



Location SA Open Web Services Pilot

GovHack 2017 User Guidelines

Version 1.0

Index

1. Overview of Location SA	3
2. Location SA Web Service Pilot for GovHack 2017	3
3. Assistance over GovHack weekend 2017	4
4. Help us to expand and improve our open web services	4
5. Conditions of Use – Location SA Web Services	4
6. Location SA Map Viewer	5
6.1 URL Script Components	5
7. National Address Locator Web Service (pilot GovHack 2017)	6
7.1 Understanding Address Locator Validation Rules	6
7.1.1 Searching Without Full Address	6
7.1.2 Unit and Lot Number Searching	6
7.2 Understanding and Testing the Address Locator Rest Service	7
7.3 Using the Address Locator Service.....	9
7.3.1 Using Individual Address Fields.....	9
7.3.2 Using Single Line Input.....	9
7.3.3 Returning Address Candidates.....	9
7.3.4 Controlling Number of Address Candidates Returned	10
7.4 Controlling Field Returns	11
7.4.1 Returning all Fields	11
7.4.2 Adding Fields Returned	11
7.4.3 Changing Location Map Projection Returns	11
8. National ABS Census Boundaries Web Service	12
8.1 Understanding ASGS Structures	12
8.2 Defining Location Map Projection REST API Input.....	12
8.3 Returned ASGS Location Codes	13
8.4 Input using simple syntax (GDA94 coordinates).....	13
8.5 Input location in SA Lamberts coordinate system:.....	14
9. SA Street Basemap Service	14
Appendix 1 Map Viewer Dataset UIDs	15

1. Overview of Location SA

Location SA is a multi-agency initiative that connects the government and community to location-based data services and insights from across the South Australian public sector.

The publicly available Location SA Map Viewer (<http://www.location.sa.gov.au/viewer/>) provides an easy to use tool to view SA government open data. GovHack competitors can:

- view and determine dataset relevance to their concept
- display datasets on a mapping interface from their concept
- see how a Street Map Web service can be used in an online application or analytics
- see how an address locator service (Search for an address or location) can be used in an online application

Location SA supports social and technological innovation in South Australia and recognises the economic potential that open data web services will provide to all South Australians.

2. Location SA Web Service Pilot for GovHack 2017

For GovHack 2017, Location SA will make available a number of pilot web services to competitors for the competition period. These include:

- **National Address Locator Web Service (Pilot GovHack 2017)**

The service validates addresses and returns the standardised address, their locations (X,Y coordinates) and match score. These coordinates can be used with the Location SA Street Map Web Service or other map data to display the returned record on a map. Data incorporates G-NAF ©PSMA Australia Limited licensed by the Commonwealth of Australia under the [Open Geo-coded National Address File \(G-NAF\) End User Licence Agreement](#) for the purpose of verifying, validating and mapping addresses.

- **Street Map Web Service (Pilot GovHack 2017)**

A South Australian Street Basemap Service provides an underlying map with authoritative street locations and names. You can overlay other data on the street map in applications or analytics. The service provides the requested images and not the underlying data. A user can also use the basemap to coordinate a point location which can then be used to retrieve information via a location intersection service.

- **National ABS Census Boundaries Web Service (Pilot GovHack 2017)**

This service identifies 2016 ABS census (ASGS) boundaries at a location coordinated point. Australian Statistical Geography Standard (ASGS) service is a point in a polygon. The boundary areas returned can be used as an additional layer over a basemap and can be used to perform analytics when mashed up with other statistical or spatial data.

3. Assistance over GovHack weekend 2017

There are three ways to connect for assistance over the GovHack weekend:

- Onsite – The Location SA Data Mentor is Bert Bruijn and he will be available on Friday and Saturday morning at the Adelaide venue.
- GovHack #slack channel – Communicate with 'locationsa' user.
- Contact details for the Location SA data mentor are provided on the GovHack website.

4. Help us to expand and improve our open web services

To release more open web services we need to hear from you!

You can do this in three ways:

- Email us with your feedback or requests at locationSA@sa.gov.au
- Connect with the Location SA Data Mentor at GovHack - Bert Bruijn (Friday and Saturday at Adelaide venue or on #slack find user 'locationsa')
- Please share with us your fantastic GovHack entries. Your entry can help demonstrate why Government should release more web services to developers and entrepreneurs.

5. Conditions of Use – Location SA Web Services

This web services will be free and active until 30 September 2017 (or the GovHack international Red Carpet Awards, if after this date). This will ensure your GovHack competition entry is supported with data services through the GovHack judging and awards nights.

The GovHack competition provides an opportunity for Location SA to test cloud based web services within an open environment. It is hoped that competitors will utilise and benefit from South Australian accurate and current addressing and basemap information.

Please be respectful of the pilot services. Misuse may negatively influence future access to government open data services. Location SA reserves the right to shape or shut down the web services if they are misused.

The open G-NAF data must not be used for the generation of an address or the compilation of an address for the sending of mail unless the user has verified that each address to be used for the sending of mail is capable of receiving mail by reference to a secondary source of information. Further information on this use restriction is available here:

<https://data.gov.au/dataset/geocoded-national-address-file-g-naf/resource/9a8f6baa-f790-49a0-84b1-3cb39a6a1b88>

End users must only use the data in ways that are consistent with the [Australian Privacy Principles](#) issued under the Privacy Act 1988 (Commonwealth).

Please read the end user license agreement available here:

<http://www.data.gov.au/dataset/geocoded-national-address-file-g-naf>

6. Location SA Map Viewer

The Location SA Map Viewer application is regularly used by Data.SA and South Australian government websites to publish datasets on a web mapping application:

<http://www.location.sa.gov.au/viewer/>

The easiest way to determine the required URL, is to turn on datasets in the map viewer at the location and scale you wish to use, then select the 'Share' menu item which will show you the URL.

For example, users of Data.SA may be provided a link to the map viewer from the dataset page. Example:

<https://data.sa.gov.au/data/dataset/shipwrecks>

Then using the 'Preview Shipwreck Locations in a map viewer' link open the URL to a web browser:

<http://location.sa.gov.au/viewer/?map=hybrid&x=141.64487&y=-36.0045&z=6&uids=96>

This opens the map viewer displaying shipwrecks and opens the 'Data Details' menu so users can find out more about the dataset(s).

6.1 URL Script Components

Example URL:

<http://location.sa.gov.au/viewer/?map=hybrid&x=137.21766&y=-32.650462&z=7&uids=57,58,144&pinx=&piny=&pinTitle=&pinText=>

The URL script components provide the following functionality:

- map= basemap hybrid (Satellite), roads or topographic. Note: the roads map is similar to the Streetmap service.
- &x= and &y= display map view centre coordinates (GDA94)
- &z= scale of map view (from closest = 19 to furthest = 6 (whole state))
- &uids= one or up to 10 comma separated dataset unique identifiers (UIDs). Note: See Appendix One for all Map Viewer Dataset UID.

7. National Address Locator Web Service (pilot GovHack 2017)

The service validates addresses and returns the standardised address, their locations (X,Y coordinates) and match score. These coordinates can be used with the Location SA Street Map Web Service or other map data to display the returned record on a map. Data *incorporates G-NAF ©PSMA Australia Limited licensed by the Commonwealth of Australia under the [Open Geo-coded National Address File \(G-NAF\) End User Licence Agreement](#)* for the purpose of verifying, validating and mapping addresses.

The address locator service supports a REST (JSON) web interface.

The address locator is based on a sophisticated series of addressing rules which are applied to the reference dataset GNAF produced by PSMA Australia. To learn more about the GNAF dataset:

<https://www.pasma.com.au/technical-information>

Users must adhere to Section 5 'Conditions of Use – Location SA Web Services'.

Address Locator data is current as at February 2017 nationally.

The transfer request rate will be monitored for performance issues and misuse.

7.1 Understanding Address Locator Validation Rules

The address locator service will return matching and near matching addresses in a standardised form along with a score indicating the level of confidence in the results returned. A score of 100 represents an exact match; the minimum score is set at 55. It is suggested that validated matches with a score of less than 80 are treated with a level of caution, manual intervention may be required to select the most appropriate match.

Scores of validated addresses or localities are calculated based on an algorithm relating to the weighting of individual address components and spelling matches. Relatively important factors pertaining to the address locator service are described below.

7.1.1 Searching Without Full Address

It is possible to search the address locator to return a number (maximum of 200) of valid addresses. As an example searching **Queen Street Norwood** will return a number of valid addresses. The scores of these addresses range from 100 to 55, the lower score for addresses on Queen Street in suburbs other than Norwood.

This capability is particularly useful where an address submitted to the address locator service for validation is incorrect, in this case '*No address candidates found*' is returned. The user could then remove the house number from the front of the address and resubmit the query for a range of addresses to be returned.

7.1.2 Unit and Lot Number Searching

When validating an address with multiple addresses on a site the following options are available;

- Apartment, apt, apartments, apts, aprtmnt, Building, bldg, bld, bldg, blg, Shop, shops, Shps, Unit, units, Flat, flats, Room, rm, suite, tenancy.

Multiple address queries should be constructed using the following guides;

- **unit 1 35 queen street norwood**
- **u1/35 queen street norwood**
- **1/35 queen street norwood**
- **shop 3 21 goodall parade mawson lakes**
- LOT numbers must have the text 'LOT' in the address to be validated.
- **LOT 27 monomeith road ashton** is validated, however 27 monomeith road ashton is not.

7.2 Understanding and Testing the Address Locator Rest Service

This online facility can be used to trial or test Location SA Locator Services without having to integrate the REST service into an application. Use the link below to access the Rest Service Test Harness:

<http://govhack.locationsa.com.au/server/rest/services/Locators>

ArcGIS REST Services Directory [Login](#) | [Get Token](#)

[Home](#) > [services](#) > [Locators](#) [Help](#) | [API Reference](#)

[JSON](#) | [SOAP](#)

Folder: Locators

Current Version: 10.5

View Footprints In: [ArcGIS Online map viewer](#)

Services:

- [Locators/GNAFNATIONAL](#) (GeocodeServer)

Supported Interfaces: [REST](#) [SOAP](#) [Sitemap](#) [Geo Sitemap](#)

Click on the Locators/GNAFNATIONAL link to open a description of the service and also a link to a Web Based Locator Form at the bottom of the page. The following information will be provided for the locator service:

Displayed Information	Description
Service Description	Name of the GeocodeServer and the date that the data set was built.
Address Fields	Lists data input parameters able to be sent to the REST service. Alias of the input parameter is included.
Single Line Address Field	Single Line Input is used to pass a complete address to the REST service e.g. <i>77 Grenfell Street Adelaide 5000</i> .
Candidate Fields	The fields listed in this section can be passed to the locator such that extra data is returned accordingly.

Spatial Reference	Is a unique code that describes the map projection of the returned coordinates.
Locator Properties	Describes a number of configurable properties of the GeocodeServer. A description of these properties can be provided if necessary.
Supported Interfaces	Lists REST and SOAP as supported interfaces. It is expected that the REST interface will be used by the majority of users.
Supported Operations	Links to the Locator service and the Reverse Geocode tool.

Click on the 'API References' link to find out more about the Rest service.

The web based locator service can be launched by clicking on the

[Find Address Candidates](#) link at the bottom of the page.

ArcGIS REST Services Directory [Login](#) | [Get Token](#)
[Home](#) > [services](#) > [Locators](#) > [GNAFNATIONAL \(GeocodeServer\)](#) > [findAddressCandidates](#) [Help](#) | [API Reference](#)

Find Address Candidates: (Locators/GNAFNATIONAL)

Street:

Locality:

State:

Postcode:

Single Line Input:

Category:

Out Fields:

Max Locations:

Output Spatial Reference:

Search Extent:

Location:

Distance in Meters:

Magic Key:

Format:

7.3 Using the Address Locator Service

The locator service address data conforms (existing addresses permitting) with a recorded address as defined in AS 4819:2003. Complete addresses are located with a GDA 94 coordinate being the property centroid. A Locality is a suburb or town.

The locator will return standard addresses including Unit and Lot numbers. In most cases the address locator component will return unique centroid coordinates for addresses.

7.3.1 Using Individual Address Fields

Input into Street, Locality, State and Postcode fields:

<http://govhack.locationsa.com.au/server/rest/services/Locators/GNAFNATIONAL/GeocodeServer/findAddressCandidates?Street=40+osmond+tce&Locality=norwood&State=sa&Postcode=5067&Single+Line+Input=&category=&outFields=&maxLocations=&outSR=&searchExtent=&location=&distance=&magicKey=&f=json>

The return displays the X, Y position of the centroid of the matched address, the matched score as a percentage and the returned validated address:

```
{"spatialReference":{"wkid":4283,"latestWkid":4283},"candidates":[{"address":"40 OSMOND TERRACE, NORWOOD, SOUTH AUSTRALIA, 5067","location":{"x":138.63236608468085,"y":-34.918732111703022},"score":100,"attributes":{}}]}
```

7.3.2 Using Single Line Input

Example: '33 queen street norwood sa 5067' with the best available score.

Input:

<http://govhack.locationsa.com.au/server/rest/services/Locators/GNAFNATIONAL/GeocodeServer/findAddressCandidates?Street=&Locality=&State=&Postcode=&Single+Line+Input=40+osmond+terrace+norwood+sa+5067&category=&outFields=&maxLocations=&outSR=&searchExtent=&location=&distance=&magicKey=&f=json>

Returns the same as using individual fields:

```
{"spatialReference":{"wkid":4283,"latestWkid":4283},"candidates":[{"address":"40 OSMOND TERRACE, NORWOOD, SOUTH AUSTRALIA, 5067","location":{"x":138.63236608468085,"y":-34.918732111703022},"score":100,"attributes":{}}]}
```

7.3.3 Returning Address Candidates

Multiple address candidates are returned when full valid address details are not input.

For example 22 Trent Avenue using individual address fields input:

<http://govhack.locationsa.com.au/server/rest/services/Locators/GNAFNATIONAL/GeocodeServer/findAddressCandidates?Street=22+trent+avenue&Locality=&State=&Postcode=&Single+Line+Input=&category=&outFields=&maxLocations=&outSR=&searchExtent=&location=&distance=&magicKey=&f=json>

or using single line input:

<http://govhack.locationsa.com.au/server/rest/services/Locators/GNAFNATIONAL/GeocodeServer/findAddressCandidates?Street=&Locality=&State=&Postcode=&Single+Line+Input=22+trent+avenue&category=&outFields=&maxLocations=&outSR=&searchExtent=&location=&distance=&magicKey=&f=json>

Both return the same number of address candidates with their score and location:

```
{
  "spatialReference": {
    "wkid": 4283,
    "latestWkid": 4283
  },
  "candidates": [
    {
      "address": "UNIT 38 22 TRENT AVENUE, KLEMZIG, SOUTH AUSTRALIA, 5087",
      "location": {
        "x": 138.64275489957834,
        "y": -34.870640919329077
      },
      "score": 100,
      "attributes": {}
    },
    {
      "address": "22 TRENT AVENUE, KLEMZIG, SOUTH AUSTRALIA, 5087",
      "location": {
        "x": 138.64277447090285,
        "y": -34.87063914011776
      },
      "score": 100,
      "attributes": {}
    },
    {
      "address": "UNIT 37 22 TRENT AVENUE, KLEMZIG, SOUTH AUSTRALIA, 5087",
      "location": {
        "x": 138.64279671104435,
        "y": -34.870728990289422
      },
      "score": 100,
      "attributes": {}
    },
    {
      "address": "22 TRENT CLOSE, WERRIBEE, VICTORIA, 3030",
      "location": {
        "x": 144.66306779503404,
        "y": -37.880407274975013
      },
      "score": 89.23999999999995,
      "attributes": {}
    },
    {
      "address": "22 TRENT STREET, GLEN IRIS, VICTORIA, 3146",
      "location": {
        "x": 145.08042984884568,
        "y": -37.851350085302435
      },
      "score": 89.23999999999995,
      "attributes": {}
    },
    {
      "address": "22 TRENT COURT, BURWOOD EAST, VICTORIA, 3151",
      "location": {
        "x": 145.14062412622391,
        "y": -37.849605568603181
      },
      "score": 89.23999999999995,
      "attributes": {}
    },
    {
      "address": "22 TRENT STREET, NEWBOROUGH, VICTORIA, 3825",
      "location": {
        "x": 146.29397206584977,
        "y": -38.173524333494079
      },
      "score": 89.23999999999995,
      "attributes": {}
    },
    {
      "address": "22 TRENT STREET, YOUNGTOWN, TASMANIA, 7249",
      "location": {
        "x": 147.17185984009626,
        "y": -41.480334467042312
      },
      "score": 89.23999999999995,
      "attributes": {}
    }
  ]
}
```

7.3.4 Controlling Number of Address Candidates Returned

It is useful to control number of returns when providing drop-down lists in address searches in web applications. To control the number of address candidates returned when full valid address details are not input include `&maxLocations=#` following `outFields` in the REST string:

<http://govhack.locationsa.com.au/server/rest/services/Locators/GNAFNATIONAL/GeocodeServer/findAddressCandidates?Street=&Locality=&State=&Postcode=&Single+Line+Input=22+trent+avenue&category=&outFields=&maxLocations=3&outSR=&searchExtent=&location=&distance=&magicKey=&f=json>

Returns top 3 address candidates only:

```
{
  "spatialReference": {
    "wkid": 4283,
    "latestWkid": 4283
  },
  "candidates": [
    {
      "address": "UNIT 38 22 TRENT AVENUE, KLEMZIG, SOUTH AUSTRALIA, 5087",
      "location": {
        "x": 138.64275489957834,
        "y": -34.870640919329077
      },
      "score": 100,
      "attributes": {}
    },
    {
      "address": "22 TRENT AVENUE, KLEMZIG, SOUTH AUSTRALIA, 5087",
      "location": {
        "x": 138.64277447090285,
        "y": -34.87063914011776
      },
      "score": 100,
      "attributes": {}
    },
    {
      "address": "UNIT 37 22 TRENT AVENUE, KLEMZIG, SOUTH AUSTRALIA, 5087",
      "location": {
        "x": 138.64279671104435,
        "y": -34.870728990289422
      },
      "score": 100,
      "attributes": {}
    }
  ]
}
```

7.4 Controlling Field Returns

You can return extra data fields when validating an Address, Locality or Postcode by specifying the outFields in the REST string.

7.4.1 Returning all Fields

For input to return all data fields separately specify a '*' in outFields:

http://govhack.locationsa.com.au/server/rest/services/Locators/GNAFNATIONAL/GeocodeServer/findAddressCandidates?Street=&Locality=&State=&Postcode=&Single+Line+Input=40+osmond+terrace+norwood+sa+5067&category=&outFields=* &maxLocations=&outSR=&searchExtent=&location=&distance=&magicKey=&f=json

Returns:

```
{ "spatialReference": { "wkid": 4283, "latestWkid": 4283 }, "candidates": [ { "address": "40 OSMOND TERRACE, NORWOOD, SOUTH AUSTRALIA, 5067", "location": { "x": 138.63236608468085, "y": -34.918732111703022 }, "score": 100, "attributes": { "Score": 100, "Match_addr": "40 OSMOND TERRACE, NORWOOD, SOUTH AUSTRALIA, 5067", "UnitType": "", "UnitNumber": "", "HouseNumber": "40", "StreetName": "OSMOND", "StreetType": "TERRACE", "StreetDir": "", "Locality": "NORWOOD", "State": "SOUTH AUSTRALIA", "Postcode": "5067", "Ref_ID": 1662959, "X": 138.63236608468085, "Y": -34.918732111703022, "Addr_type": "Address", "Match_time": 0.0020996000000000001, "Comp_score": ";"; HouseNumber=100; StreetName=100; StreetType=100; StreetDir=100; Locality=100; State=100; Postcode=100" } } ] }
```

7.4.2 Adding Fields Returned

To add fields which are returned with the address field specify the required fields. Example; 'outFields=Locality', will return the value of the towns or suburbs / locality field separately:

<http://govhack.locationsa.com.au/server/rest/services/Locators/GNAFNATIONAL/GeocodeServer/findAddressCandidates?Street=&Locality=&State=&Postcode=&Single+Line+Input=40+osmond+terrace+norwood+sa+5067&category=&outFields=Locality &maxLocations=&outSR=&searchExtent=&location=&distance=&magicKey=&f=json>

Returns:

```
{ "spatialReference": { "wkid": 4283, "latestWkid": 4283 }, "candidates": [ { "address": "40 OSMOND TERRACE, NORWOOD, SOUTH AUSTRALIA, 5067", "location": { "x": 138.63236608468085, "y": -34.918732111703022 }, "score": 100, "attributes": { "Locality": "NORWOOD" } } ] }
```

7.4.3 Changing Location Map Projection Returns

By default the coordinates of a validated Address or Locality are specified in Geographic (Lat/Long) Projection GDA94 (WKID 4283). For a list of WKID codes see for Projected Coordinate Systems:

<http://help.arcgis.com/en/arcgisserver/10.0/apis/rest/pcs.html>

and for Geographic Coordinate Systems:

<http://help.arcgis.com/en/arcgisserver/10.0/apis/rest/gcs.html>

The returned output projection of validated Addresses and Localities can be changed by specifying the WKID code. To specify the SA Lamberts Projection (WKID 3107) is added to the '&outSR=3107' attribute of the REST string.

<http://govhack.locationsa.com.au/server/rest/services/Locators/GNAFNATIONAL/GeocodeServer/findAddressCandidates?Street=&Locality=&State=&Postcode=&Single+Line+Input=40+osmond+terrace+>

norwood+sa+5067&category=&outFields=&maxLocations=&outSR=3107&searchExtent=&location=&distance=&magicKey=&f=json

Returns a validated address in the SA Lamberts projection:

```
{ "spatialReference": { "wkid": 102172, "latestWkid": 3107 }, "candidates": [ { "address": "33 QUEEN STREET, NORWOOD, SOUTH AUSTRALIA, 5067", "location": { "x": 1332008.4432343477, "y": 1671362.9495939463 }, "score": 100, "attributes": {} } ] }
```

8. National ABS Census Boundaries Web Service

URL:

<http://govhack.locationsa.com.au/intersects/ASGC.svc/?location={locationString}&census=2016>

The *National ABS Census Boundaries Web Service* identifies 2016 ABS census (ASGS) boundaries at a location (coordinated point). A user can identify a point on the SA Street Basemap or the *National Address Locator Web Service* can be used prior to using a web services to retrieve the coordinates at an address. The boundary codes returned can be used to further link to other open data such as ABS census data collected to identify features such as unemployment rates at a location.

8.1 Understanding ASGS Structures

Please refer to the ABS website for further ASGS details:

[http://www.abs.gov.au/websitedbs/D3310114.nsf/home/Australian+Statistical+Geography+Standard+\(ASGS\)](http://www.abs.gov.au/websitedbs/D3310114.nsf/home/Australian+Statistical+Geography+Standard+(ASGS))

8.2 Defining Location Map Projection REST API Input

The parameter format is modelled on the Esri ArcGIS REST API conventions. This REST (JSON) web service will perform a 'point in polygon' spatial intersection. For more on the ArcGIS REST API:

<http://resources.arcgis.com/en/help/arcgis-rest-api/>

The JSON format allows input in alternate coordinate systems using the WKID code in "spatial reference" and the web service will always return the point in geographical datum GDA 94:

- SA Lamberts projection – WKID code = 3107
- Geographical (Latitude/Longitude) Datum GDA94 – WKID code = 4283

For a list of WKID codes see for Projected Coordinate Systems:

http://resources.arcgis.com/en/help/arcgis-REST-api/#/Projected_coordinate_systems/

and for Geographic Coordinate Systems:

http://resources.arcgis.com/en/help/arcgis-REST-api/#/Geographic_coordinate_systems/

LIS locationString:

- Simple syntax: `location=<x>,<y>`. When the 'Simple' syntax is used, the coordinates must be GCS GDA 94 coordinates.
- JSON structure: `location={point}`:
 - `{point}` is `{"x" : <x>, "y" : <y>, "spatialReference" : {<spatialReference>}}`

For more on <spatialReference> see:

<http://resources.esri.com/help/9.3/arcgisserver/apis/rest/geometry.html>

go to server page

8.3 Returned ASGS Location Codes

The following table describes the codes returned:

Description	Code	Example
mesh block code	mbcode	40208130000
mesh block category	mbcat	Residential
SA1 full code	sa1main	40403110715
SA1 7 digit code	sa17dig	4110715
SA2 full code	sa2main	404031107
SA2 5 digit code	sa25dig	41107
SA2 area name	sa2name	Plympton
SA3 code	sa3code	40403
SA3 area name	sa3name	West Torrens
SA4 code	sa4code	404
SA4 area name	sa4name	Adelaide - West
GCC code	gcccode	4GADE
GCC name	gccname	Greater Adelaide

8.4 Input using simple syntax (GDA94 coordinates)

<http://govhack.locationsa.com.au/intersects/ASGC.svc/?location=138.5105,-34.78452&census=2016>

Returns:

```
{
  "location": {"x":138.5105,"y":-34.78452,"spatialReference":{"wkid":4283}},
  "asgc": {
    "mbcode": "40215020200",
    "mbcat": "Industrial",
    "sa1main": "40402110022",
    "sa17dig": "4110022",
    "sa2main": "404021100",
    "sa25dig": "41100",
    "sa2name": "North Haven",
    "sa3code": "40402",
    "sa3name": "Port Adelaide - West",
    "sa4code": "404",
    "sa4name": "Adelaide - West",
    "gcccode": "4GADE",
    "gccname": "Greater Adelaide"
  }
}
```

8.5 Input location in SA Lamberts coordinate system:

[http://govhack.locationsa.com.au/intersects/ASGC.svc/?location={"x":1324565.6,"y":1667706.9,"spatialReference":{"wkid":3107}}&census=2016](http://govhack.locationsa.com.au/intersects/ASGC.svc/?location={)

9. SA Street Basemap Service

To access the SA Street basemap service use the following URL:

http://govhack.locationsa.com.au/server/rest/services/BaseMaps/StreetMapCasedNoParcels_wmas/MapServer

ArcGIS REST Services Directory [Login](#) | [Get Token](#)

[Home](#) > [services](#) > [BaseMaps](#) > [StreetMapCasedNoParcels_wmas \(MapServer\)](#) [Help](#) | [API Reference](#)

[JSON](#) | [SOAP](#) | [WMS](#) | [WMTS](#)

BaseMaps/StreetMapCasedNoParcels_wmas (MapServer)

View In: [ArcGIS JavaScript](#) [ArcGIS Online map viewer](#) [Google Earth](#) [ArcMap](#) [ArcGIS Explorer](#)

View Footprint In: [ArcGIS Online map viewer](#)

Service Description:

Map Name: Layers

[Legend](#)

[All Layers and Tables](#)

[Dynamic Legend](#)

[Dynamic All Layers](#)

Layers:

- [State Borders](#) (0)
- [AustraliaStateLines](#) (1)
- [Level ID 17](#) (2)
 - [Roads](#) (3)
 - [O-Bahn](#) (4)
 - [RAILWAY](#) (5)
 - [RoadsUnformed](#) (6)
 - [TOPO.Aviation](#) (7)
 - [TOPO.BuiltupAreas](#) (8)
 - [DCDB.GovtTown](#) (9)
 - [SUBURB](#) (10)
 - [TOPO.WaterCoursesPoly](#) (11)
 - [WaterBodies.Main.Lakes](#) (12)
 - [TOPO.WaterBodies](#) (13)
 - [TOPO.Recreation](#) (14)
 - [RESERVES](#) (15)
 - [CONSERVATION.NpwsaReserves](#) (16)
 - [LANDADMIN.LGA](#) (17)
- [Level ID 16](#) (18)
 - [Roads](#) (19)

Use the links on the web page to view the Rest 'JSON' script and 'API Reference' to understand how the basemap service can be used.

Appendix 1 Map Viewer Dataset UIDs

Dataset	UID	Dataset	UID
2011-16 Average Annual Percent Population Change by Local Government Area	229	Native Title Determination	16
2011-16 Average Annual Percent Population Change by SA2	234	Native Title ILUA	13
2011-31 Projected Average Annual Population Change by Local Government Area	237	Native Title Register	14
2011-31 Projected Average Annual Population Change by Statistical Local Area	240	Native Title Schedule	15
2011-31 Projected Population Change by Local Government Area	238	Native Vegetation	109
2011-31 Projected Population Change by Statistical Local Area	241	NPW and Conservation Properties	41
2016 Population by Local Government Area	228	NPW and Conservation Reserve Boundaries	42
2016 Population by SA1	231	NRM Region Boundaries	17
2016 Population by SA2	233	Other	192
2016 Population Density per km2 by Local Government Area	230	Parcel Cadastre	124
2016 Population Density per km2 by SA1	232	Pastoral Stations	55
2016 Population Density per km2 by SA2	235	Pedestrian Crossings	128
2031 Projected Population by Local Government Area	236	Petroleum and Chemical	184
2031 Projected Population by Statistical Local Area	239	Petroleum Declaration of Location	72
Activities in Specified Areas	187	Petroleum Declaration of Location - Expired	73
Adelaide Public Transport Stop Data	127	Petroleum Pipeline Licence Applications	74
Air Quality Monitoring Sites	31	Petroleum Pipeline Licences	75
Animal Husbandry and Other Activities	188	Petroleum Pipeline Licences - Expired	76
Aquaculture Active Leases	198	Petroleum, Geothermal and Gas Storage Competitive Tender Regions	77
Aquaculture Active Licences	202	Petroleum, Geothermal and Gas Storage Licence Applications	78
Aquaculture Application Leases	197	Petroleum, Geothermal and Gas Storage Licences	79
Aquaculture Application Licences	201	Petroleum, Geothermal and Gas Storage Licences - Expired	80
Aquaculture Lapsed Leases	199	Petroleum, Geothermal and Gas Storage Public Calls	81
Aquaculture Lapsed Licences	203	Planned Urban Lands to 2045	227
Aquaculture Leases & Licences	52	Police Stations	179

Dataset	UID	Dataset	UID
Aquaculture Zones	53	Pools or Dams greater than 15m	150
Aquatic Reserves	36	Pools or Dams less than 15m	142
Arkaroola Protection Area	37	Postcodes	18
Baseflow in Mount Lofty Ranges	144	Prescribed Surface Water Areas	153
Bike Direct	133	Prescribed Water Courses	155
Biosphere Reserves	38	Prescribed Water Resources Areas	154
Boat Ramps	90	Prescribed Wells Areas	156
BreastScreen SA	176	Primary Production Priority Areas in Greater Adelaide Region	207
Bridge Structures	222	Public and Private Hospital Locations	61
Bushfire Protection Areas	26	Railside Significant Sites	43
Centrelink Sites	91	Railways	134
Character Preservation Districts	182	Ramsar Wetland Reserves	44
Coastline MHWMM	1	Reclaimed Water Main	83
Collection Depots	32	Recreation Trails	97
Corrosion Environment Areas	211	Renewal SA Land Sales	193
Corrosion Environments	209	Residential Broadhectare 2016	122
Corrosion Environments	210	Residential Code	120
Counties	2	Rest Areas	129
Crown Land Sales	242	Retirement Villages	177
DCSI Carer Sites	92	River Murray Protection Area	45
DCSI Regional Sites	93	Road Crashes	130
Desalination Plants	191	Road Maintenance Markers	204
Design Wind Speed	112	Road Route Numbers	135
Designated Survey Areas	5	Roads	136
Development Plan Map Index	113	Roads Unformed	137
Disability SA Regions	98	Roadside Significant Sites	46
Dog Fence	54	Rock Lobster Sanctuaries	47
Dolphin Sanctuary	39	Rural Address Access Point	169
Domiciliary Care Regions	99	SA Bushfire Safer Precincts	28
Drillholes	140	SA Bushfire Safer Settlements	29
Earthquake Hazard Zones	213	SA Fire Ban Districts	27
Earthquakes	57	SA Government Regions	20
Electorates Federal 2010	3	SA Heritage Places	95
Electorates Federal 2013	4	SA Heritage Places Indicative Footprints	102
Electorates Federal 2016	208	SA Hospital and Clinic Locations - Obstetrics 2011	62
Electorates State 2010	6	SAPN Substations	174
Electorates State 2014	7	SAPN Subtransmission & High Voltage Overhead Line	173
Electorates State 2018	225	SAPN Subtransmission & High Voltage Underground Cable	172

Dataset	UID	Dataset	UID
Electricity Regulations Boundaries	194	School Crossings	131
Emergency Services	25	Schools	168
Energy Efficiency	212	Service SA Sites	170
Energy Efficiency Concession Areas	214	Shallow Standing Water Level	157
Environment and Food Production Areas	223	Shallow Total Dissolved Salts	158
EPA Licensed Activities	40	Shallow Yield	159
Families SA Regions	100	Shipwrecks	96
Flightlines of Videography	141	Small Area Labour Markets Quarterly Unemployment Rates	206
Food Production and Animal Plant Processing	189	Soil Subgroup	58
Future Urban Growth Areas	226	Spatially Improved Parcel Areas	123
Gazetteer	105	State Heritage Areas	180
Gazetteer Line	106	State Maintained Roads	205
Gazetteer Polygon	107	State Marine Park Network	48
Government Towns	115	State Marine Park Network Points	33
GP Plus Locations	175	State Marine Park Network Zoning	50
Greater Adelaide Planning Region	224	State Marine Park Special Purpose Areas	49
Groundwater Aquifers	145	State Marine Park Special Purpose Line	35
Groundwater Basins	146	State Marine Park Zone Coordinates	34
Groundwater Border Agreement	147	Stormwater Drains	151
Groundwater Provinces	148	Stormwater Nodes	143
High School Zones	103	Suburbs and Localities	19
Housing SA Regions	101	Surface Water Basins	160
Hundreds	8	Surface Water Catchments	161
Irrigation Areas	9	Surface Water Subcatchments	162
Irrigation Divisions	10	Survey Marks	111
Jetty Points	94	Traffic Signals	132
Land Development Plan Zone Categories	116	Traffic Volume Estimates	138
Land Divisions	117	Valuation Cadastre	125
Land Use Generalised 2016	118	Waste Treatment and Disposal	186
Leases	196	Waste Water Gravity Main	85
Levee Banks	149	Waste Water Low Pressure	86
Licences	200	Waste Water Pumping	87
Local Government Area Wards	12	Waste Water Vacuum	88
Local Government Areas	11	Water Affecting Activity Policy Area	163
Local Health Networks	64	Water Bodies	164
Manufacturing and Mineral Processing	185	Water Courses	152
Materials Handling and Transportation	190	Water Main	84
Metro Open Space System Study Area	119	Water Notice Of Intent To Prescribe	165
Metropolitan Adelaide Boundary	195	Water Protection Areas	166
Mineral and Opal Exploration Licence	66	Watershed Protection Zone	167

Dataset	UID	Dataset	UID
Applications			
Mineral and Opal Exploration Licences	67	Wind Farm Locations	171
Mineral and Opal Exploration Licences - Non Active	68	Woomera Access Zones	23
Mining and Production Tenement Applications	69	Woomera Prohibited Area	22
Mining and Production Tenements	70		
Mining and Production Tenements - Non Active	71		
Mining Production Tenement Regulation Areas	215		