COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon, Vic 3136

Job No	11383		
Report No	11383AA		
Date Issued	28/10/11		
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	TG
Project	ASTON - STAGE 1	*Date tested*	14/10/11
Location	CRAIGIEBURN	*Checked by*	JHF

Feature	**CT SUBBASE**	*Layer thickness*	100 mm	*Time:*	08:10:41

AS 12892.1.1 & 5.8.1

Test No		**1**	**2**	**3**	**4**		
Location		Vada Boulevard					
	Chainage	250	200	150	100		
	Offset	2.5 west of kerb	3 east of kerb	2 west of kerb	2 east of kerb		
Approximate depth from F.S.L.	*m*						
Measurement depth	*mm*	75	75	75	75		
Field wet density	*t/m³*	2.35	2.32	2.34	2.33		
Field dry density	*t/m³*	2.14	2.14	2.14	2.14		
Field moisture content	*%*	10.0	9.0	9.5	9.0		

Laboratory Compaction AS 1289.5.2.1 & 5.4.2 Assigned Values (See Report No 233HWAG)

Date of assignment		14/10/11
Material source and location		20mm Class 3 +3% CTCR - Hanson, Wollert
Compactive effort		MODIFIED
Maximum Dry Density	*t/m³*	2.23
Optimum Moisture Content	*%*	9.0

Test procedure AS 1289.5.4.1

Oversize rock retained on sieve	*mm*	19.0	19.0	19.0	19.0		
Percent of oversize material	*wet*	-	-	-	-		
Percent of oversize material	*dry*	-	-	-	-		
Adjusted Maximum Dry Density	*t/m³*	-	-	-	-		
Adjusted Optimum Moisture Content	*%*	-	-	-	-		

Moisture Variation From Optimum Moisture Content		1.0% wet	0.5% dry	0.0% wet	0.0% dry		
Moisture Ratio (R_m)	*%*	109.0	96.0	100.0	98.0		
Density Ratio (R_D)	*%*	**96.0**	**96.0**	**96.0**	**96.0**		

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon, Vic 3136

Job No	11383		
Report No	11383AB		
Date Issued	28/10/11		
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	TG
Project	ASTON - STAGE 1	*Date tested*	14/10/11
Location	CRAIGIEBURN	*Checked by*	JHF

Feature	**SUBBASE**	*Layer thickness*	75 / 150	mm	*Time:*	08:30:29

AS 12892.1.1 & 5.8.1

Test No		**5**	**6**	**7**	**8**	**9**	**10**
Location		Valiant Crescent			Vada Boulevard	Lush Drive	
Chainage		120	80	40	60	30	25
Offset		2 south of kerb	1.8 north of kerb	2.2 west of kerb	2.5 east of kerb	3 west of kerb	2 south of kerb
Approximate depth from F.S.L.	*m*	-	-	-	-	-	-
Measurement depth	*mm*	50	50	50	125	125	50
Field wet density	*t/m³*	2.47	2.48	2.48	2.46	2.42	2.49
Field dry density	*t/m³*	2.24	2.25	2.27	2.24	2.26	2.30
Field moisture content	*%*	9.5	9.5	8.5	9.0	7.0	8.0

Laboratory Compaction AS 1289.5.2.1 & 5.4.2 Assigned Values (See Report No 203HWAM)

Date of assignment		14/10/11
Material source and location		20mm Class 3 - Hanson, Wollert
Compactive effort		MODIFIED
Maximum Dry Density	*t/m³*	2.29
Optimum Moisture Content	*%*	8.5

Test procedure AS 1289.5.4.1

Oversize rock retained on sieve	*mm*	19.0	19.0	19.0	19.0	19.0	19.0
Percent of oversize material	*wet*	-	-	-	-	-	-
Percent of oversize material	*dry*	-	-	-	-	-	-
Adjusted Maximum Dry Density	*t/m³*	-	-	-	-	-	-
Adjusted Optimum Moisture Content	*%*	-	-	-	-	-	-

Moisture Variation From Optimum Moisture Content	2.0% wet	2.0% wet	1.0% wet	1.0% wet	1.0% dry	0.0% wet

Moisture Ratio (R_m)	*%*	125.0	123.0	109.5	114.5	88.5	101.0

Density Ratio (R_D)	*%*	**98.0**	**98.5**	**99.5**	**98.0**	**99.0**	**100.5**

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

BY LOT CHARACTERISTICS

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No	11383		
Report No	11383AC		
Date Issued	17/11/11		
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	TG
Project	ASTON - STAGE 1	*Date tested*	09/11/11
Location	CRAIGIEBURN	*Checked by*	JHF

		Feature	Craigieburn West Road		
LOT No	**1 - SUBGRADE IMPROVEMENT**	*Chainage*	0 - 380	*Time:*	08:30
		Layer thickness	200mm		

Test No		**11**	**12**	**13**	**14**	**15**	**16**
Location	*Chainage*	38	101	165	228	291	355
	Offset	15m south of existing asphalt	0.2m south of existing asphalt	4m south of existing asphalt	5m south of existing asphalt	4.2m south of existing asphalt	1m south of existing asphalt
Approximate depth below FSL	*m*	-	-	-	-	-	-
Measurement depth	*mm*	175	175	175	175	175	175
Field wet density	*t/m³*	2.09	2.16	2.05	2.31	2.15	2.13
Field moisture content	*%*	10.5	9.5	9.5	6.0	8.5	13.0

Test No		11	12	13	14	15	16
Compactive effort		Standard					
Oversize rock retained on sieve	*mm*	19.0	19.0	19.0	37.5	19.0	19.0
Percent of oversize material	*wet*	10	20	11	9	10	10
Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	-	-	-	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	2.09	2.17	2.06	2.26	2.13	2.13
Adjusted Optimum Moisture Content	*%*	13.0	11.0	12.5	8.5	11.0	11.0

Moisture Variation From Optimum Moisture Content		2.5% Dry	1.5% Dry	2.5% Dry	2.5% Dry	2.5% Dry	2.0% Wet
Moisture Ratio (R_m)	*%*	**82.0**	**86.0**	**78.0**	**70.0**	**77.0**	**117.0**
Density Ratio (R_{HD})	*%*	**100.0**	**99.5**	**99.5**	**102.5**	**101.0**	**100.0**

Lot Characteristics RC 316.00

Mean Density Ratio	*%*	100.4
Standard Deviation (Density Ratio)	*%*	1.2
Characteristic Density Ratio	*%*	99.3
Mean Moisture Variation	*%*	1.7
Standard Deviation (Moisture Variation)	*%*	1.9
Mean Moisture Ratio	*%*	85.1
Standard Deviation (Moisture Ratio)	*%*	16.7
Characteristic Moisture Ratio	*%*	69.7

Material description

Test No 11 - 16 Type A Sandstone

Field and Laboratory Test Procedures

AS 1289.2.1.1, 5.8.1, RC 316.00 & RC 316.10

Test procedures if no oversize present - AS 1289.5.7.1 & AS 1289.5.4.1 (Equations 4.2, 4.3 & 4.10)

Test procedures if oversize is present - AS 1289.5.4.1 (Equations 4.2, 4.3, 4.5, 4.10 & 4.11), 5.7.1 (AWv not reported) and VicRoads Code of Practice RC 500.05 - Clause 5 - Allowance for Oversize Material

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon, Vic 3136

		Job No	11383
		Report No	11383AD
		Date Issued	21/11/11
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	TG
Project	ASTON - STAGE 1	*Date tested*	09/11/11
Location	CRAIGIEBURN	*Checked by*	JHF

Feature	**SUBBASE**	*Layer thickness*	75 mm	*Time:*	09:40:00

AS 12892.1.1 & 5.8.1

Test No		**17**	**18**	**19**	**20**	**21**	
Location		Cavalier Grange			Moxie Road	Anzacs Way	
	Chainage	35	85	140	25	30	
	Offset	1.8 east of kerb	1.2 west of kerb	1 east of kerb	2 north of kerb	1.5 south of kerb	
Approximate depth from F.S.L.	*m*						
Measurement depth	*mm*	50	50	50	50	50	
Field wet density	*t/m³*	2.46	2.45	2.45	2.41	2.44	
Field dry density	*t/m³*	2.26	2.24	2.25	2.25	2.24	
Field moisture content	*%*	8.0	8.5	8.0	7.0	8.5	

Laboratory Compaction AS 1289.5.2.1 & 5.4.2 Assigned Values (See Report No 203HWAO)

Date of assignment		11/11/11
Material source and location		20mm Class 3 - Hanson, Wollert
Compactive effort		MODIFIED
Maximum Dry Density	*t/m³*	2.28
Optimum Moisture Content	*%*	8.5

Test procedure AS 1289.5.4.1

Oversize rock retained on sieve	*mm*	19.0	19.0	19.0	19.0	19.0	
Percent of oversize material	*wet*	-	-	-	-	-	
Percent of oversize material	*dry*	-	-	-	-	-	
Adjusted Maximum Dry Density	*t/m³*	-	-	-	-	-	
Adjusted Optimum Moisture Content	*%*	-	-	-	-	-	

Moisture Variation From Optimum Moisture Content	0.0% wet	1.0% wet	0.5% wet	1.5% dry	0.5% wet	
Moisture Ratio (R_m)	*%*	102.0	109.5	103.5	84.5	105.0	
Density Ratio (R_D)	*%*	**99.0**	**98.0**	**98.5**	**98.5**	**98.0**	

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon, Vic 3136

		Job No	11383
		Report No	11383AE
		Date Issued	21/11/11
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	TG
Project	ASTON - STAGE 1	Date tested	09/11/11
Location	CRAIGIEBURN	Checked by	JHF

Feature	**SUBBASE**	*Layer thickness*	100 mm	*Time:*	09:55:00

AS 12892.1.1 & 5.8.1

Test No		**22**	**23**				
Location		Dashing Road					
	Chainage	35	80				
	Offset	1 north of kerb	1.5 south of kerb				
Approximate depth from F.S.L.	*m*						
Measurement depth	*mm*	75	75				
Field wet density	*t/m³*	2.40	2.39				
Field dry density	*t/m³*	2.23	2.24				
Field moisture content	*%*	7.0	6.5				

Laboratory Compaction AS 1289.5.2.1 & 5.4.2 Assigned Values (See Report No 203HWAO)

Date of assignment		11/11/11
Material source and location		20mm Class 3 - Hanson, Wollert
Compactive effort		MODIFIED
Maximum Dry Density	*t/m³*	2.28
Optimum Moisture Content	*%*	8.5

Test procedure AS 1289.5.4.1

Oversize rock retained on sieve	*mm*	19.0	19.0				
Percent of oversize material	*wet*	-	-				
Percent of oversize material	*dry*	-	-				
Adjusted Maximum Dry Density	*t/m³*	-	-				
Adjusted Optimum Moisture Content	*%*	-	-				

Moisture Variation From Optimum Moisture Content	1.5% dry	2.0% dry				

Moisture Ratio (R_m)	*%*	85.0	79.5				

Density Ratio (R_D)	*%*	**98.0**	**98.0**				

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

BY LOT CHARACTERISTICS

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No	11383		
Report No	11383AF		
Date Issued	28/11/11		
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	TG
Project	ASTON - STAGE 1	*Date tested*	18/11/11
Location	CRAIGIEBURN	*Checked by*	JHF

		Feature	Craigieburn Road - West Bound		
LOT No	**1 - CAPPING**	*Chainage*	1560 - 2020	*Time:*	09:15
		Layer thickness	200mm		

Test No		**24**	**25**	**26**	**27**	**28**	**29**
Location	*Chainage*	1621	1698	1775	1851	1928	2004
	Offset	4.2m north of kerb	0.6m north of kerb	3m north of kerb	10m north of kerb	18m north of kerb	10m north of kerb
Approximate depth below FSL	*m*	-	-	-	-	-	-
Measurement depth	*mm*	175	175	175	175	175	175
Field wet density	*t/m³*	2.27	2.16	2.30	2.24	2.14	2.20
Field moisture content	*%*	7.0	7.0	7.0	7.0	7.5	7.5

Test No		24	25	26	27	28	29
Compactive effort		Standard					
Oversize rock retained on sieve	*mm*	19.0	19.0	19.0	19.0	19.0	19.0
Percent of oversize material	*wet*	6	9	19	13	9	19
Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	-	-	-	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	2.18	2.15	2.25	2.18	2.14	2.23
Adjusted Optimum Moisture Content	*%*	10.0	11.0	9.0	10.0	11.5	9.5

Moisture Variation From Optimum Moisture Content		3.0% Dry	3.5% Dry	2.5% Dry	3.5% Dry	4.0% Dry	2.5% Dry
Moisture Ratio (R_m)	*%*	**71.0**	**66.0**	**75.0**	**68.0**	**67.0**	**77.0**
Density Ratio (R_{HD})	*%*	**104.0**	**100.0**	**102.5**	**102.5**	**100.0**	**99.0**

Lot Characteristics RC 316.00

Mean Density Ratio	*%*	101.3
Standard Deviation (Density Ratio)	*%*	1.9
Characteristic Density Ratio	*%*	99.5
Mean Moisture Variation	*%*	3.1
Standard Deviation (Moisture Variation)	*%*	0.6
Mean Moisture Ratio	*%*	70.8
Standard Deviation (Moisture Ratio)	*%*	4.5
Characteristic Moisture Ratio	*%*	66.7

Material description

Test No 24 - 29 Type A Fill

Field and Laboratory Test Procedures

AS 1289.2.1.1, 5.8.1, RC 316.00 & RC 316.10
Test procedures if no oversize present - AS 1289.5.7.1 & AS 1289.5.4.1 (Equations 4.2, 4.3 & 4.10)
Test procedures if oversize is present - AS 1289.5.4.1 (Equations 4.2, 4.3, 4.5, 4.10 & 4.11), 5.7.1 (AWv not reported) and VicRoads Code of Practice RC 500.05 - Clause 5 - Allowance for Oversize Material

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

BY LOT CHARACTERISTICS

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No	11383		
Report No	11383AG		
Date Issued	14/12/11		
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	TG
Project	ASTON - STAGE 1	*Date tested*	24/11/11
Location	CRAIGIEBURN	*Checked by*	JHF

		Feature	West Bound Carriageway		
LOT No	**SUBGRADE IMPROVEMENT**	*Chainage*	2040 - 2360 / 80 - 220	*Time:*	11:30
		Layer thickness	200mm		

Test No		**30**	**31**	**32**	**33**	**34**	**35**
Location	*Chainage*	2086	2163	2239	2316	112	189
	Offset	4.8m north of kerb	12m north of kerb	7.2m north of kerb	5.6m north of kerb	10 north of kerb	0.4m north of kerb
Approximate depth below FSL	*m*						
Measurement depth	*mm*	175	175	175	175	175	175
Field wet density	*t/m³*	2.23	2.21	2.24	2.16	2.13	2.13
Field moisture content	*%*	8.5	8.5	6.0	7.5	6.5	8.0

Test No		30	31	32	33	34	35
Compactive effort		Standard					
Oversize rock retained on sieve	*mm*	37.5	19.0	19.0	19.0	19.0	19.0
Percent of oversize material	*wet*	14	13	14	13	11	11
Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	-	-	-	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	2.19	2.14	2.17	2.17	2.15	2.16
Adjusted Optimum Moisture Content	*%*	10.5	12.0	9.5	10.5	10.5	11.0

Moisture Variation From Optimum Moisture Content		2.5% Dry	3.0% Dry	3.5% Dry	3.0% Dry	4.0% Dry	3.0% Dry
Moisture Ratio (R_m)	*%*	**78.0**	**74.0**	**63.0**	**73.0**	**63.0**	**72.0**
Density Ratio (R_{HD})	*%*	**102.0**	**103.0**	**103.0**	**99.5**	**99.5**	**98.5**

Lot Characteristics RC 316.00

Mean Density Ratio	*%*	101.0
Standard Deviation (Density Ratio)	*%*	2.0
Characteristic Density Ratio	*%*	99.2
Mean Moisture Variation	*%*	3.2
Standard Deviation (Moisture Variation)	*%*	0.5
Mean Moisture Ratio	*%*	70.5
Standard Deviation (Moisture Ratio)	*%*	6.1
Characteristic Moisture Ratio	*%*	64.8

Material description

Test No 30 - 35 Type A Fill

Field and Laboratory Test Procedures

AS 1289.2.1.1, 5.8.1, RC 316.00 & RC 316.10

Test procedures if no oversize present - AS 1289.5.7.1 & AS 1289.5.4.1 (Equations 4.2, 4.3 & 4.10)

Test procedures if oversize is present - AS 1289.5.4.1 (Equations 4.2, 4.3, 4.5, 4.10 & 4.11), 5.7.1 (AWv not reported) and VicRoads Code of Practice RC 500.05 - Clause 5 - Allowance for Oversize Material

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

BY LOT CHARACTERISTICS

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon, Vic 3136

Job No	11383
Report No	11383AH
Date Issued	14/12/11

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	TG
Project	ASTON - STAGE 1	Date tested	05/12/11
Location	CRAIGIEBURN	Checked by	JHF

LOT No	**LOWER SUBBASE**	Feature	West Bound Carriageway		
		Chainage	1540 - 2030	Time:	11:00:00
		Layer thickness	150 mm		

AS 1289.2.1.15.8.1 & RC 316.10

Test No		**36**	**37**	**38**	**39**	**40**	**41**
Location	Chainage	1580	1662	1743	1825	1907	1988
	Offset	4m north of kerb	4m north of kerb	0.8m north of kerb	3m north of kerb	7m north of kerb	0.2m north of kerb
Approximate depth from F.S.L.	m						
Measurement depth	mm	125	125	125	125	125	125
Field wet density	t/m³	2.35	2.34	2.31	2.34	2.38	2.31
Field dry density	t/m³	2.22	2.21	2.21	2.21	2.25	2.22
Field moisture content	%	6.0	5.5	5.0	5.5	5.5	3.5

Laboratory Compaction AS 1289.5.2.1 & 5.4.2 Assigned Values (see Report No 204HWAJ)

Date of assignment		05/12/11
Material source and location		20mm Class 4 - Hanson, Wollert
Compactive effort		MODIFIED
Assigned Maximum Dry Density	t/m³	2.25
Assigned Optimum Moisture Content	%	9.0

Test Procedure AS 1289.5.4.1

Oversize rock retained on sieve	mm	19.0	19.0	19.0	19.0	19.0	19.0
Percent of oversize material	wet	-	-	-	-	-	-
Percent of oversize material	dry	-	-	-	-	-	-
Adjusted Maximum Dry Density	t/m³	-	-	-	-	-	-
Adjusted Optimum Moisture Content	%	-	-	-	-	-	-

Moisture Variation From Optimum Moisture Content	3.0% dry	3.0% dry	4.0% dry	3.0% dry	3.5% dry	5.0% dry
Moisture Ratio (R_m) %	68.5	64.0	54.5	65.0	61.5	42.5
Density Ratio (R_D) %	**99.0**	**98.5**	**98.5**	**98.5**	**100.5**	**99.0**

Lot Characteristics RC 316.00

Mean Density Ratio	%	98.9
Standard Deviation (Density Ratio)	%	0.8
Characteristic Density Ratio	%	98.3
Mean Moisture Variation	%	3.6
Standard Deviation (Moisture Var)	%	0.8
Mean Moisture Ratio	%	59.3
Standard Deviation (Moisture Ratio)	%	9.5
Characteristic Moisture Ratio	%	50.6

COMPACTION ASSESSMENT

BY LOT CHARACTERISTICS

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No	11383		
Report No	11383AI		
Date Issued	14/12/11		
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	TG
Project	ASTON - STAGE 1	*Date tested*	05/12/11
Location	CRAIGIEBURN	*Checked by*	JHF

		Feature	West Bound Carriageway		
LOT No	**CAPPING**	*Chainage*	2030 - 2400	*Time:*	11:45
		Layer thickness	200mm		

Test No		**42**	**43**	**44**	**45**	**46**	**47**
Location	*Chainage*	2067	2129	2190	2252	2313	2375
	Offset	10m north of kerb	8m north of kerb	0.6m north of kerb	1.8m north of kerb	2.5m north of kerb	0.2m north of kerb
Approximate depth below FSL	*m*						
Measurement depth	*mm*	175	175	175	175	175	175
Field wet density	*t/m³*	2.25	2.27	2.23	2.31	2.32	2.17
Field moisture content	*%*	7.0	7.5	7.0	7.5	8.0	7.0

Test No		42	43	44	45	46	47
Compactive effort		Standard					
Oversize rock retained on sieve	*mm*	37.5	19.0	19.0	19.0	19.0	19.0
Percent of oversize material	*wet*	8	18	16	15	13	15
Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	-	-	-	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	2.17	2.18	2.17	2.22	2.21	2.19
Adjusted Optimum Moisture Content	*%*	11.0	11.0	10.5	10.5	11.0	10.5

Moisture Variation From Optimum Moisture Content		4.0% Dry	3.5% Dry	3.5% Dry	3.0% Dry	3.0% Dry	3.5% Dry
Moisture Ratio (R_m)	*%*	**63.0**	**69.0**	**66.0**	**71.0**	**73.0**	**66.0**
Density Ratio (R_{HD})	*%*	**104.0**	**104.5**	**102.5**	**104.0**	**105.0**	**99.0**

Lot Characteristics RC 316.00

Mean Density Ratio	*%*	103.1
Standard Deviation (Density Ratio)	*%*	2.2
Characteristic Density Ratio	*%*	101.1
Mean Moisture Variation	*%*	3.5
Standard Deviation (Moisture Variation)	*%*	0.4
Mean Moisture Ratio	*%*	67.9
Standard Deviation (Moisture Ratio)	*%*	3.5
Characteristic Moisture Ratio	*%*	64.7

Material description

Test No 42 - 47 Type A Fill

Field and Laboratory Test Procedures

AS 1289.2.1.1, 5.8.1, RC 316.00 & RC 316.10

Test procedures if no oversize present - AS 1289.5.7.1 & AS 1289.5.4.1 (Equations 4.2, 4.3 & 4.10)

Test procedures if oversize is present - AS 1289.5.4.1 (Equations 4.2, 4.3, 4.5, 4.10 & 4.11), 5.7.1 (AWv not reported) and VicRoads Code of Practice RC 500.05 - Clause 5 - Allowance for Oversize Material

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon, Vic 3136

Job No	11383		
Report No	11383AJ		
Date Issued	07/12/11		
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	TG
Project	ASTON - STAGE 1	*Date tested*	06/12/11
Location	CRAIGIEBURN	*Checked by*	JHF

Feature	**BASE**	*Layer thickness*	150 mm	*Time:*	11:05:00

AS 12892.1.1 & 5.8.1

Test No		**48**	**49**	**50**	**51**	**52**	**53**
Location		Valiant Crescent			Dashing Road		Moxie Road
Chainage		120	80	40	40	80	
Offset		1.5 north of kerb	2 south of kerb	1.5 east of kerb	2 north of kerb	1.8 south of kerb	1.2 north of kerb
Approximate depth from F.S.L.	*m*						
Measurement depth	*mm*	125	125	125	125	125	125
Field wet density	*t/m³*	2.29	2.31	2.36	2.34	2.36	2.28
Field dry density	*t/m³*	2.14	2.16	2.20	2.19	2.21	2.17
Field moisture content	*%*	7.0	6.5	7.0	6.5	6.5	5.0

Laboratory Compaction AS 1289.5.2.1 & 5.4.2 Assigned Values (See Report No 202HWBO)

Date of assignment		06/12/11
Material source and location		20mm Class 2 - Hanson, Wollert
Compactive effort		MODIFIED
Maximum Dry Density	*t/m³*	2.28
Optimum Moisture Content	*%*	8.5

Test procedure AS 1289.5.4.1

Oversize rock retained on sieve	*mm*	19.0	19.0	19.0	19.0	19.0	19.0
Percent of oversize material	*wet*	-	-	-	-	-	-
Percent of oversize material	*dry*	-	-	-	-	-	-
Adjusted Maximum Dry Density	*t/m³*	-	-	-	-	-	-
Adjusted Optimum Moisture Content	*%*	-	-	-	-	-	-

Moisture Variation From Optimum Moisture Content	1.0% dry	1.5% dry	1.0% dry	1.5% dry	1.5% dry	3.0% dry

Moisture Ratio (R_m)	*%*	88.5	81.5	89.0	81.5	79.5	62.0

Density Ratio (R_D)	*%*	**94.0**	**95.0**	**96.5**	**96.5**	**97.5**	**95.0**

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon, Vic 3136

		Job No	11383
		Report No	11383AK
		Date Issued	14/12/11
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	TG
Project	ASTON - STAGE 1	*Date tested*	06/12/11
Location	CRAIGIEBURN	*Checked by*	JHF

Feature	**BASE**	*Layer thickness*	150 mm	*Time:*	11:35:00

AS 12892.1.1 & 5.8.1

Test No		**54**	**55**	**56**	**57**		
Location		Cavalier Grange			Anzacs Way		
Chainage		40	95	150			
Offset		2 east of kerb	1.8 west of kerb	1.5 east of kerb	1.2 south of kerb		
Approximate depth from F.S.L.	*m*						
Measurement depth	*mm*	125	125	125	125		
Field wet density	*t/m³*	2.27	2.25	2.24	2.27		
Field dry density	*t/m³*	2.15	2.13	2.12	2.15		
Field moisture content	*%*	5.5	5.5	5.0	5.5		

Laboratory Compaction AS 1289.5.2.1 & 5.4.2 Assigned Values (See Report No 202HWBO)

Date of assignment		06/12/11
Material source and location		20mm Class 2 - Hanson, Wollert
Compactive effort		MODIFIED
Maximum Dry Density	*t/m³*	2.28
Optimum Moisture Content	*%*	8.5

Test procedure AS 1289.5.4.1

Oversize rock retained on sieve	*mm*	19.0	19.0	19.0	19.0		
Percent of oversize material	*wet*	-	-	-	-		
Percent of oversize material	*dry*	-	-	-	-		
Adjusted Maximum Dry Density	*t/m³*	-	-	-	-		
Adjusted Optimum Moisture Content	*%*	-	-	-	-		

Moisture Variation From Optimum Moisture Content		3.0% dry	3.0% dry	3.0% dry	3.0% dry		
Moisture Ratio (R_m)	*%*	67.0	66.5	63.5	66.0		
Density Ratio (R_D)	*%*	**94.5**	**93.5**	**93.5**	**94.5**		

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

BY LOT CHARACTERISTICS

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon, Vic 3136

Job No	11383		
Report No	11383AO		
Date Issued	20/12/11		
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	TG
Project	ASTON - STAGE 1	*Date tested*	14/12/11
Location	CRAIGIEBURN	*Checked by*	JHF

		Feature	West Bound Carriageway		
LOT No	**LOWER SUBBASE**	*Chainage*	2040 - 2420	*Time:*	13:00:00
		Layer thickness	150 mm		

AS 1289.2.1.15.8.1 & RC 316.10

Test No		**58**	**59**	**60**	**61**	**62**	**63**
Location	*Chainage*	2046	2109	2172	2235	2298	2361
	Offset	2.7 north of kerb	1.6 north of kerb	2.4 north of kerb	0.7 north of kerb	6.3 north of kerb	3.5 north of kerb
Approximate depth from F.S.L.	*m*						
Measurement depth	*mm*	125	125	125	125	125	125
Field wet density	*t/m³*	2.34	2.34	2.46	2.45	2.42	2.48
Field dry density	*t/m³*	2.22	2.22	2.32	2.31	2.29	2.34
Field moisture content	*%*	5.5	6.0	6.5	6.0	6.0	6.0

Laboratory Compaction AS 1289.5.2.1 & 5.4.2 Assigned Values (see Report No 204HWAJ)

Date of assignment		05/12/11
Material source and location		20mm Class 4 - Hanson, Wollert
Compactive effort		MODIFIED
Assigned Maximum Dry Density	*t/m³*	2.25
Assigned Optimum Moisture Content	*%*	9.0

Test Procedure AS 1289.5.4.1

Oversize rock retained on sieve	*mm*	19.0	19.0	19.0	19.0	19.0	19.0
Percent of oversize material	*wet*	-	-	-	-	-	-
Percent of oversize material	*dry*	-	-	-	-	-	-
Adjusted Maximum Dry Density	*t/m³*	-	-	-	-	-	-
Adjusted Optimum Moisture Content	*%*	-	-	-	-	-	-

Moisture Variation From Optimum Moisture Content		3.5% dry	3.0% dry	2.5% dry	2.5% dry	3.0% dry	3.0% dry
Moisture Ratio (R_m)	*%*	61.0	66.0	72.5	69.0	67.5	66.5
Density Ratio (R_D)	*%*	**99.0**	**98.5**	**103.0**	**103.0**	**102.0**	**104.0**

Lot Characteristics RC 316.00

Mean Density Ratio	*%*	101.6
Standard Deviation (Density Ratio)	*%*	2.4
Characteristic Density Ratio	*%*	99.4
Mean Moisture Variation	*%*	2.9
Standard Deviation (Moisture Var)	*%*	0.3
Mean Moisture Ratio	*%*	67.1
Standard Deviation (Moisture Ratio)	*%*	3.9
Characteristic Moisture Ratio	*%*	63.5

Approved Signatory : Justin Fry