

PAVEMENT THICKNESS DESIGN

THE BROWN FARM

FIRST FILING

FORT COLLINS, COLORADO

Prepared For

Wheeler Realty Company  
1331 - 8th Avenue  
P.O. Box 519  
Greeley, Colorado

July 14, 1971

# LORD

R. V. LORD & ASSOCIATES INC.  
3250 Walnut St. / P. O. Box 335 / Boulder, Colo. 80302  
(303) 443-0413

July 14, 1971

Wheeler Realty Company  
1331 - 8th Avenue  
P.O. Box 519  
Greeley, Colorado 80631

Gentlemen:

The enclosed report contains the results of subsurface soil survey and pavement thickness design studies covering the streets in The Brown Farm, First Filing, a subdivision of Fort Collins, Colorado. If there are any questions concerning the data or recommendations presented, please call.

Very truly yours,

R. V. LORD AND ASSOCIATES, INC.



Alvin E. Carlson

Encl.

AEC:hj

W.O. 1340

**ENVIRONMENTAL DESIGNERS**

## GENERAL

The following presents the results of subsurface soil survey and pavement thickness design studies for the following listed streets: Southdown Court, Corriedale Court, Dorset Court, Dorset Drive, Corriedale Drive, Hampshire Rd., Shropshire Ave., Romney Ave., Leicester Way, Stuart Street, Suffolk Court, Suffolk Street, West of Hampshire, and Suffolk Street, East of Hampshire, in Brown Farm, First Filing, a subdivision in Fort Collins, Colorado.

The conclusions and recommendations presented are based upon analysis of available field and laboratory data and the projected traffic conditions for the area. No consideration was given to street grading. When final cuts and fills are determined, the design criteria should be reviewed.

## SOIL SURVEY

Test borings were located generally in a 500-foot grid pattern to collect building foundation information as well as identify the critical soils affecting the pavement system. The depth of borings was set basically at 15 feet with occasional borings to a depth of 20 feet to verify continuity and for ground water proximity determination. Field notes are summarized on the attached profiles. Detailed notes are in our files, if needed.

## TESTING PROGRAM

Following the plotting of soil profiles from field data and laboratory examination of samples to verify classification, a program of laboratory testing was initiated to determine critical soil properties. Testing included those tests necessary to classify the soils and determine their group index for design purposes. Test data is listed on the attached table.

## DESIGN

Soil profiles of each street were drawn from field and laboratory data indicating the arrangement of soil types within the zone of influence. Based upon this data, the critical soils and conditions affecting each street were determined and a basis for design established. This included identification of unusual or anomalous conditions that may dictate a spot solution. In assigning values for design, some generalization was made to allow construction of relatively uniform pavement sections. The confusion in construction and the contract administration that result from frequent changes in section to accommodate soil changes are not offset by cost savings. Design was by the group index system adopted by Fort Collins, Colorado. The following table lists the critical factors:

<u>Street</u>	<u>Classification</u>	<u>Critical Group Index</u>
Southdown Court	Residential	2
Corriedale Court	Residential	2
Dorset Court	Residential	2
Dorset Drive	Residential	2
Corriedale Drive	Residential	2
Hampshire Road	Collector	7
Shropshire Ave.	Residential	7
Romney Avenue	Residential	7
Leicester Way	Residential	6
Stuart Street	Collector	2
Suffolk Court	Residential	2
Suffolk Street, West of Hampshire	Residential	10
Suffolk Street, East of Hampshire	Collector	7

Based upon the factors listed and applying the Fort Collins design curves, the basic pavement requirements for these streets were determined. These basic requirements are listed below:

<u>Street</u>	<u>A. C. Surface</u>	<u>Base</u>
Southdown Court	2"	4"
Corriedale Court	2"	4"
Dorset Court	2"	4"
Dorset Drive	2"	4"
Corriedale Drive	2"	4"
Hampshire Road	2"	7"
Shropshire Ave.	2"	4"
Romney Ave.	2"	4"
Leicester Way	2"	4"
Stuart Street	2"	6"
Suffolk Court	2"	4"
Suffolk Street (West of Hampshire)	2"	6"
Suffolk Street (East of Hampshire)	2"	7"

Construction should be in strict conformance with all applicable specifications, including compaction of subgrade soils.

Very truly yours,

R. V. LORD AND ASSOCIATES, INC.

  
Alvin E. Carlson

AEC:hmj

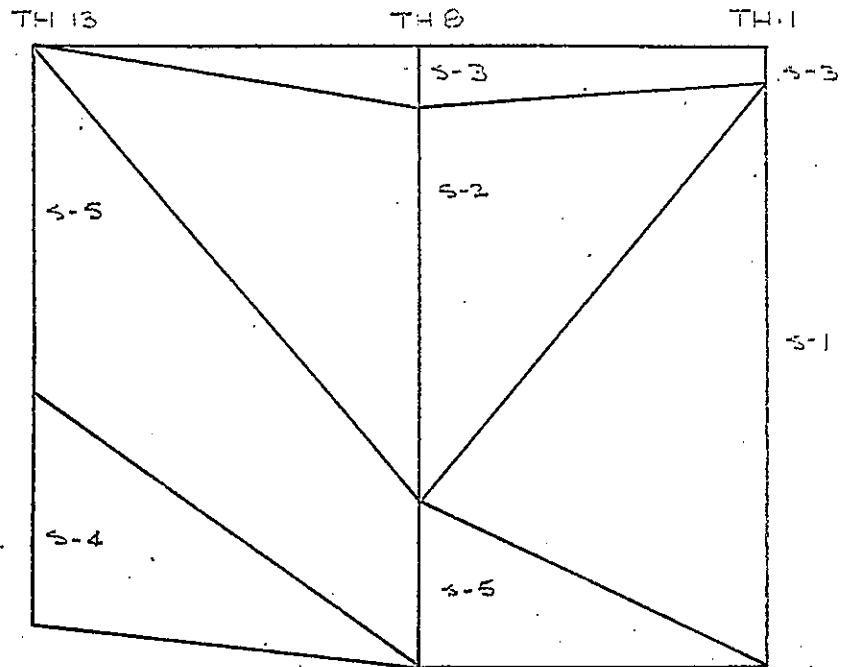
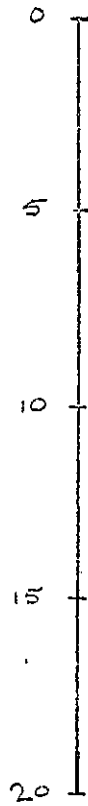
Encl.

W.O. 1340

TEST DATA SUMMARY TABLE

Test Hole	Depth Ft.	<u>3/4"</u>	% Passing				Liquid Limit	Plastic Index	Group Index	USBPR Class.	Soil Indent.
			<u>#4</u>	<u>#10</u>	<u>#40</u>	<u>#200</u>					
1	5	97	85	69	41	18	NV	0	0	A-1-b	S-1
6	5	100	95	92	78	47	21	4	2	A-4	S-3
9	3½	100	100	97	89	63	31	7	6	A-4	S-5
12	2½	100	99	99	92	69	29	9	7	A-4	S-5
14	5	100	81	74	62	44	22	2	2	A-4	S-2
15	2½	100	100	99	90	76	43	15	10	A-7-5	S-6
17	3	100	99	77	56	39	23	3	2	A-4	S-4

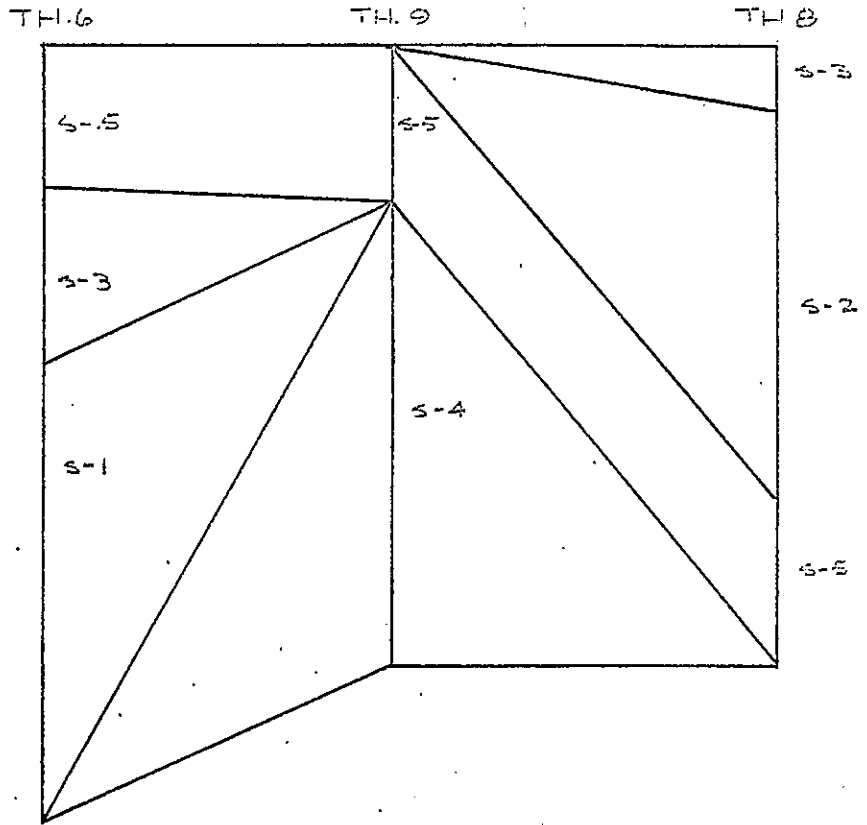
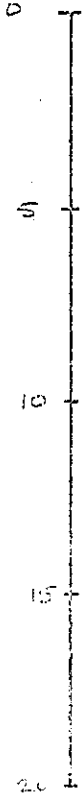
TEST HOLE  
DEPTH (FT)



LEICESTER WAY

PAVEMENT THICKNESS BROWN FARM GREELEY, COLO. WHEELER REALTY	DRWG NO. 1340-	R. V. LORD & ASSOCIATES INC. <b>LORD</b> ENVIRONMENTAL DESIGNERS
	DRWN BY PAT      CHKD BY ASE	
P. O. Box 335	Boulder, COLORADO	443-0413

TEST HOLE  
DEPTH (FT)

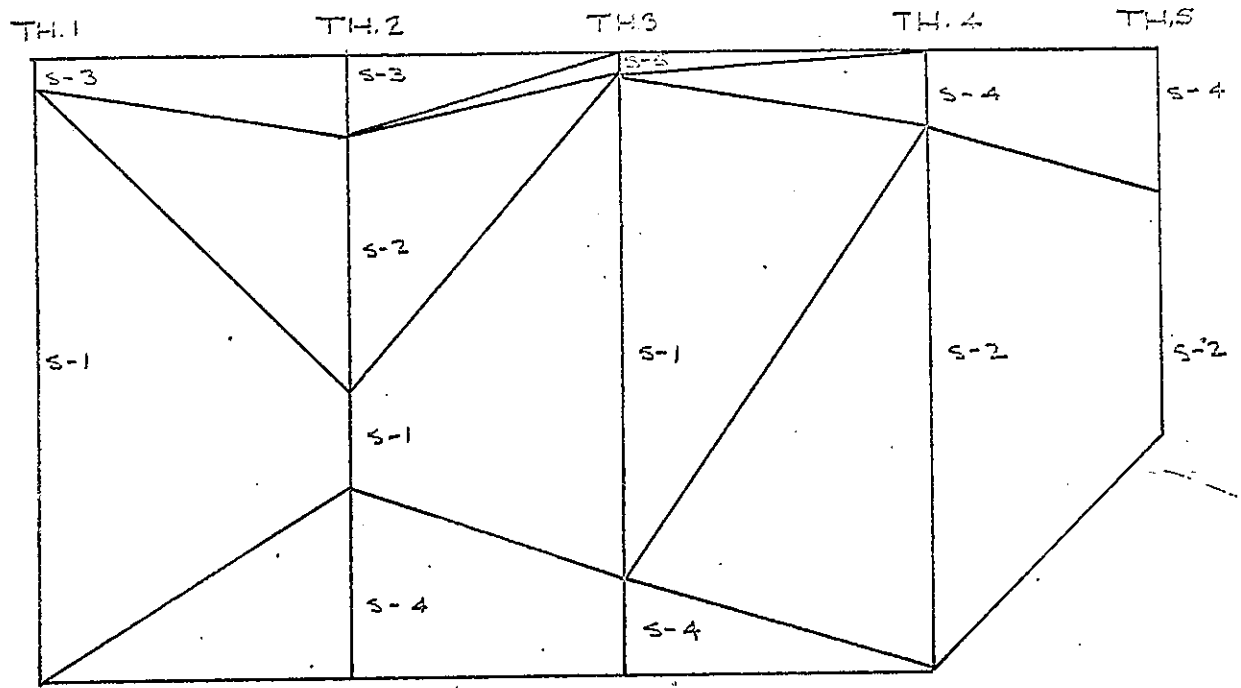
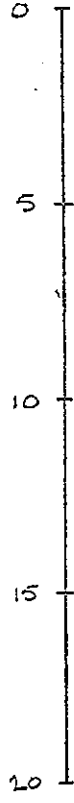


SHROPSHIRE AVE. & ZOMBEY AVE.

<b>PAVEMENT THICKNESS</b> BROWN FARM GREELEY, COLO. WHEELER REALTY	DRWG NO. 1340-	R V LORD & ASSOCIATES INC <b>LORD</b> ENVIRONMENTAL DESIGNERS	
	DRWN BY PAT		CHKD BY AISC
	DATE 28 JUL 71		SCALE NONE
P. O. Box 335		BOULDER, COLORADO	443-0413



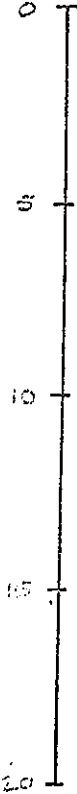
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DEPTH (FT)



STUART STREET

PAVEMENT THICKNESS BROWN FARM GREELEY, COLO. WHEELER REALTY	DRWG NO. 1340-	R V LOND & ASSOCIATES inc <b>LORID</b> ENVIRONMENTAL DESIGNERS	
	DRWN BY PAT		CHKD BY ASE
	DATE 28 JUL 71		SCALE NONE
P. O. Box 335		BOULDER, COLORADO	443-0413

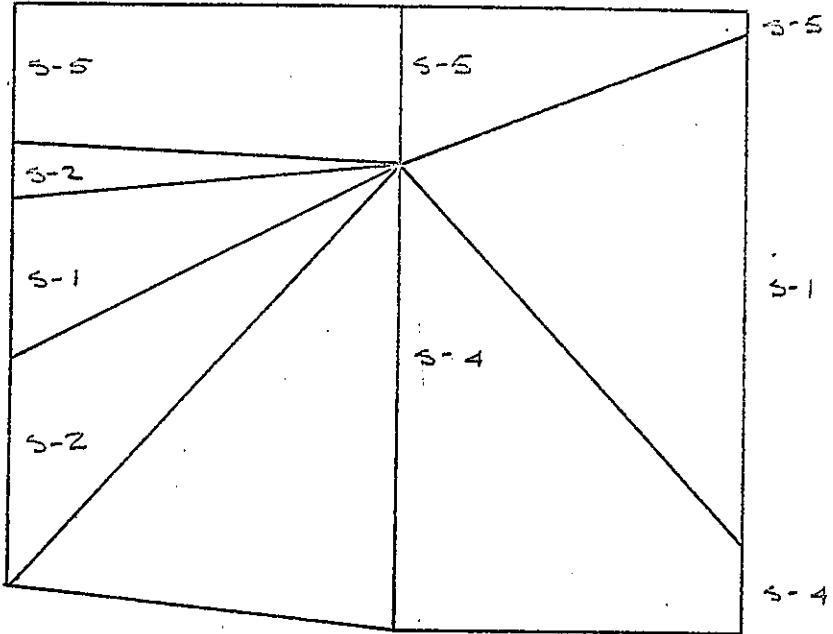
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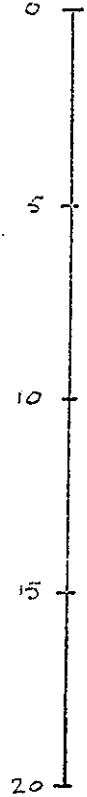
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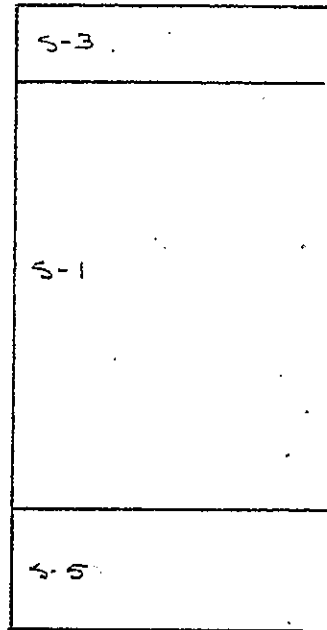
HAMSHIRE ROAD

PAVEMENT THICKNESS BROWN FARM GREELEY, COLO. WHEELER REALTY	DRWG NO. 1340-	2 V LORD & ASSOCIATES, INC.	
	DRWN BY PAT	CHKD BY ASC	<b>LORD</b> ENVIRONMENTAL DESIGNERS
	DATE 28 JUL 71	SCALE NONE	
P. O. Box 335	BOULDER, COLORADO	443-0413	

TEST HOLE  
DEPTH, (FT)



TH 7



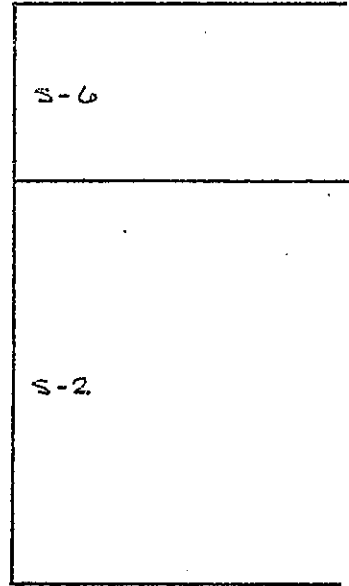
SUFFOLK COURT

PAVEMENT THICKNESS BROWN FARM GREELEY, COLO. WHEELER REALTY	DRWG NO. 1340-	<small>BY LORD &amp; ASSOCIATES INC</small> <b>LORD</b> ENVIRONMENTAL DESIGNERS	
	DRWN BY PAT		CHKD BY ASE
	DATE 28 JUL 71		SCALE NONE
P. O. Box 335	BOULDER, COLORADO	443-0413	

TEST HOLE  
DEPTH (FT.)



T.H. 15



SUFFOLK STREET

PAVEMENT THICKNESS  
BROWN FARM GREELEY, COLO.  
WHEELER REALTY

DRWG NO. 1340-

DRWN BY PAT

CHKD BY ASC

DATE 28 JUL 71

SCALE NONE

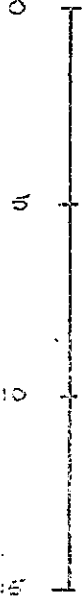
SV LORD ASSOCIATES INC  
**LORD**  
ENVIRONMENTAL  
DESIGNERS

P. O. Box 335

BOULDER, COLORADO

443-0413

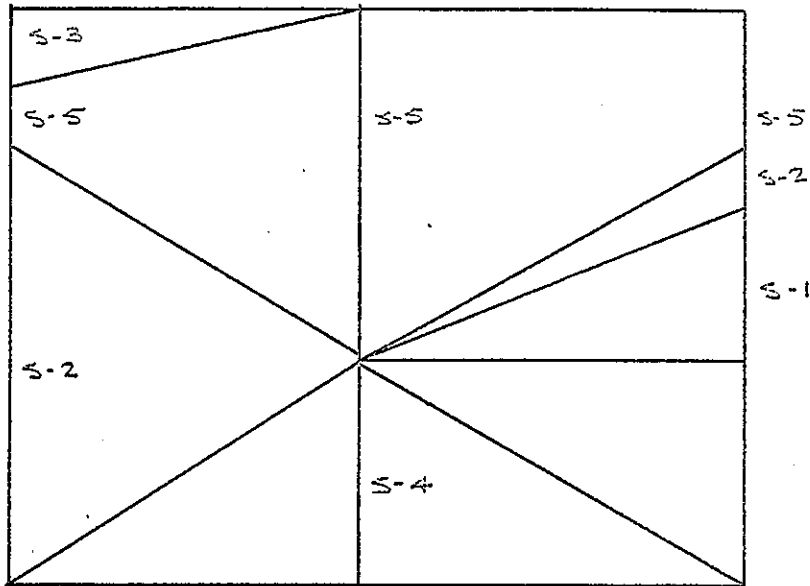
TEST HOLE  
DEPTH (FT.)



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SUFFOLK STREET

PAVEMENT THICKNESS

BROWN FARM GREELEY, COLO.  
WHEELER REALTY

DRWG NO. 1340-

DRWN BY PAT

CHKD BY A.S.C.

DATE 28 JUL 71

SCALE NONE

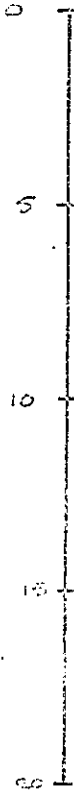
2 V. LORD ASSOCIATES INC  
**LORD**  
ENVIRONMENTAL  
DESIGNERS

P. O. Box 335

BOULDER, COLORADO

443-0413

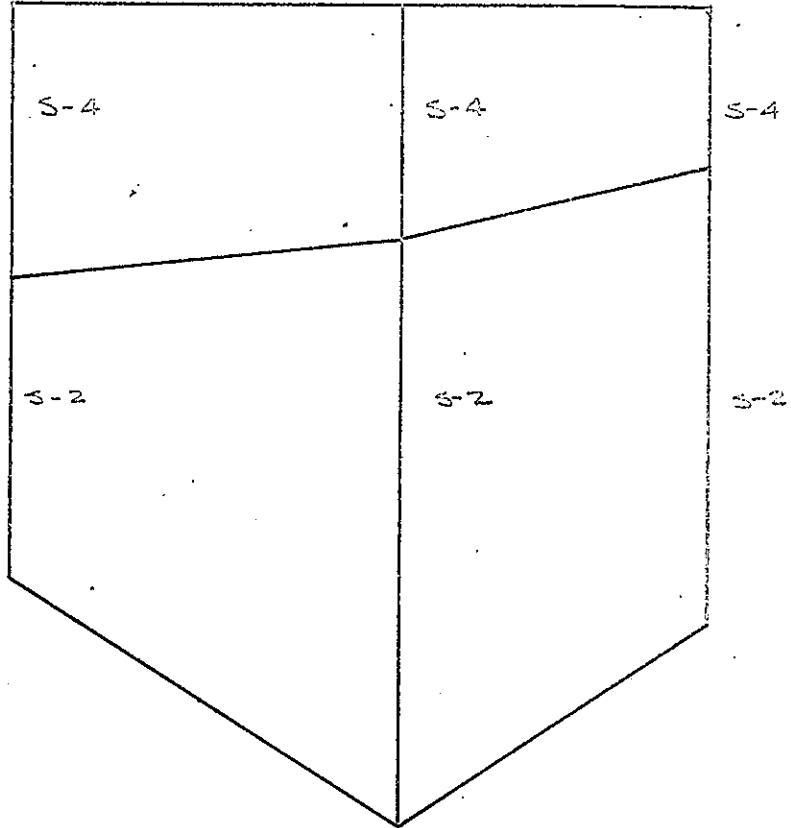
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DEPTH (FT)



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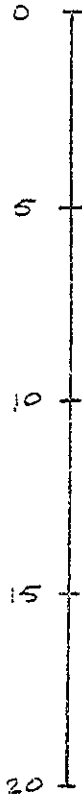
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DORSET DRIVE & CORRIEDALE DRIVE

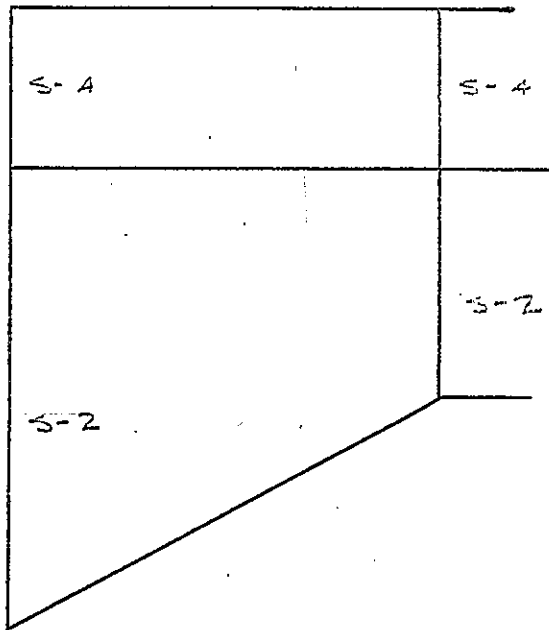
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TEST HOLE  
DEPTH (FT)



TH. 16

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CORRIEDALE COURT

PAVEMENT THICKNESS

BROWN FARM GREELEY, COLO.  
WHEELER REALTY.

DRWG NO. 1340-

DRWN BY PAT

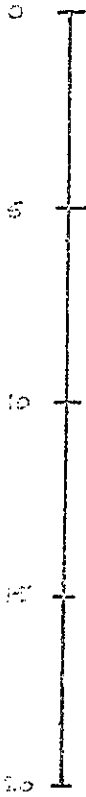
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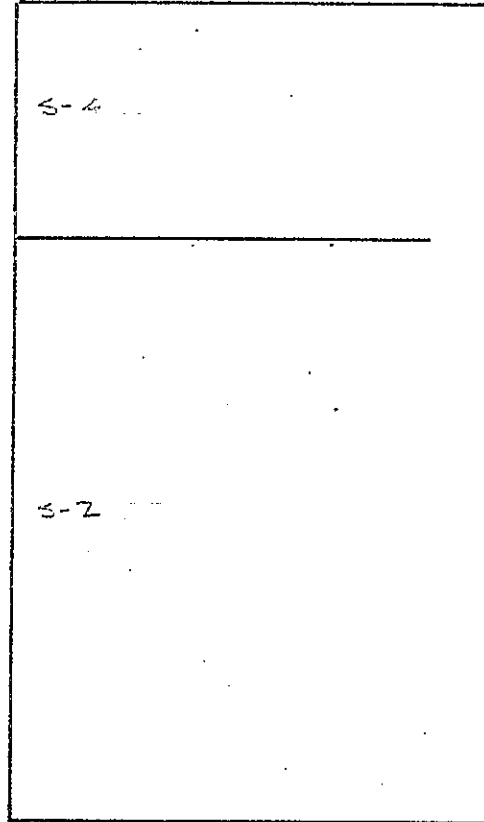
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**LORD**  
ENVIRONMENTAL  
DESIGNERS

TEST HOLE  
DEPTH (FT)



THICKNESS



SOUTHDOWN COURT

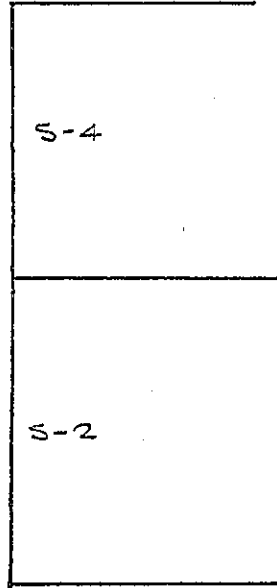
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TEST HOLE  
DEPTH (FT)



TH. 11



DORSET COURT

PAVEMENT THICKNESS BROWN FARM GREELEY, COLO. WHEELER REALTY	DRWG NO. 1340-	R V LORD & ASSOCIATES, INC. <b>LORD</b> ENVIRONMENTAL DESIGNERS	
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