OS MASTERMAP TOPOGRAPHY LAYER – STYLING INFORMATION

Includes information on cartographic styling update for new descriptive terms

A guide to applying cartographic styles for Topography Layer, pre and post new descriptive terms

OS MasterMap Topography Layer

Styling Guidance

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Introduction

Purpose of this guide

This document combines the existing styling help and guidance for OS MasterMap Topography Layer into one convenient document.

This includes the guidance that previously existed in the Technical Specification, User Guide, and Descriptive Terms Update materials.

Further styling information and guidance for OS MasterMap Topography Layer including SQL scripts and cartographic stylesheets can be found on GitHub.

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The documentation is supplied in portable document format (PDF) only. Free Adobe® Reader® software, which displays the specification, incorporates search and zoom facilities and allows you to navigate within. Hyperlinks are used to navigate between associated parts of the specification and to relevant Internet resources by clicking on the blue hyperlinks and the table of contents.

Chapter 1 Style Guide

This chapter originally existed in the OS MasterMap Topography Layer Technical Specification and relates to the product before the addition of the Descriptive Terms upgrade. If you have upgraded your data to include the new terms, this chapter should be used in conjunction with later chapters detailing styling addendums for the new Descriptive Terms.

Further styling information and guidance for OS MasterMap Topography Layer including SQL scripts and cartographic stylesheets can be found on GitHub.

Ordnance Survey has produced a style guide for OS MasterMap. This is a distinct set of colours, fill styles and symbols. The styling has been developed using a combination of three of the descriptive attributes: descriptive group, descriptive term and make.

Providing a style guide has allowed many software providers to develop their own styling, based and adapted from the guide, that can be applied when the data is initially translated so that the data can be displayed immediately with a coherent style.

Styling using a single attribute

Within most GIS, there are tools that enable customers to choose to make the data appear in any preferred manner. A customer can apply their own colours, styles and symbols based on the same three attributes. Alternatively, they can use any of the attributes, either in isolation or in tandem, if their systems permit, to render the data to their own specification. Attaining a coherent style depends on choosing the attributes carefully. There is little point in using the TOID, for example, as each feature would need its own colour. If the TOID version number was used, a customer could get some idea of how much change there goes on in one area compared with another. In figure 1, below, the darker the red, the higher the version number and therefore the greater the amount of surveyed change.

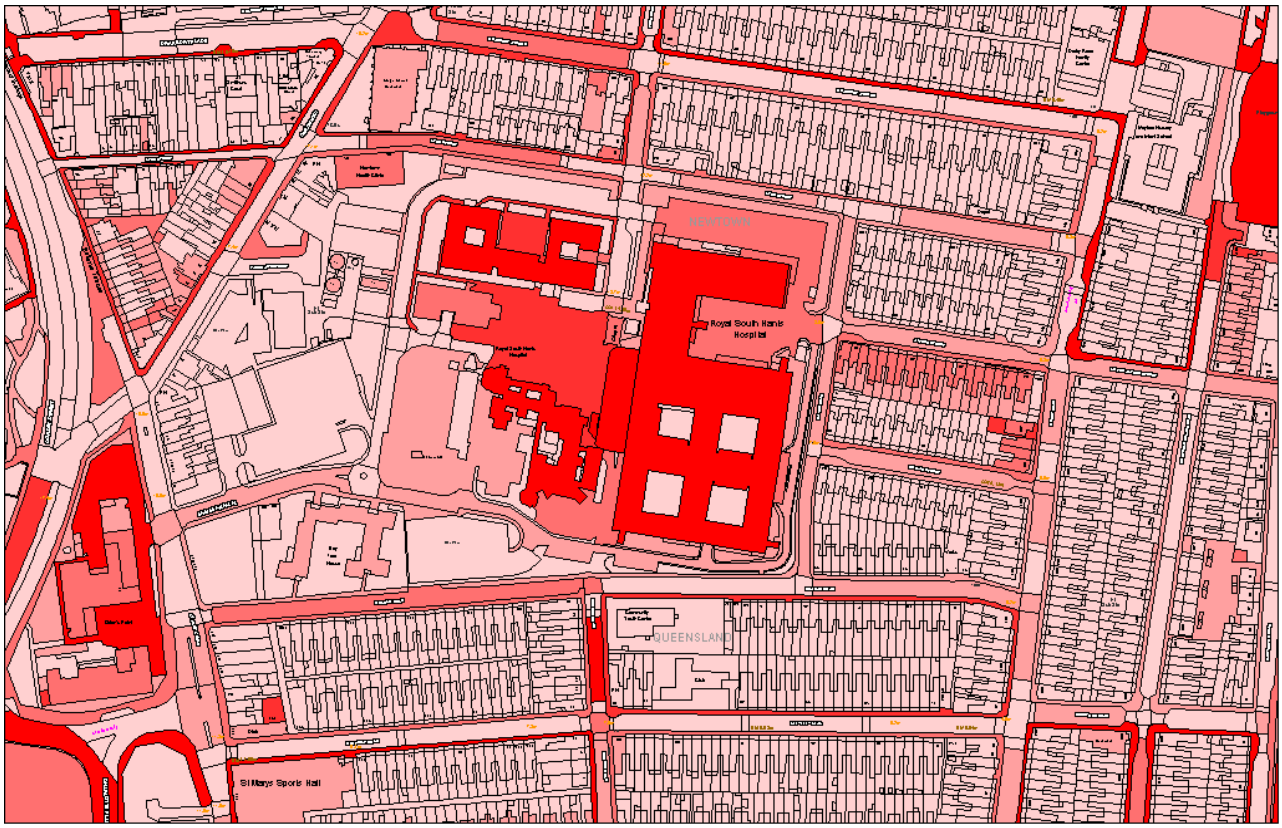


Figure 1: using attribution to visualise amount of change

This displays the areas where the greatest amount of change is occurring in the landscape. Having so many attributes allows this to be done without any additional work to the data itself. If a customer's own attributes are added to OS MasterMap Topography Layer then these can also be used as the basis for the styling.

Using MasterMap Topography Layer with other data

Having such flexibility to customise the data presents an opportunity to derive additional value from OS MasterMap Topography Layer. For example, where there is a necessity to have a clear display of what features look like from a real-world point of view, then styling schemes based on the style guide work well. If there is a requirement to view a customer's own data alongside OS MasterMap Topography Layer, the customer could consider toning down or removing colour from the features so that their own data makes more of a contrast, and therefore has the bigger visual impact.

In the example shown in figure 2 below, a customer has derived a set of grassed areas, coloured and hatched in green, which is displayed over OS MasterMap Topography Layer with just the buildings highlighted in grey to give some additional definition to the data and to help viewers of the data orientate themselves within the landscape.

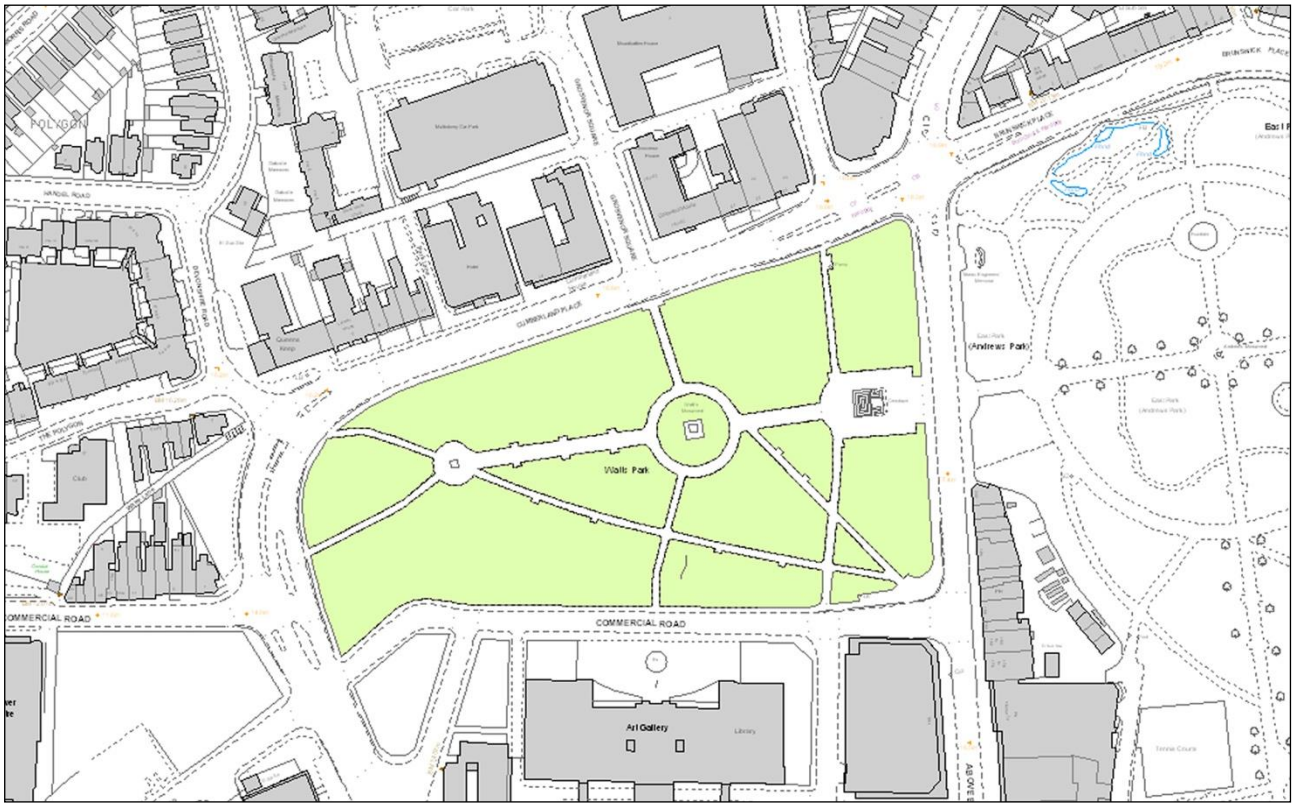


Figure 2: styling options with OS MasterMap Topography Layer

The customer's own data catches the eye first and is the focus of attention. Some systems will allow different views of the data so that one type of styling can be seen by one set of viewers and a different style entirely by others, to suit their individual requirements.

Styling on certain features

OS MasterMap Topography Layer may also be styled just by the line or point features, to replicate the engineering style of drawing commonly used in computer-aided design (CAD) systems. The data can even be rendered in black and white to save on printer ink if the printed map is going through various drafts before a final full colour version in produced, or for use in presentations and documents that are only going to be printed in black and white.

This chapter has discussed how, by adapting the flexibility of OS MasterMap Topography Layer in terms of how it can be displayed, a customer can visualise the attributes in thematic maps and derive information from the map in a visual way, customise the maps to best reflect the different applications to which it is put and produce clear, high-quality maps for use in document, presentation or just as hard copy for when it is not possible to access the data through a screen.

Chapter 2 Cartographic Styling

This chapter provides a guide to applying styles defined in Chapter 4 - Cartographic Style Definitions, to Topography Layer features. As landform features and pylons sit on top of topographic areas, they need to be above these in the draw order to be visible.

There is not a style provided for every feature, so some features are not drawn when the default styling is applied. This may be for one of several reasons, which include:

- Information is already rendered by another feature.
- Information is not easily positioned or styled.
- The information, if drawn, would be cluttered or confusing.
- The information is structural in the data but adds little value for the user by its cartographic depiction.

*Please note: information in this chapter has **not** yet been updated to reflect the Descriptive Terms update. This chapter previously existed as 'Chapter 10' in the Technical Specification v1.13 (2016).*

TopographicArea

Mapping table (no or single *descriptiveTerm*)

descriptiveGroup	descriptiveTerm	make	Style name
Building		Manmade	buildingFill
Building	Archway	Manmade	buildingFill
General Surface		Manmade	madeSurfaceFill
General Surface		Multiple	multipleSurfaceFill
General Surface		Natural	naturalSurfaceFill
General Surface		Unknown	madeSurfaceFill
General Surface	Multi Surface	Multiple	multipleSurfaceFill
General Surface	Step	Manmade	stepFill
Glasshouse		Manmade	glasshouseFill
Inland Water		Natural	inlandWaterFill
Landform		Manmade	manmadeLandformPattern
Landform		Natural	naturalLandformPattern
Landform	Cliff	Natural	naturalLandformPattern
Landform	Slope	Manmade	manmadeLandformPattern
Natural Environment	Boulders	Natural	naturalEnvironmentFill and bouldersPattern
Natural Environment	Boulders (Scattered)	Natural	naturalEnvironmentFill and scatteredBouldersPattern
Natural Environment	Coniferous Trees	Natural	naturalEnvironmentFill and coniferousTreesPattern
Natural Environment	Coniferous Trees (Scattered)	Natural	naturalEnvironmentFill and scatteredConiferousTreesPattern
Natural Environment	Coppice Or Osiers	Natural	naturalEnvironmentFill and coppicePattern
Natural Environment	Heath	Natural	naturalEnvironmentFill and heathPattern
Natural Environment	Marsh Reeds Or Saltmarsh	Natural	naturalEnvironmentFill and marshPattern
Natural Environment	Nonconiferous Trees	Natural	naturalEnvironmentFill and nonconiferousTreesPattern

descriptiveGroup	descriptiveTerm	make	Style name
Natural Environment	Nonconiferous Trees (Scattered)	Natural	naturalEnvironmentFill and scatteredNonconiferousTreesPattern
Natural Environment	Orchard	Natural	naturalEnvironmentFill and orchardPattern
Natural Environment	Rock	Natural	naturalEnvironmentFill and rocksPattern
Natural Environment	Rock (Scattered)	Natural	naturalEnvironmentFill and scatteredRocksPattern
Natural Environment	Rough Grassland	Natural	naturalEnvironmentFill and roughGrassPattern
Natural Environment	Scree	Natural	naturalEnvironmentFill and screePattern
Natural Environment	Scrub	Natural	naturalEnvironmentFill and scrubPattern
Path		Manmade	pathFill
Path	Step	Manmade	stepFill
Rail		Manmade	railFill
Rail		Unknown	madeSurfaceFill
Rail		Natural	naturalSurfaceFill
Road Or Track		Manmade	roadFill
Road Or Track	Traffic Calming	Manmade	roadFill
Roadside		Manmade	madeSurfaceFill
Roadside		Unknown	madeSurfaceFill
Roadside		Natural	naturalSurfaceFill
Structure			structureFill
Structure		Manmade	structureFill
Structure	Overhead Construction	Manmade	structureFill
Structure	Pylon	Manmade	structureFill
Structure	Upper Level Of Communication	Manmade	structureFill
Tidal Water		Natural	tidalWaterFill
Tidal Water	Foreshore	Natural	tidalWaterFill and foreshorePattern

Property application logic (no or single descriptiveTerm)

This section defines the overall logic for applying the style. The order of the property in the condition list below is the order that it is applied; once applied the condition loop is exited.

This example below shows the notation for filtering using the *descriptiveGroup* and *descriptiveTerm* attributes; features with multiple *descriptiveTerm* attributes are discussed in the next subsection.

if ***descriptiveGroup not 'Landform'*** ***and***
descriptiveTerm not 'Pylon' ***then apply***

if	descriptiveGroup = 'Building'	then apply	buildingFill
or	descriptiveTerm = 'Step'	then apply	stepFill
or	descriptiveGroup = 'Glasshouse'	then apply	glasshouseFill
or	descriptiveGroup = 'Historic Interest'	then apply	heritageFill
or	descriptiveGroup = 'Inland Water'	then apply	inlandWaterFill
or	descriptiveGroup = 'Natural Environment'	then apply	naturalEnvironmentFill
or	descriptiveGroup = 'Path'	then apply	pathFill
or	descriptiveGroup = 'Road Or Track'	then apply	roadFill

or	descriptiveGroup = 'Structure'	then apply	structureFill
or	descriptiveGroup = 'Tidal Water'	then apply	tidalWaterFill
or	descriptiveGroup = 'Unclassified'	then apply	unclassifiedFill
or	descriptiveGroup = 'Rail' and make = 'Manmade'	then apply	railFill
or	make = 'Manmade'	then apply	madeSurfaceFill
or	make = 'Natural'	then apply	naturalSurfaceFill
or	make = 'Unknown'	then apply	madeSurfaceFill
or	make = 'Multiple'	then apply	multipleSurfaceFill
else		apply	unclassifiedFill

Property application logic (multiple *descriptiveTerm*)

This section deals with the techniques for styling features with a *descriptiveGroup* value of 'Natural Environment' that have multiple *descriptiveTerm* attributes. This section only provides a selection of combinations that were prominent in a study of *descriptiveTerm* occurrences on natural environment features. The patterns and symbols used are all defined in the style definitions section. The logic to apply is as follows:

	if	***descriptiveGroup = 'Natural Environment'***	***then***
If	Number of descriptiveTerm attributes = 3	then apply	relevant pattern for type combinations (see Pattern definitions)
or	Number of descriptiveTerm attributes = 2	then apply	relevant pattern for type combinations (see Pattern definitions)
or	Number of descriptiveTerm attributes = 1	then apply	relevant pattern for type
else		apply	multiVegetationPattern (see Pattern definitions)

TopographicLine and BoundaryLine

Mapping table

descriptiveGroup	descriptiveTerm	physicalPresence	make	Style name
Building	Outline	Obstructing	Manmade	buildingLine
Building	Outline	Overhead	Manmade	buildingOverheadLine
Building	Division	Obstructing	Manmade	buildingLine
General Feature		Obstructing		defaultLine
General Feature	Overhead Construction			structureOverheadLine
General Feature		Edge/Limit		defaultDashedLine
General Feature		Minor Detail		defaultLine
General Feature	Tunnel Edge	Edge/Limit		defaultUndergroundLine
General Surface		Edge/Limit	Natural	defaultDashedLine
General Surface	Step	Edge/Limit	Manmade	defaultLine
General Surface	Step		Manmade	defaultLine
Historic Interest	Course Of Heritage			defaultUndergroundLine
Historic Interest		Minor Detail		defaultLine
Inland Water	Tunnel Edge	Edge/Limit		defaultUndergroundLine
Inland Water		Minor Detail	Manmade	waterLine
Inland Water	Culvert		Manmade	waterLine

descriptiveGroup	descriptiveTerm	physicalPresence	make	Style name
Inland Water		Edge/Limit		waterLine
Landform	Top Of Slope	Edge/Limit	Manmade	landformBoldLine
Landform		Edge/Limit	Natural	landformLine
Landform		Edge/Limit	Manmade	landformLine
Landform	Bottom Of Cliff	Edge/Limit	Natural	landformLine
Landform	Ridge Or Rock Line		Natural	landformLine
Landform	Top Of Cliff	Edge/Limit	Natural	landformBoldLine
Landform	Bottom Of Slope	Edge/Limit	Manmade	landformLine
Network Or Polygon Closing Geometry	Inferred Property Closing Link	Closing		closingLine
Network Or Polygon Closing Geometry	Polygon Closing Link	Closing		closingLine
Path	Tunnel Edge	Edge/Limit	Manmade	defaultUndergroundLine
Political Or Administrative	District	Boundary		districtLine
Political Or Administrative	Electoral	Boundary		electoralLine
Political Or Administrative	Parliamentary	Boundary		parliamentaryLine
Political Or Administrative	County	Boundary		countyLine
Political Or Administrative	Parish	Boundary		parishLine
Rail	Narrow Gauge	Network		narrowGaugeRailwayAlignmentLine
Rail	Standard Gauge Track			standardGaugeRailLine
Rail	Buffer		Manmade	defaultLine
Rail		Minor Detail		defaultLine
Rail	Tunnel Edge	Edge/Limit		defaultUndergroundLine
Road Or Track	Tunnel Edge	Edge/Limit	Manmade	defaultUndergroundLine
Road Or Track	Public	Edge/Limit	Manmade	defaultDashedLine
Road Or Track	Traffic Calming	Edge/Limit	Manmade	defaultDashedLine
Roadside		Minor Detail		defaultLine
Structure		Minor Detail	Manmade	defaultLine
Structure	Pylon	Edge/Limit	Manmade	defaultLine
Tidal Water	Mean High Water (Springs)	Edge/Limit	Natural	waterBoldLine
Tidal Water	Mean Low Water (Springs)	Edge/Limit	Natural	waterDashedLine

Property application logic

This section defines the overall logic for applying the style. The order of the property in the condition list below is the order that it is applied; once applied the condition loop is exited.

If	descriptiveGroup = 'Building' and physicalPresence = 'Overhead'	then apply	buildingOverheadLine
or	descriptiveTerm = 'Overhead Construction'	then apply	structureOverheadLine
or	descriptiveTerm = 'Tunnel Edge'	then apply	defaultUndergroundLine

or	descriptiveGroup = 'Building'	then apply	buildingLine
or	descriptiveTerm = ' Mean High Water (Springs)'	then apply	waterBoldLine
or	descriptiveTerm = ' Mean Low Water (Springs)'	then apply	waterDashedLine
or	descriptiveGroup = 'Inland Water'	then apply	waterLine
or	descriptiveTerm = 'Narrow Gauge'	then apply	narrowGaugeRailwayAlignmentLine
or	descriptiveTerm = 'Standard Gauge Track'	then apply	standardGaugeRailLine
or	descriptiveGroup = 'Landform' and descriptiveTerm = 'Top Of Slope'	then apply	landformBoldLine
or	descriptiveGroup = 'Landform' and descriptiveTerm = 'Top Of Cliff'	then apply	landformBoldLine
or	descriptiveGroup = 'Landform' and descriptiveTerm = 'Bottom Of Slope'	then apply	landformLine
or	descriptiveGroup = 'Landform' and descriptiveTerm = 'Bottom Of Cliff'	then apply	landformLine
or	descriptiveTerm = 'Parish'	then apply	parishLine
or	descriptiveTerm = 'Electoral'	then apply	electoralLine
or	descriptiveTerm = 'County'	then apply	countyLine
or	descriptiveTerm = 'Parliamentary'	then apply	parliamentaryLine
or	descriptiveTerm = 'District'	then apply	districtLine
or	physicalPresence = 'Edge/Limit'	then apply	defaultDashedLine
or	physicalPresence = 'Closing'	then apply	closingLine
Else		apply	defaultLine

TopographicPoint

descriptiveGroup	descriptiveTerm	make	Style name
General Feature	Positioned Nonconiferous Tree	Natural	positionedNonconiferousTreeSymbol
General Feature	Positioned Coniferous Tree	Natural	positionedConiferousTreeSymbol
General Feature	Positioned Boulder	Natural	positionedBoulderSymbol
Historic Interest	Site Of Heritage		heritageSiteOfSymbol
Historic Interest	Structure		pointSymbol
Inland Water		Manmade	waterPointSymbol
Landform		Manmade	pointSymbol
Landform	Disused Feature	Natural	landformDisusedSymbol
Landform		Natural	pointSymbol
Political Or Administrative	Boundary Post Or Stone		boundaryPostSymbol
Rail	Structure		pointSymbol
Roadside			pointSymbol
Structure		Manmade	pointSymbol
Structure	Structure	Manmade	pointSymbol
Structure	Triangulation Point Or Pillar	Manmade	triangulationStationSymbol
Terrain And Height	Spot Height		spotHeightSymbol
Tidal Water			waterPointSymbol

CartographicText

descriptiveGroup	descriptiveTerm	Style hex value	Font style
Buildings Or Structure		000000	Normal
Built Environment	Compound	000000	Normal
General Feature		000000	Normal
General Surface		000000	Normal
Height Control	Bench Mark	000000	Normal
Historic Interest		000000	*Italic*
Inland Water		0099FF	Normal
Landform		000000	Normal
Political Or Administrative		FF00FF	Normal
Rail		000000	Normal
Road Or Track	Road Name Or Classification	000000	Normal
Roadside		000000	Normal
Structure		000000	Normal
Terrain And Height		000000	Normal
Tidal Water	Foreshore	0099FF	Normal
Tidal Water		0099FF	Normal

CartographicSymbol

descriptiveGroup	descriptiveTerm	Style (from style guide)
Height Control	Bench Mark	benchMarkSymbol
Inland Water	Culvert	culvertSymbol
Inland Water	Direction Of Flow	flowArrowSymbol
Political Or Administrative	Boundary Half Mereing	boundaryMereingChangeSymbol
Road Or Track	Road Related Flow	roadFlowSymbol
Rail	Switch	railwaySwitchSymbol

Chapter 3 Cartographic Style Definitions

This chapter defines the default styles for the presentation of data within OS MasterMap. This specifies the colours, fonts, symbols and line styles used for visual display and printing of OS MasterMap. The styles are defined using the Scalable Vector Graphics (SVG) syntax.

See http://www.w3c.org for information on SVG. The SVG provided has only been tested with the browser plug-in provided by Adobe. Chapter 3, Cartographic Styling, provides the required information to apply the styles of this chapter to features.

Style principles

These definitions cover data supplied to customers as part of OS MasterMap by Ordnance Survey.

A style is not provided for all of the information in OS MasterMap due to limitations of generic styling and cartographic information available for specific feature types.

Use of coordinates, stroke-widths and text sizes

All coordinates in this chapter are specified in eastings and northings in units of metres in the British National Grid.

Stroke widths and text sizes are also specified in units of metres on the ground.

Colour palette

Ordnance Survey has chosen to use colours that are consistent in the Internet environment. The particular colours used are defined with both their RGB and hexadecimal values in colour palette.

Text

The fonts selected by Ordnance Survey to display text are those that are commonly used with web browsers. A brief description as to how a font is used in SVG is given in the Fonts section.

Symbols

There are two different uses of symbols as defined in the following sections. A base symbol set is defined in the Shared Symbol Geometry section; these may be aggregated to form compound symbols as defined in Compound symbols. Patterns formed from repeating symbols on a predefined grid are specified in Pattern definitions.

Point symbols

Point symbols are used to represent the position of particular features within the data, such as a telephone call box or bollard. The symbol represents the location and type of feature.

Point symbols are applied to the visual representation by translating them to the location of the feature they are representing and rotating them, if the orientation attribute is present, by a given amount.

Fill symbols

Fill symbols are used to represent some attribution of a polygon feature and are distributed as a pattern fill across the polygon. For example, the symbol may represent information about the topographic surface such as the vegetation type.

Because of the overheads of applying pattern fills in many current software systems, it is noted that pattern fills are optional according to the user requirements and system capabilities. For example, if a user does not require each mixed vegetation type to be identified graphically it is envisaged that the multiVegetationPattern, as defined in Pattern definitions, may be used to represent all mixed vegetation features.

Line styles

Line styles are used to allow a user to distinguish between different types of linear feature, for example, distinctions may be made to emphasise:

- Obstructing detail
- Non-obstructing detail
- Underground detail
- Overhead detail
- Building outlines
- Water limits and linear features
- Landform detail
- Narrow-gauge railways
- Statutory boundaries.
- Polygon-closing features

Some lines, particularly those representing the road network, are drawn twice, using first a background style and then an overlay to achieve a multicoloured result. Styles have been defined in this way to produce effects like lines with outlines. This chapter defines the two components as separate styles. For example, a minor road is first drawn as a black background (carriagewayOutline) that is then overlain with a yellow foreground (minorRoadLine) as below:

The line styles are defined in Line styles.

Colour palette

	Hex (r,g,b)	Style name
	000000 (0,0,0)	
	333333 (51,51,51)	
	0000CC(0,0,204)	
	FF0000 (255,0,0)	
	009966 (0, 153, 102)	
	666666 (102,102,102)	
	669966 (102, 153, 102)	
	FF0099 (255, 0, 153)	
	FF9900 (255,153,0)	
	0099FF (0,153,255)	
	00CCFF (0, 204, 255)	
	999999 (153, 153, 153)	
	FFD7C3 (255,215,195)	structureFill
	DCDCBE (220,220,190)	heritageFill
	66CCCC (102, 204, 204)	
	FFFF00 (255, 255, 0)	
	FF00FF (255,0,255)	
	D2D2AA (210,210,170)	madeSurfaceFill, stepFill
	D7D7D7 (215,215,215)	roadFill

	CCCCCC (204,204,204)	pathFill, railFill
	FFDCAF (255,220,175)	buildingFill
	FFCC99 (255,204,153)	glasshouseFill
	D2FFB4 (210,255,180)	naturalSurfaceFill
	DCFFBE (220,255,190)	naturalEnvironmentFill
	BEFFFF (190,255,255)	inlandWaterFill, tidalWaterFill
	FFFFCC (255,255,204)	multipleSurfaceFill
	FFFFFF (255,255,255)	unclassifiedFill

Fonts

The gml2svg.xsl declares the use of the Arial® font for Ordnance Survey's standard depiction of text string. Within the XSL file, the text colour is dictated by the descriptiveGroup, as is the use of italics. The textRendering complex attribute for a CartographicText feature contains information on the placement, orientation and height for rendering the text.

NOTE: a font value of 0, 1, 2, or 3 as used in Land-Line® is also provided that can optionally be used for depiction. The suggested fonts for cartographic display are:

0 – Lutheran (used for non-Roman antiquities)

1 – Normal – medium Roman font

2 – Light Roman font (used primarily for building numbers, Roman antiquities, and some administrative names particularly in 1:10 000 areas)

3 – Suppressed text not supplied in Land-Line due to space limitations.

Shared symbol geometry

boulderGeometry

```
<polyline points='-0.154,0.236 -0.111,0.365 -0.116,0.501 -0.165,0.616 -0.170,0.627 -0.264,0.724 -0.490,0.826 -0.682,0.889 -0.885,0.900 -1.083,0.858 -1.264,0.767 -1.415,0.631 -1.521,0.466 -1.558,0.199 -1.538,-0.071 -1.462,-0.329 -1.333,-0.566 -1.156,-0.771' />
<polyline points='1.755,-0.819 1.534,-0.804 0.832,-0.857 0.129,-0.824 -0.450,-0.769 -1.032,-0.767 -1.612,-0.819' />
<polyline points='1.640,-0.804 1.620,-0.589 1.392,-0.388 1.122,-0.248' />
<polyline points='0.311,-0.526 0.520,-0.573 0.732,-0.554 0.930,-0.472 1.093,-0.335 1.097,-0.329 1.101,-0.323 1.105,-0.317 1.108,-0.311 1.111,-0.304 1.113,-0.298 1.115,-0.291 1.117,-0.284 1.118,-0.277 1.118,-0.270 1.119,-0.263 1.118,-0.256 1.118,-0.249 1.117,-0.242 1.115,-0.235 1.113,-0.229 1.111,-0.222 1.108,-0.216 1.105,-0.209 1.101,-0.203 1.097,-0.198 1.093,-0.192 1.088,-0.187 1.083,-0.182 1.078,-0.177 1.073,-0.173 1.067,-0.169 1.061,-0.165 1.054,-0.162 0.637,0.198 0.393,0.388 0.118,0.530 -0.165,0.616 -0.178,0.619' />
```

circleFillGeometry

```
<circle r='0.05' cx='0' cy='0.0'/>
```

circleGeometry

<circle r='0.375' cx='0' cy='0'/>

coniferousTreeGeometry

Arc geometry:

<polyline points='0,1.45 0,-1.55' />
<path d='M-1.3,-0.95a2 2 0 0 1 1.3 1.05a2 2 0 0 1 1.3 -1.05' />
<path d='M-0.9,0.3a2 2 0 0 1 0.9 0.85a2 2 0 0 1 0.9 -0.85' />

Linear geometry:

<polyline points='0.000,1.45 0.000,-1.55'/>
<polyline points='-1.303,-0.970 -1.168,-0.927 -1.037,-0.874 -0.909,-0.814 -0.785,-0.746 -0.666,-0.670 -0.552,-0.586 -0.444,-0.496 -0.342,-0.398 -0.246,-0.295 -0.156,-0.185 -0.074,-0.070 0.000,0.050 0.074,-0.070 0.156,-0.185 0.246,-0.295 0.342,-0.398 0.444,-0.496 0.552,-0.586 0.666,-0.670 0.785,-0.746 0.909,-0.814 1.037,-0.874 1.168,-0.927 1.303,-0.970'/>
<polyline points='-0.890,0.296 -0.769,0.364 -0.652,0.440 -0.541,0.523 -0.435,0.613 -0.335,0.709 -0.241,0.811 -0.154,0.919 -0.073,1.032 0.000,1.150 0.072,1.034 0.151,0.923 0.236,0.816 0.328,0.715 0.427,0.620 0.530,0.531 0.639,0.449 0.753,0.374 0.871,0.306'/>

crossGeometry

<polyline points='0.000,-0.775 0.000,0.775'/>
<polyline points='-0.775,0.000 0.775,0.000'/>

nonconiferousTreeGeometry

Arc geometry:

<path d='M0,-1.6L-0.2,-0.8a0.6 0.6 0 1 0 -0.8 0.86a0.55 0.55 0 0 0 0.45 0.89a0.56 0.56 0 0 0 1.1 -0.0a0.55 0.55 0 0 0 0.45 -0.89a0.6 0.6 0 1 0 -0.8 -0.86L0,-1.6z' />

Linear geometry:

<polyline points='-1.074,0.097 -1.210,-0.031 -1.299,-0.194 -1.334,-0.377 -1.312,-0.561 -1.233,-0.730 -1.106,-0.866 -0.944,-0.957 -0.761,-0.993 -0.576,-0.972 -0.407,-0.894 -0.270,-0.768 -0.269,-0.765 -0.068,-1.539 0.012,-1.539 0.193,-0.756 0.193,-0.756 0.329,-0.887 0.499,-0.969 0.685,-0.993 0.870,-0.959 1.036,-0.869 1.164,-0.731 1.244,-0.561 1.267,-0.374 1.230,-0.189 1.138,-0.025 0.999,0.102 1.087,0.259 1.119,0.436 1.094,0.615 1.012,0.775 0.883,0.901 0.720,0.979 0.541,1.000 0.541,1.000 0.464,1.184 0.331,1.331 0.156,1.427 -0.040,1.461 -0.236,1.427 -0.411,1.331 -0.544,1.184 -0.621,1.000 -0.801,0.978 -0.964,0.900 -1.093,0.773 -1.175,0.611 -1.199,0.431 -1.164,0.254 -1.074,0.097'/>

Point symbols

airHeightSymbol

Style:

stroke:#0099ff; fill:none; stroke-width:0.087

Geometry:

crossGeometry (see Shared symbol geometry)

benchMarkSymbol

Style:
stroke:#000000;fill:none;stroke-width:0.087

Geometry:
<polyline points='0.707,0.707 0.0,0.0 0.707,-0.707'/>
<line x1='1.42' y1='0.0' x2='0.0' y2='0.0'/>

boundaryMereingChangeSymbol

Style:
stroke:#ff00ff;fill:none;stroke-width:0.087

Geometry:
<circle r='0.625' cx='2.875' cy='0.0'/>
<line x1='0.0' y1='0.0' x2='2.25' y2='0.0'/>

boundaryPostSymbol

Style:
stroke:#ff00ff;fill:none;stroke-width:0.087

Geometry:

circleGeometry (see Shared symbol geometry)

culvertSymbol

Style:
stroke:#0099ff;stroke-width:0.087

Geometry:
<polyline points='-0.5,0 0.5,0'/>

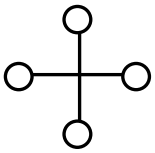
flowArrowSymbol

Style:
stroke:#0099ff;fill:none;stroke-width:0.087

Geometry:
<polyline points=` 0.0,0.0 3.438,0.0' />
<polyline points='0.5,0.5 0.0,0.0 0.5,-0.5' />
<polyline points='3.35,0.5 2.85,0.0 3.35,-0.5' />
<polyline points='3.938,0.5 3.438,0.0 3.938,-0.5' />

heritageSiteOfSymbol

Style:
stroke:#000000;fill:none;stroke-width:0.087



Geometry:
<polyline points='-2.25,0.0 2.25,0'/>
<polyline points='0.0,-2.25 0.0,2.25'/>
<circle r='0.625' cx='0' cy='2.875'/>
<circle r='0.625' cx='0' cy='-2.875'/>
<circle r='0.625' cx='2.875' cy='0'/>
<circle r='0.625' cx='-2.875' cy='0'/>

landformDisusedSymbol

Style:
stroke:#666666;fill:none;stroke-width:0.087

Geometry:

circleGeometry (see Shared symbol geometry)

pointSymbol

Style:
stroke:#000000;fill:#000000;stroke-width:0.087

Geometry:

circleGeometry (see Shared symbol geometry)

positionedBoulderSymbol

Style:
stroke:#666666;fill:none;stroke-width:0.087

Geometry:

boulderGeometry (see Shared symbol geometry)

positionedConiferousTreeSymbol

Style:
stroke:#666666;fill:none;stroke-width:0.087

Geometry:

coniferousTreeGeometry (see Shared symbol geometry)

positionedNonconiferousTreeSymbol

Style:
stroke:#666666;fill:none;stroke-width:0.087

Geometry:

nonConiferousTreeGeometry (see Shared symbol geometry)

railwaySwitchSymbol

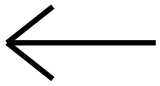
Style:
stroke:#000000;stroke-width:0.087

Geometry:
<polyline points='-0.72,0 0.72,0'/>

roadFlowSymbol

Style:
stroke:#000000;fill:none;stroke-width:0.087

Geometry:
<polyline points='0.707,0.707 0.0,0.0 0.707,-0.707'/>
<line x1='2.42' y1='0.0' x2='0.0' y2='0.0'/>



spotHeightSymbol

Style:
stroke:#ff0000; fill:none; stroke-width:0.087

Geometry:

crossGeometry (see Shared symbol geometry)

triangulationStationSymbol

Style:
stroke:#000000;stroke-width:0.087

Geometry:
<polyline style='fill:none' points='0,-0.794 -1.375,-0.794 0.0,1.588 1.375,-0.794 0,-0.794'/>
<circle style='fill:#000000' r='0.0875' cx='0' cy='0.0'/>

waterPointSymbol

Style:
stroke:#0099ff;fill:#0099ff;stroke-width:0.087

Geometry:

circleGeometry (see Shared symbol geometry)

Fill symbols

boulderFillSymbol

Style:
stroke:#666666;fill:none;stroke-width:0.087

Geometry:
boulderGeometry (see Shared symbol geometry)

bushFillSymbol

Style:
stroke:#669966;fill:none;stroke-width:0.087

Geometry:
<polyline points='1,-1.493 -0.076,-1.493 0.452,-0.893 0.584,-0.683 0.666,-0.449 0.693,-0.202 0.668,-0.088 0.596,0.005 0.491,0.058 0.284,0.082 0.078,0.046 -0.109,-0.046 -0.396,-0.268 -0.151,-0.027 0.055,0.248 0.218,0.55 0.335,0.873 0.35,1.027 0.311,1.176 0.224,1.303 0.016,1.447 -0.23,1.503 -0.391,1.485 -0.54,1.421 -0.663,1.316 -0.866,1.029 -1.004,0.704 -1.07,0.358 -1.061,0.006 -0.982,-0.383 -0.849,-0.758 -0.666,-1.111 -0.435,-1.434 -0.396,-1.5' />

coniferousTreeFillSymbol

Style:
stroke:#669966;fill:none;stroke-width:0.087

Geometry:
coniferousTreeGeometry (see Shared symbol geometry)

coppiceFillSymbol

Style:
stroke:#669966;fill:none;stroke-width:0.087

Geometry:
<polyline points='0.000,-1.219 0.000,1.819' />
<polyline points='-0.567,1.330 -0.556,1.035 -0.492,0.746 -0.377,0.473 -0.214,0.226 -0.010,0.012' />
<polyline points='-0.547,-1.248 -0.567,-0.817 -0.639,-0.392 -0.762,0.022' />
<polyline points='0.010,0.627 0.207,0.736 0.372,0.890 0.494,1.078 0.567,1.292 0.586,1.516' />
<polyline points='0.489,-0.291 0.364,-0.768 0.313,-1.258' />
<polyline points='0.752,-0.789 0.653,-1.009 0.616,-1.248' />

foreshoreFillSymbol

Style:
stroke:#0099ff;fill:#0099ff;stroke-width:0.087

Geometry:
circleFillGeometry (see Shared symbol geometry)

heathFillSymbol

Style:

stroke:#669966;fill:none;stroke-width:0.087

Geometry:

<polyline points='-1.487,-0.75 -1.601,-0.208' />
<polyline points='-0.996,-0.613 -1.121,0.405' />
<polyline points='-0.499,-0.545 -0.55,0.695' />
<polyline points='0,-0.536 0,0.732' />
<polyline points='0.499,-0.545 0.55,0.695' />
<polyline points='0.996,-0.613 1.121,0.405' />
<polyline points='1.487,-0.75 1.601,-0.208' />

manmadeLandformFillSymbol

Style:

stroke:#669966;fill:none;stroke-width:0.087

Geometry:

<polyline points='-1,-1 25,25'/>

marshFillSymbol

Style:

fill:none;stroke-width:0.087

Geometry:

<g style='stroke:#0099ff'>
<polyline points='4.258,0.000 0.452,0.000' />
<polyline points='-4.250,0.000 -0.444,0.000' />
<polyline points='-1.318,-0.517 1.317,-0.517' />
</g>
<g style='stroke:#669966;'>
<polyline points='-0.444,0.000 -0.534,1.0' />
<polyline points='0.452,0.000 0.541,1.0' />
<polyline points='-0.001,0.013 -0.001,1.177' />
<polyline points='0.880,0.000 1.118,0.675' />
<polyline points='-0.873,0.000 -1.110,0.675' />
<polyline points='-1.318,0.000 -1.440,0.269' />
<polyline points='1.326,0.000 1.447,0.269' />
</g>

multiVegetationFillSymbol

Style:

stroke:#669966;fill:669966;stroke-width:0.087

Geometry:

circleFillGeometry (see Shared symbol geometry)

naturalLandformFillSymbol

Style:

stroke:#666666;fill:none;stroke-width:0.087

Geometry:

<polyline points='0,25 25,0'/>

nonconiferousTreeFillSymbol

Style:

stroke:#669966;fill:none;stroke-width:0.087

Geometry:

nonConiferousTreeGeometry

(see Shared symbol geometry)

orchardFillSymbol

Style:

stroke:#669966;fill:none;stroke-width:0.087

Arc geometry:

<path d='M0,0a0.7 0.7 0 1 0 -0.6 1.1a0.7 0.7 0 1 0 1.2,0.0a0.7 0.7 0 1 0 -0.6 -1.1z' />
<polyline points='0,-0.88 0,0' />

Linear geometry:

<polyline points='0.804,0.471 0.869,0.666 0.875,0.872 0.822,1.071 0.714,1.247 0.560,1.383 0.373,1.470 0.169,1.500 -0.034,1.470 -0.221,1.382 -0.374,1.245 -0.482,1.069 -0.535,0.870 -0.528,0.664 -0.462,0.469'/>
<polyline points='-0.462,0.469 -0.665,0.428 -0.847,0.332 -0.994,0.186 -1.092,0.005 -1.135,-0.197 -1.117,-0.403 -1.041,-0.594 -0.913,-0.756 -0.744,-0.875 -0.548,-0.939 -0.342,-0.945 -0.143,-0.891 0.033,-0.781 0.169,-0.626'/>
<polyline points='0.169,-0.626 0.169,-0.626 0.305,-0.780 0.480,-0.889 0.679,-0.943 0.885,-0.937 1.080,-0.873 1.249,-0.755 1.377,-0.594 1.453,-0.402 1.472,-0.197 1.430,0.004 1.332,0.186 1.187,0.331 1.006,0.429 0.804,0.471'/>
<polyline points='0.171,-0.629 0.171,-1.497'/>

rockFillSymbol

Style:

stroke:#666666;fill:none;stroke-width:0.087

Geometry:

<polyline points='-1.85,-0.834 -0.812,-0.834 -0.588,-0.766 -0.4,-0.508' />
<polyline points='1.824,-0.834 1.272,-0.78 0.908,-0.666 0.888,-0.658 0.866,-0.65 0.846,-0.644 0.824,-0.64 0.802,-0.636 0.78,-0.634 0.758,-0.632 0.736,-0.632 0.714,-0.634 0.692,-0.636 0.67,-0.64 0.662,-0.642 0.648,-0.646 0.628,-0.654 0.438,-0.786 0.622,-0.66 0.662,-0.642 1.126,-0.438 1.48,-0.298 1.494,-0.292 1.510,-0.284 1.524,-0.276 1.536,-0.268 1.550,-0.258 1.562,-0.248 1.574,-0.236 1.586,-0.224 1.596,-0.212 1.606,-0.198 1.614,-0.186 1.622,-0.170 1.628,-0.156 1.636,-0.142 1.640,-0.126 1.644,-0.110 1.648,-0.094 1.650,-0.078 1.650,-0.062 1.652,-0.046 1.650,-0.012 1.646,0.022 1.64,0.054 1.634,0.086 1.624,0.118 1.612,0.15 1.6,0.18 1.584,0.21 1.568,0.24 1.55,0.268 1.368,0.488 1.356,0.5 1.344,0.512 1.33,0.522 1.316,0.532 1.302,0.54 1.286,0.548 1.27,0.554 1.254,0.56 1.238,0.566 1.222,0.568 1.206,0.572 1.188,0.574 1.172,0.574 1.154,0.574 1.138,0.572 1.12,0.57 1.104,0.566 1.088,0.562 1.072,0.556 1.056,0.55 0.4,0.298 -0.014,0.136 0.218,0.236 0.582,0.398 0.594,0.404 0.604,0.410 0.616,0.418 0.626,0.424 0.636,0.432 0.644,0.442 0.654,0.452 0.662,0.46 0.668,0.472 0.676,0.482 0.682,0.494 0.688,0.504 0.692,0.516 0.696,0.528 0.698,0.552 0.702,0.554 0.704,0.566 0.704,0.58 0.704,0.592 0.704,0.604 0.702,0.618 0.7,0.63 0.696,0.642 0.692,0.654 0.688,0.666 0.682,0.678 0.676,0.69 0.67,0.7 0.662,0.71 0.552,0.842 0.546,0.848 0.54,0.854 0.532,0.858 0.526,0.864 0.518,0.868 0.512,0.872 0.504,0.874 0.496,0.878 0.488,0.88 0.48,0.882 0.472,0.884 0.464,0.886 0.454,0.886 0.446,0.886 0.438,0.886 0.43,0.884 0.422,0.882 0.414,0.88 0.406,0.878 0.398,0.876 0.39,0.872 0.198,0.812 -0.378,0.6 -0.794,0.408 -1.046,0.316 -1.058,0.31 -1.07,0.302 -1.082,0.292 -1.094,0.282 -1.104,0.272 -1.114,0.262 -1.122,0.25 -1.13,0.238 -1.138,0.226 -1.144,0.212 -1.15,0.2 -1.156,0.186 -1.16,0.172 -1.164,0.158 -1.166,0.142 -1.168,0.128 -1.168,0.114 -1.168,0.098 -1.166,0.084 -1.164,0.07 -1.16,0.056 -1.158,0.042 -1.152,0.028 -1.146,0.014 -1.134,-0.014 -1.118,-0.04 -1.102,-0.066 -1.084,-0.09 -1.066,-0.114 -1.046,-0.138 -1.028,-0.156 -1.01,-0.172 -0.99,-0.188 -0.968,-0.202 -0.946,-0.216 -0.924,-0.228' />

roughGrassFillSymbol

Style:

stroke:#669966;fill:none;stroke-width:0.087

Geometry:

<polyline points='0.000,-0.349 0.000,0.349' />
<polyline points='-0.416,-0.422 -0.444,0.261' />
<polyline points='0.416,-0.422 0.444,0.261' />
<polyline points='0.883,-0.436 0.935,0.199' />
<polyline points='-0.883,-0.436 -0.935,0.199' />
<polyline points='-1.342,-0.459 -1.412,0.096' />
<polyline points='1.342,-0.459 1.412,0.096' />
<polyline points='-1.769,-0.492 -1.843,-0.049' />
<polyline points='1.769,-0.492 1.843,-0.049' />
<polyline points='-2.187,-0.633 -2.249,-0.334' />
<polyline points='2.187,-0.633 2.249,-0.334' />

screeFillSymbol

Style:

stroke:#666666;fill:none;stroke-width:0.087

Geometry:

<polyline points='1.449,-1.302 1.777,-0.894 1.582,-0.574 1.445,-0.628 1.170,-0.400 0.895,-0.608 0.803,-0.734 0.924,-1.075 1.449,-1.302' />
<polyline points='-1.033,-1.217 -0.841,-0.786 -1.085,-0.544 -1.195,-0.625 -1.497,-0.488 -1.741,-0.865 -1.545,-1.136 -1.033,-1.217' />
<polyline points='0.273,-1.429 0.834,-1.207 0.690,-0.817 0.460,-0.673 0.022,-0.867 0.158,-1.005 0.104,-1.235 0.273,-1.429' />
<polyline points='-0.208,-1.302 -0.039,-0.986 -0.235,-0.768 -0.636,-0.831 -0.844,-1.108 -0.864,-1.296 -0.555,-1.374 -0.392,-1.255 -0.207,-1.302' />
<polyline points='-0.009,-0.716 0.228,-0.562 0.315,-0.122 -0.050,0.053 -0.266,-0.147 -0.199,-0.244 -0.323,-0.492 -0.009,-0.716' />
<polyline points='0.665,-0.616 0.960,-0.387 1.008,-0.077 0.949,0.078 0.652,0.002 0.579,-0.161 0.408,-0.206 0.421,-0.529 0.667,-0.614' />
<polyline points='-1.254,-0.316 -1.173,-0.016 -0.809,0.123 -0.634,0.010 -0.665,-0.154 -0.814,-0.145 -1.006,-0.470 -1.254,-0.316' />
<polyline points='-0.690,-0.763 -0.762,-0.731 -0.853,-0.531 -0.697,-0.271 -0.402,-0.341 -0.433,-0.632 -0.690,-0.763' />
<polyline points='-0.428,-0.069 -0.136,0.125 -0.266,0.331 -0.408,0.381 -0.643,0.214 -0.541,0.151 -0.546,0.017 -0.428,-0.069' />
<polyline points='-0.147,0.459 0.049,0.547 0.122,0.457 0.245,0.451 0.365,0.290 0.280,0.213 0.079,0.159 -0.135,0.283 -0.147,0.459' />
<polyline points='0.658,0.150 0.953,0.220 0.877,0.387 0.758,0.419 0.714,0.518 0.505,0.477 0.480,0.308 0.658,0.150' />
<polyline points='-0.224,0.698 -0.210,0.940 0.047,0.990 0.191,0.892 0.137,0.671 -0.029,0.683 -0.063,0.624 -0.224,0.698' />
<polyline points='0.336,0.825 0.392,0.881 0.376,1.152 0.131,1.317 0.099,1.161 0.336,0.825' />
<polyline points='-0.521,0.432 -0.320,0.480 -0.304,0.705 -0.463,0.796 -0.596,0.619 -0.521,0.432' />
<polyline points='0.345,0.487 0.570,0.575 0.426,0.791 0.243,0.712 0.306,0.653 0.275,0.561 0.345,0.487' />

<polyline points='-0.012,1.409 -0.021,1.589 0.049,1.624 0.007,1.696 -0.084,1.696 -0.187,1.542 -0.151,1.405 -0.012,1.405' />
<polyline points='-0.203,1.021 -0.054,1.084 -0.011,1.292 -0.145,1.292 -0.271,1.226 -0.304,1.086 -0.203,1.021' />
<polyline points='0.370,-0.090 0.546,-0.048 0.550,0.132 0.426,0.220 0.311,0.067 0.370,-0.090' />
<polyline points='-0.350,0.850 -0.304,0.956 -0.363,1.016 -0.467,1.028 -0.525,0.938 -0.480,0.866 -0.350,0.850' />
<polyline points='0.041,1.759 0.097,1.853 0.198,1.835 0.259,1.777 0.212,1.669 0.085,1.691 0.041,1.759' />
<polyline points='-0.742,0.247 -0.650,0.283 -0.614,0.371 -0.622,0.410 -0.704,0.414 -0.783,0.369 -0.805,0.288 -0.740,0.247' />
<polyline points='0.103,1.400 0.198,1.457 0.164,1.569 0.068,1.585 0.031,1.477 0.103,1.4' />
<polyline points='1.102,-0.328 1.206,-0.301 1.211,-0.186 1.127,-0.141 1.059,-0.228 1.102,-0.328' />
<polyline points='0.239,1.339 0.246,1.411 0.408,1.386 0.444,1.321 0.316,1.278 0.239,1.339' />
<polyline points='0.032,1.923 -0.009,2.025 0.050,2.109 0.147,2.063 0.139,1.950' />
<polyline points='0.032,1.919 0.139,1.948' />

smallBoulderFillSymbol

Style:

stroke:#666666;fill:none;stroke-width:0.087

Geometry:

<polyline points='-0.077,0.118 -0.055,0.183 -0.058,0.25 -0.082,0.308 0.085,0.313 -0.131,0.362 -0.245,0.413 -0.341,0.445 -0.443,0.45
0.542,0.429 0.632,0.384 -0.708,0.316 -0.760,0.233 -0.779,0.1 -0.769, -0.036 -0.731,-0.170 -0.667,-0.283 -0.578,-0.386'/>
<polyline points='0.876,-0.41 0.767,-0.402 0.417,-0.429 0.065,-0.412 0.225, 0.385 -0.516,-0.384 -0.806,-0.41'/>
<polyline points='0.82,-0.402 0.81,-0.295 0.696,-0.194 0.561,-0.124'/>
<polyline points='0.155,-0.263 0.26,-0.286 0.366,-0.277 0.465,-0.236 0.546, 0.167 0.548,-0.165 0.55,-0.162 0.553,-0.158 0.554,-0.155 0.555,-0.152 0.556, -0.149 0.557,-0.146 0.558,-0.142 0.559,-0.139 0.559,-0.135 0.559,-0.132 0.559,-0.128 0.559,-0.125 0.559,-0.121 0.557,-0.117
0.557,-0.115 0.555, 0.111 0.554,-0.108 0.553,-0.105 0.550,-0.102 0.548,-0.099 0.547,-0.096 0.544,-0.094 0.542,-0.091 0.539,-0.089 0.535,-0.086 0.534,-0.085 0.530, 0.083 0.527,-0.081 0.318,0.099 0.196,0.194 0.059,0.265 -0.083,0.308 0.089,0.309'/>

smallBushFillSymbol

Style:

stroke:#669966;fill:none;stroke-width:0.087

Geometry:

<polyline points='0.5,-0.746 -0.038,-0.746 0.226,-0.446 0.292,-0.341 0.333,-0.224 0.346,-0.101 0.334,-0.044 0.298,0.002 0.245,0.029 0.142,0.041 0.039,0.023 -0.054,-0.023 -0.198,-0.134 -0.075,-0.013 0.027,0.124 0.109,0.275 0.167,0.436 0.175,0.513 0.155,0.588 0.112,0.651 0.008,0.723 -0.115,0.751 -0.195,0.742 -0.27,0.71 -0.331,0.658 -0.433,0.514 -0.502,0.352 -0.535,0.179 -0.53,0.003 -0.491,-0.191 -0.424,-0.379 -0.333,-0.555 -0.217,-0.717 -0.198,-0.75' />

smallConiferousTreeFillSymbol

Style:

stroke:#669966;fill:none;stroke-width:0.087

Arc geometry:

<polyline points='0,0.725 0,-0.775' />

<path d='M-0.65,-0.475a1 1 0 0 1 0.65 0.502a1 1 0 0 1 0.65 -0.502' />

<path d='M-0.45,0.15a1 1 0 0 1 0.45 0.425a1 1 0 0 1 0.45 -0.425' />

Linear geometry:

<polyline points='0.0,0.725 0.0,-0.775'/>

<polyline points='-0.651,-0.485 -0.584,-0.463 -0.517,-0.437 -0.454,-0.407 -0.392,-0.373 -0.333,-0.335 -0.276,-0.293 -0.222,-0.248 -0.171,-0.199 -0.123,-0.147 -0.078,-0.092 -0.037,-0.035 0.0,-0.025 0.037,-0.035 0.078,-0.097 0.123,-0.147 0.171,-0.199 0.222,-0.248 0.276,-0.293 0.333,-0.335 0.392,-0.373 0.454,-0.407 0.517,-0.437 0.584,-0.463 0.651,-0.485'/>

<polyline points='-0.445,0.148 -0.384,0.182 -0.316,0.22 -0.27,0.261 -0.217,0.306 -0.167,0.354 -0.120,0.405 -0.077,0.459 -0.036,0.516 0.0,0.575 0.036,0.516 0.077,0.459 0.120,0.405 0.167,0.354 0.217,0.306 0.27,0.261 0.316,0.22 0.384,0.182 0.445,0.148'/>

smallNonconiferousTreeFillSymbol

Style:

stroke:#669966;fill:none;stroke-width:0.087

Arc geometry:

<path d='M0,-0.8L-0.1,-0.4a0.3 0.3 0 1 0 -0.4 0.43a0.275 0.275 0 0 0 0.225 0.445a0.28 0.28 0 0 0 0.55 -0.0a0.275 0.275 0 0 0 0.225 -0.445a0.3 0.3 0 1 0 -0.4 -0.43L0,-0.8z' />

Linear geometry:

<polyline points='-0.537,0.087 -0.552,0.076 -0.566,0.064 -0.580,0.052 -0.592,0.038 -0.604,0.024 -0.615,0.008 -0.625,-0.007 -0.634,-0.024 -0.642,-0.041 -0.649,-0.058 -0.655,-0.076 -0.660,-0.094 -0.663,-0.112 -0.665,-0.131 -0.667,-0.149 -0.667,-0.168 -0.666,-0.187 -0.663,-0.205 -0.660,-0.224 -0.655,-0.242 -0.650,-0.259 -0.643,-0.277 -0.635,-0.294 -0.626,-0.310 -0.616,-0.326 -0.605,-0.341 -0.593,-0.356 -0.581,-0.369 -0.567,-0.382 -0.553,-0.394 -0.538,-0.405 -0.522,-0.415 -0.506,-0.424 -0.489,-0.433 -0.471,-0.440 -0.454,-0.445 -0.436,-0.450 -0.417,-0.454 -0.399,-0.456 -0.380,-0.458 -0.362,-0.458 -0.343,-0.457 -0.324,-0.455 -0.306,-0.451 -0.288,-0.447 -0.270,-0.441 -0.253,-0.435 -0.236,-0.427 -0.219,-0.418 -0.203,-0.408 -0.188,-0.397 -0.173,-0.386 -0.160,-0.373 -0.147,-0.359 -0.135,-0.345 -0.134,-0.344 -0.033,-0.731 -0.006,-0.731 0.097,-0.339 0.097,-0.339 0.195,-0.423 0.320,-0.457 0.447,-0.436 0.553,-0.364 0.619,-0.253 0.632,-0.124 0.590,-0.003 0.500,0.090 0.554,0.203 0.552,0.329 0.495,0.441 0.395,0.516 0.271,0.539 0.213,0.658 0.109,0.740 -0.019,0.769 -0.148,0.740 -0.252,0.658 -0.310,0.539 -0.434,0.516 -0.535,0.440 -0.592,0.327 -0.592,0.201 -0.537,0.087'/>

smallRockFillSymbol

Style:

stroke:#666666;fill:none;stroke-width:0.087

Geometry:

<polyline points='-0.925,-0.417 -0.406,-0.417 -0.294,-0.383 -0.200,-0.254' />
<polyline points='0.912,-0.417 0.636,-0.390 0.454,-0.333 0.444,-0.329 0.433,-0.325 0.423,-0.322 0.412,-0.320 0.401,-0.318 0.390,-0.317 0.379,-0.316 0.368,-0.316 0.357,-0.317 0.346,-0.318 0.335,-0.320 0.331,-0.321 0.324,-0.323 0.314,-0.327 0.219,-0.393 0.311,-0.330 0.331,-0.321 0.563,-0.219 0.740,-0.149 0.747,-0.146 0.755,-0.142 0.762,-0.138 0.768,-0.134 0.775,-0.129 0.781,-0.124 0.787,-0.118 0.793,-0.112 0.798,-0.106 0.803,-0.099 0.807,-0.093 0.811,-0.085 0.814,-0.078 0.818,-0.071 0.820,-0.063 0.822,-0.055 0.824,-0.047 0.825,-0.039 0.825,-0.031 0.826,-0.023 0.825,-0.006 0.823,0.011 0.820,0.027 0.817,0.043 0.812,0.059 0.806,0.075 0.800,0.090 0.792,0.105 0.784,0.120 0.775,0.134 0.684,0.244 0.678,0.250 0.672,0.256 0.665,0.261 0.658,0.266 0.651,0.270 0.643,0.274 0.635,0.277 0.627,0.280 0.619,0.283 0.611,0.284 0.603,0.286 0.594,0.287 0.586,0.287 0.577,0.287 0.569,0.286 0.560,0.285 0.552,0.283 0.544,0.281 0.536,0.278 0.528,0.275 0.200,0.149 -0.007,0.068 0.109,0.118 0.291,0.199 0.297,0.202 0.302,0.205 0.308,0.209 0.313,0.212 0.318,0.216 0.322,0.221 0.327,0.226 0.331,0.230 0.334,0.236 0.338,0.241 0.341,0.247 0.344,0.252 0.346,0.258 0.348,0.264 0.349,0.271 0.351,0.277 0.352,0.283 0.352,0.290 0.352,0.296 0.352,0.302 0.351,0.309 0.350,0.315 0.348,0.321 0.346,0.327 0.344,0.333 0.341,0.339 0.338,0.345 0.335,0.350 0.331,0.355 0.276,0.421 0.276,0.421 0.273,0.424 0.270,0.427 0.266,0.429 0.263,0.432 0.259,0.434 0.256,0.436 0.252,0.437 0.248,0.439 0.244,0.440 0.240,0.441 0.236,0.442 0.232,0.443 0.227,0.443 0.223,0.443 0.219,0.443 0.215,0.442 0.211,0.441 0.207,0.440 0.203,0.439 0.199,0.438 0.195,0.436 0.099,0.406 -0.189,0.300 -0.397,0.204 -0.523,0.158 -0.529,0.155 -0.535,0.151 -0.541,0.146 -0.547,0.141 -0.552,0.136 -0.557,0.131 -0.561,0.125 -0.565,0.119 -0.569,0.113 -0.572,0.106 -0.575,0.100 -0.578,0.093 -0.580,0.086 -0.582,0.079 -0.583,0.071 -0.584,0.064 -0.584,0.057 -0.584,0.049 -0.583,0.042 -0.582,0.035 -0.580,0.028 -0.579,0.021 -0.576,0.014 -0.573,0.007 -0.567,-0.007 -0.559,-0.020 -0.551,-0.033 -0.542,-0.045 -0.533,-0.057 -0.523,-0.069 -0.514,-0.078 -0.505,-0.086 -0.495,-0.094 -0.484,-0.101 -0.473,-0.108 -0.462,-0.114' />

Compound symbols

The symbols defined in the section Fill symbols may be combined to form aggregated symbols. In order to do this the coordinates of the original symbols are translated by a specified offset. Compound symbols may be used as components to make up other compound symbols.

For example:

To define a scrub fill symbol we combine the bushFillSymbol and smallBushFillSymbol. The translations used to do this are:

- bushFillSymbol: translate(-0.8 1)
- smallBushFillSymbol: translate(1.2 –1.2)

The combined result, a scrubFillSymbol, is then drawn as:

To define the mixed vegetation type of scrub and rough grass the scrubFillSymbol produced above is used in conjunction with the roughGrassFillSymbol:

- roughGrassFillSymbol: translate(-1 -1)
- scrubFillSymbol: translate(1 1)

To produce a roughGrassAndScrubFillSymbol:

Definitions

Transformation 1

Symbol 1 – translate(-1 0.3)

Symbol 2 – translate(1.75 -1)

Name: bouldersFillSymbol

Symbol 1: boulderFillSymbol

Symbol 2: smallBoulderFillSymbol

Name: rocksFillSymbol

Symbol 1: rockFillSymbol

Symbol 2: smallRockFillSymbol

Transformation 2

Symbol 1 – translate(-0.8 1)

Symbol 2 – translate(1.2 –1.2)

Name: coniferousTreesFillSymbol

Symbol 1: coniferousTreeFillSymbol

Symbol 2: smallConiferousTreeFillSymbol

Name: nonconiferousTreesFillSymbol

Symbol 1: nonconiferousTreeFillSymbol

Symbol 2: smallNonconiferousTreeFillSymbol

Name: scrubFillSymbol

Symbol 1: bushFillSymbol

Symbol 2: smallBushFillSymbol

Transformation 3

Symbol 1 – translate(-1 -1)

Symbol 2 – translate(1 1)

Name: coniferousTreesAndScrubFillSymbol

Symbol 1: coniferousTreesFillSymbol

Symbol 2: scrubFillSymbol

Name: heathAndScrubFillSymbol

Symbol 1: heathFillSymbol

Symbol 2: scrubFillSymbol

Name: heathAndScatteredRocksFillSymbol

Symbol 1: heathFillSymbol

Symbol 2: smallRockFillSymbol

Name: nonconiferousTreesAndConiferousTreesFillSymbol

Symbol 1: nonconiferousTreesFillSymbol

Symbol 2: coniferousTreesFillSymbol

Name: nonconiferousTreesAndCoppiceFillSymbol

Symbol 1: nonconiferousTreesFillSymbol

Symbol 2: coppiceFillSymbol

Name: nonconiferousTreesAndScrubFillSymbol

Symbol 1: nonconiferousTreesFillSymbol

Symbol 2: scrubFillSymbol

Name: nonconiferousTreesAndScatteredRocksFillSymbol

Symbol 1: nonconiferousTreesFillSymbol

Symbol 2: smallRockFillSymbol

Name: coniferousTreesAndScatteredRocksFillSymbol

Symbol 1: coniferousTreesFillSymbol

Symbol 2: smallRockFillSymbol

Name: roughGrassAndBouldersFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: bouldersFillSymbol

Name: roughGrassAndConiferousTreesFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: coniferousTreesFillSymbol

Name: roughGrassAndHeathFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: heathFillSymbol

Name: roughGrassAndMarshFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: marshFillSymbol

Name: roughGrassAndNonconiferousTreesFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: nonconiferousTreesFillSymbol

Name: roughGrassAndRocksFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: rocksFillSymbol

Name: roughGrassAndScatteredBouldersFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: smallBouldersFillSymbol

Name: roughGrassAndScatteredNonconiferousTreesFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: smallNonconiferousTreeFillSymbol

Name: roughGrassAndScatteredRocksFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: smallRockFillSymbol

Name: roughGrassAndScrubFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: scrubFillSymbol

Name: scatteredNonconiferousTreesAndScatteredConiferousTreesFillSymbol

Symbol 1: smallNonconiferousTreeFillSymbol

Symbol 2: smallConiferousTreeFillSymbol

Name: scrubAndScatteredNonconiferousTreesFillSymbol

Symbol 1: scrubFillSymbol

Symbol 2: smallNonconiferousTreeFillSymbol

Transformation 4

Symbol 1 – translate(-2 -2)

Symbol 2 – translate(-0.5 0.5)

Symbol 3 – translate(2 2)

Name: rocksRoughGrassAndBouldersFillSymbol

Symbol 1: rocksFillSymbol

Symbol 2: roughGrassFillSymbol

Symbol 3: bouldersFillSymbol

Name: roughGrassNonconiferousTreesAndConiferousTreesFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: nonconiferousTreesFillSymbol

Symbol 3: coniferousTreesFillSymbol

Name: roughGrassNonconiferousTreesAndScrubFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: nonconiferousTreesFillSymbol

Symbol 3: scrubFillSymbol

Name: scrubNonconiferousTreesAndCoppiceFillSymbol

Symbol 1: scrubFillSymbol

Symbol 2: nonconiferousTreesFillSymbol

Symbol 3: coppiceFillSymbol

Name: scrubConiferousTreesAndNonconiferousTreesFillSymbol

Symbol 1: scrubFillSymbol

Symbol 2: coniferousTreesFillSymbol

Symbol 3: nonconiferousTreesFillSymbol

Transformation 5

Symbol 1 – translate(0 -1)

Symbol 2 – translate(-2 1)

Symbol 3 – translate(2 1)

Name: roughGrassScatteredRocksAndBouldersFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: smallRockFillSymbol

Symbol 3: bouldersFillSymbol

Name: roughGrassScatteredRocksAndHeathFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: smallRockFillSymbol

Symbol 3: heathFillSymbol

Name: roughGrassScatteredRocksAndScatteredBouldersFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: smallRockFillSymbol

Symbol 3: smallBoulderFillSymbol

Name: roughGrassScatteredNonconiferousTreesAndScrubFillSymbol

Symbol 1: roughGrassFillSymbol

Symbol 2: smallNonconiferousTreeFillSymbol

Symbol 3: scrubFillSymbol

Name: scatteredConiferousTreesScatteredNonconiferousTreesAndScrubFillSymbol

Symbol 1: smallConiferousTreeFillSymbol

Symbol 2: smallNonconiferousTreeFillSymbol

Symbol 3: scrubFillSymbol

Pattern definitions

Creating a pattern

The symbols defined in Symbols and Compound symbols that end with the term FillSymbol are all used for pattern fills. The name of the pattern is taken from the symbol name by replacing FillSymbol with the term Pattern. The exceptions to this principle are:

- scatteredBouldersPattern uses smallBoulderFillSymbol
- scatteredRocksPattern uses smallRockFillSymbol
- scatteredConiferousTreesPattern uses smallConiferousTreeFillSymbol
- scatteredNonconiferousTreesPattern uses smallNonconiferousTreeFillSymbol

To produce a particular pattern, the appropriate fill symbol is distributed on a grid that is repeated to cover the polygon being drawn. Currently the following grids are in use:

Landform grid

Size: (25,25)

Suitable symbols: manmadeLandformFillSymbol, naturalLandformFillSymbol

Symbol coordinates: 0,-21 0,-18 0,-15 0,-12 0,-9 0,-6 0,-3 0,0 0,3 0,6 0,9 0,12 0,15 0,18 0,21

Fill colour: none

Patterns: manmadeLandformPattern
naturalLandformPattern

Small regular grid

Size: (3,3)

Suitable symbols: foreshoreFillSymbol, multiVegetationFillSymbol

Symbol coordinates: 2,2

Fill colour: for foreshorePattern – ccffff (RGB 204,255,255)
otherwise – ccffcc (RGB 204,255,204)

Patterns: foreshorePattern
multiVegetationPattern

Regular grid

Size: (6 6)

Suitable symbols: orchardFillSymbol

Symbol coordinates: 3,3

Fill colour: ccffcc (RGB 204,255,204)

Patterns: orchardPattern

Natural environment grid

Size: (50,50)

Suitable symbols: All natural vegetation and surface cover symbol types except for orchard.

Symbol coordinates: 5,3 5,25 10,12 10,35 25,45 42,15 37,27 27,14 36,37 42,45 39,3 18,33

Fill colour: ccffcc (RGB 204,255,204)

Patterns: roughGrassPattern
heathPattern
marshPattern
scatteredBouldersPattern
scatteredRocksPattern
scatteredConiferousTreesPattern
scatteredNonconiferousTreesPattern
coppicePattern
orchardPattern
bouldersPattern
rocksPattern
screePattern
scrubPattern

coniferousTreesPattern

nonconiferousTreesPattern

coniferousTreesAndScatteredRocksPattern

coniferousTreesAndScrubPattern

heathAndScrubPattern

heathAndScatteredRocksPattern

nonconiferousTreesAndConiferousTreesPattern

nonconiferousTreesAndCoppicePattern

nonconiferousTreesAndScatteredRocksPattern

nonconiferousTreesAndScrubPattern

roughGrassAndBouldersPattern

roughGrassAndConiferousTreesPattern

roughGrassAndHeathPattern

roughGrassAndMarshPattern

roughGrassAndNonconiferousTreesPattern

roughGrassAndRocksPattern

roughGrassAndScatteredBouldersPattern

roughGrassAndScatteredNonconiferousTreesPattern

roughGrassAndScatteredRocksPattern

roughGrassAndScrubPattern

scatteredNonconiferousTreesAndScatteredConiferousTreesPattern

scrubAndScatteredNonconiferousTreesPattern

rocksRoughGrassAndBouldersPattern

roughGrassNonconiferousTreesAndConiferousTreesPattern

roughGrassNonconiferousTreesAndScrubPattern

roughGrassScatteredRocksAndBouldersPattern

roughGrassScatteredRocksAndHeathPattern

roughGrassScatteredRocksAndScatteredBouldersPattern

roughGrassScatteredNonconiferousTreesAndScrubPattern

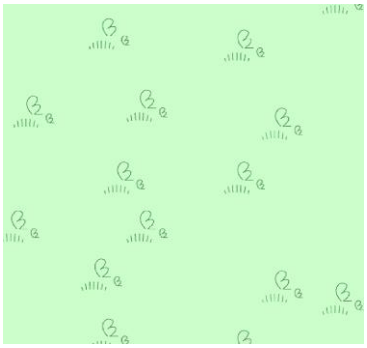
scrubConiferousTreesAndNonconiferousTreesPattern

scrubNonconiferousTreesAndCoppicePattern

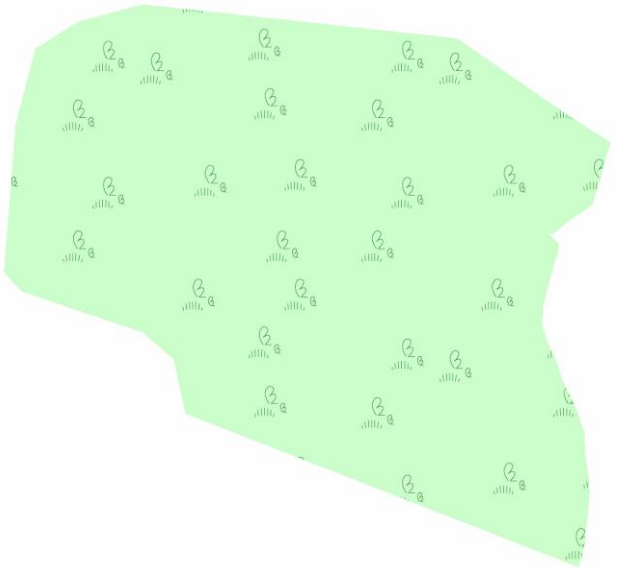
scatteredConiferousTreesScatteredNonconiferousTreesAndScrubPattern

Example

For example, the heathAndScrubPattern uses the natural environment grid to produce the pattern below:



This is then applied as a polygon fill:



Line styles

Default

333333

Name – defaultLine

stroke-width – 0.07

Default dashed

333333

Name – defaultDashedLine

stroke-width – 0.1

stroke-dasharray – 0.5, 0.5

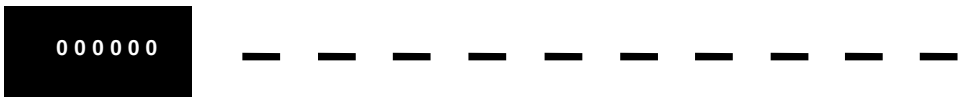
Building

000000

Name – buildingLine

stroke-width – 0.07

Building overhead



Name – buildingOverheadLine

stroke-width – 0.1

stroke-dasharray – 0.5, 0.5

Water bold

Name – waterBoldLine

stroke-width – 0.4

Water dashed

Name – waterDashedLine

stroke-width – 0.1

Water

Name – waterLine

stroke-width – 0.07

Underground

Name – defaultUndergroundLine

stroke-width – 0.2

stroke-dasharray – 3.0, 1.0

Structure overhead

Name – structureOverheadLine

stroke-width – 0.2

stroke-dasharray – 2.0, 1.0

Landform bold

Name – landformBoldLine

stroke-width – 0.3

stroke-dasharray – 0.8, 0.8

Landform

Name – landformLine

stroke-width – 0.1

stroke-dasharray – 0.8, 0.8

Narrow-gauge railway alignment

Name – narrowGaugeRailwayAlignmentLine

stroke-width – 0.3

Standard-gauge rail

Name – standardGaugeRailLine

stroke-width – 0.15

Parish

Name – parishLine

stroke-width – 0.4

stroke-dasharray – 0.4, 0.8

Electoral

Name – electoralLine

stroke-width – 0.2

stroke-dasharray – 1.5, 0.5

County

Name – countyLine

stroke-width – 0.4

stroke-dasharray – 2.0, 1.0

Parliamentary

Name – parliamentaryLine

stroke-width – 0.4

stroke-dasharray – 1.8, 0.5

District

Name – districtLine

stroke-width – 0.3

stroke-dasharray – 1.5, 0.8

Closing

Name – closingLine

stroke-width – 0.05

stroke-dasharray – 0.5, 0.5

Chapter 4 Addendum to Cartographic Styling – for new Descriptive Terms

This chapter provides an addendum to Chapter 4 with a guide to applying styles to Topography Layer features enriched with additional descriptive terms. Only features with new descriptive terms have been provided.

TopographicArea

descriptiveGroup	descriptiveTerm	make	Style name
General Surface	Agricultural Land	Natural	agriculturalLandFill
General Surface + Structure	Aqueduct	Manmade	structureFill
Inland Water + Structure	Aqueduct + Watercourse	Manmade	constructedWaterFill
Structure	Bridge	Manmade	structureFill
Structure	Capstan	Manmade	structureFill
Landform	Cave	Natural	naturalLandformPattern
Inland Water	Canal	Natural	constructedWaterFill
Tidal Water	Canal	Natural	constructedWaterFill
Inland Water	Canal Feeder	Natural	inlandWaterFill
Building	Chimney	Manmade	buildingFill
Structure	Chimney	Manmade	structureFill
Inland Water	Collects	Natural	naturalEnvironmentFill with collectsAndSpreadsFillSymbol and collectsAndSpreadsPattern
Inland Water	Conduit	Manmade	constructedWaterFill
Inland Water + Structure	Conduit	Manmade	constructedWaterFill
Building	Conduit	Manmade	buildingFill
Structure	Conveyor	Manmade	structureFill
Building + Structure	Conveyor	Manmade	buildingFill
Structure	Crane	Manmade	structureFill
Building + Structure	Crane	Manmade	buildingFill
Structure	Cross	Manmade	structureFill
Inland Water	Drain	Natural	constructedWaterFill
Tidal Water	Drain	Natural	constructedWaterFill
Building	Electricity Sub Station	Manmade	buildingFill
General Surface	Electricity Sub Station	Manmade	madeSurfaceFill
Structure	Electricity Sub Station	Manmade	structureFill
Path + Structure	Footbridge	Manmade	structureFill
Building + Structure	Footbridge	Manmade	buildingFill
Inland Water + Road Or Track	Ford	Natural	constructedWaterFill
Road Or Track + Tidal Water	Ford	Natural	constructedWaterFill

Inland Water + Structure	Fountain	Manmade	constructedWaterFill
Building	Gantry	Manmade	buildingFill
Structure	Gantry	Manmade	structureFill
Building	Gas Governor	Manmade	buildingFill
General Surface	Gas Governor	Manmade	madeSurfaceFill
Structure	Gas Governor	Manmade	structureFill
Structure	Groyne	Manmade	structureFill
General Surface	Landfill	Manmade	multipleSurfaceFill
Landform	Landfill	Manmade	multipleSurfaceFill
General Surface	Landfill (Inactive)	Natural	multipleSurfaceFill
Landform	Landfill (Inactive)	Natural	multipleSurfaceFill
Rail + Road Or Track	Level Crossing	Manmade	roadFill
Structure	Lighting Gantry	Manmade	structureFill
Rail + Structure	Lighting Gantry	Manmade	structureFill
Inland Water	Lock	Manmade	constructedWaterFill
Inland Water + Structure	Lock	Manmade	constructedWaterFill
Structure	Lock Gate	Manmade	structureFill
Natural Environment	Marsh	Natural	naturalEnvironmentFill with marshFillSymbol and marshPattern
Natural Environment + Rail	Marsh	Natural	naturalEnvironmentFill with marshFillSymbol and marshPattern
Natural Environment + Structure	Marsh	Natural	naturalEnvironmentFill with marshFillSymbol and marshPattern
Natural Environment + Roadside	Marsh	Natural	naturalEnvironmentFill with marshFillSymbol and marshPattern
Historic Interest + Structure	Mast	Manmade	structureFill
Structure	Mast	Manmade	structureFill
Inland Water	Mill Leat	Manmade	constructedWaterFill
Inland Water	Mine Leat	Manmade	constructedWaterFill
Inland Water + Structure	Mine Leat	Manmade	constructedWaterFill
General Surface	Mineral Workings	Manmade	multipleSurfaceFill
Landform	Mineral Workings	Manmade	multipleSurfaceFill
General Surface	Mineral Workings (Inactive)	Natural	multipleSurfaceFill
Landform	Mineral Workings (Inactive)	Natural	multipleSurfaceFill
General Surface	Mud	Natural	mudFill
General Surface	Mud + Sand	Natural	mudFill with sandFillSymbol and sandPattern
General Surface	Mud + Shingle	Natural	mudFill with shingleFillSymbol and shinglePattern
Natural Environment + Tidal Water	Foreshore + Mud	Natural	mudFill
Natural Environment + Tidal Water	Foreshore + Mud + Sand	Natural	mudFill with sandFillSymbol and sandPattern
Natural Environment + Tidal Water	Foreshore + Mud + Shingle	Natural	mudFill with shingleFillSymbol and shinglePattern

Building	Public Convenience	Manmade	buildingFill
General Surface	Public Convenience	Manmade	multipleSurfaceFill
Structure	Public Convenience	Manmade	structureFill
Building	Rail Signal Gantry	Manmade	buildingFill
Rail + Structure	Rail Signal Gantry	Manmade	structureFill
Natural Environment + Tidal Water	Reeds	Natural	tidalWaterFill with reedsFillSymbol and reedsPattern
Inland Water + Natural Environment	Reeds + Static Water	Natural	inlandWaterFill with reedsFillSymbol and reedsPattern
Natural Environment + Tidal Water	Foreshore + Reeds	Natural	tidalWaterFill with reedsFillSymbol and reedsPattern
Inland Water + Natural Environment	Reeds + Reservoir	Natural	constructedWaterFill with reedsFillSymbol and reedsPattern
Inland Water	Reservior	Natural	constructedWaterFill
Natural Environment	Saltmarsh	Natural	naturalEnvironmentFill with saltmarshFillSymbol and saltmarshPattern
Natural Environment + Rail	Saltmarsh	Natural	naturalEnvironmentFill with saltmarshFillSymbol and saltmarshPattern
Natural Environment + Roadside	Saltmarsh	Natural	naturalEnvironmentFill with saltmarshFillSymbol and saltmarshPattern
Natural Environment + Tidal Water	Saltmarsh	Natural	tidalWaterFill with saltmarshFillSymbol and saltmarshPattern
General Surface	Sand	Natural	sandFill with sandFillSymbol and sandPattern
Roadside	Sand	Natural	sandFill with sandFillSymbol and sandPattern
Rail	Sand	Natural	sandFill with sandFillSymbol and sandPattern
Natural Environment + Tidal Water	Foreshore + Sand	Natural	sandFill with sandFillSymbol and sandPattern
General Surface	Shingle	Natural	shingleFill with shingleFillSymbol and shinglePattern
Natural	Foreshore + Shingle	Natural	shingleFill with shingleFillSymbol and shinglePattern
Roadside	Shingle	Natural	shingleFill with shingleFillSymbol and shinglePattern
Rail	Shingle	Natural	shingleFill with shingleFillSymbol and shinglePattern
Inland Water	Sinks	Natural	inlandWaterFill
General Surface	Slipway	Manmade	madeSurfaceFill
General Surface + Tidal Water	Foreshore + Slipway	Manmade	madeSurfaceFill
General Surface + Structure	Slipway	Manmade	madeSurfaceFill
General Surface	Slag Heap	Manmade	multipleSurfaceFill
General Surface	Slag Heap (Inactive)	Natural	multipleSurfaceFill
General Surface + Tidal Water	Foreshore + Sloping Masonry	Manmade	slopingMasonryFill
General Surface	Sloping Masonry	Manmade	slopingMasonryFill

Path + Structure	Sloping Masonry	Manmade	slopingMasonryFill
Rail	Sloping Masonry	Manmade	slopingMasonryFill
Roadside	Sloping Masonry	Manmade	slopingMasonryFill
General Surface	Spoil Heap	Manmade	multipleSurfaceFill
General Surface	Spoil Heap (Inactive)	Natural	multipleSurfaceFill
General Surface + Tidal Water	Foreshore + Spreads	Natural	tidalWaterFill with collectsAndSpreadsFillSymbol and collectsAndSpreadsPattern
General Surface	Spreads	Natural	naturalEnvironmentFill with collectsAndSpreadsFillSymbol and collectsAndSpreadsPattern
Historic Interest + Inland Water	Spring	Natural	inlandWaterFill
Inland Water	Spring	Natural	inlandWaterFill
Inland Water + Structure	Spring	Natural	inlandWaterFill
Inland Water	Static Water	Natural	inlandWaterFill
Inland Water	Static Water	Manmade	inlandWaterFill
General Surface + Tidal Water	Swimming Pool	Manmade	constructedWaterFill
Inland Water	Swimming Pool	Manmade	constructedWaterFill
Building	Tank	Manmade	buildingFill
Building + Structure	Tank	Manmade	buildingFill
General Surface	Tank	Manmade	structureFill
General Surface	Tank	Natural	structureFill
Structure	Tank	Manmade	structureFill
Inland Water + Structure	Tank	Natural	inlandWaterFill
Inland Water + Structure	Tank	Manmade	inlandWaterFill
Structure	Telecommunications Mast	Manmade	structureFill
Inland Water	Watercourse	Natural	inlandWaterFill
Inland Water	Waterfall	Natural	inlandWaterFill
Structure + Tidal Water	Foreshore + Weir	Manmade	tidalWaterFill
Inland Water + Structure	Weir	Manmade	inlandWaterFill
Building	Weir	Manmade	buildingFill
Inland Water + Structure	Well	Manmade	inlandWaterFill
Building	Well	Manmade	buildingFill
Building + Historic Interest	Well	Manmade	buildingFill
Building	Wind Turbine	Manmade	buildingFill
Structure	Wind Turbine	Manmade	structureFill

TopographicLine

descriptiveGroup	descriptiveTerm	physicalPresence	make	Style name
General Feature	Cattle Grid	Edge/Limit		defaultDashedLine
General Feature	Cattle Grid	Obstructing		defaultLine
Inland Water	Canal Feeder	Edge/Limit		waterLine
Inland Water	Collects	Edge/Limit		waterLine
Inland Water	Conduit	Edge/Limit		waterLine
Inland Water + Structure	Conduit	Edge/Limit		waterLine
Inland Water + Structure	Conduit	Obstructing		defaultLine
General Feature	Conveyor	Obstructing		defaultLine
General Feature	Conveyor			defaultLine
General Feature	Crane + Overhead Construction			defaultDashedLine
Inland Water	Drain			waterLine
Inland Water	Ford	Edge/Limit		waterLine
General Feature	Gantry + Overhead Construction			defaultDashedLine
General Feature	Groyne	Obstructing		seaDefenceLine
Inland Water	Culvert + Issues	Edge/Limit		waterLine
General Feature	Lighting Gantry + Overhead Construction			defaultDashedLine
General Feature	Line Of Mooring Posts			postsLine
General Feature	Line Of Posts			postsLine
General Feature	Lock Gate	Obstructing		defaultLine
Inland Water	Mill Leat	Edge/Limit		waterLine
Inland Water	Mine Leat	Edge/Limit		waterLine
Inland Water + Structure	Mine Leat	Edge/Limit		waterLine
Building + Tidal Water	Mean High Water (Springs) + Normal Tidal Limit + Outline	Obstructing	Manmade	waterBoldLine
General Feature + Tidal Water	Mean High Water (Springs) + Normal Tidal Limit	Edge/Limit		waterBoldLine
General Feature + Tidal Water	Mean High Water (Springs) + Normal Tidal Limit	Obstructing		waterBoldLine
Structure + Tidal Water	Mean High Water (Springs) + Normal Tidal Limit	Obstructing	Manmade	waterBoldLine
Tidal Water	Mean High Water (Springs) + Normal Tidal Limit	Edge/Limit	Natural	waterBoldLine
General Feature	Overhead Construction + Rail Signal Gantry			defaultDashedLine
General Feature	Slipway	Edge/Limit		defaultLine
General Feature	Sloping Masonry	Edge/Limit		defaultLine
General Feature	Sluice	Obstructing	Manmade	defaultLine

Inland Water	Spreads	Edge/Limit		waterLine
General Feature	Spring	Obstructing		
Inland Water	Culvert + Spring	Edge/Limit		
Inland Water	Watercourse	Edge/Limit		
Inland Water	Waterfall	Edge/Limit	Natural	
General Feature	Waterfall (vertical)	Edge/Limit	Natural	
Inland Water + Structure	Weir	Obstructing		
Structure + Tidal Water	Mean High Water (Springs) + Weir	Obstructing	Manmade	

TopographicPoint

descriptiveGroup	descriptiveTerm	make	Style name
Structure	Capstan	Manmade	pointSymbol
Historic Interest + Structure	Cave		caveSymbol
Landform	Cave	Natural	caveSymbol
Structure	Chimney	Manmade	pointSymbol
Inland Water	Collects	Natural	waterPointSymbol
Structure	Crane	Manmade	pointSymbol
Structure	Crane + Overhead Construction	Manmade	pointSymbol
Political Or Administrative + Structure	Boundary Post Or Stone + Cross	Manmade	boundaryPostSymbol
Historic Interest + Structure	Cross	Manmade	crossSymbol
Historic Interest + Structure	Cross + Site Of Heritage	Manmade	heritageSiteOfSymbol
Structure	Cross	Manmade	crossSymbol
Historic Interest + Inland Water + Structure	Cross + Well	Manmade	waterPointSymbol
Historic Interest + Inland Water + Structure	Cross + Site Of Heritage + Well	Manmade	heritageSiteOfSymbol
Political Or Administrative + Roadside + Structure	Boundary Post Or Stone + Distance Marker	Manmade	boundaryPostSymbol
Political Or Administrative + Structure	Boundary Post Or Stone + Distance Marker	Manmade	boundaryPostSymbol
Rail + Structure	Distance Marker	Manmade	pointSymbol
Historic Interest + Structure	Distance Marker	Manmade	pointSymbol
Structure	Distance Marker	Manmade	pointSymbol
Roadside + Structure	Distance Marker	Manmade	pointSymbol
Historic Interest + Structure	Distance Marker + Site Of Heritage	Manmade	heritageSiteOfSymbol
Structure	Electricity Sub Station	Manmade	pointSymbol
Structure	Emergency Telephone	Manmade	emergencyTelephoneSymbol
Political Or Administrative + Structure	Boundary Post Or Stone + Flagstaff	Manmade	boundaryPostSymbol
Structure	Flagstaff	Manmade	pointSymbol
Inland Water	Ford	Natural	waterPointSymbol

Tidal Water	Ford	Natural	waterPointSymbol
Inland Water + Structure	Fountain	Manmade	pointSymbol
Structure	Gas Governor	Manmade	pointSymbol
Historic Interest + Political Or Administrative + Structure	Boundary Post Or Stone + Guide Post	Manmade	boundaryPostSymbol
Political Or Administrative + Roadside + Structure	Boundary Post Or Stone + Guide Post	Manmade	boundaryPostSymbol
Roadside + Structure	Guide Post	Manmade	pointSymbol
Historic Interest + Roadside + Structure	Guide Post	Manmade	pointSymbol
Historic Interest + Roadside + Structure	Guide Post + Site Of Heritage	Manmade	heritageSiteOfSymbol
Inland Water	Culvert + Issues	Manmade	waterPointSymbol
Inland Water	Issues	Manmade	waterPointSymbol
Structure	Letter Box	Manmade	postboxSymbol
Structure	Mast	Manmade	pointSymbol
Historic Interest + Structure	Mast	Manmade	pointSymbol
Historic Interest + Structure	Mast + Site Of Heritage	Manmade	heritageSiteOfSymbol
Roadside + Structure	Mast	Manmade	pointSymbol
Structure	Mooring Post	Manmade	pointSymbol
Structure	Pole	Manmade	pointSymbol
Structure	Overhead Construction + Pole	Manmade	pointSymbol
Rail + Structure	Pole	Manmade	pointSymbol
Political Or Administrative + Structure	Boundary Post Or Stone + Post	Manmade	boundaryPostSymbol
Historic Interest + Political Or Administrative + Structure	Boundary Post Or Stone + Post	Manmade	boundaryPostSymbol
Structure	Post	Manmade	pointSymbol
Historic Interest + Structure	Post	Manmade	pointSymbol
Rail + Structure	Post	Manmade	pointSymbol
Roadside + Structure	Post	Manmade	pointSymbol
Historic Interest + Structure	Post + Site Of Heritage	Manmade	heritageSiteOfSymbol
Structure	Public Convenience	Manmade	pointSymbol
Structure	Public Telephone	Manmade	pointSymbol
Rail + Structure	Signal	Manmade	signalSymbol
Structure	Signal	Manmade	signalSymbol
Inland Water	Sinks	Natural	waterPointSymbol
Structure	Sluice	Manmade	waterPointSymbol
Inland Water	Spreads	Natural	waterPointSymbol
Inland Water	Culvert + Spring	Manmade	waterPointSymbol
Inland Water	Spring	Manmade	waterPointSymbol
Historic Interest + Inland Water	Spring	Natural	waterPointSymbol
Inland Water	Spring	Natural	waterPointSymbol

Historic Interest + Inland Water	Spring + Site of Heritage	Natural	heritageSiteOfSymbol
Inland Water	Static Water		waterPointSymbol
Structure	Pylon + Tank	Manmade	pointSymbol
Structure	Telecommunications Mast	Manmade	pointSymbol
Inland Water	Waterfall (vertical)	Natural	waterPointSymbol
Structure	Weir	Manmade	pointSymbol
Historic Interest + Inland Water + Structure	Site Of Heritage + Well	Manmade	heritageSiteOfSymbol
Historic Interest + Inland Water	Well	Manmade	waterPointSymbol
Inland Water + Structure	Well	Manmade	pointSymbol
Inland Water	Well	Manmade	waterPointSymbol
Historic Interest + Structure	Well	Manmade	waterPointSymbol
Structure	Well	Manmade	pointSymbol
Structure	Wind Turbine	Manmade	pointSymbol
Structure	Pylon + Wind Turbine	Manmade	pointSymbol

Cartographic Style Definitions

This section defines the default styles for the presentation of new descriptive terms within OS MasterMap. This specifies the colours, symbols and line styles used for visual display and printing of OS MasterMap. The styles are defined using the Scalable Vector Graphics (SVG) syntax.

Colour Palette

Ordnance Survey has chosen to use colours that are consistent in the internet environment. The particular colours used are defined with both their RGB and hexadecimal values in colour palette. Please see colour palette for the new descriptive terms below:

	Hex (r,g,b)	Style Name
	AAD48C (170,212,140)	agriculturalLandFill
	6CC0D8 (108,193,217)	constructedWaterFill
	F5F0E1 (245,240,225)	mudFill
	F7FF82 (247,255,125)	sandFill
	B7B789 (183,184,138)	slopingMasonryFill
	D1DACD (209, 218, 205)	shingleFill

Point Symbols

Point symbols are used to represent the position of particular features within the data, such as a telephone call box or bollard. The symbol represents the location and type of feature.

Point symbols are applied to the visual representation by translating them to the location of the feature they are representing and rotating them, if the orientation attribute is present, by a given amount. With introduction of new descriptive terms the additional symbols are:

caveSymbol Style: stroke:#000000;fill:#D9D9D9;stroke-width:0.150 Geometry: <circle id="circleGeometry" r="0.375" cx="0" cy="0"/> "#circleGeometry" x="0" y="0"/>	
crossSymbol Style: stroke:#000000; fill:none; stroke-width:0.087 Geometry: <polyline points='0.000,-0.775 0.000,0.775'/> <polyline points='-0.385,0.385 0.385,0.385'/>	
emergencyTelephoneSymbol Style: stroke:#FF0000;fill:#FF0000;stroke-width:0.087 Geometry: circleGeometry (see Shared symbol geometry)	
postboxSymbol Style: stroke:#000000;fill:#FF0000;stroke-width:0.087 Geometry: circleGeometry (see Shared symbol geometry)	
signalSymbol Style: stroke:#000000;fill:#FFAD00;stroke-width:0.087 Geometry: circleGeometry (see Shared symbol geometry)	

Fill Symbols

Fill symbols are used to represent some attribution of a polygon feature and are distributed as a pattern fill across the polygon. For example, the symbol may represent information about the topographic surface such as the vegetation type.

Please see fill symbols for new descriptive terms below:

collectsAndSpreadsFillSymbol Style: stroke:#0099ff;fill:#0099ff;stroke-width:0.087 Geometry: circleFillGeometry (see Shared symbol geometry)	
saltmarshFillSymbol Style: fill:none;stroke-width:0.087 Geometry: <g style='stroke:#0099FF'> <polyline points='4.258,0.000 0.452,0.000' /> <polyline points='-4.250,0.000 -0.444,0.000' /> <polyline points='-1.318,-0.517 1.317,-0.517' /> </g> <g style='stroke:#0099FF;'> <polyline points='-0.444,0.000 -0.534,1.0' /> <polyline points='0.452,0.000 0.541,1.0' /> <polyline points='-0.001,0.013 -0.001,1.177' /> <polyline points='0.880,0.000 1.118,0.675' /> <polyline points='-0.873,0.000 -1.110,0.675' /> <polyline points='-1.318,0.000 -1.440,0.269' /> <polyline points='1.326,0.000 1.447,0.269' /> </g>	
sandFillSymbol Style: stroke:#666666;fill:#666666;stroke-width:0.087 Geometry: circleFillGeometry (see Shared symbol geometry)	
reedsFillSymbol Style: stroke:#0099FF;fill:none;stroke-width:0.087 Geometry: <polyline points='-1.487,-0.75 -1.601,-0.208' /> <polyline points='-0.996,-0.613 -1.121,0.405' /> <polyline points='-0.499,-0.545 -0.55,0.695' /> <polyline points='0,-0.536 0,0.732' /> <polyline points='0.499,-0.545 0.55,0.695' /> <polyline points='0.996,-0.613 1.121,0.405' /> <polyline points='1.487,-0.75 1.601,-0.208' />	
shingleFillSymbol Style: stroke:#666666;fill:none;stroke-width:0.087	

Geometry: <polyline points='0.215,0.103 0.081,0.541 0.317,0.811 0.756,0.98 0.992,0.743 1.161,0.44 0.992,0.305 0.823,0.068 0.655,-0.066 '/> <polyline points='0.123,-0.953 -0.317,-1.087 -0.587,-0.849 -0.754,-0.409 -0.517,-0.174 -0.212,-0.006 -0.077,-0.175 0.159,-0.345 0.293,-0.515 '/> <polyline points='-1.044,0.734 -0.871,1.058 -0.583,1.076 -0.239,0.922 -0.241,0.653 -0.317,0.386 -0.491,0.406 -0.72,0.369 -0.893,0.388 '/>	

Pattern definition

Creating a pattern

To produce a particular pattern, the appropriate fill symbol is distributed on a grid that is repeated to cover the polygon being drawn. With introduction of new descriptive terms the following grids are in use:

Small regular grid

Size: (3,3)

Suitable symbols: foreshoreFillSymbol, multiVegetationFillSymbol, collectsAndSpreadsFillSymbol

Symbol coordinates: 2,2

Fill colour: for foreshorePattern – DCFFBE (RGB 204,255,255)

for collectsAndSpreadsPattern – DCFFBE (RGB 220,255,190)

for sandPattern - F7FF82 (RGB 247,255,125)

Patterns: foreshorePattern
multiVegetationPattern

collectsAndSpreadsPattern

sandPattern

Natural environment grid

Size: (50,50)

Suitable symbols: All natural vegetation and surface cover symbol types except for orchard.

Symbol coordinates: 5,3 5,25 10,12 10,35 25,45 42,15 37,27 27,14 36,37 42,45 39,3 18,33

Fill colour: ccffcc (RGB 204,255,204)

Patterns: roughGrassPattern

heathPattern

marshPattern

scatteredBouldersPattern

scatteredRocksPattern

scatteredConiferousTreesPattern

scatteredNonconiferousTreesPattern

coppicePattern

orchardPattern

bouldersPattern

rocksPattern

screePattern

scrubPattern

coniferousTreesPattern

nonconiferousTreesPattern

reedsPattern

saltmarshPattern

shinglePattern

coniferousTreesAndScatteredRocksPattern

coniferousTreesAndScrubPattern

heathAndScrubPattern

heathAndScatteredRocksPattern

nonconiferousTreesAndConiferousTreesPattern

nonconiferousTreesAndCoppicePattern

nonconiferousTreesAndScatteredRocksPattern

nonconiferousTreesAndScrubPattern

roughGrassAndBouldersPattern

roughGrassAndConiferousTreesPattern

roughGrassAndHeathPattern

roughGrassAndMarshPattern

roughGrassAndNonconiferousTreesPattern

roughGrassAndRocksPattern

roughGrassAndScatteredBouldersPattern

roughGrassAndScatteredNonconiferousTreesPattern

roughGrassAndScatteredRocksPattern

roughGrassAndScrubPattern

scatteredNonconiferousTreesAndScatteredConiferousTreesPattern

scrubAndScatteredNonconiferousTreesPattern

rocksRoughGrassAndBouldersPattern

Line styles

Line styles are used to allow a user to distinguish between different types of linear feature, for example, distinctions may be made to emphasise:

- Obstructing detail
- Non-obstructing detail

- Underground detail
- Overhead detail
- Building outlines
- Water limits and linear features
- Landform detail
- Narrow-gauge railways
- Statutory boundaries.
- Polygon-closing features

By introducing new descriptive terms additional lines style are:

Groyne

Name – seaDefenceLine

stroke: #B39132 stroke-width – 0.15

Line of Posts, Line of Mooring Posts

Name – postsLine

stroke-width – 0.4

stroke-dasharray – 0.1, 2.0

stroke-linecap - round