

CONSTRUCTION MATERIAL SAMPLING AND TESTING MATRIX - 1 OF 2

Construction Operation	Standard Specifications		Standard Details	Applicable Testing	Minimum Frequency of Testing
	Material Specs	Construction Specs			
(Fill) Embankment		Section 1.5, Part 2		Standard Proctor & field densities	Proctor for each material to be used. Densities to be project specific
Excavation & Backfill (Trenching Operations)	Section 4.2, Part 2	Section 4.2, Part 3			
Embedment	Section 4.2, Part 2.A.1, & Part 2.A.2	Section 4.2, Part 3.A.5	G-7 G-8	Gradations, Atterberg Limits, Standard Proctor, Field Densities	Gradation, Atterberg Limits, and Proctor at beginning of project on material submitted for use and at anytime there is an apparent change in material. Densities to be project specific.
Trench Backfill	Section 4.2, Part 2.A.3	Section 4.2, Part 3.A.5	G-7 G-9 G-10		Gradation, Atterberg Limits, and Proctor at beginning of project on material submitted for use and at anytime there is an apparent change in material. Densities: 2 in first lift first 50 LF or less, then 2 in first lift per 500 LF or less, 2 in intermediate lifts per 500 LF or less every 3 vertical FT. above the first compacted lift, and 2 in final lift per 500 LF or less. Additional densities as required if compaction fails to meet specifications.
Flowable Fill (Controlled Low Strength Material)	Section 4.2, Part 2.A.3(f)	Section 4.2, Part 2.A.3(f)	G-7 G-9 Note 4 G-10 Note 4	Consistency, Compressive strength ASTM D4832	Consistency and Compressive Strength every 300 LF of trench backfilled.
Subgrade	Testing - Section 2.6				
Stabilization Determination			ST-2 ST-4	Atterberg Limits to determine if stabilization is necessary, pH to determine amount of lime needed to stabilize	City Projects: Preliminary determined during design. Every 600 LF maximum along CL of street after mass grading. Subdivisions: Every 600 LF maximum along CL of street after mass grading.
Lime Treatment	Section 2.4, Part 2	Section 2.4, Part 3	ST-2 ST-4	Gradations, Standard Proctor, Moisture Bias Calculations, Field Densities	Initial gradations performed to determine mixing pattern. Standard Proctor performed on each material that is visibly different. Densities performed at a rate of one per 300 LF of paving for two lanes.
Portland Cement Treatment	Section 2.2.B, Part 2	Section 2.2.B, Part 3		Unconfined Compressive Strength	1 sample per day of operations
Reclamation	Section 2.3.D, Part 2	Section 2.3.D, Part 3		Refer to either Lime Treatment or Portland Cement Treatment	Refer to either Lime Treatment or Portland Cement Treatment
Existing Material		Section 2.2, Part 3	ST-2 SD-14 SD-15 SD-16 G-7	Standard Proctor, Field Densities	Standard Proctor performed on each visibly different material. Densities performed at a rate of one per 300 LF of paving for two lanes or of concrete channel
Base Course	Testing - Section 2.6				
Gravel Base Course	Section 2.3, Part 2	Section 2.3, Part 3		Gradations, Atterberg Limits, Standard Proctor, Field Densities	Gradation, Atterberg Limits, and Proctor at beginning of project on material submitted for use and at any time there is an apparent change in material. Densities to be project specific.
Flexible Base	Section 2.3.B, Part 2	Section 2.3.B, Part 3			Gradation, Atterberg Limits, and Proctor at beginning of project on material submitted for use and at any time there is an apparent change in material. Densities to be project specific.
Cement Treated Base (Pug Base)	Section 2.3.C, Part 2	Section 2.3.C, Part 3	ST-2 ST-4	Unconfined Compressive Strength	1 sample per day of operations



ENGINEERING DIVISION

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