**1)Input Data – Insert column GeoSpoc ID which would be unique per record –**

**2)Running Geocoding Script**

* **Send geocoding request on email to Alak/Sonia and PM**
* **Mention paid or unpaid**
* **Mention the column no or heading to considered as address,delimeter if it is not comma separated**
* **Should be in CSV format**
* **Maintain one mail trail for specific project**

**Geocode Output**

Lat, Long, Enriched Address, MatchType, CityFound, PincodeFound, StateFound

**\*\*Plot the data and join spatial attributes**

**Spatial Join –**

* Pincode boundary data – Pincode
* Pincode boundary data – State
* 164 city boundary- City
* CityNameGeoexpansion csv(create 10 km buffer against each city points) - City

**Export to Excel**

Add column to **Extract first word for Enriched Address before “,” or “space”.** Formula - **=LEFT(A1,(FIND(",",A1,1)-1))**

**Flag Highways/NH-** Add column to flag highways.Set filter on MatchType – keywords – route, street\_address, intersection. Filter out keywords like highway, national highway or NH and flag those records. These records will be assigned accuracy by through checking them.

**Terms Denotation:**

* Input Pincode – Pincode given by client
* Geocoded Pincode – Pincode found by geocoding script
* Spatial Pincode – Pincode found in spatial join
* Input City – City given by client
* Geocoded City – City found by geocoding script
* SpatialCityName164 – City found in spatial join with 164 city boundary
* SpatialCityNameGeoexpansion - City found in spatial join with geoexpansion file

**Add columns and calculate matching between columns:**

**Apply formula in excel - firstcolumn=secondcolumn : =G1=G3**

**Result will be either True or False**

* InputPincode = GeocodedPincode
* InputCity = GeocodedCity
* First word of enriched address (GeocodedEnrichedCity)= input city
* InputPincode = Spatial Pincode
* InputCity = SpatialCityName164
* InputCity = SpatialCityNameGeoexpansion
* InputState = Spatial State
* ACCURACY

Add column **PincodeDistance** to **calculate difference (apply minus formula) between InputPincode – GeocodedPincode**

**Conditions:**

1. **GEOCODED CONDITIONS - TRUE**
2. InputPincode = GeocodedPincode – **True**, InputCity = GeocodedCity – **True**, GeocodedEnrichedCity – **True**
   1. Keywords: administrative, political, pincode – accuracy Pincode
3. InputPincode = GeocodedPincode – **True**, InputCity = GeocodedCity – **True,**GeocodedEnrichedCity -**Nocondition applied**
   1. Keywords: establishment, premise, subpremise – Rooftop
   2. Keywords: street, intersection, route – Street
   3. Keywords: locality, political, administrative – Locality
   4. Keywords: postalcode – Pincode

\*\*NOTE: Set Accuracy to Blank so records with already assigned accuracy is ruled out

**SPATIAL CONDITIONS - TRUE**

1. InputPincode = Spatial Pincode – **True**, InputCity = SpatialCityName164/SpatialCityNameGeoExpansion – **True**, GeocodedEnrichedCity – **True**
   1. Keywords: administrative, political, postalcode – Pincode
2. InputPincode = Spatial Pincode – **True**, InputCity = SpatialCityName164/SpatialCityNameGeoExpansion – (OR operator) **True,** GeocodedEnrichedCity – **Nocondition applied**
   1. Keywords: establishment, premise, subpremise – Rooftop
   2. Keywords: street, intersection, route, town\_square – Street
   3. Keywords: locality, political, administrative – Locality
   4. Keywords: postalcode – Pincode

**GEOCODED & SPATIAL CONDITIONS – GEOCODED PINCODE TO SPATIAL CITY - TRUE**

1. InputPincode = GeocodedPincode – **True**, InputCity = SpatialCityName164/SpatialCityNameGeoExpansion – **True**, GeocodedEnrichedCity – **True**
   1. Keywords: administrative, political, pincode – Pincode
2. InputPincode = GeocodedPincode – **True**, InputCity = SpatialCityName164/SpatialCityNameGeoExpansion – **True**, GeocodedEnrichedCity – **Nocondition applied**
   1. Keywords: establishment, premise, subpremise – Rooftop
   2. Keywords: street, intersection, route , town\_square – Street
   3. Keywords: locality, political, administrative – Locality
   4. Keywords: postalcode – Pincode

**GEOCODED & SPATIAL CONDITIONS – GEOCODED CITY TO SPATIAL PINCODE - TRUE**

1. InputCity = GeocodedCity– **True**, InputPincode = SpatialPincode – **True**, GeocodedEnrichedCity – **True**
   1. Keywords: administrative, political, pincode – Pincode
2. InputCity = GeocodedCity– True, InputPincode = SpatialPincode – **True**, GeocodedEnrichedCity – **Nocondition applied**
   1. Keywords: establishment, premise, subpremise – Rooftop
   2. Keywords: street, intersection, route, town\_square – Street
   3. Keywords: locality, political, administrative – Locality
   4. Keywords: postalcode – Pincode

**\*\*\*GEOCODED PINCODE - TRUE**

1. InputPincode = GeocodedPincode – True, GeocodedEnrichedCity – True
   1. Keywords: administrative, political, pincode – Pincode
2. InputPincode = GeocodedPincode – True
   1. Keywords: establishment, premise, subpremise – Rooftop
   2. Keywords: street, intersection, route, town\_square – Street
   3. Keywords: locality, political, administrative – Locality
   4. Keywords: postalcode/ postal\_code – Pincode

\*\*NOTE: HIDE SPATIAL DATA COLUMNS as they are not required for further analysis

**GEOCODED CONDITIONS – FALSE**

**Set filter on pincode distance column – Range +2 to -2 – Check with +1 to -1**

1. InputPincode = GeocodedPincode – False, GeocodedEnrichedCity – True
   1. Keywords: administrative - City
   2. Keywords: political - Locality
2. InputPincode = GeocodedPincode – False
   1. Keywords: establishment, premise, subpremise – Rooftop
   2. Keywords: street, intersection, route, town\_square – Street
   3. Keywords: locality, political, administrative – Locality
   4. Keywords: postalcode – ReGeocode

**Pincode Distance Script -**

Set filter on pincode distance column – Range –5 to +5

Till –1 to +1 rooftop level should be assigned for rest it will go to false cases.

Assign all the accuracy accordingly for –5 to +5 range

\*\*NOTE: All Blanks and ReGeocode will go for Pre-processing and ReGeocoding and all the steps mentioned above will be followed.

\*\*NOTE: Even after re-geocoding all the cases are false, run Pincode Distance script.

\*\*NOTE: Condition where InputPincode = GeocodedPincode – False, should not have accuracy set to Pincode level