

Jan. 04, 2013

Board of Public Roads Classifications and Standards
Attn: LeMoyne D. Schulz
Secretary for the Board
P.O. Box 94759
Lincoln, NE 68509-4759

Re: Request for Relaxation of Minimum Design Standards for Lane Width
Street Rehabilitation: N. 33rd Street from "P" Street to Holdrege Street
City Project 701775

Dear LeMoyne,

The City of Lincoln is in the preliminary design phase for a rehabilitation project on N. 33rd Street from "P" Street to Holdrege Street. With this letter, the City of Lincoln is formally submitting a request to the Nebraska Board of Public Roads Classifications and Standards Committee (Board of Classifications) for a Relaxation Request (RR) on this project. This RR would require a relaxation of the minimum lane width found in the "Nebraska Board of Public Roads Classifications and Standards Minimum Design Standards (MDS)". Table 001.15 of the MDS requires a minimum lane width of 11 feet for arterial streets. The City of Lincoln is requesting an RR to use 10-foot wide lane widths along this segment of N. 33rd Street. The scope of work for this project consists of milling 2 inches of existing asphalt, remove and replace a 17 foot wide strip of base in the center of the street, and overlaying the existing pavement section with 2 ½ inches of new asphalt. In addition, all features within the project limits will be updated to meet Americans with Disabilities Act (ADA) requirements.

EXISTING SEGMENT

The existing roadway width is 31 feet as measured from back of curb to back of curb along this segment of N. 33rd Street. It is striped to provide two 10-foot wide through lanes and one 10-foot wide TWLTL.

The posted speed limit for the segment is 35 mph. The National Functional Classification for this segment is Urban Minor Arterial and the Nebraska Functional Classification is Other Arterial.

PAVEMENT MANAGEMENT SYSTEM

This segment of N. 33rd Street was evaluated in the City of Lincoln's Pavement Management System. The system rates street segments in four categories based on an Overall Condition Index (OCI). The four categories of pavement rating and their associated OCI ranges are as follows: Poor 0-40, Fair 40-55, Good 55-70, and Very Good 70-100. Street segments that receive Fair and Good ratings are considered to be ideal candidates for rehabilitation work. Street segments that receive a rating of Poor are considered to be in a condition beyond rehabilitation and reconstruction would need to be considered. This segment of N. 33rd Street has an average OCI of 60 which gives it a rating of Good and is therefore considered a good candidate for rehabilitation.

ADJACENT SEGMENTS

The existing cross-sections, posted speed limits, and functional classifications for the adjacent segments of N. 33rd Street south of "P" Street and north of Holdrege Street match that of the segment within the proposed project.



CITY OF LINCOLN
NEBRASKA

MAYOR CHRIS BEUTLER

lincoln.ne.gov

Engineering Services
Public Works and Utilities Department
Miki Esposito, Director
901 West Bond
Suite 100
Lincoln, Nebraska 68521
402-441-7711
fax: 402-441-6576

PROJECT SCOPE

The scope of work for this project consists of milling 2 inches of existing asphalt, remove and replace a 17 foot wide strip of base in the center of the road, and overlaying the existing pavement section with 2 ½ inches of new asphalt. In addition, all features within the project limits will be updated to meet Americans with Disabilities Act (ADA) requirements. No other curb replacement was proposed for this section; however, damaged curb sections would be replaced where necessary. To maximize the width of each lane and evenly distribute the available traveled way width (30 feet), the City proposes using 10-foot wide through lanes and a 10-foot wide TWLTL. This is also shown on the attached cross-sections.

TRAFFIC/CRASH DATA COMPARISON

This segment of N. 33rd Street currently has an average daily traffic (ADT) volume of 12,400 vehicles/day with 2.5% attributed to truck traffic. The design year (2040) ADT is 17,500 vehicles/day with truck traffic expected to remain constant at 2.5%. In the past three years, this segment of N. 33rd Street has had 43 crashes. The types of crashes are shown below:

N. 33rd Street, “P” Street to Holdrege Street, Existing Three 31-foot wide roadway

Sideswipe	Driveway	Backing	Parked	Rear End	Right Angle	Ran Off Road	Turning	Head On	Other	Total
1	6	0	0	14	14	3	3	0	2	43

The City of Lincoln currently has no 34-foot wide streets with two through lanes plus a TWLTL against which to compare this data; however the City does have 33-foot wide roadways with the same lane configurations. Therefore, the City has compared this data to 33-foot wide roadways and other 31-foot wide streets with similar traffic volumes, speed limits and the same lane configuration. Data on those streets is listed below:

N. 33rd Street, Holdrege Street to Huntington Avenue, 31-foot wide roadway

Sideswipe	Driveway	Backing	Parked	Rear End	Right Angle	Ran Off Road	Turning	Head On	Other	Total
4	0	2	1	21	15	5	11	1	3	63

S. 48th Street, N Street to Randolph Avenue, 31-foot wide roadway

Sideswipe	Driveway	Backing	Parked	Rear End	Right Angle	Ran Off Road	Turning	Head On	Other	Total
5	3	2	0	44	16	6	6	0	4	86

S 48th Street, Pioneers Street to Highway 2, 33-foot wide roadway

Sideswipe	Driveway	Backing	Parked	Rear End	Right Angle	Ran Off Road	Turning	Head On	Other	Total
8	4	2	0	31	8	4	10	0	3	70

By comparison, this segment of N. 33rd Street experienced fewer overall crashes than both S. 48th Street and N. 33rd Street from Holdrege to Huntington. The difference can be seen in the number of “Driveway” crashes, and the number of “Rear End” crashes. This segment of N. 33rd Street is through a residential area with numerous residential driveways as well as one elementary school with primary access driveways onto N. 33rd Street. The existing narrower roadway width (31 feet) has not led to an above average number of crashes.

AASHTO GREENBOOK

"A Policy on Geometric Design of Highways and Streets" (the Green Book) published by the American Association of State and Highway Transportation Officials has been recognized by the FHWA as "the principal source for design values and ranges for highway and roadway design criteria and other geometric elements" according to the July 2007 edition of FHWA's "Mitigation Strategies for Design Exceptions." Therefore, the City requests that design criteria outlined in the 2004 edition of the Green Book be taken into account, in addition to Nebraska state design standards, when considering this request. As stated in Chapter 5 (Local Roads and Streets) and Chapter 7 (Rural and Urban Arterials) of the 2004 Green Book, lanes within the traveled way should range in width from 10 to 12 feet. A minimum width of 9 feet is allowed for dedicated turn lanes at intersections; however, the design width range for continuous TWLTLs is 10 to 16 feet. The amount of truck traffic also must be considered when determining the appropriate lane width for the facility. The applicable Nebraska standard for lane width on Arterial streets is currently more stringent than the accepted national criteria and N. 33rd Street has very little truck traffic (1.5%). Approving this Request for Relaxation of the State standard of 11-foot lane widths to allow for 10-foot lane widths still meets the national design criteria recognized by the FHWA.

EVALUATION OF PROJECT SEGMENTS

If the request for a Relaxation of the minimum lane width design standard is denied and this segment of N. 33rd Street is required to be widened to accommodate 11-foot lane widths, the following impacts would result.

1. The total cost of construction would increase by \$653,000 from \$864,000 to \$1,517,000, a 75% increase.
2. In addition, Lincoln Electric System and the City of Lincoln would incur approximately \$800,000 in costs to relocate overhead power lines and/or street lights
3. Approximately 58 trees would be removed at an estimated value of \$69,600 including value lost to the adjacent properties and cost for tree replacement.
4. Based on the numbers above a total of at least \$1,522,600 of economic costs would result if this segment of N. 33rd Street was widened to accommodate 11-foot lane widths.

Plan sheets showing typical sections, aerials comparing the existing, proposed and design standard conditions for the N. 33rd Street project, pictures of the existing corridor, and a resolution from the City Council supporting the Relaxation of the Nebraska lane width standard for this project are also included for your reference.

With this letter, the City of Lincoln requests approval from the Nebraska Board of Public Roads Classifications and Standards for this Request for Relaxation (RR). This RR would require a relaxation of the minimum lane width found in the "Nebraska Board of Public Roads Classifications and Standards MDS".

Please arrange to have the City on the agenda for the February, 2013 Board meeting. Please notify me if you have any questions concerning this matter. Thank you for your time and consideration of this Relaxation Request.

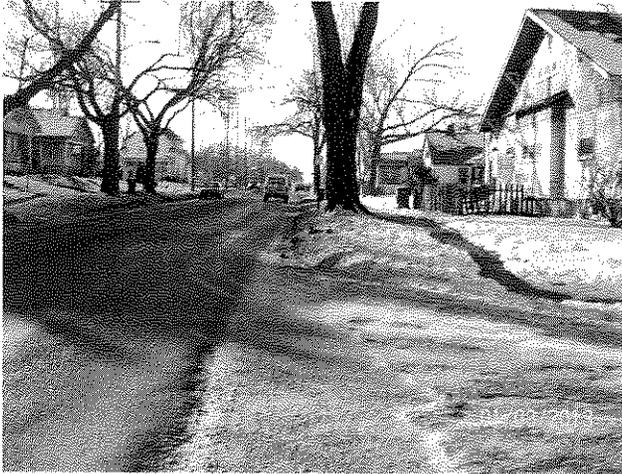
Sincerely,



Randy W. Hoskins, P.E.
Assistant City Engineer
City of Lincoln, Nebraska

Encl.

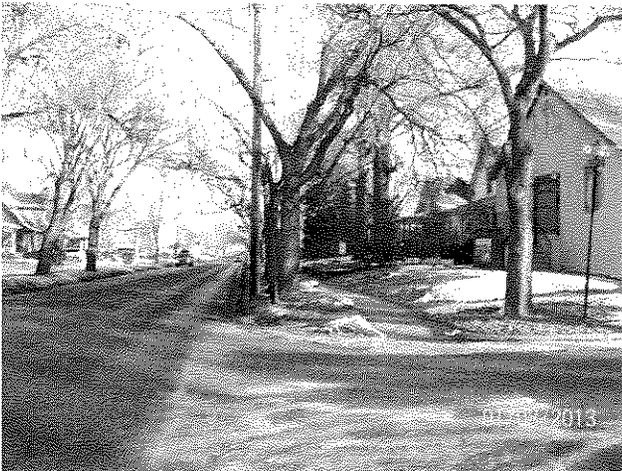
cc: Thomas Shafer, City of Lincoln
Kent Evans, City of Lincoln



N. 33rd St and Q St, looking South



N. 33rd St and Q St, looking South



N. 33rd St and Q, looking North



N. 33rd St and R St, looking South

N. 33rd STREET FROM "P" STREET TO HOLDREGE STREET, 701775

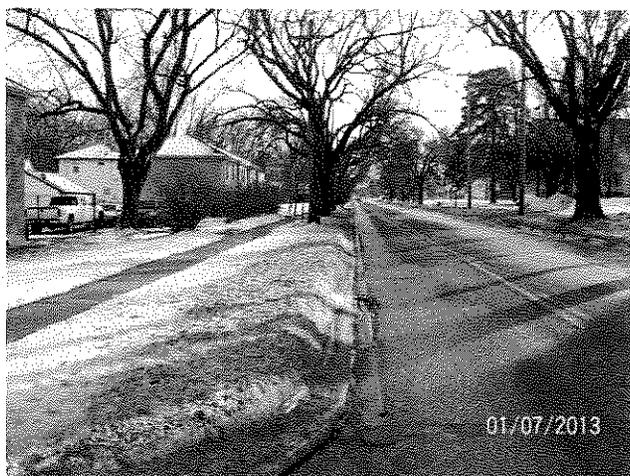
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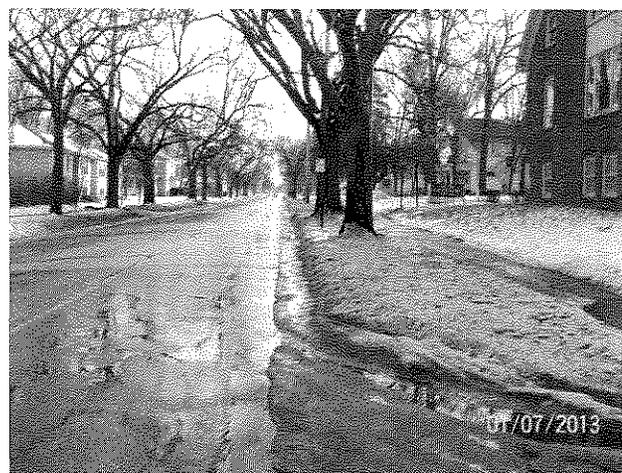
N. 33rd St and Dudley, looking South



N. 33rd St and Orchard, looking South



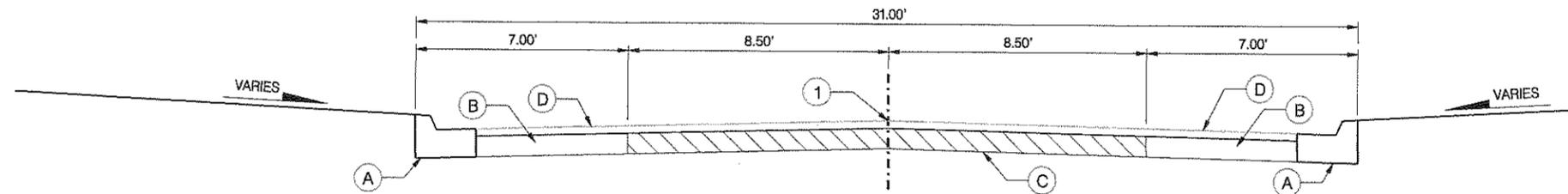
N. 33rd St and Starr, looking South



N. 33rd St and Starr, looking South

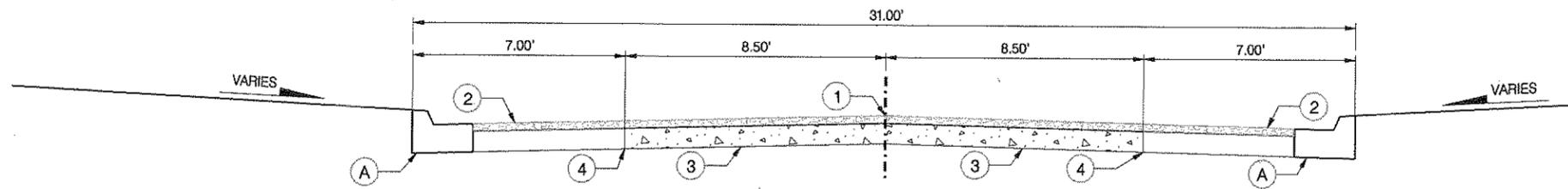
N. 33rd STREET FROM "P" STREET TO HOLDREGE STREET, 701775

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33rd St., P St. to Holdrege St.
 Existing Pavement
 104 + 93.18 - 119 + 72.41
 133 + 37.49 - 150 + 28.52

- (A) EXISTING CURB TO REMAIN
- (B) EXISTING BASE TO REMAIN
- (C) REMOVE BASE
- (D) MILL EXISTING ASPHALT



33rd St., P St. to Holdrege St.
 Proposed Pavement
 104 + 93.18 - 119 + 72.41
 133 + 37.49 - 150 + 28.52

- (1) PROJECT @
- (2) 2.5" ASPHALTIC CONCRETE, TYPE 1
- (3) 8" CONCRETE BASE
- (4) SAW JOINT
- (5) REMOVE REPLACE FULL DEPTH CONC. PAVEMENT, 9"

NO WIDENING

100+00

101+00

102+00

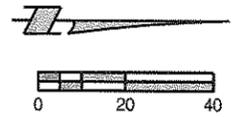
103+00

104+00

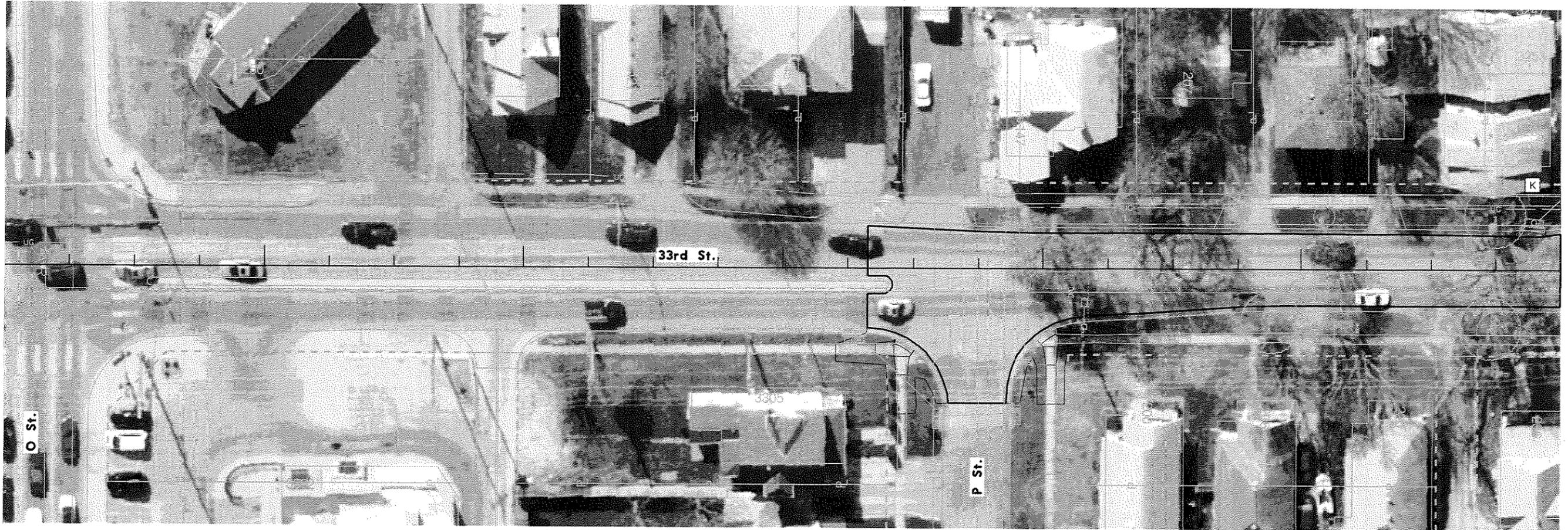
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	Approved: KEE	

106+00



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NO WIDENING

106+00

107+00

108+00

109+00

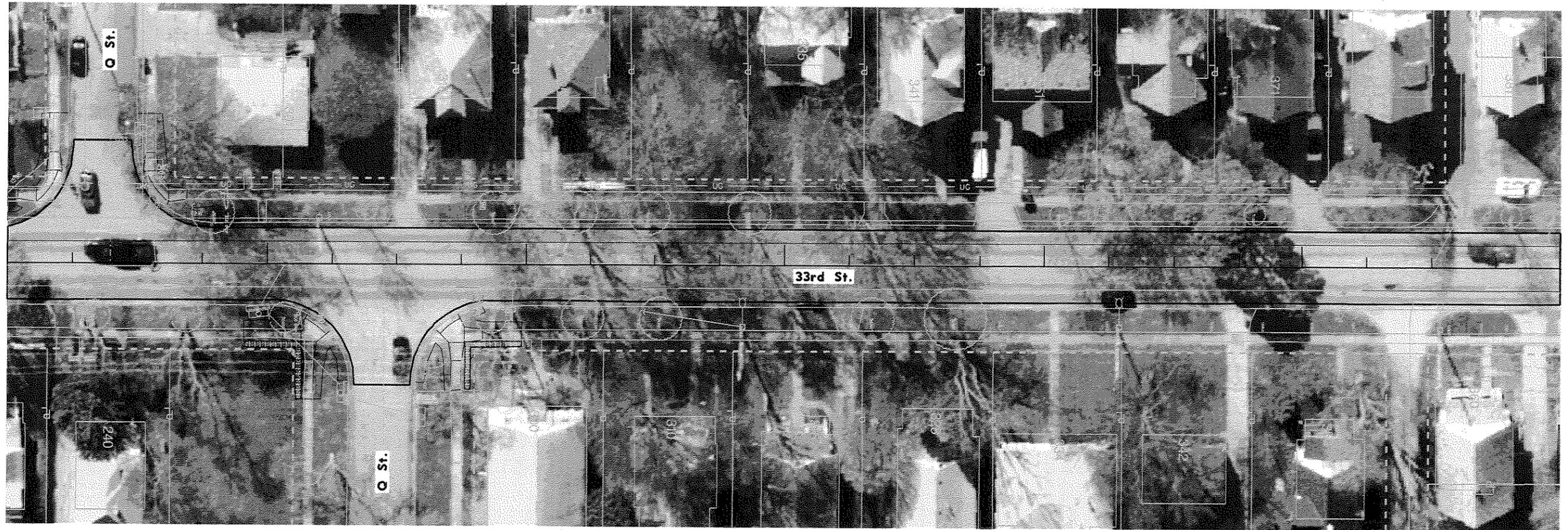
110+00

111+00

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	Approved: KEE	

112+00

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NO WIDENING

112+00

113+00

114+00

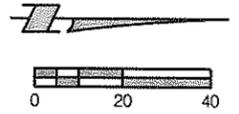
115+00

116+00

117+00

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118+00



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NO WIDENING

118+00

119+00

120+00

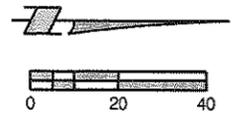
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122+00

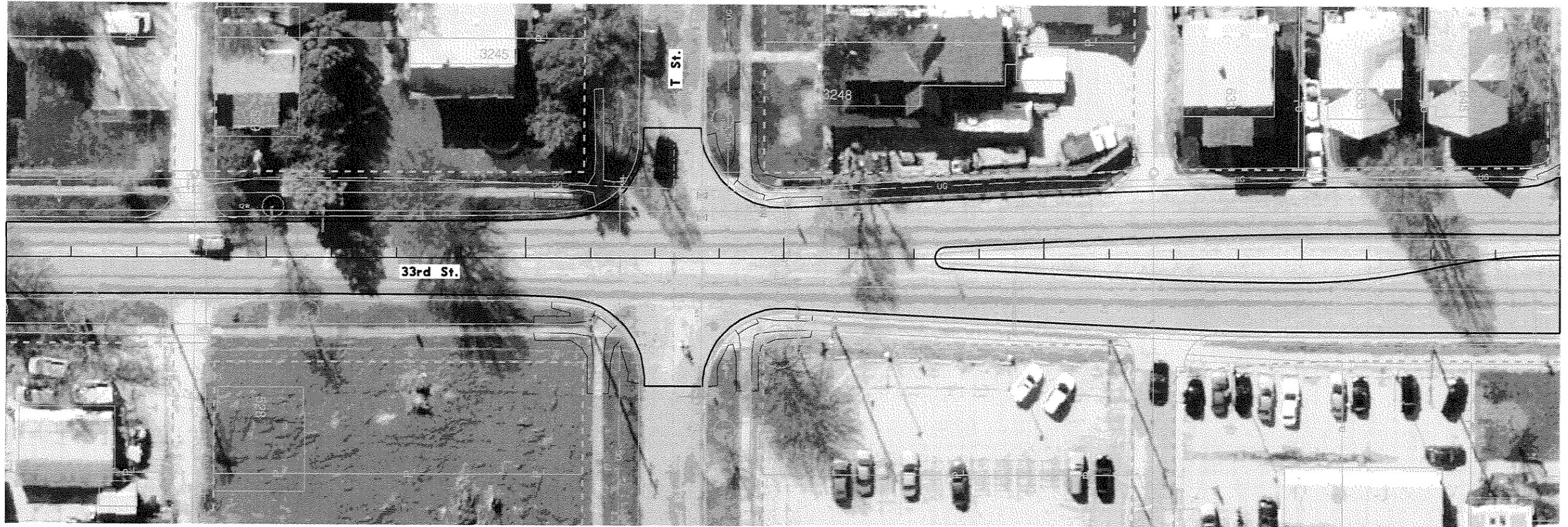
123+00

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124+00



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NO WIDENING

130+00

131+00

132+00

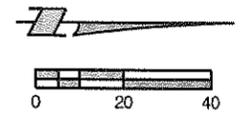
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134+00

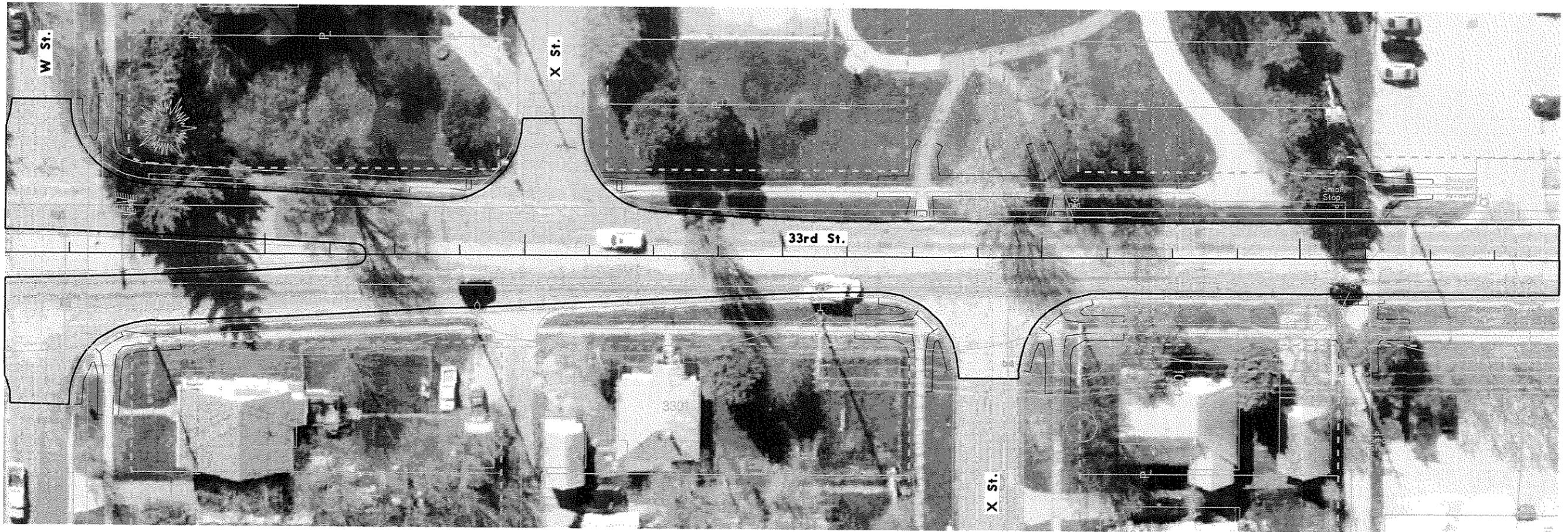
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136+00



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NO WIDENING

136+00

137+00

138+00

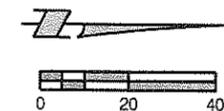
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140+00

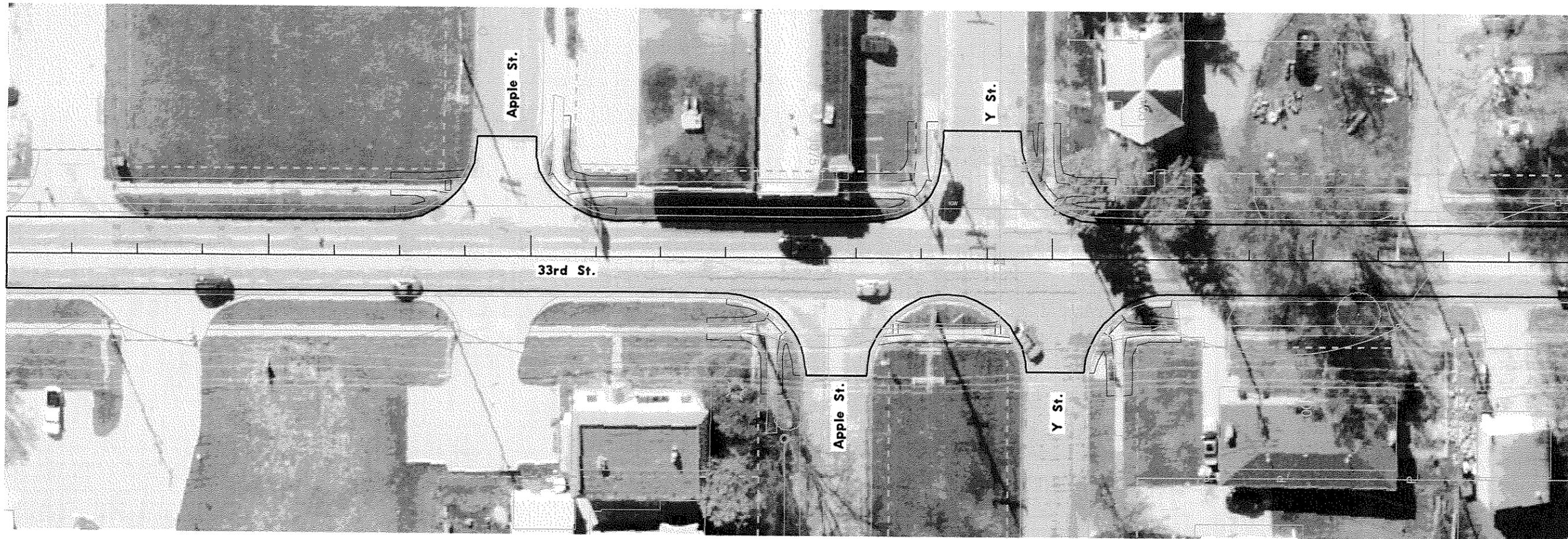
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142+00



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NO WIDENING

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143+00

144+00

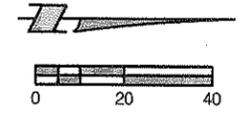
145+00

146+00

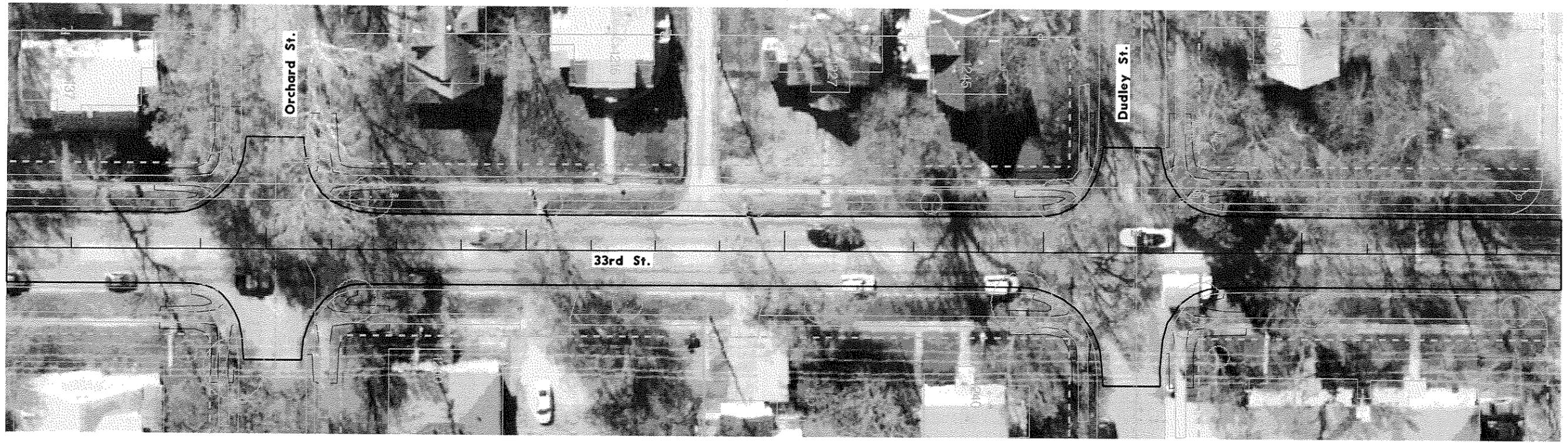
147+00

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Date: 6/1/2013	Drawn: JWH	
Horz. Scale: 1:40	Checked: BRF	Approved: KEE

148+00



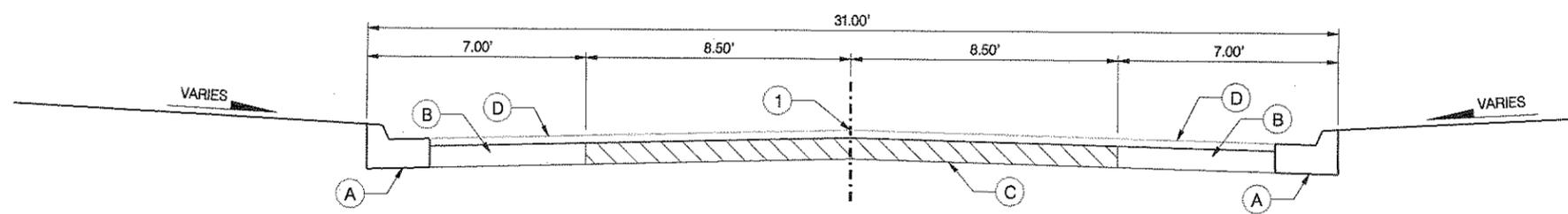
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NO WIDENING

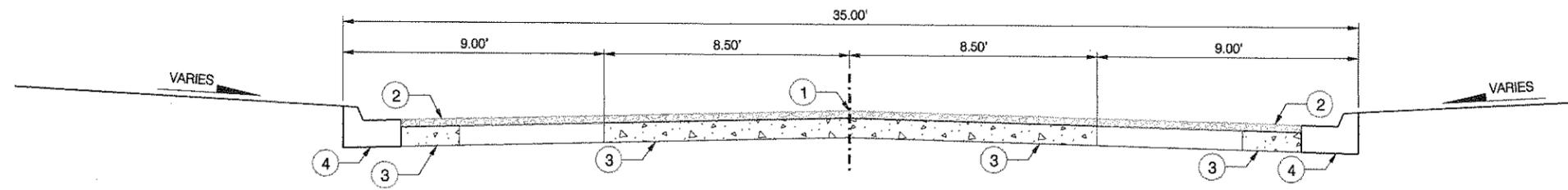
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Date: 6/1/2018	Drawn: JWH	Checked: SPF	Approved: KEE
Horz. Scale: N.T.S.			



33rd St., P St. to Holdrege St.
 Existing Pavement
 104+93.18 - 119+72.41
 133+37.49 - 150+28.52

- (A) REMOVE EXISTING CURB TO REMAIN
- (B) EXISTING BASE TO REMAIN
- (C) REMOVE BASE
- (D) MILL EXISTING ASPHALT



33rd St., P St. to Holdrege St.
 Proposed Pavement
 104+93.18 - 119+72.41
 133+37.49 - 150+28.52

- (1) PROJECT ☐
- (2) 2.5" ASPHALTIC CONCRETE, TYPE 1
- (3) 8" CONCRETE BASE
- (4) CURB & GUTTER

WIDENING 2 FEET EACH DIRECTION (35 FEET BK CB TO BK CB)

100+00

101+00

102+00

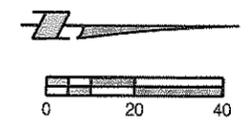
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104+00

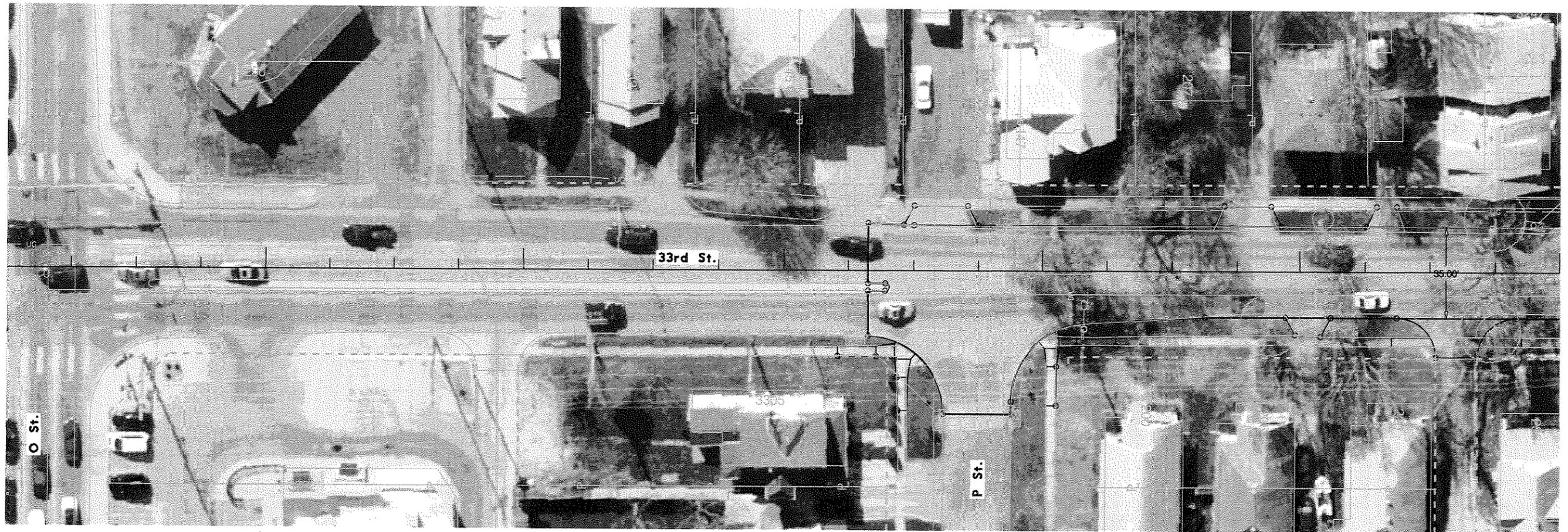
105+00

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106+00



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Widening 2 feet each direction
(35 Feet Bk Cb to Bk Cb)

106+00

107+00

108+00

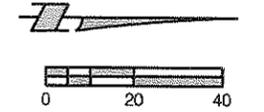
109+00

110+00

111+00

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	Horz. Scale: 1:40	Checked: SRF Approved: KEE

112+00



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 DATE: 01/07/2013
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Widening 2 feet each direction
(35 Feet Bk Cb to Bk Cb)

112+00

113+00

114+00

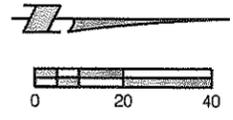
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116+00

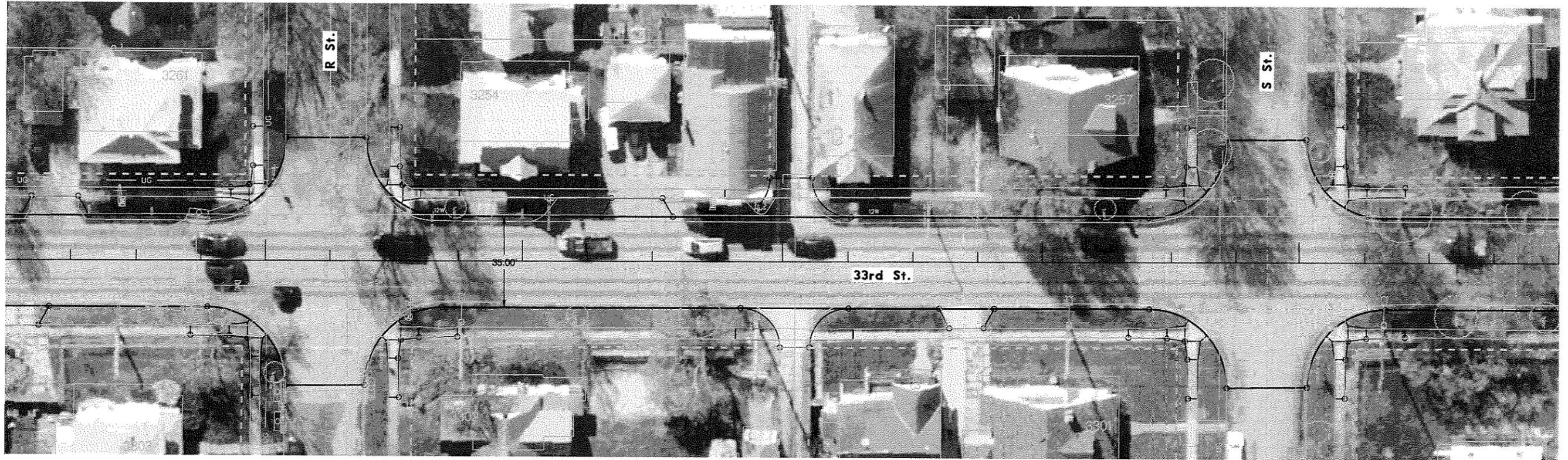
117+00

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	Date: 6/1/2013 Horz. Scale: 1:40	Drawn: JWH Checked: SHP Approved: KEE

118+00



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 DATE: 01/07/2013
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Widening 2 feet each direction
(35 Feet Bk Cb to Bk Cb)

118+00

119+00

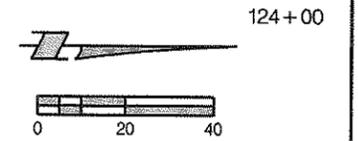
120+00

121+00

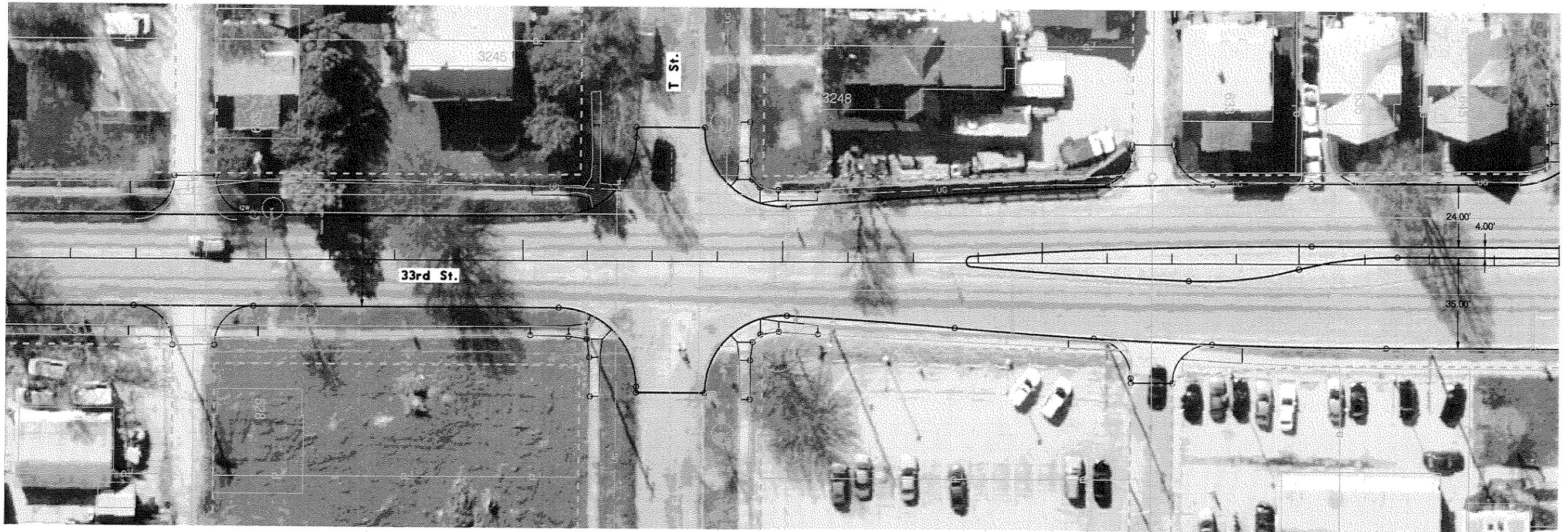
122+00

123+00

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 DATE: 01/07/2013
 DGN: ..\701775.dwg 35.DGN



Widening 2 feet each direction
(35 Feet Bk Cb to Bk Cb)

124+00

125+00

126+00

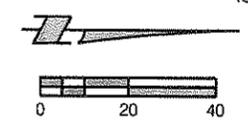
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128+00

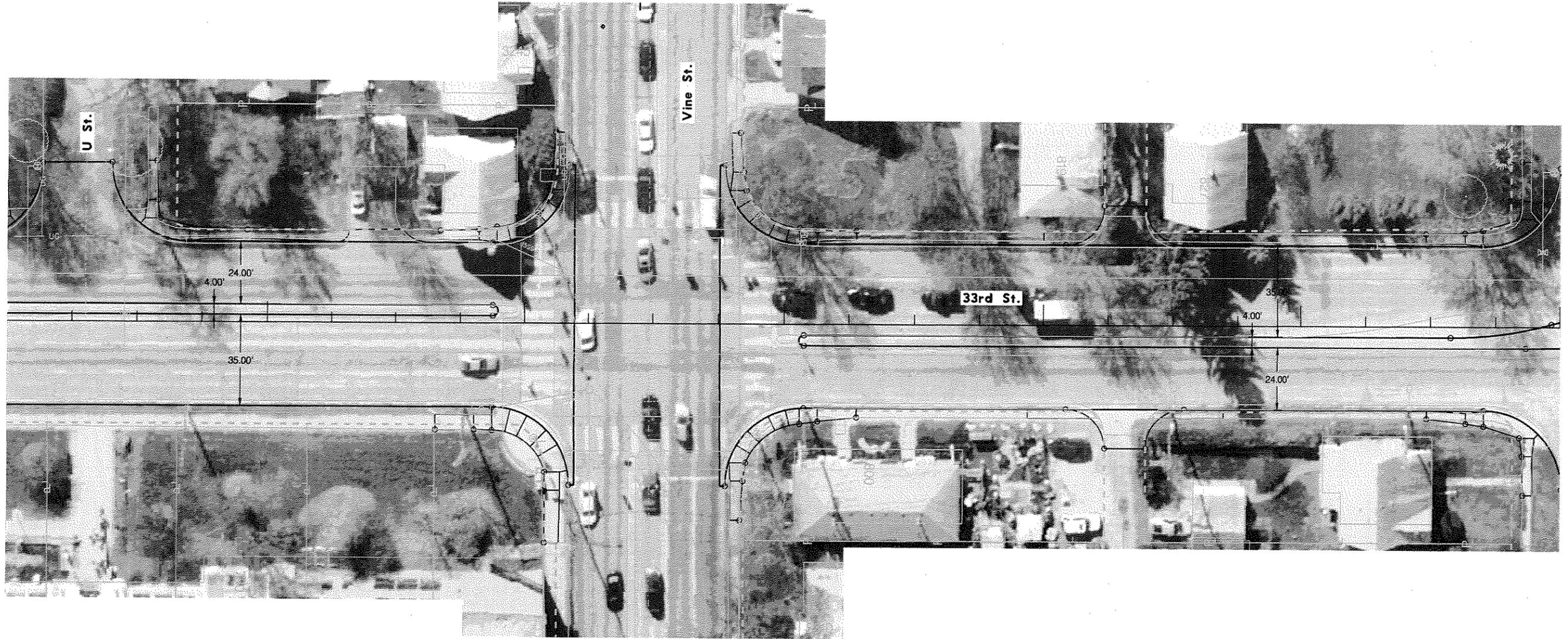
129+00

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Date: 6/1/2013	Drawn: JWH	
Horz. Scale: 1:40	Checked: SPF	
	Approved: KEE	

130+00



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 DATE: 01/07/2013
 DGN: ..\701775.dwg 35.DGN



Widening 2 feet each direction
(35 Feet Bk Cb to Bk Cb)

130+00

131+00

132+00

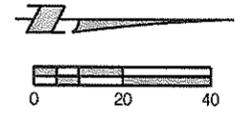
133+00

134+00

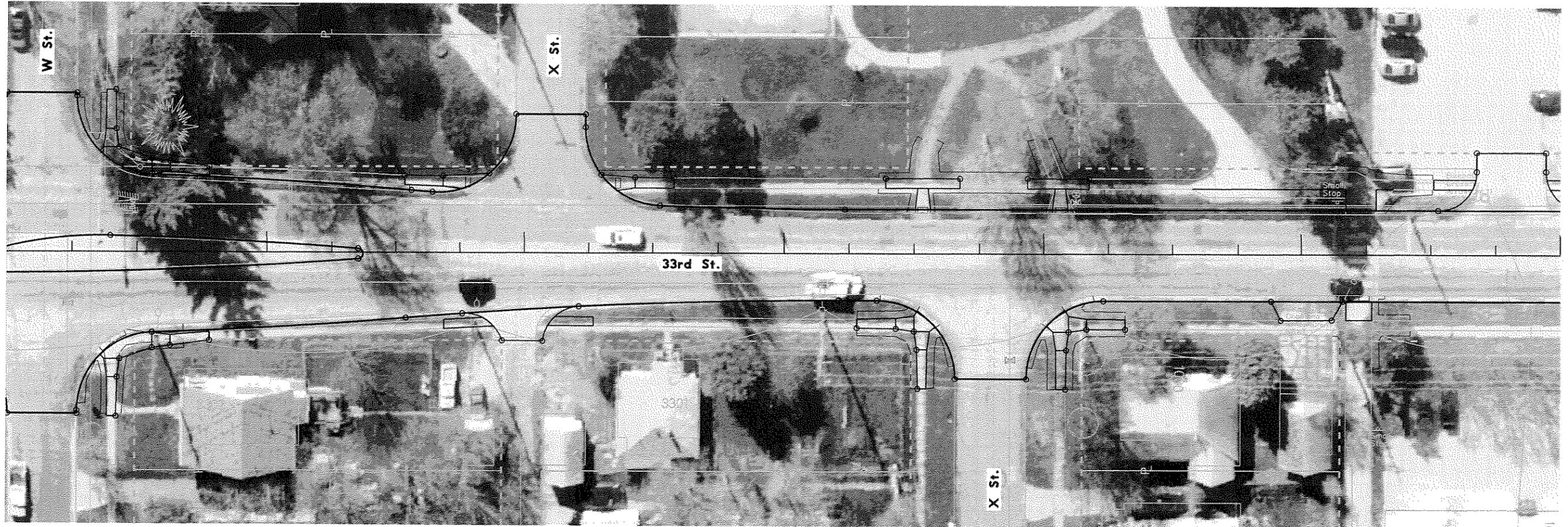
135+00

 CITY OF LINCOLN NEBRASKA	PROJECT NO. 701775	SHEET NO. 15
	Date: 6/7/2013 Proj. Scale: 1:40	Drawn: JWH Checked: SHF Approved: KEE

136+00



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 DATE: 01/07/2013
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Widening 2 feet each direction
(35 Feet Bk Cb to Bk Cb)

142+00

143+00

144+00

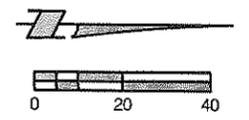
145+00

146+00

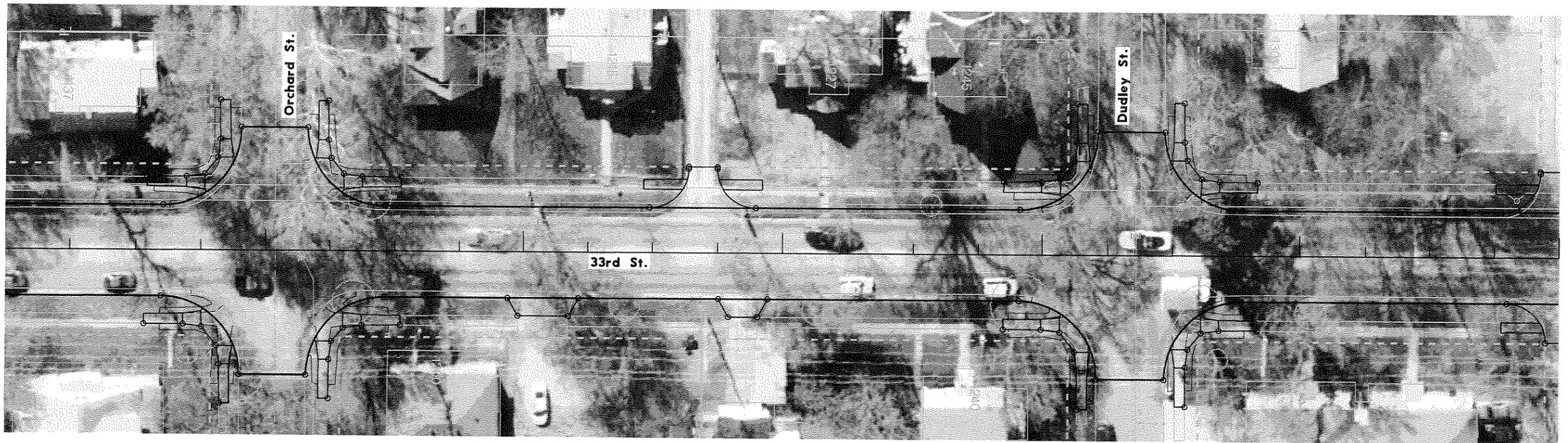
147+00

	PROJECT NO.	SHEET NO.
	701775	17
Date: 6/1/2013	Drawn: JWH	
Horz. Scale: 1"=40'	Checked: SPF	
	Approved: KEE	

148+00



PROJ: 701775.dwg
 PEN: \\labies\penn\cr_pennable.tbl
 USER: skkone
 DATE: 01/07/2013
 DGN: ..\701775CR08_35.DGN



Widening 2 feet each direction
(35 Feet Bk Cb to Bk Cb)

148+00

149+00

150+00

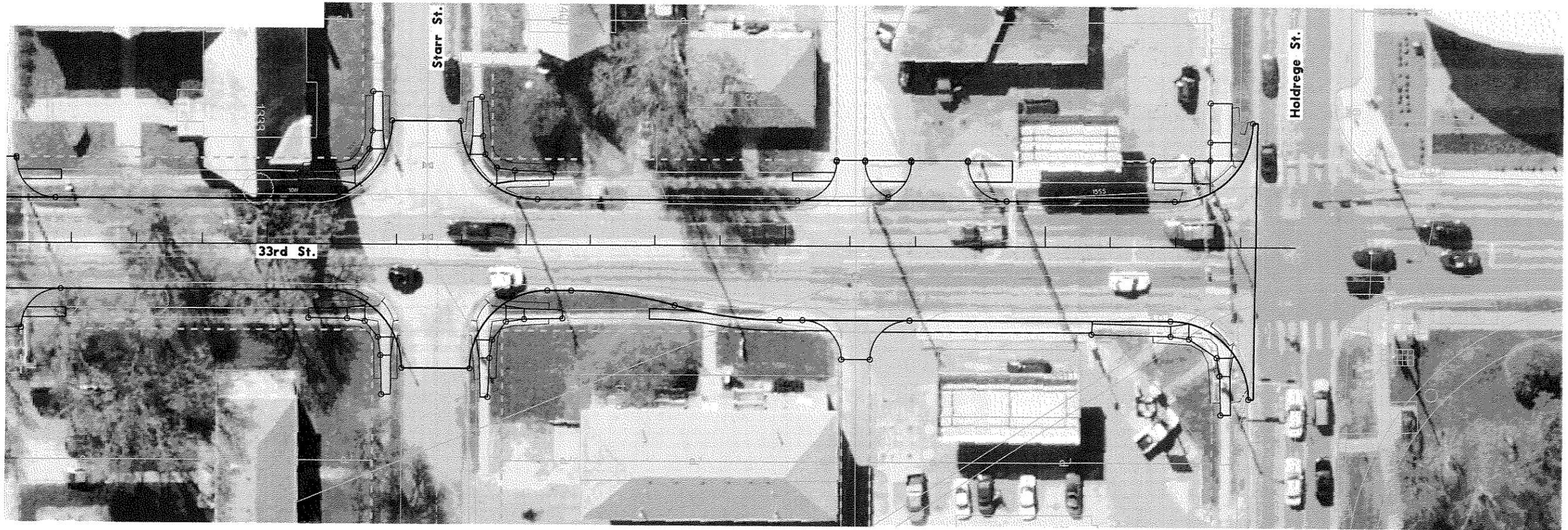
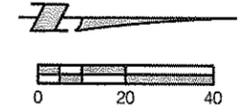
151+00

152+00

153+00

	PROJECT NO.	SHEET NO.
	701775	18
Date: 6/1/2018	Drawn: JWH	
Hotz Scale: 1:40	Checked: SPF	
	Approved: KBE	

PROJ: 701775.dwg
 PEN: ..\\niles\\Pen_pen\\tbl.tbl
 USER: sskoo
 DATE: 01/07/2018
 DGN: ..\\701775.dwg 35.DGN



Widening 2 feet each direction
(35 Feet Bk Cb to Bk Cb)