

Bush & Associates Inc.

Land Surveyors

Certificate of Accuracy

Statement of Survey & Measurement

PROJECT

Orange Coast College Running Track

Bush and Associates, Inc. certifies that the running track at Orange Coast College is in compliance with the rules and regulations as set forth by the NCAA and Washington Track and Field Association for a standard 400 meter running track.

David A. Bush

Date 5-30-01

David A. Bush
President



CONTRACTOR NAME : ATLAS TRACK & TENNIS
FACILITY NAME : ORANGE COAST COLLEGE
LOCATION : COSTA MESA, CALIFORNIA
CALCULATED BY : KENNETH W. SCHMIDT JR.
DATE CALCULATED : 16-May 2001

TRACK DIMENSIONS - INPUT

		FEET	METERS	
A. DISTANCE BETWEEN HUBS	CALC	323.180	98.505	INPUT
B. MEASURING LINE RADIUS	CALC	105.993	32.307	CALC
C. LENGTH OF TRACK	CALC	1,312.33	400.000	INPUT
D. LANE WIDTH	CALC	3.50	1.067	INPUT
E. CONVERSION FACTOR FT/MT	INPUT	3.280833	1.000	CALC
F. ANGLES CW=180/200, CCW=0	INPUT	0.00	NA	NA
G. DEGREE/GRAD 180/200	INPUT	180.00	NA	NA
H. LANE 1 8/12 INCH, 20/30 CM	CALC	0.98	0.300	INPUT
I. LANE 2-10 8 INCH, 20 CM	CALC	0.66	0.200	INPUT
J. STEEPLE 8/12 INCH, 20/30 CM	CALC	0.66	0.200	INPUT
K. STRGT/CURVE CUT LINE 1,-1	INPUT	-1	NA	NA
L. STRGT/CURVE RADIUS	CALC	323.18	98.505	INPUT
M1. FINISH PC #1 > 400M & ALL	CALC	0.00	0.000	INPUT
M2. FINISH PC #1 FOR STRAIGHT	CALC	0.00	0.000	INPUT
M3. FINISH PC #3 FOR STRAIGHT	CALC	0.00	0.000	INPUT
M4. FINISH PC #1 200M TO 350M	CALC	0.00	0.000	INPUT
N. 800 METER RUN 1 TO 4 TURN	INPUT	1	NA	NA
O. 800 METER RELAY 1 TO 4 TURN	INPUT	4	NA	NA
P. 1600 METER RELAY 1 TO 4 TURN	INPUT	3	NA	NA
Q. WATERFALL FALL START RADIUS	CALC	117.50	35.815	INPUT
R. R.PT. OFFSET (-IN, +OUT)	CALC	(28.39)	-8.654	INPUT
S. INSIDE RADIUS(CURB OR LINE)	CALC	105.99	32.307	INPUT
T. WATER JUMP ANGLE AT R.PT.34	INPUT	146.1045	46.356	CALC ANGLE AT R.PT.34A
U. LONG TRACK OPTION 1,2,3	INPUT	1	NA	CALC
V. CALC. LENGTH OF TRACK	CALC	1,312.33	400.000	CALC
W. 1 TURN CORRECT. FACTOR	CALC	10.9956	3.351	CALC

CUTLINE
ADJUST
Y=1,N=O
1
1
1
566.532 PC #1 TO WATER JUMP
1304.478 STEEPLECHASE TRACK LENGTH
397.606 METERS
0

TRACK DIMENSIONS - CALC.

		FEET	METERS
LANE LINE RADIUS (OUTSIDE EDGE)	LANE 1 :	105.01	32.007
	LANE 2 :	108.51	33.074
	LANE 3 :	112.01	34.140
	LANE 4 :	115.51	35.207
	LANE 5 :	119.01	36.274
	LANE 6 :	122.51	37.341
	LANE 7 :	126.01	38.408
	LANE 8 :	129.51	39.474
	LANE 9 :	133.01	40.541
	LANE 10 :	136.51	41.608
	LANE 11 :	140.01	42.675

DEG. MINSEC AROUND CURVE AT X FEET

TRACK DIMENSIONS - CALC.

		FEET	METERS	100.00 FEET	10.00 FEET	1.00 FEET	0.10 FEET	0.01 FEET
MEASURE LINE RADIUS	LANE 1 :	105.99	32.307	54.03	5.24	0.32	0.03	0.00
	LANE 2 :	109.16	33.274	52.29	5.15	0.31	0.03	0.00
	LANE 3 :	112.66	34.340	50.51	5.05	0.30	0.03	0.00
	LANE 4 :	116.16	35.407	49.19	4.56	0.29	0.03	0.00
	LANE 5 :	119.66	36.474	47.52	4.47	0.28	0.03	0.00
	LANE 6 :	123.16	37.541	46.31	4.39	0.28	0.02	0.00
	LANE 7 :	126.66	38.508	45.14	4.31	0.27	0.02	0.00
	LANE 8 :	130.16	39.674	44.01	4.24	0.26	0.02	0.00
	LANE 9 :	133.66	40.741	42.52	4.17	0.25	0.02	0.00
	LANE 10 :	137.16	41.808	41.46	4.10	0.25	0.02	0.00

EVENT	COLOR	LANE 1	LANE 2	LANE 3	LANE 4	LANE 5	LANE 6	LANE 7	LANE 8	LANE 9	LANE 10
PAGE #3 DISTANCE FROM PC #2 TOWARDS PC #3											
200M DASH											
1 TURN STAG STAR	WHITE	323.18	NA	NA	NA	NA	NA	NA	NA	NA	NA
200M HURDLES											
1 TURN STAG STAR	YELLOW	323.18	NA	NA	NA	NA	NA	NA	NA	NA	NA
1ST HURDLE	YELLOW	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2ND HURDLE	YELLOW	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
250M MARK											
1 TURN STAG STAR	YELLOW	159.14	169.10	180.10	191.09	202.09	213.09	224.08	235.08	246.07	257.07
300M HURDLES											
1 TURN STAG STAR	WHITE	(4.90)	5.06	16.06	27.05	38.05	49.04	60.04	71.03	82.03	93.03
1ST HURDLE	RED	142.73	152.70	163.69	174.69	185.69	196.68	207.68	218.67	229.67	240.66
2ND HURDLE	RED	257.56	267.53	278.52	289.52	300.51	311.51	322.51	NA	NA	NA
3RD HURDLE	RED	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4TH HURDLE	RED	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
400M HURDLES											
2ND HURDLE	YELLOW	NA	NA	NA	NA	NA	NA	NA	5.42	16.41	27.41
3RD HURDLE	YELLOW	44.31	54.27	65.27	76.27	87.26	98.26	109.25	120.25	131.24	142.24
4TH HURDLE	YELLOW	159.14	169.10	180.10	191.09	202.09	213.09	224.08	235.08	246.07	257.07
5TH HURDLE	YELLOW	273.97	283.93	294.93	305.92	316.92	NA	NA	NA	NA	NA
6TH HURDLE	YELLOW	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
400M RELAY											
EXCHANGE #1											
BEGIN ACCEL ZONE	YELLOW	NA	NA	NA	NA	NA	NA	NA	5.42	16.41	27.41
BEGIN EXC ZONE	YELLOW	NA	NA	NA	NA	5.24	16.24	27.23	38.23	49.22	60.22
MID PT OF ZONE	YELLOW	NA	5.06	16.06	27.05	38.05	49.04	60.04	71.03	82.03	93.03
END EXC ZONE	YELLOW	27.90	37.87	48.87	59.86	70.86	81.85	92.85	103.84	114.84	125.83
EXCHANGE #2											
BEGIN ACCEL ZONE	YELLOW	257.56	267.53	278.52	289.52	300.51	311.51	322.51	NA	NA	NA
BEGIN EXC ZONE	YELLOW	290.37	300.34	311.33	322.33	NA	NA	NA	NA	NA	NA
MID PT OF ZONE	YELLOW	323.18	NA	NA	NA	NA	NA	NA	NA	NA	NA
END EXC ZONE	YELLOW	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
800M RELAY											
EXCHANGE #1											
BEGIN ACCEL ZONE	GREEN	257.56	287.46	320.44	NA	NA	NA	NA	NA	NA	NA
BEGIN EXC ZONE	GREEN	290.37	320.27	NA	NA	NA	NA	NA	NA	NA	NA
MID PT OF ZONE	GREEN	323.18	NA	NA	NA	NA	NA	NA	NA	NA	NA
END EXC ZONE	GREEN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EXCHANGE #3											
BEGIN ACCEL ZONE	GREEN	257.56	267.53	278.52	289.52	300.51	311.51	322.51	NA	NA	NA
BEGIN EXC ZONE	GREEN	290.37	300.34	311.33	322.33	NA	NA	NA	NA	NA	NA
MID PT OF ZONE	GREEN	323.18	NA	NA	NA	NA	NA	NA	NA	NA	NA
END EXC ZONE	GREEN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WATER FALL STARTS											
1,500M	WHITE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,000M	WHITE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5,000M	WHITE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CURVED CUT LINE MEASUREMENTS ALONG LINE SIDE OF LANE LINE - IF VALUE IS ZERO STRAIGHT CUTLINE IS USED											
DISTANCE @ LINE		0.00	0.01	0.06	0.15	0.28	0.44	0.64	0.88	1.16	1.48
DISTANCE @ 1/3 PT		0.00	0.02	0.09	0.19	0.33	0.50	0.72	0.97	1.26	1.59
DISTANCE @ 2/3 PT		0.01	0.04	0.12	0.23	0.38	0.57	0.80	1.06	1.37	1.71

ORANGE COAST COLLEGE

16-May 2001

EVENT	COLOR	LANE 1	LANE 2	LANE 3	LANE 4	LANE 5	LANE 6	LANE 7	LANE 8	LANE 9	LANE 10
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PAGE #9 DISTANCE FROM PC #1 TOWARDS PC #4 -- CONTINUED

800M RUN											
1 TURN STAG STAR	YELLOW	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
800M RELAY											
4 TURN STAG STAR	YELLOW	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
EXCHANGE #2											
BEGIN ACCEL ZONE	GREEN	65.62	45.69	23.70	1.70	NA	NA	NA	NA	NA	NA
BEGIN EXC ZONE	GREEN	32.81	12.88	NA	NA	NA	NA	NA	NA	NA	NA
MID PT OF ZONE	GREEN	(0.00)	NA	NA	NA	NA	NA	NA	NA	NA	NA
END EXC ZONE	GREEN	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FINISH	WHITE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1600M RELAY											
1 TURN STAG STAR	YELLOW	(0.00)	NA	NA	NA	NA	NA	NA	NA	NA	NA
3 TURN STAG STAR	YELLOW	(0.00)	NA	NA	NA	NA	NA	NA	NA	NA	NA
EXCHANGE #1											
BEGIN EXC ZONE	BLUE	32.81	22.83	11.78	0.69	NA	NA	NA	NA	NA	NA
MID PT OF ZONE	BLUE	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
END EXC ZONE	BLUE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EXCHANGE #2											
BEGIN EXC ZONE	BLUE	32.81	32.81	32.81	32.81	32.81	32.81	32.81	32.81	32.81	32.81
MID PT OF ZONE	BLUE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
END EXC ZONE	BLUE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EXCHANGE #3											
BEGIN EXC ZONE	BLUE	32.81	32.81	32.81	32.81	32.81	32.81	32.81	32.81	32.81	32.81
MID PT OF ZONE	BLUE	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
END EXC ZONE	BLUE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FINISH	WHITE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WATER FALL STARTS											
1,600M	WHITE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,200M	WHITE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10,000M	WHITE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ORANGE COAST COLLEGE	LANE 1	LANE 2	LANE 3	LANE 4	LANE 5	LANE 6	LANE 7	LANE 8	LANE 9	LANE 10
DIST IN LANE - 1 LAP IN FEET	1,312.33	1,332.26	1,354.25	1,376.25	1,398.24	1,420.23	1,442.22	1,464.21	1,486.20	1,508.19
DIST IN LANE - 1 LAP IN METERS	400.000	406.075	412.778	419.480	426.183	432.886	439.589	446.292	452.995	459.698
DIST IN LANE - 1 LAP IN YARDS	437.44	444.09	451.42	458.75	466.08	473.41	480.74	488.07	495.40	502.73

STEEPLECHASE MARKING	DIST FRO 4 TO 1	DIST FROM 1 TO 4	ANGLE 1/2 DEG.MINSE	DIST FROM 2 TO 3	DIST FROM 3 TO 2	ANGLE 3/4A DEG.MINSE	MARK DIST
START 1500M	NA	NA	164.3635	NA	NA	NA	1007.82
START 2000M	283.90	39.28	NA	NA	NA	NA	39.28
START 3000M	NA	NA	NA	268.19	54.99	NA	711.16
HURDLE 1	278.44	44.74	NA	NA	NA	NA	44.74
HURDLE 2	NA	NA	116.5043	NA	NA	NA	1088.32
HURDLE 3	NA	NA	NA	144.06	179.12	NA	827.43
WATER JUMP	NA	NA	NA	NA	NA	46.3555	566.53
HURDLE 4	17.54	305.64	NA	NA	NA	NA	305.64
FINISH	323.18	0.00	NA	NA	NA	NA	305.64

CHECK FINISH DIST. OK
TO 4TH HURDLE

DISTANCE FROM 4TH HURDLE TO FINISH IS 225.00 FEET ALLOWED
305.64 FEET