

FEASIBILITY STUDY

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Lenoir
SR 1001 (Connelly Springs Road) Between US 321A and the Southwest Loop
Caldwell County
U-2211

Prepared by
Planning and Research Branch
Division of Highways
N.C. Department of Transportation

June, 1987

Lenoir
SR 1001 (Connelly Springs Road) Between US 321A and the Southwest Loop
Caldwell County
U-2211

The subject project is included in the 1987-1995 Transportation Improvement Program (T.I.P.) for feasibility study but is not currently funded. The project has strong local support and is considered a moderate priority for funding in the T.I.P. update.

I. GENERAL DESCRIPTION

This study covers the improvement of SR 1001 (Connelly Springs Road) between US 321A and the Southwest Loop at Lenoir in Caldwell County, a distance of 1.4 miles (See Figure 1 for location map and Figure 2 for photos of selected locations along the roadway). A five-lane, 59-foot face to face of curbs section is recommended. This cross-section can be contained within an 80-foot wide right of way plus easements.

II. EXISTING CONDITIONS

SR 1001 (Connelly Springs Road) is designated a major thoroughfare by the mutually adopted Lenoir Thoroughfare Plan and functions as an urban major collector according to the Statewide Functional Classification Plan. The route is a part of the federal-aid urban system FAU-7533 and provides access between Lenoir and the Cahah Mountain area.

The subject route currently carries approximately 10,500 vehicles per day (VPD) projected to increase to 16,800 VPD by the year 2007. These volumes include 3% dual-tired trucks, 1% truck tractor, semi-trailers and an 11% design hour volume. The route is currently operating near capacity (level of service E). The proposed improvements will improve operations along the route to level of service C thru the planning period.

Existing pavement width throughout the project is 20 feet with 4-foot wide usable shoulders on each side. This cross-section is contained within an existing 60-foot right of way.

Despite the hilly terrain of the area, most of the subject roadway has an acceptable horizontal and vertical alignment. An approximately 16° horizontal curve located about 0.7 mile southwest of the SR 1001/US 321A intersection is the only location with a significantly restrictive sight distance. The route has a posted speed limit of 35 MPH except south of SR 1167 (toward the southern end of the project) where the posted limit is 45 MPH.

There are no culverts or bridges located on the subject project. The only major highway structure on the project is Bridge #183 which carries SR 1001 over the Carolina and Northwestern Railway. This bridge, built in 1937, is 145 feet long and has a clear roadway width of about 24 feet. One train per day crosses under the bridge. There are no traffic signals on the subject portion of SR 1001 except at the SR 1001 intersection with US 321A where a three phase semi-actuated signal controls the traffic flow. No additional signals appear to be needed.

Development along the project is primarily urban in nature consisting of moderate density residential uses mixed with some commercial, institutional and light industrial uses.

Electric power, telephone, water, and sewer utilities are located along the project.

III. RECOMMENDED IMPROVEMENTS

Widening the subject portion SR 1001 to a multi-lane facility is desirable. Provision of a five-lane (59-foot face to face of curbs) urban roadway is recommended and should be constructed on new location between SR 1167 and US 321A, a distance of approximately 0.9 mile (Total project length is 1.4 miles). This cross-section can be contained within an 80-foot right of way plus easements. The Town of Lenoir and the NCDOT Division Office concur in the recommended 59-foot curbed width. The Lenoir Thoroughfare Plan is currently being revised to call for relocating SR 1001 between the Carolina and Northwestern Railroad bridge and US 321A so that the route can tie into Hibriten Drive (See Figure 3 for a copy of the Lenoir Thoroughfare Plan). The Thoroughfare Planning Unit has no objection to relocating more of the road (recommended alignment relocates SR 1001 between SR 1167 and US 321A) considering the reduced number of parcels involved and less property damage caused by the recommended alignment. The recommended improvements also call for an at-grade crossing with the Carolina and Northwestern Railway.

Total estimated cost of the recommended improvements is \$3,950,000. This includes \$3,100,000 for construction and \$850,000 for right of way.

IV. ALTERNATIVES

The following three alternative alignments were studied to determine the most desirable improvement to the subject portion of SR 1001:

Alternate 1 - Existing location for the entire length of the project (1.4 miles)

Right of Way Involvement: 85 parcels
Estimated Cost: \$3,850,000; includes \$2,050,000 for Construction and \$1,800,000 for right of way.

Alternate 2 - Existing location between the Southwest Loop and the existing Carolina and Northwestern Railroad bridge

New Location between the Carolina and Northwestern Railroad bridge and US 321A at the intersection with Hibriten Drive (2000 feet of relocation). This is the relocation currently being considered for approval by the City of Lenoir and the NCDOT in the updated Lenoir Thoroughfare Plan.

Right of Way Involvement: 80 parcels
 Estimated Cost: \$3,650,000; includes \$2,450,000 for Construction and \$1,200,000 for right of way.

- Alternate 3 - Existing location between the Southwest Loop and SR 1383 (Walt Arney Road). New location between SR 1383 and US 321A at the intersection with Hibriten Drive (4600 feet of relocation)

Right of Way Involvement: 52 parcels
 Estimated Cost: \$3,950,000 includes \$3,100,000 for Construction and \$850,000 for right of way.

All of the estimates are based on current dollars and include 15% for engineering and contingencies.

V. ENVIRONMENTAL IMPACTS

No significant environmental impacts are anticipated if the recommended improvements are made. Although families or business will be displaced, the recommended improvement will have fewer displacees than the alternative alignments and will provide a more desirable alignment than exists with the 16° horizontal curve. During construction of the project, there may be some erosion and siltation of local drainage ditches. The project may also involve some seasonally flooded bottom land along one of the major drainage ditches. However, most impacts to animal or plant life are expected to be minor. Delay and inconvenience to motorists will be short-term in nature and minimized by constructing much of the project on new location. Some increase in noise levels may result from these improvements but there is no reason to believe that they will be substantial.

VI. SCOPE OF STUDY

Construction cost estimates, furnished by the Roadway Design Unit, were based on a 1"=200' contour map and a field review of the project. The Right of Way Branch used the same contour map to furnish right of way estimates.

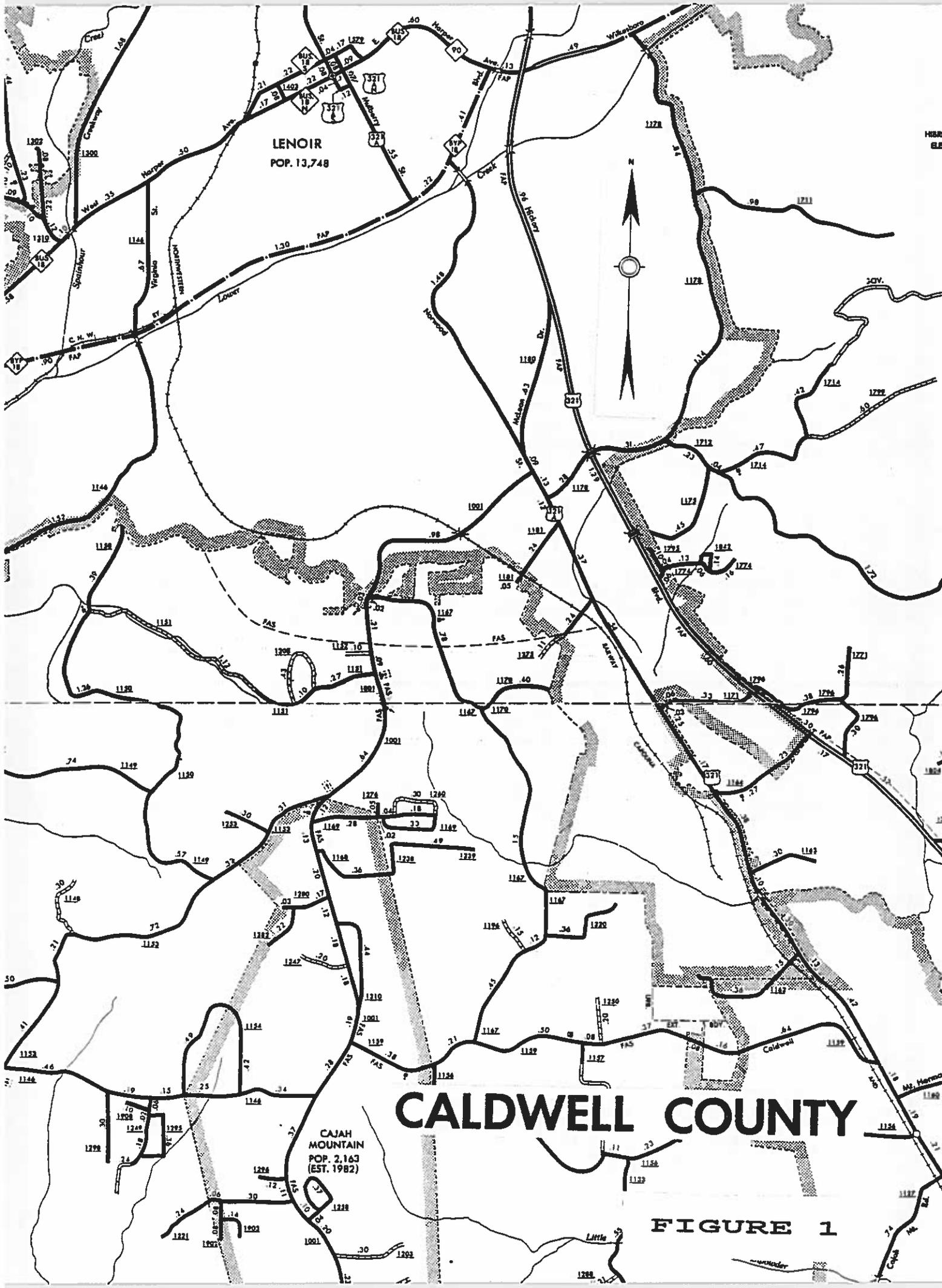
VII. SUPPLEMENTARY CONSIDERATION

In addition to the subject improvement, consideration was given to extending the 5-lane urban cross-section between US 321A and US 321 and providing an interchange at US 321 (See Figure 4 for aerial showing interchange configuration). The new bridge should be located immediately south of the existing bridge which will permit on-site maintenance of traffic during construction.

These additional improvements would complete a part of the Lenoir Thoroughfare Plan by providing a multilane facility between US 321 and US 321A that links Hibriten Road around the southeast side of Lenoir. The interchange provides access to US 321 where a grade separation now exists.

Total estimated cost of this supplementary improvement is \$4,300,000. This includes \$2,800,000 for construction and \$1,500,000 for right of way (Involves 15 parcels).

LS/plr



CALDWELL COUNTY

FIGURE 1

SR 1001
BETWEEN US 321A AND SOUTHWEST LOOP
LENOIR, CALDWELL COUNTY
U-2211



SR 1001 / US 321A
INTERSECTION



BRIDGE NO. 118



VIEW OF UNDEVELOPED
LAND ALONG ALIGNMENT
OF ALTERNATE 3

FIGURE 2

PROPOSED SOUTHWEST LOOP

END PROJECT

SR 1151 (ROSEDALE DR)

SR 1001 (CONNELLY SPRINGS RD)

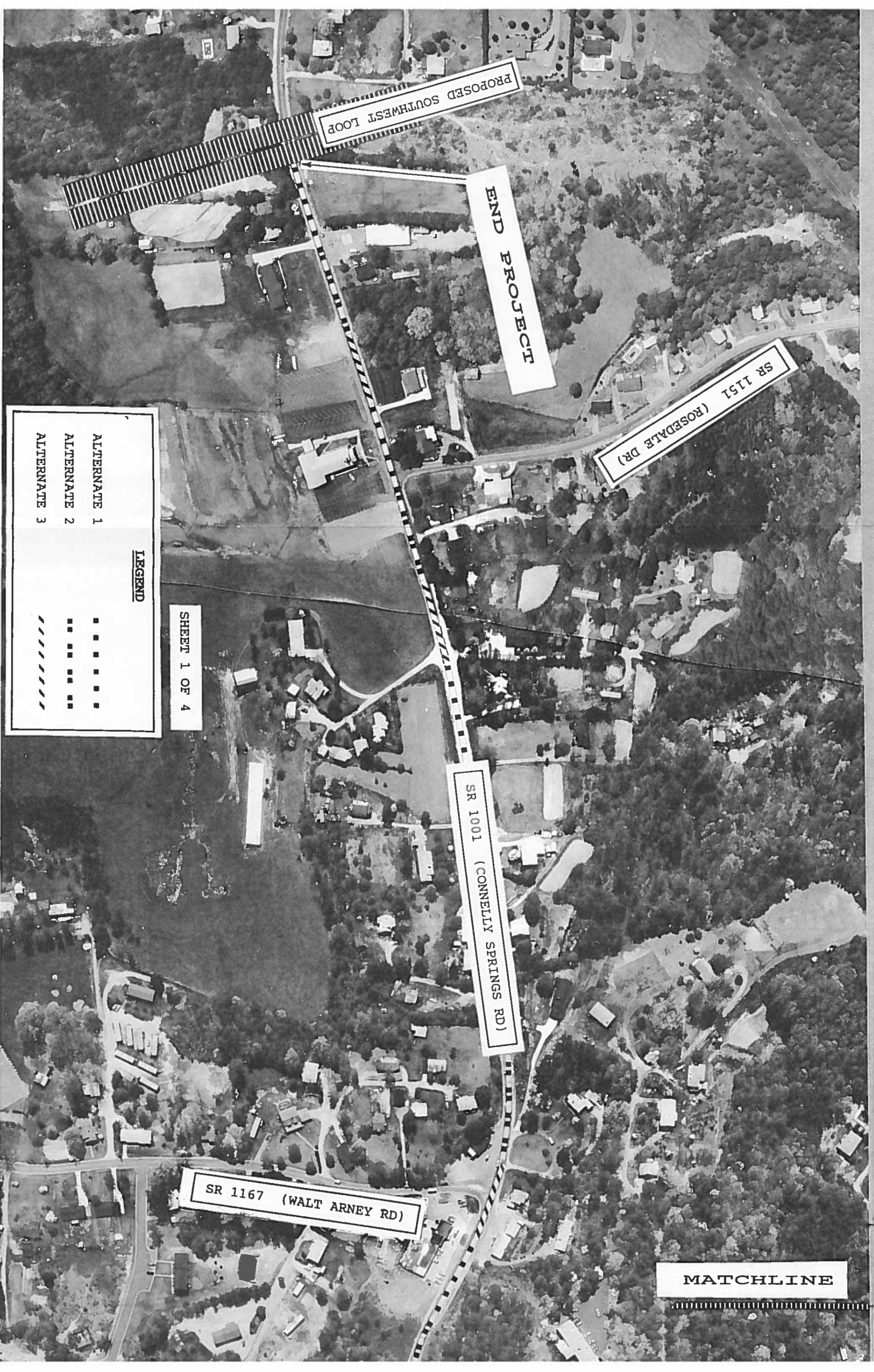
SR 1167 (WALT ARNEY RD)

MATCHLINE

SHEET 1 OF 4

LEGEND

- ALTERNATE 1
- ALTERNATE 2
- ALTERNATE 3





**LENOIR-HUDS
THOROUGHFARE P1**

JANUARY, 1987

Adopted By City Of Lenoir
 Adopted By Town Of Hudson
 Recommended Approval By
 Planning And Research Branch
 Adopted By North Carolina
 Department Of Transportation

FIGURE 3

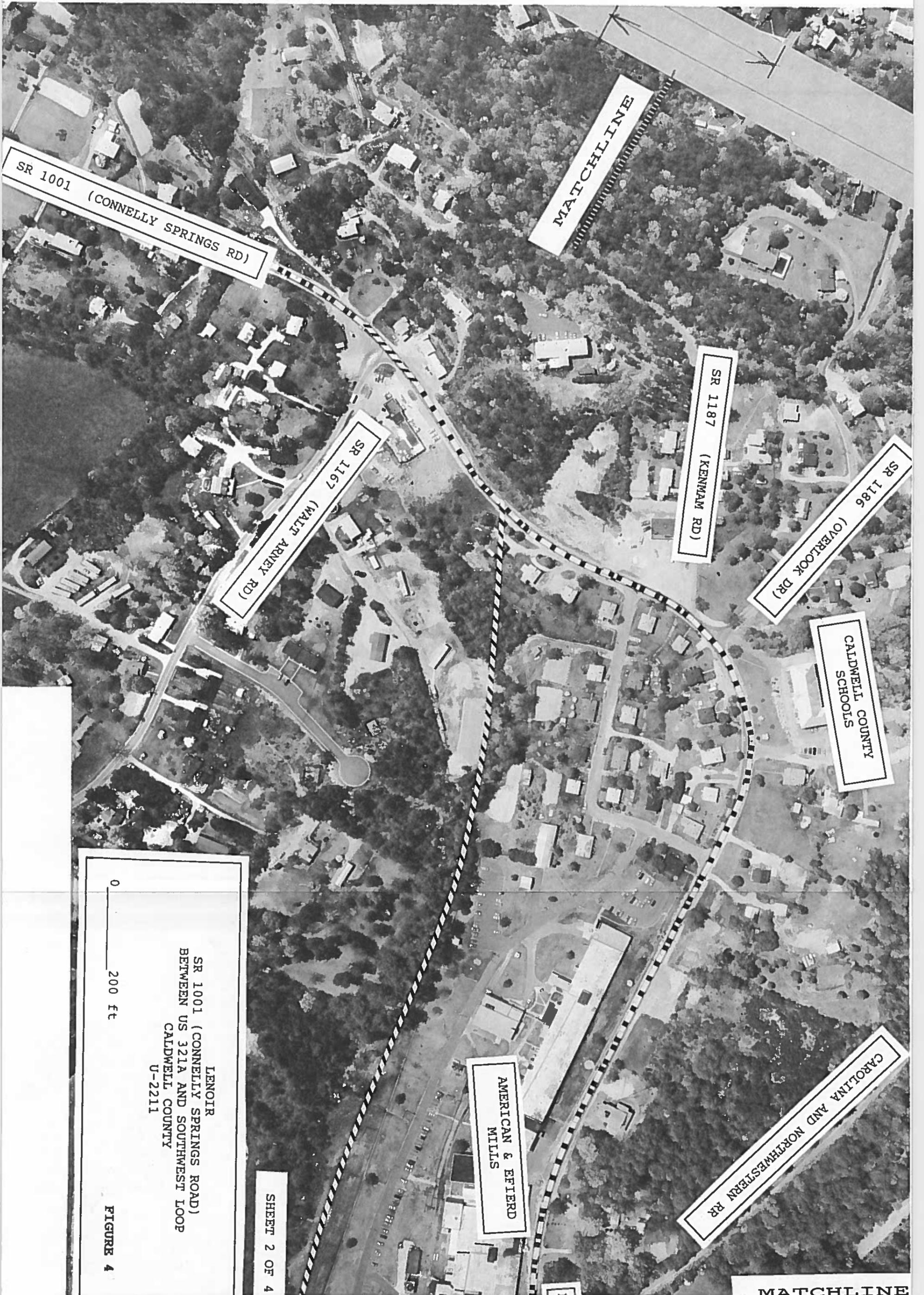
LEGEND

EXISTING	PROPOSED
MAJOR ROAD	MAJOR ROAD
MINOR ROAD	MINOR ROAD
PROPOSED INTERCHANGE	

**LENOIR
AND VICINITY**

CALDWELL COUNTY
 NORTH CAROLINA
 NORTH CAROLINA STATE DEPARTMENT
 OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 1500 SOUTH BRIDGES AVENUE
 RALEIGH, NORTH CAROLINA 27601





0 _____ 200 ft
 SR 1001 (CONNELLY SPRINGS ROAD)
 BETWEEN US 321A AND SOUTHWEST LOOP
 CALDWELL COUNTY
 U-2211
 LENOIR

SHEET 2 OF 4

FIGURE 4

MATCHLINE

MATCHLINE

BRIDGE NO. 183

DELWOOD DR

WHITNEL
METHODIST CHURCH

WHITNEL PENTECOSTAL
HOLINESS CHURCH

CENTRAL
BAPTIST CHURCH

US 321A

MATCHLINE

WHITNEL SCHOO

BEGIN PROJECT

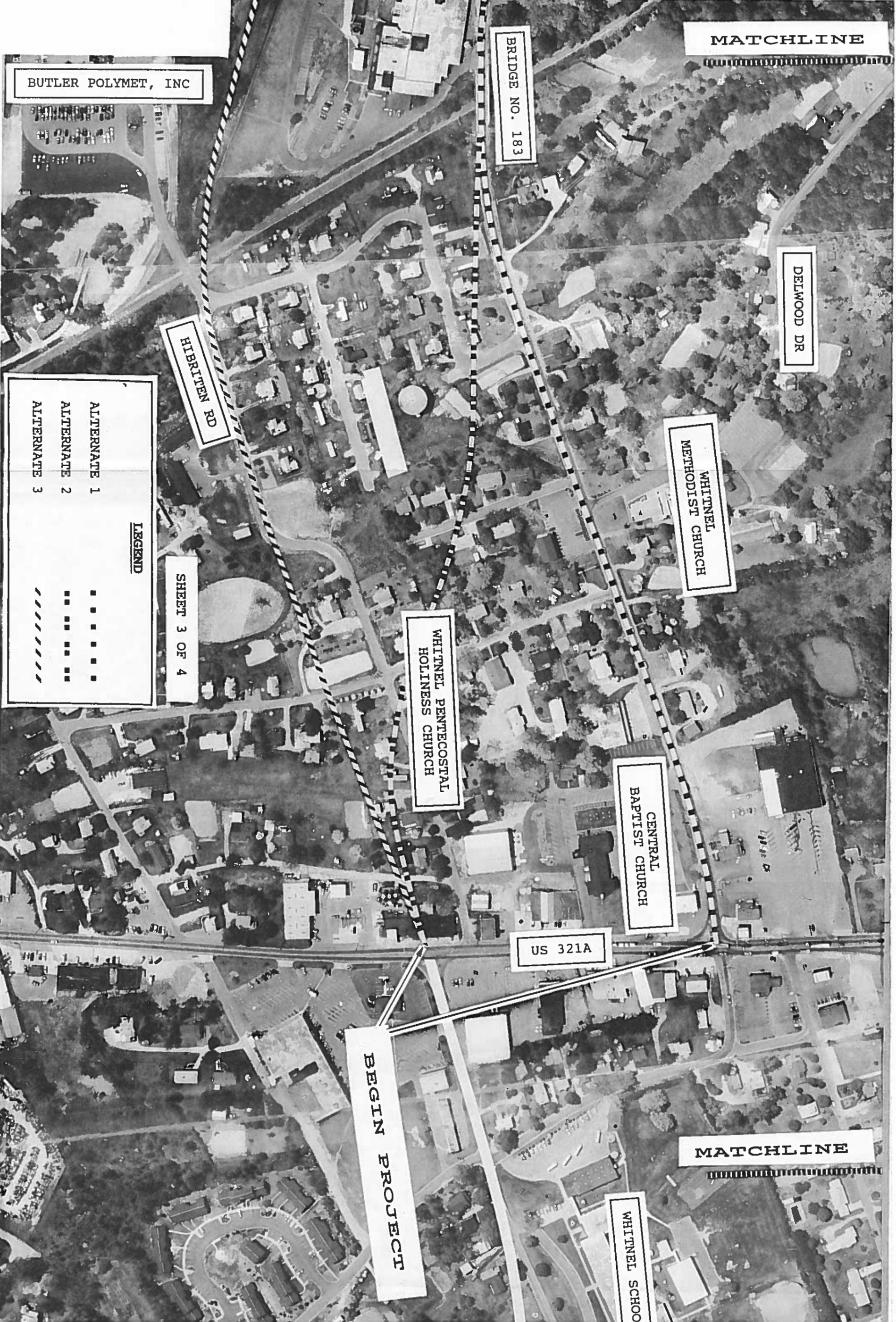
HIBBITTEN RD

SHEET 3 OF 4

BUTLER POLYMET, INC

LEGEND

ALTERNATE 1
ALTERNATE 2
ALTERNATE 3	//////



US 321A

BEGIN PROJECT

MATCHLINE

WHITNEL SCHOOL

FUTURE CONSIDERATION

SR 1178
(HIBRITEN RD.)

0 _____ 200 Ft

LENOR
SR 1001 (CONNELLY SPRINGS ROAD)
BETWEEN US 321A AND SOUTHWEST LOOP
CALDWELL COUNTY
U-2211

SHEET

FIG

