APPENDIX A

LIST OF LOGS OF TEST BORINGS

		Boring No.
Plate A-1	-	05-R-1, 05-R-2, 05-R-3
Plate A-2	-	05-R-4, 05-R-5, 05-R-6
Plate A-3	-	05-R-7, 05-R-8, 05-R-10, 05-R-11
Plate A-4	-	05-R-9, 05-R-45, 05-R-47, 05-S-1
Plate A-5	-	05-R-45, 05-R-12, 05-R-46, 05-R-13
Plate A-6	-	05-R-47, 05-R-14, 05-S-1, 05-R-15
Plate A-7	-	05-C-1, 05-R-48, 05-R-16, 05-R-49
Plate A-8	-	05-R-16, 05-R-17, 05-R-18, 05-R-19
Plate A-9	-	05-R-20, 05-R-21, 05-R-22, 05-R-23
Plate A-10	-	05-R-24, 05-R-25, 05-R-26, 05-R-27
Plate A-11	-	05-R-28, 05-R-29, 05-R-30, 05-R-31
Plate A-12	-	05-R-32, 05-R-33, 05-R-34, 05-R-35
Plate A-13	-	05-R-37, 05-R-38, 05-R-40
Plate A-14	-	05-R-36, 05-R-39, 05-S-3
Plate A-15	-	05-R-41, 05-R-42, 05-R-43, 05-R-44
Plate A-16	-	05-S-2, 05-RW-2
Plate A-17	-	05-R-1W, 05-R-2W, 05-R-3W, 05-R-4W
Plate A-18	-	05-R-5W, 05-R-7W, 05-R-9W, 05-R-10W
Plate A-19	-	05-R-11W, 05-R-12W, 05-R-13W, 05-R-15W
Plate A-20	-	05-S-4W, 05-R-18W, 05-R-20W, 05-R-22W
Plate A-21	-	05-R-6W, 05-S-1W, 05-S-2W, 05-S-3W, 05-R-14W
Plate A-22	-	05-R-17W, 05-R-19W, 05-R-21W, 05-R-23W, 05-R-24W
Plate A-23	-	05-R-25W, 05-R-26W, 05-R-27W, 05-R-28W
Plate A-24	-	05-R-29W, 05-R-30W, 05-R-31W, 05-R-32W
Plate A-25	-	05-R-33W, 05-R-34W, 05-R-36W
Plate A-26	-	05-R-37W, 05-R-38W, 05-R-39W, 05-R-40W
Plate A-27	-	05-R-41W, 05-R-42W, 05-R-43W, 05-R-44W
Plate A-28	-	05-R-45W, 05-R-46W, 05-R-47W, 05-R-48W
Plate A-29	-	06-RW-3, 05-S-1, 05-C-1
Plate A-30	-	06-RW-4, 05-RW-1, 06-RW-5
Plate A-31	-	05-RW-2, 06-RW-6, 06-RW-7, 06-RW-8
Plate A-32	-	06-271-1, 06-271-2, 06-271-3
Plate A-33	-	06-276-1, 06-276-3, 06-276-4
Plate A-34	-	06-259-1, 06-259-2, 06-259-3
Plate A-35	-	06-259-4, 06-259-5, 06-259-6
Plate A-36	-	06-148B-1, 06-148B-2
Plate A-37	-	01-S-1, 01-S-2, 01-S-3 (I-580/Vasco Road IC)
Plate A-38	-	01-R-13 thru 01-R-17 (I-580/Vasco Road IC)
Plate A-39	-	01-R-44 thru 01-R-46, 01-R-18, 01-R-19, 01-R-21 (I-580/Vasco Road IC)
Plate A-40	-	01-R-47 thru 01-R-49, 01-R-38, 01-R-25, 01-R-26 (I-580/Vasco Road IC)
Plate A-41	-	01-R-36, 01-R-27 thru 01-R-30 (I-580/Vasco Road IC)
Plate A-42	-	01-R-31 thru 01-R-35 (I-580/Vasco Road IC)
Plate A-43	-	00-B-3, 00-B-9 thru 00-B-11 (I-580/Fallon Road IC)
Plate A-44	-	99-P-6 thru 99-P-10 (I-580/Tassajara Road IC)

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

Caltrans Metric

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp.12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

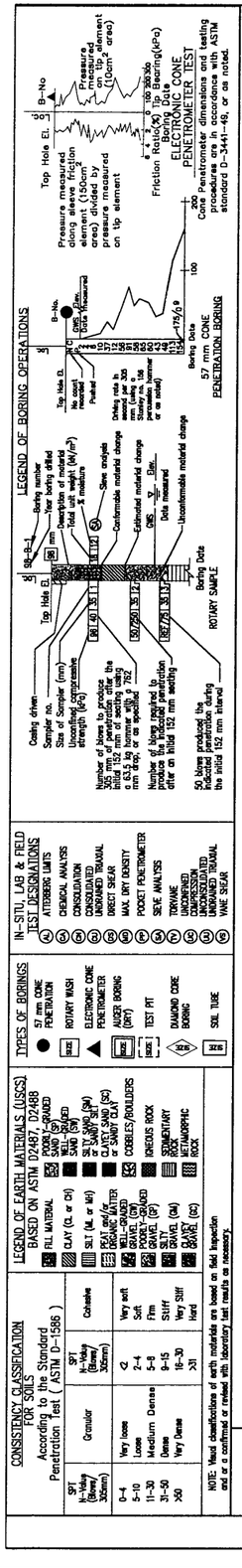
PLANS APPROVAL DATE

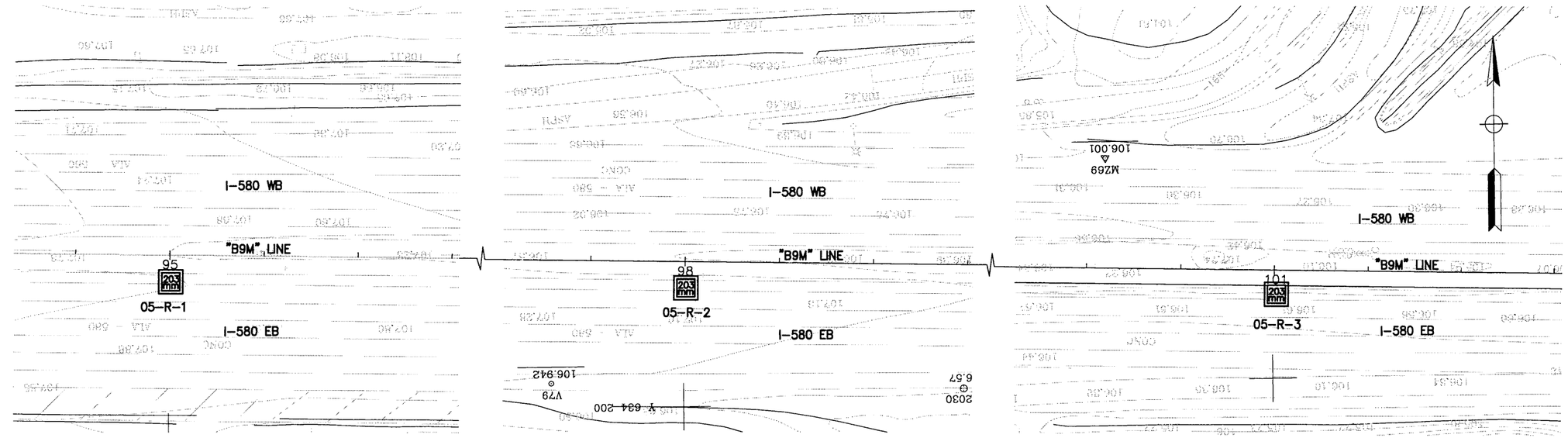
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

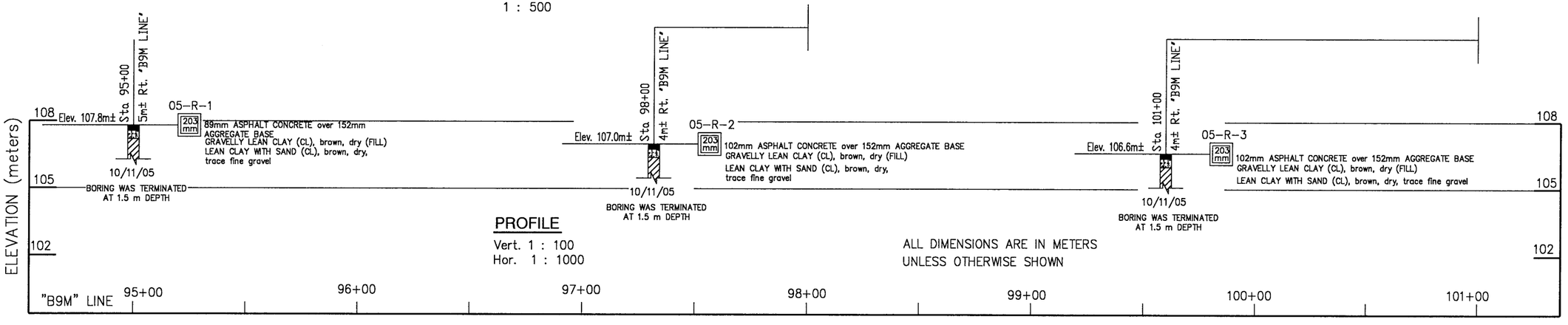
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT





PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 1000

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI

CHECKED By: F. WANG

Field Investigation by: R. LIARD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

CU 04258
EA 290801

STRUCTURE NO. –

KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-1

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

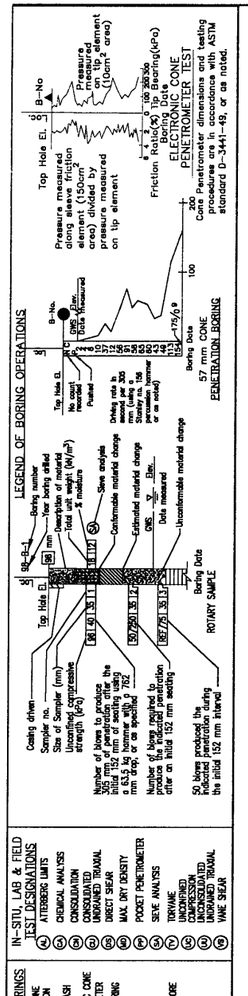
PLANS APPROVAL DATE

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT



IN-SITU, LAB & FIELD TEST DESIGNATIONS

ATTERBERG LIMITS	④
CHEMICAL ANALYSIS	⑤
CONSOLIDATION	⑥
CONSOLIDATED UNDRAINED TRIAXIAL	⑦
DIRECT SHEAR	⑧
MAX. DRY DENSITY	⑨
POCKET PENETROMETER	⑩
SIEVE ANALYSIS	①
TORVANE	②
UNCONFINED COMPRESSION	③
UNCONSOLIDATED UNDRAINED TRIAXIAL	⑪
VANE SHEAR	⑫

TYPES OF BORINGS

57 mm CONE PENETRATION	
ROTARY WASH	RW&C
ELECTRONIC CONE PENETROMETER	
AUGER BORING (DRY)	HSA
TEST PIT	TP
DIAMOND CORE BORING	
SOIL TUBE	ST

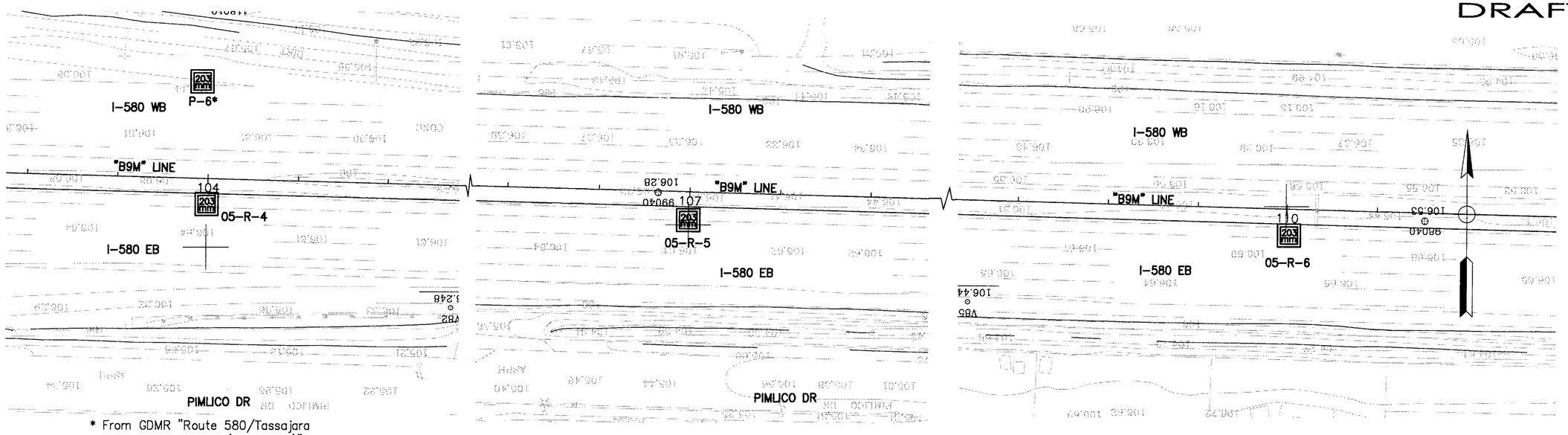
LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488

FILL MATERIAL	
CLAY (CL or CH)	
SILT (ML or MH)	
PEAT and/or ORGANIC MATTER	Pt
POORLY-GRADED SAND (SP)	
WELL-GRADED SAND (SW)	
SILTY SAND (SM) or SANDY SILT (MS)	
CLAYEY SAND (SC) or SANDY CLAY (CS)	
POORLY-GRADED GRAVEL (GP)	
WELL-GRADED GRAVEL (GW)	
SILTY GRAVEL (GM)	
CLAYEY GRAVEL (GC)	
COBBLES/BOULDERS	
IGNEOUS ROCK	
SEDIMENTARY ROCK	
METAMORPHIC ROCK	

NOTE: Visual classifications of earth materials are based on field inspection and or a confirmed or revised with laboratory test results as necessary.

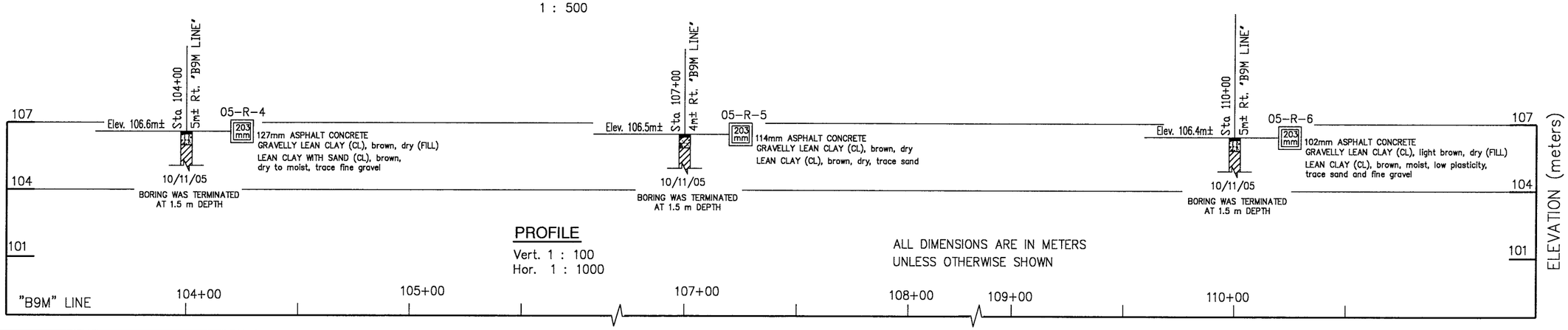
CONSISTENCY CLASSIFICATION FOR SOILS According to the Standard Penetration Test (ASTM D-1586)

SPT N-Value (Blows/ 300mm)	Granular	SPT N-Value (Blows/ 300mm)	Cohesive
0–4	Very Loose	<2	Very soft
5–10	Loose	2–4	Soft
11–30	Medium Dense	5–8	Firm
31–50	Dense	9–15	Stiff
>50	Very Dense	16–30	Very Stiff
		>31	Hard



* From GDMR "Route 580/Tassajara Interchange Project (EA25770K)"

PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 1000

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI

CHECKED By: F. WANG

Field Investigation by: R. LIARD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –

KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-2

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

PLANS APPROVAL DATE

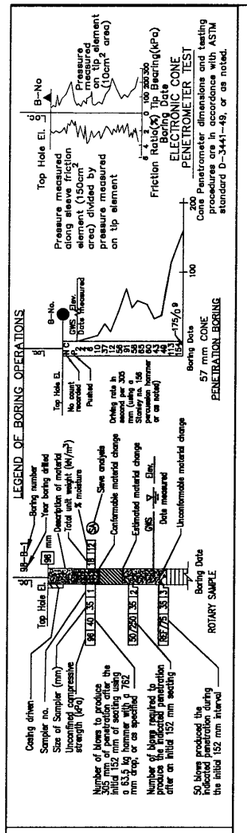
REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT



IN-SITU, LAB & FIELD TEST DESIGNATIONS

④	ATTERBERG LIMITS
⑤	CHEMICAL ANALYSIS
⑥	CONSOLIDATION
⑦	CONSOLIDATED UNDRAINED TRIAXIAL
⑧	DIRECT SHEAR
⑨	MAX. DRY DENSITY
⑩	POCKET PENETROMETER
⑪	SIEVE ANALYSIS
⑫	TORVANE
⑬	UNCONFINED COMPRESSION
⑭	CONSOLIDATED UNDRAINED TRIAXIAL
⑮	VANE SHEAR

TYPES OF BORINGS

●	57 mm CONE PENETRATION
BRC	ROTARY WASH
◀	ELECTRONIC CONE PENETROMETER
AUG	AUGER BORING (DRY)
PIT	TEST PIT
DIA	DIAMOND CORE BORING
ST	SOIL TUBE

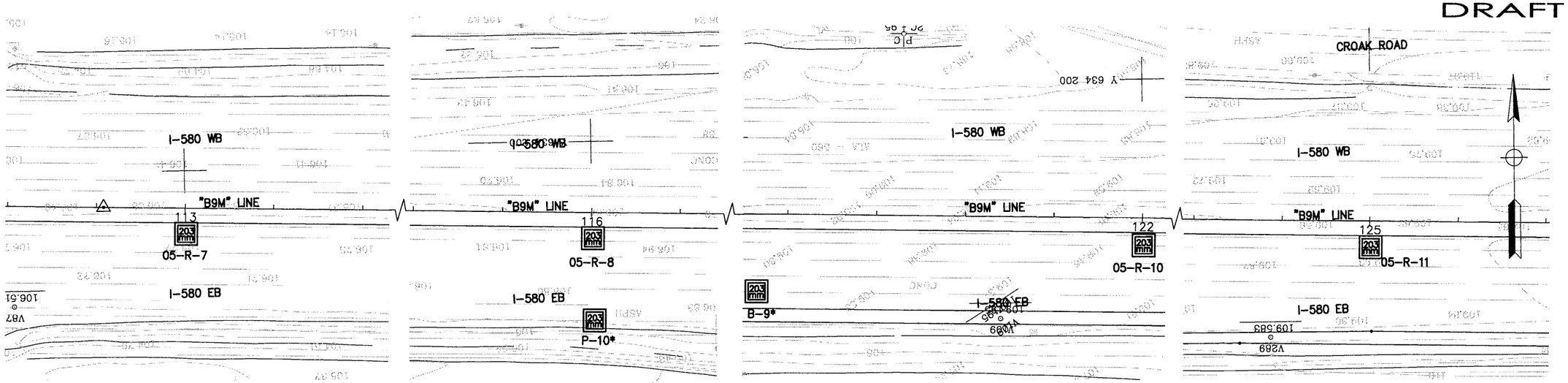
LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488

FILL MATERIAL	
CLAY (CL or CH)	POORLY-GRADED SAND (SP)
SILT (ML or MH)	WELL-GRADED SAND (SW)
PEAT and/or ORGANIC MATTER	SILTY SAND (SM) or SILTY SAND (SC) or SANDY CLAY
WELL-GRADED GRAVEL (GW)	COBBLES/BOULDERS
POORLY-GRADED GRAVEL (GP)	IGNEOUS ROCK
SILTY GRAVEL (GM)	SEDIMENTARY ROCK
GRAVEL (GC)	METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS According to the Standard Penetration Test (ASTM D-1586)

SPT (N-Value Blows/ 300mm)	Granular	SPT (N-Value Blows/ 300mm)	Cohesive
0–4	Very loose	<2	Very soft
5–10	Loose	2–4	Soft
11–30	Medium Dense	5–8	Firm
31–50	Dense	9–15	Stiff
>50	Very Dense	16–30	Very Stiff
		>31	Hard

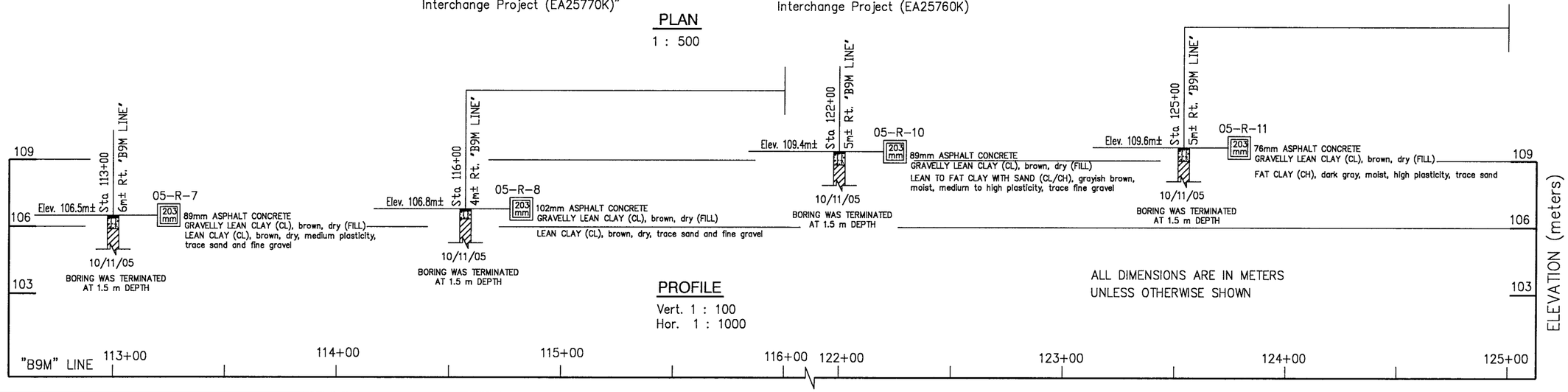
NOTE: Visual classifications of earth materials are based on field inspection and or a confirmed or revised with laboratory test results as necessary.



* From GDMR "Route 580/Tassajara Interchange Project (EA25770K)"

* From GDMR "Route 580/Fallon Road Interchange Project (EA25760K)

PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 1000

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI

CHECKED By: F. WANG

Field Investigation by: R. LIARD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –

KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

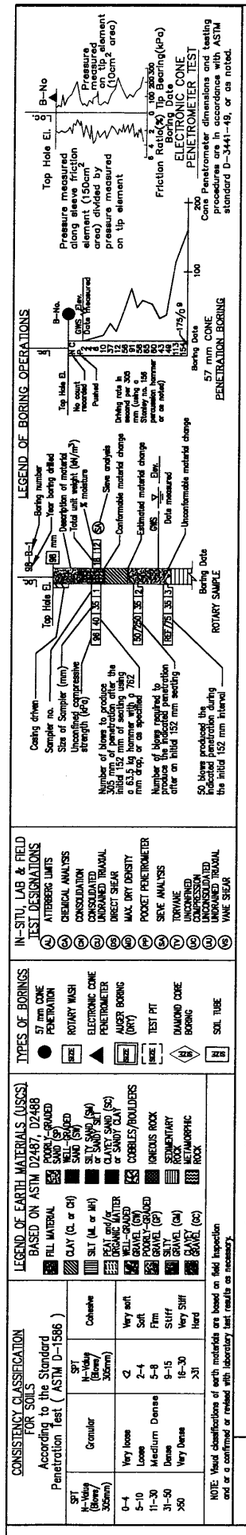
ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-3



DRAFT

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

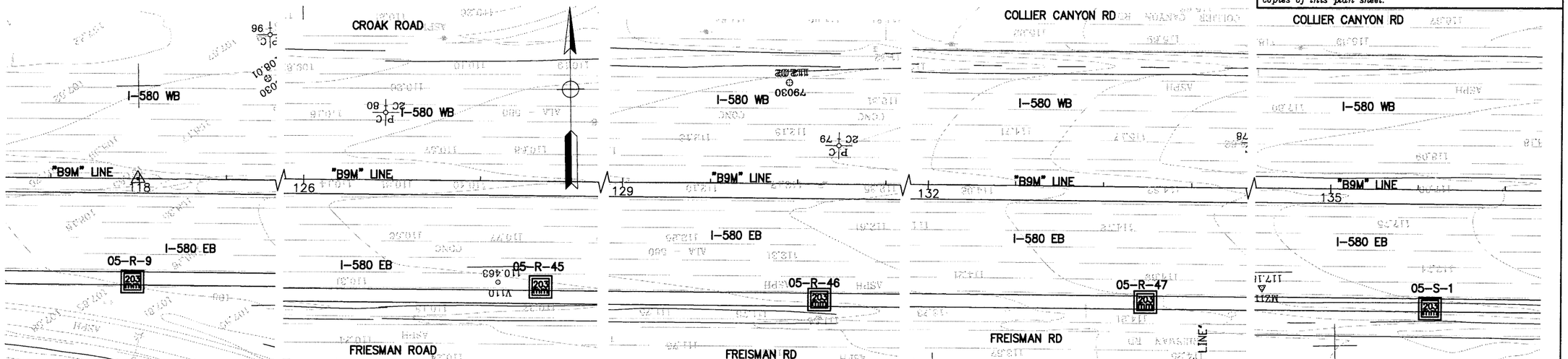
REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp.12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

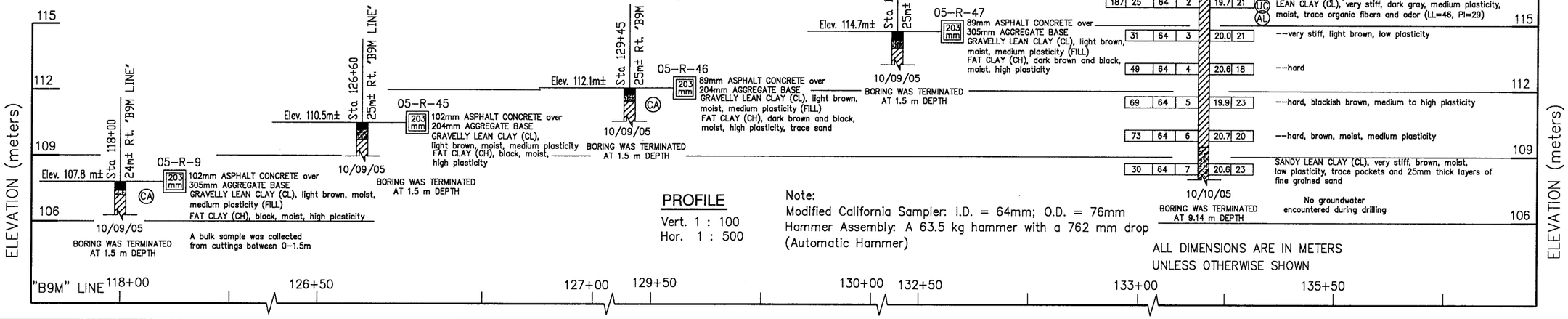
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 500

Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Automatic Hammer)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DESIGN OVERSIGHT
SIGN OFF DATE

DESIGN By: S. PAMPATI
CHECKED By: F. WANG
Field Investigation by: R. LIARD

PREPARED FOR THE
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

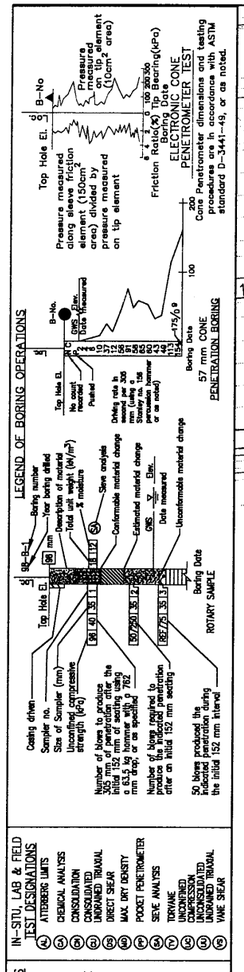
ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

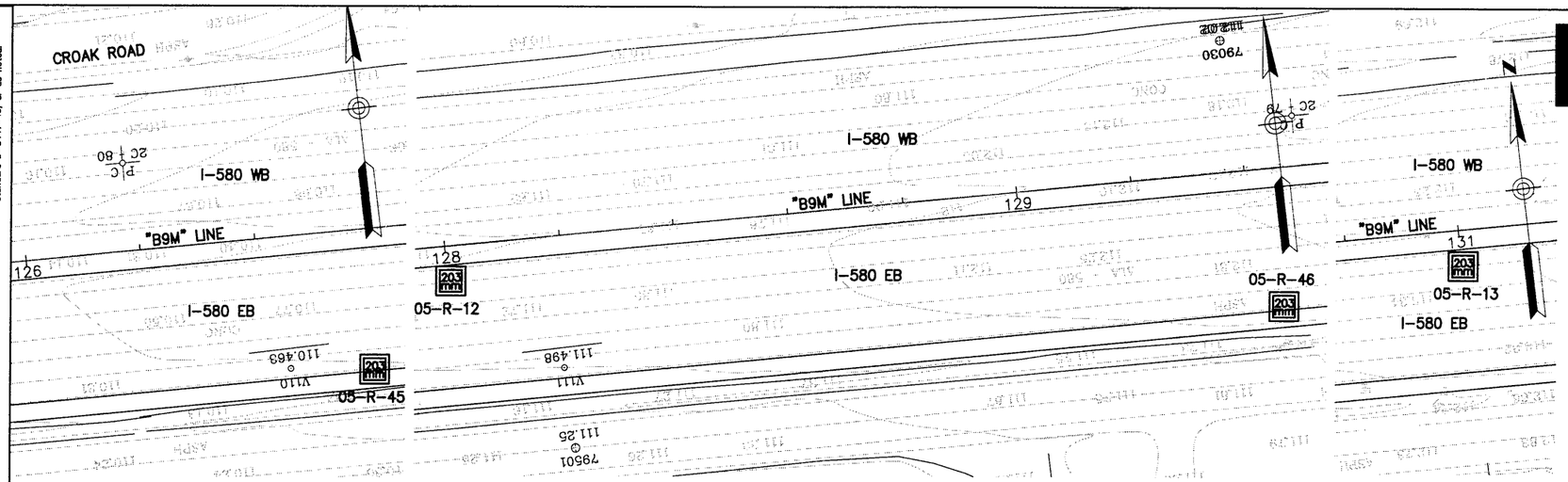
CU 04258
EA 290801

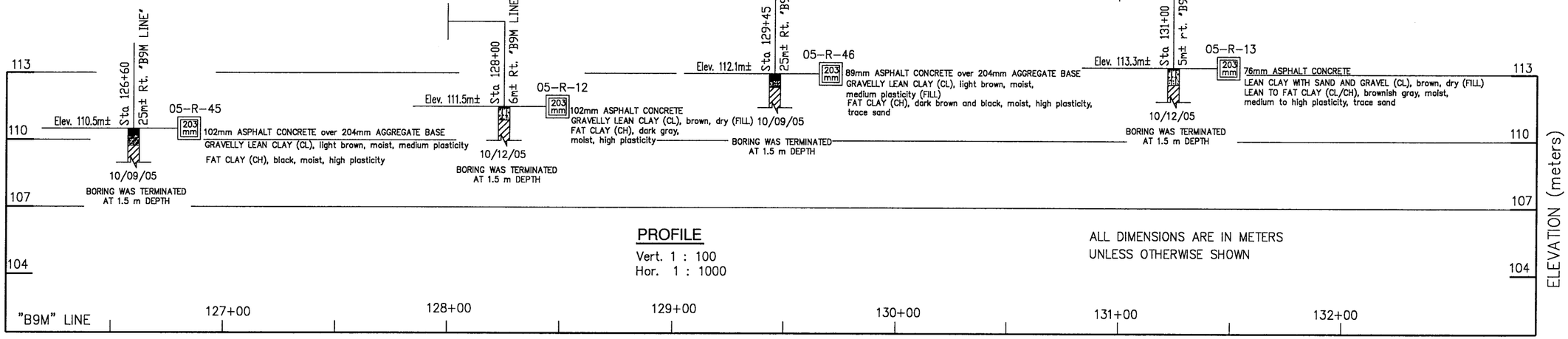
DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-4







DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/07 GEOTECHNICAL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN	By: S. PAMPATI	Field Investigation by: R. LIARD
CHECKED	By: F. WANG	

PREPARED FOR THE
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO.	–
KILOMETER POST	–

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

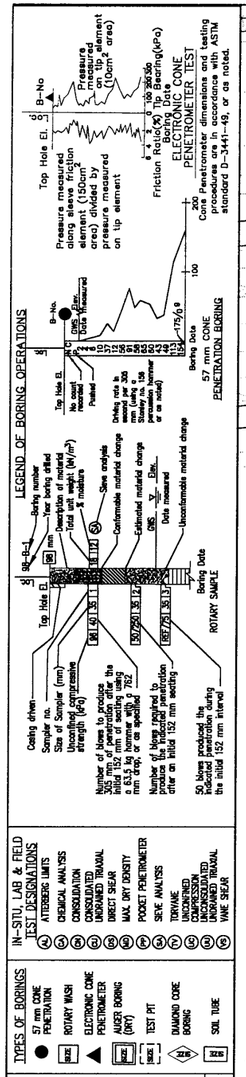
ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

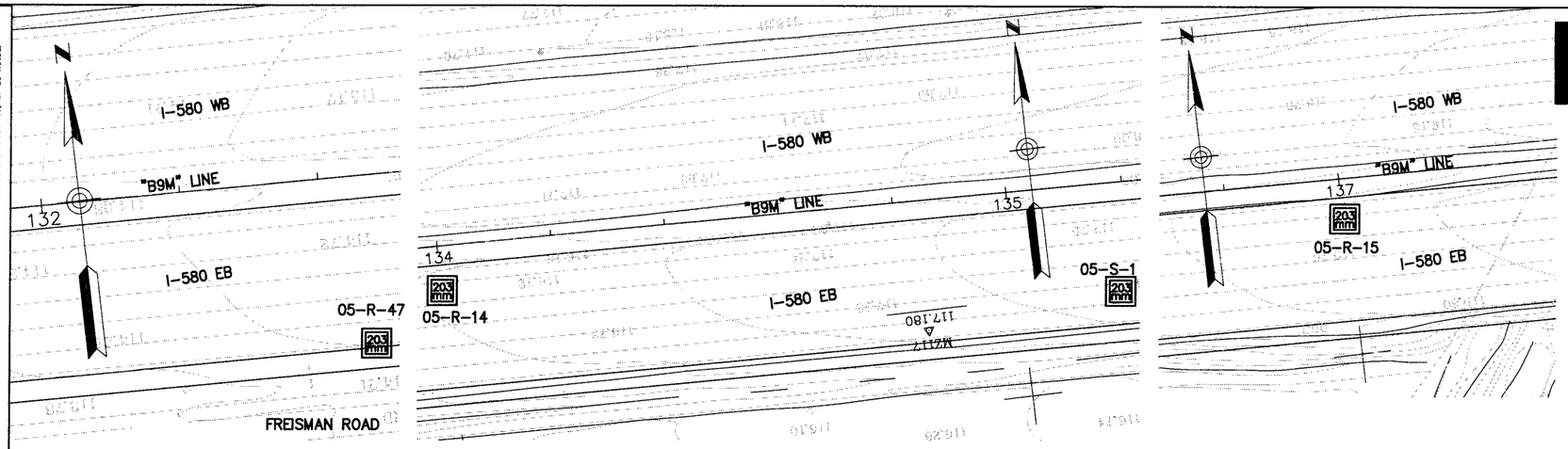
CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-5





PLAN
1 : 500

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

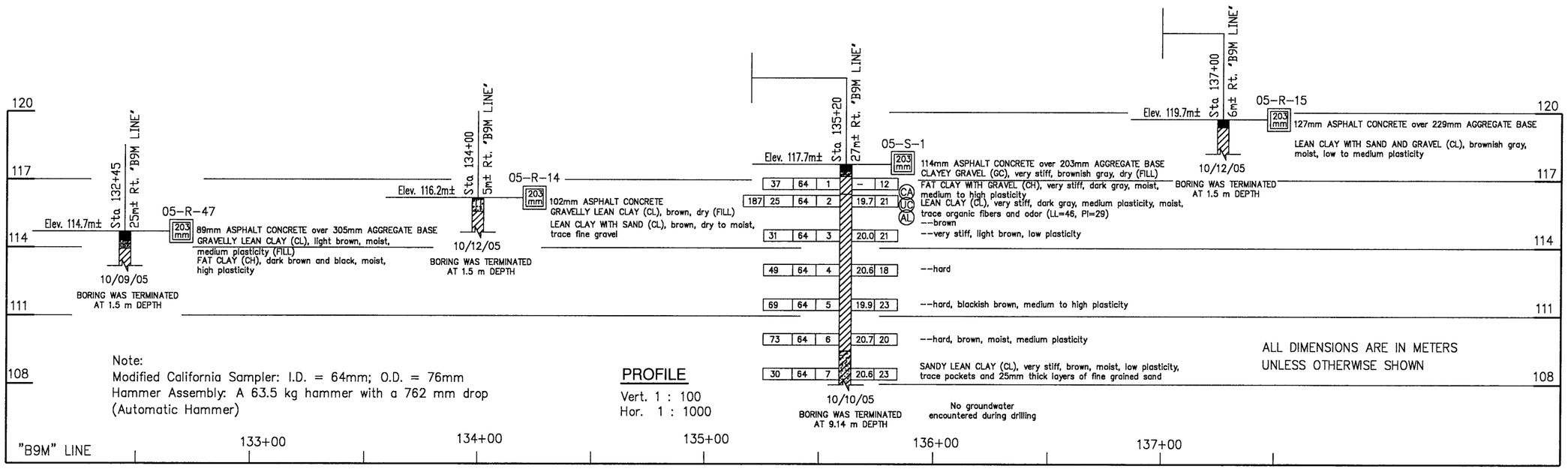
PLANS APPROVAL DATE

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT



Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Automatic Hammer)

PROFILE
Vert. 1 : 100
Hor. 1 : 1000

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

IN-SITU, LAB & FIELD TEST DESIGNATIONS: AT ATTERBERG LIMITS; CA CHEMICAL ANALYSIS; CN CONSOLIDATION; CU CONSOLIDATED UNDRAINED TRIAXIAL; DS DIRECT SHEAR; MD MAX. DRY DENSITY; PP POCKET PENETROMETER; SA SIEVE ANALYSIS; TX TRIAXIAL; UC UNCONFINED COMPRESSION; UU UNCONSOLIDATED UNDRAINED TRIAXIAL; VS VANE SHEAR

TYPES OF BORINGS: 57 mm CONE PENETRATION; ROTARY WASH; ELECTRONIC CONE PENETROMETER; AUGER BORING (DRY); TEST PIT; DIAMOND CORE BORING; SOIL TUBE

LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488: FILL MATERIAL; CLAY (CL or CH); SILT (ML or MH); PEAT and/or ORGANIC MATTER; WELL-GRADED SAND (SW); POORLY-GRADED SAND (SP); SILTY SAND (SM); CLAYEY SAND (SC); WELL-GRADED GRAVEL (GW); POORLY-GRADED GRAVEL (GP); SILTY GRAVEL (GM); CLAYEY GRAVEL (GC); COBBLES/BOULDERS; IGNEOUS ROCK; SEDIMENTARY ROCK; METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS According to the Standard Penetration Test (ASTM D-1586)

SPT N-Value (Blows/ 300mm)	Granular	SPT N-Value (Blows/ 300mm)	Cohesive
0-4	Very loose	<2	Very soft
5-10	Loose	2-4	Soft
11-30	Medium Dense	5-8	Firm
31-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		>30	Hard

NOTE: Visual classifications of earth materials are based on Field Inspection and or a confirmed or revised with laboratory test results as necessary.

DESIGN OVERSIGHT
SIGN OFF DATE

	By:	Field Investigation by:
DESIGN	S. PAMPATI	R. LIARD
CHECKED	F. WANG	

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-6

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp.12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

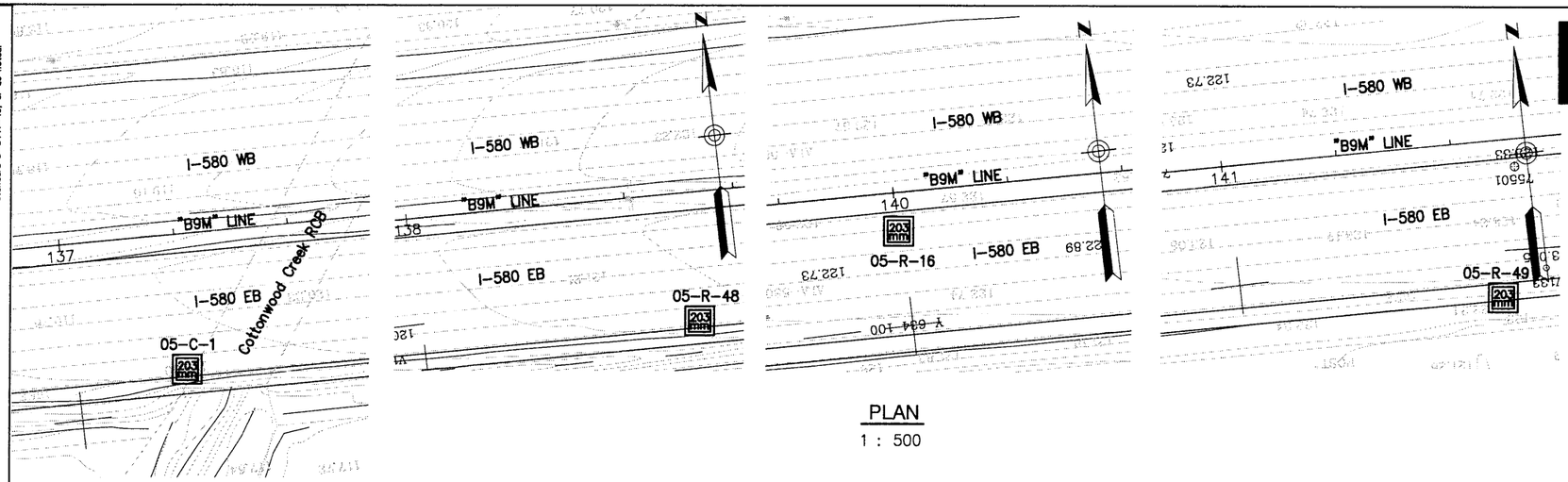
PLANS APPROVAL DATE

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

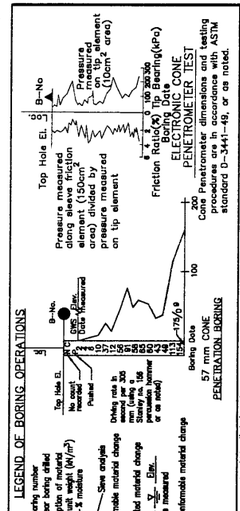
PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

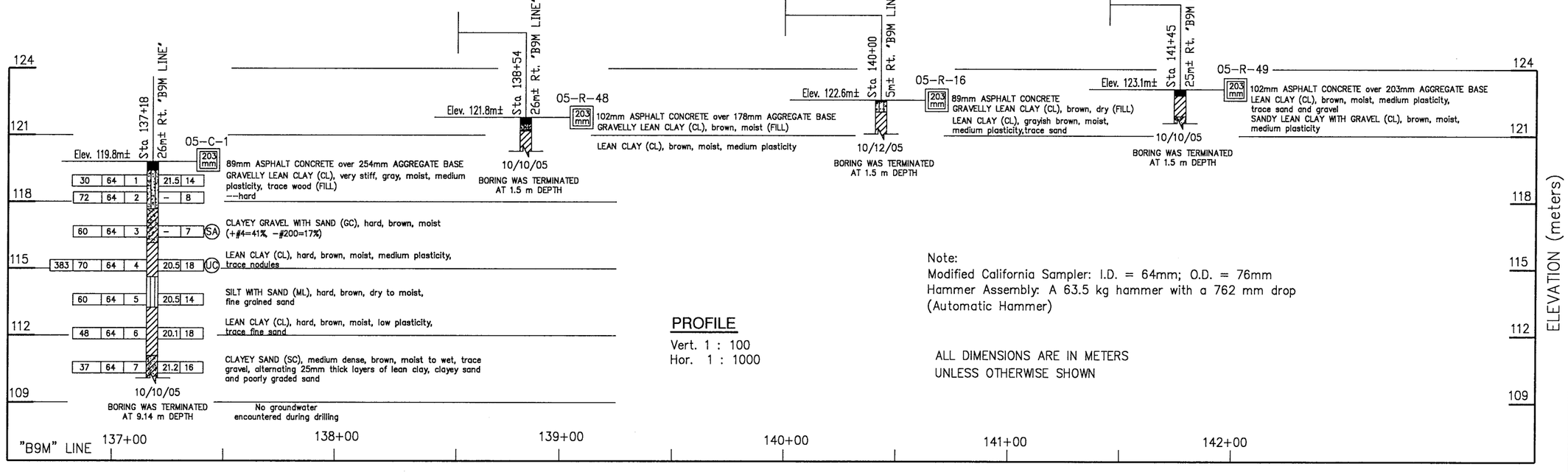
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT



PLAN
1 : 500





PROFILE
Vert. 1 : 100
Hor. 1 : 1000

Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop
(Automatic Hammer)

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI
CHECKED By: F. WANG
Field Investigation by: R. LIARD

PREPARED FOR THE
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS
0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-7

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. GE 666 — Exp 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT

LEGEND OF BORING OPERATIONS

Top Hole El. — B–No. — Pressure measured along sleeve friction element (150cm² area) divided by pressure measured on tip element — Pressure measured on tip element (10cm² area) — Friction Ratio(%) — Tip Resistance(kPa) — Boring Date — ELECTRONIC CONE PENETROMETER TEST — Cone Penetrometer dimensions and testing procedures are in accordance with ASTM standard D–3441–49, or as noted.

Top Hole El. — B–No. — Water Level Measured — Blows/0.3m — Dry Unit Wt. (kN/m³) — Moisture % — Boring Date — 57 mm CONE PENETRATION BORING

Top Hole El. — No water encountered — Flushed — Drilling rate is second per 305 mm (12") of Standard Penetration Hammer (or as noted)

Coring driven — Sample no. — Size of Sampler (mm) — Unconfined compressive strength (kPa) — Number of blows to produce 305 mm (12") of penetration after the initial 152 mm seating using a 63.5 kg hammer with a 762 mm drop, or as specified — Number of blows required to produce 305 mm (12") of penetration after an initial 152 mm seating — 50 blows produced the indicated penetration during the initial 152 mm interval

Sample number — Boring number — Sieve analysis — Description as defined — Total unit weight (kN/m³) — % moisture — Conformable material change — Estimated material change — GWS — Elev. — Data measured — Unconformable material change — Boring Date — ROTARY SAMPLE

IN–SITU, LAB & FIELD TEST DESIGNATIONS

(A)	ATTERBERG LIMITS
(C)	CHEMICAL ANALYSIS
(CN)	CONSOLIDATION
(CU)	CONSOLIDATED UNDRAINED TRIAXIAL
(DS)	DIRECT SHEAR
(MD)	MAX. DRY DENSITY
(PP)	POCKET PENETROMETER
(SA)	SIEVE ANALYSIS
(TV)	TORVANE
(UC)	UNCONFINED COMPRESSION
(UU)	UNCONSOLIDATED UNDRAINED TRIAXIAL
(VS)	VANE SHEAR

TYPES OF BORINGS

57 mm CONE PENETRATION	ROTARY WASH
ELECTRONIC CONE PENETROMETER	AUGER BORING (DRY)
TEST PIT	DIAMOND CORE BORING
SOIL TUBE	

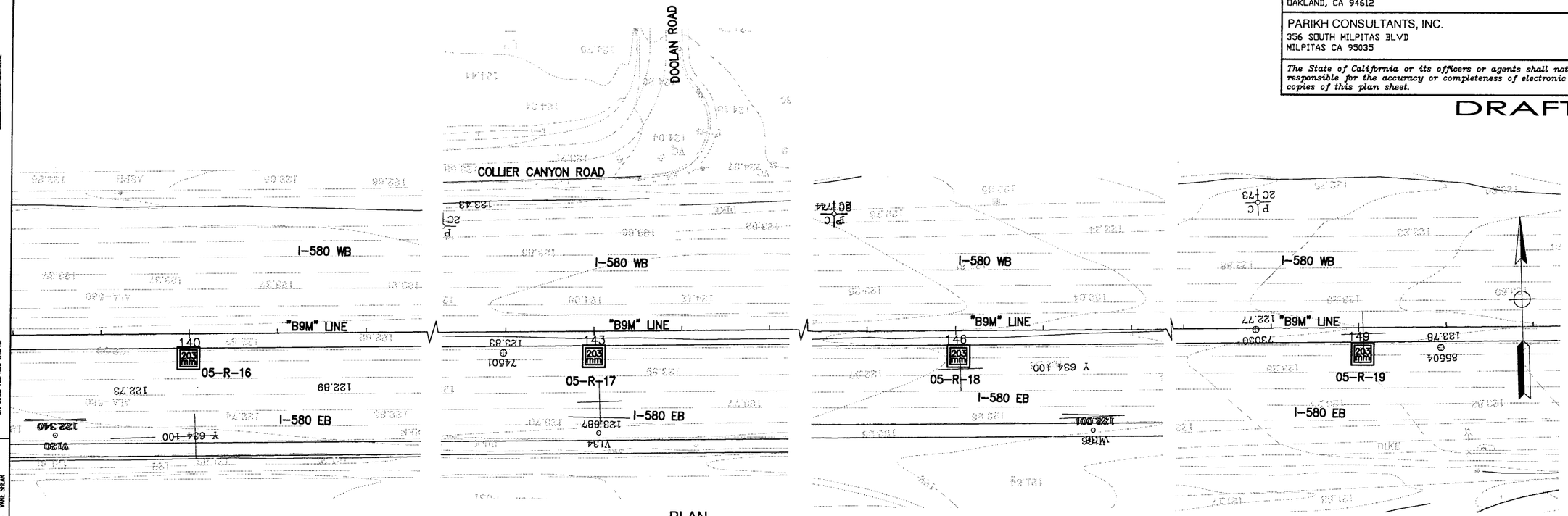
LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488

FILL MATERIAL		SILT (ML or MH)	PEAT and/or ORGANIC MATTER
CLAY (CL or CH)		SILTY SAND (SM) or SILTY GRAVEL (GM)	COBBLES/BOULDERS
WELL–GRADED SAND (SW)	POORLY–GRADED SAND (SP)	CLAYEY SAND (SC) or CLAYEY GRAVEL (GC)	IGNEOUS ROCK
WELL–GRADED GRAVEL (GW)	POORLY–GRADED GRAVEL (GP)	SEDIMENTARY ROCK	
SILT (ML or MH)	CLAY (CL or CH)	METAMORPHIC ROCK	
SAND (SW)	GRAVEL (GW)		

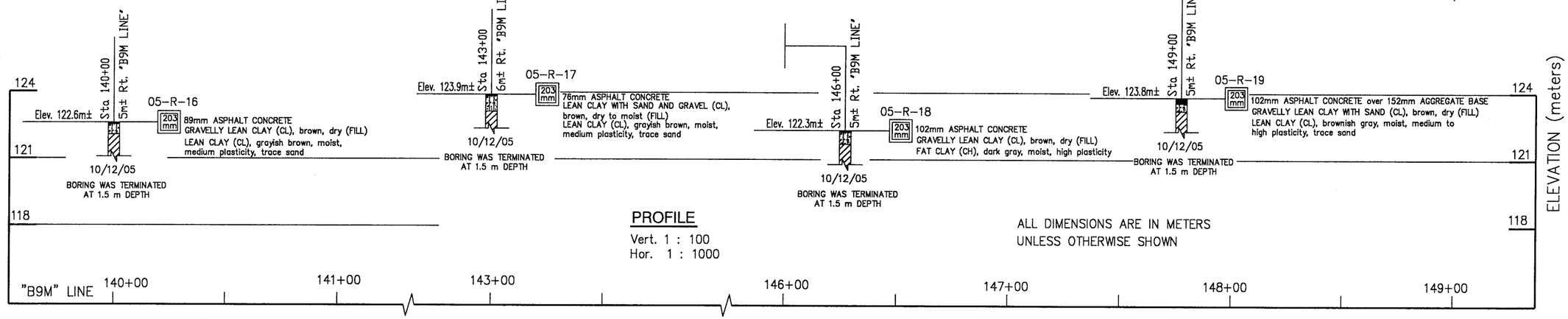
CONSISTENCY CLASSIFICATION FOR SOILS According to the Standard Penetration Test (ASTM D–1586)

SPT N–Value (Blows/ 300mm)	Granular	SPT N–Value (Blows/ 300mm)	Cohesive
0–4	Very loose	<2	Very soft
5–10	Loose	2–4	Soft
11–30	Medium Dense	5–8	Firm
31–50	Dense	9–15	Stiff
>50	Very Dense	16–30	Very Stiff
		>31	Hard

NOTE: Visual classifications of earth materials are based on field inspection and or a confirmed or created with laboratory test results as necessary.



PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 1000

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DESIGN OVERSIGHT

SIGN OFF DATE

	By:
DESIGN	S. PAMPATI
CHECKED	F. WANG

Field Investigation by: R. LIARD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I–580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A–8

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/07 GEOTECHNICAL — STATE OF CALIFORNIA

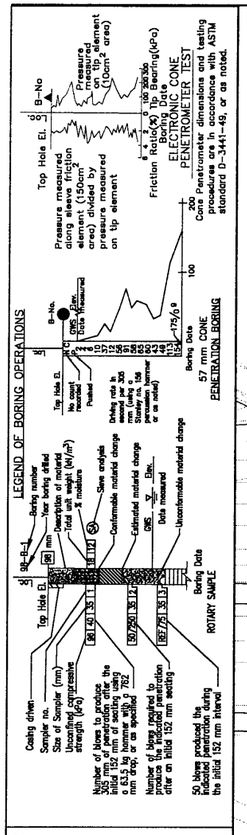
PLANS APPROVAL DATE

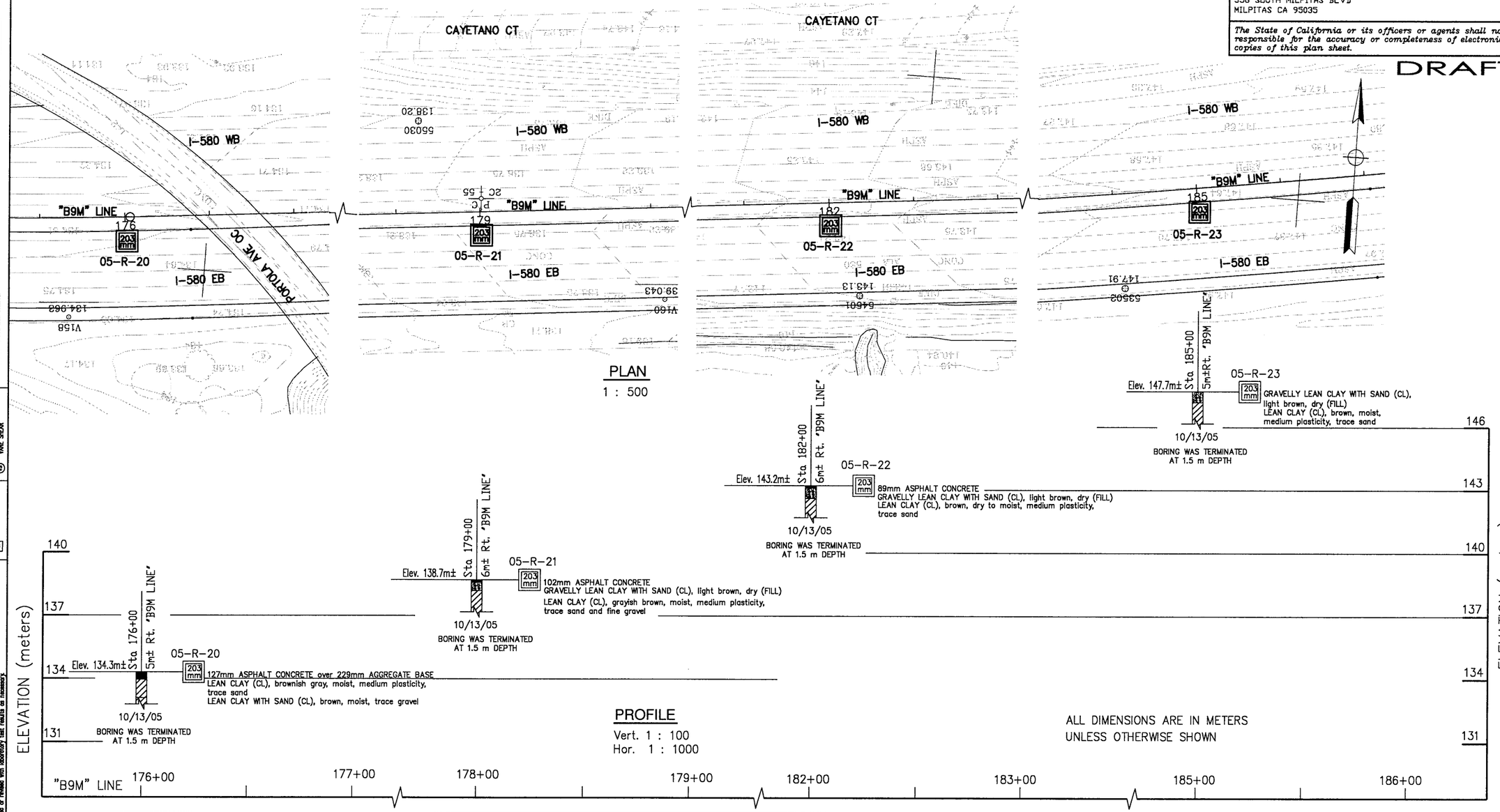
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT





ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN	By: S. PAMPATI
CHECKED	By: F. WANG

Field Investigation by: R. LIARD

PREPARED FOR THE
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-9

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

Caltrans Metric

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. GE. 666 — Exp. 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

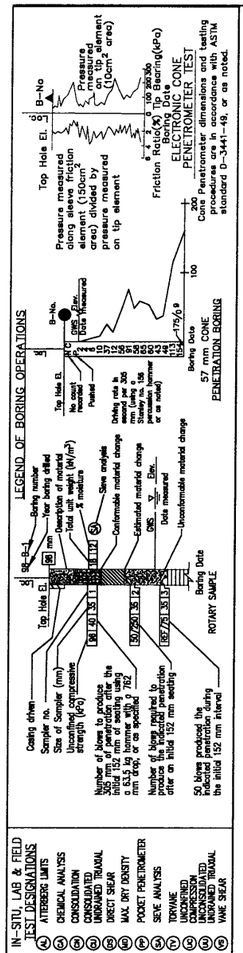
PLANS APPROVAL DATE

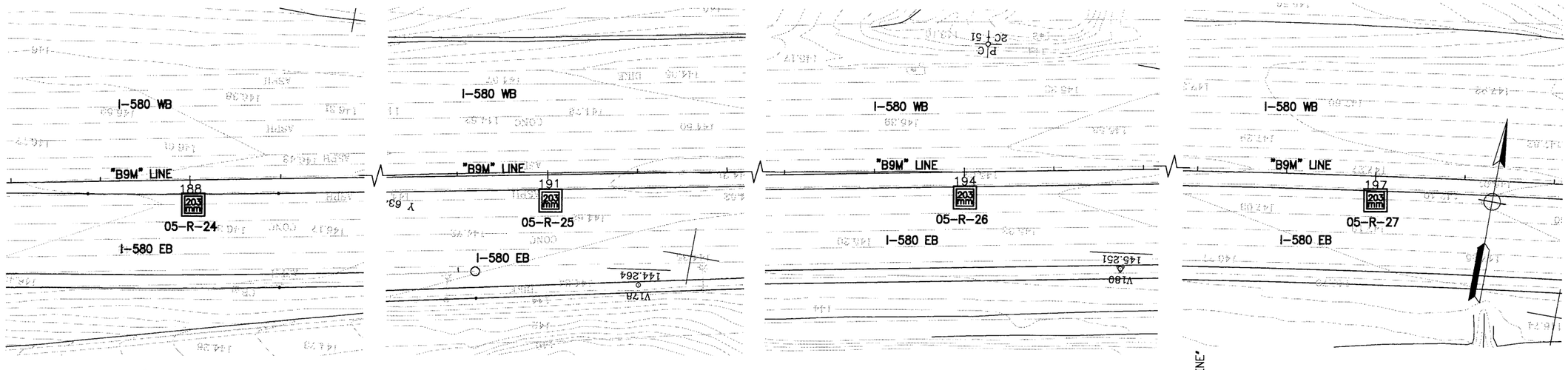
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

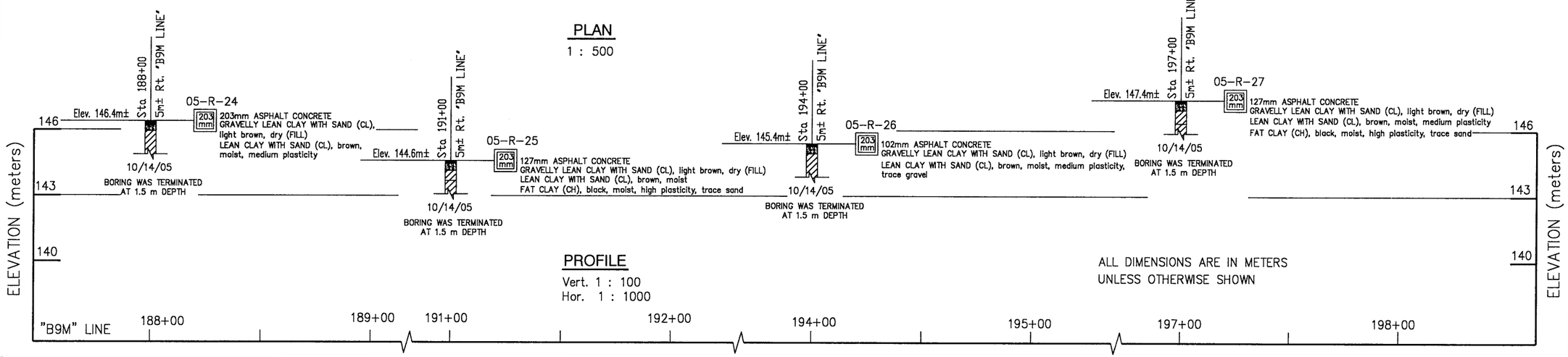
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT





PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 1000

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI

CHECKED By: F. WANG

Field Investigation by: R. LIARD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –

KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-10

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

PLANS APPROVAL DATE

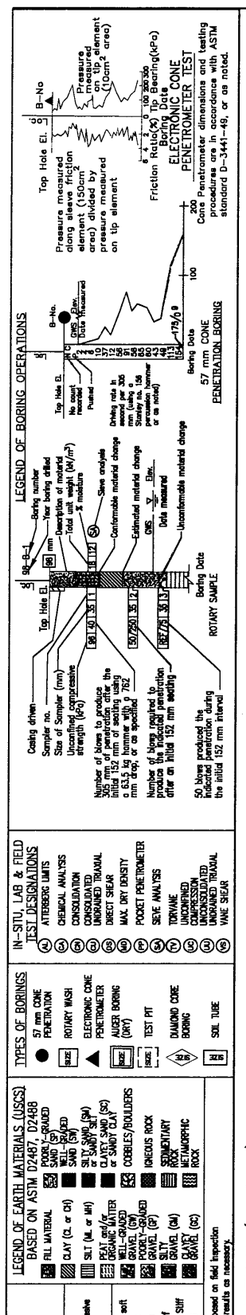
REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

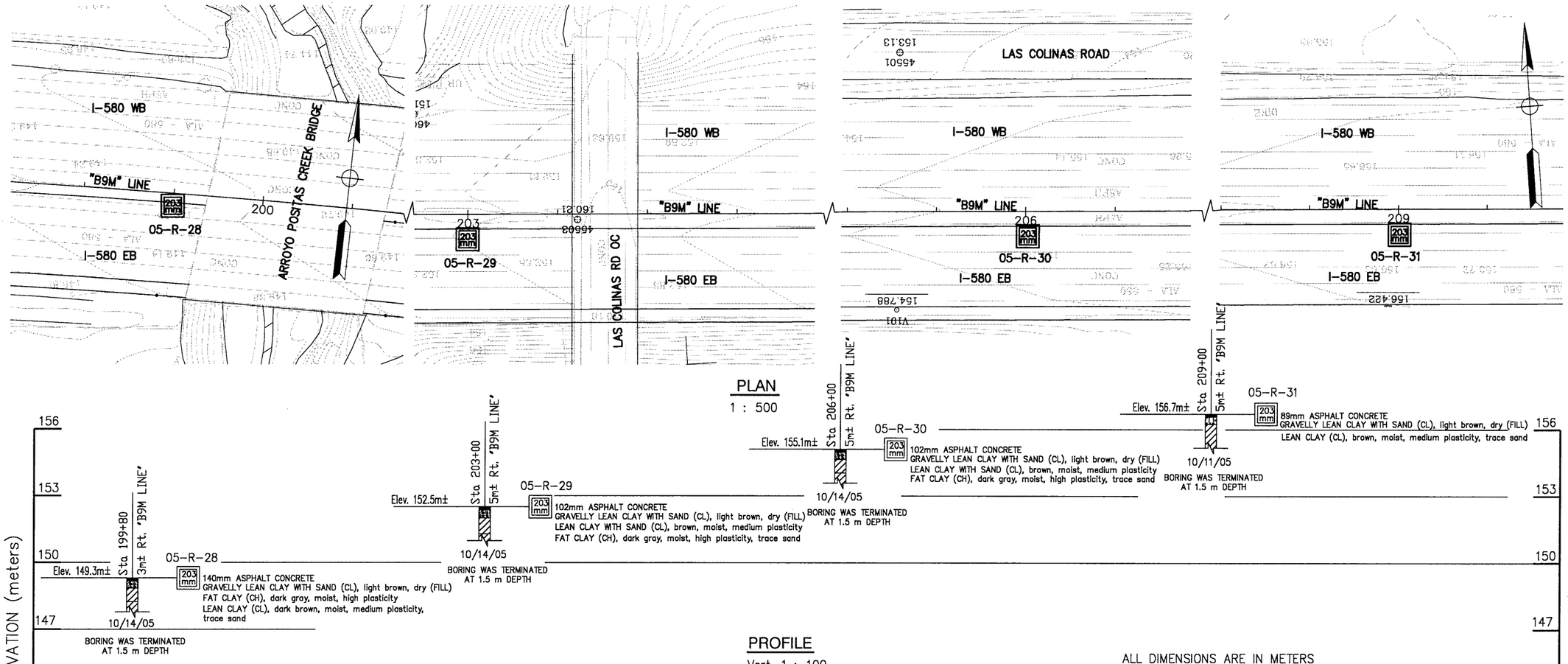
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT





DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN	By: S. PAMPATI	Field investigation by: R. LIARD
CHECKED	By: F. WANG	

PREPARED FOR THE
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO.	–
KILOMETER POST	–

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-11

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

Caltrans Metric

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER GARY PARIKH No. G.E. 666 Exp.12/31/07 GEOTECHNICAL STATE OF CALIFORNIA

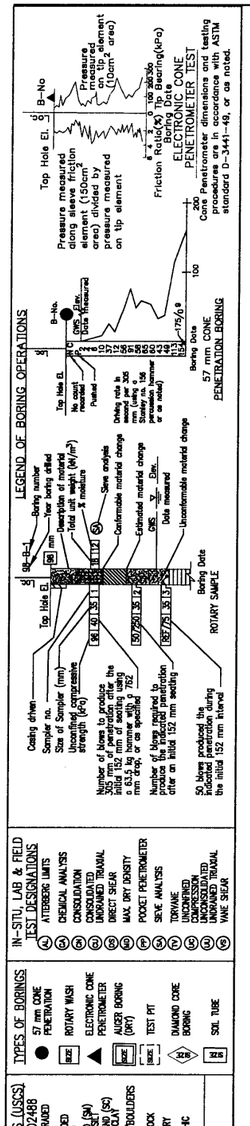
PLANS APPROVAL DATE

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT



IN-SITU, LAB & FIELD TEST DESIGNATIONS

ATTERBERG LIMITS	(A)
CHEMICAL ANALYSIS	(B)
CONSOLIDATION	(C)
CONSOLIDATED UNDRAINED TRIAXIAL	(D)
DIRECT SHEAR	(E)
MAX. DRY DENSITY	(F)
POCKET PENETROMETER	(G)
SIEVE ANALYSIS	(H)
TORVANE	(I)
UNCONFINED COMPRESSION	(J)
UNCONSOLIDATED UNDRAINED TRIAXIAL	(K)
VANE SHEAR	(L)

TYPES OF BORINGS

57 mm CONE PENETRATION	
ROTARY WASH	
ELECTRONIC CONE PENETROMETER	
AUGER BORING (DRY)	
TEST PIT	
DIAMOND CORE BORING	
SOIL TUBE	

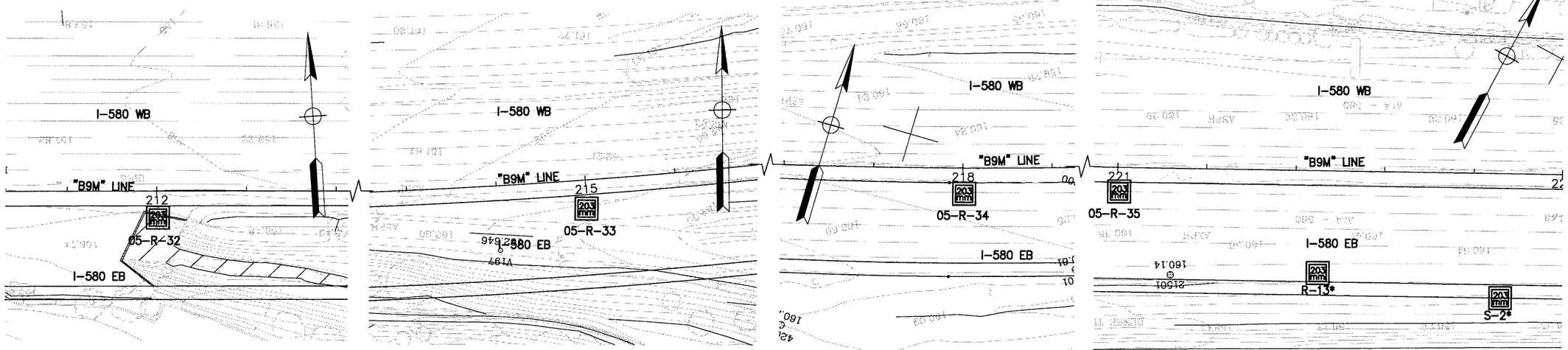
LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488

FILL MATERIAL		SILT (ML or MH)	ORGANIC SILT or SILTY CLAY (OL or OH)
CLAY (CL or CH)		PEAT (Pt)	COBBLES/BOULDERS
POORLY-GRADED SAND (SP)		ORGANIC MATTER	IGNEOUS ROCK
SAND (SW)		WELL-GRADED GRAVEL (GW)	SEDIMENTARY ROCK
SILTY SAND (SM)		POORLY-GRADED GRAVEL (GP)	METAMORPHIC ROCK
CLAYEY SAND (SC)		SILTY GRAVEL (GM)	
		CLAYEY GRAVEL (GC)	

CONSISTENCY CLASSIFICATION FOR SOILS According to the Standard Penetration Test (ASTM D-1586)

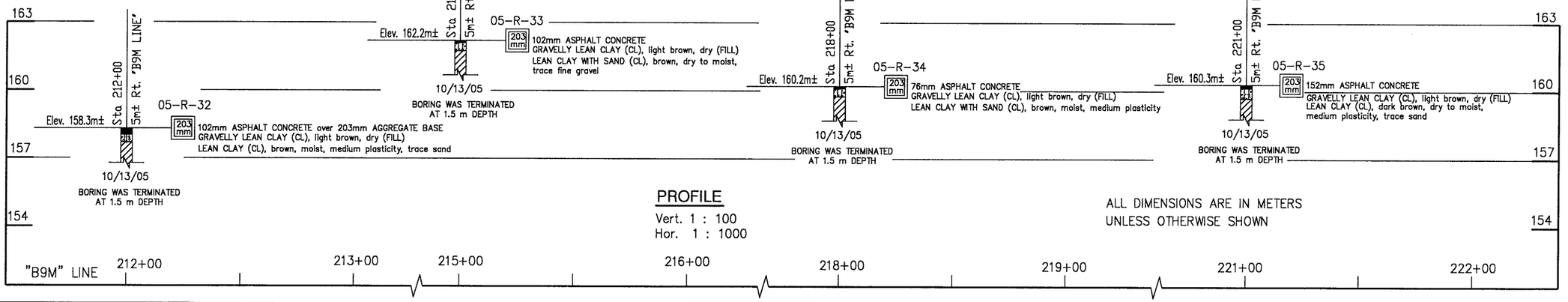
SPT N-Value (Blows/ 300mm)	Granular	SPT N-Value (Blows/ 300mm)	Cohesive
0–4	Very loose	<2	Very soft
5–10	Loose	2–4	Soft
11–30	Medium Dense	5–8	Firm
31–50	Dense	9–15	Stiff
>50	Very Dense	16–30	Very Stiff
		>31	Hard

NOTE: Visual classifications of earth materials are based on field inspection and or a confirmed or revised with laboratory test results as necessary.



PLAN
1 : 500

* From GDMR "Route 580/Vasco Road Interchange Project (Unpublished)



PROFILE
Vert. 1 : 100
Hor. 1 : 1000

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI

CHECKED By: F. WANG

Field investigation by: R. LIARD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –

KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-12

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

PLANS APPROVAL DATE

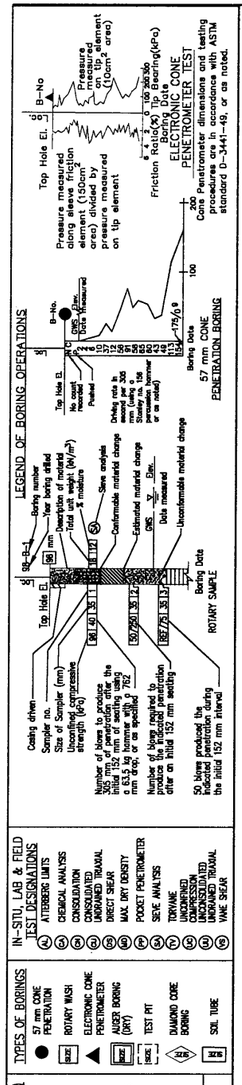
REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp.12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT



IN-SITU, LAB & FIELD TEST DESIGNATIONS

④	ATTERBERG LIMITS
③	CHEMICAL ANALYSIS
⑤	CONSOLIDATION
⑨	CONSOLIDATED UNDRAINED TRIAXIAL
⑩	DIRECT SHEAR
⑥	MAX. DRY DENSITY
⑦	POCKET PENETROMETER
②	SIEVE ANALYSIS
⑪	TORVANE
⑫	UNCONFINED COMPRESSION
⑧	UNDRAINED TRIAXIAL
⑬	VANE SHEAR

TYPES OF BORINGS

●	57 mm CONE PENETRATION
RDC	ROTARY WASH
◀	ELECTRONIC CONE PENETROMETER
AUG	AUGER BORING (DRY)
TP	TEST PIT
DC	DIAMOND CORE BORING
ST	SOIL TUBE

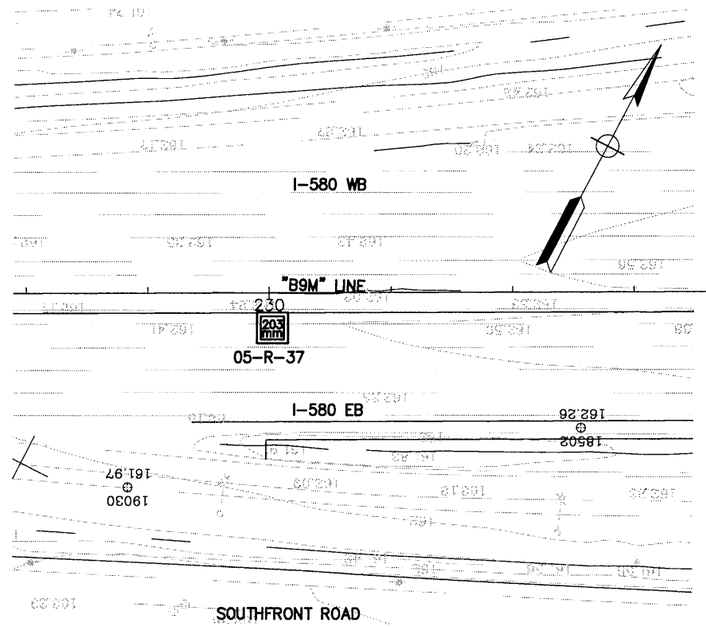
LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488

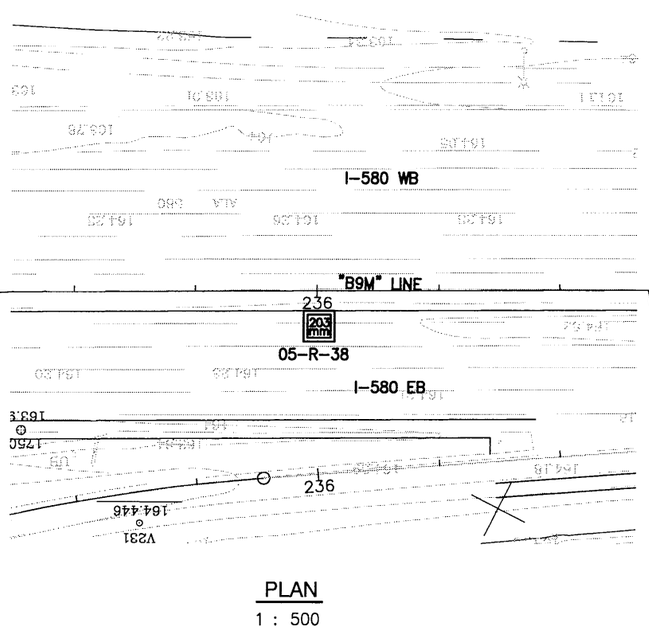
	FILL MATERIAL
	CLAY (CL or CH)
	SILT (ML or MH)
	PEAT and/or ORGANIC MATTER
	POORLY-GRADED SAND (SP)
	SILTY SAND (SM)
	CLAYEY SAND (SC) or SANDY CLAY
	COBBLES/BOULDERS
	IGNEOUS ROCK
	SEDIMENTARY ROCK
	METAMORPHIC ROCK
	POORLY-GRADED GRAVEL (GP)
	SILTY GRAVEL (GM)
	CLAYEY GRAVEL (GC)

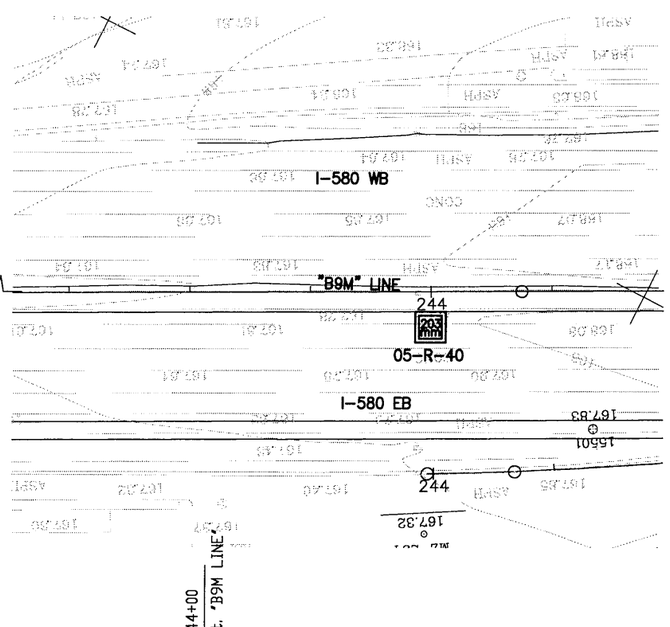
CONSISTENCY CLASSIFICATION FOR SOILS According to the Standard Penetration Test (ASTM D-1586)

SPT (N-Value) (blows/ 305mm)	Granular	Cohesive	SPT (N-Value) (blows/ 305mm)
0-4	Very loose	Very soft	<2
5-10	Loose	Soft	2-4
11-30	Medium Dense	Firm	5-8
31-50	Dense	Stiff	9-15
>50	Very dense	Very Stiff	16-30
		Hard	>31

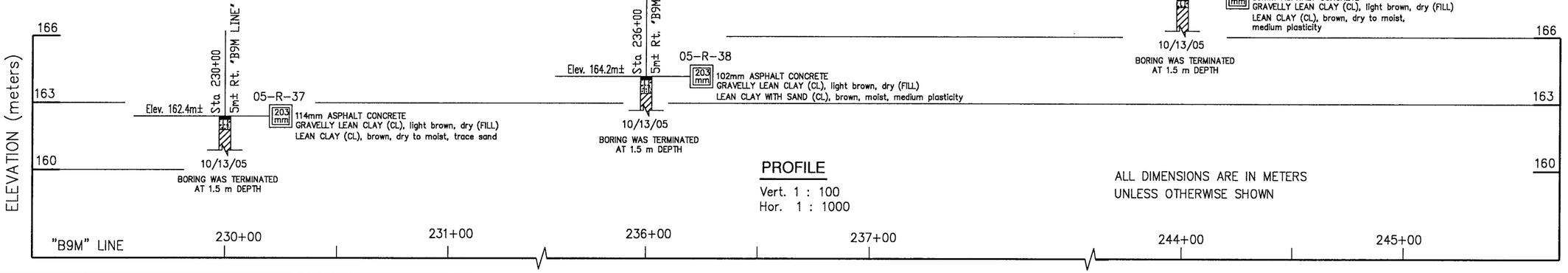
NOTE: Visual classifications of earth materials are based on field inspection and or a confirmed or revised with laboratory test results as necessary.







PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 1000

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI

CHECKED By: F. WANG

Field Investigation by: R. LIARD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –

KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

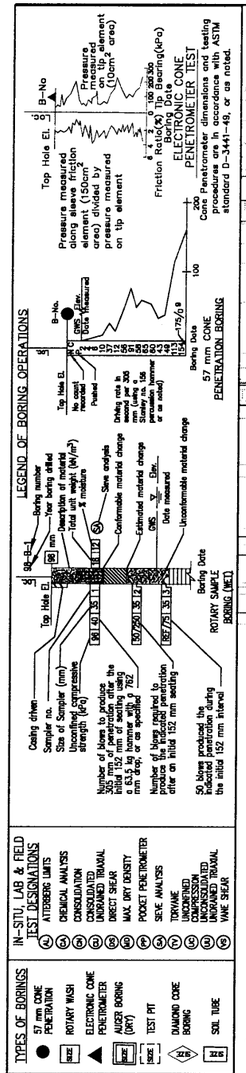
ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

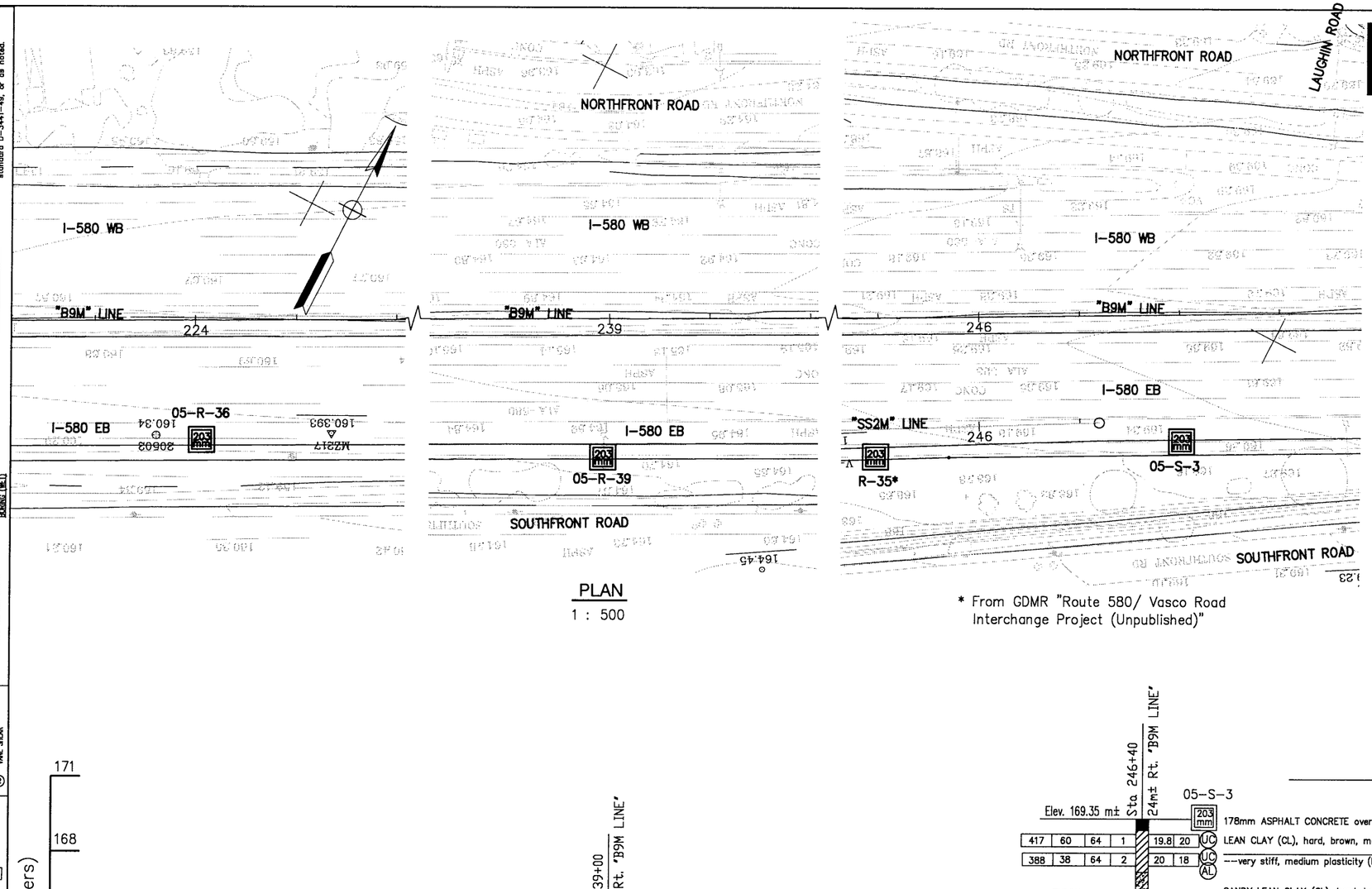
CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

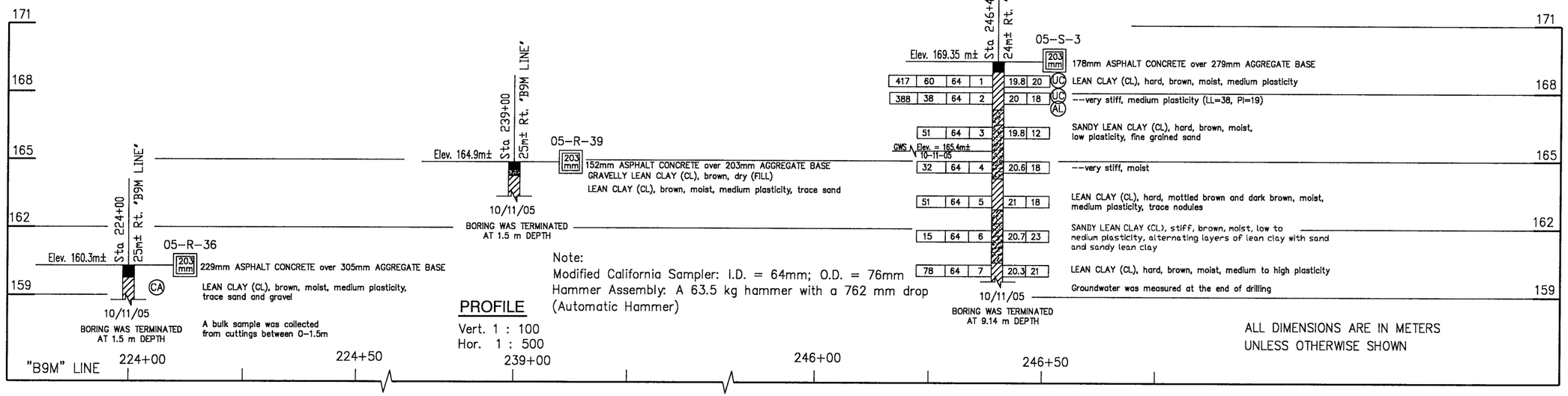
PLATE A-13





PLAN
1 : 500

* From GDMR "Route 580/ Vasco Road Interchange Project (Unpublished)"



PROFILE
Vert. 1 : 100
Hor. 1 : 500

Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Automatic Hammer)

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DRAFT

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI

CHECKED By: F. WANG

Field Investigation by: R. LIARD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –

KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-14

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER--GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp.12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

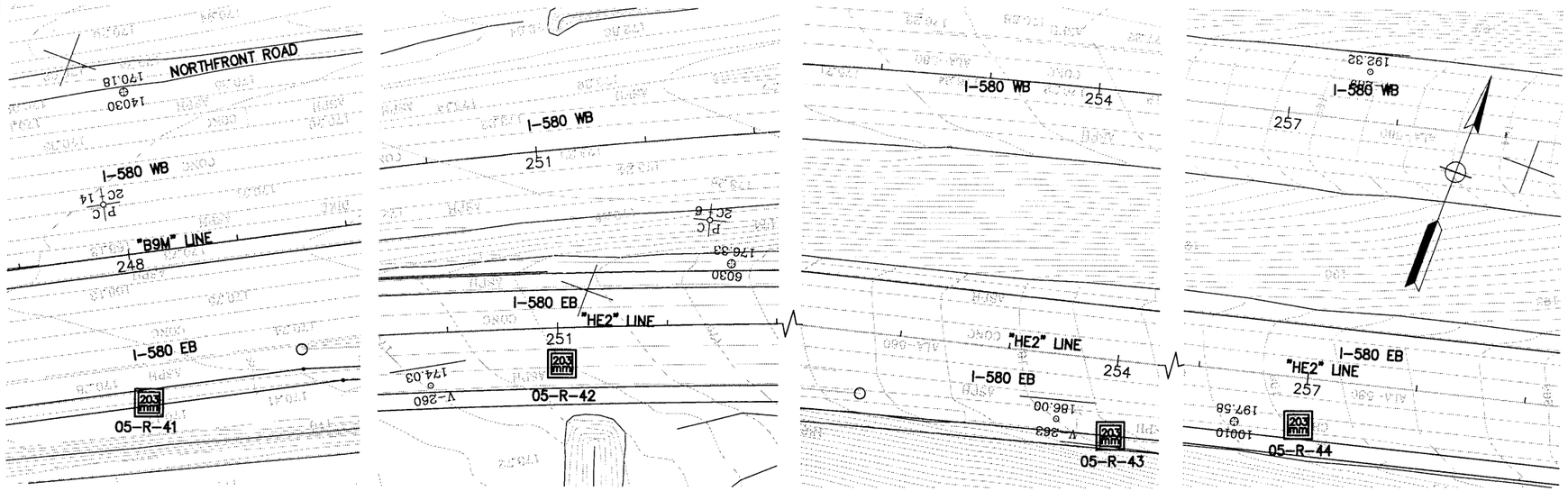
PLANS APPROVAL DATE

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

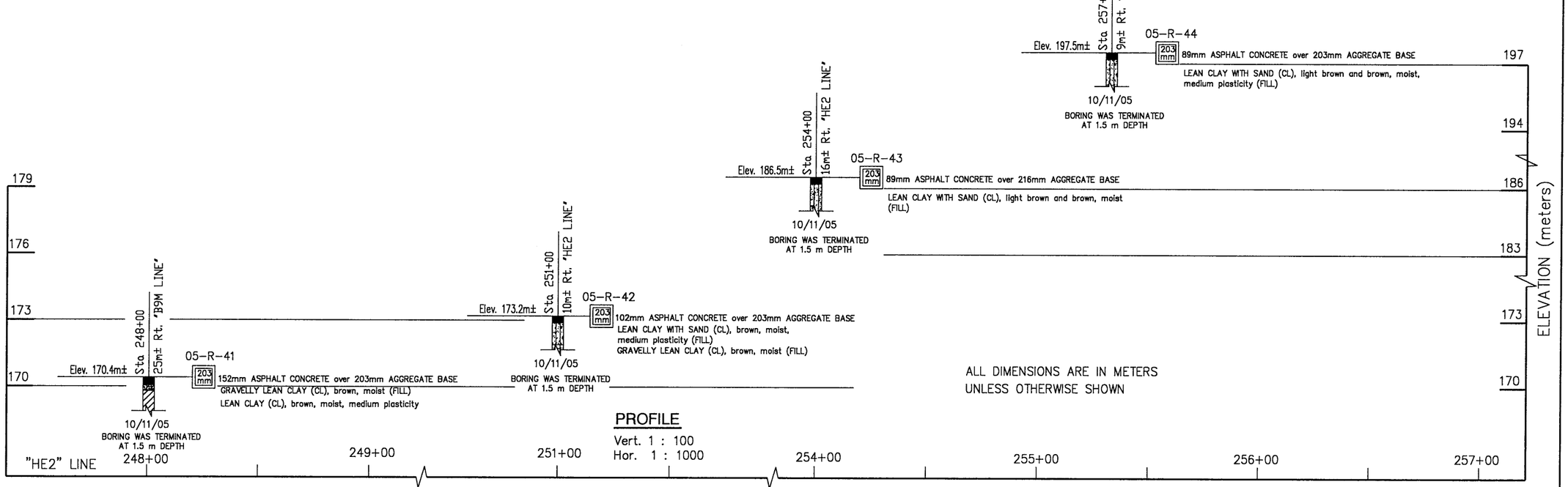
PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT

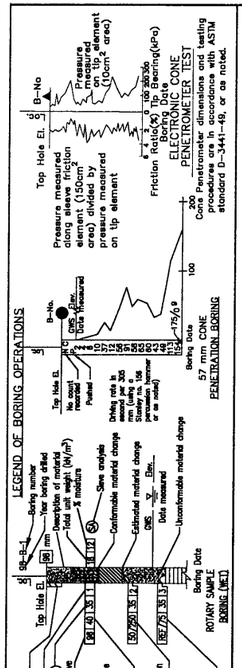


PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 1000

LEGEND OF BORING OPERATIONS



IN-SITU, LAB & FIELD TEST DESIGNATIONS

④	ATTERBERG LIMITS
③	CHEMICAL ANALYSIS
②	CONSOLIDATION
⑧	CONSOLIDATED UNDRAINED TRIAXIAL
⑨	DIRECT SHEAR
⑥	MAX. DRY DENSITY
⑤	POCKET PENETROMETER
①	SIEVE ANALYSIS
⑦	TORVANE
⑩	UNCONFINED COMPRESSION
⑪	UNDRAINED TRIAXIAL
⑫	VANE SHEAR

TYPES OF BORINGS

57 mm CONE PENETRATION	ROTARY WASH	ELECTRONIC CONE PENETROMETER	AUGER BORING (DRY)
TEST PIT	DIAMOND CORE BORING	SOIL TUBE	

LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488

FILL MATERIAL	POORLY-GRADED SAND (SP)	SILTY SAND (SM)	
CLAY (CL or CH)	WELL-GRADED SAND (SW)	CLAYEY SAND (SC) or SANDY CLAY	
SILT (ML or MH)	PEAT and/or ORGANIC MATTER	COBBLES/BOULDERS	IGNEOUS ROCK
WELL-GRADED GRAVEL (GW)	POORLY-GRADED GRAVEL (GP)	SEDIMENTARY ROCK	
SILTY GRAVEL (GM)	CLAYEY GRAVEL (GC)	METAMORPHIC ROCK	

CONSISTENCY CLASSIFICATION FOR SOILS According to the Standard Penetration Test (ASTM D-1586)

		SPT (Blows/ft) (Hammer 305mm)	
Cohesive	Very soft		<2
	Soft		2-4
	Firm		5-8
	Stiff		9-15
	Very Stiff		16-30
	Hard		>31
Granular	Very loose	0-4	
	Loose	5-10	
	Medium Dense	11-30	
	Dense	31-50	
	Very Dense	>50	

NOTE: Visual classifications of earth materials are based on field inspection and or a confirmed or revised with laboratory test results as necessary.

DESIGN OVERSIGHT

SIGN OFF DATE

	By:	Field Investigation by:
DESIGN	S. PAMPATI	R. LIARD
CHECKED	F. WANG	

PREPARED FOR THE
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO.	–
KILOMETER POST	–

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

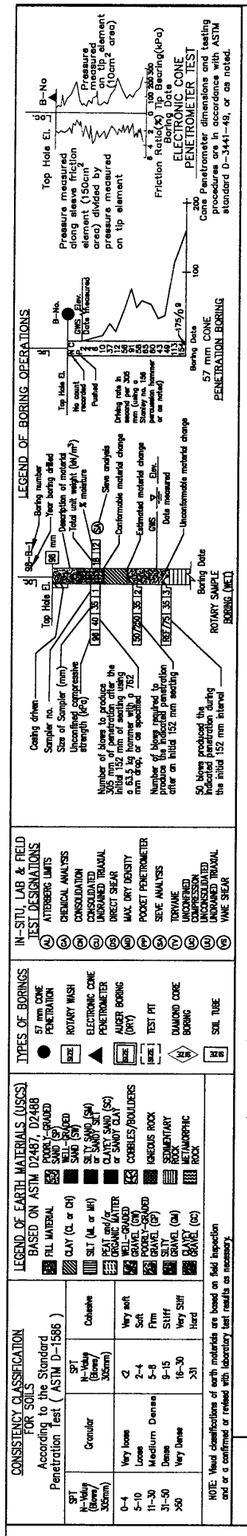
ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS
0 10 20 30 40 50 60 70 80 90 100

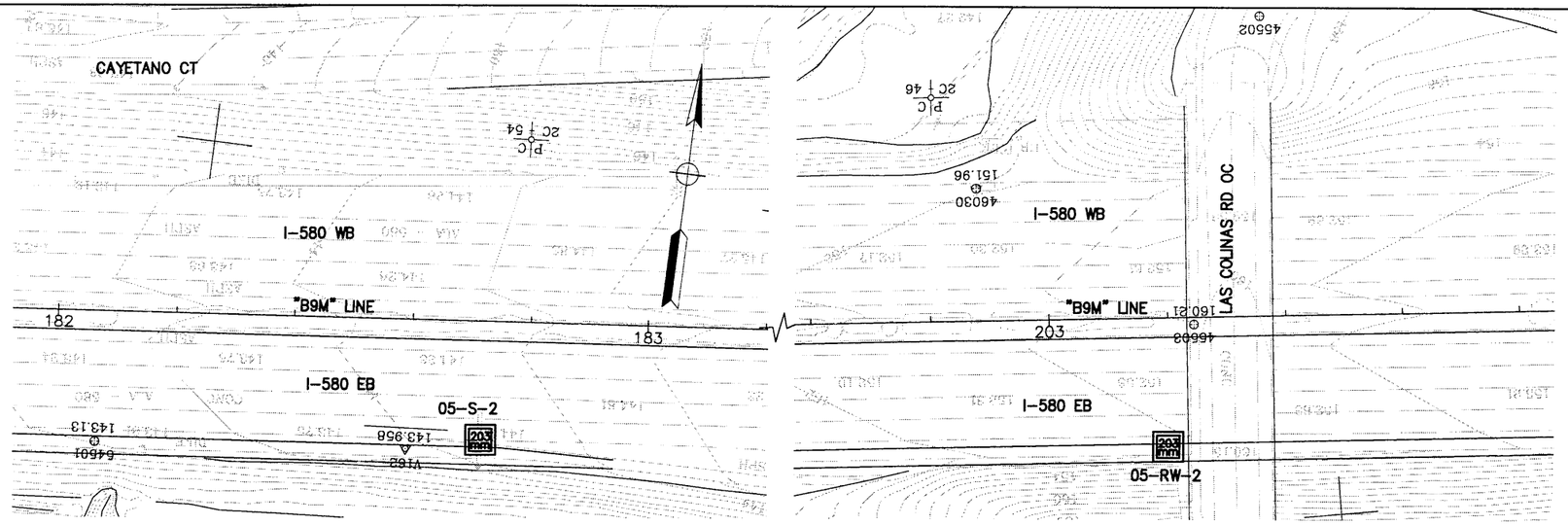
CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

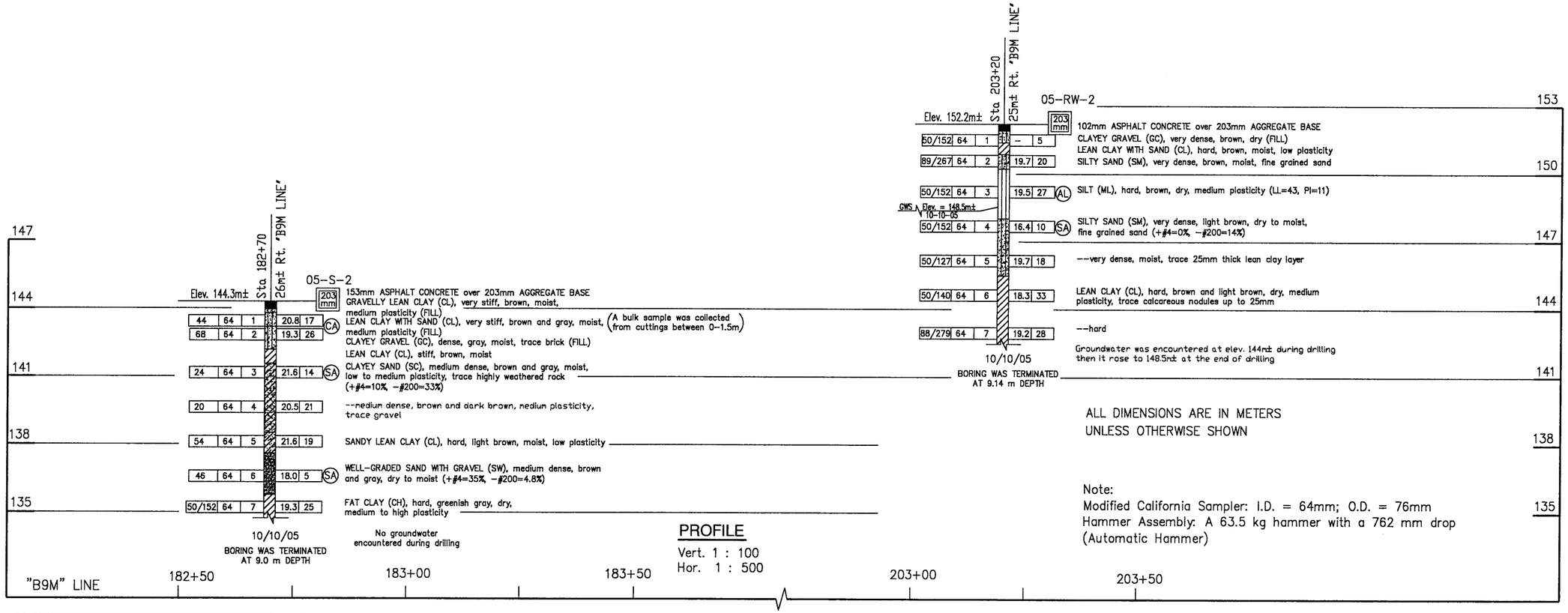
REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-15





PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 500

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Automatic Hammer)

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER-GEOTECHNICAL

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp.12/31/07 GEOTECHNICAL — STATE OF CALIFORNIA

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI

CHECKED By: F. WANG

Field Investigation by: R. LIARD

PREPARED FOR THE
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. -

KILOMETER POST -

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-16

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

PLANS APPROVAL DATE

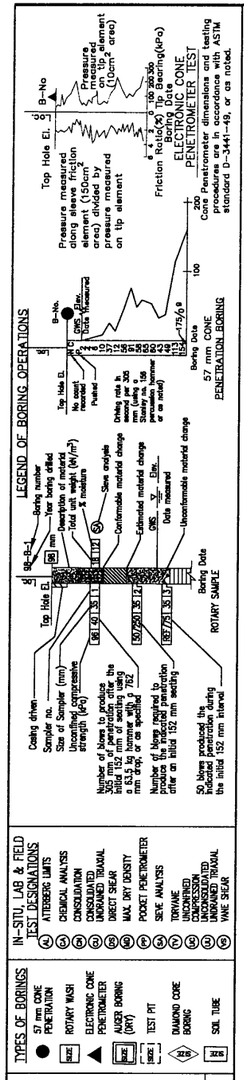
REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/07 GEOTECHNICAL — STATE OF CALIFORNIA

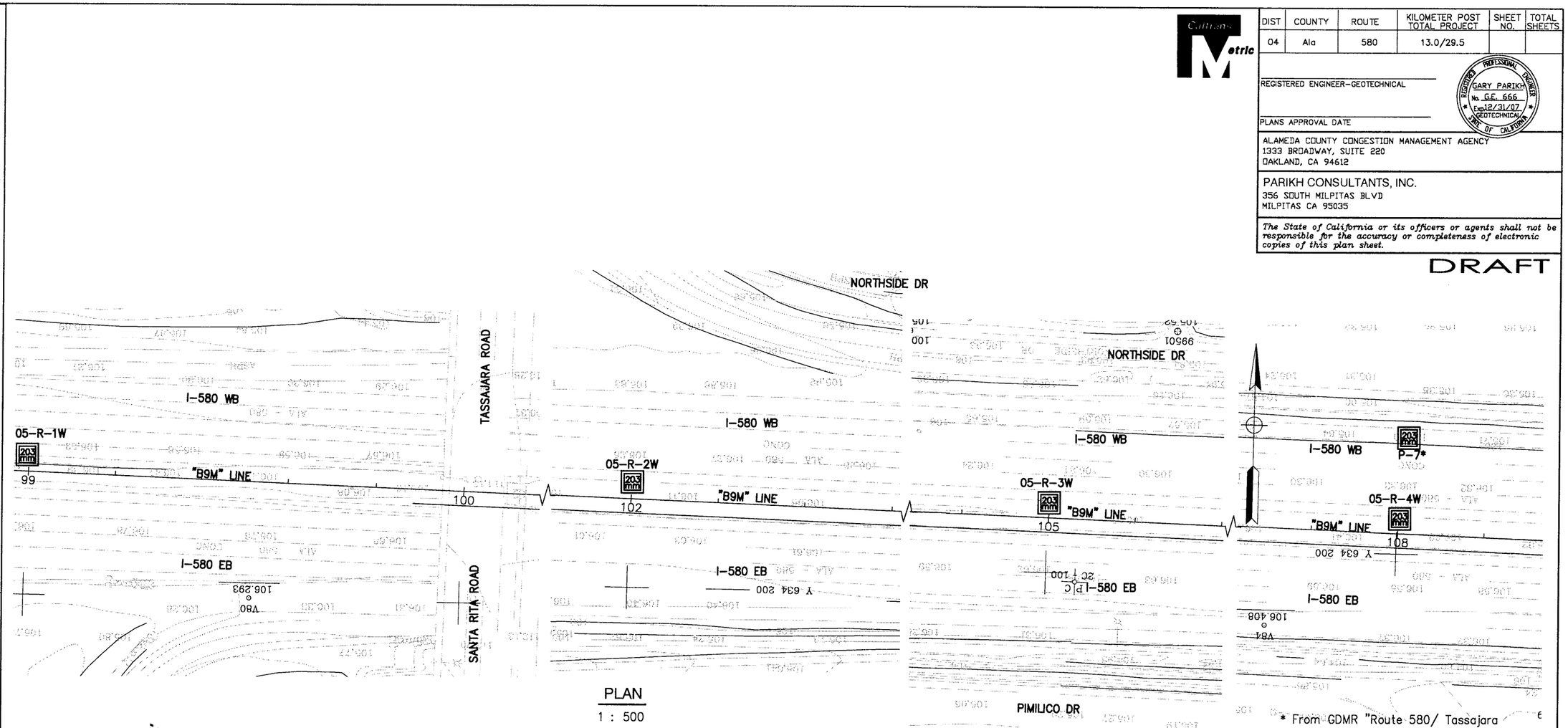
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

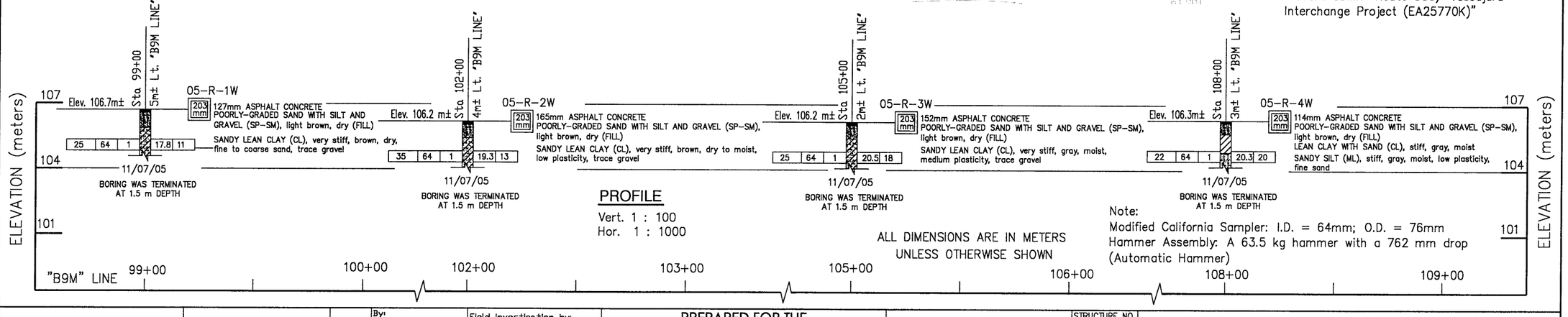
DRAFT





PLAN
1 : 500

* From GDMR "Route 580/ Tassajara Interchange Project (EA25770K)"



PROFILE
Vert. 1 : 100
Hor. 1 : 1000

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Automatic Hammer)

TYPES OF BORINGS: 57 mm CONE PENETRATION; ROTARY WASH; ELECTRONIC CONE PENETROMETER; AUGER BORING (DRY); TEST PIT; DIAMOND CORE BORING; SOIL TUBE

LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488
FILL MATERIAL; CLAY (CL or CH); SILT (ML or MH); PEAT and/or HIGHLY ORGANIC SOILS; WELL-GRADED GRAVEL (GW); POORLY-GRADED GRAVEL (GP); SILTY GRAVEL (GM); CLAYEY GRAVEL (GC); WELL-GRADED SAND (SW); POORLY-GRADED SAND (SP); SILTY SAND (SM); CLAYEY SAND (SC) or SANDY CLAY; COBBLES/BOULDERS; IGNEOUS ROCK; SEDIMENTARY ROCK; METAMORPHIC ROCK

IN-SITU, LAB & FIELD TEST DESIGNATIONS
ATTERBERG LIMITS (A); CHEMICAL ANALYSIS (C); CONSOLIDATION (CON); CONSOLIDATED UNDRAINED TRIAXIAL (CU); DIRECT SHEAR (DS); MAX. DRY DENSITY (MD); POCKET PENETROMETER (PP); SIEVE ANALYSIS (S); TORVANE (TV); UNCONFINED (UC); UNCONSOLIDATED UNDRAINED TRIAXIAL (UU); VANE SHEAR (VS)

CONSISTENCY CLASSIFICATION FOR SOILS According to the Standard Penetration Test (ASTM D-1586)

		Cohesive	
SPT N-value (Blows/ 305mm)	Granular		
0–4	Very loose	<2	Very soft
5–10	Loose	2–4	Soft
11–30	Medium Dense	5–8	Firm
31–50	Dense	9–15	Stiff
>50	Very Dense	16–30	Very Stiff
		>31	Hard

NOTE: Visual classifications of earth materials are based on field inspection and or confirmed or revised with laboratory test results as necessary.

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI
CHECKED By: F. WANG
Field Investigation by: R. LIARD

PREPARED FOR THE
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-17

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. GE 666 — Exp 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

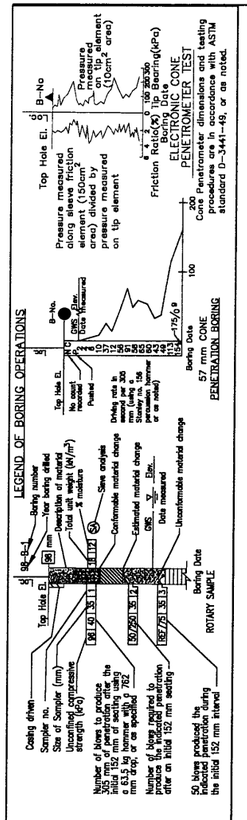
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT

LEGEND OF BORING OPERATIONS



IN-SITU, LAB & FIELD TEST DESIGNATIONS

ATTERBERG LIMITS	ⓐ
CHEMICAL ANALYSIS	ⓒ
CONSOLIDATION	ⓒⓝ
CONSOLIDATED UNDRAINED TRIAXIAL	ⓒⓤ
DIRECT SHEAR	ⓓⓢ
MAX. DRY DENSITY	ⓓ
POCKET PENETROMETER	ⓟ
SIEVE ANALYSIS	ⓢ
TORVANE	ⓣ
UNCONFINED COMPRESSION	ⓤ
UNCONSOLIDATED UNDRAINED TRIAXIAL	ⓤⓤ
VANE SHEAR	ⓥ

TYPES OF BORINGS

57 mm CONE PENETRATION	●
ROTARY WASH	SIZE
ELECTRONIC CONE PENETROMETER	◀
AUGER BORING (DRY)	SIZE
TEST PIT	SIDE
DIAMOND CORE BORING	3216
SOIL TUBE	3216

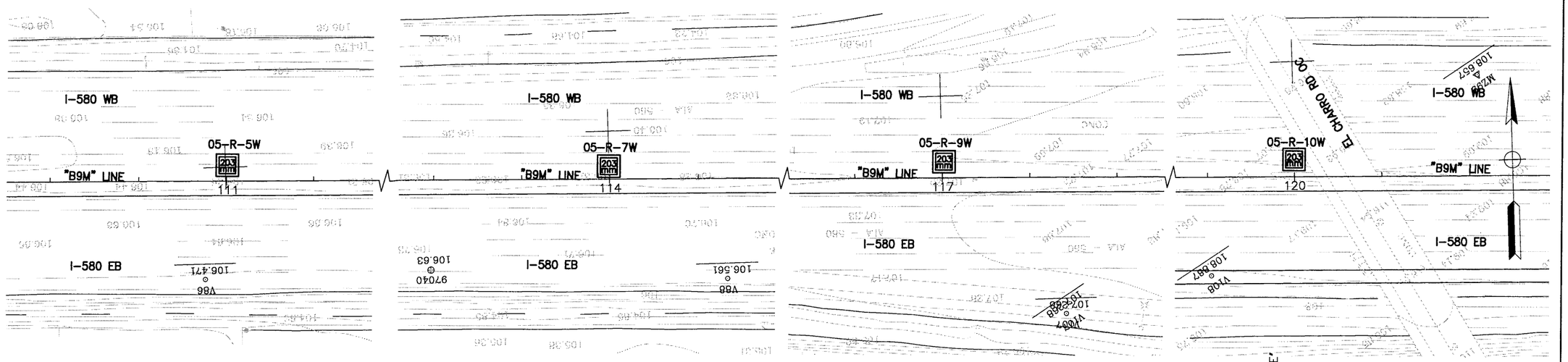
LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488

FILL MATERIAL	
CLAY (CL or CH)	
SILT (ML or MH)	
PEAT, HUMUS AND OTHER HIGHLY ORGANIC SOILS	
WELL-GRADED GRAVEL (GW) GRAVEL AND SAND	
POORLY-GRADED GRAVEL (GP) GRAVEL AND SAND	
SILTY GRAVEL (GM)	
CLAYEY GRAVEL (GC)	
WELL-GRADED SAND (SW) SAND AND GRAVEL	
POORLY-GRADED SAND (SP) SAND AND GRAVEL	
SILTY SAND (SM) or SANDY Silt (ML)	
CLAYEY SAND (SC) or SANDY CLAY (CL)	
COBBLES/BOULDERS	
IGNEOUS ROCK	
SEDIMENTARY ROCK	
METAMORPHIC ROCK	

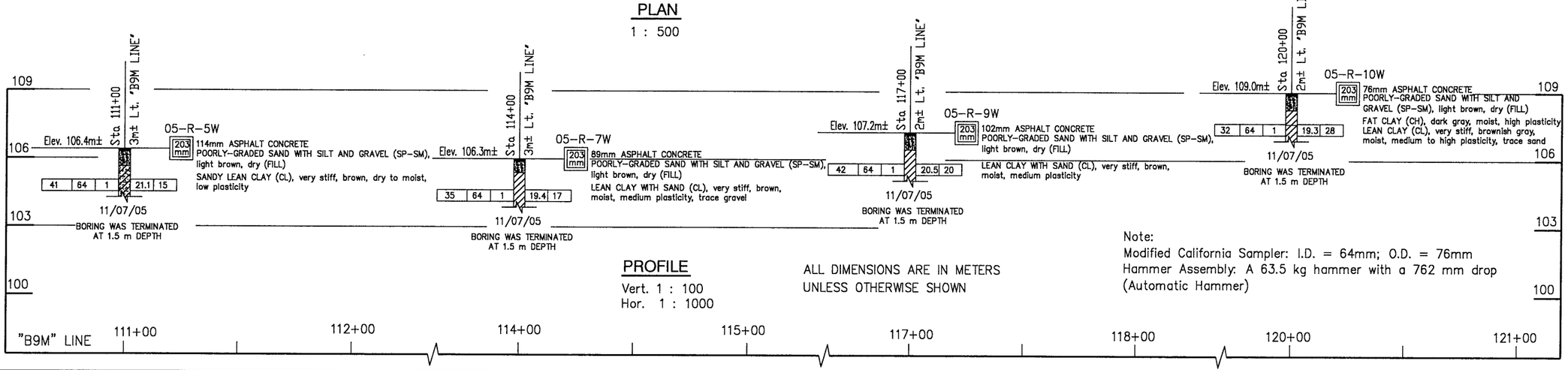
CONSISTENCY CLASSIFICATION FOR SOILS According to the Standard Penetration Test (ASTM D-1586)

SPT N-Value (Blows/30cm)	Granular	SPT N-Value (Blows/30cm)	Cohesive
0–4	Very loose	<2	Very soft
5–10	Loose	2–4	Soft
11–30	Medium Dense	5–8	Firm
31–50	Dense	9–15	Stiff
>50	Very Dense	16–30	Very Stiff
		>31	Hard

NOTE: Visual classifications of earth materials are based on field inspection and or a confirmed or revised with laboratory test results as necessary.



PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 1000

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Automatic Hammer)

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI
CHECKED By: F. WANG

Field Investigation by: R. LIARD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-18

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

PLANS APPROVAL DATE

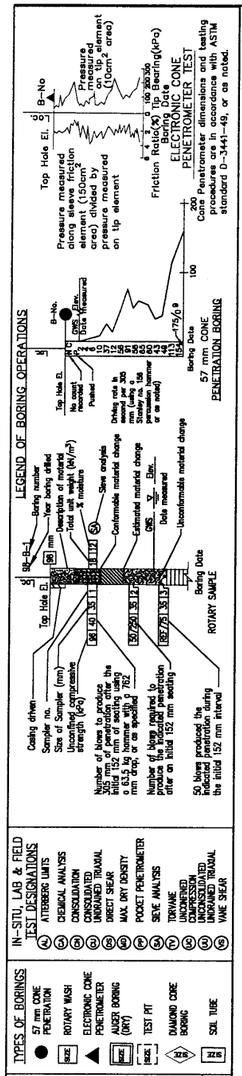
REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. GE 666 — Exp 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

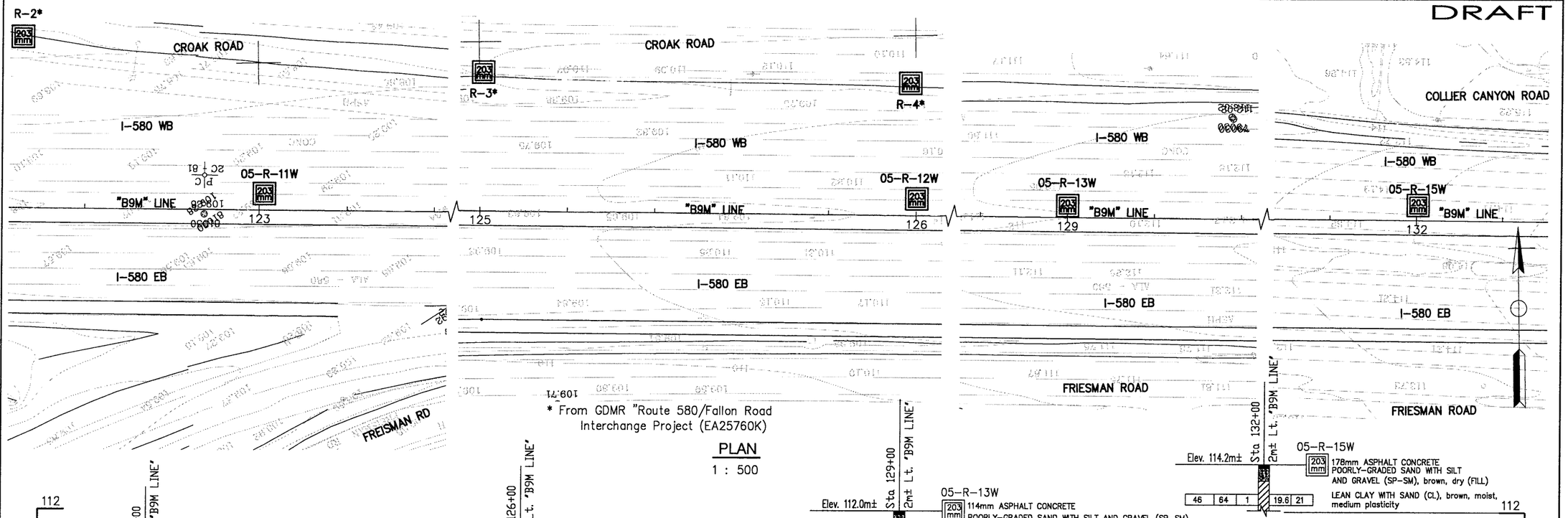
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT





Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Automatic Hammer)

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI
CHECKED By: F. WANG

Field investigation by: R. LIARD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I–580 HOV LANE WIDENING

LOG OF TEST BORINGS

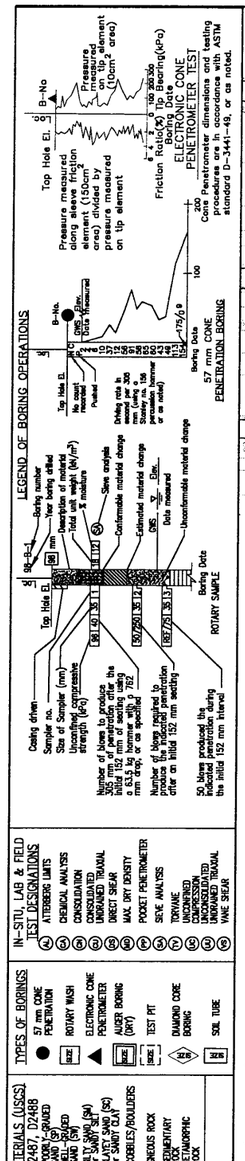
ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

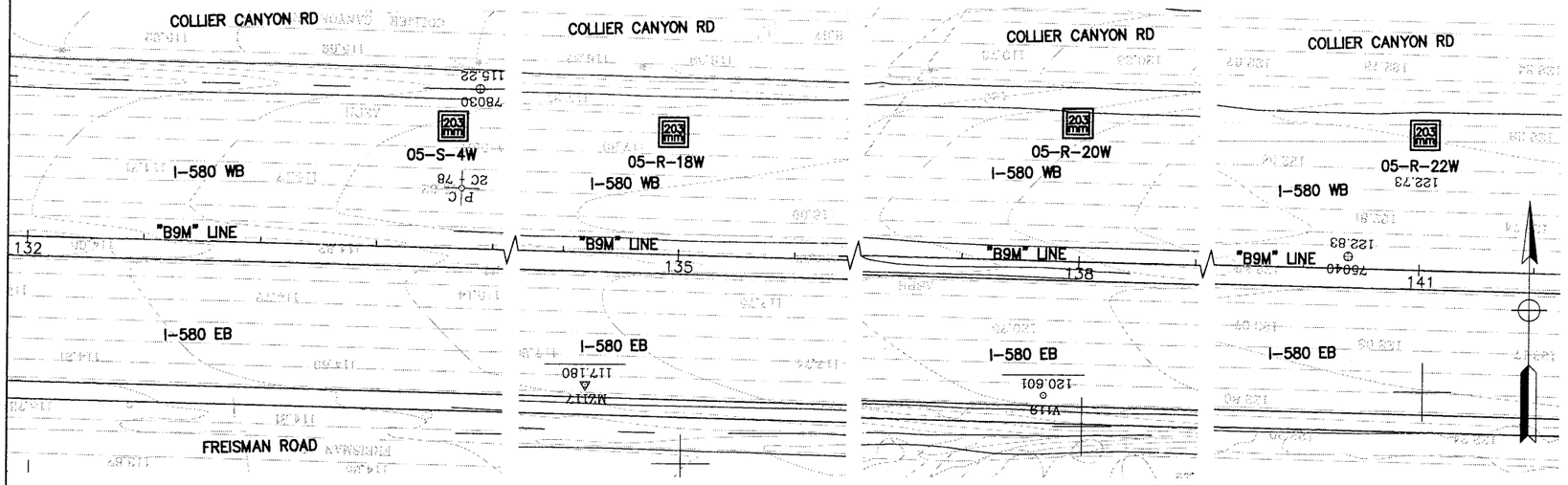
CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

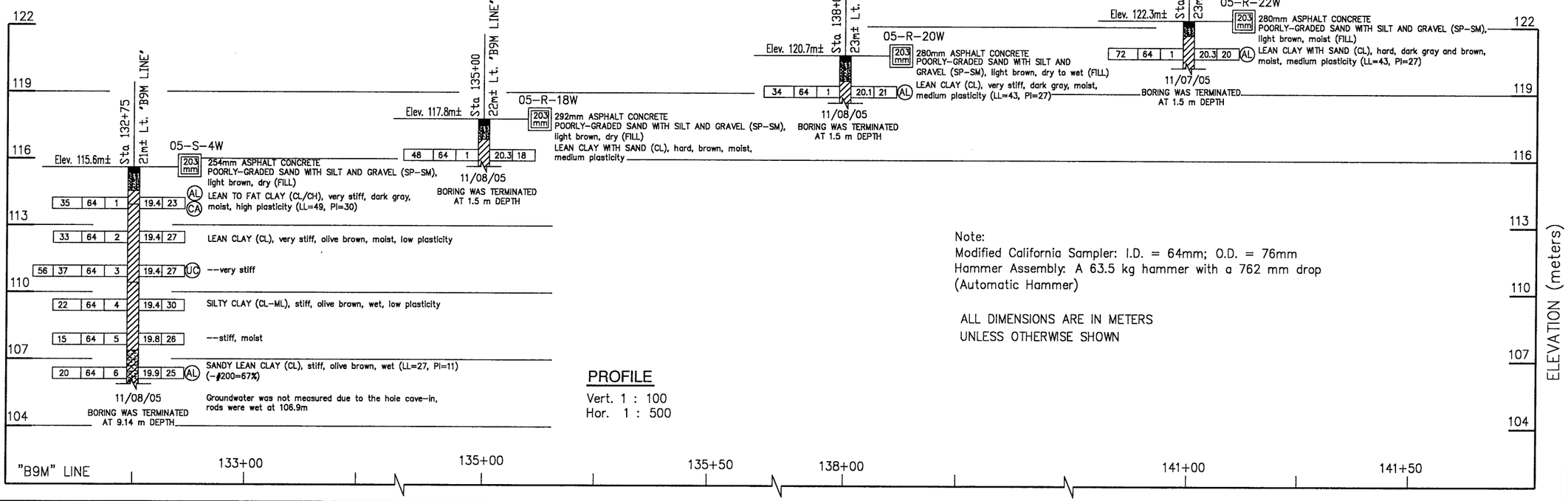
REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A–19





PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 500

Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Automatic Hammer)

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
GARY PARIKH
No. GE 666
Exp.12/31/07
GEOTECHNICAL
STATE OF CALIFORNIA

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT

DESIGN OVERSIGHT
SIGN OFF DATE

DESIGN By: S. PAMPATI
CHECKED By: F. WANG
Field Investigation by: R. LIARD

PREPARED FOR THE
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING
LOG OF TEST BORINGS

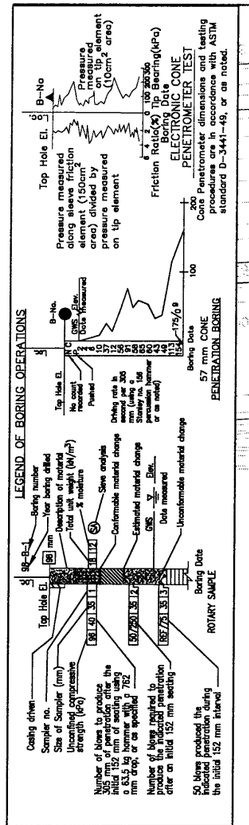
ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

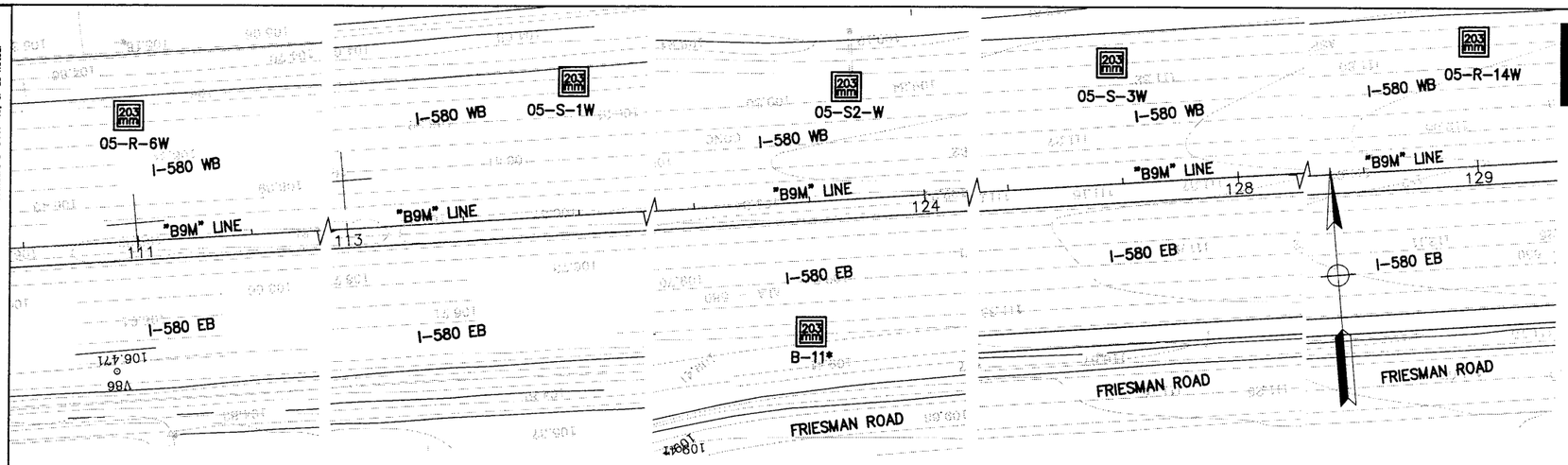
CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-20





* From GDMR "Route 580/Fallon Road Interchange Project (EA25760K)

PLAN
1 : 500

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER GARY PARIKH No. G.E. 666 Exp.12/31/07 GEOTECHNICAL STATE OF CALIFORNIA

PLANS APPROVAL DATE

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT

IN-SITU, LAB & FIELD TEST DESIGNATIONS
ATTERBERG LIMITS
CHEMICAL ANALYSIS
CONSOLIDATION
CONSOLIDATED UNDRAINED TRIAXIAL
DIRECT SHEAR
MAX. DRY DENSITY
POCKET PENETROMETER
SIEVE ANALYSIS
TORVANE
UNCONFINED COMPRESSION
UNCONSOLIDATED UNDRAINED TRIAXIAL
VANE SHEAR

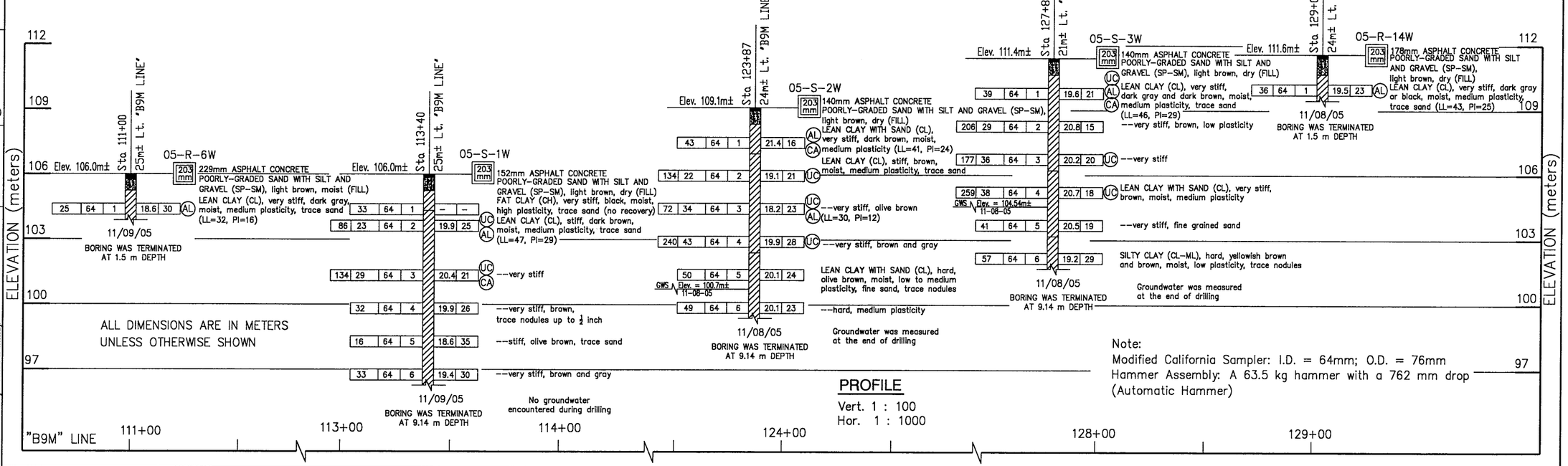
TYPES OF BORINGS
57 mm CONE PENETRATION
ROTARY WASH
ELECTRONIC CONE PENETROMETER
AUGER BORING (DRY)
TEST PIT
DIAMOND CORE BORING
SOIL TUBE

LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488
FILL MATERIAL
CLAY (CL or CH)
SILT (ML or MH)
PEAT, OH & ORGANIC MATTER
WELL-GRADED GRAVEL (GW)
POORLY-GRADED GRAVEL (GP)
SILTY GRAVEL (GM)
CLAYEY GRAVEL (GC)
POORLY-GRADED SAND WITH SILT (SP-SM)
SILTY SAND (SM) or SANDY SILT (ML)
CLAYEY SAND (SC) or SANDY CLAY (CL)
COBBLES/BOULDERS
IGNEOUS ROCK
SEDIMENTARY ROCK
METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS According to the Standard Penetration Test (ASTM D-1586)

		SPT N-Value (Blows/ 300mm)	
Cohesive	Very soft	<2	0-4
	Soft	2-4	5-10
	Firm	5-8	11-30
	Stiff	9-15	31-50
	Very Stiff	16-30	>50
	Hard	>31	
Granular	Very loose	0-4	
	Loose	5-10	
	Medium Dense	11-30	
	Dense	31-50	
	Very Dense	>50	

NOTE: Visual classifications of earth materials are based on field inspection and or a confirmed or revised with laboratory test results as necessary.



Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Automatic Hammer)

PROFILE
Vert. 1 : 100
Hor. 1 : 1000

DESIGN OVERSIGHT
SIGN OFF DATE

DESIGN By: S. PAMPATI
CHECKED By: F. WANG

Field Investigation by: R. LIARD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS
0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-21

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp.12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

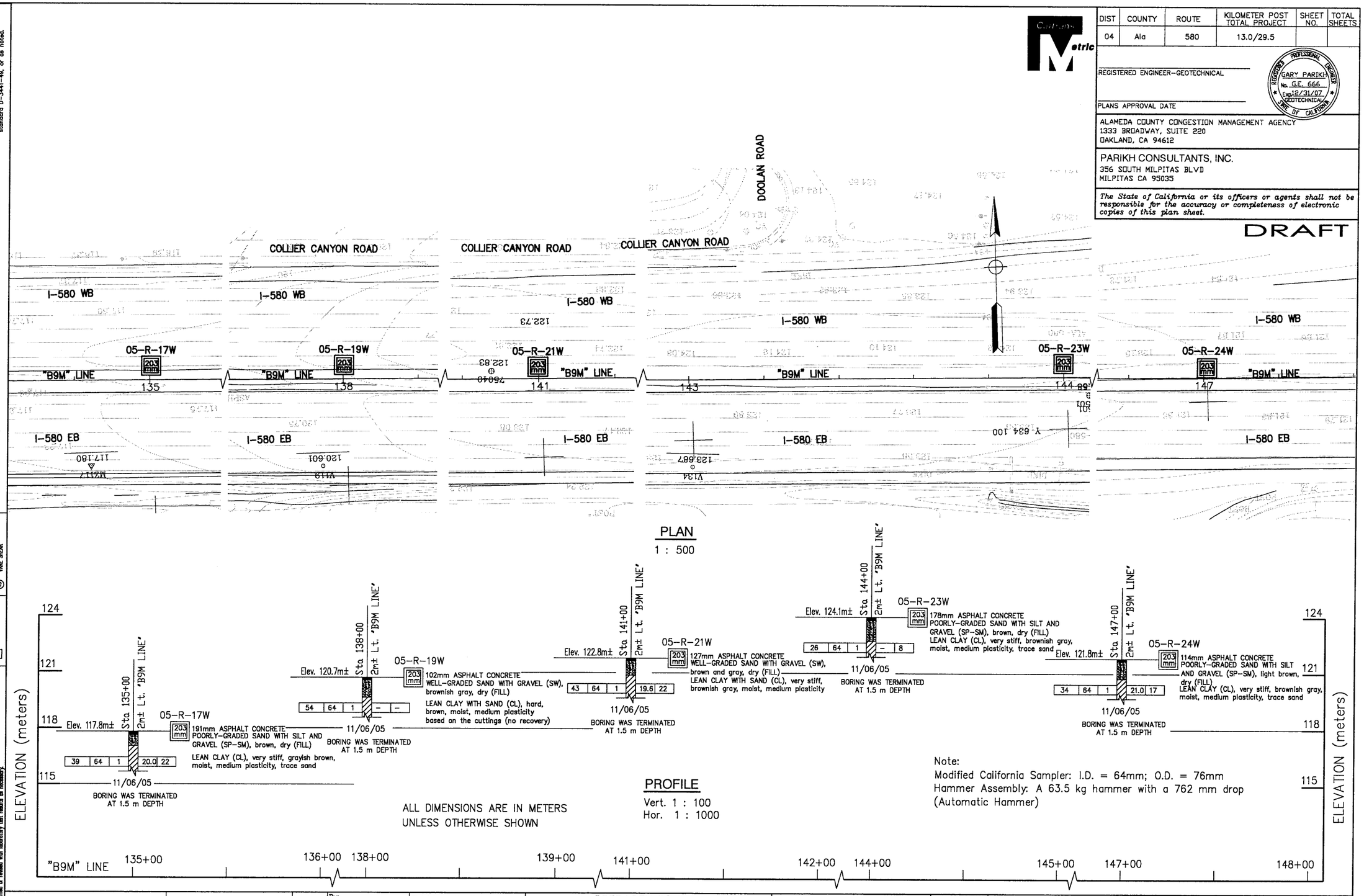
PLANS APPROVAL DATE

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT



PROFILE
Vert. 1 : 100
Hor. 1 : 1000

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Automatic Hammer)

IN–SITU, LAB & FIELD TEST DESIGNATIONS
ATTERBERG LIMITS
CHEMICAL ANALYSIS
CONSOLIDATION
CONSOLIDATED UNDRAINED TRIAXIAL
DIRECT SHEAR
MAX. DRY DENSITY
POCKET PENETROMETER
SIEVE ANALYSIS
TORVANE
UNCONFINED COMPRESSION
UNCONSOLIDATED UNDRAINED TRIAXIAL
VANE SHEAR

TYPES OF BORINGS
57 mm CONE PENETRATION
ROTARY WASH
ELECTRONIC CONE PENETROMETER
AUGER BORING (DRY)
TEST PIT
DIAMOND CORE BORING
SOIL TUBE

LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488
FILL MATERIAL
CLAY (CL or CH)
SILT (ML or MH)
PEAT and/or HIGHLY ORGANIC SOILS
WELL–GRADED GRAVEL (GW)
POORLY–GRADED GRAVEL (GP)
SILTY GRAVEL (GM)
CLAYEY GRAVEL (GC)
SAND (SP–GRADED SAND (SW)
SILTY SAND (SM)
CLAYEY SAND (SC)
COBBLES/BOULDERS
IGNEOUS ROCK
SEDIMENTARY ROCK
METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS
According to the Standard Penetration Test (ASTM D–1586)

SPT N–Value (Blows/ 305mm)	Granular	Cohesive	SPT N–Value (Blows/ 305mm)
0–4	Very loose	Very soft	<2
5–10	Loose	Soft	2–4
11–30	Medium Dense	Firm	5–8
31–50	Dense	Stiff	9–15
>50	Very Dense	Very Stiff	16–30
		Hard	>31

NOTE: Visual classifications of earth materials are based on field inspection and or confirmed or revised with laboratory test results as necessary.

DESIGN OVERSIGHT		DESIGN	By: S. PAMPATI	Field investigation by: R. LIARD	F. WANG, PROJECT ENGINEER
SIGN OFF DATE		CHECKED	By: F. WANG		

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

STRUCTURE NO. –
KILOMETER POST –

I–580 HOV LANE WIDENING

LOG OF TEST BORINGS

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A–22

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

Caltrans Metric

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp.12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

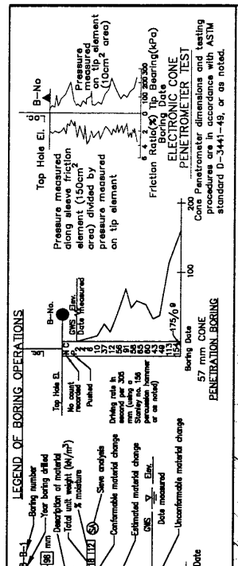
PLANS APPROVAL DATE

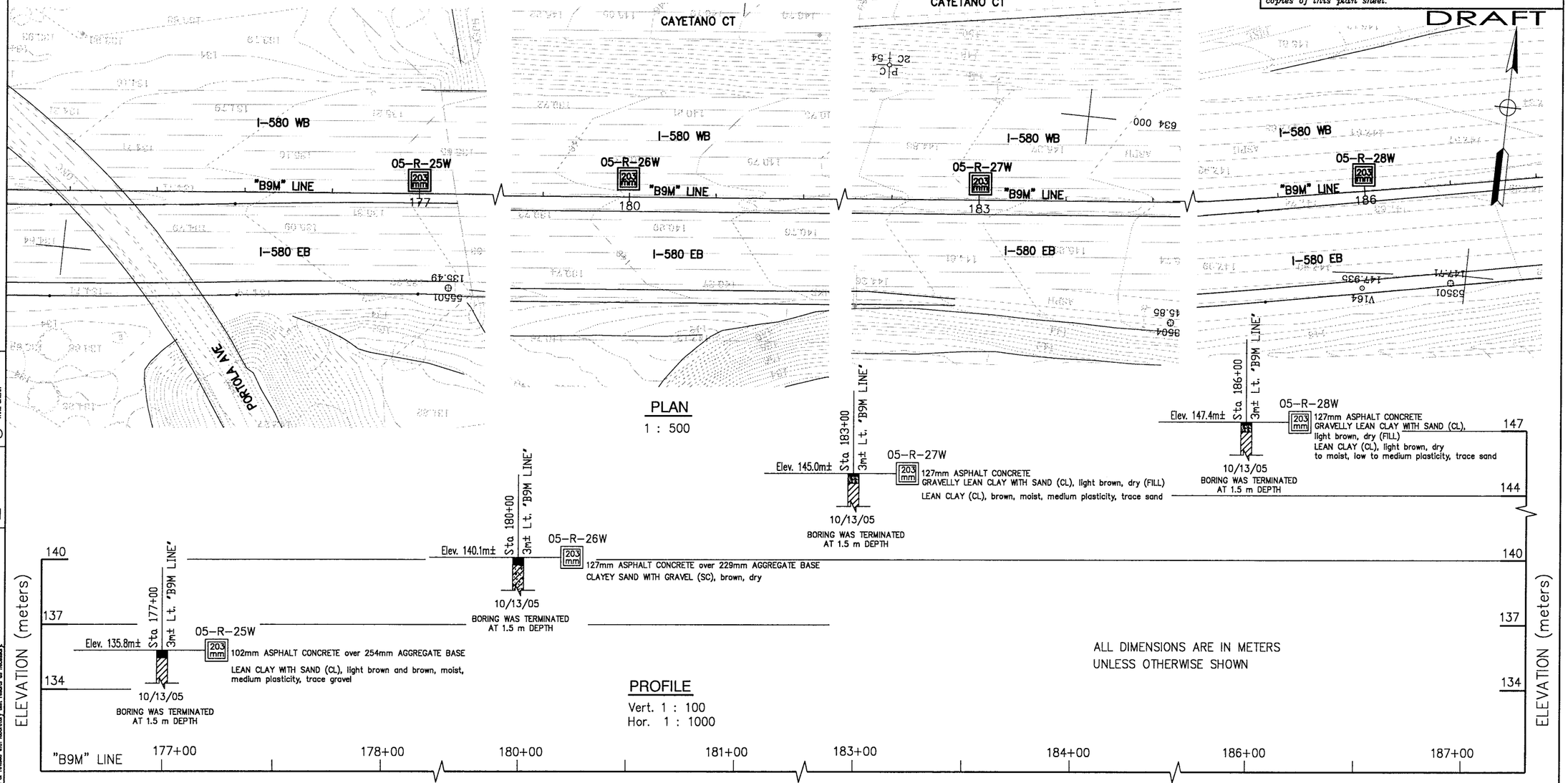
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT





DESIGN OVERSIGHT	DESIGN By: S. PAMPATI	Field Investigation by: R. LIARD	PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
SIGN OFF DATE	CHECKED By: F. WANG		F. WANG, PROJECT ENGINEER

STRUCTURE NO.	I-580 HOV LANE WIDENING
–	
KILOMETER POST	LOG OF TEST BORINGS
–	

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS: 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-23

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

PLANS APPROVAL DATE

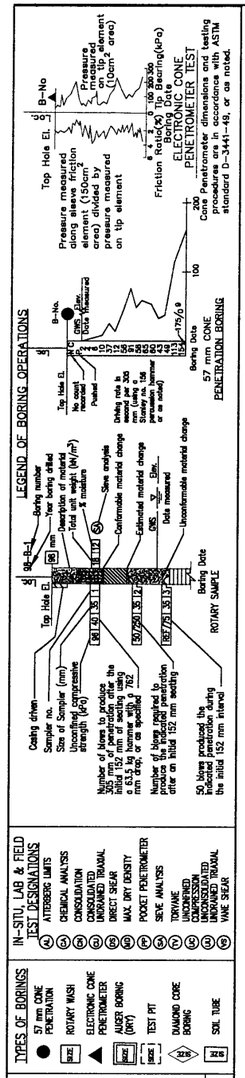
REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

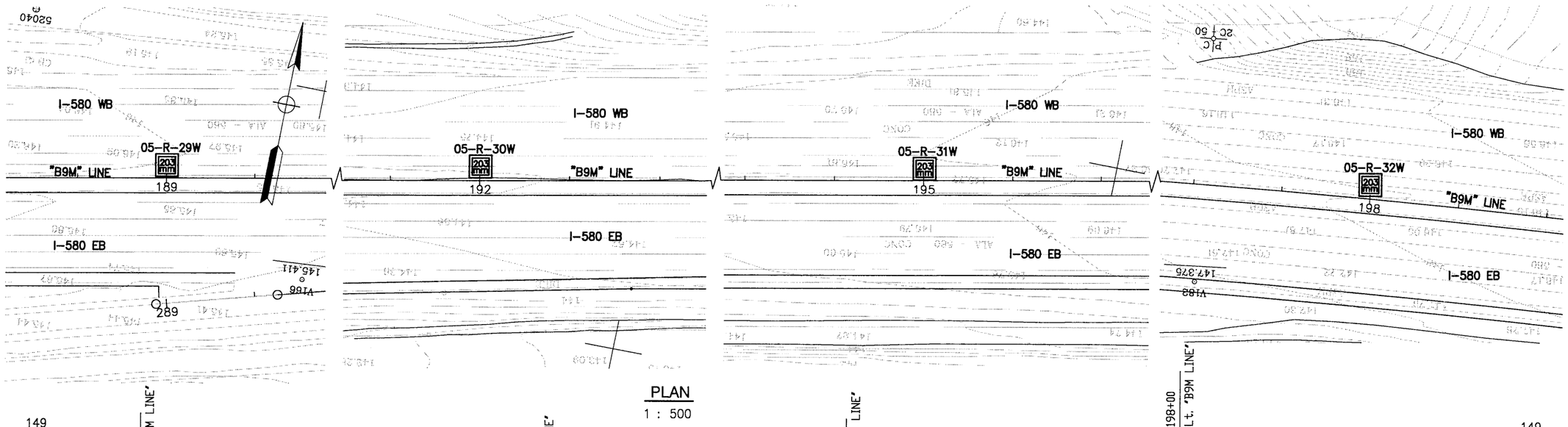
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT





DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI

CHECKED By: F. WANG

Field Investigation by: R. LIARD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –

KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-24

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

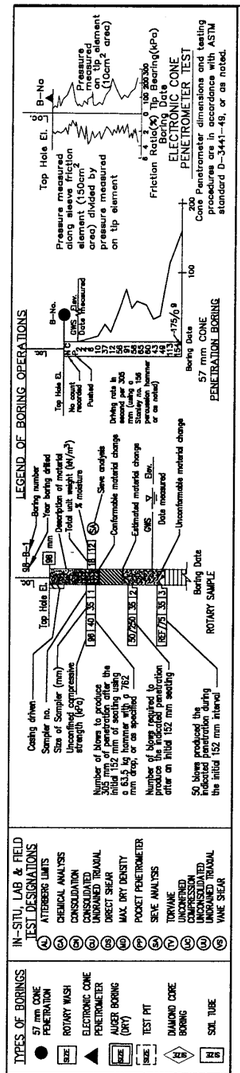
PLANS APPROVAL DATE

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT



IN-SITU, LAB & FIELD TEST DESIGNATIONS

(A)	ATTERBERG LIMITS
(C)	CHEMICAL ANALYSIS
(CN)	CONSOLIDATION
(CU)	CONSOLIDATED UNDRAINED TRIAXIAL
(DS)	DIRECT SHEAR
(MD)	MAX. DRY DENSITY
(P)	POCKET PENETROMETER
(SA)	SIEVE ANALYSIS
(TV)	TORVANE
(UC)	UNCONFINED COMPRESSION
(UU)	UNCONSOLIDATED UNDRAINED TRIAXIAL
(V)	VANE SHEAR

TYPES OF BORINGS

	57 mm CONE PENETRATION
	ROTARY WASH
	ELECTRONIC CONE PENETROMETER
	AUGER BORING (DRY)
	TEST PIT
	DIAMOND CORE BORING
	SOIL TUBE

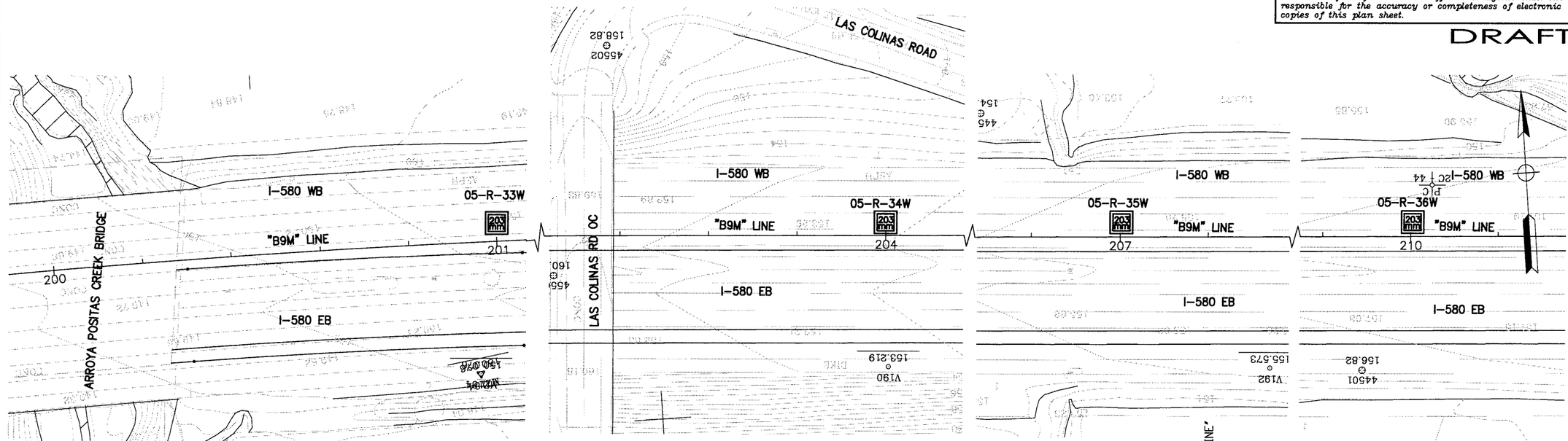
LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488

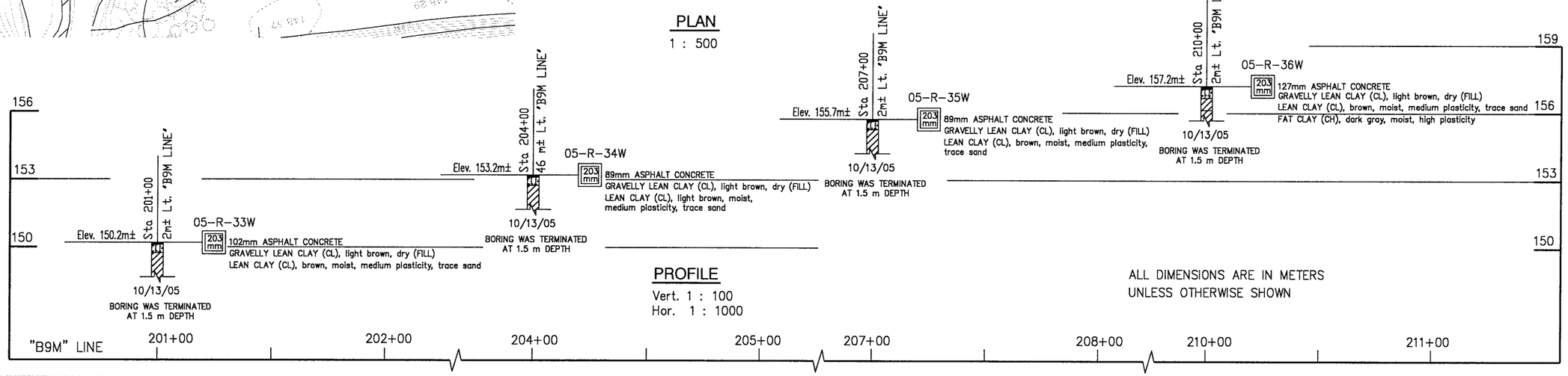
	FILL MATERIAL		POORLY-GRADED SAND (SP)
	CLAY (CL or CH)		SAND (SW)
	SILT (ML or MH)		SILTY SAND (SM) or SANDY SILT (ML)
	PEAT and/or ORGANIC MATTER		CLAYEY SAND (SC) or SANDY CLAY (CL)
	WELL-GRADED GRAVEL (GW)		COBBLES/BOULDERS
	POORLY-GRADED GRAVEL (GP)		IGNEOUS ROCK
	SILTY GRAVEL (GM)		SEDIMENTARY ROCK
	CLAYEY GRAVEL (GC)		METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS
According to the Standard Penetration Test (ASTM D-1586)

SPT N-Value (Blows/ 300mm)	Granular	SPT N-Value (Blows/ 300mm)	Cohesive
0-4	Very loose	<2	Very soft
5-10	Loose	2-4	Soft
11-30	Medium Dense	5-8	Firm
31-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very Stiff
		>31	Hard

NOTE: Visual classifications of earth materials are based on field inspection and or a confirmed or revised with laboratory test results as necessary.





ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI
CHECKED By: F. WANG
Field Investigation by: R. LIARD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-25

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

Caltrans Metric

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER GARY PARIKH No. G.E. 666 Exp.12/31/07 GEOTECHNICAL STATE OF CALIFORNIA

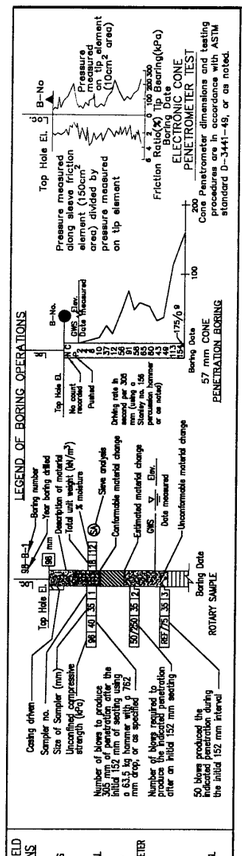
PLANS APPROVAL DATE

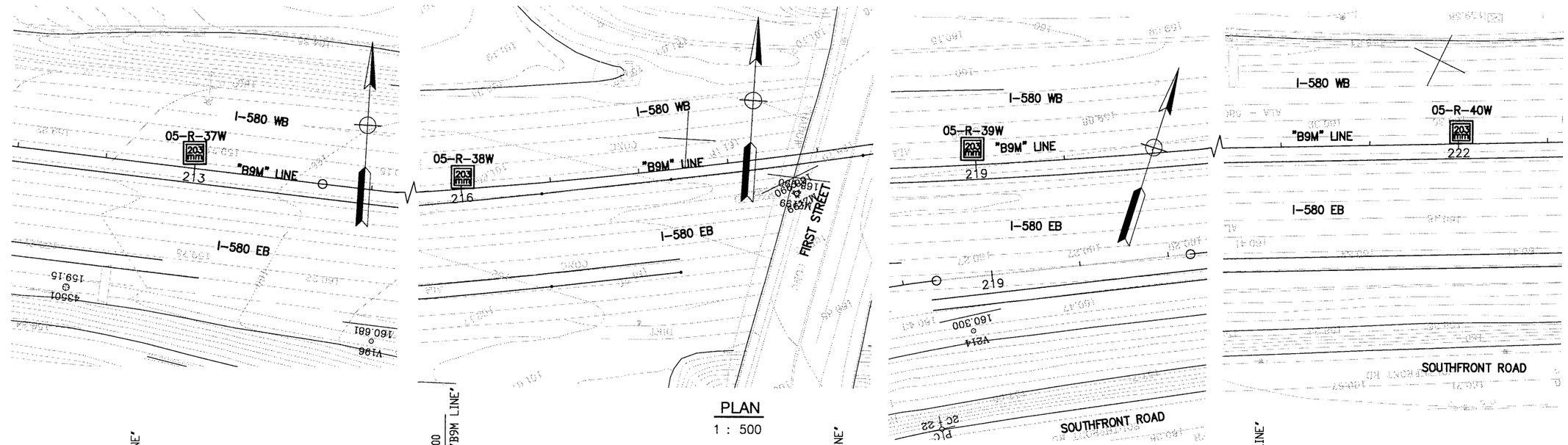
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

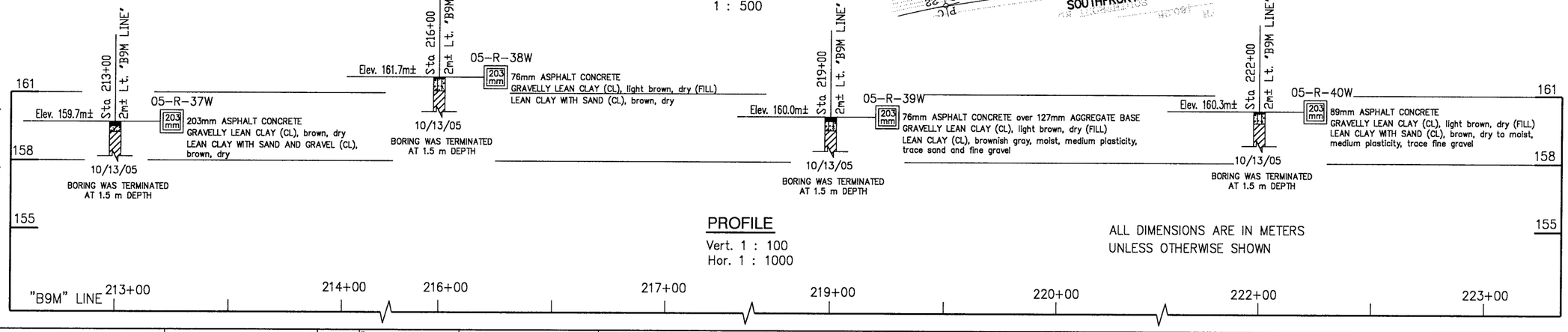
PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT







IN-SITU, LAB & FIELD TEST DESIGNATIONS
ATTERBERG LIMITS ④
CHEMICAL ANALYSIS ③
CONSOLIDATION ⑧
CONSOLIDATED UNDRAINED TRIAXIAL ⑦
DIRECT SHEAR ⑥
MAX. DRY DENSITY ⑤
POCKET PENETROMETER ⑨
SIEVE ANALYSIS ②
TOXICITY ⑬
UNCONFINED COMPRESSION ①
UNCONSOLIDATED UNDRAINED TRIAXIAL ⑩
VANE SHEAR ⑪

TYPES OF BORINGS
57 mm CONE PENETRATION
ROTARY WASH
ELECTRONIC CONE PENETROMETER
AUGER BORING (8")
TEST PIT
DIAMOND CORE BORING
SOIL TUBE

LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488
FILL MATERIAL
CLAY (CL or CH)
SILT (ML or MH)
PEAT and/or ORGANIC MATTER
POORLY-GRADED SAND (SP)
WELL-GRADED SAND (SW)
SILTY SAND (SM)
CLAYEY SAND (SC)
POORLY-GRADED GRAVEL (GP)
WELL-GRADED GRAVEL (GW)
SILTY GRAVEL (GM)
CLAYEY GRAVEL (GC)
COBBLES/BOULDERS
IGNEOUS ROCK
SEDIMENTARY ROCK
METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS According to the Standard Penetration Test (ASTM D-1586)

SPT N-Value (Blows/ 300mm)	Granular	SPT N-Value (Blows/ 300mm)	Cohesive
0–4	Very loose	<2	Very soft
5–10	Loose	2–4	Soft
11–30	Medium Dense	5–8	Firm
31–50	Dense	9–15	Stiff
>50	Very Dense	16–30	Very Stiff
		>31	Hard

NOTE: Visual classifications of earth materials are based on field inspection and or a confirmed or revised with laboratory test results as necessary.

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: S. PAMPATI
CHECKED By: F. WANG
Field Investigation by: R. LIARD

PREPARED FOR THE
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING
LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS
FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-26

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

Caltrans Metric

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

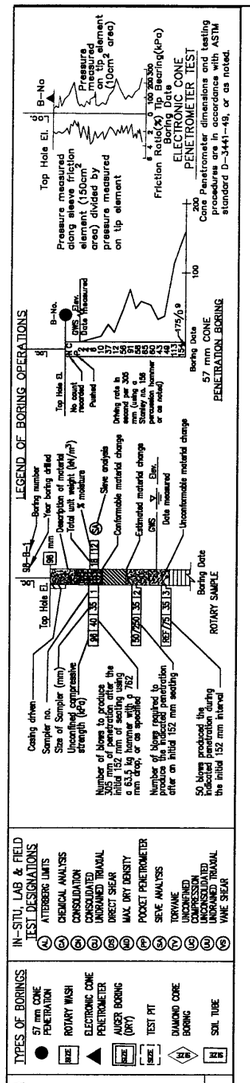
PLANS APPROVAL DATE

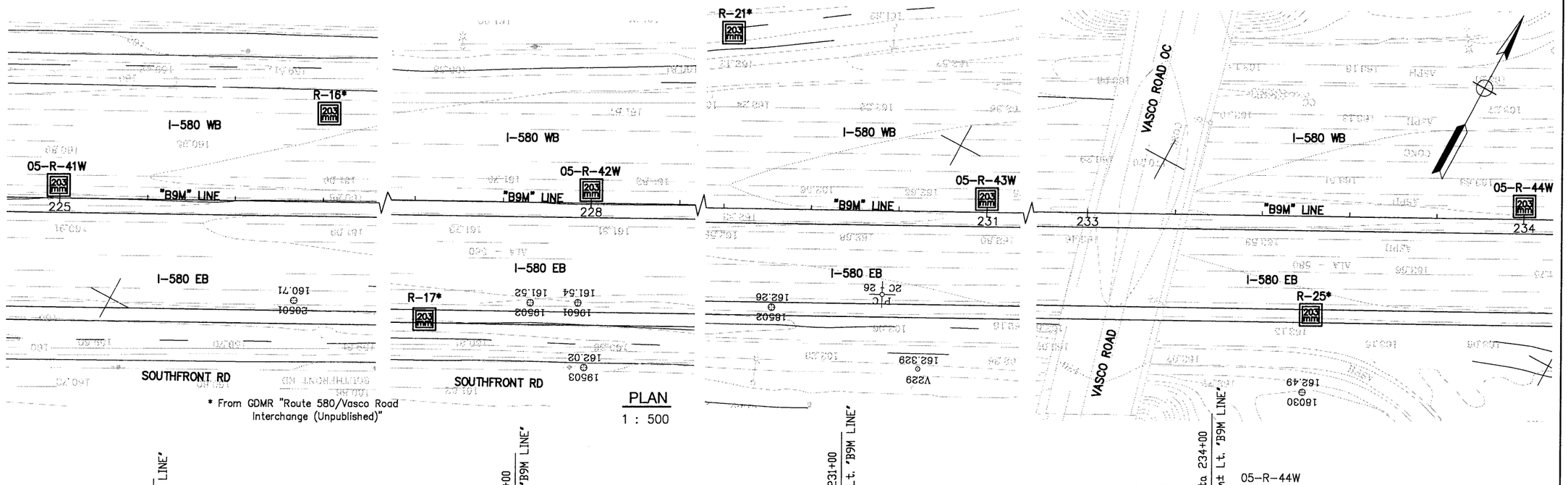
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

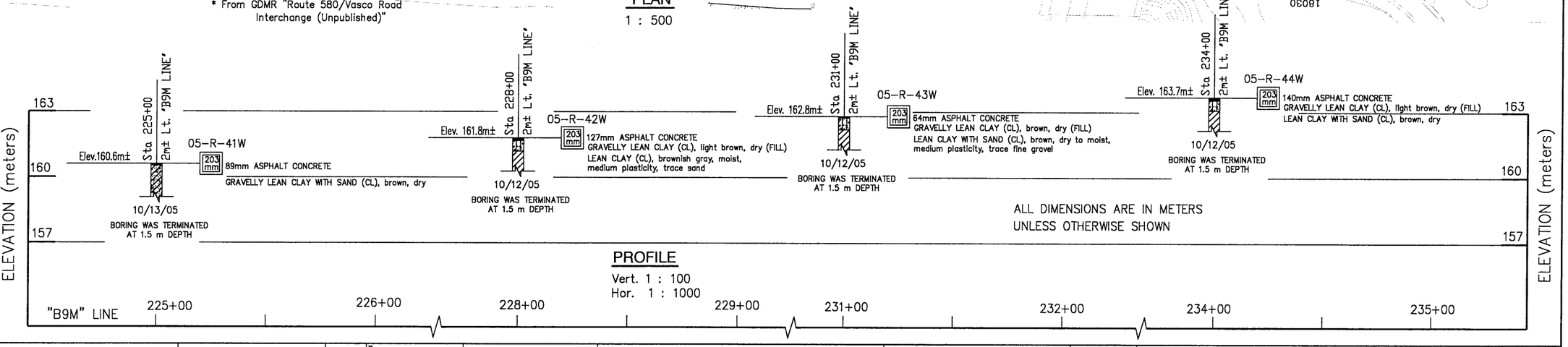
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT





PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 1000

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

DESIGN OVERSIGHT		DESIGN By: S. PAMPATI	Field Investigation by: R. LIARD
SIGN OFF DATE		CHECKED By: F. WANG	

PREPARED FOR THE
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO.	I-580 HOV LANE WIDENING
–	
KILOMETER POST	LOG OF TEST BORINGS
–	

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS
0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-27

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	13.0/29.5		

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. GE 666 — Exp. 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

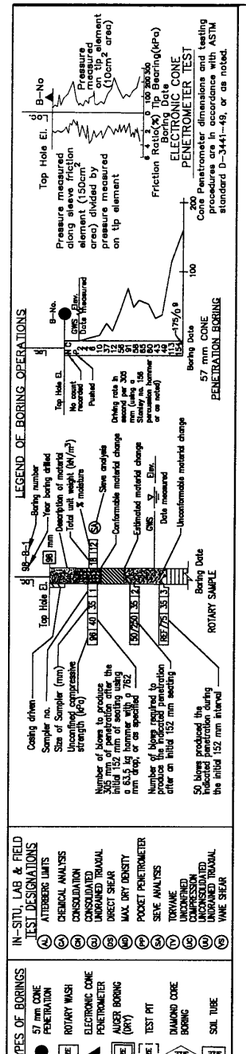
PLANS APPROVAL DATE

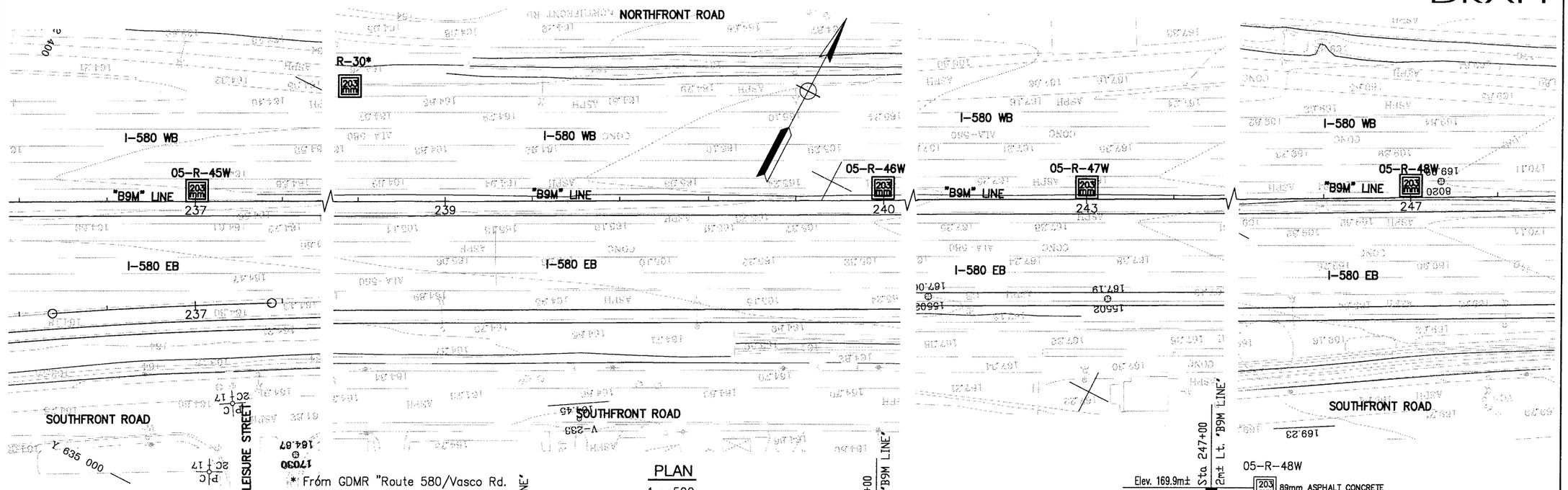
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

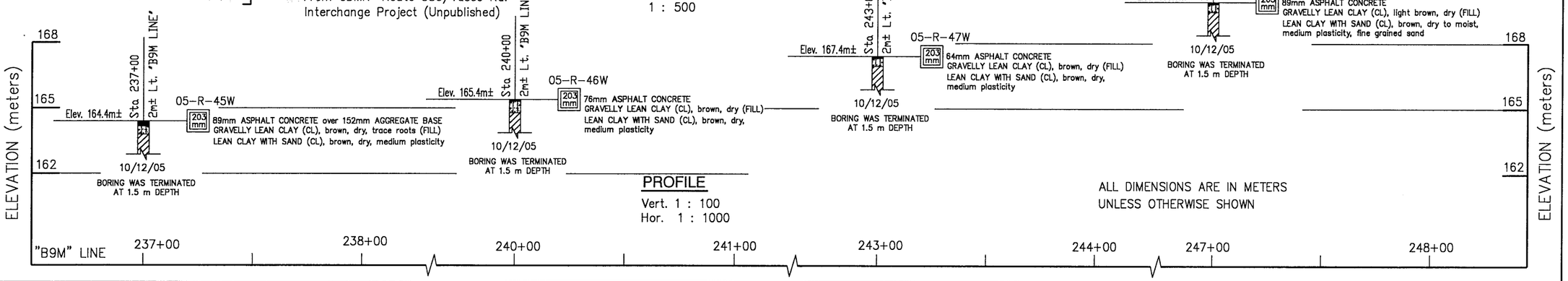
PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT







DESIGN OVERSIGHT	DESIGN By: S. PAMPATI	Field investigation by: R. LIARD	PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY	STRUCTURE NO. –
SIGN OFF DATE	CHECKED By: F. WANG		F. WANG PROJECT ENGINEER	KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04258
EA 290801

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-28

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	R16.5/16.9		

REGISTERED ENGINEER–GEOTECHNICAL

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/07 GEOTECHNICAL — STATE OF CALIFORNIA

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

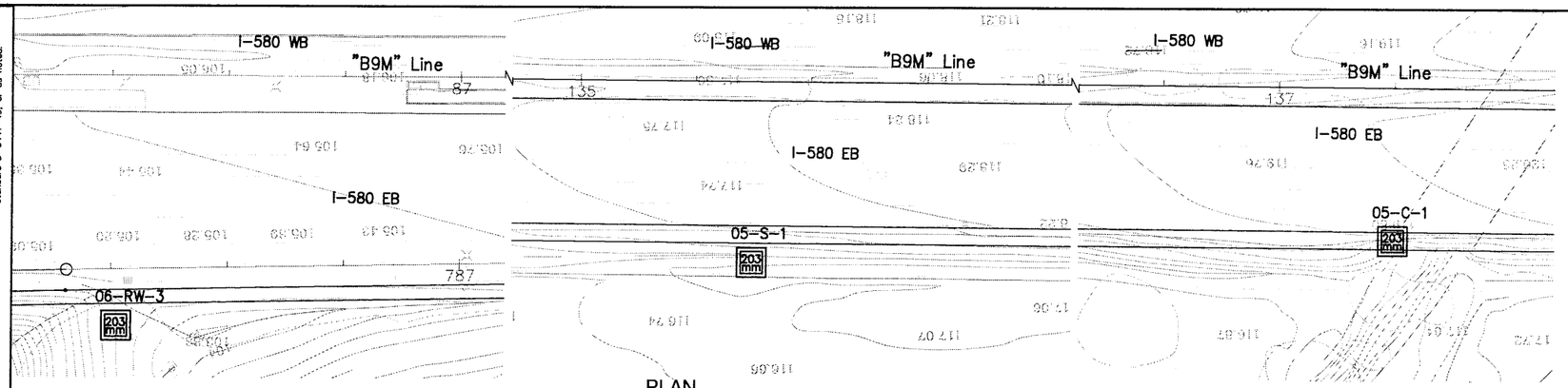
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT

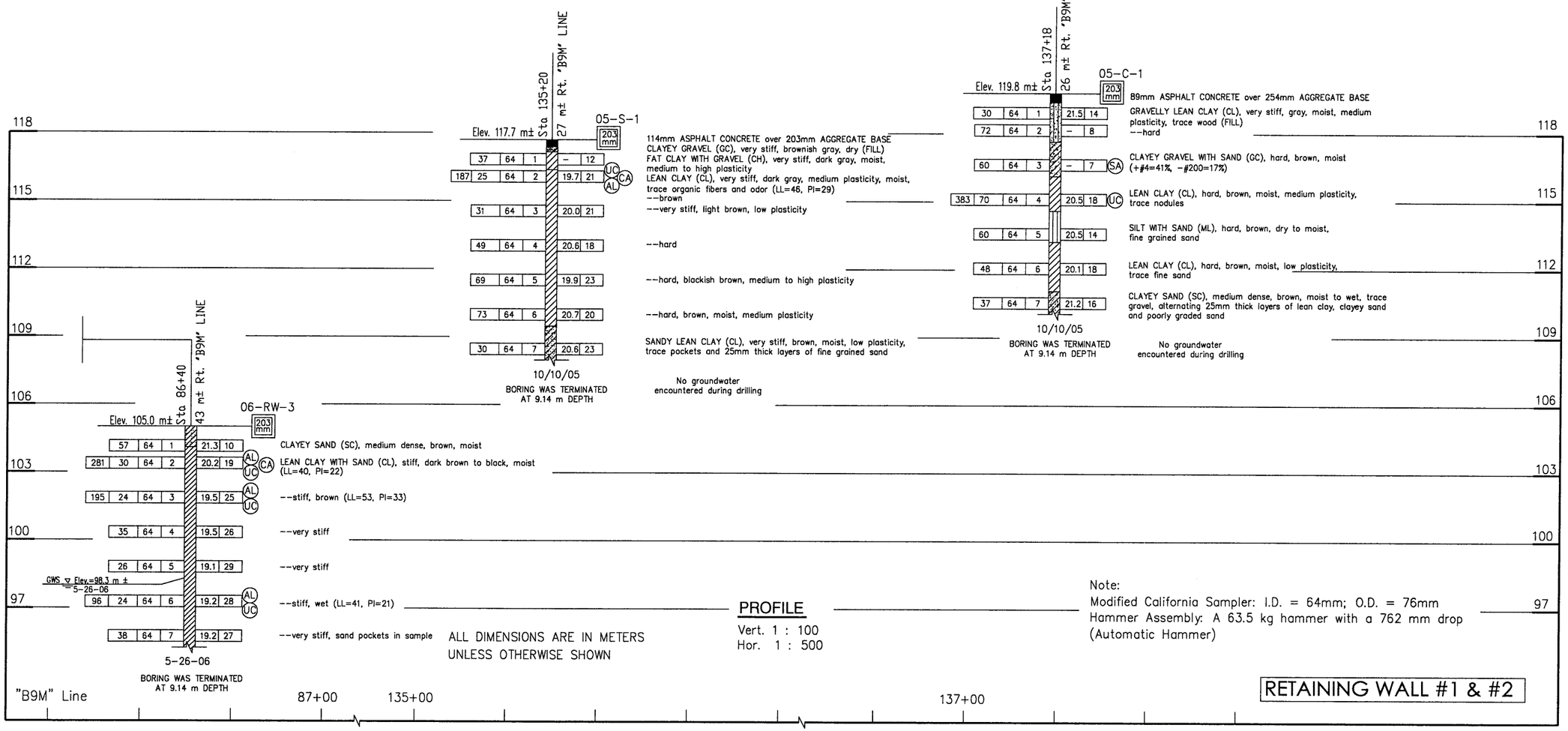
Caltrans Metric

N

PLAN
1 : 500



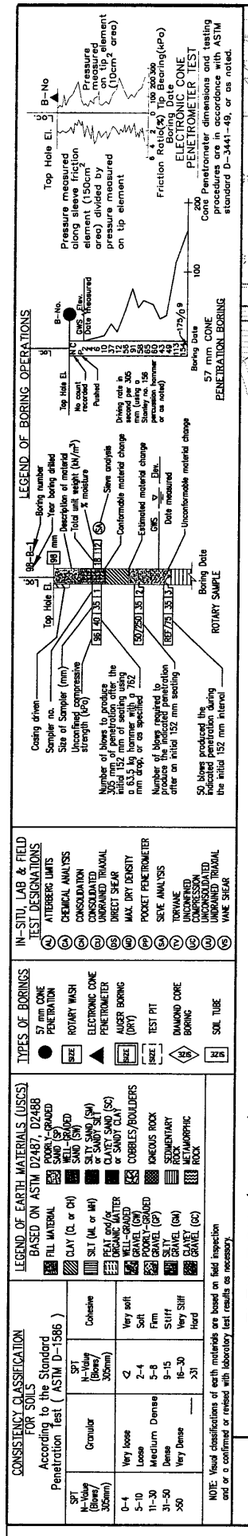
PROFILE
Vert. 1 : 100
Hor. 1 : 500



ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Automatic Hammer)

RETAINING WALL #1 & #2



DESIGN OVERSIGHT		DESIGN	By: L. TRAN
SIGN OFF DATE		CHECKED	By: R. LAIRD
		Field investigation by:	R. LAIRD

PREPARED FOR THE
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO.	I-580 HOV LANE WIDENING
–	LOG OF TEST BORINGS
KILOMETER POST –	

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS
0 10 20 30 40 50 60 70 80 90 100
CU EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)	SHEET	OF

PLATE A-29

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	R16.5/16.9		

REGISTERED ENGINEER–GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/07 GEOTECHNICAL — STATE OF CALIFORNIA

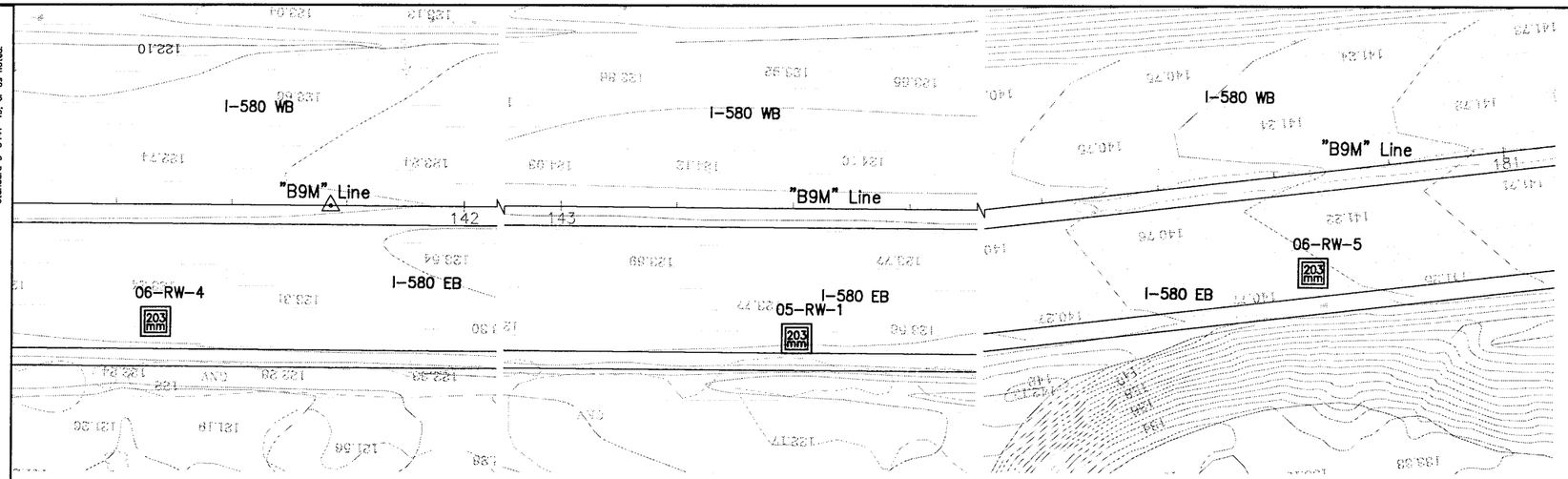
PLANS APPROVAL DATE

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

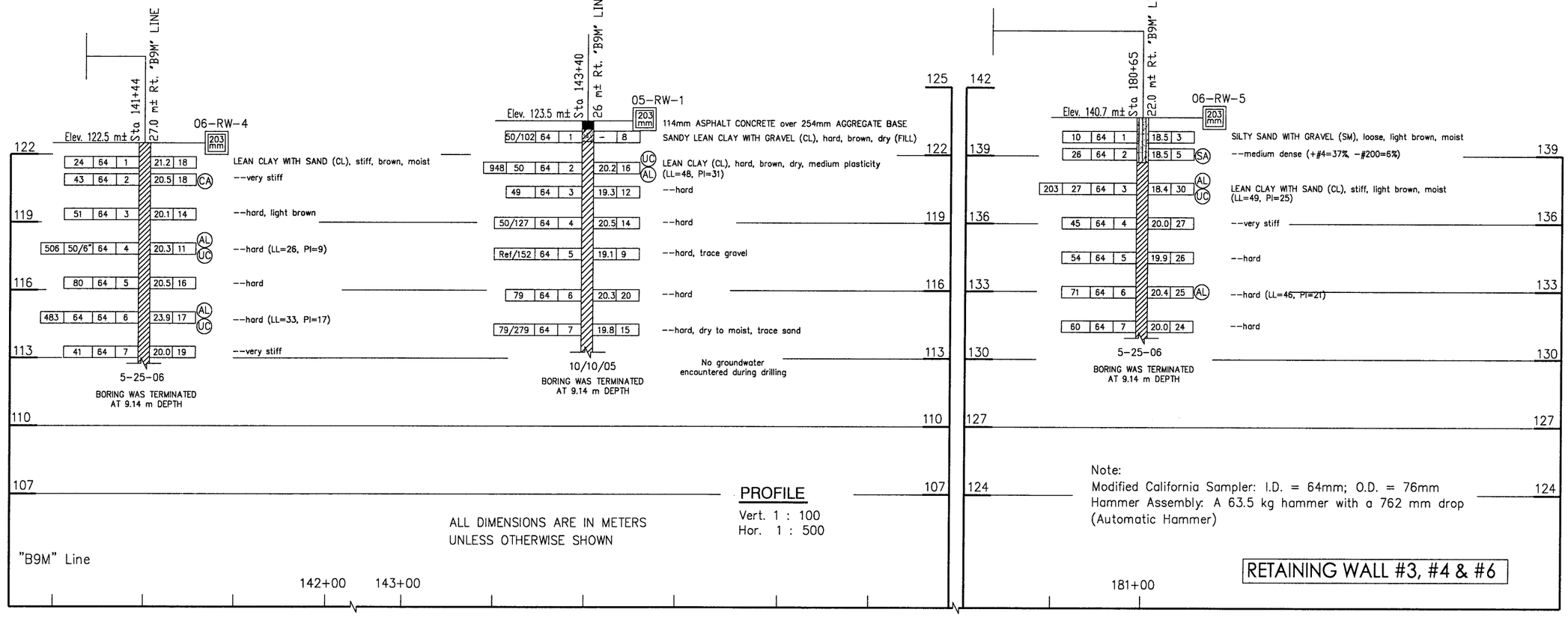
PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT



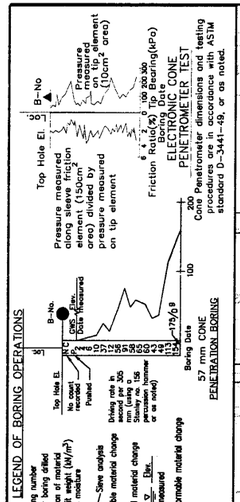
PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 500

RETAINING WALL #3, #4 & #6

LEGEND OF BORING OPERATIONS



IN-SITU, LAB & FIELD TEST DESIGNATIONS

ATTERBERG LIMITS (A) · CHEMICAL ANALYSIS (B) · CONSOLIDATION (C) · CONSOLIDATED UNDRAINED TRIAXIAL (CU) · DIRECT SHEAR (D) · MAX. DRY DENSITY (E) · POCKET PENETROMETER (P) · SIEVE ANALYSIS (S) · TORVANE (T) · UNCONFINED (U) · UNCONSOLIDATED UNDRAINED TRIAXIAL (UU) · VANE SHEAR (V)

TYPES OF BORINGS

57 mm CONE PENETRATION · ROTARY WASH (RW) · ELECTRONIC CONE PENETROMETER · AUGER BORING (DRY) (AB) · TEST PIT (TP) · DIAMOND CORE BORING (DB) · SOIL TUBE (ST)

LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488

FILL MATERIAL · CLAY (CL or CH) · SILT (ML or MH) · PEAT and/or ORGANIC MATTER (OL or OH) · WELL-GRADED GRAVEL (GW) · POORLY-GRADED GRAVEL (GP) · SILTY GRAVEL (GM) · CLAYEY GRAVEL (GC) · WELL-GRADED SAND (SW) · POORLY-GRADED SAND (SP) · SILTY SAND (SM) · CLAYEY SAND (SC) or SANDY CLAY · COBBLES/BOULDERS · IGNEOUS ROCK · SEDIMENTARY ROCK · METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS According to the Standard Penetration Test (ASTM D-1586)

SPT N-Value (Blows/ 305mm)	Granular	SPT (Modified Proctor 305mm)	Cohesive
0–4	Very loose	<2	Very soft
5–10	Loose	2–4	Soft
11–30	Medium Dense	5–8	Firm
31–50	Dense	9–15	Stiff
>50	Very Dense	16–30	Very Stiff
		>31	Hard

NOTE: Visual classifications of earth materials are based on field inspection and or a confirmed or revised with laboratory test results as necessary.

DESIGN OVERSIGHT
SIGN OFF DATE

DESIGN By: L. TRAN
CHECKED By: R. LAIRD
Field investigation by: R. LAIRD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100
CU EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-30

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	R16.5/16.9		

REGISTERED ENGINEER–GEOTECHNICAL

PLANS APPROVAL DATE

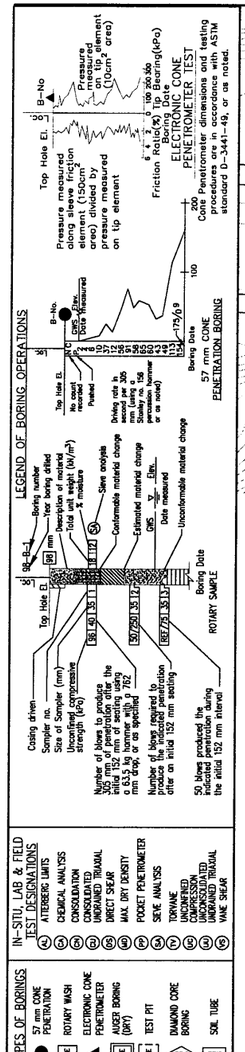
REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

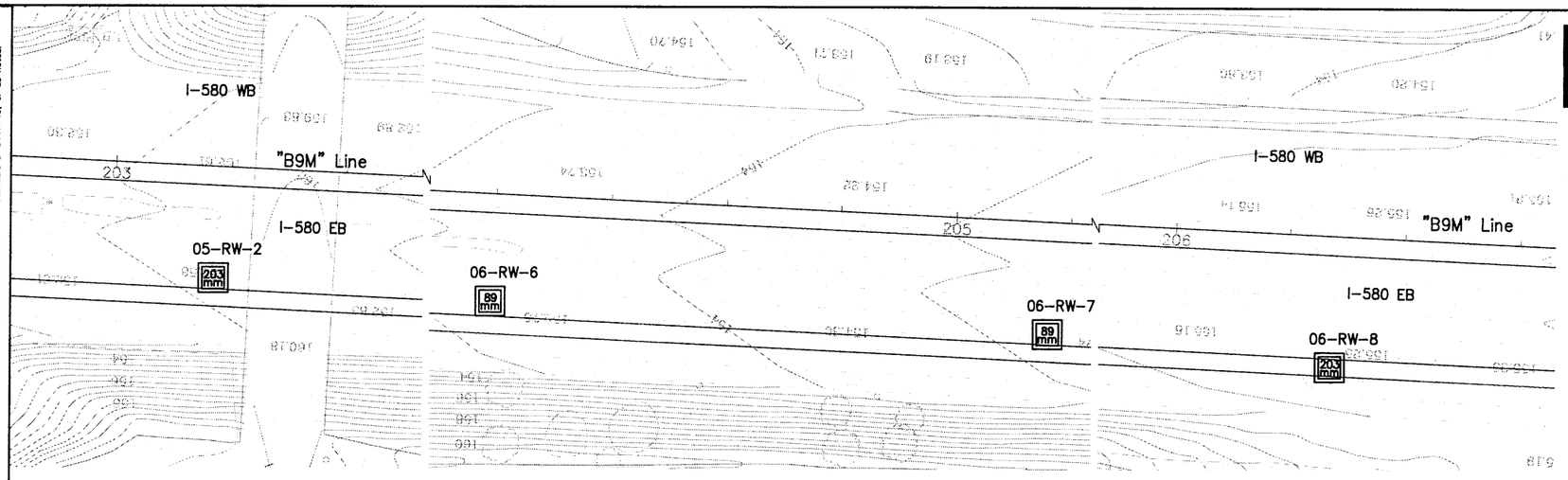
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

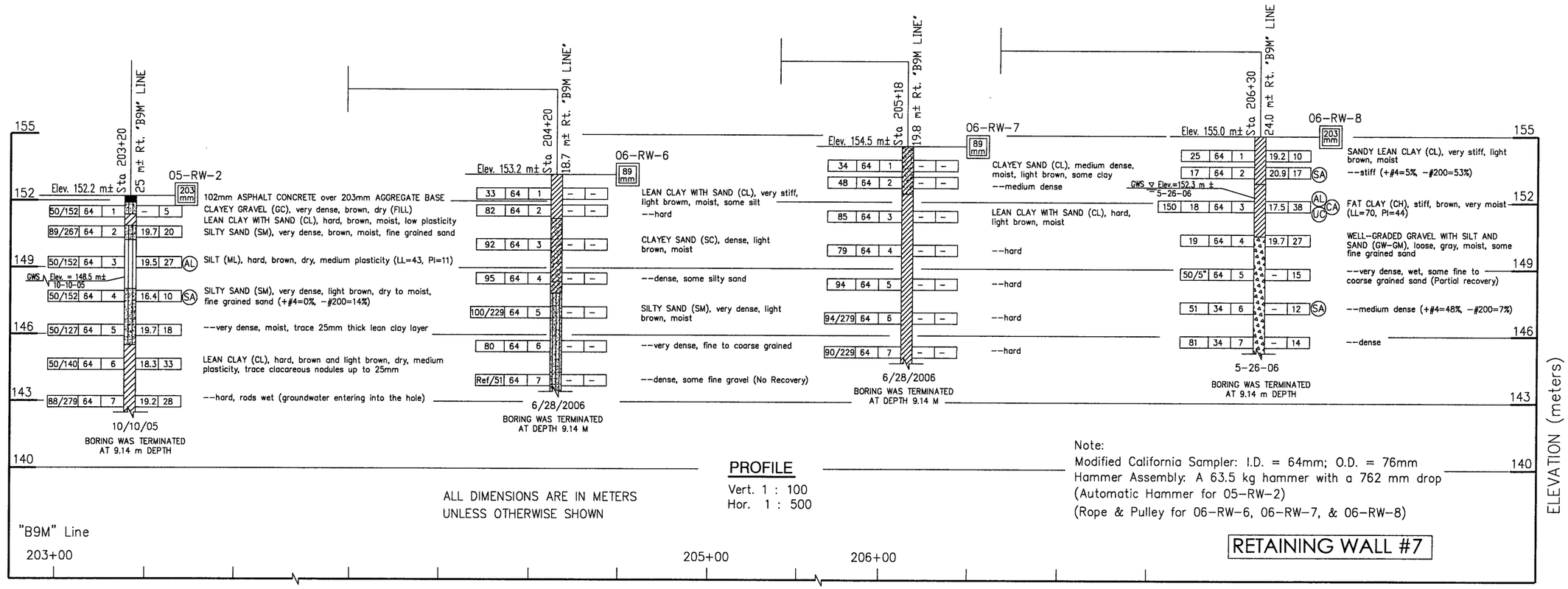
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT





PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 500

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

"B9M" Line
203+00 205+00 206+00

Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop
(Automatic Hammer for 05-RW-2)
(Rope & Pulley for 06-RW-6, 06-RW-7, & 06-RW-8)

RETAINING WALL #7

DESIGN OVERSIGHT
SIGN OFF DATE

DESIGN By: L. TRAN
CHECKED By: R. LAIRD
Field Investigation by: R. LAIRD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING

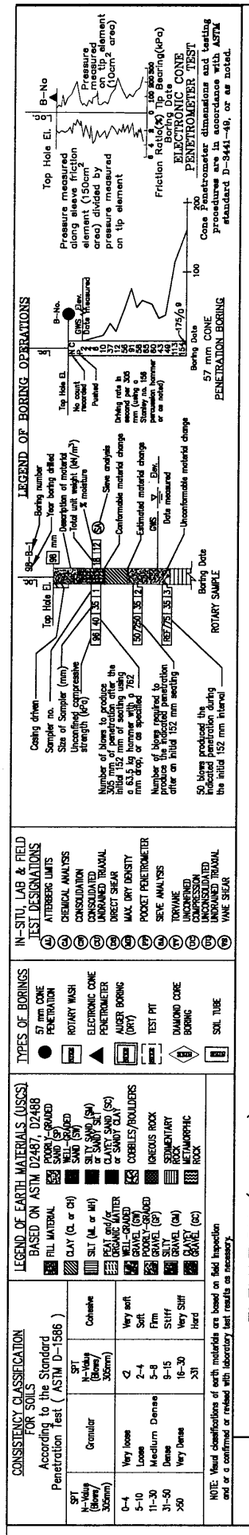
LOG OF TEST BORINGS

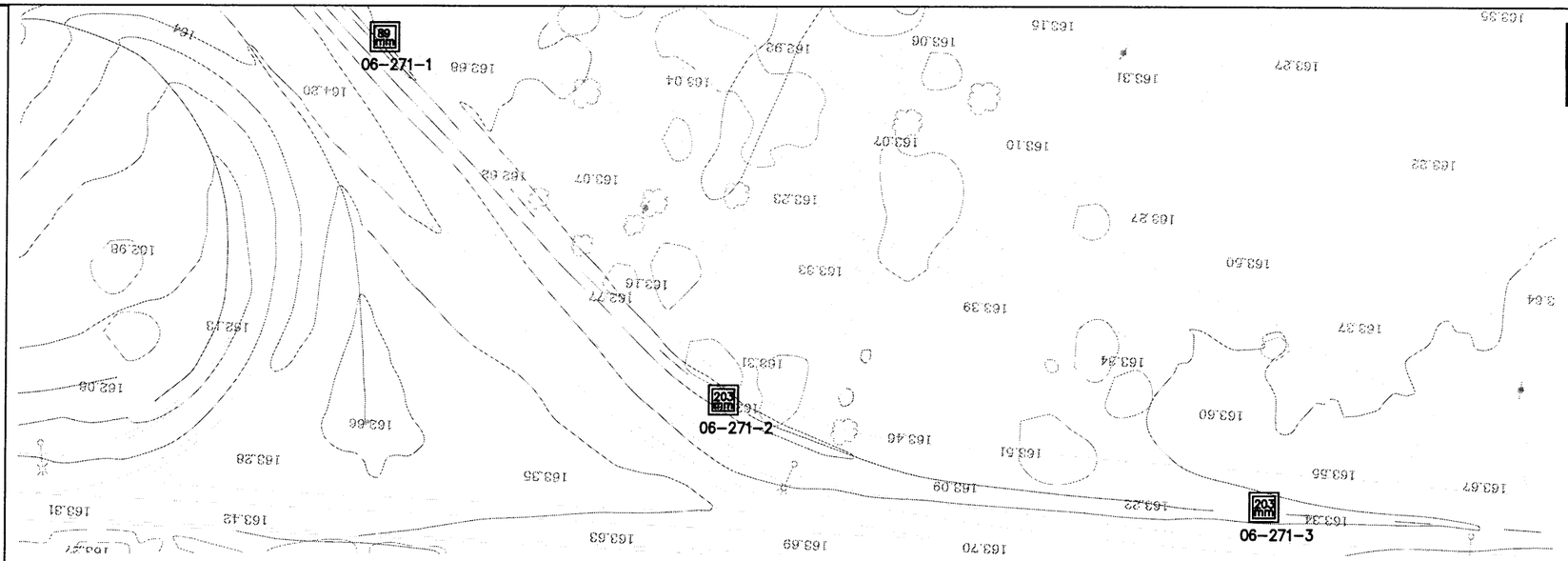
ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100
CU EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

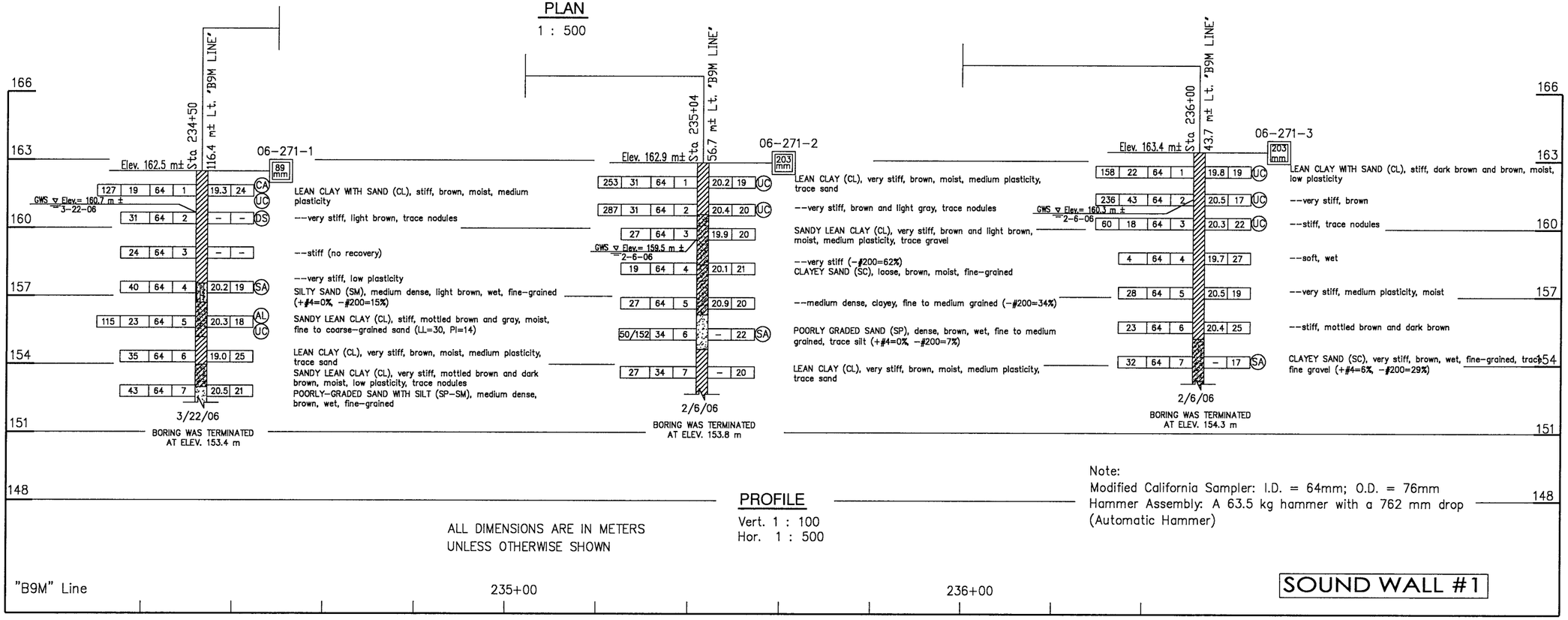
REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-31





PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 500

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

"B9M" Line 235+00 236+00

Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Automatic Hammer)

SOUND WALL #1

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	R16.5/16.9		

REGISTERED ENGINEER–GEOTECHNICAL

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp.12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: L. TRAN
CHECKED By: R. LAIRD

Field Investigation by: R. LAIRD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU
EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-32

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	R16.5/16.9		

REGISTERED ENGINEER—GEOTECHNICAL

PLANS APPROVAL DATE

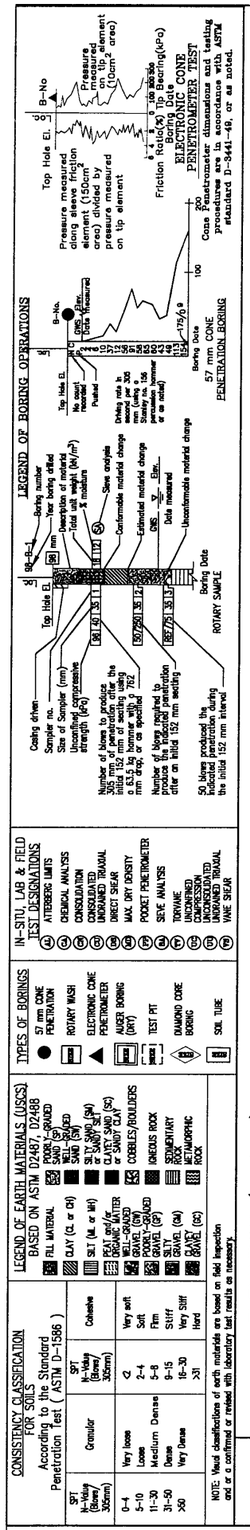
REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp.12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

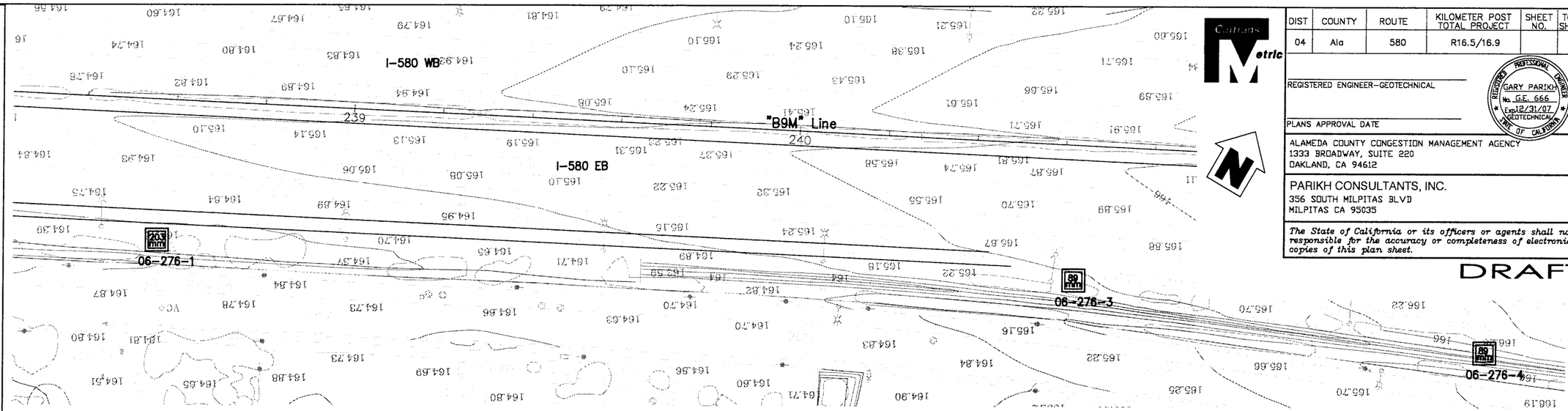
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

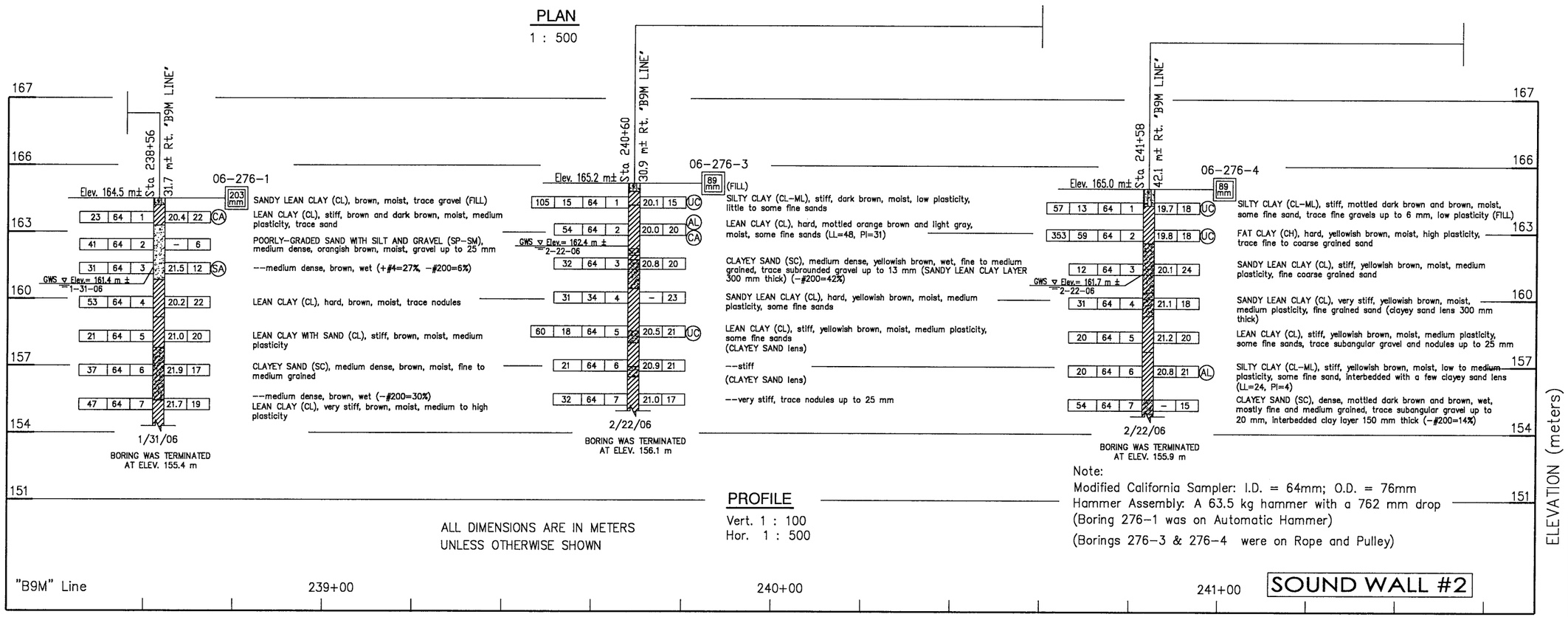
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT





PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 500

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

SOUND WALL #2

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: L. TRAN
CHECKED By: R. LAIRD

Field Investigation by: R. LAIRD & D. Alexander

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100
CU
EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-33

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	R16.5/16.9		

REGISTERED ENGINEER–GEOTECHNICAL

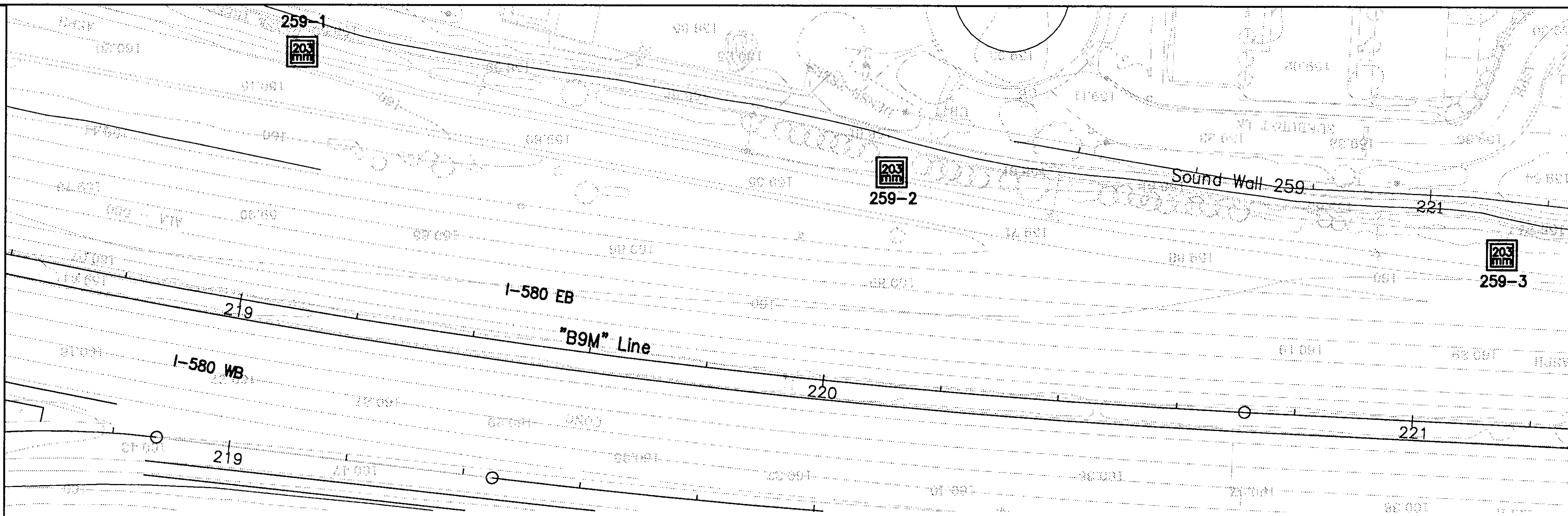
PLANS APPROVAL DATE

PROFESSIONAL ENGINEER — REGISTERED — GARY PARIKH No. G.E. 666 Exp. 12/31/07 GEOTECHNICAL — STATE OF CALIFORNIA

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

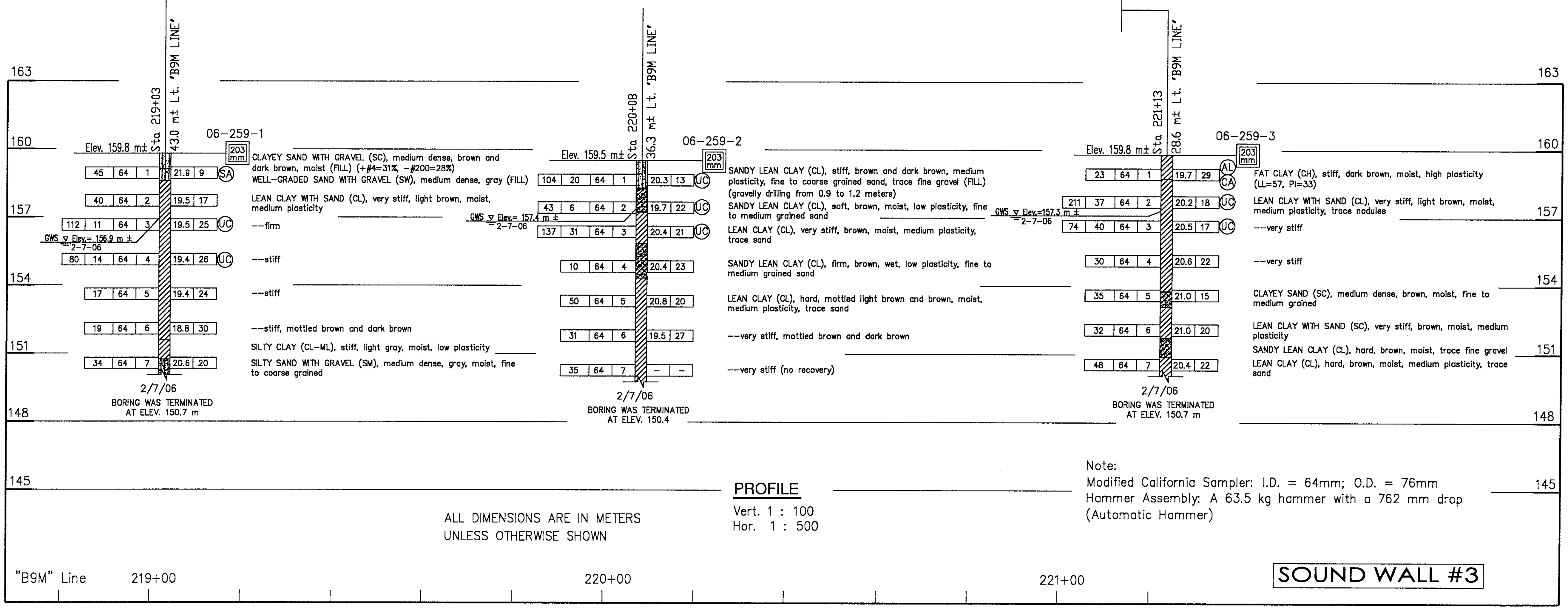
PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

DRAFT



PLAN

1 : 500



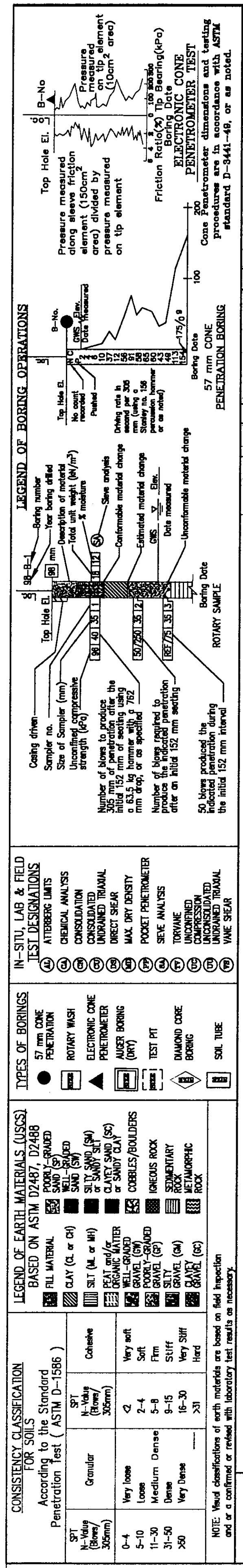
ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

PROFILE

Vert. 1 : 100
Hor. 1 : 500

Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Automatic Hammer)

SOUND WALL #3



DESIGN OVERSIGHT		DESIGN	By: L. TRAN	Field investigation by:	PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY	F. WANG PROJECT ENGINEER	STRUCTURE NO. –	I-580 HOV LANE WIDENING
SIGN OFF DATE		CHECKED	By: R. LAIRD	R. LAIRD			KILOMETER POST –	LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU
EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	R16.5/16.9		

REGISTERED ENGINEER–GEOTECHNICAL

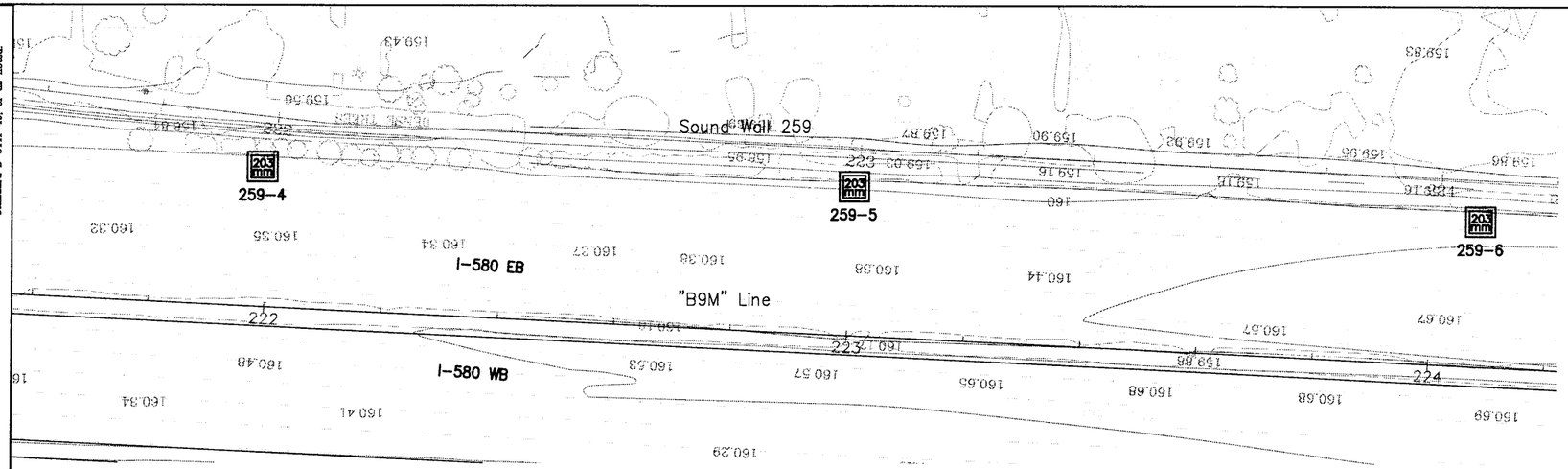
REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

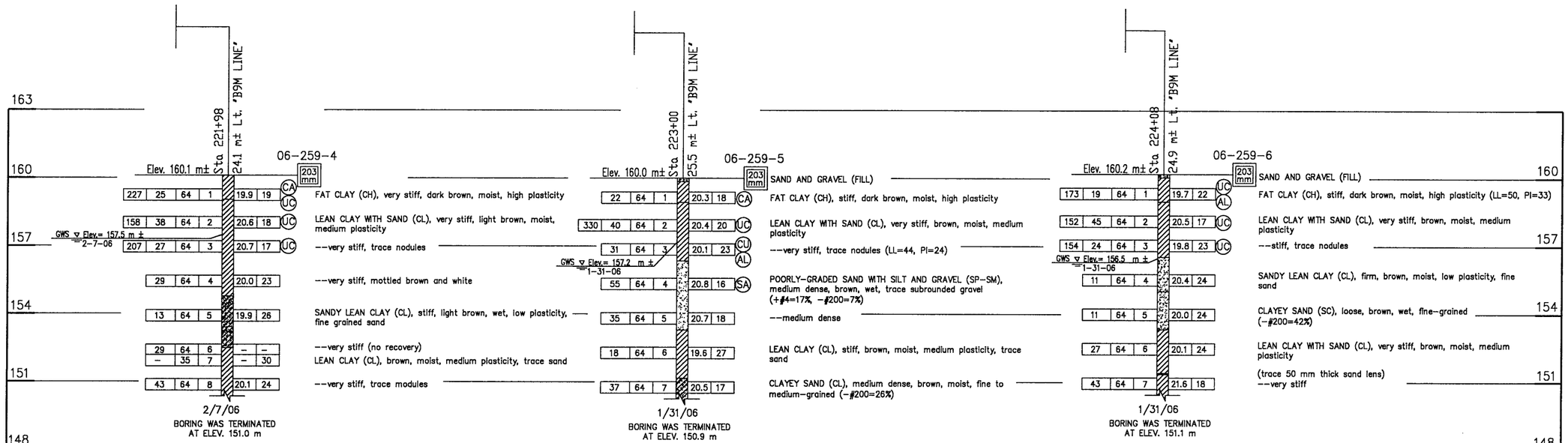
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

DRAFT



PLAN
1 : 500



PROFILE
Vert. 1 : 100
Hor. 1 : 500

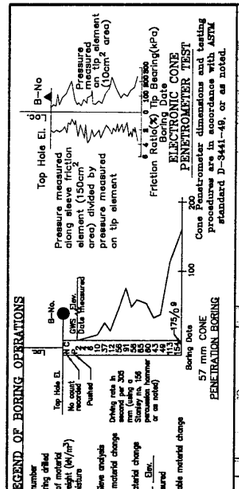
ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

"B9M" Line 222+00 223+00 223+00

Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Automatic Hammer)

SOUND WALL #3

LEGEND OF BORING OPERATIONS



IN–SITU, LAB & FIELD TEST DESIGNATIONS

ATTERBERG LIMITS (A)
CHEMICAL ANALYSIS (B)
CONSOLIDATION (C)
CONSOLIDATED UNDRAINED TRIAXIAL (D)
DIRECT SHEAR (E)
MAX. DRY DENSITY (F)
POCKET PENETROMETER (G)
SIEVE ANALYSIS (H)
TORVANE (I)
UNCONFINED (J)
UNCONSOLIDATED UNDRAINED TRIAXIAL (K)
VANE SHEAR (L)

TYPES OF BORINGS

57 mm CONE PENETRATION
ROTARY WASH
ELECTRONIC CONE PENETROMETER
AUGER BORING (DRY)
TEST PIT
DIAMOND CORE BORING
SOIL TUBE

LEGEND OF EARTH MATERIALS (USCS) BASED ON ASTM D2487, D2488

FILL MATERIAL
CLAY (CL or CH)
SILT (ML or MH)
PEAT and/or ORGANIC MATTER
SILT AND/or CLAY (SM)
GRAVEL (GW)
POORLY–GRADED GRAVEL (GP)
SAND
GRAVEL (GM)
GRAVEL (GC)
POORLY–GRADED SAND (SP)
SILT AND/or CLAY (SM)
CLAYEY SAND (SC)
COBBLES/BOULDERS
IGNEOUS ROCK
SEDIMENTARY ROCK
METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS According to the Standard Penetration Test (ASTM D–1586)

	SPT Value (Blows/ 300mm)	Granular	Cohesive
	0–1	Very loose	Very soft
	2–4	Loose	Soft
	5–10	Medium Dense	Firm
	11–30	Dense	Stiff
	31–50	Very Dense	Very Stiff
	>50		Hard

NOTE: Visual classifications of earth materials are based on field inspection and or a confirmed or revised with laboratory test results as necessary.

DESIGN OVERSIGHT
SIGN OFF DATE

DESIGN By: L. TRAN
CHECKED By: R. LAIRD
Field Investigation by: R. LAIRD

PREPARED FOR THE ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

I-580 HOV LANE WIDENING

LOG OF TEST BORINGS

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU
EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A–35

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	R16.5/16.9		

REGISTERED ENGINEER–GEOTECHNICAL

PROFESSIONAL ENGINEER — REGISTERED — GARY PARIKH — No. G.E. 666 — Exp.12/31/07 — GEOTECHNICAL — STATE OF CALIFORNIA

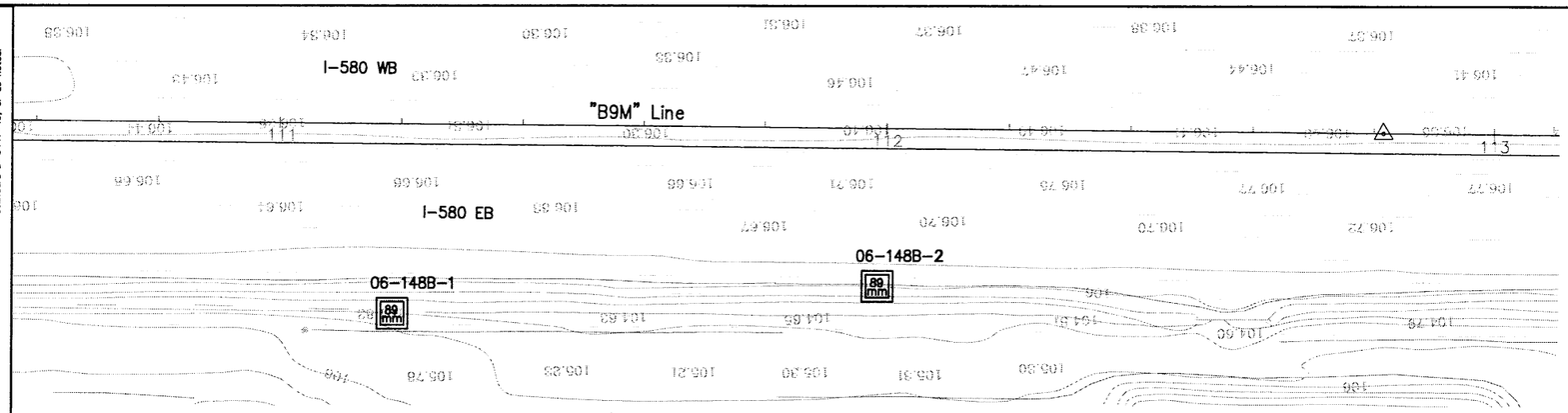
PLANS APPROVAL DATE

ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY
1333 BROADWAY, SUITE 220
OAKLAND, CA 94612

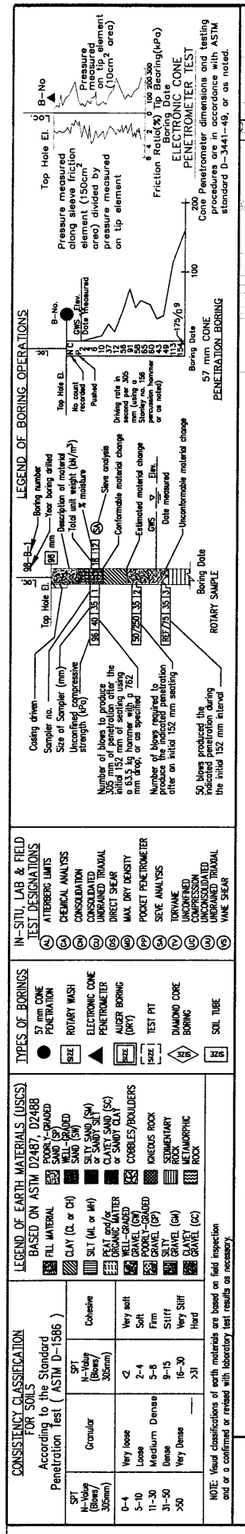
PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD
MILPITAS CA 95035

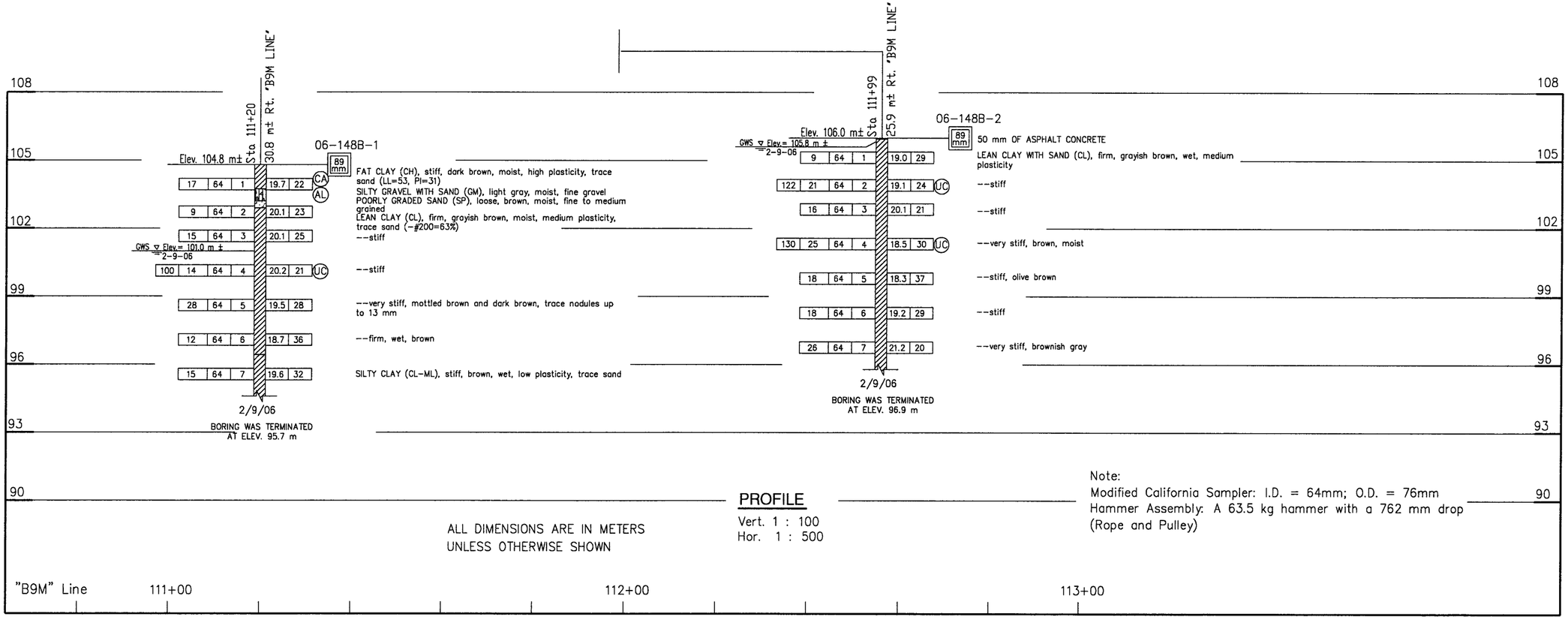
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

DRAFT



PLAN
1 : 500





PROFILE
Vert. 1 : 100
Hor. 1 : 500

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN

Note:
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop (Rope and Pulley)

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGN By: L. TRAN
CHECKED By: R. LAIRD

Field investigation by: R. LAIRD

PREPARED FOR THE
ALAMEDA COUNTY CONGESTION MANAGEMENT AGENCY

F. WANG
PROJECT ENGINEER

STRUCTURE NO. –
KILOMETER POST –

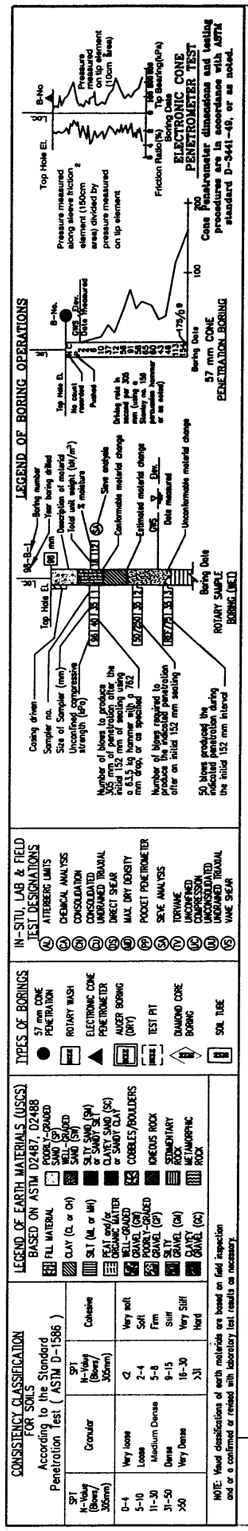
I-580 HOV LANE WIDENING
LOG OF TEST BORINGS

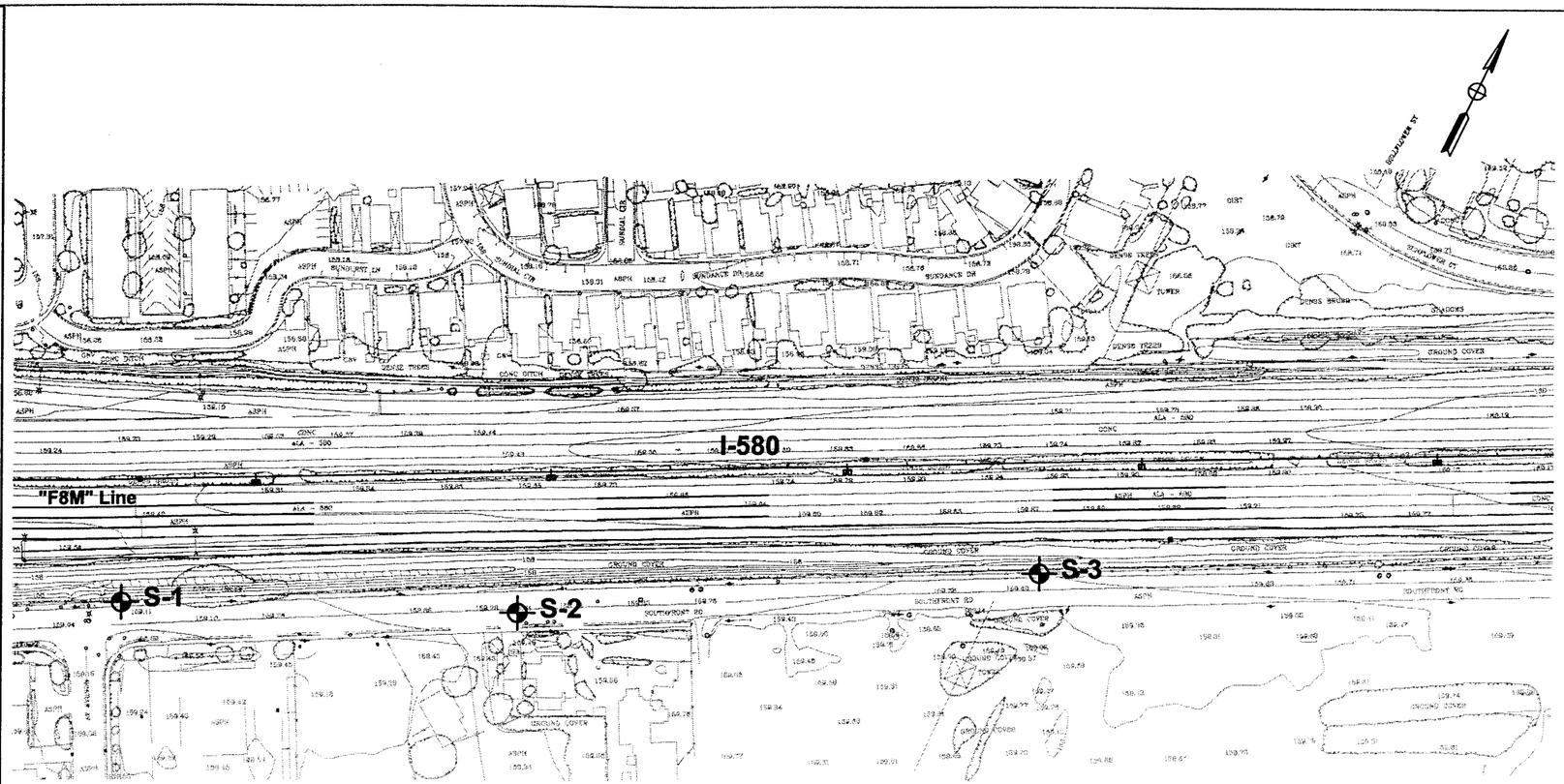
ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100
CU
EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

PLATE A-36





DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	A1a	580	15.2/16.9		

GEOTECHNICAL PROFESSIONAL

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/05 — GEOTECHNICAL — STATE OF CALIFORNIA

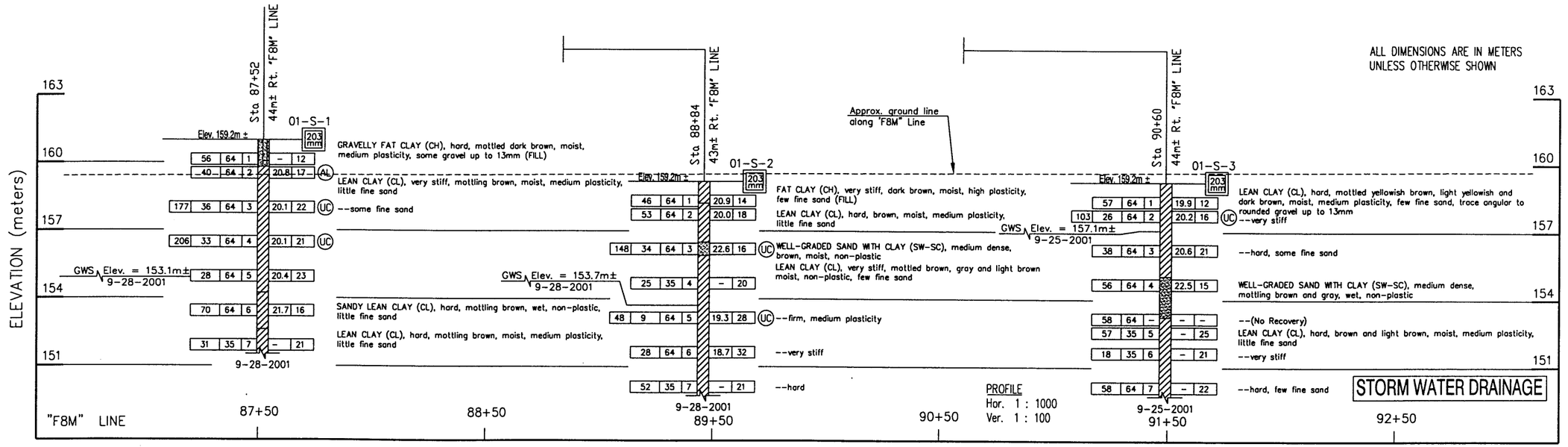
PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD.
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Note:
Standard Penetration Test sampler: I.D. = 35mm; O.D. = 50mm
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop

DRAFT

PLAN:
1 : 2000



DESIGN OVERSIGHT	FIELD INVESTIGATOR	D. ALEXANDER	DATE	SEP 2001	
SIGN OFF DATE	DRAWN BY	R. AU	DATE	FEB 2002	
	CHECKED BY	A. LAM	DATE	FEB 2002	

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

A. LAM
PROJECT ENGINEER

BRIDGE NO –
KILOMETER POST –

I-580 / VASCO ROAD INTERCHANGE MODIFICATION
LOG OF TEST BORINGS 4 OF 11

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

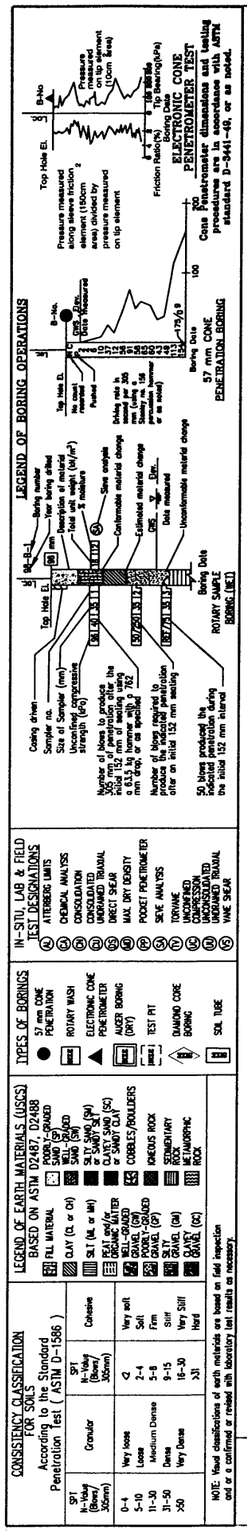
CU
EA 238100

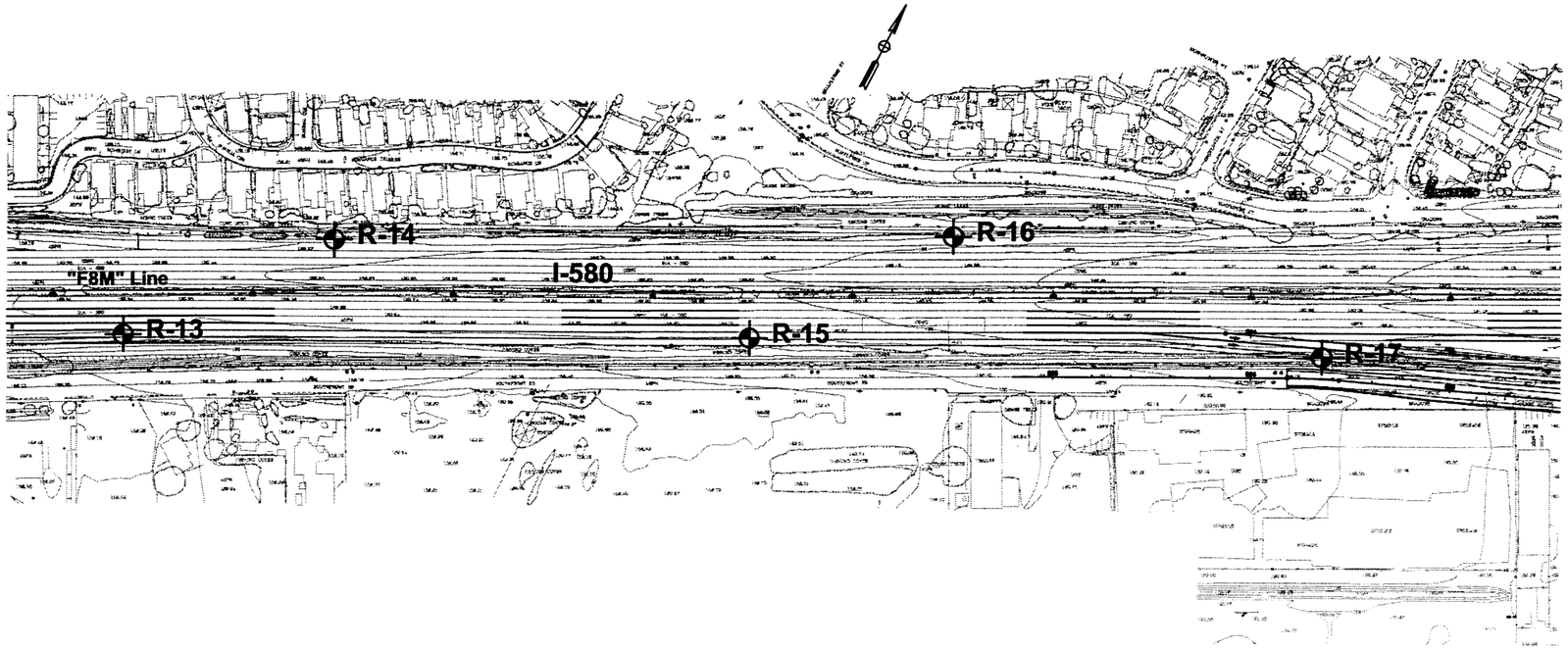
DISREGARD PRINTS BEARING EARLIER REVISION DATES ►

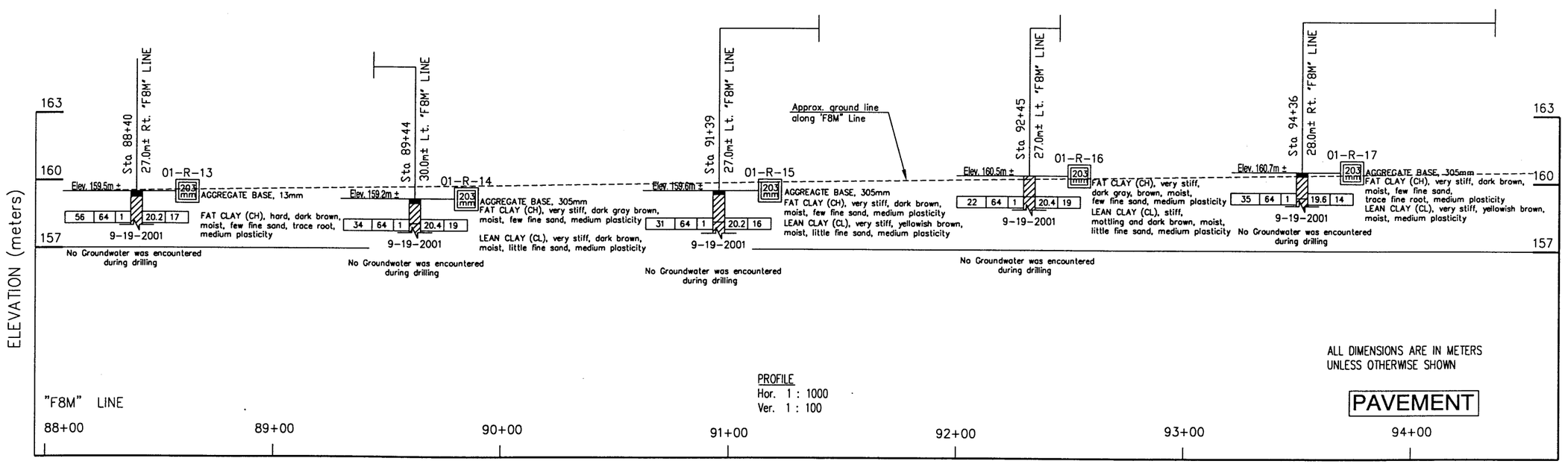
REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

C:\ACAD\99133\LOT8\ALL_PLATES

PLATE A-4.37







DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	15.2/16.9		

GEOTECHNICAL PROFESSIONAL

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/05 — GEOTECHNICAL — STATE OF CALIFORNIA

PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD.
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Note:
Standard Penetration Test sampler: I.D. = 35mm; O.D. = 50mm
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop

DRAFT

PLAN:
1 : 3000

FIELD INVESTIGATOR	D. ALEXANDER	DATE	SEP 2001
DRAWN BY	R. AU	DATE	FEB 2002
CHECKED BY	A. LAM	DATE	FEB 2002

DESIGN OVERSIGHT

SIGN OFF DATE

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

A. LAM
PROJECT ENGINEER

CU
EA 238100

BRIDGE NO —

KILOMETER POST —

I-580 / VASCO ROAD INTERCHANGE MODIFICATION

LOG OF TEST BORINGS 6 OF 11

DISREGARD PRINTS BEARING EARLIER REVISION DATES ►

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

C:\ACAD\99133\LOTB\ALL_PLATES

PLATE A-5.38

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	A1a	580	15.2/16.9		

GEOTECHNICAL PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/05 — GEOTECHNICAL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

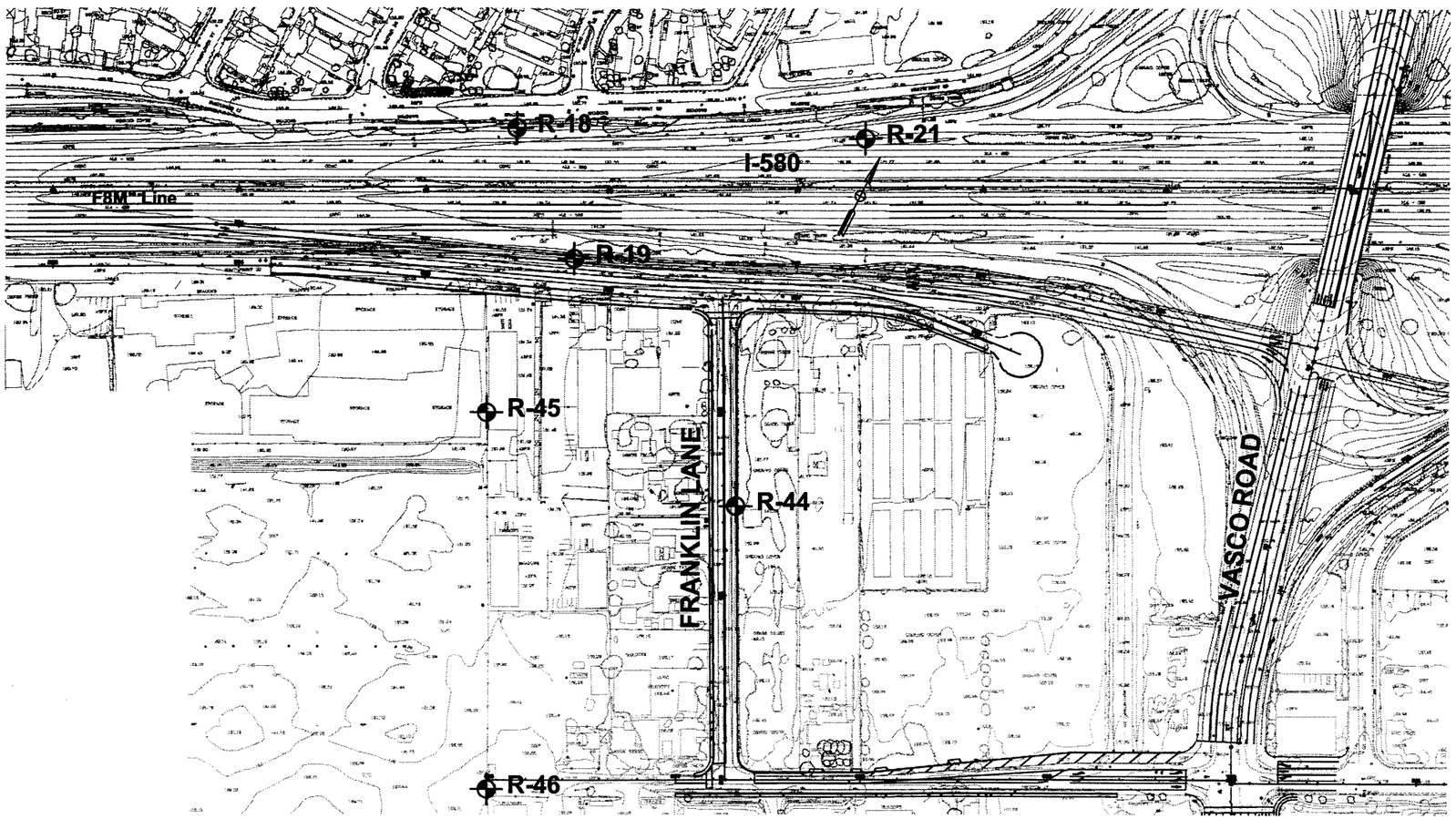
PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD.
MILPITAS CA 95035

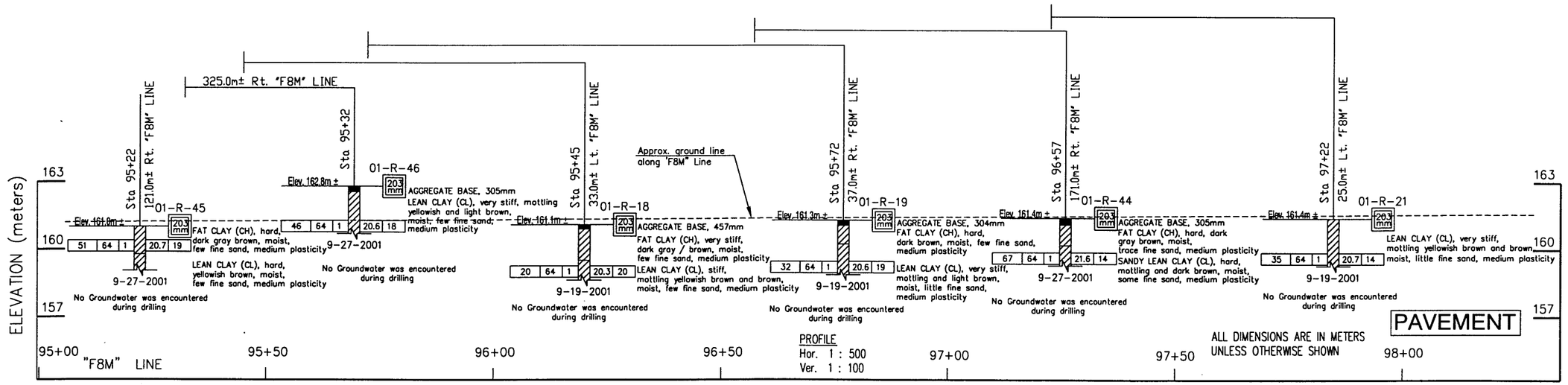
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Note:
Standard Penetration Test sampler: I.D. = 35mm; O.D. = 50mm
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop

DRAFT

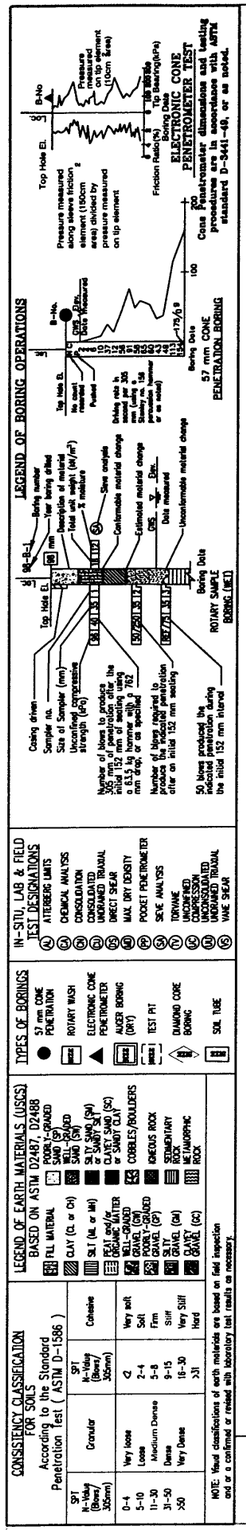
PLAN:
1 : 3000





PROFILE
Hor. 1 : 500
Ver. 1 : 100

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN



FIELD INVESTIGATOR	D. ALEXANDER	DATE	SEP 2001	PREPARED FOR THE	
DRAWN BY	R. AU	DATE	FEB 2002	STATE OF CALIFORNIA	
CHECKED BY	A. LAM	DATE	FEB 2002	DEPARTMENT OF TRANSPORTATION	
DESIGN OVERSIGHT				A. LAM	
SIGN OFF DATE				PROJECT ENGINEER	

BRIDGE NO –
KILOMETER POST –

I-580 / VASCO ROAD INTERCHANGE MODIFICATION

LOG OF TEST BORINGS 7 OF 11

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU EA 238100

DISREGARD PRINTS BEARING EARLIER REVISION DATES ►

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

C:\ACAD\99133\LOTB\ALL_PLATES

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	15.2/16.9		

GEOTECHNICAL PROFESSIONAL

PLANS APPROVAL DATE

RECORDED PROFESSIONAL ENGINEER — GARY PARIKH — No. GE. 666 — Exp. 12/31/05 — GEOTECHNICAL — STATE OF CALIFORNIA

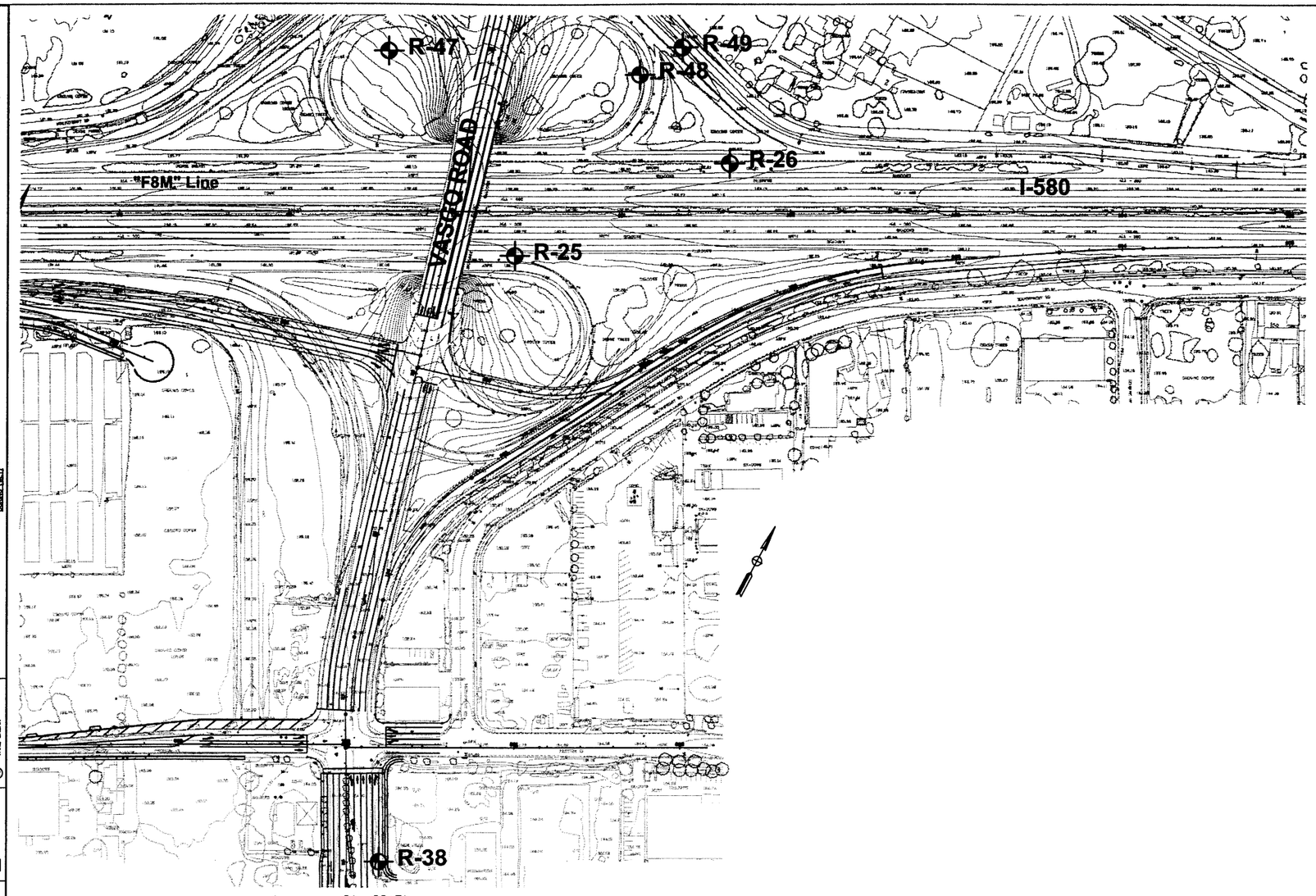
PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD.
MILPITAS CA 95035

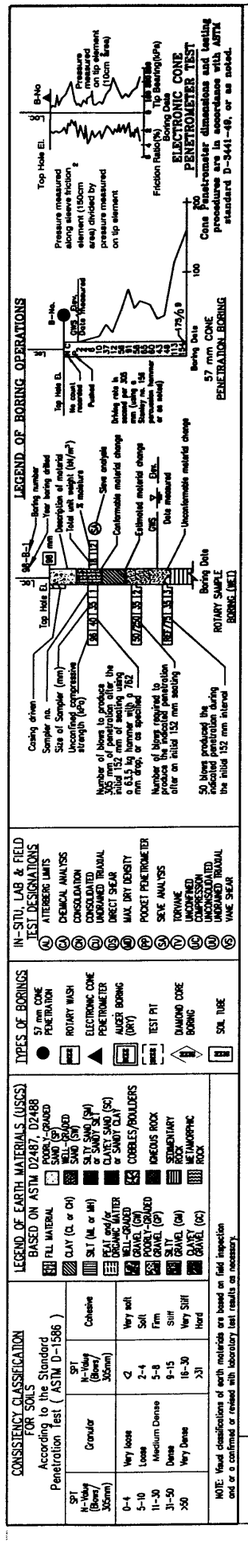
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

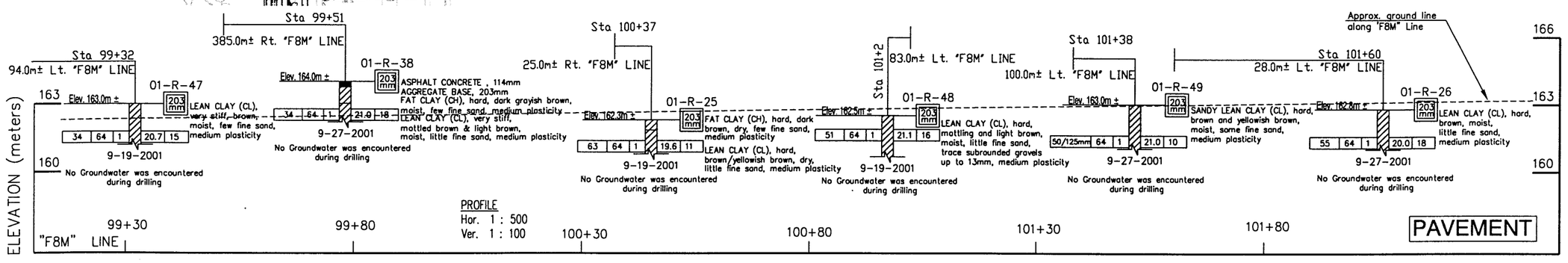
Note:
Standard Penetration Test sampler: I.D. = 35mm; O.D. = 50mm
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop

DRAFT

PLAN:
1 : 3000







DESIGN OVERSIGHT	FIELD INVESTIGATOR	D. ALEXANDER	DATE	SEP 2001	
	DRAWN BY	R. AU	DATE	FEB 2002	
SIGN OFF DATE	CHECKED BY	A. LAM	DATE	FEB 2002	

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

A. LAM
PROJECT ENGINEER

BRIDGE NO —
KILOMETER POST —

I-580 / VASCO ROAD INTERCHANGE MODIFICATION
LOG OF TEST BORINGS 9 OF 11

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU
EA 238100

DISREGARD PRINTS BEARING EARLIER REVISION DATES ►

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

C:\ACAD\99133\LOTB\ALL_PLATES

PLATE A-9.40

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	A1a	580	15.2/16.9		

GEOTECHNICAL PROFESSIONAL

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. GE 666 — Exp. 12/31/05 — GEOTECHNICAL — STATE OF CALIFORNIA

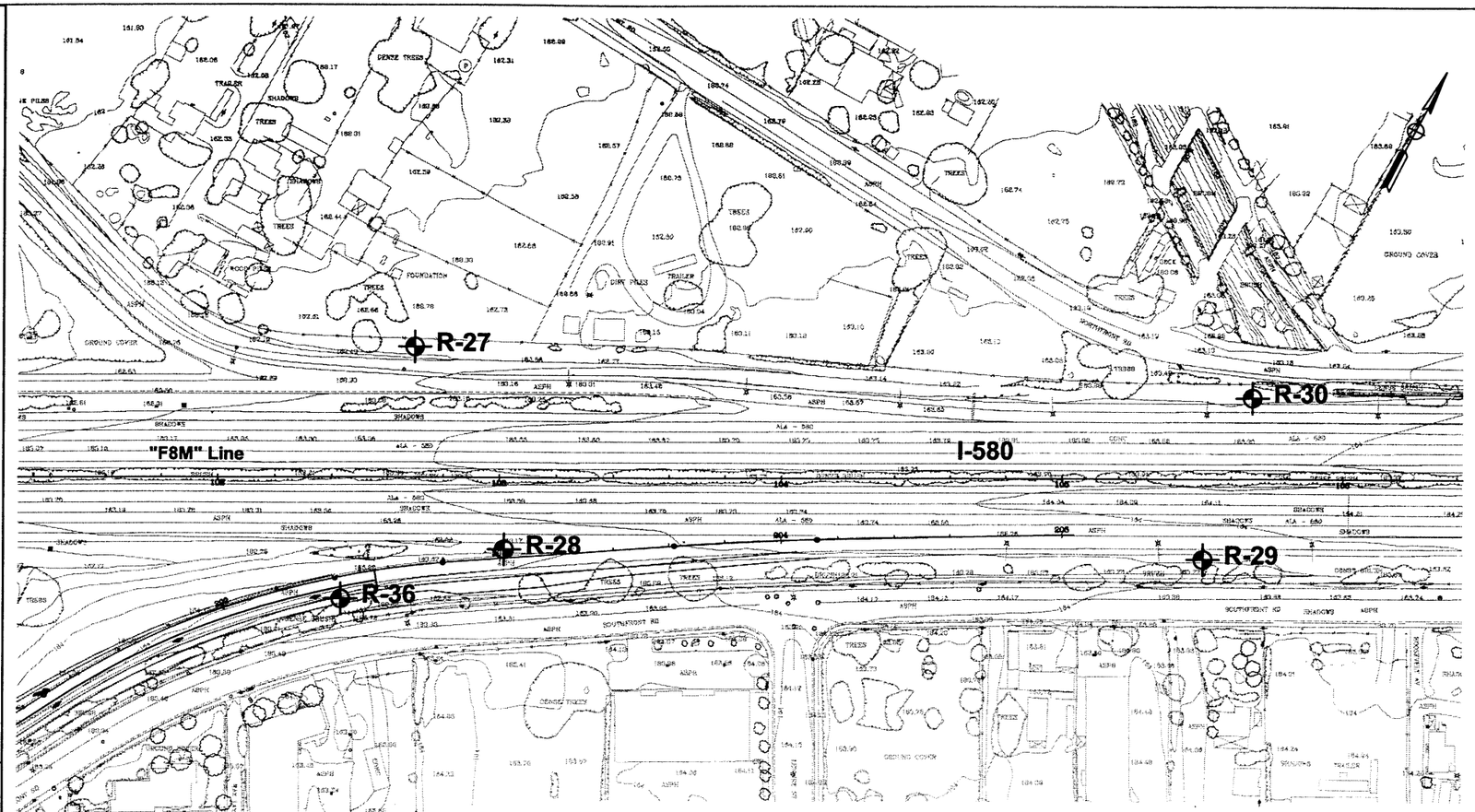
PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD.
MILPITAS CA 95035

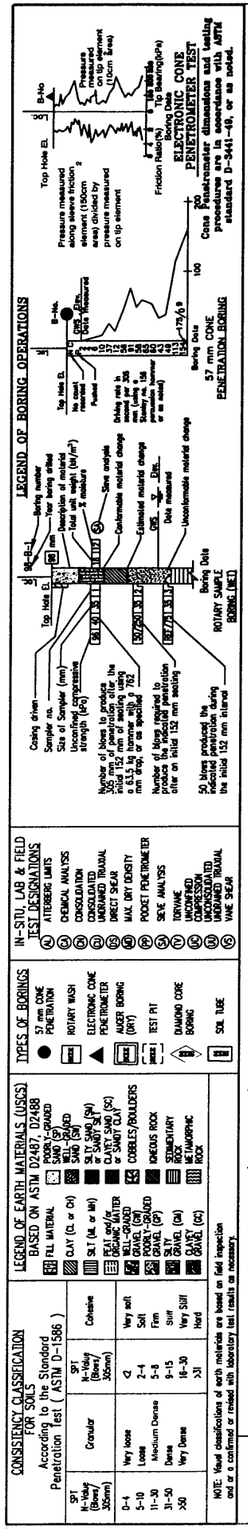
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

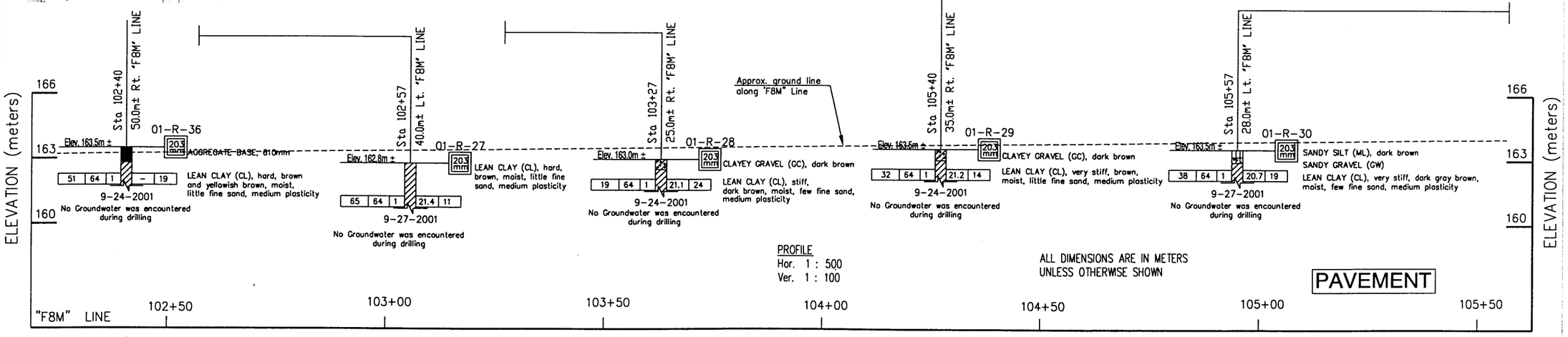
Note:
Standard Penetration Test sampler: I.D. = 35mm; O.D. = 50mm
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop

DRAFT

PLAN:
1 : 2000







DESIGN OVERSIGHT	FIELD INVESTIGATOR	D. ALEXANDER	DATE	SEP 2001	
SIGN OFF DATE	DRAWN BY	R. AU	DATE	FEB 2002	
	CHECKED BY	A. LAM	DATE	FEB 2002	

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

A. LAM
PROJECT ENGINEER

BRIDGE NO –
KILOMETER POST –

I-580 / VASCO ROAD INTERCHANGE MODIFICATION
LOG OF TEST BORINGS 10 OF 11

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

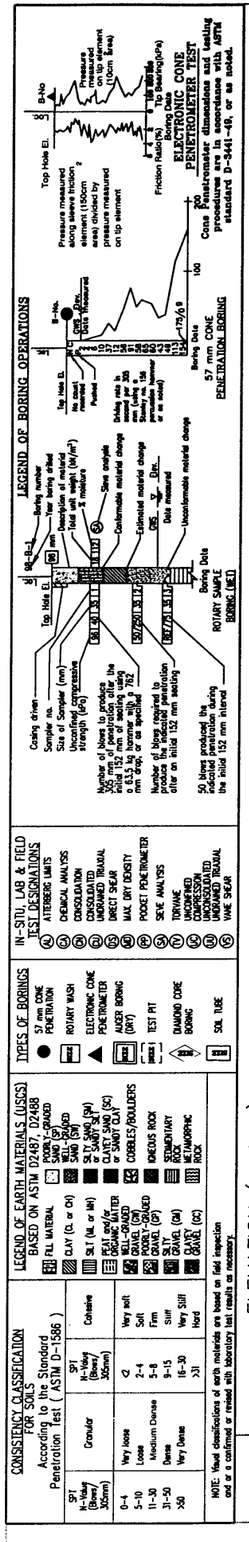
CU
EA 238100

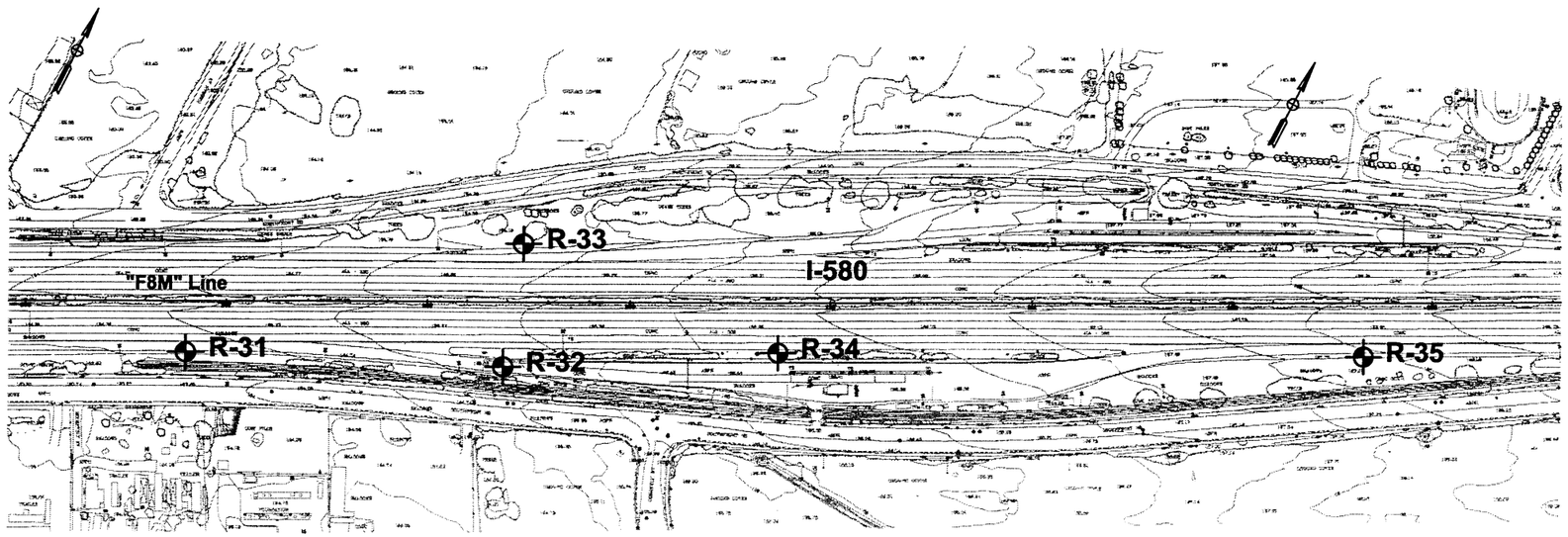
DISREGARD PRINTS BEARING EARLIER REVISION DATES ►

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

C:\ACAD\99133\LOT8\ALL_PLATES

PLATE A-10 41





DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	15.2/16.9		

GEOTECHNICAL PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. GE 666 — Exp. 12/31/05 — GEOTECHNICAL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

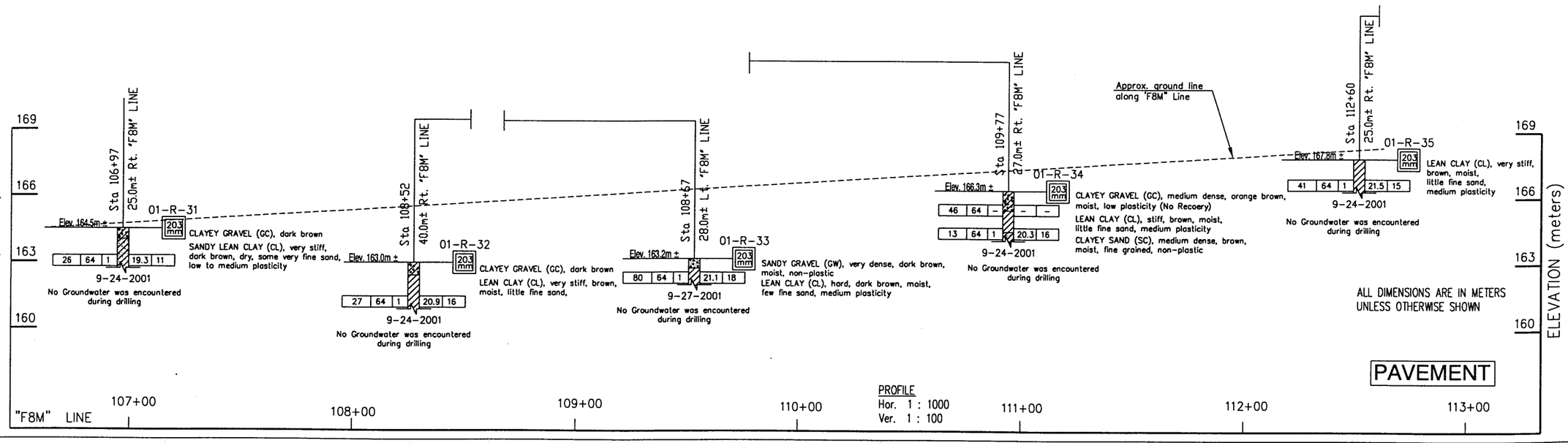
PARIKH CONSULTANTS, INC.
356 SOUTH MILPITAS BLVD.
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Note:
Standard Penetration Test sampler: I.D. = 35mm; O.D. = 50mm
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop

DRAFT

PLAN:
1 : 3000



PROFILE
Hor. 1 : 1000
Ver. 1 : 100

DESIGN OVERSIGHT	FIELD INVESTIGATOR	D. ALEXANDER	DATE	SEP 2001	
SIGN OFF DATE	DRAWN BY	R. AU	DATE	FEB 2002	
	CHECKED BY	A. LAM	DATE	FEB 2002	

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

A. LAM
PROJECT ENGINEER

BRIDGE NO —
KILOMETER POST —

I-580 / VASCO ROAD INTERCHANGE MODIFICATION
LOG OF TEST BORINGS 11 OF 11

ORIGINAL SCALE IN MILLIMETERS
FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU
EA 238100

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET OF

PLATE A-11
42

Standard Penetration Test sampler: I.D. = 35mm; O.D. = 50mm
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop
(Rope & Pulley)

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	KP 26.5/27.2		

REGISTERED ENGINEER–GEOTECHNICAL

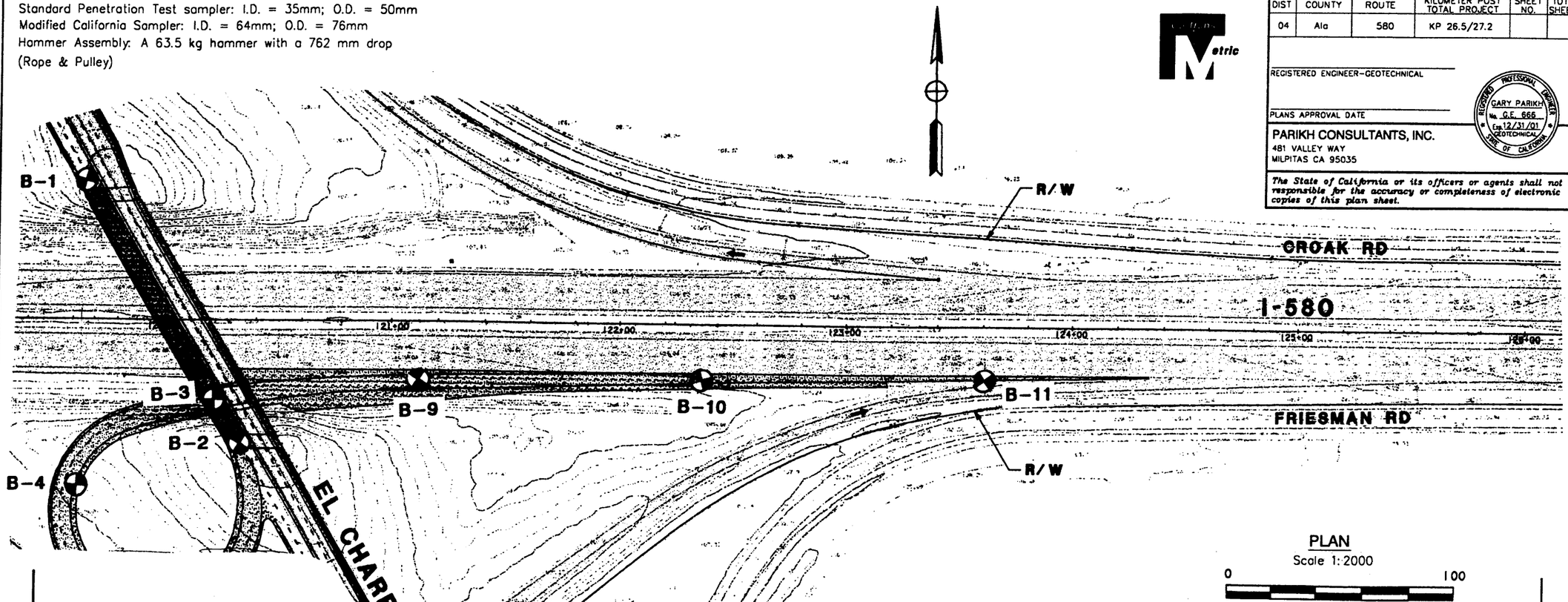
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 666 — Exp. 12/31/01 GEOTECHNICAL — STATE OF CALIFORNIA

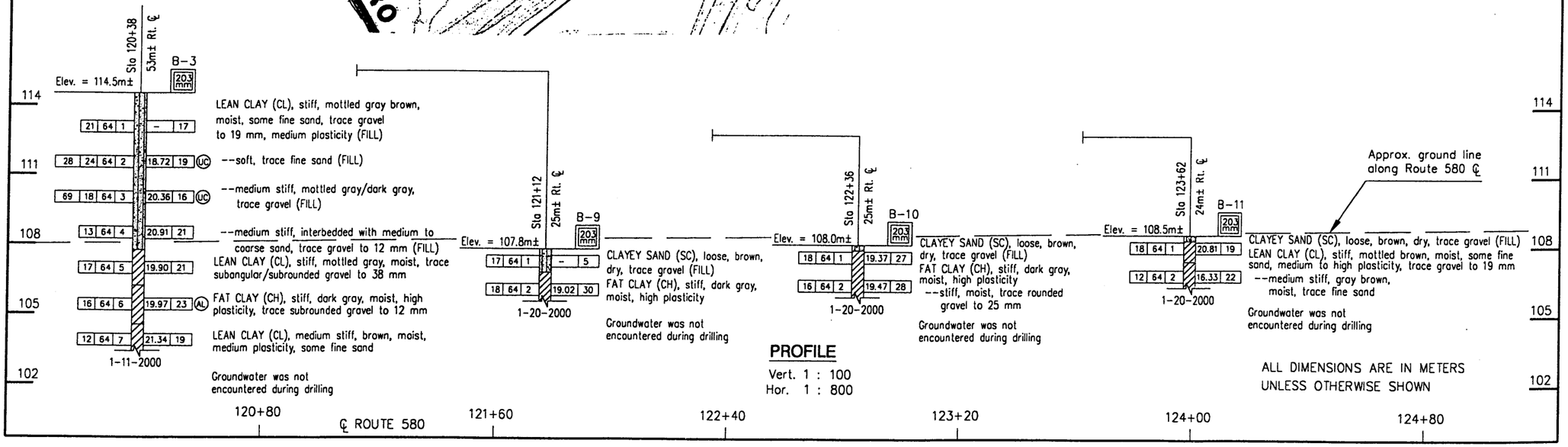
PARIKH CONSULTANTS, INC.
481 VALLEY WAY
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Metric

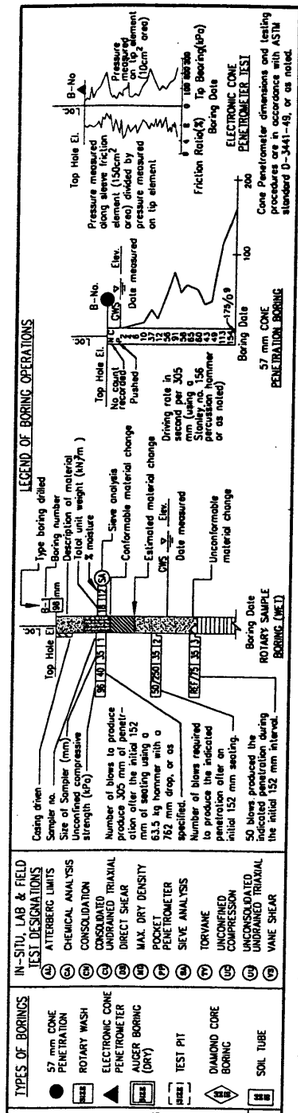


PLAN
Scale 1:2000
0 100



PROFILE
Vert. 1 : 100
Hor. 1 : 800

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN



DESIGN OVERSIGHT –	DESIGN	By: A. KOZOMPOLIS	Field investigation by: DENNIS ALEXANDER	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
SIGN OFF DATE	CHECKED	By: Y. DAVID WANG		Y. DAVID WANG, PROJECT ENGINEER

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 4257
EA 25760K

BRIDGE NO –
KILOMETER POST 26.5/27.2

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) 4-24-2000

SHEET OF

ROUTE 580/FALLON RD. INTERCHANGE
LOG OF TEST BORINGS

c:\acad\99158\A-3.dwg

Standard Penetration Test sampler: I.D. = 35mm; O.D. = 50mm
Modified California Sampler: I.D. = 64mm; O.D. = 76mm
Hammer Assembly: A 63.5 kg hammer with a 762 mm drop
(Rope & Pulley)

* Boring log(s) is (are) shown on the other sheets.

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Ala	580	KP 27.0/29.3		

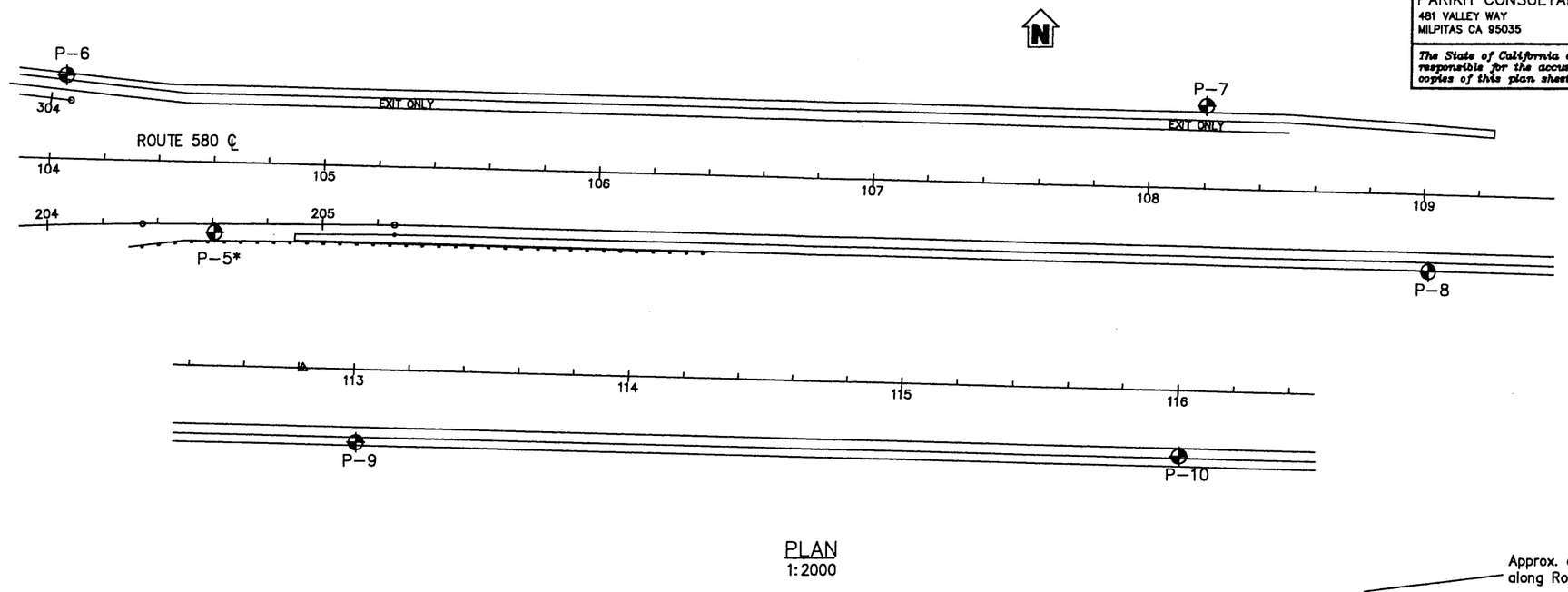
REGISTERED ENGINEER–GEOTECHNICAL

PLANS APPROVAL DATE

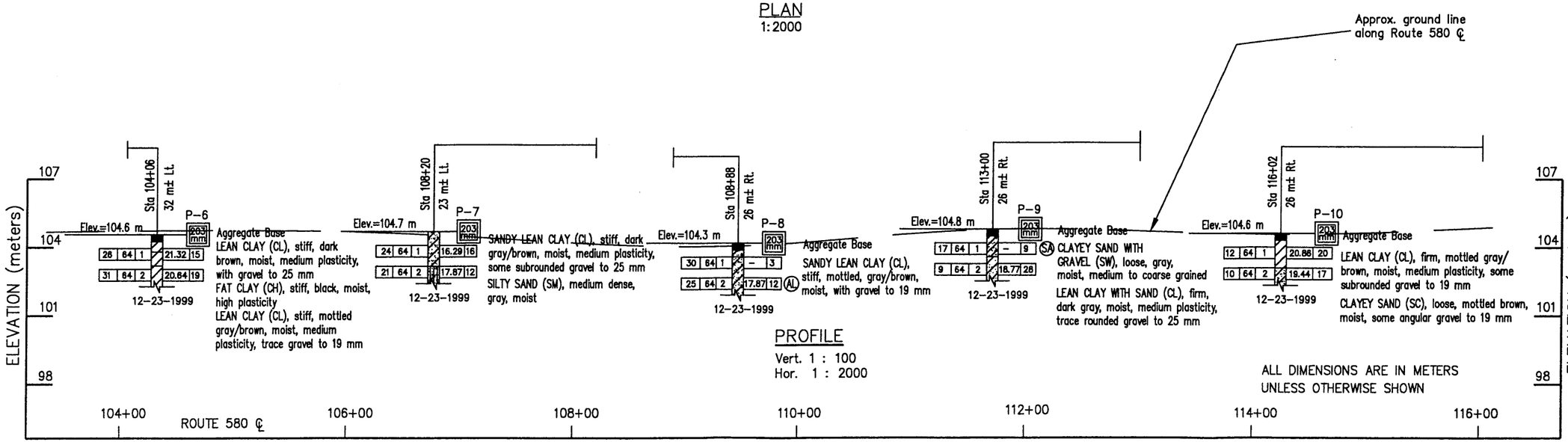
REGISTERED PROFESSIONAL ENGINEER — GARY PARIKH — No. G.E. 686 — Exp. 12/31/01 — GEOTECHNICAL — STATE OF CALIFORNIA

PARIKH CONSULTANTS, INC.
481 VALLEY WAY
MILPITAS CA 95035

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

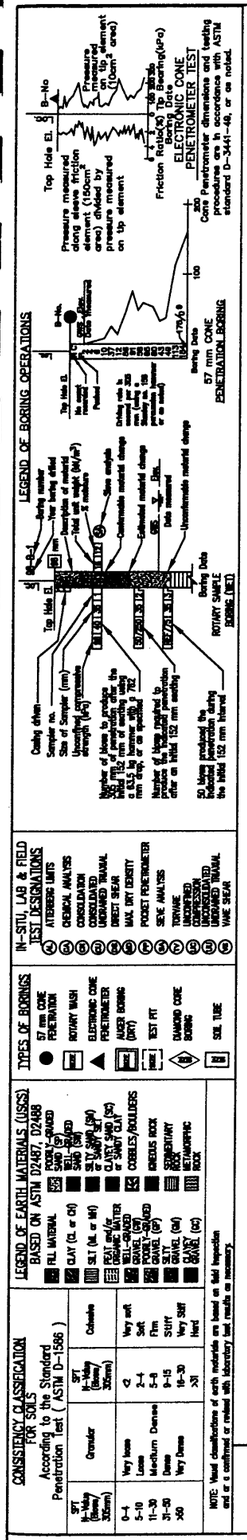


PLAN
1:2000



PROFILE
Vert. 1 : 100
Hor. 1 : 2000

ALL DIMENSIONS ARE IN METERS
UNLESS OTHERWISE SHOWN



DESIGN OVERSIGHT —

SIGN OFF DATE

DESIGN By: LIEM NGUYEN

CHECKED By: Y. DAVID WANG

Field Investigation by: TOM RUBY

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

Y. DAVID WANG
PROJECT ENGINEER

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 04257
EA 25770K

BRIDGE NO —

KILOMETER POST 27.0/29.3

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) 4-7-2000 | SHEET | OF

ROUTE 580/TASSAJARA RD. INTERCHANGE

LOG OF TEST BORINGS 2 OF 3