This information is provided to document two possible full encodings for Sutton SignWriting. The Center for Sutton Movement Writing and Wikimedia Incubator both currently use the ASCII design of Formal SignWriting.

### SignWriting Design Options

The SignWriting design options below are supported by software and fonts created by the Center for Sutton Movement Writing. The design options cover two models.

#### Option 1 as the Optimal Solution

This model overwrites the Sutton SignWriting block in Unicode and uses plane 4 for the symbols of the International SignWriting alphabet 2010. This option works in all browsers and most software.

<table>
<thead>
<tr>
<th>Description</th>
<th>Formal SignWriting</th>
<th>Unicode Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sequence Marker</td>
<td>A</td>
<td>U+1D800</td>
</tr>
<tr>
<td>SignBox Markers</td>
<td>B, L, M, R</td>
<td>U+1D801..U+1D804</td>
</tr>
<tr>
<td>Numbers</td>
<td>250 to 749</td>
<td>U+1D80C..U+1D9FF</td>
</tr>
<tr>
<td>Sutton SignWriting Symbols</td>
<td>S10000 to S38b07</td>
<td>Plane 4</td>
</tr>
</tbody>
</table>

#### Option 2 as the Compliant Solution

This model builds on the official Sutton SignWriting block in Unicode with 17 additional characters to complete the encoding of Sutton SignWriting in Unicode. This option uses CCMP type ligatures for the symbol glyphs with an extension lookup. Support for CCMP ligatures with an extension lookup is extremely limited for browsers and software.

<table>
<thead>
<tr>
<th>Description</th>
<th>Formal SignWriting</th>
<th>Unicode Characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Official Symbol Bases</td>
<td>S100 to S38b</td>
<td>U+1D800..1DA8B</td>
</tr>
<tr>
<td>Official Fill Modifiers</td>
<td>1 to 5</td>
<td>U+1DA9B..U+1DA9F</td>
</tr>
<tr>
<td>Official Rotation Modifiers</td>
<td>1 to 9 and a to f</td>
<td>U+1DAA1..U+1DAAF</td>
</tr>
<tr>
<td>New Fill Modifier 1</td>
<td>0</td>
<td>U+1DA9A</td>
</tr>
<tr>
<td>New Rotation Modifier 1</td>
<td>0</td>
<td>U+1DAA0</td>
</tr>
<tr>
<td>New Numbers</td>
<td>0 to 9</td>
<td>U+1DAB0..U+1DAB9</td>
</tr>
<tr>
<td>New Sequence Marker</td>
<td>A</td>
<td>U+1DABA</td>
</tr>
<tr>
<td>New SignBox Markers</td>
<td>B, L, M, R</td>
<td>U+1DABB..U+1DABE</td>
</tr>
</tbody>
</table>
Example

**Formal SignWriting in ASCII representation:** M536x518S2ff00482x483S10000521x457

**Option 1 codes:** U+1D803 U+1D92A U+1D918 U+4BFA1 U+1D8F4 U+1D8F5 U+40001 U+1D91B U+1D8DB

**Option 1 text:** 🟃〇〇〇〇〇〇

**Option 2 codes:** U+1DABD U+1DAB5 U+1DAB3 U+1DAB6 U+1DAB5 U+1DAB1 U+1DAB8 U+1D9FF U+1DA9A U+1DA0 U+1DAB4 U+1DAB8 U+1DAB2 U+1DAB4 U+1DAB4 U+1DAB3 U+1D800 U+1DA9A U+1DA0 U+1DAB5 U+1DAB5 U+1DAB4 U+1DAB8 U+1DAB3

**Option 2 text:** 🟃〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇〇　

**Example Image**

Example Details

<table>
<thead>
<tr>
<th>Formal SignWriting</th>
<th>Option 1</th>
<th>Option 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign</td>
<td>F/R</td>
<td>Numbers</td>
</tr>
<tr>
<td>M</td>
<td>536x518</td>
<td>U+1D803 U+1D92A U+1D918</td>
</tr>
<tr>
<td>S2ff</td>
<td>00</td>
<td>482x483</td>
</tr>
<tr>
<td>S100</td>
<td>00</td>
<td>521x457</td>
</tr>
</tbody>
</table>
Fonts Available

The following fonts can be downloaded and installed on Windows, Linux, and Mac. For iOS devices, a configuration profile is available. For Android in the browser, the following CSS statements will load the fonts.

Symbol Fonts for SVG

There are two fonts for the Sutton SignWriting symbols that are used in SVG: the “Sutton SignWriting Line font” as the positive space of the symbol glyphs on Unicode plane 15 and the “Sutton SignWriting Fill font” as the negative space of the symbol glyphs on Unicode plane 16. These glyphs descend below the baseline.

@font-face {
  font-family: "SuttonSignWritingLine";
  src:
    local('SuttonSignWritingLine'),
    url('https://cdn.rawgit.com/Slevinski/SuttonSignWriting/master/assets/SuttonSignWritingLine.ttf')
  format('truetype');
}

@font-face {
  font-family: "SuttonSignWritingFill";
  src:
    local('SuttonSignWritingFill'),
    url('https://cdn.rawgit.com/Slevinski/SuttonSignWriting/master/assets/SuttonSignWritingFill.ttf')
  format('truetype');
}

1 Dimensional Font for Unicode Option 1

The “Sutton SignWriting 1D Optimal font” visualizes a Formal SignWriting word as a 1-dimensional string of glyphs for structural markers, symbols, and numbers. The font uses the Unicode Option 1 character set. These glyphs are centered above the baseline and are meant to be used in traditionally 1-dimensional situations.

@font-face {
  font-family: "SuttonSignWriting1dOpt";
  src:
    local('SuttonSignWriting1dOpt'),
    url('https://cdn.rawgit.com/Slevinski/SuttonSignWriting/master/assets/SuttonSignWriting1dOpt.ttf')
  format('truetype');
}

1 Dimensional Font for Unicode Option 2

The “Sutton SignWriting 1D font” visualizes a Formal SignWriting word as a 1-dimensional string of glyphs for structural markers, symbols, and numbers. The font uses the Unicode Option 2 character set. These glyphs are centered above the baseline and are meant to be used in traditionally 1-dimensional situations.

Using this font requires the support of the ligature feature "ccmp" for Glyph Composition/Decomposition. Support in older software is limited. In the browser, "ccmp" ligatures support with extension lookup is sometimes possible, but it will require extra css to define the font family and may require extra css to enable the "ccmp" feature.

@font-face {
  font-family: "SuttonSignWriting1d";
  src:
    local('SuttonSignWriting1d'),
    url('https://cdn.rawgit.com/Slevinski/SuttonSignWriting/master/assets/SuttonSignWriting1d.ttf')
  format('truetype');
}
2D Font Development

A prototype 2-dimensional font is available for Graphite.

Future development is planned to target the Universal Shaping Engine for both Unicode Option 1 and Option 2.

More information is available online:

2D Font Rendering Strategy

Step 1: collapse SignSpelling Sequence

Step 2: create SignBox with center

Step 3: reorder symbol and positioning

GPOS X 482, GPOS Y 483, write 🔱,
GPOS X 506, GPOS Y 500, write 🔱,
GPOS X 503, GPOS Y 520, write 🔱