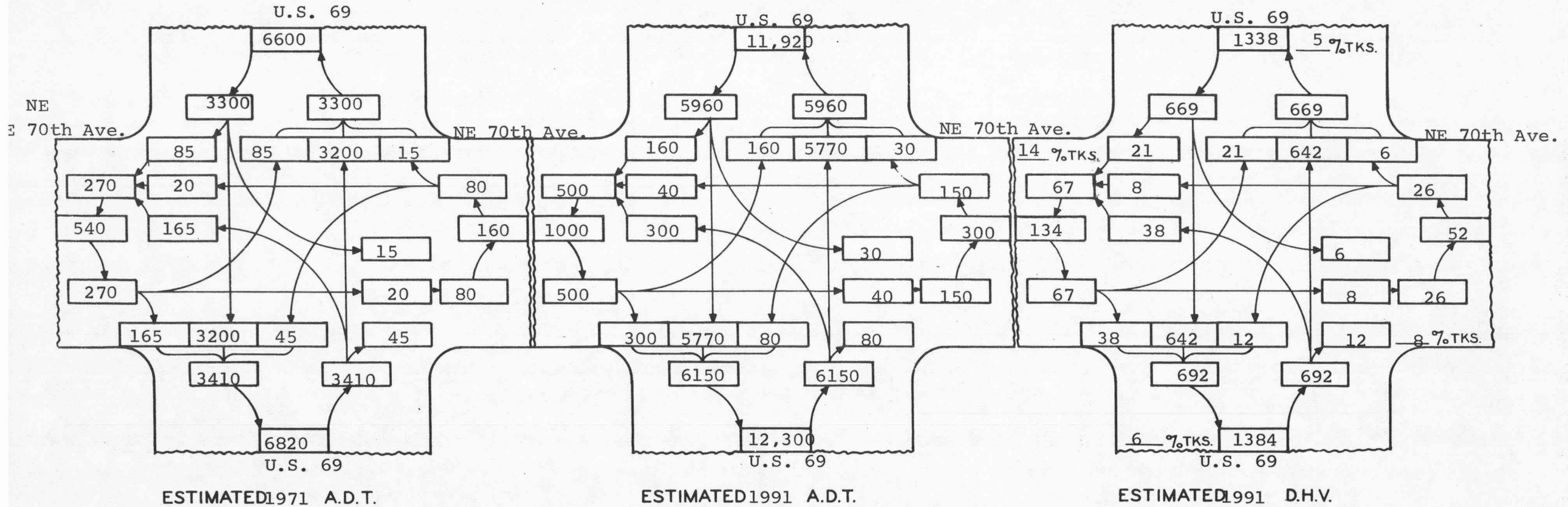
Conditions:

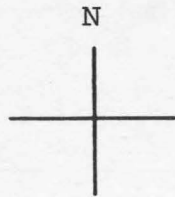
1. Interstate and all programmed improvements completed.
2. Saylorville Dam completed with attraction signs erected on the Interstate.
3. Area XI College is 15% completed in 1971 and 100% completed in 1990.
4. Freeway and Expressway System as proposed February, 1968, is completed.

LOCATION U.S. 69 and NE 70th Ave.

Alt. 2

"I"





INDICATE NORTH BY ARROW

# VEHICULAR TURNING MOVEMENTS

Conditions:

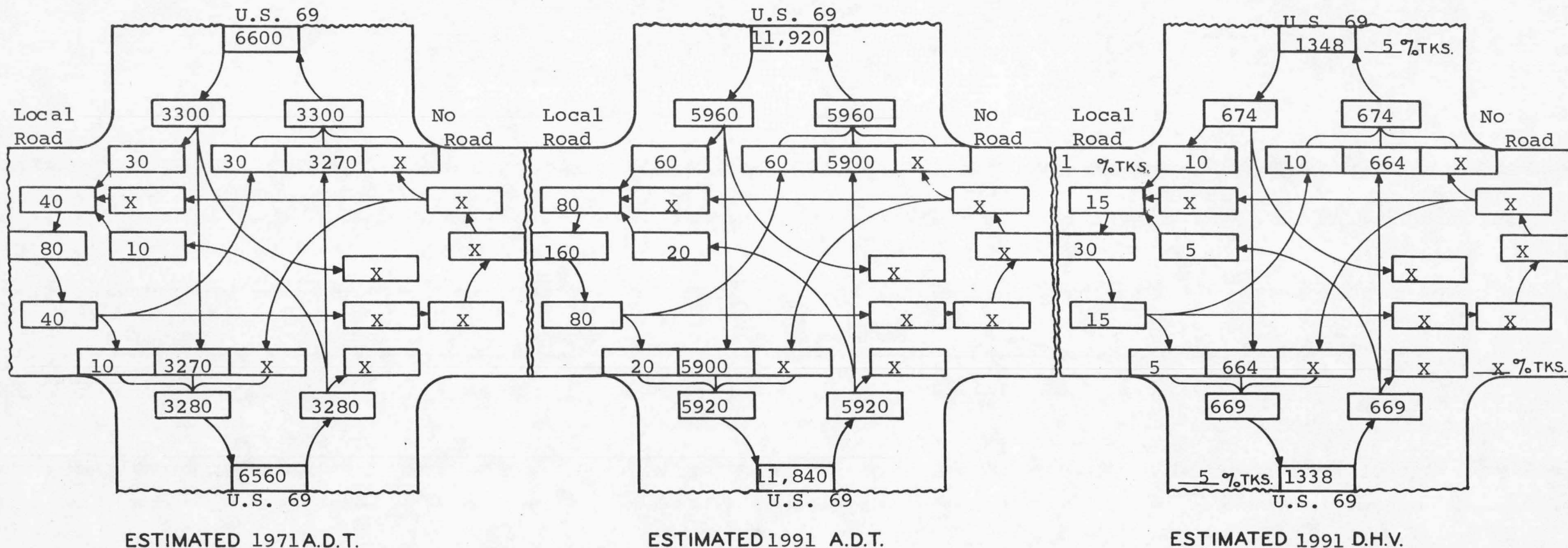
1. Interstate and all programmed improvements completed.
2. Saylorville Dam completed with attraction signs erected on the Interstate.
3. Area XI College is 15% completed in 1971 and 100% completed in 1990.
4. Freeway and Expressway System as proposed February, 1968, is completed.

COUNTY Polk

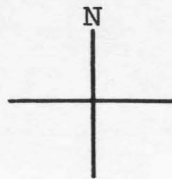
LOCATION U.S. 69 and Local Road  
North Connection to Carney

Alt. 1

"J"







INDICATE NORTH BY ARROW

# VEHICULAR TURNING MOVEMENTS

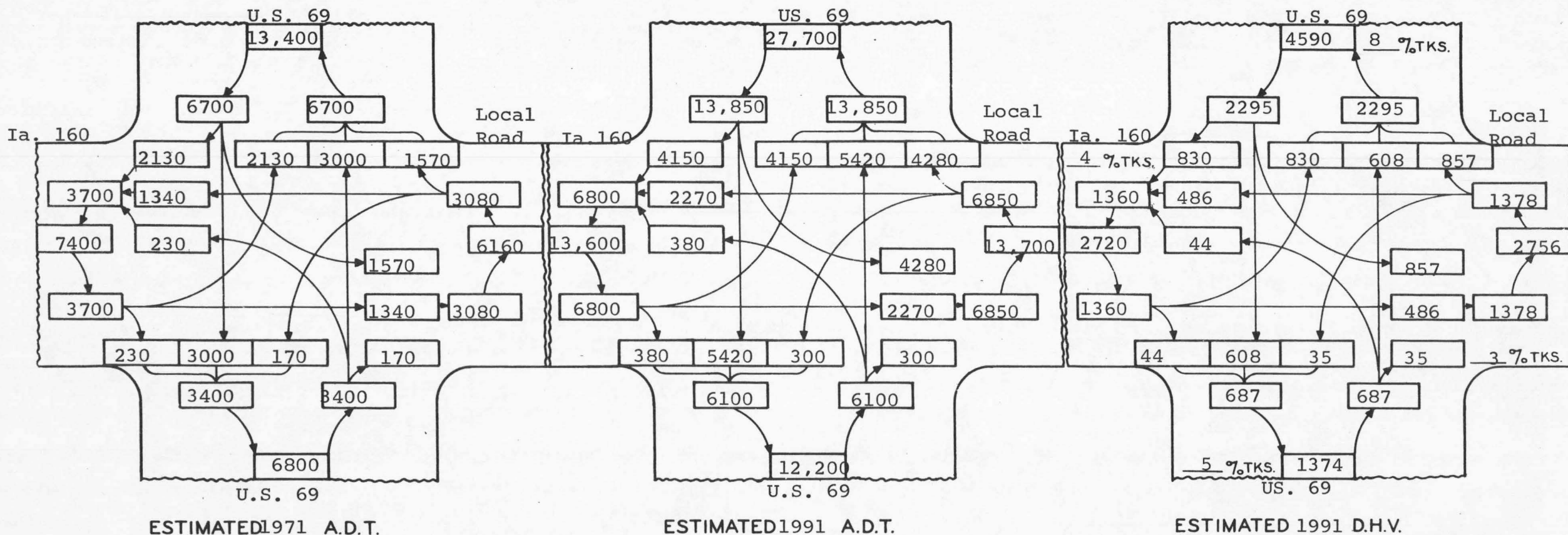
COUNTY Polk

Conditions:

1. Interstate and all programmed improvements completed.
2. Saylorville Dam completed with attraction signs erected on the Interstate.
3. Area XI College is 15% completed in 1971 and 100% completed in 1990.
4. Freeway and Expressway System as proposed February, 1968, is completed.

LOCATION U.S. 69 and Ia. 160  
and Local Road F-38

Alt. 1 and 2 "K"





ALTERNATE I

The project begins approximately 700 feet north of the interchange of I-80, I-35 and U.S. 69, and follows the present alignment of existing U.S. 69 to NE 66th Avenue. A relocation then extends northerly, bypassing Carney to the east, then northwest to a point south of the junction of Iowa 160. The aerial photographs, Plates 1-19, show the major features of the improvement, and approximate stationing at 200 foot intervals.

The existing diamond interchange at the junction of I-80, I-35 and U.S. 69 will be used as constructed in 1965. The ramp connections to U.S. 69, which were lighted in 1965, will also be used as constructed. From the beginning of the project at Station 59+ north to the NE 66th Avenue the improvement will provide for

widening and resurfacing the existing highway, and the addition of a 24 foot roadway, resulting in a four-lane facility with a 16 foot raised median, and 10 foot stabilized shoulders. Left turn storage lanes will be provided at public access connections. The frontage roads, at various locations along the roadway, will be 24 foot paved or gravel surfaced with 4 foot earth shoulders. See page 43 for cross section details. The access points for these proposed frontage roads as shown on the aerials represent early planning suggestions. The final access will be carefully analyzed and determined in the final design phase of the project.

NE 51st Avenue west of Station 59+ will provide access for a north-south paved frontage

road serving the Goode Motel, and the Colonial Terrace Restaurant. Present access points at Wauneta Road, the crossover on U.S. 69, and the entrance to the oil station east of Station 56<sub>+</sub> will be closed.

West of Station 62<sub>+</sub> a gravel frontage road will extend north to NE 52nd Avenue. North of this point to Station 100<sub>+</sub> a frontage road will be provided for an oil station, the Bavarian Haus parking lot, Smith Motel, the Bell Telephone storage facility, and various other business establishments. See Plates 2 through 6 for the frontage road surface type. Access to U.S. 69 from this west frontage road will be provided at NE 52nd Avenue, NE 53rd Avenue, Pine Hill Drive, Station 87<sub>+</sub> and at Station 96<sub>+</sub>.

The parking lot on the east of the Bell Telephone building will be reduced by the frontage road, but additional parking is available north of the building, and undeveloped land lies to the west.

A 4:1 foreslope, and a "v" type ditch on the east from Station 73<sub>+</sub> to Station 77<sub>+</sub> will minimize property damage to the Volkswagen Garage, the Marquisville United Methodist Church, and the parsonage. Access to these properties will be provided using the existing road to the east.

An 88.5 foot curb section shown on Plate 4 will be provided from Station 80<sub>+</sub> to Station 83<sub>+</sub> +50 due to the restrictions on open ditch drainage at the Interstate System Truck Terminal in

the NE quadrant at NE 54th Avenue. A dike is presently in place to divert water around the truck terminal property. A tavern in the NW quadrant at NE 54th Avenue (See Plate 4) has been removed correcting what would have been a daylighting problem.

The house at Station 102+ is only 55 feet west of present U.S. 69 centerline. The house will need to be purchased or moved to accommodate the highway improvement. Land on the east side of U.S. 69 from the Interstate Truck Terminal north to the Polk County Home is crop land as shown on Plates 4 through 6 and will not present an access problem.

In the area of the Polk County Home from Station 115+ to Station 121+ the horizontal

clearance becomes critical. It will be necessary to buy the two housing units east of Station 119+ and Station 120+. A crossover at NE 60th Avenue will provide access to the Polk County Home, and the present entrances will be closed to ease the access problem through this area. The underpass at Station 117+ currently being used by tractors from the County Home to the set of farm buildings to the west, will be extended.

At Station 130+ high voltage transmission towers are located just outside the west right-of-way line. These are large steel towers which will serve as a control on the west due to the high cost of relocation. Foreslope in this area will need to be increased to 4:1 to miss the tower footings. A frontage road on the east

from Station 131<sub>+</sub> to Station 138<sub>+</sub> will serve the Starlite Motel and the other properties to the north. From Station 131<sub>+</sub> to Station 134<sub>+</sub>, a frontage road will serve the properties on the west.

The properties to the west will be served by a frontage road from Station 140<sub>+</sub> north to Station 149<sub>+</sub>, with access to U.S. 69 at Station 146<sub>+</sub>. A frontage road from Station 146<sub>+</sub> to NE 66th Avenue will serve the property on the east. Access to U.S. 69 will be provided at Station 146<sub>+</sub> and at NE 66th Avenue. Access to the house west of Station 156<sub>+</sub> will be provided to the west and north to Howard Drive.

The present entrances to Woodside Lumber Company will be closed, and access will be pro-

vided from NE 66th Avenue only.

Alternate I involves a relocation starting just north of NE 66th Avenue at Station 160<sub>+</sub> and curving northeasterly, north and then northwesterly providing a bypass east of Carney. The relocation will provide four traffic lanes divided by a 16 foot raised earth median, and 10 foot stabilized outside shoulders. Existing pavement and roadway from Station 160<sub>+</sub> to Station 172<sub>+</sub> will be removed and access provided at Station 179<sub>+</sub> (See Plates 11 through 13). NE 70th Street will be paved from existing U.S. 69 east to connect with the relocation. The existing pavement and roadway from Station 215<sub>+</sub> to Station 226<sub>+</sub> will be removed, with a connection to the relocated U.S. 69 provided at Station 215<sub>+</sub>



(See Plates 16 and 17). This relocation will minimize damage to the properties in Carney and will provide a high degree of access control.

See Plates 11 through 19 for details of the relocation.

A frontage road will be provided from Station 224<sub>±</sub> to Station 228<sub>±</sub> to serve the properties to the east of relocated U.S. 69. A frontage road will also be provided on the west from Station 223<sub>±</sub> to Station 237<sub>±</sub>. Access to both frontage roads will be at Station 228<sub>±</sub>. See Plates 17 through 19 for details of these frontage roads.

The relocation of U.S. 69 will end at the four lane paving approximately 400 feet south of the junction with Iowa 160. The four lane

paving from Iowa 160 north through Ankeny was constructed in 1966. The intersection of Iowa 160 and U.S. 69 is lighted and channelized.

The total length of Alternate I is 3.37 miles. The 2.03 miles from the beginning of the project to NE 66th Avenue is estimated to cost \$1,328,000. The 1.34 mile by-pass east of Carney is estimated to cost \$726,000. The total estimated cost of Alternate I as shown in Table 15 is \$2,054,000.

ESTIMATED COST OF CONSTRUCTION  
 ALTERNATE NO. 1  
 INCLUDING BY-PASS OF CARNEY

LINE	LENGTH MILES	EARTHWORK	PAVEMENT	STRUCTURES	TOTAL CONSTRUCTION	(1) R. O. W.	TOTAL
N.E. 51st. Ave. to N.E. 66th Ave.	2.03	\$93,000	\$438,000	\$4,000	\$535,000	\$793,000	\$1,328,000
N.E. 66th Ave. to Iowa 160 (Relocation)	1.34	\$97,000	\$304,000	\$16,000	\$417,000	\$309,000	\$726,000
TOTAL	3.37	\$190,000	\$742,000	\$20,000	\$952,000	\$1,102,000	\$2,054,000

(1) Does not include Federal Relocation Costs

ALTERNATE II

The alignment and construction details for Alternate II, are the same as for Alternate I from the beginning of the project north to Station 160<sub>+</sub>. See Plates 1 through 10 for details through this area.

Alternate II will follow the present alignment from NE 66th Avenue north through Carney to the present four lane facility approximately 400 feet south of the junction with Iowa 160. The 2 foot widening unit on the east edge of present U.S. 69 will be removed and replaced with a 4.5 foot curb and gutter section. Another 26 foot pavement section will be added to the east, providing a four lane highway divided by a 16 foot raised median, and with 10 foot stabilized shoulders.

From Station 160<sub>+</sub> north to Station 183<sub>+</sub>, land use is agricultural, and access control is not a problem. The entrance west of Station 183<sub>+</sub> will be closed, and a frontage road provided to the north to NE 70th Street.

Through Carney, Alternate II will only provide for three access connections; NE 70th Street, at Station 202<sub>+</sub> east and west, and at Station 214<sub>+</sub>. All other present direct access connections will be removed from U.S. 69 and placed on the frontage roads. A paved frontage road will be provided on the west. This frontage road will result in the removal of Rosie's Tap, and will require additional right-of-way from the front lawns of all the residential properties. A paved backage road will be provided for access to

the residential properties on the east of the present highway. This concept will result in the reconstruction of driveways and possibly reorienting some garages. Construction of Alternate II will result in considerable damage to residential property on the east side of U.S. 69. As can be seen in Plates 14 through 16, many homes will have to be removed.

The driveway west of Station 222+ will be closed, and a gravel frontage road constructed north to the present frontage road at Station 234+. Access to U.S. 69 will be provided at Station 228+. To serve the property on the east, a gravel frontage road will be constructed from Station 223+ to Station 228+, at which point a connection will be provided to U.S. 69.

At Station 231+ the proposed 88 foot roadway will taper to meet the 84 foot roadway at Station 238+, approximately 400 feet south of the junction of Iowa 160.

The first 2.03 miles of Alternate II is identical with Alternate I, at an estimated cost of \$1,328,000. The 1.33 mile through Carney, along the present alignment of U.S. 69, is estimated to cost \$1,154,000. The total cost of Alternate II, as shown in Table 16, is \$2,482,000.



ESTIMATED COST OF CONSTRUCTION  
ALTERNATE NO. 2  
ON PRESENT ALIGNMENT

LINE	LENGTH MILES	EARTHWORK	PAVEMENT	STRUCTURES	TOTAL CONSTRUCTION	(1) R. O. W.	TOTAL
N.E. 51st Ave. to N.E. 66th Ave.	2.03	\$93,000	\$438,000	\$4,000	\$535,000	\$793,000	\$1,328,000
N.E. 66th Ave. to Iowa 160 (through Carney)	1.33	\$64,000	(2) \$359,000	(3) \$40,000	\$463,000	\$691,000	\$1,154,000
TOTAL	3.36	\$157,000	\$797,000	\$44,000	\$998,000	\$1,484,000	\$2,482,000

- (1) Does not include Federal Relocation Costs
- (2) Includes Paving on Frontage Roads in Carney
- (3) Includes storm sewer construction in Carney

## DETOUR ANALYSIS

Four proposed detours were considered from Des Moines to Ankeny. Alternate 1 was to keep present U.S. 69 open to through traffic during the construction period. Alternate 2 was to detour the affected traffic on I-80, Iowa 415, and Iowa 160. Alternate 3 was to detour traffic on I-80, I-35, and County Road F-38. Alternate 4 considered detouring the northbound traffic on Alternate 3, and the southbound traffic on Alternate 2. For details of each detour alternate see Figure 5.

A road user analysis was calculated on each of the four alternates as follows:

<u>Alternate</u>	<u>Daily User Cost</u>	<u>Length (Miles)</u>
1	\$1540	3.79
2	\$2000	5.38
3	\$2290	6.09
4	\$2150	5.38(N) 6.09(S)

Alternate 2 will cost the affected road users an estimated \$460 more daily than the present route of U.S. 69. However, the extra costs of maintaining traffic, and delays occasioned by construction equipment are not included in Alternate 1. Alternate 2 then is the most economical of the three detour routes studied. Since Iowa 415 is a four lane divided highway, the additional U.S. 69 traffic will not materially affect its operation.

Alternate 2 being 0.71 mile shorter than the other two detour alternates studied, and the most economical, is the recommended choice during the construction period.



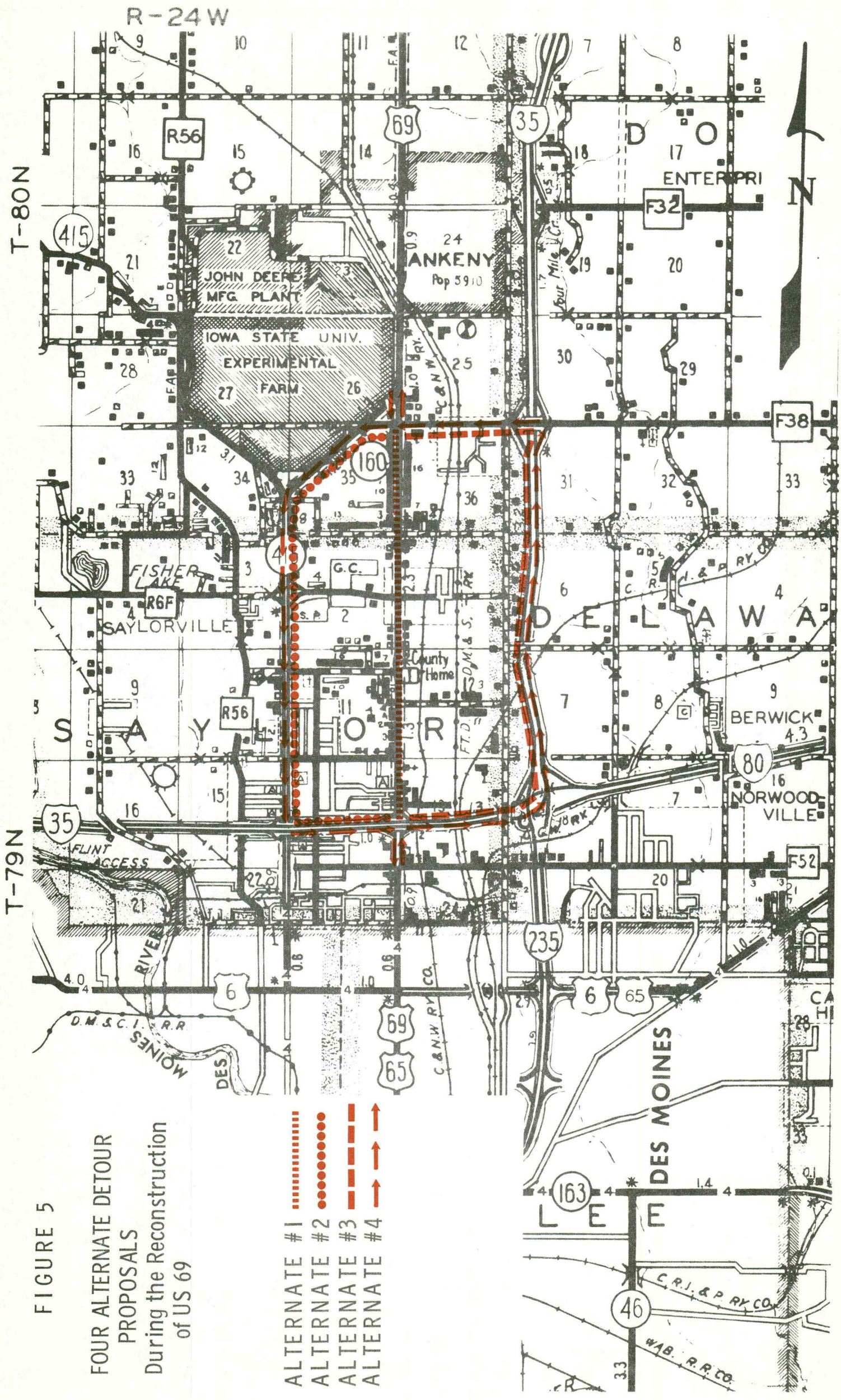


FIGURE 5  
 FOUR ALTERNATE DETOUR  
 PROPOSALS  
 During the Reconstruction  
 of US 69

- ALTERNATE #1 ..... (dotted line)
- ALTERNATE #2 - - - - - (dashed line with dots)
- ALTERNATE #3 - - - - - (dashed line)
- ALTERNATE #4 ———— (solid line with arrows)



## SOCIO-ECONOMIC STUDY

Existing land use and present zoning along U.S. 69 has previously been discussed in Study Area portion of this report on pages 6 through 11. Population of Ankeny was also briefly discussed. The "Comprehensive Plan Ankeny, Iowa, March, 1965" prepared by the Iowa Development Commission Planning Division examines in greater detail the economics, land use, major streets, community facilities, and central business district of Ankeny. These items are examined for the City of Des Moines in the "1980 General Plan City of Des Moines, Iowa" prepared by the Des Moines City Plan and Zoning Commission in September, 1963.

In the 1963 Household Survey discussed in Ankeny Comprehensive Plan in which a question

was asked, "What was your specific reason for moving to Ankeny?", 43% gave access to employment areas as their reason and 30% gave small town environment close to a large city. The report also tabulates population projections by Professor Daryl Hobbs of the Department of Economics and Sociology, Iowa State University. The 1980 population forecast for Ankeny projects a population of approximately 13,310 people. Since Ankeny residents are close to the large manufacturing and industrial establishments located north of Des Moines and due to the factors previously mentioned, part of this future population will be adding to future increasing traffic volumes and will be relying on modern design highway facilities to serve their daily



needs.

Records in the Polk County Assessors office indicate the total 1968 assessed value of rural land and buildings in Polk County was \$30,589,000. The estimated total assessed valuation for each alternate is:

Alternate #1 (Carney By-Pass) 55 acres = \$219,000.  
Alternate #2 (Through Carney) 38 acres = \$293,000.

The impact on the County tax rolls would not be significant in either case. (0.7% for Alternate #1 and 1.0% for Alternate #2).

## SUMMARY

The proposed four lane improvement of U.S. 69 with frontage roads will require additional right-of-way along the entire route. Since horizontal and vertical alignment are adequate to meet the four lane requirements, the existing 24 foot paving will be widened on the east with a curb and gutter unit and serve as the southbound lane. A 16 foot median with left turn storage lanes will separate the southbound lanes from the northbound lanes. The northbound lanes will be new construction the entire length of the project. The entire reconstruction will be built as a Class III highway, access rights are to be acquired on both sides of U.S. 69 and direct access allowed only at predetermined access locations. The predetermined access points

shown on the aerial photographs are only suggested locations. The exact locations will be established later and then frontage roads designed.

Two alternates were studied at Carney. Alternate #1 is an east bypass of Carney. Alternate #2 is the four lane improvement through Carney. Alternate #1 is 0.01 mile longer than Alternate #2 but costs \$428,000 less. Alternate #1 requires the purchase of fewer homes and businesses and has less negative impact. Alternate #2 right-of-way needs in Carney require the purchase of a major portion of front yards on all property east and west of U.S. 69 and the development of a backage road to serve the remaining homes east of U.S. 69. Alternate #2 would re-

quire elimination of 43 private entrances and reconstructing driveways to connect to frontage and backage roads.

Road user costs were developed for four alternate detour routes to be used during reconstruction. Although it is cheaper for the road user to continue using U.S. 69 during reconstruction, historically the cost of construction has increased due to the higher costs of staging operations and worker inconvenience caused by through traffic in the construction area. Alternate #2 appears to be the most economical of all detour alternates studied.

This four lane improvement with frontage roads is designed to provide adequate capacity with a minimum of side friction and by con-

trolling access continue these modern safety qualities by keeping points of conflict to a minimum.

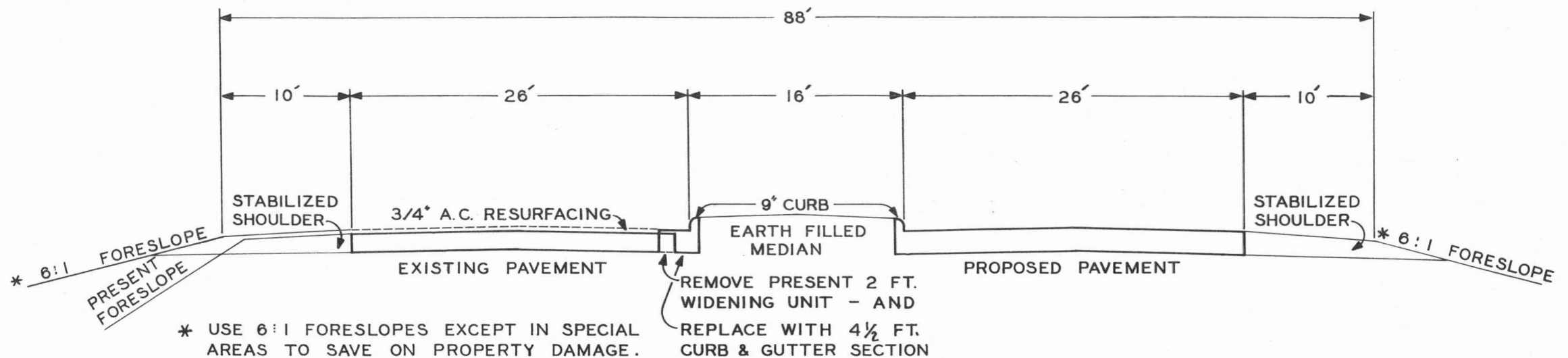
RECOMMENDED IMPROVEMENT CORRIDOR

This previous study has covered the socio-economic considerations of two alternates. After careful evaluation of the effects presented, it becomes apparent Alternate #1, four lane improvement with frontage roads and a by-pass of Carney offers the greatest benefit to the motorists with the least negative impact to the residents of Carney.

It is the recommendation of the Iowa State Highway Commission that Alternate #1 be selected as the route offering the best traffic service both now and in the future to Des Moines, Ankeny and Carney and to the citizens of Polk County and the State of Iowa. It is further recommended that this alternate be presented at a public hearing to obtain the public view regarding the proposed project.



# TYPICAL CROSS SECTION ON PRESENT U.S. 69 ALIGNMENT



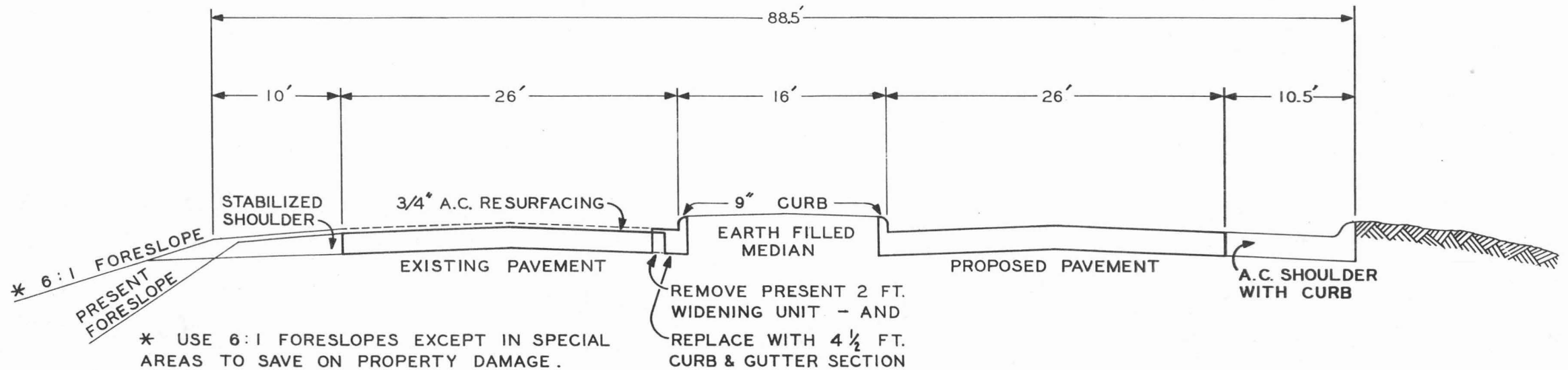
## ALTERNATE NO. 1

B.O.P. TO STA. 80+00  
 STA. 83+50 TO STA. 160+00  
 STA. 230+57 TO E.O.P.

## ALTERNATE NO. 2

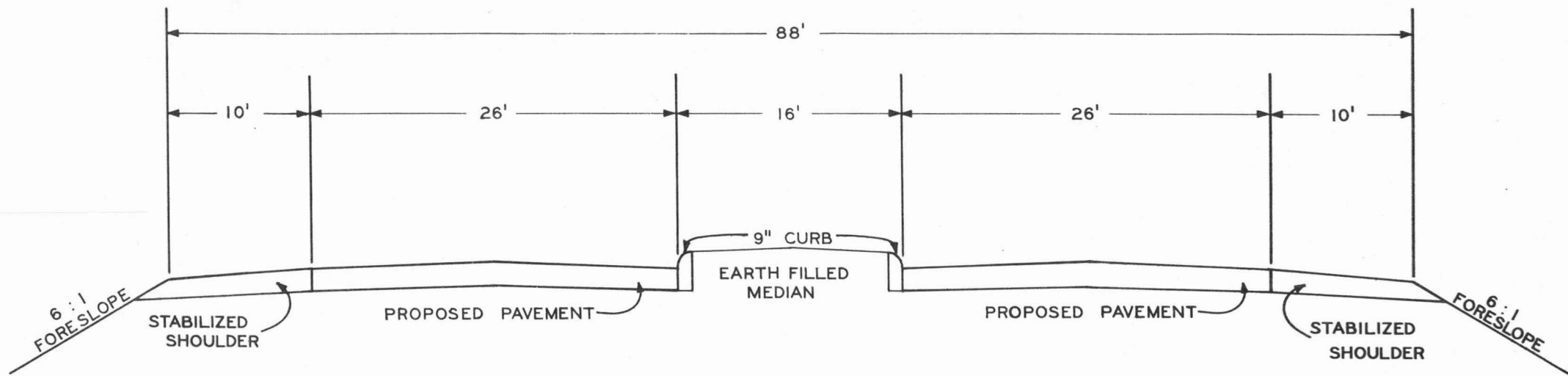
B.O.P. TO STA. 80+00  
 STA. 83+50 TO E.O.P.

# TYPICAL CROSS SECTION WITH 10.5 A.C. SHOULDER WITH CURB



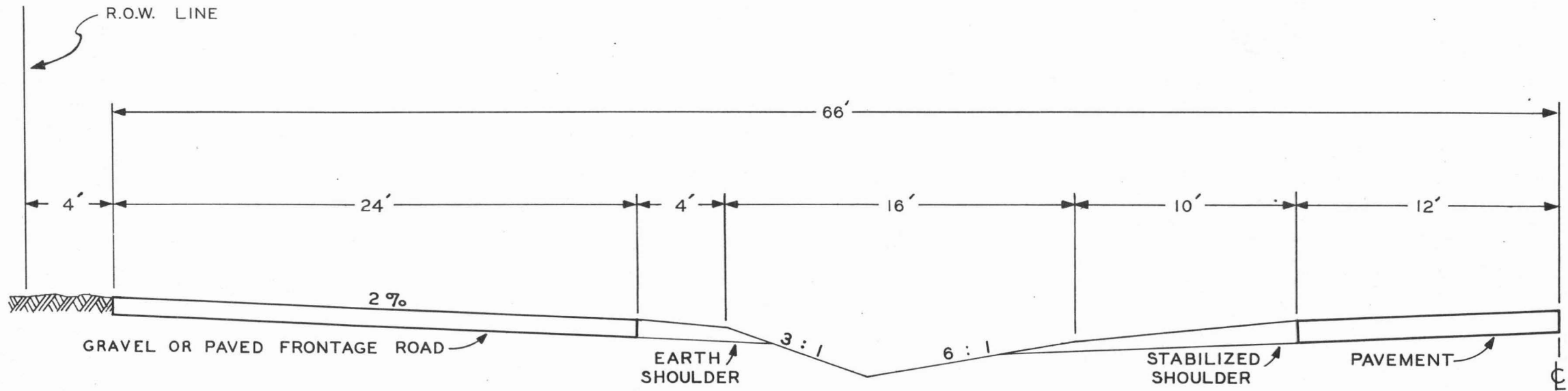
ALTERNATE NO. 1 AND NO. 2  
STA. 80+00 TO STA. 83+50

# TYPICAL CROSS SECTION FOR RELOCATION EAST OF CARNEY



ALTERNATE NO. 1  
STA. 160+00 TO STA. 230+57








# TYPICAL CROSS SECTION FOR FRONTAGE ROADS



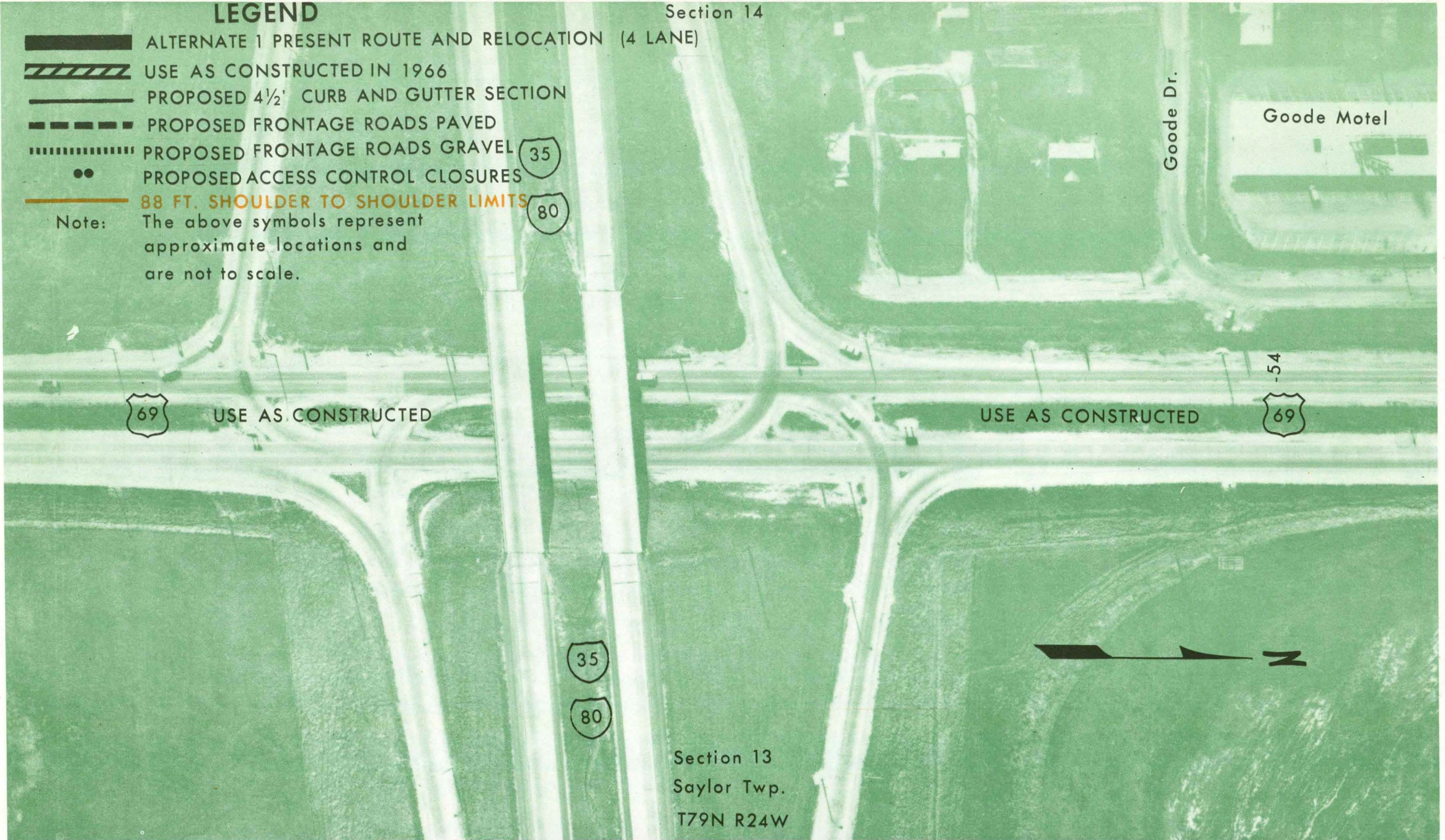


# LEGEND

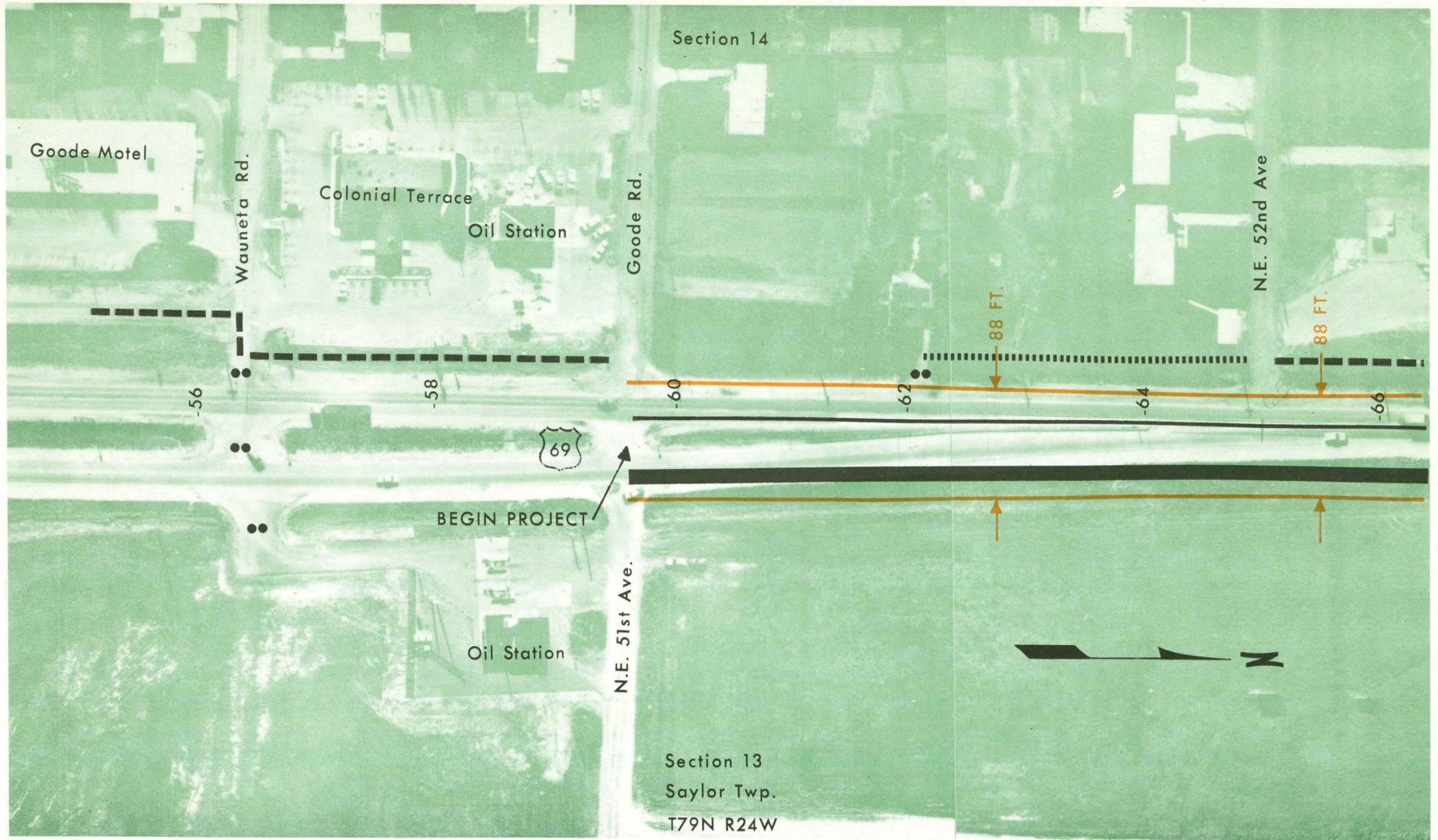
Section 14

-  ALTERNATE 1 PRESENT ROUTE AND RELOCATION (4 LANE)
-  USE AS CONSTRUCTED IN 1966
-  PROPOSED 4½' CURB AND GUTTER SECTION
-  PROPOSED FRONTAGE ROADS PAVED
-  PROPOSED FRONTAGE ROADS GRAVEL
-  PROPOSED ACCESS CONTROL CLOSURES
-  88 FT. SHOULDER TO SHOULDER LIMITS

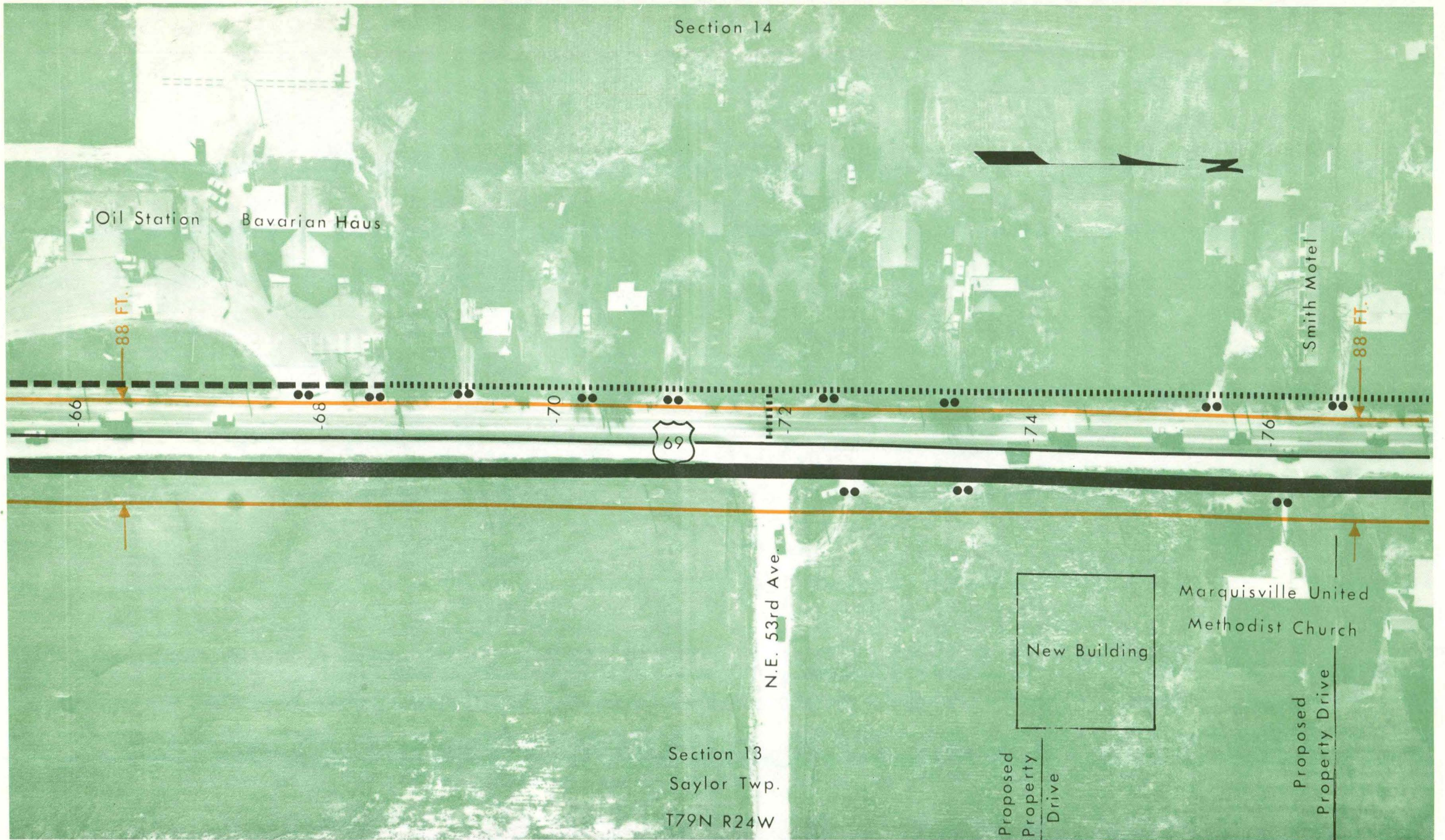
Note: The above symbols represent approximate locations and are not to scale.



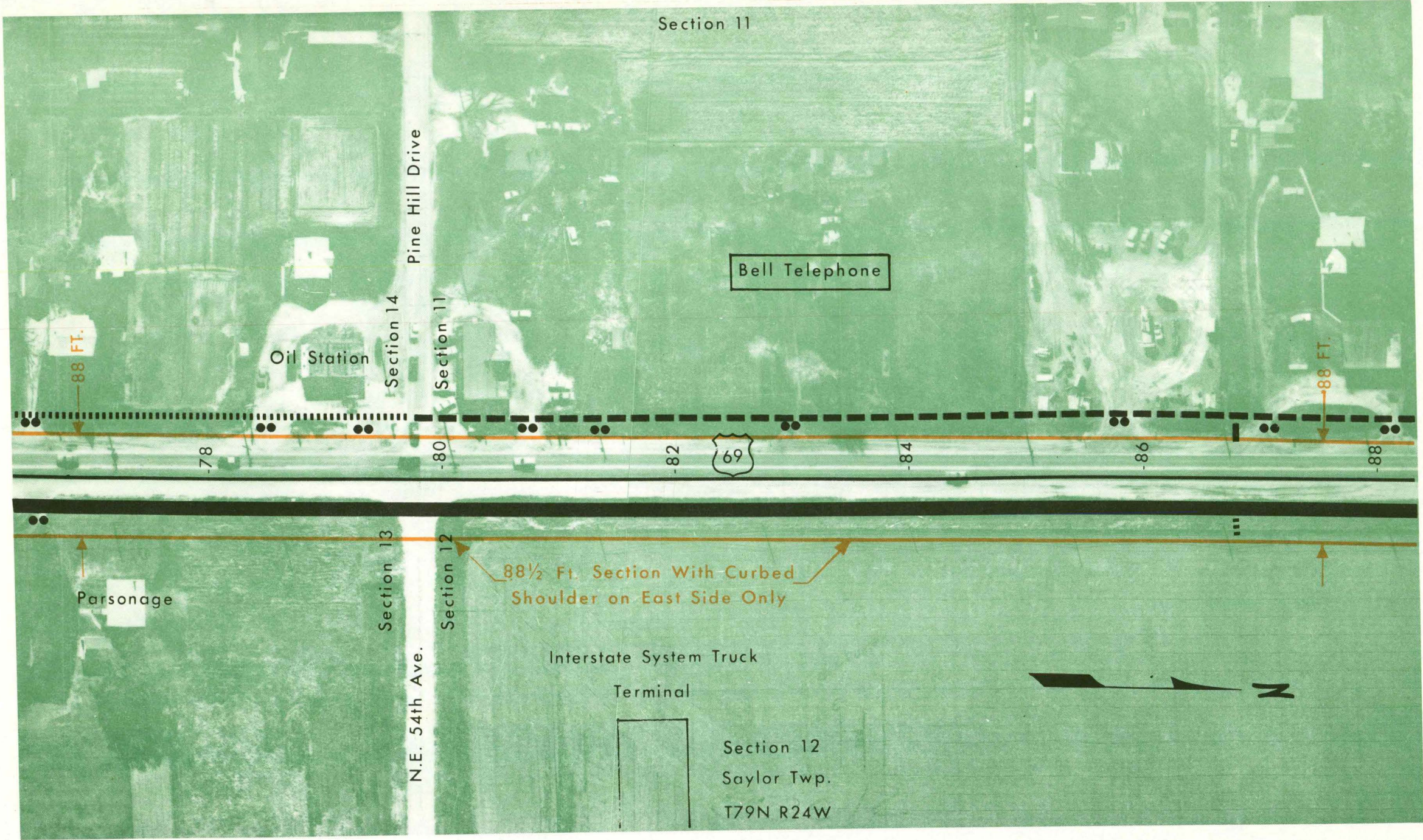












Section 11

Bell Telephone

Oil Station

Pine Hill Drive

Section 14

Section 11

88 FT.

88 FT.

-78

-80

-82

69

-84

-86

-88

Parsonage

Section 13

Section 12

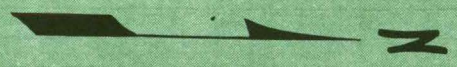
88 1/2 Ft. Section With Curbed Shoulder on East Side Only

Interstate System Truck

Terminal

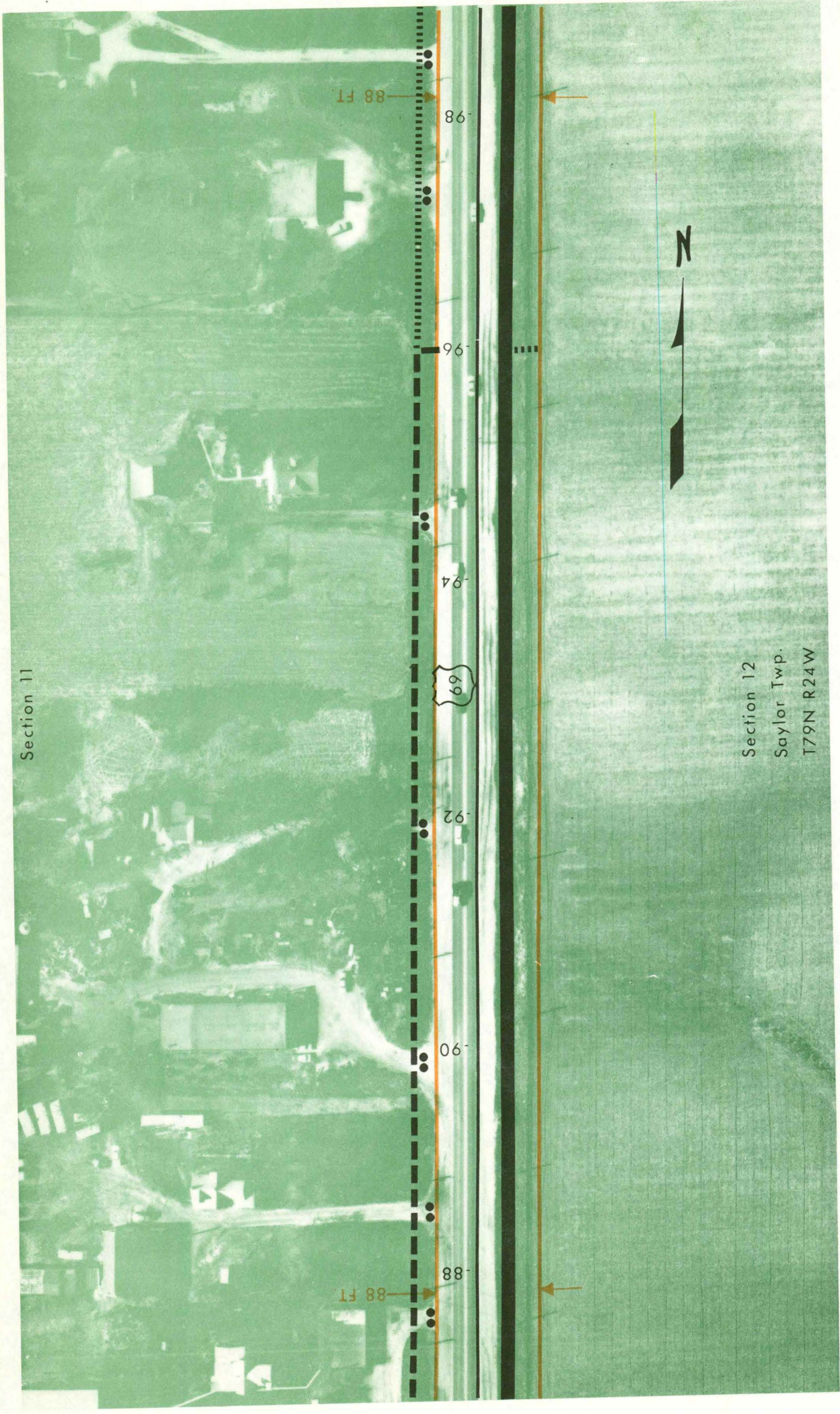
N.E. 54th Ave.

Section 12  
Saylor Twp.  
T79N R24W





Section 11



88 FT

98

96

94

69

92

90

88

88 FT

Section 12  
 Saylor Twp.  
 T79N R24W

N





Section 11

Woodside Junior High School

69

N.E. 58th Ave. Paved



Section 12

Saylor Twp.

T79N R24W

88 FT

88 FT

-108

-106

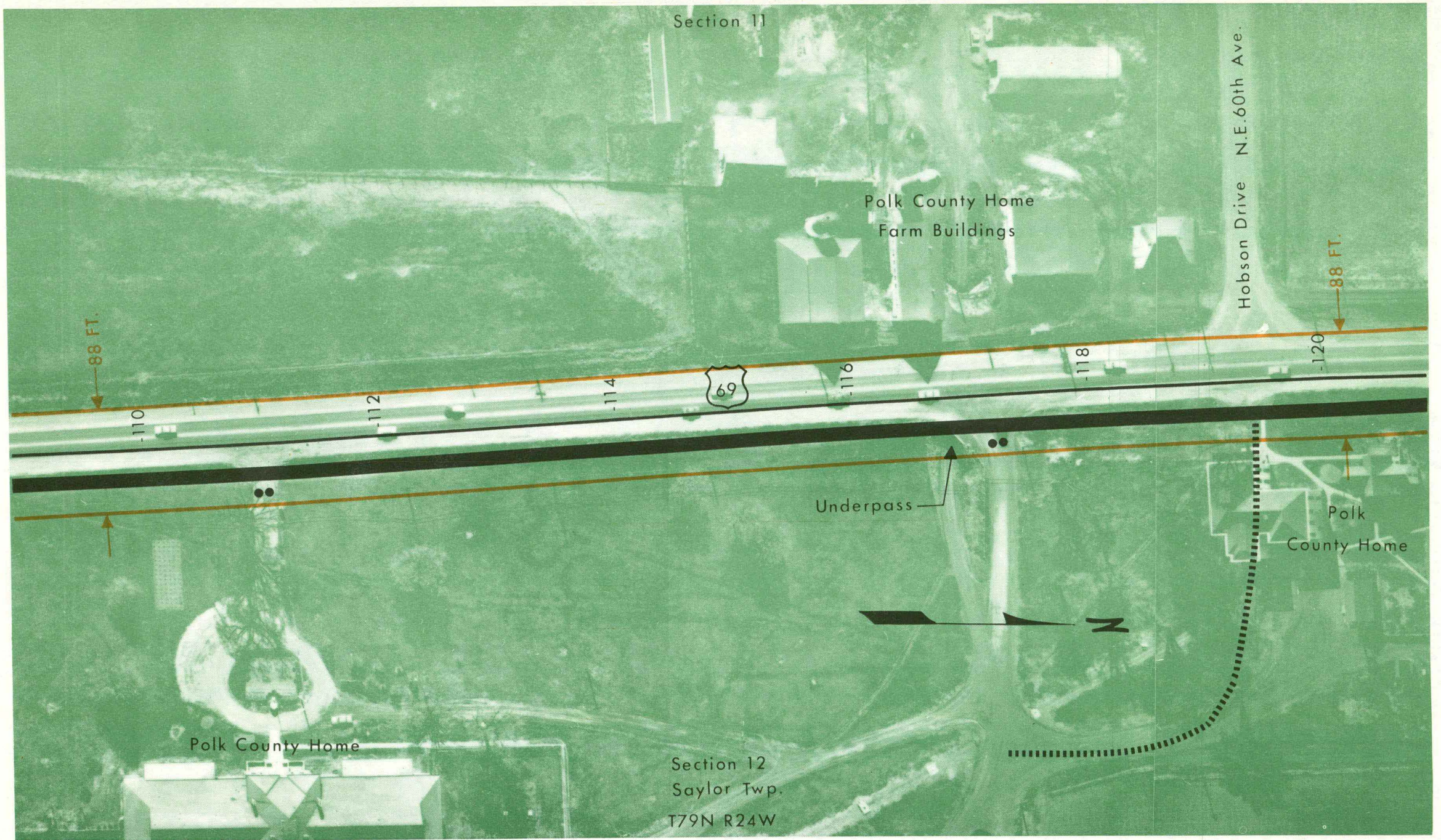
-104

-102

-100

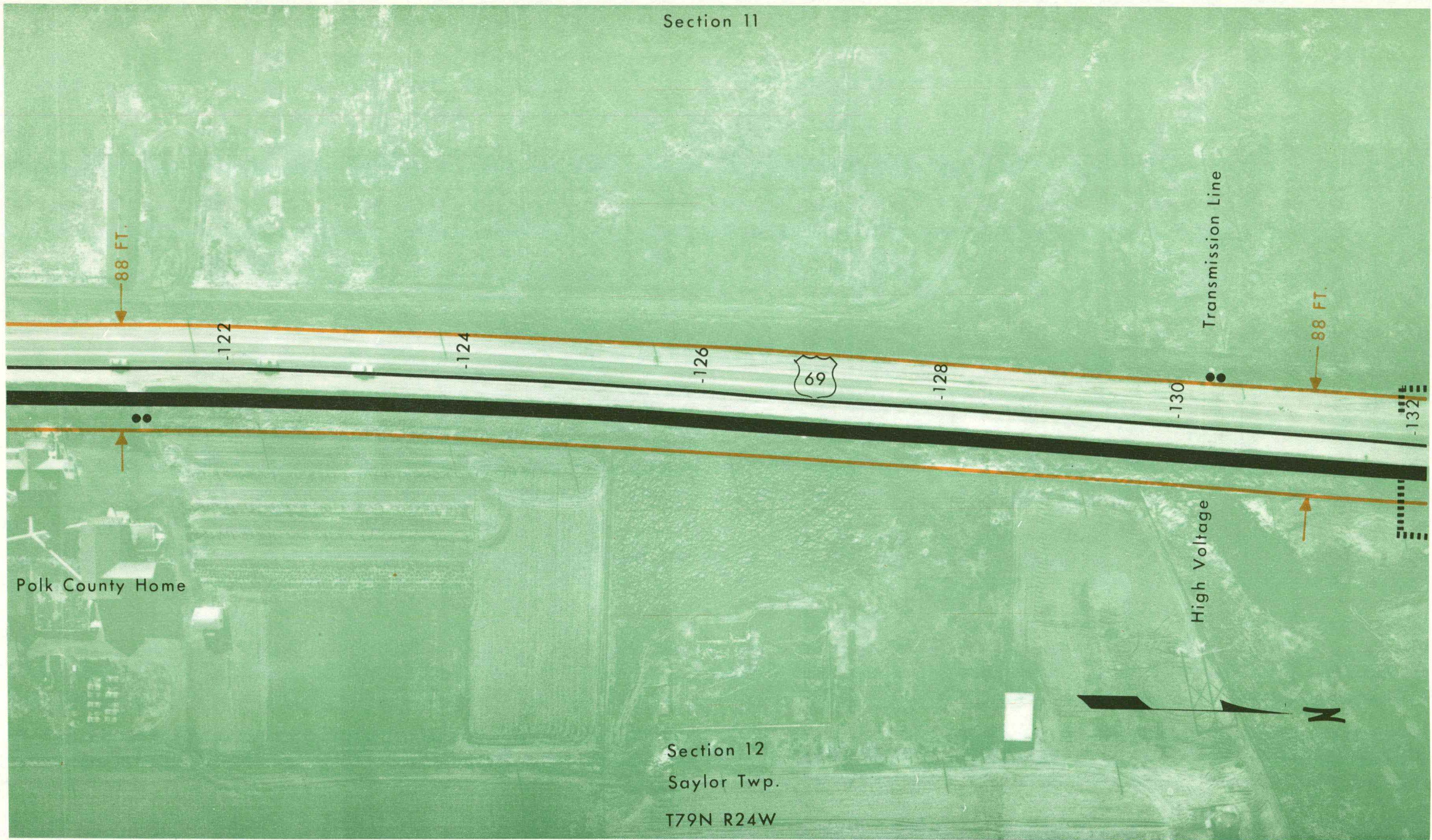
-98





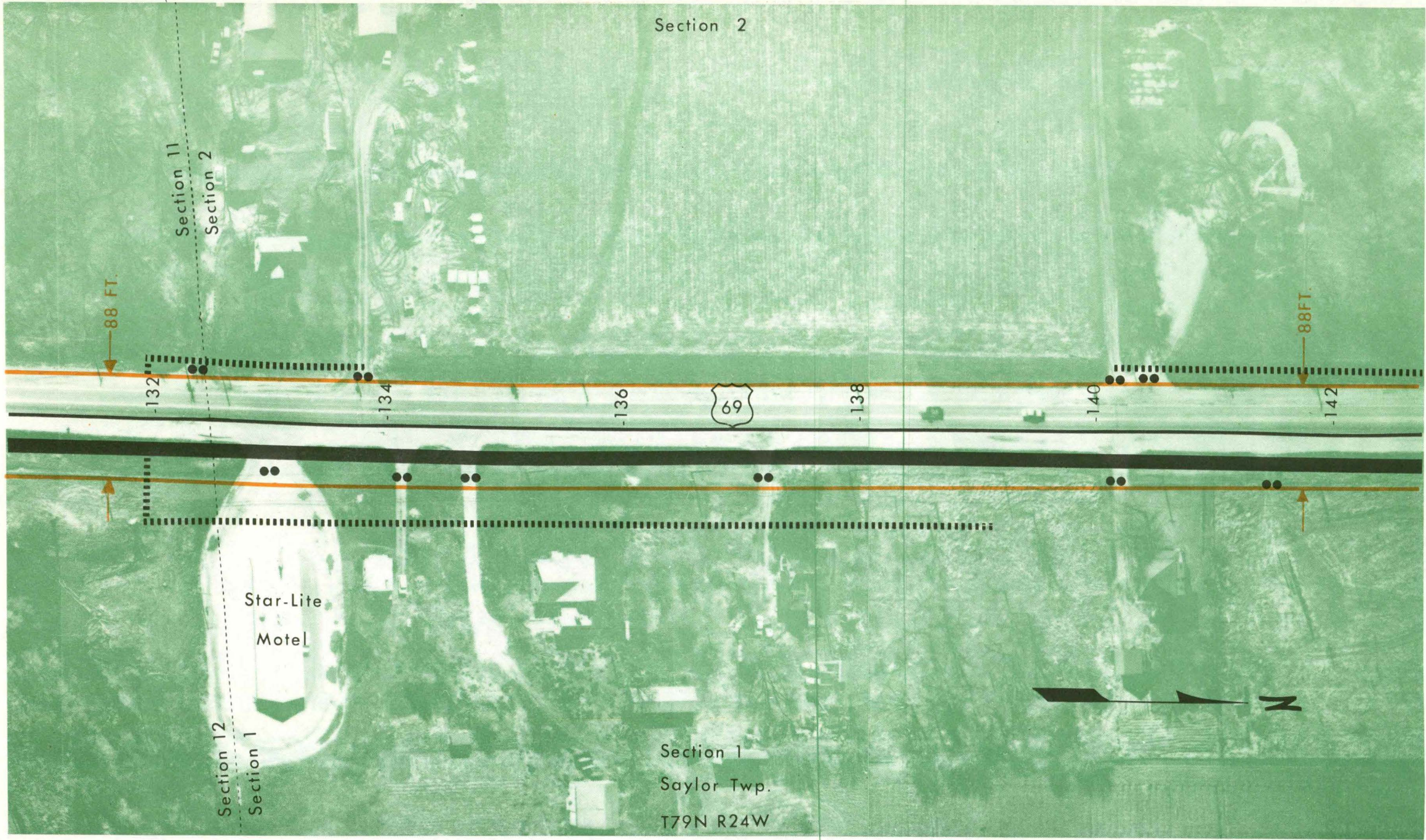


Section 11



Section 12  
Saylor Twp.  
T79N R24W





Section 2

Section 11  
Section 2

88 FT.

-132

-134

-136

69

-138

-140

-142

88 FT.

Star-Lite  
Motel

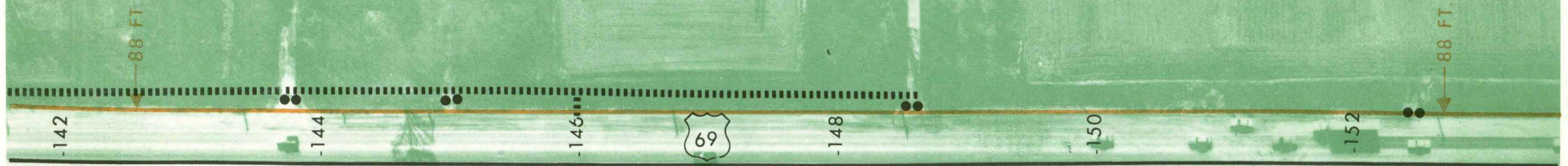
Section 12  
Section 1

Section 1  
Saylor Twp.  
T79N R24W





Section 2

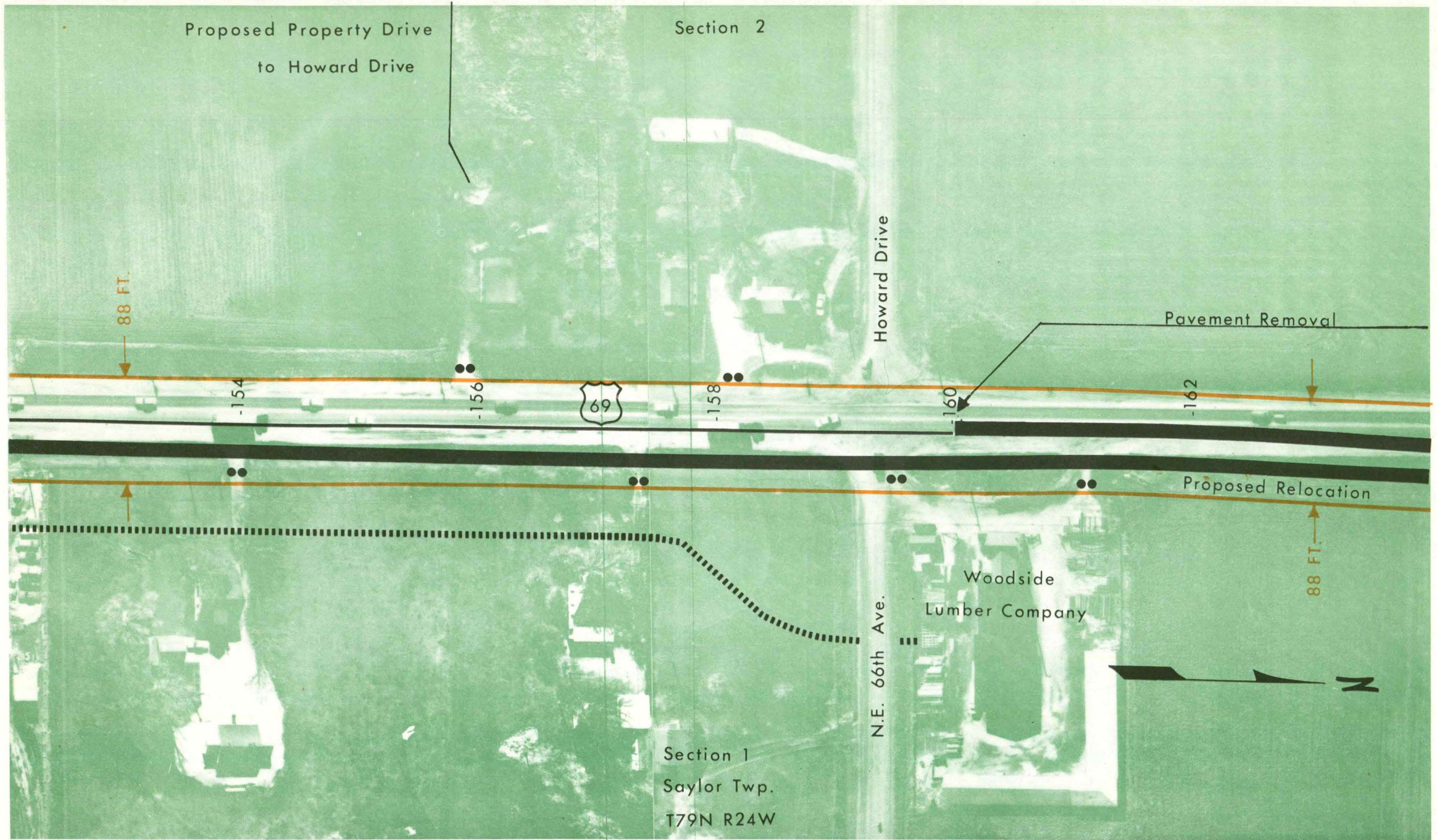


Section 1  
Saylor Twp.  
T79N R24W

Wickes Lumber Company



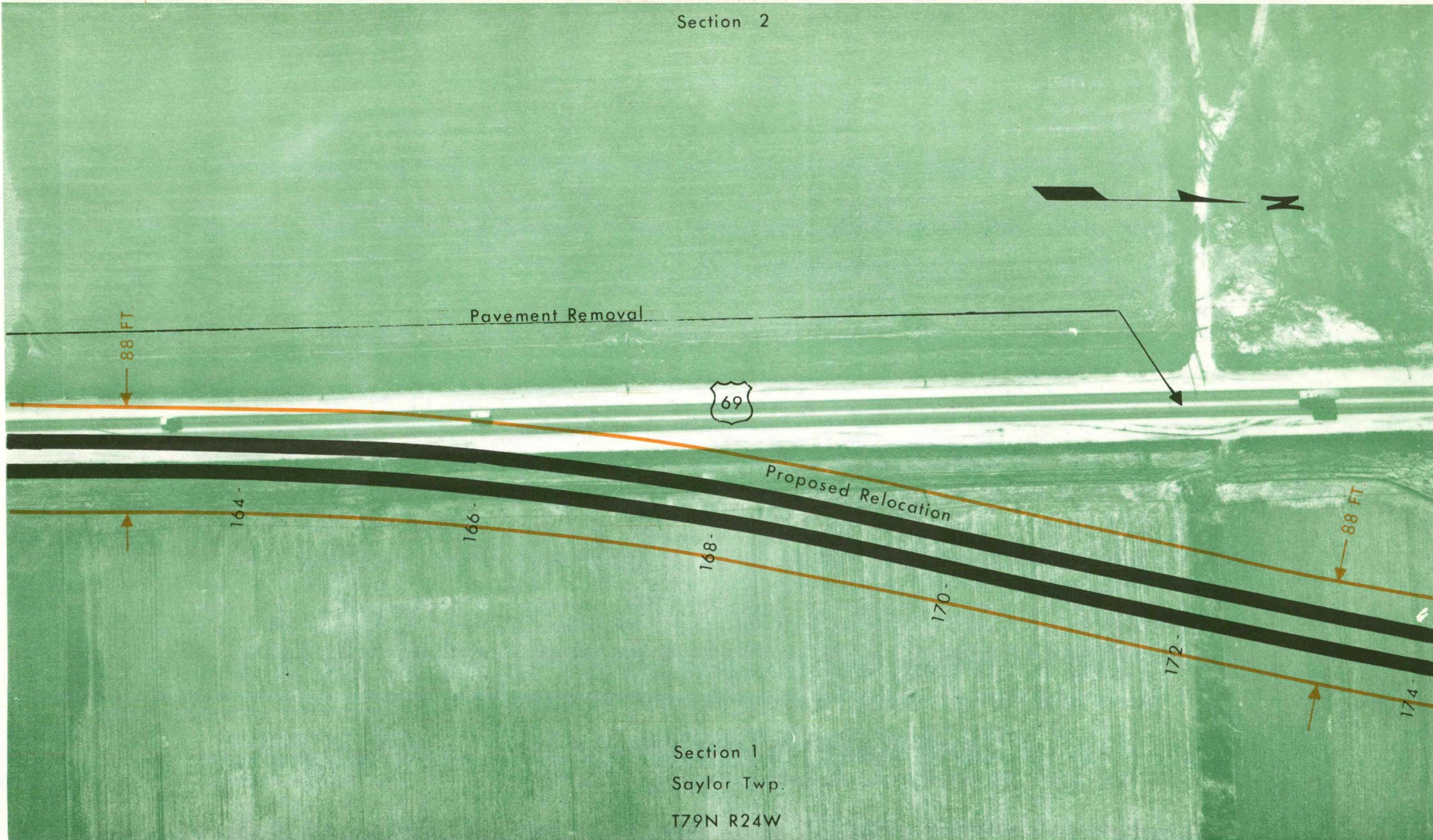




**ALTERNATE 1 - RELOCATION EAST OF CARNEY**

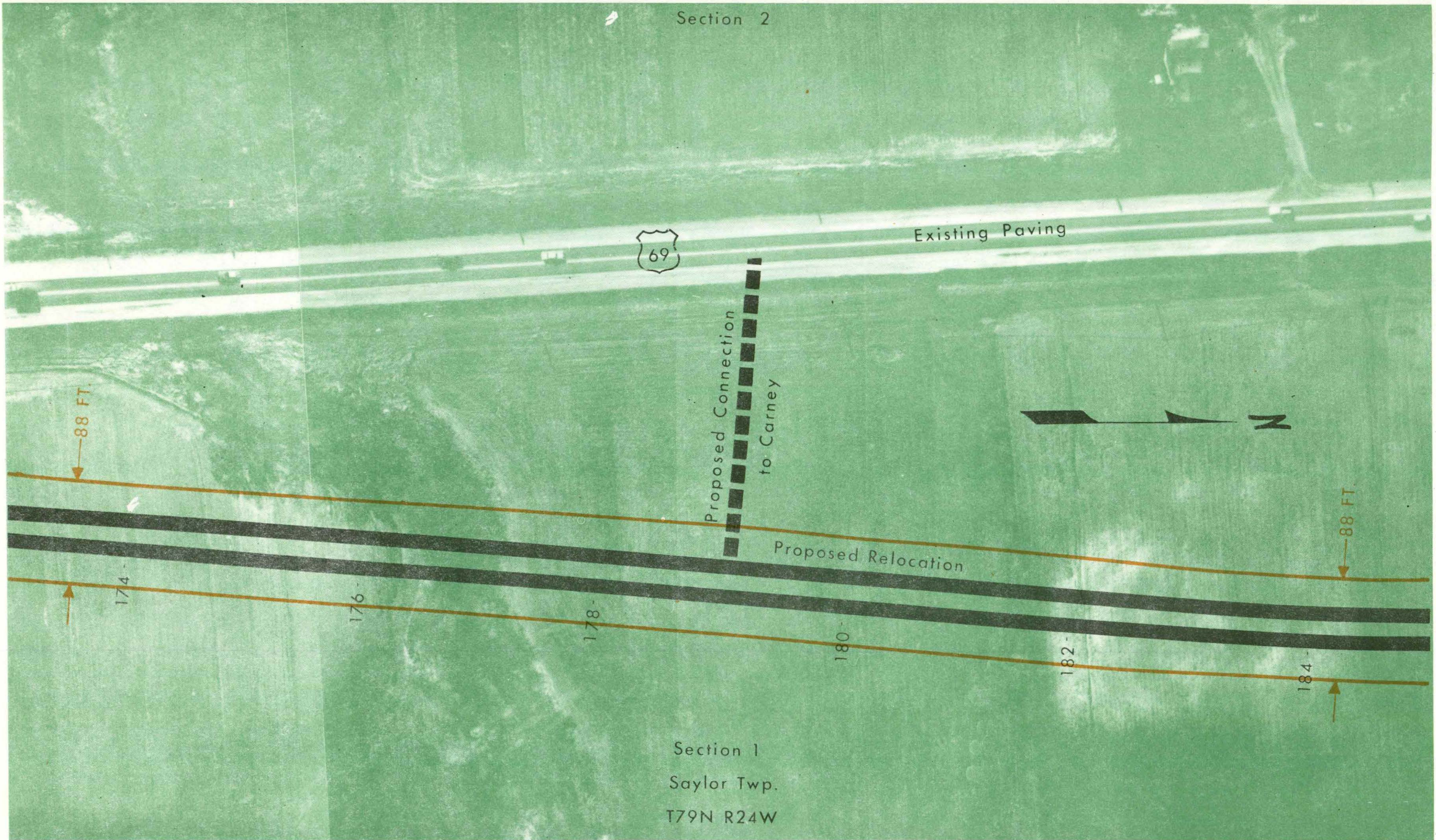


Section 2



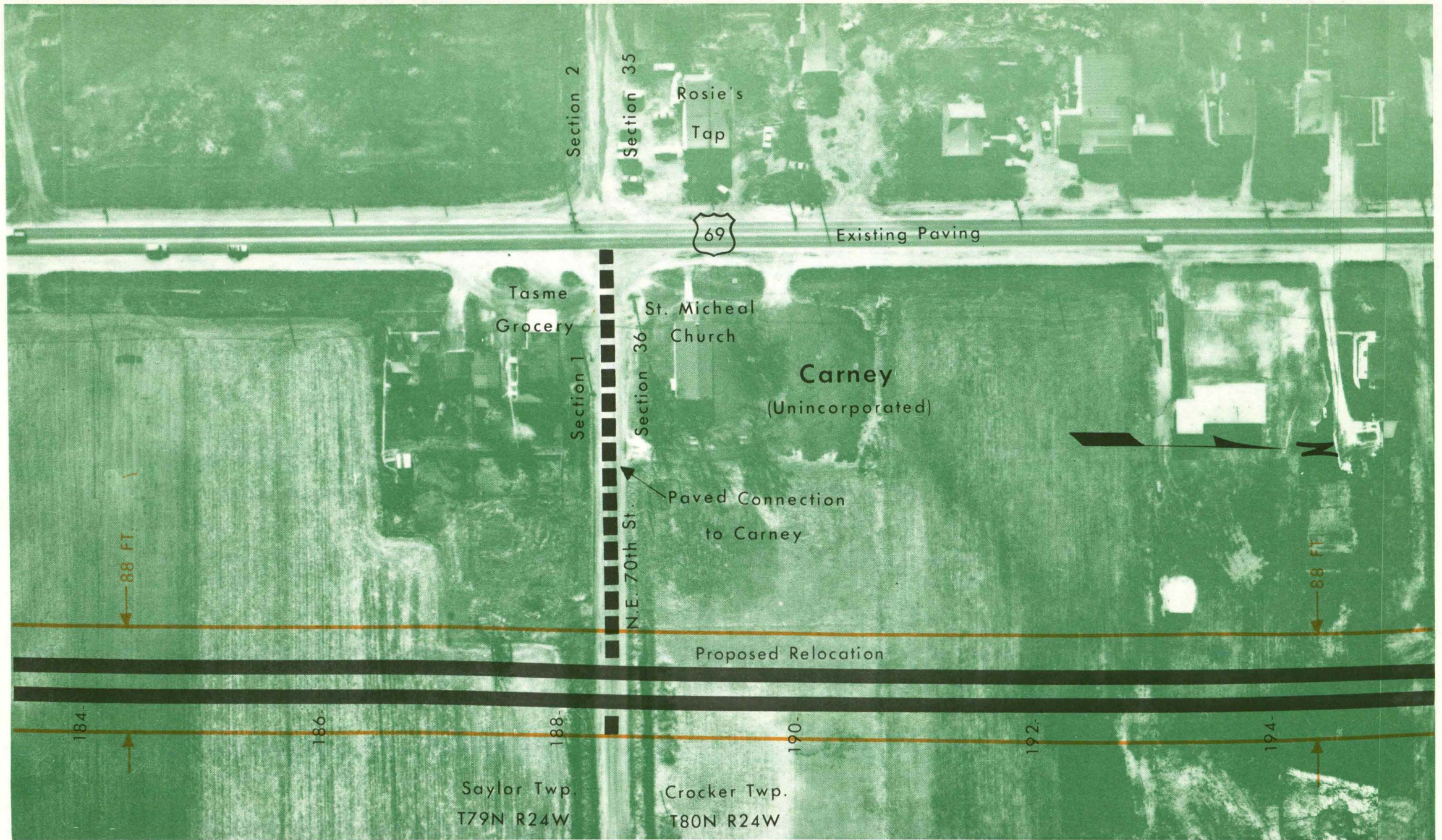
ALTERNATE 1 - RELOCATION EAST OF CARNEY





ALTERNATE 1 - RELOCATION EAST OF CARNEY





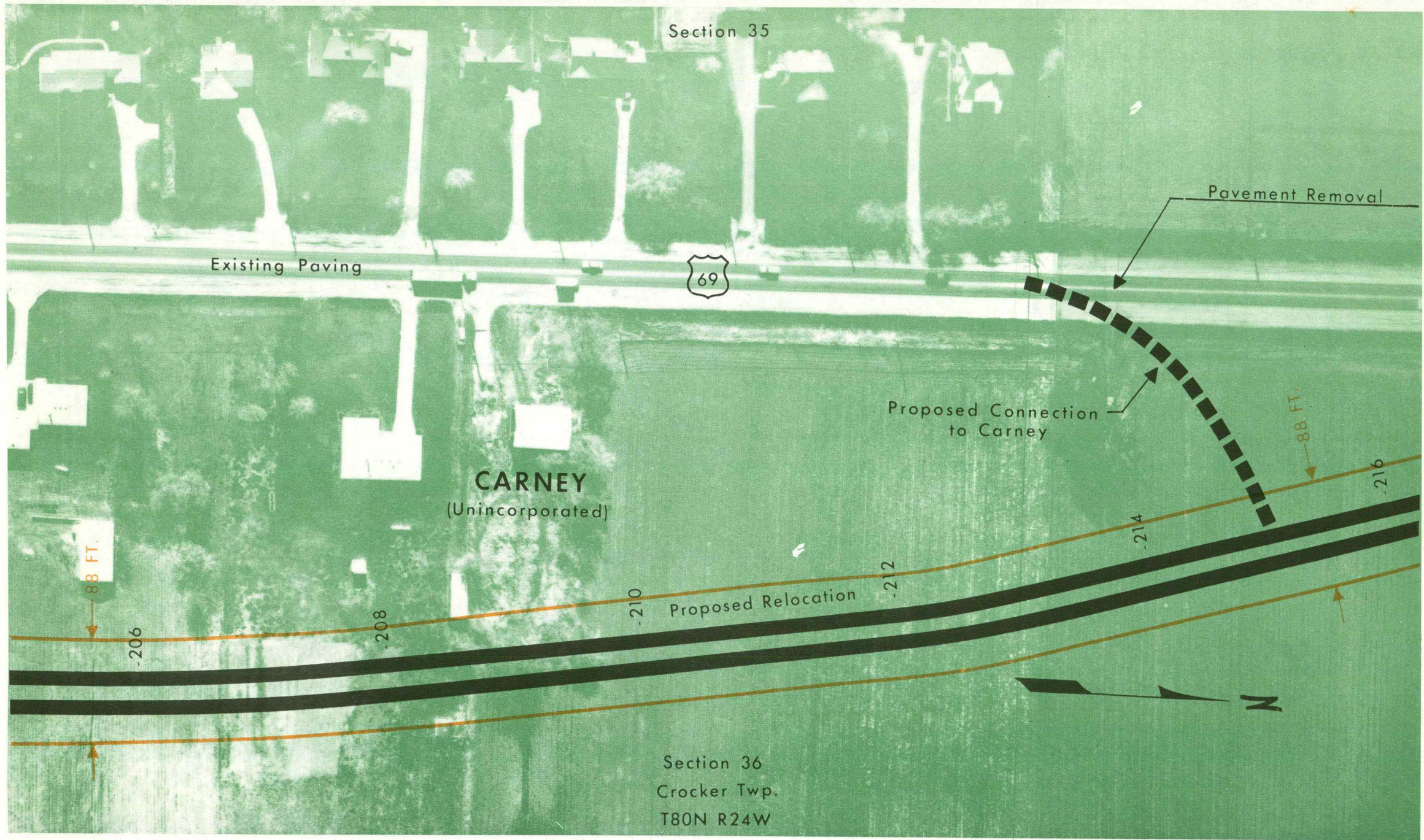
**ALTERNATE 1 - RELOCATION EAST OF CARNEY**





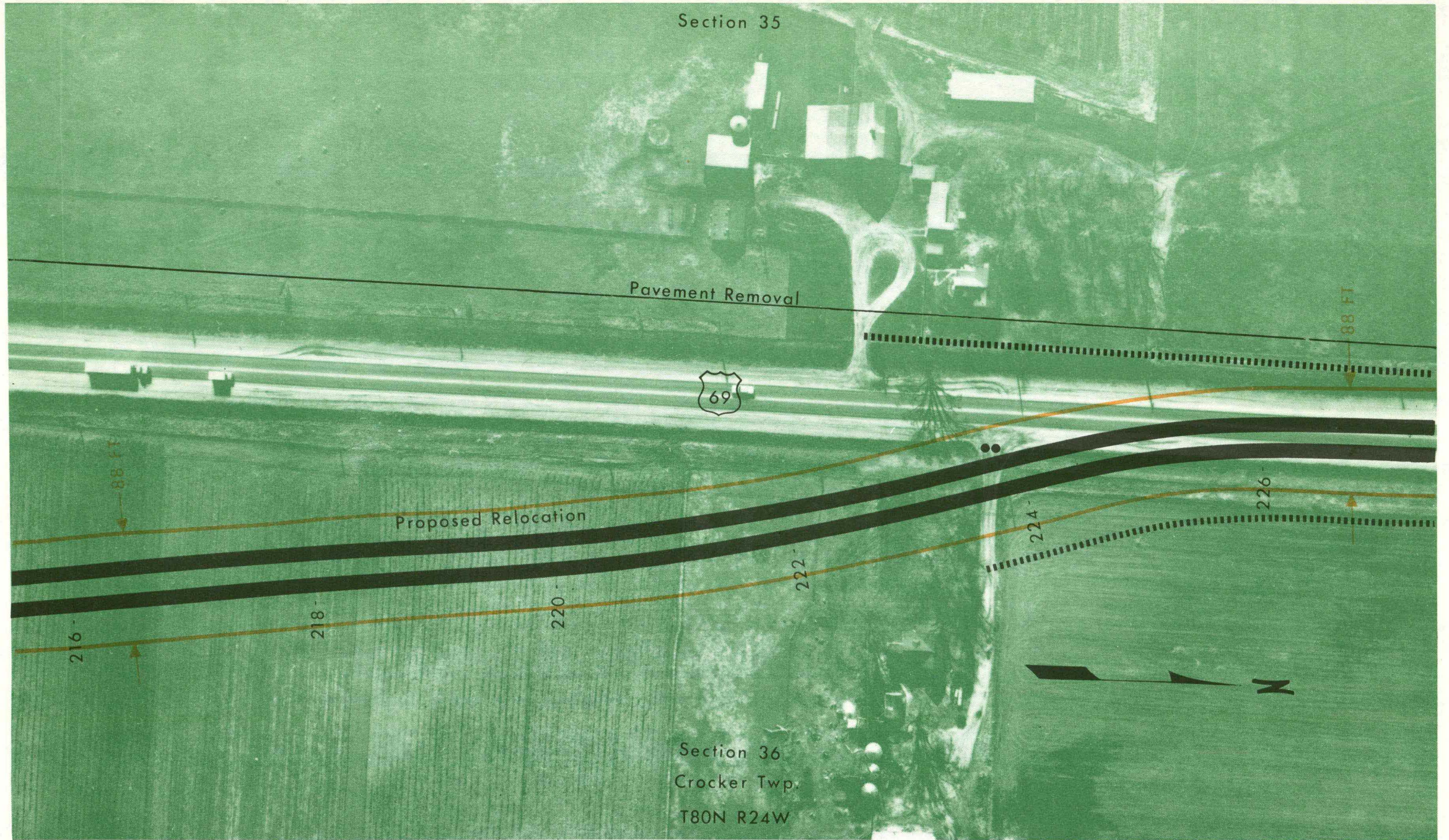
**ALTERNATE 1 - RELOCATION EAST OF CARNEY**





**ALTERNATE 1 - RELOCATION EAST OF CARNEY**

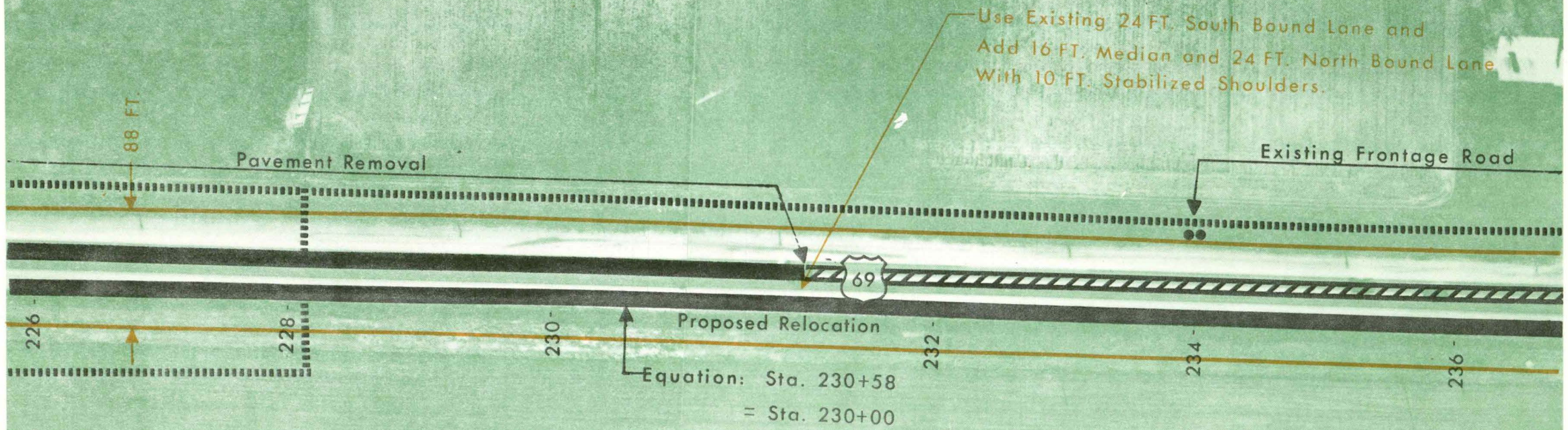




ALTERNATE 1 - RELOCATION EAST OF CARNEY



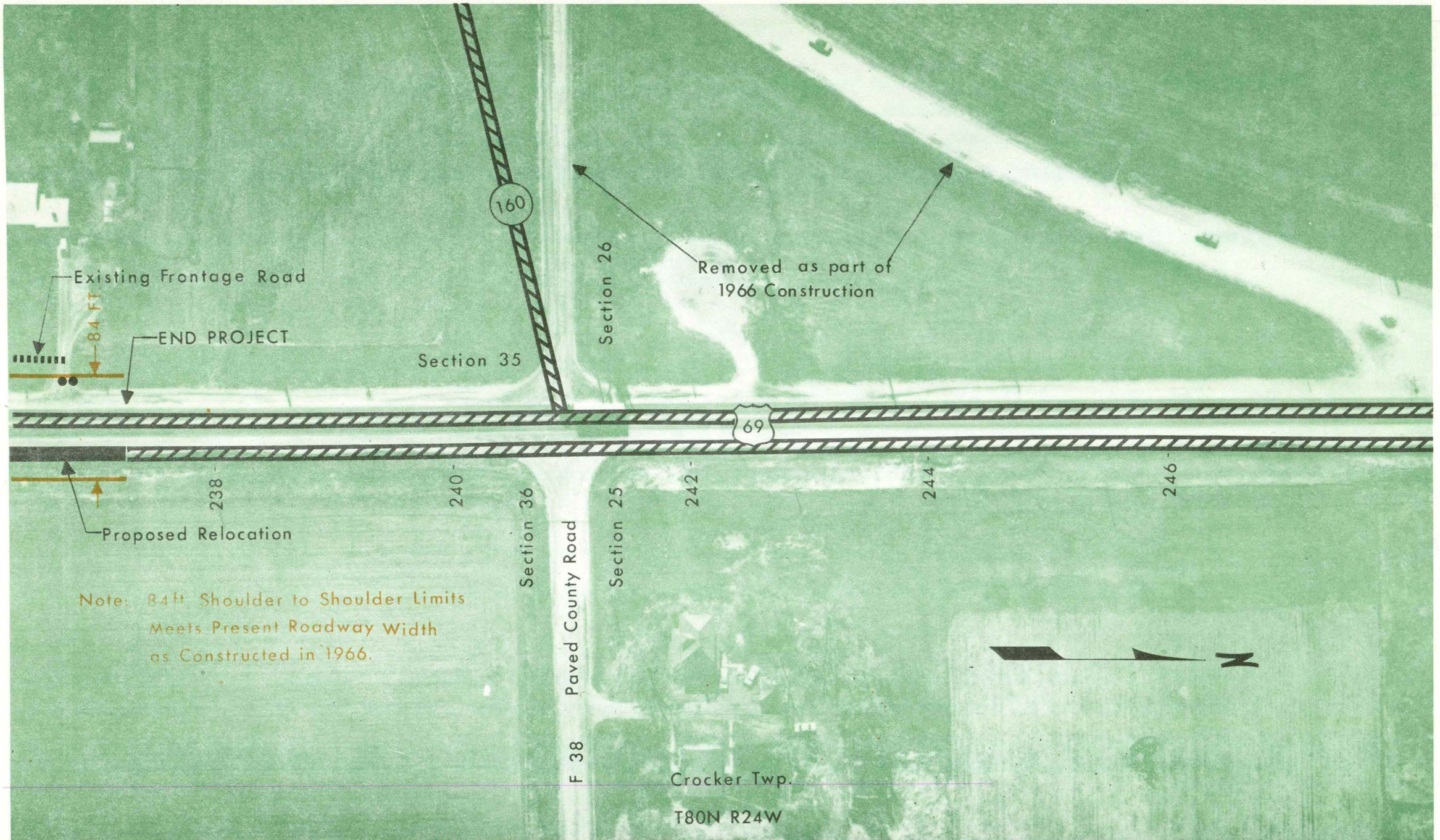
Section 35



Section 36  
Crocker Twp.  
T80N R24W

### ALTERNATE 1 - RELOCATION EAST OF CARNEY





**ALTERNATE 1 - RELOCATION EAST OF CARNEY**

IOWA STATE HIGHWAY COMMISSION		SCALE: 1 in. = 100 ft.		PLATE 19
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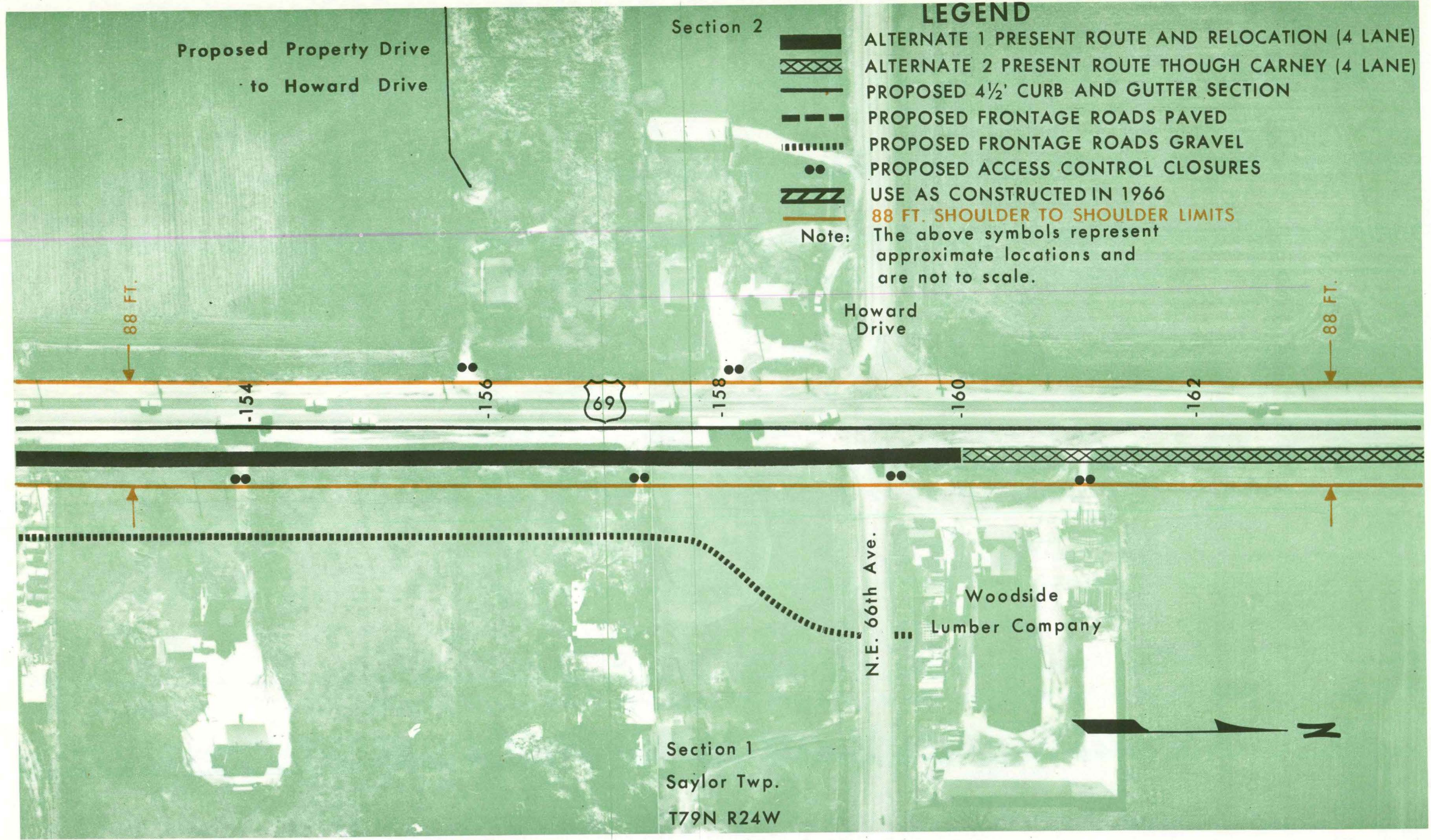
## **ALTERNATE 2**

# **FOUR-LANE THROUGH CARNEY**

**(PLATES 1 - 10 SAME AS ALTERNATE 1)**

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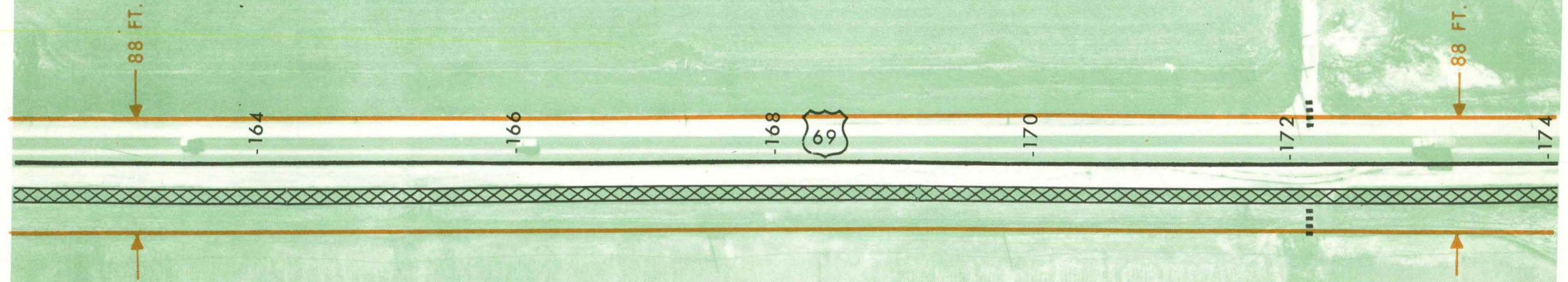




**ALTERNATE 2 - FOUR-LANE THROUGH CARNEY**



Section 2



Section 1  
Saylor Twp.  
T79N R24W

**ALTERNATE 2 - FOUR-LANE THROUGH CARNEY**

IOWA STATE HIGHWAY COMMISSION

SCALE: 1 in. = 100 ft.

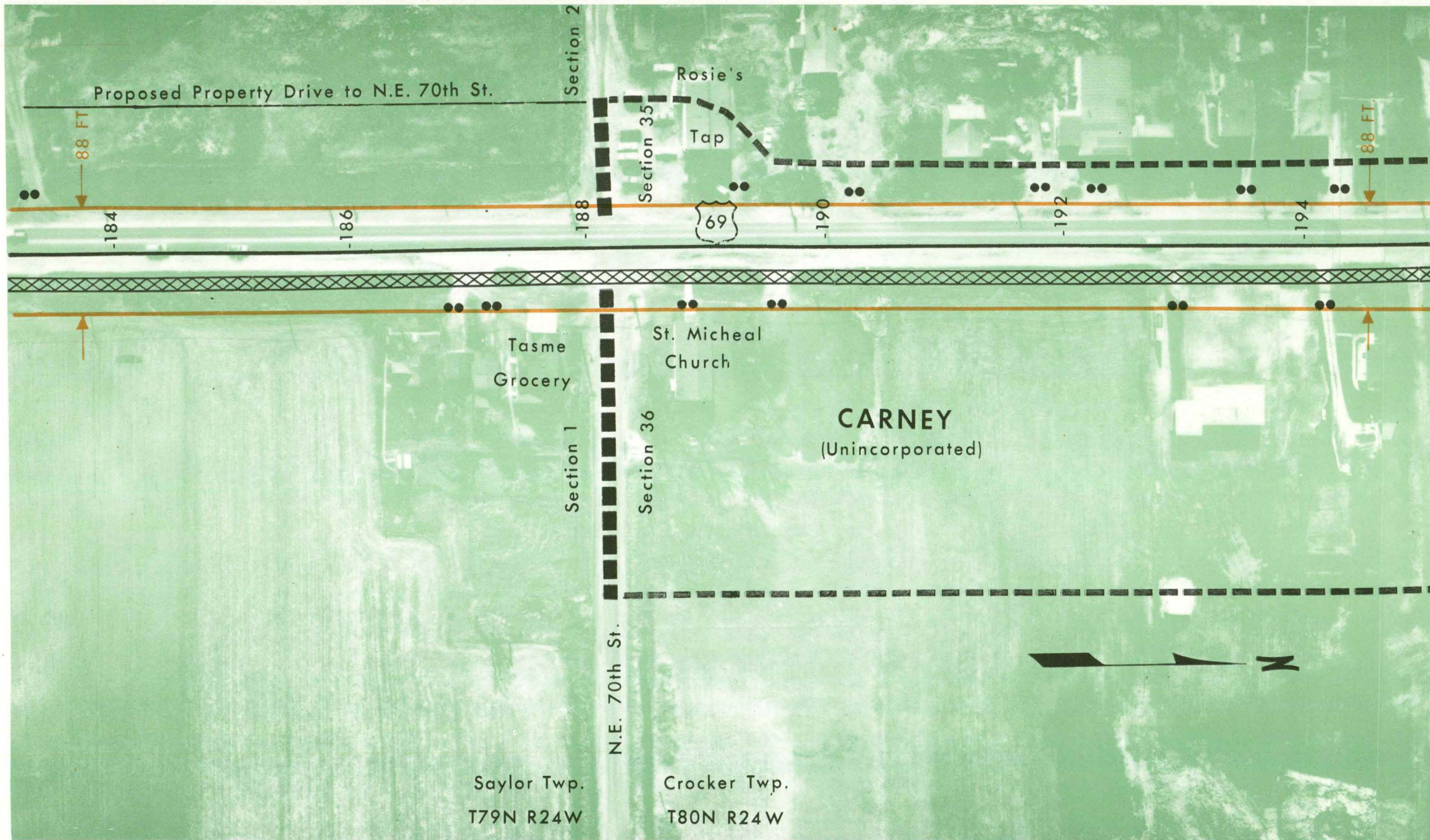
PLATE 12





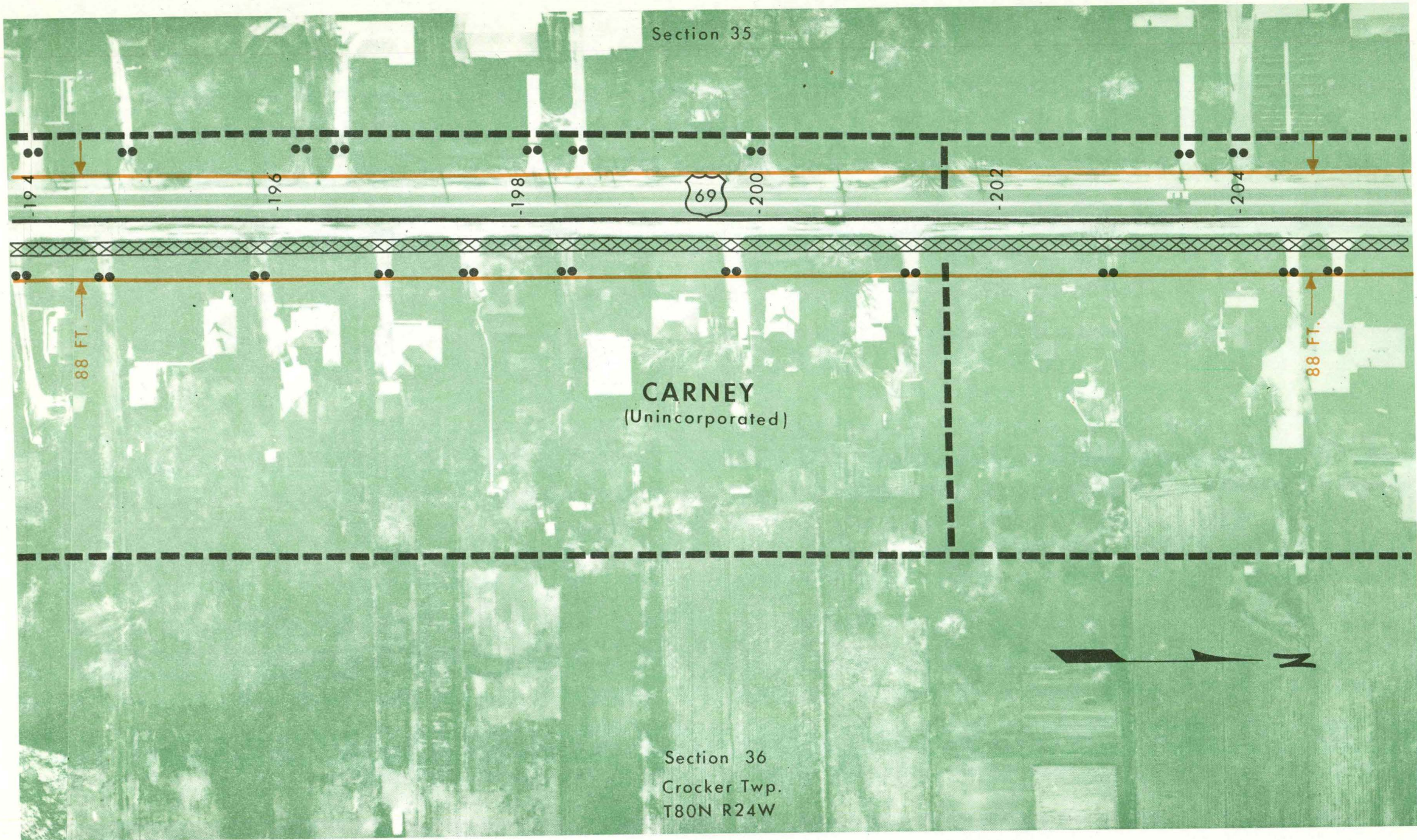
**ALTERNATE 2 - FOUR-LANE THROUGH CARNEY**





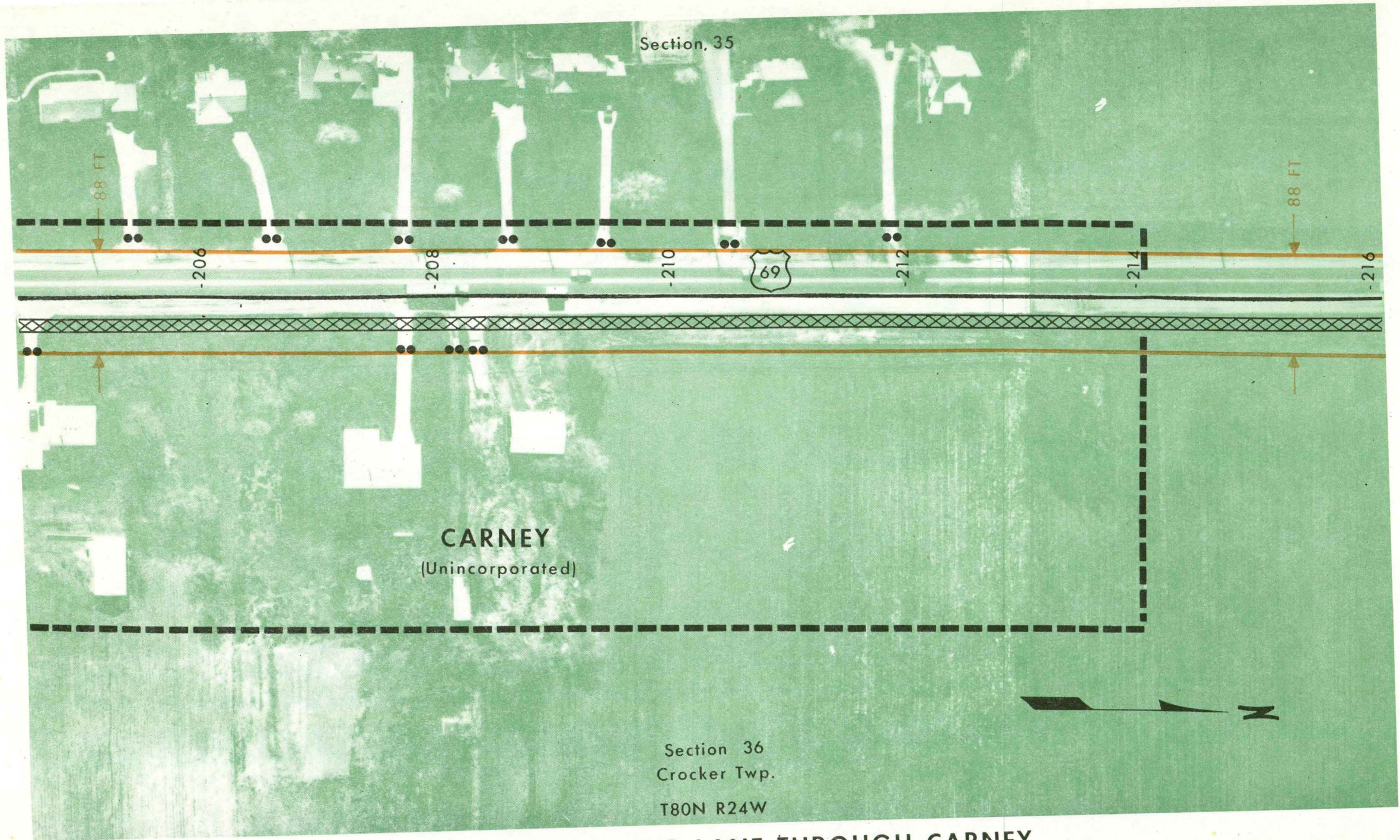
**ALTERNATE 2 - FOUR-LANE THROUGH CARNEY**





ALTERNATE 2 - FOUR-LANE THROUGH CARNEY





Section, 35

88 FT

-206

-208

-210

69

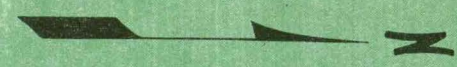
-212

-214

-216

88 FT

CARNEY  
(Unincorporated)



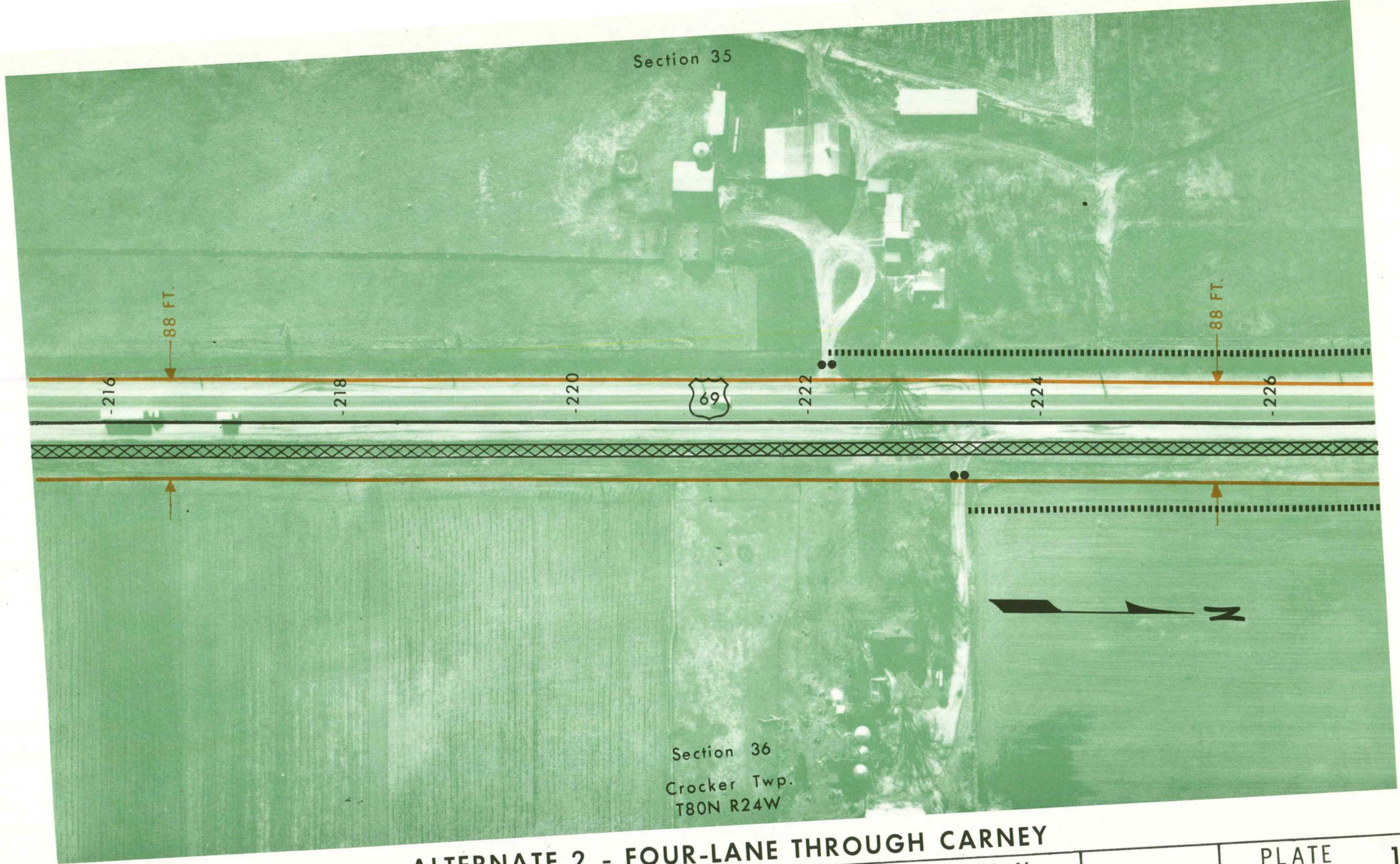
Section 36  
Crocker Twp.  
T80N R24W

ALTERNATE 2 - FOUR-LANE THROUGH CARNEY

IOWA STATE HIGHWAY COMMISSION		SCALE: 1 in. = 100 ft.		PLATE 16
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Section 35



Section 36  
 Crocker Twp.  
 T80N R24W

**ALTERNATE 2 - FOUR-LANE THROUGH CARNEY**

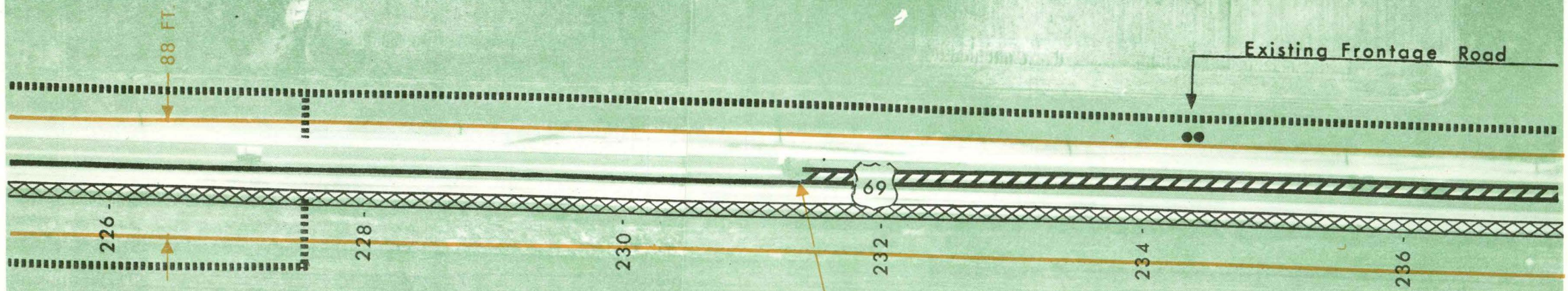
SCALE: 1 in. = 100 ft.

PLATE 17

IOWA STATE HIGHWAY COMMISSION



Section 35



Use Existing 24 FT. South Bound Lane and Add 16 FT. Median and 24 FT. North Bound Lane With 10 FT. Stabilized Shoulders.

Section 36  
Crocker Twp.  
T80N R24W

**ALTERNATE 2 - FOUR-LANE THROUGH CARNEY**







STATE LIBRARY OF IOWA



3 1723 02117 1012