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VEKOL-ESTRELLA PARKWAY  
EXTENSION  
ROUTE STUDY

MARICOPA COUNTY HIGHWAY  
DEPARTMENT  
ENGINEERING DIVISION



MARCH 15, 1990

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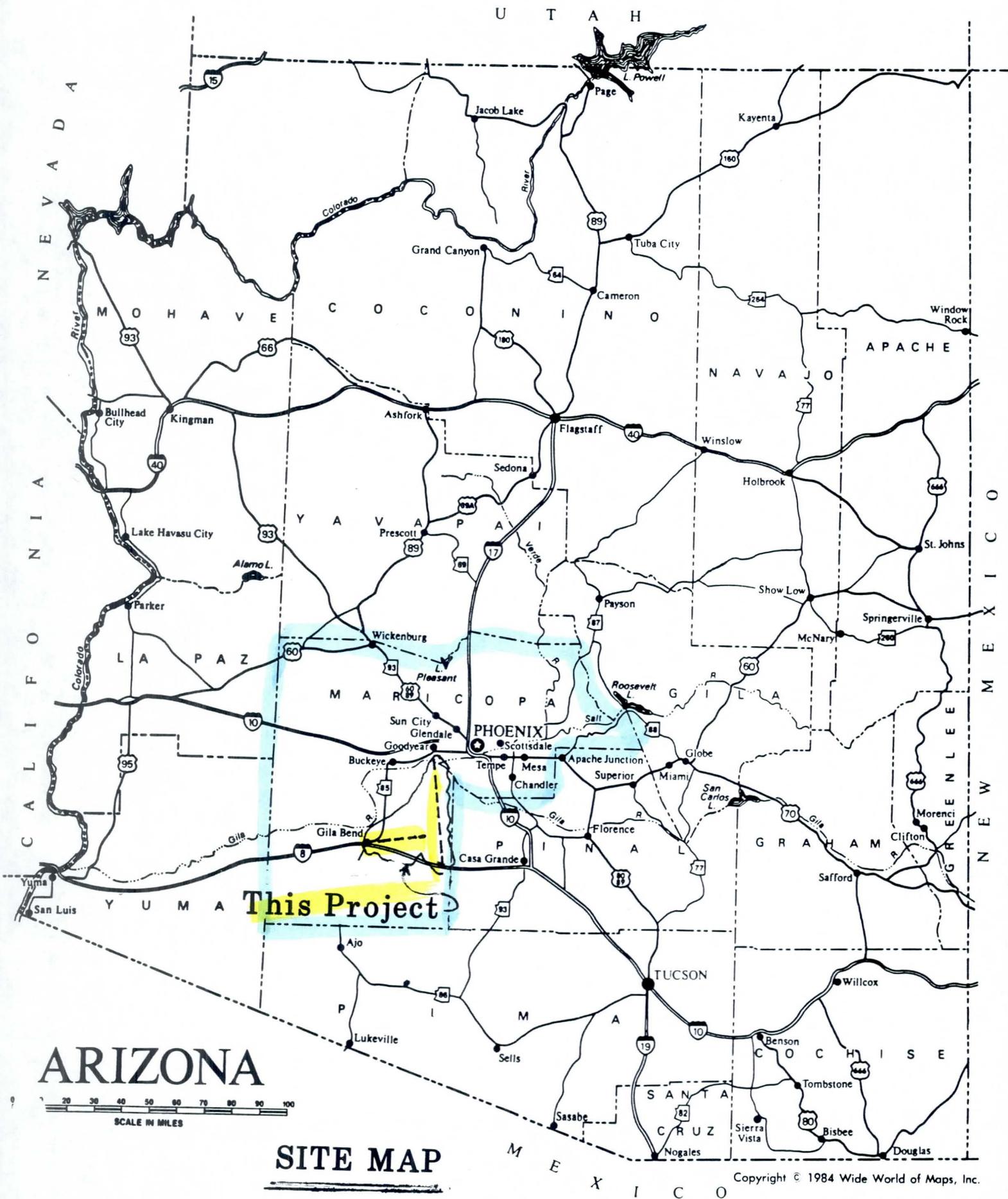
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## I. OBJECTIVE:

At the request of Mr. Charles A. Walheim, Highway Advisory Board member, a route study extending the existing Estrella Parkway south to Interstate 8 (I-8) has been accomplished. An evaluation of five alternate routes between the Vekol Interchange and the Estrella Parkway (Fig.2) and paving of Maricopa Road from Gila Bend east to the end of existing pavement (19 miles) are contained herein.

## II. DESIGN CRITERIA:

The breakdown of costs associated with each alternative is divided into two general categories, fixed and variable costs.

A. **FIXED COST:** Fixed costs represent those elements which have costs independent of the route itself. Fixed costs include the following:

1. Vekol TI at I-8
2. RR overpass, SR-238 TI at Mobile
3. Land values (by general area)
4. Paving Maricopa Road (SR-238)

B. **VARIABLE COSTS:** Variable costs change with each alternative as follows:

1. Construction costs
  - a. Roadway length
  - b. Associated drainage
  - c. Number of lanes (MAG typical sections)
2. R/W Acquisition (total acres)
3. Engineering & Construction Management

Roadway prisms of 2, 4, and 6 travel lanes (Fig.1) for each alternative are considered for this study.

III. COST ESTIMATES:

A. MARICOPA ROAD (SR-238) 19 mi:

Adequate rights-of-way exist for this project. The existing alignment traverses approximately 76 drainage crossings with limited visibility. A large portion of the cost is associated with drainage.

Total Cost = \$13.5M (\$0.71M/mile).

B. VEKOL-ESTRELLA PARKWAY:

A summary of cost estimates for the proposed five alternatives is as follows:

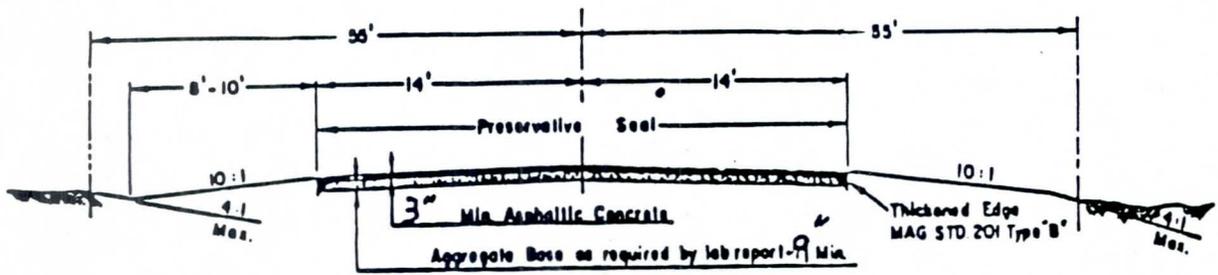
Alt. No.	I	II	III	IV	V	Remarks
Length	37.4 mi	39.8 mi	39.9 mi	36.8 mi	37.5 mi	AV.\$/mi
2-lane	22.2	23.2	23.1	21.3	22.1	0.584
4-lane	34.2	36.7	36.9	34.1	35.2	0.924
6-lane	49.8	53.1	53.5	49.4	50.7	1.338

Note: All values are in millions of dollars.

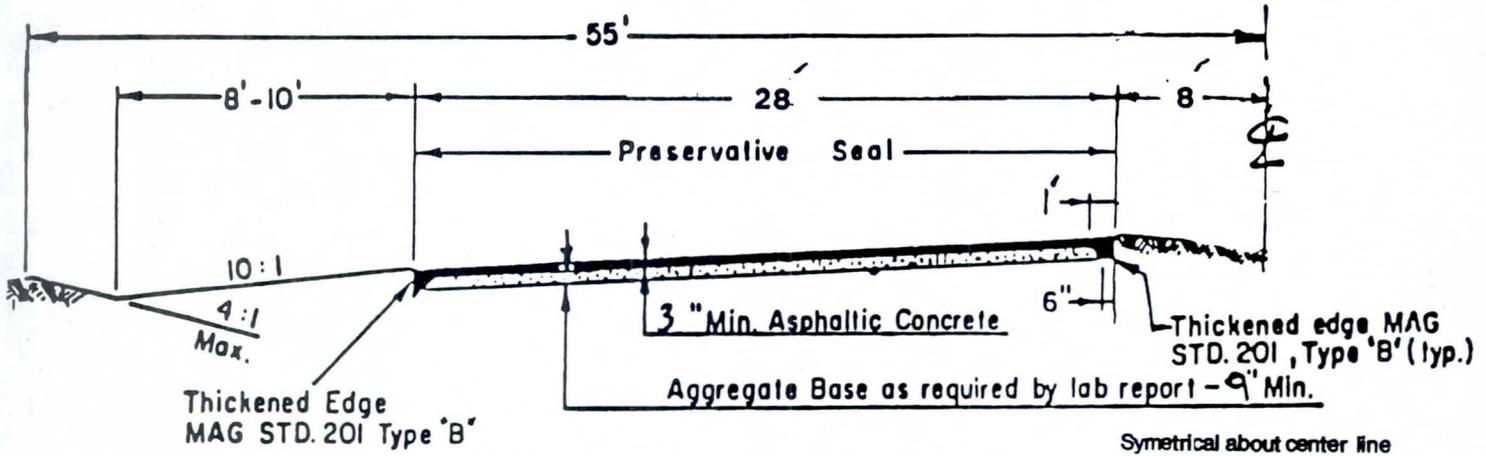
IV. RECOMMENDATIONS:

There is little difference between the individual routes when comparing cost per mile for the Vekol-Estrella Parkway Extension.

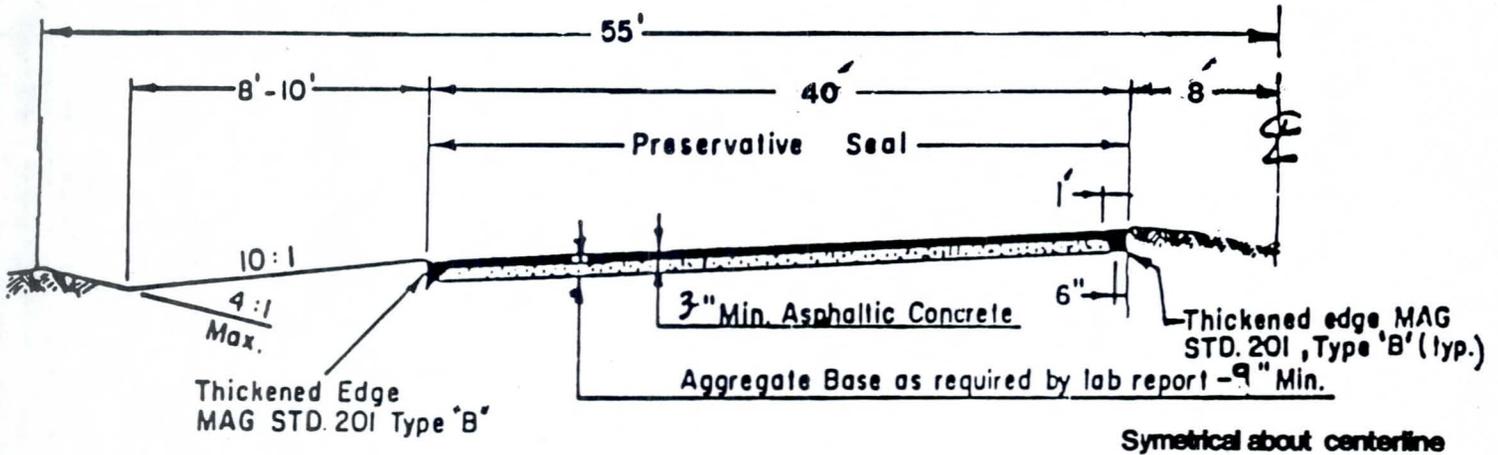
Considering all other cost related factors being nearly equal, Alternate IV is considered the most cost effective due to its shorter length and fewer drainage crossings.



2-Lanes



4-Lanes



6-Lanes

Roadway Cross Sections

FIGURE I

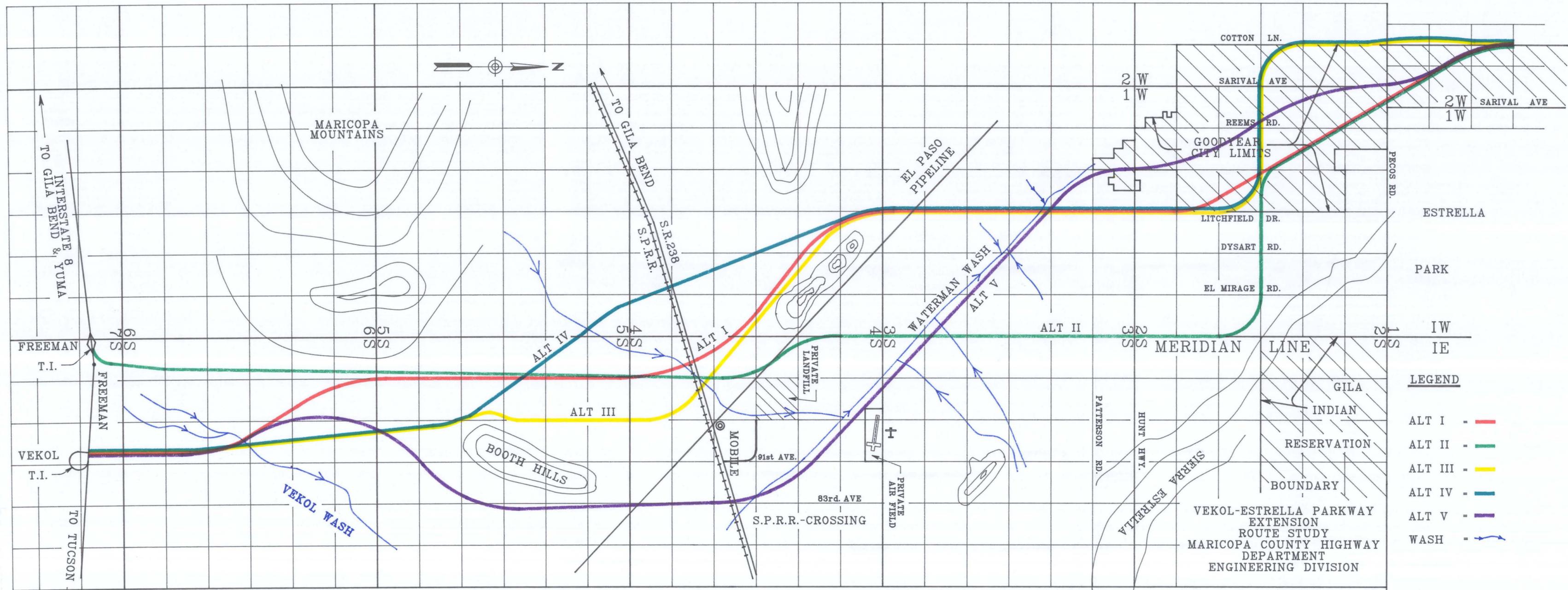


FIGURE 2