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BASINGSTOKE & DEANE DISTRICT LOCAL PLAN REVIEW
Land to the North-East of Basingstoke

Agricultural Land Classification
ALC Map and Report
Reconnaissance Survey
July 1999

Resource Planning Team
Eastern Region
FRCA Reading

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AGRICULTURAL LAND CLASSIFICATION REPORT

BASINGSTOKE & DEANE DISTRICT LOCAL PLAN REVIEW
LAND TO THE NORTH-EAST OF BASINGSTOKE
RECONNAISSANCE SURVEY

INTRODUCTION

1. This report presents the findings of a reconnaissance Agricultural Land Classification (ALC) survey of approximately 133 hectares of land north-east of Basingstoke, in Hampshire. The survey was carried out during July 1999.

2. The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)[1] on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF). The survey was carried out in connection with MAFF's statutory input to Basingstoke & Deane District Local plan Review. This survey supersedes any previous ALC information for this land.

3. The work was conducted by members of the Resource Planning Team in the Eastern Region of FRCA. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades and subgrades is given in Appendix I.

4. At the time of survey the agricultural land on the site was mainly in arable production under barley, wheat, oilseed-rape and part recently ploughed, the remainder was in permanent and ley grassland. The areas mapped as 'Other land' include residential dwellings, a school, farm buildings, trackways, woodland and a small pond.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:25,000. It is accurate at this scale but any enlargement would be misleading.

6. The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
3b	109.1	100	82.4
Other land	23.3	N/A	17.6
Total surveyed area	109.1	100	82.4
Total site area	132.4	-	100

7. The fieldwork was conducted at an average density of 1 boring per 5.5 hectares of agricultural land. In total, 24 borings and 3 soil pits were described on a widely spaced grid.

[1] FRCA is an executive agency of MAFF and the Welsh Office

8. All of the agricultural land has been classified as Subgrade 3b (moderate quality). Soil wetness, associated with the underlying London Clay, is the principal limitation to land quality. The soils are non-calcareous with fine loamy or fine silty topsoils. These overlie slowly permeable clayey subsoils which act to impede the movement of water. These poor drainage characteristics interact with the local climate to produce a significant soil wetness restriction. This limitation will affect the range and yield of crops that can tolerate such wet conditions, as well as restricting the number of days when the land is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock.

FACTORS INFLUENCING ALC GRADE

Climate

9. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

10. The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SU 676 556	SU 670 557
Altitude	m, AOD	70	80
Accumulated Temperature	day°C (Jan-June)	1452	1441
Average Annual Rainfall	mm	717	731
Field Capacity Days	days	153	155
Moisture Deficit, Wheat	mm	107	106
Moisture Deficit, Potatoes	mm	100	98
Overall climatic grade	N/A	Grade 1	Grade 1

11. The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

12. The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (AT0, January to June), as a measure of the relative warmth of a locality.

13. The combination of rainfall and temperature at this site mean that there is no climatic limitation. Local climatic factors, such as exposure and frost risk do not significantly affect land quality at this location. The site is climatically grade 1. However, climatic factors do interact with soil properties to influence soil wetness and droughtiness. At this locality the climate is average, in regional terms.

Site

14. The site lies at altitudes in the range 65–85m AOD. The highest land is found around Redlands adjacent to the A33. The land falls gently away from here towards the north, east and the lowest lying land to the south. The site is not adversely affected by gradient, microrelief or flooding.

Geology and soils

15. The most detailed published geological information for the site (BGS, 1978) indicates that it is entirely underlain by London Clay.

16. The most detailed published soils information covering the area (SSEW, 1983) shows it to be mapped entirely as soils of the Wickham 4 association. These soils are described as 'slowly permeable seasonally waterlogged fine loamy over clayey and fine silty over clayey soils associated with similar clayey soils, often with brown subsoil'. Soils fitting this description were found on site.

AGRICULTURAL LAND CLASSIFICATION

17. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1, page 1.

18. The location of the auger borings and pits is shown on the attached sample location map and the details of the soils data are presented in Appendix II.

Subgrade 3b

19. Moderate quality agricultural land is mapped over the entire site and suffers from a significant soil wetness limitation, coincident with the underlying London Clay.

20. Soils typically comprise a non-calcareous very slightly stony (up to 5% total flints by volume) medium or heavy clay loam topsoil. Mostly, this overlies a stoneless poorly structured clay upper subsoil which continues down the profile to depths in excess of 50cm. Occasionally, the topsoil gives way to a heavy clay loam upper subsoil which overlies the clay from 44–58cm. Pit 1, 2 and 3 (see Appendix II) are typical of these soils and confirms the slowly permeable nature of the clay, which acts to impede the movement of water down the soil profile. These poor drainage characteristics are sufficient to place these soils into Wetness Class IV, or III where the less permeable clays are found deeper down the profile. This combination of soil properties, in the local climate (153 FC Days), results in the land being appropriately classified as Subgrade 3b. Excessive soil wetness adversely affects seed germination and survival, partly by a reduction in soil temperature and partly because of anaerobism. It also inhibits the development of a good root system, all of which can affect the range of crops that can be grown and the level of yield. Soil wetness also influences the sensitivity of the soil to structural damage and is, therefore, a major factor in determining the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock.

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SOURCES OF REFERENCE

British Geological Survey (1978) *Sheet No. 284, Basingstoke.*
BGS: London.

Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land.*
MAFF: London.

Met. Office (1989) *Climatological Data for Agricultural Land Classification.*
Met. Office: Bracknell.

Soil Survey of England and Wales (1983) *Sheet 6,South East England.*
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in South East England*
SSEW: Harpenden

APPENDIX I

DESCRIPTIONS OF THE GRADES AND SUBGRADES

Grade 1: Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2: Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

Grade 3: Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a: Good Quality Agricultural Land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b: Moderate Quality Agricultural Land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4: Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5: Very Poor Quality Agricultural Land

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

APPENDIX II

SOIL DATA

Contents:

SOIL PROFILE DESCRIPTIONS: EXPLANATORY NOTE

Soil pit and auger boring information collected during ALC fieldwork is held on a computer database. This uses notations and abbreviations as set out below.

Boring Header Information

1. **GRID REF**: national 100 km grid square and 8 figure grid reference.

2. **USE**: Land use at the time of survey. The following abbreviations are used:

ARA:	Arable	**WHT:**	Wheat	**BAR:**	Barley
CER:	Cereals	**OAT:**	Oats	**MZE:**	Maize
OSR:	Oilseed rape	**BEN:**	Field beans	**BRA:**	Brassicae
POT:	Potatoes	**SBT:**	Sugar beet	**FCD:**	Fodder crops
LIN:	Linseed	**FRT:**	Soft and top fruit	**FLW:**	Fallow
PGR:	Permanent pasture	**LEY:**	Ley grass	**RGR:**	Rough grazing
SCR:	Scrub	**CFW:**	Coniferous woodland	**OTH**	Other
DCW:	Deciduous woodland	**BOG:**	Bog or marsh	**SAS:**	Set-Aside
HTH:	Heathland	**HRT:**	Horticultural crops	**PLO:**	Ploughed

3. ***GRDNT**: Gradient as estimated or measured by a hand-held optical clinometer.*

4. **GLEY/SPL**: Depth in centimetres (cm) to gleying and/or slowly permeable layers.

5. **AP (WHEAT/POTS)**: Crop-adjusted available water capacity.

6. **MB (WHEAT/POTS)**: Moisture Balance. (Crop adjusted AP - crop adjusted MD)

7. **DRT**: Best grade according to soil droughtiness.

8. If any of the following factors are considered significant, 'Y' will be entered in the relevant column:

MREL:	Microrelief limitation	**FLOOD:**	Flood risk	**EROSN**:	Soil erosion risk
EXP:	Exposure limitation	**FROST**:	Frost prone	**DIST**:	Disturbed land
CHEM:	Chemical limitation				

9. **LIMIT**: The main limitation to land quality. The following abbreviations are used:

OC:	Overall Climate	**AE**:	Aspect	**ST**:	Topsoil Stoniness
FR:	Frost Risk	**GR**:	Gradient	**MR**:	Microrelief
FL:	Flood Risk	**TX**:	Topsoil Texture	**DP**:	Soil Depth
CH:	Chemical	**WE**:	Wetness	**WK**:	Workability
DR:	Drought	**ER**:	Erosion Risk	**WD**:	Soil Wetness/Droughtiness
EX:	Exposure				

Soil Pits and Auger Borings

1. **TEXTURE**: soil texture classes are denoted by the following abbreviations:

S:	Sand	**LS**:	Loamy Sand	**SL**:	Sandy Loam
SZL:	Sandy Silt Loam	**CL**:	Clay Loam	**ZCL**:	Silty Clay Loam
ZL:	Silt Loam	**SCL**:	Sandy Clay Loam	**C**:	Clay
SC:	Sandy Clay	**ZC**:	Silty Clay	**OL**:	Organic Loam
P:	Peat	**SP**:	Sandy Peat	**LP**:	Loamy Peat
PL:	Peaty Loam	**PS**:	Peaty Sand	**MZ**:	Marine Light Silts

For the sand, loamy sand, sandy loam and sandy silt loam classes, the predominant size of sand fraction will be indicated by the use of the following prefixes:

F: Fine (more than 66% of the sand less than 0.2mm)
M: Medium (less than 66% fine sand and less than 33% coarse sand)
C: Coarse (more than 33% of the sand larger than 0.6mm)

The clay loam and silty clay loam classes will be sub-divided according to the clay content:
M: Medium (<27% clay) **H**: Heavy (27-35% clay)

2. **MOTTLE COL**: Mottle colour using Munsell notation.

3. **MOTTLE ABUN**: Mottle abundance, expressed as a percentage of the matrix or surface described:

F: few <2% **C**: common 2-20% **M**: many 20-40% **VM**: very many 40% +

4. **MOTTLE CONT**: Mottle contrast:

F: faint - indistinct mottles, evident only on close inspection
D: distinct - mottles are readily seen
P: prominent - mottling is conspicuous and one of the outstanding features of the horizon

5. **PED. COL**: Ped face colour using Munsell notation.

6. **GLEY**: If the soil horizon is gleyed a 'Y' will appear in this column. If slightly gleyed, an 'S' will appear.

7. **STONE LITH**: Stone Lithology - one of the following is used:

HR:	all hard rocks and stones	**FSST**:	soft, fine grained sandstone
ZR:	soft, argillaceous, or silty rocks	**CH**:	chalk
MSST:	soft, medium grained sandstone	**GS**:	gravel with porous (soft) stones
SI:	soft weathered igneous/metamorphic rock	**GH**:	gravel with non-porous (hard) stones

Stone contents (>2cm, >6cm and total) are given in percentages (by volume).

8. **STRUCT**: the degree of development, size and shape of soil peds are described using the following notation:

Degree of development	**WK**:	weakly developed	**MD**:	moderately developed
	ST:	strongly developed		
Ped size	**F**:	fine	**M**:	medium
	C:	coarse		
Ped shape	**S**:	single grain	**M**:	massive
	GR:	granular	**AB**:	angular blocky
	SAB:	sub-angular blocky	**PR**:	prismatic
	PL:	platy		

9. **CONSIST**: Soil consistence is described using the following notation:

L: loose	**FM**: firm	**EH**: extremely hard
VF: very friable	**VM**: very firm	
FR: friable	**EM**: extremely firm	

10. **SUBS STR**: Subsoil structural condition recorded for the purpose of calculating profile droughtiness:
G: good **M**: moderate **P**: poor

11. **POR**: Soil porosity. If a soil horizon has less than 0.5% biopores >0.5 mm, a 'Y' will appear in this column.

12. **IMP**: If the profile is impenetrable to rooting a 'Y' will appear in this column at the appropriate horizon.

13. **SPL**: Slowly permeable layer. If the soil horizon is slowly permeable a 'Y' will appear in this column.

14. **CALC**: If the soil horizon is calcareous, a 'Y' will appear in this column.

15. Other notations:

    APW: available water capacity (in mm) adjusted for wheat
    APP: available water capacity (in mm) adjusted for potatoes
    MBW: moisture balance, wheat
    MBP: moisture balance, potatoes

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
2	SU67325660	WHT			0	34	4	3B	95	-12	107	7	3A				WE	3B	SPL SEEPITS
7	SU67505650	WHT	W	1	0	18	4	3B	88	-19	100	0	3A				WE	3B	SPL SEEPITS
12	SU67405640	WHT	W	1	0	27	4	3B	92	-15	104	4	3A				WE	3B	SPL SEEPITS
16	SU67105630	BAR			25	55	4	3B	87	-20	99	-1	3A				WE	3B	SEE 2P
27	SU67305620	BAR	N	1	25	44	3	3B	124	17	101	1	2				WE	3B	HCL T-SOIL
28	SU67405620	STB	NE	1	27	27	4	3B	93	-14	105	5	3A				WE	3B	SPL SEEPITS
32	SU67805620	STB	S	1	30	30	4	3B	93	-14	105	5	3A				WE	3B	SPL SEEPITS
34	SU66905610	LEY	W	1	0	26	4	3B	92	-15	104	4	3A				WE	3B	SPL SEEPITS
50	SU67205600	LEY			27	27	4	3B	81	-26	86	-14	3B				WE	3B	IMP58CM SPL
53	SU67505600	STB			27	27	4	3B	94	-13	106	6	3A				WE	3B	SPL SEEPITS
56	SU67805600	STB			25	100	2	3B	143	36	111	11	1				WK	3B	CLAY T-SOIL
61	SU67005590	LEY			27	27	4	3B	92	-15	104	4	3A				WE	3B	SPL SEEPITS
71	SU68005590	PLO			26	26	4	3B	90	-17	102	2	3A				WE	3B	SPL SEEPITS
80	SU67505580	BAR			0	26	4	3B	90	-17	102	2	3A				WE	3B	SPL SEEPITS
87	SU68205580	STB			30	30	4	3B	91	-16	103	3	3A				WE	3B	SPL SEEPITS
90	SU67105570	LEY	S	3	0	27	4	3B	91	-16	103	3	3A				WE	3B	SPL SEEPITS
97	SU67805570	STB			0	26	4	3B	109	2	114	14	3A				WE	3B	SPL SEEPITS
108	SU67505560	PLO	S	1	0	28	4	3B	93	-14	105	5	3A				WE	3B	SPL SEEPITS
10	SU66805550	LEY	S	1	33	33	4	3B	94	-13	106	6	3A				WE	3B	SPL SEEPITS
12	SU67005550	LEY			17	17	4	3B	87	-20	99	-1	3A				WE	3B	SPL SEEPITS
18	SU67505550	PLO	S	1	0	28	4	3B	93	-14	105	5	3A				WE	3B	SPL SEEPITS
23	SU67105540	PLO	S	1	0	25	4	3B	88	-19	100	0	3A				WE	3B	SPL SEEPITS
127	SU67405540	PLO			0	25	2	3A	66	-41	66	-34	3B				DR	3B	SURFACE H20
128	SU66805530	LEY			28	28	4	3B	89	-18	101	1	3A				WE	3B	SPL SEEPITS
P	SU67605550	PLO	S	2	0	25	4	3B	90	-17	102	2	3A				WE	3B	PIT1 ATAB118
2P	SU67405620	STB			26	26	4	3B	99	-8	113	13	3A				WE	3B	PIT2 ATAB28
P	SU67325660	WHT			0	33	4	3B	94	-13	106	6	3A				WE	3B	PIT3 ATAB2

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
2	0-34	HCL	25Y 42	10YR46	C	D		Y	0	0	HR	2						
	34-70	C	25Y 6361	10YR56	M	D		Y	0	0		0		P			Y	
7	0-18	MCL	25Y 42	10YR42	C	D		Y	0	0	HR	1						
	18-45	C	25Y 53	10YR56	C	D		Y	0	0		0		P			Y	
	45-70	C	25Y 71	10YR58	M	D		Y	0	0		0		P			Y	
12	0-27	HCL	10YR42	10YR46	C	F		Y	0	0	HR	1						
	27-70	C	25Y 5363	10YR58	M	D		Y	0	0		0		P			Y	
16	0-25	MCL	10YR42						0	0	HR	3						
	25-55	HCL	25Y 5362	10YR56	M	D		Y	0	0	HR	2		M				
	55-70	C	25Y 6361	10YR56	M	D		Y	0	0		0		P			Y	
27	0-25	HCL	10YR42						0	0	HR	5						
	25-44	HCL	10YR42	10YR46	C	D		Y	0	0	HR	10		M				
	44-85	C	05Y 51	10YR46	M	D		Y	0	0	HR	10		P			Y	
	85-120	C	05Y 61	10YR46	M	D		Y	0	0		0		P			Y	
28	0-27	MCL	10YR42						0	0		0						
	27-70	C	25Y 5363	10YR58	M	D		Y	0	0		0		P			Y	
32	0-30	MCL	10YR42						0	0	HR	1						
	30-70	C	25Y 53	10YR58	M	D		Y	0	0		0		P			Y	
34	0-26	MCL	10YR42	10YR46	C	D		Y	0	0		0						
	26-70	C	25Y 5363	10YR56	M	D		Y	0	0		0		P			Y	
50	0-27	MCL	10YR42	10YR46	F	D			0	0	HR	5						
	27-58	C	25Y 5363	10YR58	M	D		Y	0	0	HR	2		P			Y	
53	0-27	MZCL	10YR42						0	0	HR	3						
	27-70	C	05Y 62	10YR58	M	D		Y	0	0		0		P			Y	
56	0-25	C	10YR42	10YR56	C	F		Y	0	0	HR	1						
	25-58	HCL	10YR42	10YR56	C	F		Y	0	0		0		M				
	58-70	C	25Y 5363	10YR6	M	D		Y	0	0		0		P				
	70-100	HCL	10YR42	10YR56	C	F		Y	0	0		0		M				
	100-120	C	10YR63	10YR56	M	D		Y	0	0		0		P			Y	
61	0-27	MCL	10YR42	10YR46	F	D			0	0	HR	2						
	27-70	C	25Y 6361	10YR58	M	D		Y	0	0		0		P			Y	
71	0-26	MCL	10YR42						1	0	HR	5						
	26-70	C	05Y 62	10YR58	M	D		Y	0	0		0		P			Y	
80	0-26	MCL	10YR42	10YR46	C	D		Y	0	0	HR	5						
	26-70	C	25Y 5362	10YR58	M	D		Y	0	0		0		P			Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	-----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	-----STONES----- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
87	0-30	MCL	10YR42						1	0	HR	5							
	30-70	C	05Y 62	10YR58	M	D		Y	0	0		0			P		Y		
90	0-27	MCL	10YR42	10YR46	C	F		Y	0	0	HR	3							
	27-70	C	25Y 5363	10YR56	M	D		Y	0	0		0			P		Y		
97	0-26	MZCL	10YR42	10YR46	C	D		Y	0	0		0							
	26-80	C	25Y 63	10YR58	M	D		Y	0	0		0			P		Y		
108	0-28	HCL	10YR42	10YR46	C	D		Y	0	0	HR	1							
	28-70	C	25Y 53	10YR56	C	D		Y	0	0		0			P		Y		
110	0-33	HCL	10YR42						0	0	HR	3							
	33-70	C	05Y 62	10YR58	M	D		Y	0	0		0			P		Y		
112	0-17	HCL	10YR42	10YR46	F	D			0	0	HR	2							
	17-70	C	25Y 5363	10YR56	M	D		Y	0	0		0			P		Y		
118	0-28	HCL	10YR41	10YR46	C	D		Y	0	0	HR	1							
	28-70	C	05Y 62	10YR58	M	D		Y	0	0		0			P		Y		
123	0-25	C	10YR41	10YR46	C	C		Y	0	0	HR	3							
	25-70	C	05Y 61	10YR58	M	D		Y	0	0		0			P		Y		
127	0-25	HCL	10YR41	10YR46	C	D		Y	2	0	HR	5							
	25-45	C	05Y 51	10YR58	M	D		Y	0	0	HR	10			P		N		
128	0-28	HCL	10YR42						0	0	HR	5							
	28-45	C	25Y 53	10YR56	C	D		Y	0	0	HR	10			P		Y		
	45-70	C	25Y 52	10YR56	C	D		Y	0	0		0			P		Y		
1P	0-25	HCL	10YR42	10YR46	C	D		Y	0	0	HR	3						N	FLINTS
	25-70	C	25Y 53	10YR58	M	D	25Y 52	Y	0	0		0	MDCAB	FM	P	Y	Y	N	
2P	0-26	MCL	10YR42						0	0	HR	2							
	26-60	C	10YR53	10YR4656	M	D		Y	0	0		0	MDCPR	FR	M	Y	Y		
	60-70	C	10YR5262	10YR58	M	D		Y	0	0		0	MDCPR	FM	P	Y	Y		
3P	0-33	HCL	25Y 42	10YR46	C	D		Y	0	0	HR	2						N	
	33-70	C	05Y 61	10YR56	M	D		Y	0	0		0	MDCAB	FM	P	Y	Y		