

# Standard Operating Procedure 11

## Establishing and Marking Sample Point Location

### Overview

This SOP describes the tasks required to navigate to a Sample Point and establish and mark a Sample Point Location. The SOP includes details about how to navigate to the general location of the Sample Point (the Sample Point Vicinity), establish an Access Point, navigate to and establish a Reference Point, Sample Point Location and Sample Point Witness Trees.

### Glossary of definitions

**Access Point:** Clearly identifiable (and relocatable) permanent location (typically road or track intersection), from which to begin navigating to the Sample Point on-foot.

**Access Town:** Closest town or city (by road distance/time) from which a Contractor Field Crew travels to a Sample Point.

**Bearing:** A horizontal direction expressed in degrees east or west of a true or magnetic north or south direction.

**Bearing Line:** An imaginary line extending from a point of reference along a given compass bearing.

**Blaze:** Permanent tree scar (mark) made using an axe, to strip away enough wood/bark without killing the tree.

**Breast height:** 1.3m above ground level for measuring tree diameter.

**Clinometer:** Instrument for determining angles of inclination or slope and measuring tree heights.

**Diameter at Breast Height (DBH):** The stem diameter of a tree measured at breast height. For the purpose of ground plot measurement, diameter at breast height implies diameter measured outside or over bark (dob). On sloping ground breast height is measured on the uphill side of the tree.

**Differential GPS:** Differential Global Positioning System (DGPS) is an enhancement to Global Positioning System that uses a network of fixed, ground-based reference stations to broadcast the difference between the positions indicated by the satellite systems and the known fixed positions.

**Field Form:** A data collection form for recording measurements and other information. This form may be in one of three formats: Hardcopy paper form; MS Excel form, or MS Access Database.

**Hip chain:** A device used to measure distance by means of an anchored filament wrapped around a wheel that revolves as a Contractor Field Crew member walks.

**Metal tags:** Pre-field prepared and field-scribed metal tags, that are attached to the Access Point, Reference Point Stake, Sample Point Location Stake and two Witness Trees and are labelled with the unique Sample Point Identification Code.

**Reference Point:** Point located approximately 20 m from the Sample Point, from which a magnetic compass bearing and measuring tape is used to mark the Sample Point Location.

**Sample Point:** Nominal grid point defined in a GIS, on a 2 km point grid overlay of Victoria.

**Sample Point Access Overview Map:** Map (~ 1:25 000) used to aid navigation to the general Sample Point Vicinity from an Access Town.

**Sample Point Aerial Photo Map:** High resolution colour aerial photo map centred on the Sample Point and showing the forest and other land cover around Sample Point Vicinity.

**Sample Point Local Map:** Map at 1:10 000 scale showing the Sample Point and topography and infrastructure information.

**Sample Point Identification Code:** Unique Sample Point identification code, comprising P (for Plot), E (for Easting), the first four numbers of the vicgrid94 eastings (X) coordinates, N (for Northing) and the first four numbers of the vicgrid94 northings (Y) coordinates. E.g. PE2220N2100.

**Sample Point Location:** Point established in the field using differential GPS, on or very close to the Sample Point.

**Sample Point Location Establishment Form:** Form used to record information and data associated with navigating to and establishing the Sample Point Location.

**Sample Point Location Stake:** Stake on or offset from the Sample Point Location – which marks the site of the Sample Point Location.

**Sample Point Vicinity:** The general area close to the Sample Point from which to establish an Access Point and start navigating to the Sample Point Location on foot.

**Slope Expansion Factor:** A multiplication factor used to convert a GPS-derived horizontal distance between two points to an expanded distance that can be measured from the reference point along sloping ground to the target point.

**Tree:** Woody plant, usually with a single stem and definite crown that is capable of reaching a mature height of 2m somewhere within its natural range.

**Witness Tree:** One of two trees selected for the purpose of relocating a Sample Point Location Stake. Witness Trees are clearly visible from the Sample Point Location but are situated outside of the Large Tree Plot; ideally they are healthy trees with a DBH > 30 cm and possess distinguishing features (e.g. forked).

**Equipment list**

Axe  
 Blank Metal tags (4)  
 Calculator  
 Clinometer  
 Diameter tape  
 Differential GPS  
 Field First Aid Kit  
 Fluorescent spray paint  
 Hipchain  
 Magnetic compass  
 Measuring tape (50 m)  
 Metal Tag engraver  
 Personal Protection Equipment (PPE)  
 Pre-stamped Reference Point Metal Tag  
 Pre-stamped Sample Point Location Metal Tag  
 Pre-stamped Witness Tree Metal Tag (2)  
 Sample Point Access Overview map  
 Sample Point Location - Establishment Form (hardcopy)  
 Sledge hammer  
 Hammer  
 Nails (4)  
 Star Picket Stakes (2)  
 Star Picket Caps (2)  
 Wire (for attaching Metal Tags)

**Procedure**

*Navigate to Sample Point Vicinity:* In the nearest town to the Sample Point, known as the Access Town (as shown on the Sample Point Access Overview Map), identify and document a suitable starting point for documenting navigation (i.e. route) to the Sample Point Vicinity. The starting point should be clearly identifiable and be easily located in the future – such as outside a prominent public building or landmark, or a road intersection (e.g. “intersection of Station Street and High Street”). Reset vehicle odometer and drive from this point to the Sample Point Vicinity, using the Sample Point Access Overview Map (and other local maps if necessary). Using vehicle odometer, GPS and road/track names - document (along the way) information which clearly describes the route (approximate distances in kilometres, directions, road and track names etc.). As close as practical to the Sample Point Location (along road or track), stop the vehicle and identify a suitable Access Point location.

*Establish an Access Point:* An Access Point is a point from which the Sample Point is navigated to (on foot) and must be able to be located after several years (e.g. a site that is very unlikely to be removed or displaced).

Road-track, track-track or track-river/creek or stream intersections are examples of suitable Access Points. Record the location of the Access Point using DGPS, mark its location on the 1:10 000 scale Sample Point Local Map and make a written description of the Access Point and the point at which the GPS measurement has been taken.

*Navigate from the Access Point to the Reference Point:*

Use the GPS navigation function to navigate towards the Sample Point stored in the GPS. Note that in some instances it may be more practical to continue walking along a road or track before walking *into* a forested area towards the Sample Point – rather than taking the most direct route (i.e. “as the crow flies”) as shown by the GPS navigation directions. Navigate to where the GPS indicates *approximately* 20 m away from the Sample Point coordinates (i.e. stop immediately at the point at which the GPS device first reads a distance less than 21 m from the navigation target). At this location – the Reference Point – drive a star picket stake firmly into the ground so that it is clearly visible, cap the stake, secure the cap with wire and mark it with fluorescent spray paint. Place the GPS receiver next to the Reference Point stake and allow it to get a firm location fix (refer to SOP9: GPS Use Navigation Data Collection and Downloading). After this time, record the GPS coordinates, the magnetic bearing (in degrees – to the nearest degree) and the slope-adjusted distance (in metres, to the nearest centimetre) to the Sample Point, as shown on the GPS. Before measuring out the distance, scribe the slope-adjusted distance and bearing onto the Reference Point metal tag (pre-scribed with “RP” and the Sample Point Identification Code) and securely attach the metal tag to the Reference Point stake using wire.

*Navigate from the Reference Point to the Sample Point and establish Sample Point Location:*

Using a magnetic compass and measuring tape accurately mark out the distance recorded in the previous step, along the bearing (also recorded in the previous step). This measurement should be made adjusting for the slope of the ground. To determine slope, a clinometer sighting is taken along a line parallel to the average incline or decline between the Reference Point and the bearing direction to the Sample Point. Two Contractor Field Crew Members are needed to take this measurement. One member stands at the Reference Point and takes a clinometer reading which is sighted to their eye height on a second crew member who is standing at a visible distance along the bearing line between the Reference Point and Sample Point. The slope should be read directly from the percent scale of the clinometer. The percent slope value is converted to a slope expansion factor by using the table in Appendix 11.3. The expansion factor is then multiplied by the GPS-read distance to

the Sample Point to give a slope adjusted distance to navigate toward along the bearing given previously. Refer to Appendix 11.3 for a more detailed explanation of slope expansion.

At this point – the Sample Point Location – drive a star picket stake firmly into the ground so that it is clearly visible. Cap the stake and secure cap with wire, mark it with fluorescent spray paint and measure its location coordinates using the GPS (refer to *SOP 9: GPS Use Navigation Data Collection and Downloading*). Attach to the Sample Point Location a Sample Point Location metal tag which is scribed with the Sample Point Identification Code and GPS coordinates. Should the distance along the bearing from the Reference Point end up 'inside' a tree, above a stump or other object or ground cover into which a stake cannot be driven at that point (e.g. concrete, bitumen, deep water etc.) off-set the stake and record its distance and bearing from the actual Sample Point Location. *The Sample Point Location Stake marks the precise point of the Sample Point Location, unless it needs to be off-set.* The off-set bearing should be a randomly generated bearing in degrees (0-359°) measured using a magnetic compass. Refer to the Data and information recording section of this SOP for how to generate the random bearing in degrees. The off-set distance of the Stake should be the closest possible point along this bearing that the Stake can be driven into the ground. Scribe onto the Sample Point Location Stake metal tag, the code "OS" for offset and the bearing and distance *from* the offset Stake *to* the Sample Point Location.

*Establish Witness Trees.* Identify two trees (ideally healthy trees with a DBH greater than 30cm). If possible, trees should be selected that have particular distinguishing features (e.g. forked tree). Most importantly, Witness Trees should be clearly visible from the Sample Point, but not closer than 15 metres from the Sample Point Location to avoid Witness Trees being inside the Large Tree Plot (refer to *SOP 13: Measuring Large Tree Plot*). The second Witness Tree should *ideally* be located as close to 90° clockwise from the first established Witness Tree as possible. *From* each Witness Tree, measure and record the distance (in metres) and bearing (in degrees) *to* the Sample Point Location Stake. Record the tree species and measure DBH (refer to *SOP 13: Measuring Large Tree Plot*). Scribe onto the Witness Tree metal tags the distance and bearing *from* each Witness Tree *to* the Sample Point Location Stake and nail the tag to the base of the Witness Tree. Tags should be nailed to Witness Trees at a point below which they are *likely* to be cut – should they be harvested. (i.e. the base of the tree) and directly facing the Sample Point Location Stake.

Finally, mark each Witness Tree by blazing it (to remove bark) and spray painting the blaze with fluorescent paint. The blaze should be a 15 cm-sided equilateral triangle approximately 1.3m up the tree stem. The blazing should be clearly visible from the Sample Point Location Stake.

Figure 11.1 Appendix 11.1 illustrates the main features of the Sample Point Location establishment.

*Collect navigation information from Reference Point back to the Access Point.* Using a hip chain and magnetic compass, measure and record the distance and bearings to describe the most practical and efficient route *from* the Reference Point *back to* the Access Point. This route may not be the most direct but should avoid obstacles (such as swamps, or creeks) and difficult terrain and will allow Contractor Field Crew Members revisiting the Sample Point in the future to access the site most efficiently. E.g. "45° northeast 250 m, 95° east 50 m etc." Bearings will be converted to back bearings, to allow Contractor Field Crew Members to follow navigation directions from the Access Point to the Reference Point.

### Data and information recording

The steps in this section of the SOP, describe how and where to record data and information using a hardcopy (paper) format of the *Sample Point Location Establishment Form*. Digital (i.e. MS Excel and MS Access) formats of the form will allow Contractor Field Crews to record information more efficiently, using drop down lists and combination boxes under fields. These instructions apply to both hardcopy and electronic versions of the Form.

*Complete the Identification section at the top of the Sample Point Location Establishment Form:* Fill in the Sample Point Identification Code, Bioregion, the SOP version number, Date, Contractor Company Name and the Names of each Contractor Field Crew member present, in the <sample\_point\_ID>, <bioregion>, <SOP version>, <date> and <contractor\_company> fields. Against each <field\_crew\_member\_number> fill in the Contractor Field Crew Member surname <field\_crew\_member\_surname> and first name <field\_crew\_member\_firstname>.

The Contractor Field Crew Leader should be the first name recorded in the Identification section of the form. The crew member who enters information on the form (i.e. the scribe) checks the box <Scribe> next to their name.

*Record Access Town to Sample Point Vicinity navigation information:* In the Vehicle Navigation section of the *Sample Point Location Establishment Form*, record the name of the Access Town, starting point type and description of starting point (e.g. road intersection, building, office etc.) in the <Access

town>, <Start location>, <Start Type> and <Start Description> fields. In the Vehicle Navigation section of the form, describe the route from the start location to the Sample Point Vicinity. In the route description, include approximate distances, road and track names, turns, directions and other information that clearly describes the route. Separate the route description into sections and record this information against each section number in the <section\_1>, <section\_2>, <section\_3> etc. fields.

**Record Access Point information:** In the Access Point section of the *Sample Point Location Establishment Form*, record the type and a brief description of the Access Point in the <Access Point Type> and <Access Point Description> fields. E.g. Type: road/track intersection and Description: "road centre-line at intersection of road 113 and Wombat Track, 3km east of Kangaroo Town". Record the unprocessed GPS coordinates of the Access Point in the <Access Point X Unprocessed> and <Access Point Y Unprocessed> fields. Record a description of the location from which the Access Point GPS coordinates are recorded in the <Access Point GPS Location> field. Record the MGA zone (54 or 55) in the <MGA Zone> field. Clearly mark the location of the Access Point on the Sample Point Local Map and Sample Point Aerial Photo Map and clearly label as "Access Point".

**Record Reference Point location information:** In the Reference Point section of the *Sample Point Location Establishment Form*, record the unprocessed GPS coordinates of the Reference Point stake in the <RP X Unprocessed> and <RP Y Unprocessed> fields. Record the bearing (in degrees to the nearest degree) and distance (in metres, to the nearest centimetre) as shown by the GPS – from the Reference Stake to the Sample Point in the <RP to SP Bearing> and <RP to SP Distance> fields.

**Record Sample Point Location information:** In the Sample Point section of the *Sample Point Location Establishment Form*, record the unprocessed GPS coordinates of the Sample Point Location in the <SPL X Unprocessed> and <SPL Y Unprocessed> fields. The Sample Point Location will be the same as the Sample Point Location Stake, unless the Stake location is offset due to a tree or other ground obstruction or ground cover that prevents a stake being driven into the ground. If necessary, check the box under the <Offset SPL Stake> (offset Sample Point Location Stake) and record the unprocessed GPS coordinates of the location of the offset stake in the <SPL Stake OS X Unprocessed> and <SPL Stake OS Y Unprocessed> fields. Finally, record the distance (to the nearest centimetre) and bearing (in degrees)

from the offset Sample Point Location Stake to the Sample Point Location in the <SPL Stake OS Distance> and <SPL Stake OS Bearing> fields. The random bearing should be selected using the <Random Bearing> tool in the digital version of the *Sample Point Location Establishment Form*, or by randomly selecting a number from the Random Bearing Table (Appendix 11.2). Should the randomly generated bearing locate the Sample Point on another unsuitable land cover, generate an alternative bearing.


**Record Witness Tree Information:** In the Witness Tree section of the *Sample Point Location Establishment Form*, against witness\_tree\_1 record the bearing (in degrees, to the nearest degree) and slope-adjusted distance (in metres, to the nearest centimetre) from the first Witness Tree to the Sample Point Location Stake in the <WT Bearing> and <WT Distance> fields. Record the Witness Tree DBH (in cm) in the <WT DBH> field and record the species in the <WT Species> field. Record the most distinguishing feature of the tree in the <WT Distinguishing Features> field. Record the same information for the second Witness Tree, against witness\_tree\_2. If there are no suitable witness trees present, check the box in the <No witness trees present> field so that an audit of the data will not confuse an absence of data for a failure to record witness tree information.

**Record navigation information from Reference Point to Access Point:** In the Reference Point - Access Point Navigation section of the *Sample Point Location Establishment Form*, Record distances (in metres) and bearings (in degrees) to describe the route between the Reference Point and the Access Point. E.g. from the Reference Point, walk 200m on a bearing of 45° (northeast), after 200m, head due north (0°) for 150m, should be recorded on the Reference Point - Access Point Navigation section of the form as: 1 in the <Section> field, against which, record 200 in the <Distance> field and 45 in the <Bearing> field. Record 2 in the <Section> field, against which, record 150 in the <Distance> field and 0 in the <Bearing> field, repeat this for as many sections as necessary until the route ends at the Access Point, starting a new section, at each change of direction (bearing) or obvious breaks in the route. Against each section, record any information that would aid navigation and Sample Point location in the future. Record this information in the <Section Features> field.

**Complete the Field Form Check section at the bottom of the form:** the Contractor Field Crew Leader initials the <Team Leader Initials> field, enters the date <Date checked> and writes down any comments about data verification in the <comments> field.

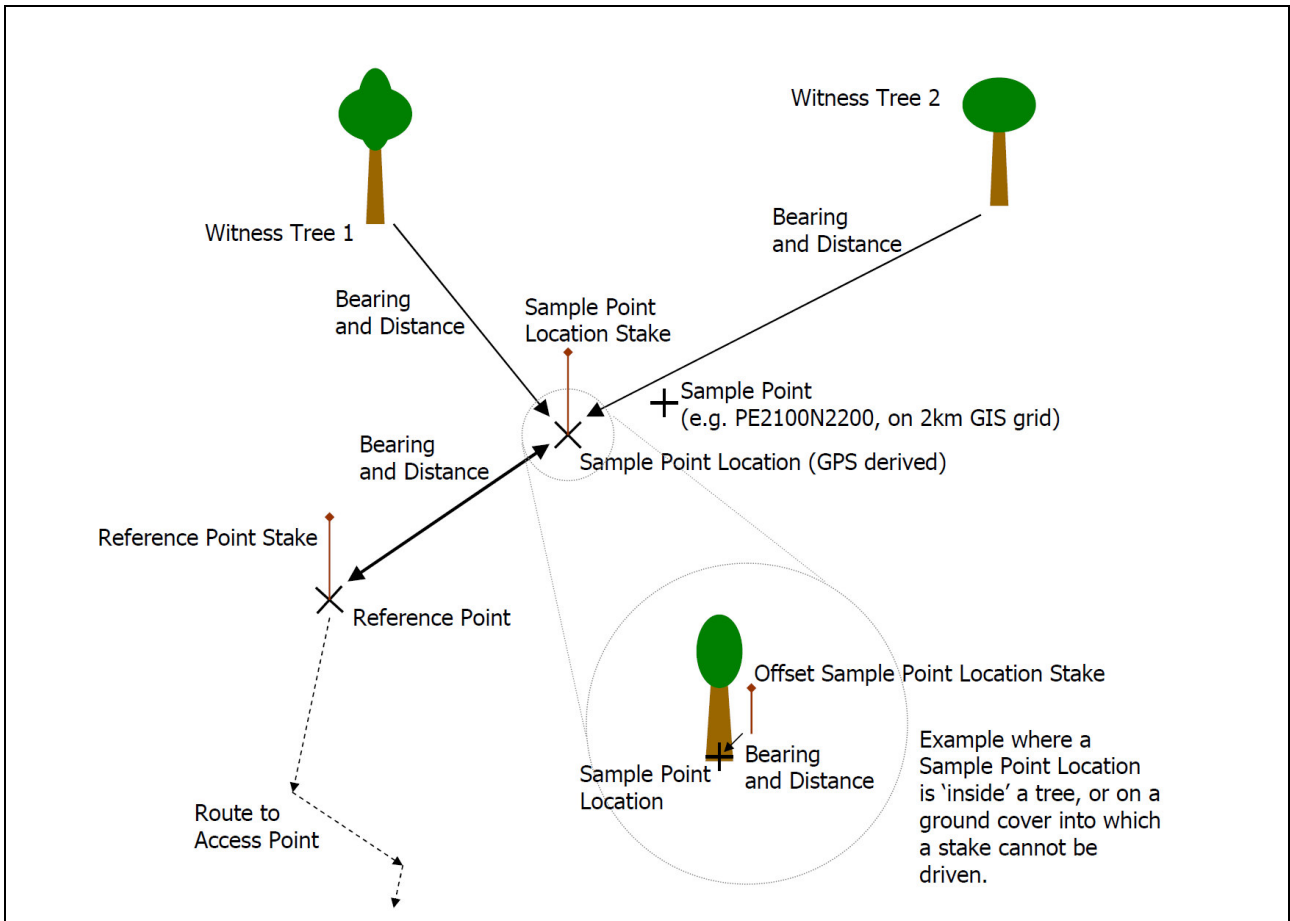
Complete the *Data Entry Check* section at the bottom of the form: the Field Crew member who enters the data into the Working Database writes their surname in the <Contractor Surname> field and the date data entry was completed for the form in <Date entered>.

Version (current)	Version (previous)	Author	Date	Summary of changes
1.0		am1k	08/02/2010	First version
1.0	1.0	ah24	12/02/2010	Terminology and method amendments
1.0	1.0	am1k	15/02/2010	Updates to Form section for hardcopy form type
1.0	1.0	am1k	26/03/2010	Edits following team discussion (23/03/2010)
1.0	1.0	Nb29	6/4/10	Further edits and glossary review
1.0		NB29	07/05/2010	Review, issues noted
1.0		NB29	25/05/2010	Updates made following review meeting 24/5
1.1	1.0	mw0a	04/07/2011	Amendments made post field season 1

<b>Endorsed</b>		<b>Date</b>	<b>18/02/2011</b>
<b>Name:</b>	Andrew Haywood		
<b>Position:</b>	Manager, Knowledge Unit		
<b>Division/Branch:</b>	Forests and Parks Division / Management and Operations Branch		



## Standard Operating Procedure 11 Establishing and Marking Sample Point Location Appendix 11.1



**Figure 11.1:** Main features of an established Sample Point (Reference Point, Sample Point Location and Witness Trees)  
(Not to scale)

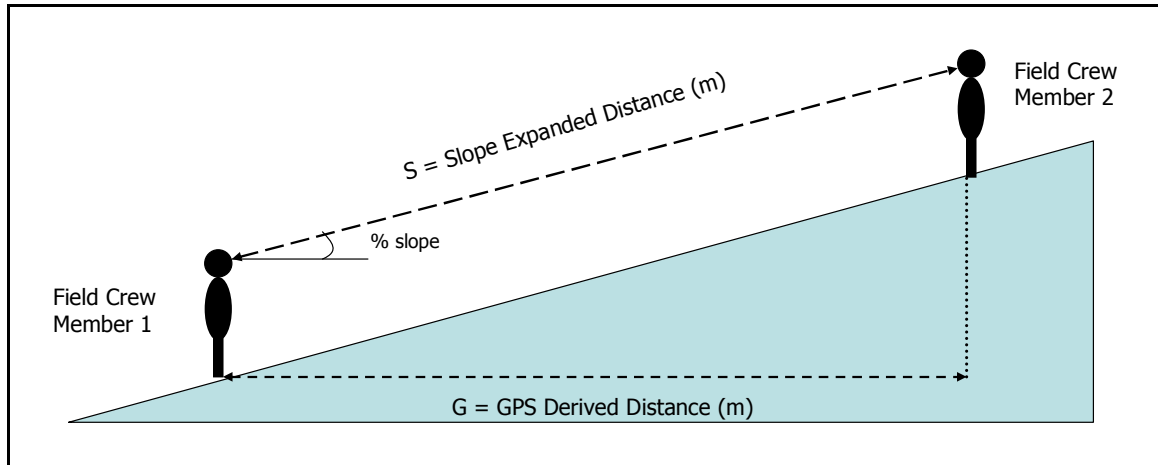
## Standard Operating Procedure 11 Establishing and Marking a Sample Point Appendix 11.2

**Table 11.1:** Random number generation table

121	158	208	346	90	288	43	170	190	105	147	208	249	155	35
294	209	169	7	356	40	331	56	292	200	308	71	209	45	107
271	266	284	314	202	18	280	350	44	195	73	109	175	296	72
344	356	216	166	333	125	226	86	143	221	160	226	17	305	285
329	173	160	42	305	118	337	180	288	218	127	328	285	274	130
231	290	292	134	163	266	86	214	298	273	284	270	308	154	1
71	232	241	157	238	63	225	306	220	65	301	145	139	174	275
44	51	100	348	3	116	124	339	151	32	264	135	12	221	90
285	269	177	37	98	199	191	107	24	70	162	101	178	256	169
359	339	186	196	226	293	170	228	307	42	171	112	125	230	258
297	5	191	344	234	258	256	329	221	120	355	201	70	181	90
160	60	36	61	139	325	258	144	259	130	207	201	159	267	140
159	125	204	113	225	74	348	262	135	136	324	212	252	59	156
135	259	101	210	58	147	144	100	263	40	37	91	149	44	102
239	312	70	132	225	248	156	287	334	201	182	17	356	353	304
96	292	224	133	243	17	360	34	20	352	205	281	66	223	118
176	222	319	81	223	225	111	355	185	297	201	60	57	195	92
34	186	24	108	237	248	6	112	191	32	155	298	281	258	143
241	314	179	351	171	159	300	119	222	323	89	160	9	329	276
21	331	211	24	175	80	85	203	47	222	29	143	347	288	290
210	80	265	225	218	299	158	252	72	302	176	9	93	121	214
81	181	303	215	297	170	267	125	226	21	76	342	296	302	255
163	17	189	263	67	69	46	281	50	69	306	267	196	311	312
212	96	179	173	228	308	32	116	147	77	118	319	58	317	65
16	232	138	123	349	298	149	321	44	168	159	135	26	213	235
349	89	42	358	209	21	121	59	88	341	170	63	334	113	262
10	34	352	115	56	78	242	202	118	356	230	99	239	352	166
70	279	63	297	109	159	51	92	152	176	68	181	215	278	
175	225	244	122	147	98	149	293	36	115	75	154	10	178	
253	290	167	124	72	332	198	221	290	224	170	16	0	11	
238	172	40	273	206	175	9	319	234	275	42	204	150	11	
166	134	129	289	112	333	299	206	321	285	212	138	180	257	
283	223	153	52	46	209	257	143	88	208	117	23	6	211	
298	318	256	16	99	186	47	87	110	107	96	50	155	44	
176	103	271	187	309	144	228	225	142	138	267	232	188	103	
268	134	71	353	17	329	339	84	52	351	247	47	330	86	
266	311	2	16	277	178	294	125	176	270	312	179	137	175	
147	248	128	318	35	19	23	219	275	19	15	211	129	269	

## Standard Operating Procedure 11 Establishing and Marking a Sample Point Appendix 11.3

### Procedure for Calculating Ground Slope Expansions



**Figure 11.2:** Diagrammatic representation of the trigonometric principals behind calculating ground slope expansions.

#### Method for Calculating Ground Slope Expansion Distance:

1. At the Reference Point, Field Crew Member 1 sights through the clinometer to their eye level on Field Crew Member 2 who is standing at a visible distance along the bearing line to the Sample Point.
2. Field Crew Member 1 obtains a slope reading in percent through the clinometer.
3. Percent Slope is converted to an Expansion Factor (EF), by cross-referencing Table 11.2.
4. The Expansion Factor is multiplied by the GPS Derived Distance to give the Slope Expanded Distance.

$$S = EF \times G$$

Example:

$$G = 21.34\text{m}, \quad \% \text{ Slope} = 12, \quad EF = 1.007$$

$$\text{Slope Expanded Distance (m)} = 21.34 \text{ m} \times 1.007 = 21.49 \text{ m}$$



## Standard Operating Procedure 11 Establishing and Marking a Sample Point Appendix 11.3

**Table 11.2:** Conversion of Percentage Slope to Expansion Factor

% Slope	EF	% Slope	EF	% Slope	EF	% Slope	EF
5	1.000	42	1.085	79	1.275	116	1.532
6	1.001	43	1.089	80	1.281	117	1.539
7	1.002	44	1.093	81	1.287	118	1.547
8	1.003	45	1.097	82	1.293	119	1.554
9	1.004	46	1.101	83	1.300	120	1.562
10	1.005	47	1.105	84	1.306	121	1.567
11	1.006	48	1.110	85	1.312	122	1.578
12	1.007	49	1.114	86	1.319	123	1.585
13	1.008	50	1.118	87	1.325	124	1.593
14	1.009	51	1.123	88	1.332	125	1.601
15	1.010	52	1.127	89	1.338	126	1.609
16	1.012	53	1.132	90	1.345	127	1.617
17	1.014	54	1.136	91	1.352	128	1.624
18	1.016	55	1.141	92	1.359	129	1.621
19	1.018	56	1.146	93	1.365	130	1.64
20	1.020	57	1.151	94	1.372	131	1.648
21	1.022	58	1.156	95	1.379	132	1.656
22	1.024	59	1.161	96	1.386	133	1.664
23	1.026	60	1.166	97	1.393	134	1.672
24	1.028	61	1.172	98	1.400	135	1.68
25	1.031	62	1.177	99	1.407	136	1.688
26	1.034	63	1.183	100	1.414	137	1.696
27	1.036	64	1.188	101	1.421	138	1.704
28	1.039	65	1.194	102	1.428	139	1.712
29	1.041	66	1.199	103	1.436	140	1.72
30	1.044	67	1.205	104	1.443	141	1.728
31	1.047	68	1.210	105	1.450	142	1.736
32	1.050	69	1.216	106	1.457	143	1.745
33	1.054	70	1.221	107	1.464	144	1.753
34	1.057	71	1.227	108	1.472	145	1.761
35	1.060	72	1.233	109	1.479	146	1.769
36	1.063	73	1.238	110	1.486	147	1.778
37	1.067	74	1.244	111	1.494	148	1.786
38	1.070	75	1.250	112	1.501	149	1.795
39	1.074	76	1.256	113	1.509	150	1.803
40	1.077	77	1.262	114	1.516		
41	1.081	78	1.269	115	1.524		

## Standard Operating Procedure 11 Establishing and Marking a Sample Point Appendix 11.4

### Example Sample Point Location Establishment Form – page 1

IDENTIFICATION				
Sample Point ID	PE2875N2430		SOP 11: Establishing and Marking Sample Point Location	
Bioregion	SEC	SOP version	1.0	
Date (DD/MM/YYYY)	11 / 06 / 2010	Contractor Company	Company Name Ltd.	
Field Crew Member #	Contractor Field Crew Member Surname	Contractor Field Crew Member First Name		Scribe
1 (Team Leader)	Smith	Jo		<input type="checkbox"/>
2	Jones	Kim		<input checked="" type="checkbox"/>
3	Williams	Alex		<input type="checkbox"/>
4				<input type="checkbox"/>
5				<input type="checkbox"/>
VEHICLE NAVIGATION (Access Town to Sample Point Vicinity)				
Access Town	Cann River			
Start Location	Road Intersection - Princess Highway and Monaro Highway			
Start Type	Road intersection			
Start Description	Road intersection (opposite Cann Valley Bush nursing centre)			
Comments				
Section	Heading	Road Name/Number	Distance (km)	Comments/Description
1	East	Princes Hwy	8.5	head east along Princess Highway until turn off to Thurra Junction Road (left)
2	North	Thurra Junction Rd	2.5	head north along Thurra Junction Road until reach unnamed track (on left). This track is the first which intersects with Thurra Junction Road.
3				
4				
5				
6				
7				
8				
ACCESS POINT				
Access Point Type	Road/track intersection			
Access Point Description	intersection of Thurra Junction Road and (south east heading) unnamed track			
Access Point X unprocessed (GDA94, MGA)	699226.09			
Access Point Y unprocessed (GDA94, MGA)	5842120.33			
Access Point X postprocessed (GDA94, MGA)				
Access Point Y postprocessed (GDA94, MGA)				
MGA Zone	54 <input type="checkbox"/> 55 <input checked="" type="checkbox"/>			
Access Point GCS Location	centre line of Thurra Junction Road, in line with centre line of unnamed track			
REFERENCE POINT				
RP X unprocessed (GDA94, MGA)	699442.81			
RP Y unprocessed (GDA94, MGA)	5841859.11			
RP X postprocessed (GDA94, MGA)				
RP Y postprocessed (GDA94, MGA)				
Reference Point to Sample Point Bearing (°)	144			
Reference Point to Sample Point Distance (m,cm)	23.1			
Field Form Check				
Team Leader Initials	JS	Comments		
Date checked (DDMMYYYY)	12/06/2010			
Data Entry				
Date entered (DDMMYYYY)	13/06/2010	Data Entering Surname	Smith	

## Standard Operating Procedure 11 Establishing and Marking a Sample Point Appendix 11.4

Example Sample Point Location Establishment Form – page 2

SAMPLE POINT LOCATION					
<i>SPL X unprocessed (GDA94, MGA)</i>	699461.55				
<i>SPL Y unprocessed (GDA94, MGA)</i>	5841845.69				
<i>SPL X postprocessed (GDA94, MGA)</i>					
<i>SPL Y postprocessed (GDA94, MGA)</i>					
<i>Offset SPL Stake</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				
<i>SPL Stake OS X unprocessed (GDA94, MGA)</i>	NA				
<i>SPL Stake OS Y unprocessed (GDA94, MGA)</i>	NA				
<i>SPL Stake OS X postprocessed (GDA94, MGA)</i>					
<i>SPL Stake OS Y postprocessed (GDA94, MGA)</i>					
<i>SPL Stake OS Bearing (°)</i>	NA				
<i>SPL Stake OS Distance (cm)</i>					

WITNESS TREES (WT)					
<i>Witness Tree (WT)</i>	<i>WT Bearing (°)</i>	<i>WT Distance (m.cm)</i>	<i>WT DBH (cm)</i>		<i>WT Species</i>
1	247	18.3	24.5		E. sieberi
2	300	25.8	60.7		E. sieberi

REFERENCE POINT - ACCESS POINT NAVIGATION				
Section	Bearing (°)	Distance (m)		Section Features/Comments
Start: Reference Point	270	100		head east for 100m until reach unnamed track
1	350	310		turn right at unnamed track and head north following track until read intersection with Thurra Junction Road
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				

**COMMENTS (general)**

Field Form Check			
<i>Team Leader Initials</i>	JS	<i>Comments</i>	
<i>Date checked (DD/MM/YYYY)</i>	12/06/2010		
Data Entry			
<i>Date entered (DD/MM/YYYY)</i>	13/06/2010	<i>Data Enterer Surname</i>	Smith