

## APPENDIX XII: TECHNICAL SPECIFICATIONS OF GIS DATA

This document contains the technical specifications for the development of GIS database. It has two sections: Section-A and Section-B. In Section-A, specifications for mauza map scanning and digitization has been provided. Section-B contains the specifications of GIS layers of Survey and Plan Maps

### Section-A: Specifications for Mauza Map Scanning & Digitization

This section contains the scanning specifications and digitization of mauza maps.

#### Scanning Specifications of Mouza Maps

The scanning specification of mauza maps specifies Image Type, Image Format, Image Resolution and Image scale as follows:

|  |                    |
|--|--------------------|
| Image Type   | Color or Grayscale |
| Image Format   | JPEG               |
| Image Resolution   | 300 dpi            |
| Image Scale for Digitization period will be required Map unit & Display unit select inches from drop down Icon. Otherwise, when you will give the Mouza map sheet print as per same scale that time will not get the print copy of your mouza map scale. | (1:10-15)          |

#### Classification of Scanned Mouza Maps\GIS Data Management

A systematic classification will be followed for naming the scanned image files of the mauza maps and GIS Data Management.

|               |  |           |  |  |   |                 |  |
|---------------|--|-----------|--|--|---|-----------------|--|
| Location Path | Example:<br>D:\Division\ (Rajshahi.div)\District(Rajshahi.dis)\Upazila(Bagmara)\Union_Ward(Nardash)<br>D:\Division\Rajshahi.div\Rajshahi.dis\Bagmara\Nardash |           |  |  |   |                 |  |
|               | Drive:<br>D:\  | Division  |  |  | First Double click on My Computer and go to Drive D:\ and create the Division folder under Division, District, Upazila and Union_Ward Name folder. If we prepare the union_Ward Map then we will make the Union_Ward folder otherwise the folder do not need of Union_Ward.<br>Mouza Image will appropriately store up the mouza Image sheet under Union_Ward folder. |                 |  |
|               |  | dhaka.div |  |  | 2nd time will create the dhaka.div and so on.   |                 |  |
| File Name     | KAP_078_00   |           |  |  |   |                 |  |
|               |  |           |  |  | XX<br>X   |                 | JL No. of the Mouza (3 digits)                       |
|               |  |           |  |  |   | _               | An underscore to separate JL No. and Sheet No.       |
|               |  |           |  |  |   | XX<br>or<br>xxx | Number of Sheet No of the mauza map. (2 or 3 digits) |

Example: KAP\_078\_00 or 01.....99 or KAP\_078\_001....999.jpeg represents the image file in JPEG format of Sheet no. 00 of Koali Para Mouza having JL no. 78 of Shibpur Upazila of narsingdi District.

### Digitization of Scanned Mouza Maps

Digitization of Mauza map will be done in four layers/Coverage (two point shapefiles/Coverage, one line shapefile/Coverage and one polygon shapefile/Coverage) to capture all the features in the existing map. Name and attribute structure of these layers will be as follows:

1) Shape file\Coverage name: PN\_XXX\_XX or XXX.shp (PN = Plot Number)

Type: Point

This shape file\Coverage will contain dag number (plot number) of the Mouza maps as point features. It must contain the field as described in the following table:

| Field Name | Field Type   | Width of the field | No. of Decimal Places | Purpose of the field  |
|------------|--------------|--------------------|-----------------------|---|
| Division   | String       | 25                 | -                     | To put or Type name of the current Division.  |
| District   | String       | 25                 | -                     | To put or Type name of the current District.  |
| Upazila    | String       | 25                 | -                     | To put or Type name of the current Upazila.   |
| Union      | String       | 25                 | -                     | To put or Type name of the current Union.   |
| Plot_No    | Long Integer | -                  | -                     | To contain dag number (plot number)   |
| MZ_Name    | String       | 100                | -                     | To contain name of the Mouza name   |
| JL_No      | String       | 3                  | -                     | To contain JL Number of the Mouza   |
| Sheet_No   | String       | 2                  | -                     | To contain sheet no the Mouza   |
| Mouza_JL_S | String       | 100                | -                     | To contain Mouza name+single space+JLno(3-digits)+single space+sheet no(2-digits)   |
| MZ_Verion  | String       | 6                  | -                     | To contain Mouza version of the mouza sheet E.g. CS, RS, BS and so on.  |
| Scale      | String       | 20                 | -                     | To contain scale of the mouza sheet.  |
| Revenue_No | String       | 100                | -                     | To contain survey number of the mouza map   |
| SV_Period  | String       | 20                 | -                     | To contain survey period of the mouza map. E.g 1973-85  |
| Plot_desc  | String       | 20                 | -                     | To contain following plot types <ul style="list-style-type: none"> <li>- "Plot"</li> <li>- "Katcha Road"</li> <li>- "Semi-Pucca Road"</li> <li>- "Pucca Road"</li> <li>- "Halot"</li> <li>- "Pond"</li> <li>- "Canal"</li> <li>- "River"</li> </ul> |
| Remarks    | String       | 100                | -                     | To contain remarks, if any.   |

2) Shape file\Coverage name: ML\_XXX\_XX or XXX.shp (ML = Mouza Line)

Type: Polyline

This shape file\Coverage will contain all line features of the mauza map. It must contain the field as described in the following table:

| Field Name | Field Type   | Width of the field | No. of Decimal Places | Purpose of the field  |
|------------|--------------|--------------------|-----------------------|---|
| Division   | String       | 25                 | -                     | To put or Type name of the current Division.  |
| District   | String       | 25                 | -                     | To put or Type name of the current District.  |
| Upazila    | String       | 25                 | -                     | To put or Type name of the current Upazila.   |
| Union      | String       | 25                 | -                     | To put or Type name of the current Union.   |
| Plot_No    | Long Integer | -                  | -                     | To contain dag number (plot number)   |
| MZ_Name    | String       | 100                | -                     | To contain name of the Mouza Name   |
| JL_No      | String       | 6                  | -                     | To contain JL Number of the Mouza   |
| Sheet_No   | String       | 6                  | -                     | To contain sheet no the Mouza   |
| Mouza_JL_S | String       | 100                | -                     | To contain Mouza name+single space+JLno(3-digits)+single space+sheet no(2-digits)   |
| MZ_Ver     | String       | 6                  | -                     | To contain Mouza version of the mouza sheet E.g. CS, RS, BS and so on.  |
| Scale      | String       | 25                 | -                     | To contain scale of the mouza sheet.  |
| Revenue_No | String       | 100                | -                     | To contain survey number of the mouza map   |
| SV_Period  | String       | 25                 | -                     | To contain survey period of the mouza map. E.g 1973-85  |
| Line_Code  | Long Integer | 10                 | -                     | To contain feature code or unique ID of different line feature. For example 11, 12 and 14 are the codes for Mouza boundary, Sheet boundary and Plot boundary features respectively.   |
| Line_Desc  | String       | 30                 | -                     | To contain the type of plot boundaries and other line features such as<br>- “Mouza boundary”<br>- “Sheet boundary”<br>- “Plot boundary”<br>- “Katcha Road”<br>- “Semi-Pucca Road”<br>- “Pucca Road”<br>- “Halot”<br>- “Khal”<br>- “Thoka/Adjacent line or Boundary”<br>- “North line”<br>- “Unknown line” |
| Remarks    | String       | 100                | -                     | To contain remarks, if any.   |

3) Shape file\Coverage name: MP\_XXX\_XX or XXX.shp (MP = Mouza Polygon)

Type: Polygon

This shape file\Coverage will contain dag number (plot number) of the Mouza maps as point features. It must contain the field as described in the following table:

| Field Name | Field Type | Width of the field | No. of Decimal Places | Purpose of the field                         |
|------------|------------|--------------------|-----------------------|--|
| Division   | String     | 25                 | -                     | To put or Type name of the current Division. |
| District   | String     | 25                 | -                     | To put or Type name of the current District. |
| Upazila    | String     | 25                 | -                     | To put or Type name of the current Upazila.  |
| Union      | String     | 25                 | -                     | To put or Type name of the current Union.    |

|            |              |     |   |  |
|------------|--------------|-----|---|--|
| Plot_No    | Long Integer | -   | - | To contain dag number (plot number)  |
| MZ_Name    | String       | 100 | - | To contain name of the Mouza name  |
| JL_No      | String       | 3   | - | To contain JL Number of the Mouza  |
| Sheet_No   | String       | 2   | - | To contain sheet no the Mouza  |
| Mouza_JL_S | String       | 100 | - | To contain Mouza name+single space+JLno(3-digits)+single space+sheet no(2-digits)  |
| MZ_Verion  | String       | 6   | - | To contain Mouza version of the mouza sheet E.g. CS, RS, BS and so on.   |
| Scale      | String       | 20  | - | To contain scale of the mouza sheet.   |
| Revenue_No | String       | 100 | - | To contain survey number of the mouza map  |
| SV_Period  | String       | 20  | - | To contain survey period of the mouza map. E.g 1973-85   |
| Layer_Code | Long Integer | 10  | - | To contain feature code or unique ID of different line features. For example 11, 12 and 14 are the codes for Mouza boundary, Plot boundary and Pond features respectively.   |
| Layer_desc | String       | 20  | - | To contain following plot types <ul style="list-style-type: none"> <li>- "Plot Boundary"</li> <li>- "Katcha Road"</li> <li>- "Semi-Pucca Road"</li> <li>- "Pucca Road"</li> <li>- "Halot"</li> <li>- "Pond"</li> <li>- "Canal"</li> <li>- "River"</li> </ul> |
| Remarks    | String       | 100 | - | To contain remarks, if any.  |

4) Shape file/Coverage name: PF\_XXX\_XX or XXX.shp (PF = Point Feature)

Feature Type: Point

This shape file/Coverage will contain all line point features except the plot numbers of the mauza map. It must contain the field as described in the following table:

| Field Name | Field Type   | Width of the field | Purpose of the field  |
|------------|--------------|--------------------|---|
| Division   | String       | 25                 | To put or Type name of the current Division.                                      |
| District   | String       | 25                 | To put or Type name of the current District.                                      |
| Upazila    | String       | 25                 | To put or Type name of the current Upazila.                                       |
| Union      | String       | 25                 | To put or Type name of the current Union.   |
| Plot_No    | Long Integer | -                  | To contain dag number (plot number)   |
| MZ_Name    | String       | 100                | To contain name of the Mouza Name   |
| JL_No      | String       | 6                  | To contain JL Number of the Mouza   |
| Sheet_No   | String       | 6                  | To contain sheet no the Mouza   |
| Mouza_JL_S | String       | 100                | To contain Mouza name+single space+JLno(3-digits)+single space+sheet no(2-digits) |
| MZ_Ver     | String       | 6                  | To contain Mouza version of the mouza sheet E.g. CS, RS, BS and so on.            |
| Scale      | String       | 25                 | To contain scale of the mouza sheet.  |

|            |              |     |  |
|------------|--------------|-----|--|
| Revenue_No | String       | 100 | To contain survey number of the mouza map  |
| SV_Period  | String       | 25  | To contain survey period of the mouza map. E.g 1973-85   |
| Line_Code  | Long Integer | 10  | To contain feature line code or unique ID of different line feature. For example 15, 16 and 17 are the codes for Mouza boundary, Sheet boundary and Plot boundary features respectively.   |
| Point_Code | String       | 3   | To contain the user ID of different point features. For example: 45 is the ID of Traverse Station (New)  |
| Point_Desc | String       | 50  | To contain Point description of point features such as<br>- "Traverse Station [Old]"<br>- "Traverse Station [New]"<br>- GT Station, etc.<br>And also to contain texts of label features such as<br>"Sheet No. 2", "Shaktola No. 101", etc. |
| PF_Name    | String       | 100 | To put or type the Adjacent name of Mouza, JL No, Sheet No, River and so on.   |
| Remarks    | String       | 100 | To contain remarks, if any.  |

4) Shape file/Coverage name: ST\_XXX\_XX or xxx.shp (ST = Structure)

Feature Type: Polygon

This shape file will contain all line area features such as Structures (Building), Waterbody (Pond), etc. of the mauza map. It must contain the field as described in the following table:

| Field Name | Field Type   | Field Width | Purpose of the field   |
|------------|--------------|-------------|--|
| Division   | String       | 25          | To put or Type name of the current Division.   |
| District   | String       | 25          | To put or Type name of the current District.   |
| Upazila    | String       | 25          | To put or Type name of the current Upazila.  |
| Union      | String       | 25          | To put or Type name of the current Union.  |
| Plot_No    | Long Integer | -           | To contain dag number (plot number)  |
| MZ_Name    | String       | 100         | To contain name of the Mouza Name  |
| JL_No      | String       | 6           | To contain JL Number of the Mouza  |
| Sheet_No   | String       | 6           | To contain sheet no the Mouza  |
| Mouza_JL_S | String       | 100         | To contain Mouza name+single space+JLno(3-digits)+single space+sheet no(2 or 3 -digits)  |
| MZ_Ver     | String       | 6           | To contain Mouza version of the mouza sheet E.g. CS, RS, BS and so on.   |
| Scale      | String       | 25          | To contain scale of the mouza sheet.   |
| Revenue_No | String       | 100         | To contain survey number of the mouza map  |
| SV_Period  | String       | 25          | To contain survey period of the mouza map. E.g 1973-85   |
| OthersName | String       | 100         | To put or type the Adjacent name of Mouza, JL No, Sheet No, River and so on.   |
| ST_Code    | Long Integer | 6           | To contain the user ID of different polygon features. For example: 31 is the ID of Permanent Structure (Dalan), 32 is for Tinshed Structure, etc.                              |
| ST_Desc    | String       | 50          | To contain type of features such as<br>- "Permanent Structure [Dalan]"<br>- "Tinshed Structure"<br>- "Other Structure"<br>- "Pond/Waterbody"<br>- "Pan Baraz"<br>- "Graveyard" |
| Remarks    | String       | 100         | To contain remarks, if any.  |

## Feature Codes

The following feature codes (Unique ID) will be used in mauza map digitization.

| Feature Type/Item                   | Shape File/Coverage Name | Feature Code (ID) |
|-------------------------------------|--------------------------|-------------------|
| International Boundary              | ML_XXX_XX or XXX         | 10                |
| Division Boundary                   |                          | 11                |
| District Boundary                   |                          | 12                |
| Upazila Boundary                    |                          | 13                |
| Union Boundary                      |                          | 14                |
| Mouza Boundary                      |                          | 15                |
| Sheet Boundary                      |                          | 16                |
| Plot Boundary                       |                          | 17                |
| Thoka/Adjacent\Match Line           |                          | 18                |
| Embankment                          |                          | 19                |
| Hill                                |                          | 20                |
| Road                                |                          | 21                |
| Halot                               |                          | 22                |
| Khal (Canal)                        |                          | 23                |
| River                               |                          | 24                |
| Rail Line                           |                          | 25                |
| Slope                               |                          | 26                |
| North Line                          |                          | 27                |
| Pucca Road                          |                          | 28                |
| Semi-Pucca Road                     |                          | 29                |
| Katcha Road                         |                          | 30                |
| Unknown Line                        |                          | 99                |
| Permanent Structure [Dalan]         | ST_XXX_XX or XXX         | 31                |
| Tin Shed Structure                  |                          | 32                |
| Other Structure                     |                          | 33                |
| Pan Baraz                           |                          | 34                |
| Pond/Water Body                     |                          | 35                |
| Graveyard                           |                          | 36                |
| Missing or not readable plot number | PN_XXX_XX or XXX         | 99999             |
| Boundary Pillar                     | PF_XXX_XX or XXX         | 41                |
| Bench Mark                          |                          | 42                |
| Iron Pillar                         |                          | 43                |
| Traverse Station(Old)               |                          | 44                |
| Traverse Station (New)              |                          | 45                |
| GT Station                          |                          | 46                |
| Other Pillars                       |                          | 47                |
| Pucca Well                          |                          | 51                |
| Tube Well                           |                          | 52                |
| Mosque                              |                          | 53                |
| Temple                              |                          | 54                |
| Adjacent Mouza/Sheet                |                          | 61                |
| Other Info                          |                          | 62                |
| Demarcation Pillar                  |                          | 71                |
| Settlement Pillar                   |                          | 72                |
| Stone                               |                          | 73                |
| Station                             |                          | 74                |
| Pucca Pillar                        |                          | 75                |

|                     |                  |    |
|---------------------|------------------|----|
| Municipality Pillar |                  | 76 |
| CS Iron Pillar      |                  | 77 |
| Other Point Feature |                  | 88 |
| Plot Boundary       | ML_XXX_XX or XXX | 14 |
| Katcha Road         |                  | 30 |
| Semi-Pucca Road     |                  | 29 |
| Pucca Road          |                  | 28 |
| Halot               |                  | 22 |
| Pond                |                  | 14 |
| Canal               |                  | 23 |
| River               |                  | 24 |

### Section-B: Specifications for Layers of Survey and Plan Maps

It specifies name of the spatial layers and the structure of their attribute tables.

1) Shape file\Coverage name: **Adb11601.shp**(Standard Code such as Thana\Upazila)

Type: **Polyline**

This shape file\Coverage will contain administrative boundaries of project area. It must contain the field as described in the following table:

| Field Name       | Field Type   | Width of the field | No. of Decimal Places | Purpose of the field   |
|------------------|--------------|--------------------|-----------------------|--|
| <b>Type</b>      | Long Integer | <b>10</b>          |                       | To Contain Polyline ID   |
| <b>Line_Desc</b> | String       | 100                | -                     | To contain the following administrative boundaries<br>“International Boundary”<br>“District Boundary”<br>“Upazila Boundary”<br>“Union boundary”<br>“Ward Boundary”<br>“Mauza boundary”<br>“Sheet boundary” |

2) Shape file\Coverage name: **AdbP11601.shp** (Standard Code such as Thana\Upazila)

Type: **Polygon**

This shape file\Coverage will contain plots of merged BS Mouza maps of project area as polygon features. It must contain the field as described in the following table:

| Field Name        | Field Type | Width of the field | No. of Decimal Places | Purpose of the field                           |
|-------------------|------------|--------------------|-----------------------|--|
| <b>Division</b>   | String     | 25                 |                       | To put or Type name of the current Division.   |
| <b>District</b>   | String     | 25                 |                       | To put or Type name of the current District.   |
| <b>Upazila</b>    | String     | 25                 |                       | To put or Type name of the current Upazila.    |
| <b>Pourashava</b> |            |                    |                       | To put or Type name of Paurashava.             |
| <b>Union_Ward</b> | String     | 25                 |                       | To put or Type name of the current Union\Ward. |

|                      |              |     |   |   |
|----------------------|--------------|-----|---|---|
| <b>Plot_no</b>       | Long Integer | -   | - | To contain <i>dag</i> number (plot number)  |
| <b>Layer_Desc</b>    | String       | 20  | - | To contain following plot types <ul style="list-style-type: none"> <li>- “Plot”</li> <li>- “Katcha Road”</li> <li>- “Semi-Pucca Road”</li> <li>- “Pucca Road”</li> <li>- “Halot”</li> <li>- “Pond”</li> <li>- “Canal”</li> <li>- “River”</li> </ul> |
| <b>Mouza</b>         | String       | 100 | - | To contain name of the Mouza  |
| <b>JL_No</b>         | String       | 3   |   | To contain JL Number of the Mouza   |
| <b>Sheet_No</b>      | String       | 2   | - | To contain sheet no the Mouza   |
| <b>Mouza_JL_S</b>    | String       | 100 | - | To contain Mouza name+single space+JLno(3-digits)+single space+sheet no(2-digits)   |
| <b>Mouza_JL</b>      | String       | 100 | - | To contain Mouza name+single space+JLno(3-digits)   |
| <b>Scale</b>         | String       | 20  |   | To contain scale of the mouza sheet.  |
| <b>Revenue_No</b>    | String       | 100 |   | To contain survey number of the mouza map   |
| <b>Survey_Period</b> | String       | 20  |   | To contain survey period of the mouza map. E.g 1973-85  |
| <b>Landuse</b>       | String       | 50  | - | To contain name of the Land use Categories e.g. Waterbody.  |
| <b>Crop_Land1</b>    |              |     |   | To contain name of the 1 <sup>st</sup> crop land phase-1 from the project area.   |
| <b>Crop_Land2</b>    |              |     |   | To contain name of the 2 <sup>nd</sup> crop land phase-2 from the project area.   |
| <b>Crop_Land3</b>    |              |     |   | To contain name of the 3 <sup>rd</sup> crop land phase-3 from the project area.   |
| <b>Sq_meters</b>     |              |     |   | To contain area in Square meters.   |
| <b>Hectares</b>      | Double       | 0   |   | To contain area in Hectares.  |
| <b>Acres</b>         | Double       | 0   |   | To contain area in Acres.   |
| <b>Katha</b>         | Double       | 0   |   | To contain area in Katha.   |
| <b>Decimal</b>       | Double       | 0   |   | To contain area in Decimal.   |
| <b>Geo-Code</b>      | String       | 16  | - | To contain Nine-digit BBS Geocode of Mouza as District+Thana+Union/Ward+Mauza   |
| <b>Remarks</b>       | String       | 100 | - | To contain remarks, if any.   |

## 2) Shape file\Coverage name: AdbP11601.shp (Standard Code such as Thana\Upazila)

Type: **Polygon**

This shape file\Coverage will contain plots of merged BS Mouza maps of project area as polygon features. It must contain the field as described in the following table:

| Field Name        | Field Type | Width of the field | No. of Decimal Places | Purpose of the field                           |
|-------------------|------------|--------------------|-----------------------|--|
| <b>Division</b>   | String     | 25                 |                       | To put or Type name of the current Division.   |
| <b>District</b>   | String     | 25                 |                       | To put or Type name of the current District.   |
| <b>Upazila</b>    | String     | 25                 |                       | To put or Type name of the current Upazila.    |
| <b>Pourashava</b> |            |                    |                       | To put or Type name of Paurashava.             |
| <b>Union_Ward</b> | String     | 25                 |                       | To put or Type name of the current Union\Ward. |



|                      |              |     |   |   |
|----------------------|--------------|-----|---|---|
| <b>Plot_no</b>       | Long Integer | -   | - | To contain <i>dag</i> number (plot number)  |
| <b>Layer_Desc</b>    | String       | 20  | - | To contain following plot types <ul style="list-style-type: none"> <li>- “Plot”</li> <li>- “Katcha Road”</li> <li>- “Semi-Pucca Road”</li> <li>- “Pucca Road”</li> <li>- “Halot”</li> <li>- “Pond”</li> <li>- “Canal”</li> <li>- “River”</li> </ul> |
| <b>Mouza</b>         | String       | 100 | - | To contain name of the Mouza  |
| <b>JL_No</b>         | String       | 3   |   | To contain JL Number of the Mouza   |
| <b>Sheet_No</b>      | String       | 2   | - | To contain sheet no the Mouza   |
| <b>Mouza_JL_S</b>    | String       | 100 | - | To contain Mouza name+single space+JLno(3-digits)+single space+sheet no(2-digits)   |
| <b>Mouza_JL</b>      | String       | 100 | - | To contain Mouza name+single space+JLno(3-digits)   |
| <b>Scale</b>         | String       | 20  |   | To contain scale of the mouza sheet.  |
| <b>Revenue_No</b>    | String       | 100 |   | To contain survey number of the mouza map   |
| <b>Survey_Period</b> | String       | 20  |   | To contain survey period of the mouza map. E.g 1973-85  |
| <b>Landuse</b>       | String       | 50  | - | To contain name of the Land use Categories e.g. Waterbody.  |
| <b>Crop_Land1</b>    |              |     |   | To contain name of the 1 <sup>st</sup> crop land phase-1 from the project area.   |
| <b>Crop_Land2</b>    |              |     |   | To contain name of the 2 <sup>nd</sup> crop land phase-2 from the project area.   |
| <b>Crop_Land3</b>    |              |     |   | To contain name of the 3 <sup>rd</sup> crop land phase-3 from the project area.   |
| <b>Sq_meters</b>     |              |     |   | To contain area in Square meters.   |
| <b>Hectares</b>      | Double       | 0   |   | To contain area in Hectares.  |
| <b>Acres</b>         | Double       | 0   |   | To contain area in Acres.   |
| <b>Katha</b>         | Double       | 0   |   | To contain area in Katha.   |
| <b>Decimal</b>       | Double       | 0   |   | To contain area in Decimal.   |
| <b>Geo-Code</b>      | String       | 16  | - | To contain Nine-digit BBS Geocode of Mouza as District+Thana+Union/Ward+Mauza   |
| <b>Remarks</b>       | String       | 100 | - | To contain remarks, if any.   |

### 3) Shape file\Coverage name: AdbL11601.shp (Standard Code such as Thana\Upazila)

Type: **Polyline**

This shape file\Coverage will contain line features of merged BS Mouzas of project area as polyline features. It must contain the field as described in the following table:

| Field Name | Field Type   | Width of the field | No. of Decimal Places | Purpose of the field   |
|------------|--------------|--------------------|-----------------------|--|
| ID         | Long Integer | 16                 | -                     | To Contain Mouza polyline ID.  |
| Type       | String       | 20                 | -                     | “Plot Boundary”<br>“Sheet Boundary”<br>“Mauza Boundary”<br>“Katcha Road” |

|                |        |     |   |  |
|----------------|--------|-----|---|--|
|                |        |     |   | "Semi-Pucca Road"<br>"Pucca Road"<br>"Halot"<br>"Pond"<br>"Canal"<br>"River" |
| <b>Remarks</b> | String | 100 | - | To contain remarks, if any.  |

**4) Shape file\Coverage name: AdbN11601.shp (Standard Code such as Thana\Upazila)**

Type: **Point**

This shape file\Coverage will contain Plot numbers of merged BS Mouzas of project area as point features. It must contain the field as described in the following table:

| Field Name           | Field Type   | Width of the field | No. of Decimal Places | Purpose of the field  |
|----------------------|--------------|--------------------|-----------------------|---|
| <b>Division</b>      | String       | 25                 |                       | To put or Type name of the current Division.  |
| <b>District</b>      | String       | 25                 |                       | To put or Type name of the current District.  |
| <b>Upazila</b>       | String       | 25                 |                       | To put or Type name of the current Upazila and Pourashava.  |
| <b>Pourashava</b>    |              |                    |                       | To put or Type name of Paurashava.  |
| <b>Union_Ward</b>    | String       | 25                 |                       | To put or Type name of the current Union\Ward.  |
| <b>Plot_no</b>       | Long Integer | -                  | -                     | To contain <i>dag</i> number (plot number)  |
| <b>KhasLand</b>      | String       | 3                  | -                     | Whether the Khas land exist in the plot.<br>- "Yes"<br>- "No"   |
| <b>Mouza</b>         | String       | 100                | -                     | To contain name of the Mouza  |
| <b>JL_No</b>         | String       | 3                  |                       | To contain JL Number of the Mouza   |
| <b>Sheet_No</b>      | String       | 2                  | -                     | To contain sheet no the Mouza   |
| <b>Mouza_JL_S</b>    | String       | 100                | -                     | To contain Mouza name+single space+JLno(3-digits)+single space+sheet no(2-digits)   |
| <b>Mouza_JL</b>      | String       | 100                | -                     | To contain Mouza name+single space+JLno(3-digits)   |
| <b>Scale</b>         | String       | 20                 |                       | To contain scale of the mouza sheet.  |
| <b>Revenue_No</b>    | String       | 100                |                       | To contain survey number of the mouza map   |
| <b>Survey_Period</b> | String       | 20                 |                       | To contain survey period of the mouza map. E.g 1973-85  |
| <b>Plot_Desc</b>     | String       | 20                 | -                     | To contain following plot types<br>- "Plot"<br>- "Katcha Road"<br>- "Pucca Road"<br>- "Halot"<br>- "Pond"<br>- "Canal"<br>- "River" |
| <b>Geocode</b>       | String       | 9                  | -                     | To contain Nine-digit BBS Geocode of Mouza as   |

|                |        |     |   |                                 |
|----------------|--------|-----|---|---------------------------------|
|                |        |     |   | District+Thana+Union/Ward+Mauza |
| <b>Remarks</b> | String | 100 | - | To contain remarks, if any.     |

**5) Shape file\Coverage name: Str11601.shp (Standard Code such as Thana\Upazila)**

Type: **Polygon**

This shape file\Coverage will contain the information of each structure in the area under project. It must contain thirteen fields as described in the following table:

| Field Name         | Field Type    | Width of the field | No. of Decimal Places | Purpose of the field  |
|--------------------|---------------|--------------------|-----------------------|---|
| <b>Division</b>    | String        | 25                 |                       | To put or Type name of the current Division.  |
| <b>District</b>    | String        | 25                 |                       | To put or Type name of the current District.  |
| <b>Upazila</b>     | String        | 25                 |                       | To put or Type name of the current Upazila and Pourashava.  |
| <b>Pourashava</b>  |               |                    |                       | To put or Type name of Paurashava.  |
| <b>Union_Ward</b>  | String        | 25                 |                       | To put or Type name of the current Union\Ward.  |
| <b>ID</b>          | Long Integer  | 16                 | -                     | To Contain Structure ID.  |
| <b>Area_Sqft</b>   | Double        | 0                  |                       | To Contain Structure area in square feet.   |
| <b>Str_Type</b>    | String        | 20                 | -                     | To contain the type of the structure as follows<br>- “Pucca”<br>- “Semi-pucca”<br>- “Katcha”  |
| <b>Storied</b>     | Short Integer | -                  | -                     | To contain the number of floors of the structure.   |
| <b>Str_Use1t</b>   | String        | 100                | -                     | 1. To contain the use (1 <sup>st</sup> ) of the structure.<br>2. The attributes should be according to the given “Existing_Landuse” categories. |
| <b>Str_Use2t</b>   | String        | 100                | -                     | To contain the use (2 <sup>nd</sup> ) of the structure.   |
| <b>Str_Use3t</b>   | String        | 100                | -                     | To contain the use (3 <sup>rd</sup> ) of the structure.   |
| <b>Str_name</b>    | String        | 100                | -                     | To contain the name of the structure.   |
| <b>Cons_Year</b>   | Short Integer | -                  | -                     | To contain the year of construction.  |
| <b>Undercons</b>   | String        | 3                  | -                     | To contain the information if it was being under construction during the feature survey.<br>- Yes/No ; True/False ; 1/0                         |
| <b>Struc_Owner</b> | String        | 100                | -                     | To contain the owner name of the structure.   |
| <b>Struc_Use</b>   | String        | 100                | -                     | To contain the structure use of the Government or private and so on.  |
| <b>Cell_No</b>     | String        | 50                 |                       | To contain the mobile number.   |
| <b>Family_Size</b> | Short Integer | 10                 |                       | To contain the family members.  |
| <b>Male</b>        | Short Integer | 10                 |                       | To contain the male family members.   |
| <b>Female</b>      | Short Integer | 10                 |                       | To contain the female family members.   |
| <b>Hyperlink</b>   | String        | 100                |                       | To contain the owner picture with the structure.  |
| <b>Holding_no</b>  | String        | 50                 | -                     | To contain Holding number of the structure.   |
| <b>Road_ID</b>     | String        | 50                 | -                     | To contain adjacent road number, if any   |
| <b>Road_name</b>   | String        | 100                | -                     | To contain the name of the nearby road  |

|                                       |        |    |   |  |
|---------------------------------------|--------|----|---|--|
| <b>Locality<br/>(Mauza/<br/>Ward)</b> | String | 50 | - | To contain the name of the Mauza_JL_Sheet. |
|---------------------------------------|--------|----|---|--|

**6) Shape file\Coverage name: RdP11601.shp (Standard Code such as Thana\Upazila)**

Type: **Polygon**

This shape file\Coverage will contain the existing roads as polygon features in the area under project. It must contain three fields as described in the following table:

| Field Name        | Field Type | Width of the field | No. of Decimal Places | Purpose of the field  |
|-------------------|------------|--------------------|-----------------------|---|
| <b>Road_name</b>  | string     | 100                |                       | To contain the name of the road, if any   |
| <b>Road_ID</b>    | string     | 20                 | -                     | To contain the ID of Road   |
| <b>Road_type</b>  | string     | 20                 | -                     | To contain the physical type of the road as follows<br>- “Pucca”<br>- “WBM”<br>- “HBB”<br>- “Katcha”  |
| <b>Road_Class</b> | string     | 100                |                       | To contain the Class of road according to RHD & LGED in the followings:<br><br>RHD Road Class<br>- “National Highways ”<br>- “Regional Highways”<br>- “District\Zila Road”<br>LGED Road Class<br>- “Upazila Road(Pucca)”<br>- “Upazila Road(Katcha)”<br>- “Union Road(Pucca)”<br>- “Union Road(Katcha)”<br>- “Village Road A (Pucca)”<br>- “Village Road A (Katcha)”<br>- “Village Road B (Pucca)”<br>- “Village Road B (Katcha)” |

**7) Shape file\Coverage name: RdE11601.shp (Standard Code such as Thana\Upazila)Type: Polyline**

This shape file\Coverage will contain the existing roads as polyline features in the area under project. It must contain three fields as described in the following table:

| Field Name       | Field Type | Width of the field | No. of Decimal Places | Purpose of the field   |
|------------------|------------|--------------------|-----------------------|--|
| <b>Road_name</b> | string     | 100                |                       | To contain the name of the road, if any  |
| <b>Road_ID</b>   | string     | 20                 | -                     | To contain the ID of Road  |
| <b>Road_Type</b> | string     | 20                 | -                     | To contain the physical type of the road as follows<br>- “Pucca”<br>- “WBM”<br>- “HBB”<br>- “Katcha” |

|                   |        |     |  |   |
|-------------------|--------|-----|--|---|
| <b>Road_Class</b> | string | 100 |  | <p>To contain the Class of road according to RHD &amp; LGED in the followings:</p> <p>RHD Road Class</p> <ul style="list-style-type: none"> <li>- “National Highways ”</li> <li>- “Regional Highways”</li> <li>- “District\Zila Road”</li> </ul> <p>LGED Road Class</p> <ul style="list-style-type: none"> <li>- “Upazila Road(Pucca”</li> <li>- “Upazila Road(Katcha)”</li> <li>- “Union Road(Pucca)”</li> <li>- “Union Road(Katcha)”</li> <li>- “Village Road A (Pucca)”</li> <li>- “Village Road A (Katcha)”</li> <li>- “Village Road B (Pucca)”</li> <li>- “Village Road B (Katcha)”</li> </ul> |
|-------------------|--------|-----|--|---|

**8) Shape file name: RoadL11601.shp (Standard Code such as Thana\Upazila)**

Type: **Polyline**

This shape file will contain the centerlines of existing roads as polyline features in the area under project. It must contain the following fields compatible to network analysis:

| Field Name        | Field Type | Width of the field | No. of Decimal Places | Purpose of the field  |
|-------------------|------------|--------------------|-----------------------|---|
| <b>Road_name</b>  | string     | 100                |                       | To contain the name of the road, if any   |
| <b>Road_no</b>    | string     | 20                 | -                     | To contain road number, if any  |
| <b>Road_ID</b>    | string     | 20                 | -                     | To contain the ID of Road   |
| <b>Road_type</b>  | string     | 20                 | -                     | <p>To contain the physical type of the road as follows</p> <ul style="list-style-type: none"> <li>- “Pucca”</li> <li>- “WBM”</li> <li>- “HBB”</li> <li>- “Katcha”</li> </ul>  |
| <b>Road_Class</b> | string     | 100                |                       | <p>To contain the Class of road according to RHD &amp; LGED in the followings:</p> <p>RHD Road Class</p> <ul style="list-style-type: none"> <li>- “National Highways ”</li> <li>- “Regional Highways”</li> <li>- “District\Zila Road”</li> </ul> <p>LGED Road Class</p> <ul style="list-style-type: none"> <li>- “Upazila Road(Pucca”</li> <li>- “Upazila Road(Katcha)”</li> <li>- “Union Road(Pucca)”</li> <li>- “Union Road(Katcha)”</li> <li>- “Village Road A (Pucca)”</li> <li>- “Village Road A (Katcha)”</li> <li>- “Village Road B (Pucca)”</li> <li>- “Village Road B (Katcha)”</li> </ul> |
| <b>Road_width</b> | numeric    |                    | -                     | To contain average width of the road segment in meter   |

|                    |         |     |   |  |
|--------------------|---------|-----|---|--|
| <b>Road_length</b> | numeric |     | - | To contain calculated length of the road segment in meter  |
| <b>Num_Lanes</b>   | numeric |     | - | To contain number of lanes on the road segment such as 1, 2, etc.  |
| <b>Road_own</b>    | string  | 100 |   | To contain the name of the department or organization to which the road segment belongs.                                     |
| <b>METERS</b>      | Double  | -   | - | To contain length of the road in meters  |
| <b>FT_MINUTES</b>  | Float   | -   | - | To contain the time duration needed to travel the arc from the start node unto the end node, measured in minutes.            |
| <b>TF_MINUTES</b>  | Float   | -   | - | To contain the time duration needed to travel the arc from the end node unto the start node of the arc, measured in minutes. |
| <b>Oneway</b>      | string  | 2   |   | To contain the value to represent the possible directions to travel an arc   |
| <b>Hierarchy</b>   | Long    |     |   | To contain order or rank assigned to road network elements.  |

**8) Shape file name: RoadL11601.shp (Standard Code such as Thana\Upazila)**

Type: **Polyline**

This shape file will contain the centerlines of existing roads as polyline features in the area under project. It must contain the following fields compatible to Road Inventory sets with Road shapefiles:

| Field Name     | Field Type   | Width of the field | No. of Decimal Places | Purpose of the field          |                |         |   |
|----------------|--|--------------------|-----------------------|-------------------------------|----------------|---------|---|
| Rd_Length      | Double   | 0                  |                       | To contain the area in meters |                |         |   |
| <b>Road_ID</b> | string   | 20                 | -                     | To contain the ID of Road     |                |         |   |
| <b>Remarks</b> | To prepare completely the road, Electricity, Telephone, drain and pipe line inventory so that the inventory can to use properly with road shapefiles. I have given an example data table right side..... |                    |                       | Chainage                      | Road Condition | Type    | Additional +Field                       |
|                |  |                    |                       | 0-500 meters                  | Pucca          | Pucca   | To add more field as per your Required. |
|                |  |                    |                       | 500-500m                      | Culvert        | Culvert | To add more field as per your Required. |
|                |  |                    |                       | 500-1000m                     | Katcha         | Katcha  | To add more field as per your Required. |
|                |  |                    |                       | 1000-1012m                    | Bridge         | Bridge  | To add more field as per your Required. |

**9) Shape file\Coverage name: RdFP11601.shp (Standard Code such as Thana\Upazila)**

Type: **Polygon**

**Surface**

This shape file\Coverage will contain footpath of project area. It must contain the field as described in the following table:

| Field Name     | Field Type | Width of the field | No. of Decimal Places | Purpose of the field            |
|----------------|------------|--------------------|-----------------------|---------------------------------|
| Road_name      | string     | 50                 | -                     | To contain road name            |
| <b>Road_ID</b> | string     | 20                 | -                     | To contain the adjacent Road ID |

|                 |         |    |   |                                 |
|-----------------|---------|----|---|---------------------------------|
| <b>FP_Width</b> | numeric |    | - | To contain width of Footpath    |
| <b>FP_Type</b>  | string  | 50 | - | To contain footpath conditions. |
| <b>Footpath</b> |         |    |   | -Yes; true; 1                   |

**10) Shape file\Coverage name: RdIL11601.shp (Standard Code such as Thana\Upazila)**

Type: **Polygon**

This shape file\Coverage will contain road islands of the project area. It must contain the field as described in the following table:

| Field Name      | Field Type   | Width of the field | No. of Decimal Places | Purpose of the field            |
|-----------------|--------------|--------------------|-----------------------|---------------------------------|
| Road_name       | string       | 50                 | -                     | To contain road name            |
| Road_No         | string       | 20                 | -                     | To contain road number if any   |
| <b>Road_ID</b>  | string       | 20                 | -                     | To contain the adjacent Road ID |
| <b>IL_Width</b> | Long integer | 20                 | -                     | To contain width of Island      |
| <b>IL_Type</b>  | string       | 50                 | -                     | To contain footpath conditions. |

**11) Shape file\Coverage name: Wbd11601.shp (Standard Code such as Thana\Upazila)**

Type: **Polygon or polyline**

This shape file will contain water bodies of project area. It must contain the field as described in the following table:

| Field Name | Field Type   | Width of the field | No. of Decimal Places | Purpose of the field  |
|------------|--------------|--------------------|-----------------------|---|
| WBD_ID     | Long integer | 20                 | -                     | To contain Water body ID.   |
| WBD_Type   | string       | 50                 | -                     | To contain following type of water bodies<br>- “River”<br>- “Khal”<br>- “Irrigation Canal”<br>- “Swamp”<br>- “Pond”<br>- “Ditch”<br>- “Borrow Pits” |
| Use_Type   | string       | 50                 | -                     | To contain the use of water body such as Private or Public use  |

**12) Shape file\Coverage name: Emb11601.shp (Standard Code such as Thana\Upazila)**

Type: **Polyline**

This shape file\Coverage will contain embankment features of project area. It must contain the field as described in the following table:

| Field Name      | Field Type | Width of the field | No. of Decimal Places | Purpose of the field  |
|-----------------|------------|--------------------|-----------------------|---|
| <b>Emb_name</b> | string     | 100                |                       | To contain the name of the road, if any                                     |
| <b>Emb_ID</b>   | string     | 20                 | -                     | To contain the ID of Road   |
| <b>Emb_Type</b> | string     | 20                 | -                     | To contain the physical type of the Embankment to follow the road preparing |

|                    |         |     |   |  |
|--------------------|---------|-----|---|--|
|                    |         |     |   | method.  |
| <b>Emb_Class</b>   | string  | 100 |   | To contain the Class of the Embankment<br>-“Road cum Embankment”<br>-“Embankment”              |
| <b>Emb_width</b>   | numeric |     | - | To contain average width of the road segment in meter  |
| <b>Emb _width</b>  | numeric |     | - | To contain average width of the embankment segment in meter                                    |
| <b>Emb _length</b> | numeric |     | - | To contain calculated length of the road segment in meter                                      |
| <b>Num_Lanes</b>   | numeric |     | - | To contain number of lanes on the road segment such as 1, 2, etc.                              |
| <b>Owner</b>       | string  | 100 |   | To contain the name of the department or organization to which the embankment segment belongs. |

**13) Shape file name: DTM11601.shp (Standard Code such as Thana\Upazila)**

Type: **Point**

This shape file will contain 3D points at regular interval (10m x 10m) in project area. It must contain four fields as described in the following table:

| Field Name      | Field Type   | Width of the field | No. of Decimal Places | Purpose of the field   |
|-----------------|--------------|--------------------|-----------------------|--|
| <b>ID</b>       | Sort Integer | <b>10</b>          |                       | To contain the ID  |
| <b>RL</b>       | Double       | 0                  | 0                     | To contain Reduced Level (RL) of a point in meter as referenced with PWD |
| <b>Easting</b>  | Double       | 0                  | 0                     | To contain X-coordinate of the point                                     |
| <b>Northing</b> | Double       | 0                  | 0                     | To contain Y-coordinate of the point                                     |

**14) Shape file name BM11601.shp (Standard Code such as Thana\Upazila)**

Type: **Point**

This shape file will contain BM Pillars established in the project area. It must contain four fields as described in the following table:

| Field Name          | Field Type | Width of the field | No. of Decimal Places | Purpose of the field   |
|---------------------|------------|--------------------|-----------------------|--|
| <b>RL</b>           | Double     | 0                  | 0                     | To contain Reduced Level (RL) of a point in meter as referenced with PWD |
| <b>Easting</b>      | Double     | 0                  | 0                     | To contain X-coordinate of the point                                     |
| <b>Northing</b>     | Double     | 0                  | 0                     | To contain Y-coordinate of the point                                     |
| <b>organization</b> | String     | 100                | -                     | To contain name of the organization                                      |
| <b>Remarks</b>      | String     | 100                | -                     | To contain remarks, if any.  |

**15) Shape file name: CTR11601.shp (Standard Code such as Thana\Upazila) (CTR = Contour)**

Type: **Polyline**

This shape file will contain the contour lines of the area under project area. It must contain three fields as described in the following table:



| Field Name     | Field Type | Width of the field | No. of Decimal Places | Purpose of the field  |
|----------------|------------|--------------------|-----------------------|---|
| <b>Contour</b> | Double     | 0                  | 0                     | To contain the value (RL) of the contours up to three decimal places.   |
| <b>Label</b>   | Double     | 0                  | 0                     | To contain the value of contour up to one decimal place. This can be used to label the contours in map.   |
| <b>Type</b>    | String     | 7                  | -                     | To contain the value of this field as follows:<br>- “Index”<br>- “Intermediate”<br>The purpose of this field is to symbolize and label the contours only. (The values must be calculated in such way that after successive 4 thin (Regular) contours there should be one thick (Index) contour in map. That is if 0.00 is a thick (Index) contour then 0.3, 0.6, 0.9, and 1.2 will be (Regular) contours and 1.5 will be thick contour. |

**16) Shape file name: ELU11601.shp (Standard Code such as Thana\Upazila) (ELU = Existing Landuse)**  
Type: **Polygon**

This shape file will contain existing land use of project area which will be prepared on the basis of physical feature and land use survey. It may contain the field as described in the following table:

| Field Name      | Field Type | Width of the field | No. of Decimal Places | Purpose of the field  |
|-----------------|------------|--------------------|-----------------------|---|
| <b>Land_use</b> | string     | 50                 | -                     | To contain existing land use as<br>- “Administrative”<br>- “Agriculture”<br>- “Commercial”<br>- “Circulation Network”<br>- “Institutional”<br>- “Flood Flow Zone”<br>- “Industrial”<br>- “Mixed Use”<br>- “Recreational”<br>- “Restricted / Special Use”<br>- “Socio-Cultural”<br>- “Transport & Communication”<br>- “Urban Residential”<br>- “Urban Services”<br>- “Vacant Land”<br>- “Water Body” |
| <b>Remarks</b>  | string     | 100                | -                     | To contain remarks, if any.   |

**17) Shape file name: HTD11601.shp (Standard Code such as Thana\Upazila) (HTD = Homestead)**  
Type: **Polygon**

This shape file will contain rural homestead areas in project area as polyline features. It must contain the field as described in the following table:

| Field Name | Field Type | Width of the field | No. of Decimal Places | Purpose of the field   |
|------------|------------|--------------------|-----------------------|--|
| Location   | String     | 20                 | -                     | To contain the name of Mauza (Mauza_JL_Sheet) or the locality in which homestead areas lies. |
| Type       |            |                    |                       | To contain the type of homestead area (Accordingly structures)<br>-Urban<br>-Rural           |

**18) Shape file name: BRD11601.shp (Standard Code such as Thana\Upazila) (BRD = Bridge)**

Type: **Polygon**

This shape file will contain Bridge/Culvert/Box culvert/Over bridge/Railway Bridge etc as polygon features in project area. It must contain the field as described in the following table:

| Field Name | Field Type   | Width of the field | No. of Decimal Places | Purpose of the field  |
|------------|--------------|--------------------|-----------------------|---|
| Length     | Double       | 0                  | 0                     | To contain the length of the bridge/culvert   |
| Width      | Double       | 0                  | 0                     | To contain the width of the bridge/culvert  |
| Abutment   | Long integer | 20                 | 0                     | To contain the number of abutment   |
| Span       | Double       | 0                  | 0                     | To contain the span of the bridge/culvert   |
| Location   | String       | 30                 | -                     | To contain the area name (Mauza_JL_Sheet or locality)   |
| Remarks    | String       | 254                | -                     | To contain comments about the bridge such as conditions of abutment, deck, wing wall, etc.<br><br>*** To follow the road preparing methods. |

**19) Shape file name: BREL11601.shp (Standard Code such as Thana\Upazila) (BREL = Bridge Edge Line)**

Type: **Polyline**

This shape file will contain Bridge/Culvert/Box culvert/Over bridge/Railway Bridge etc as polyline features in project area. Each feature must be a multipart feature. It must contain the field as described in the following table:

| Field Name | Field Type | Width of the field | No. of Decimal Places | Purpose of the field  |
|------------|------------|--------------------|-----------------------|---|
| Length     | Double     | 0                  | 0                     | To contain the length of the bridge/culvert   |
| Width      | Double     | 0                  | 0                     | To contain the width of the bridge/culvert  |
| Abutment   | Double     | 0                  | 0                     | To contain the number of abutment   |
| Span       | Double     | 0                  | 0                     | To contain the span of the bridge/culvert   |
| Location   | String     | 20                 | -                     | To contain the area name (locality)   |
| Remarks    | String     | 254                | -                     | To contain comments about the bridge such as conditions of abutment, deck, wing wall, etc.<br>*** To follow the road preparing methods. |

**20) Shape file name: BRDP11601.shp (Standard Code such as Thana\Upazila) (BRDP = Bridge Point)**  
Type: **Point**

This shape file will contain Bridge/Culvert/Box culvert/Over bridge/Railway Bridge etc as point features in project area. It is expected that this shape file will be generated/produced from converting the **Bridge\_CL.shp** file into centroids. It must contain the field as described in the following table:

| Field Name | Field Type | Width of the field | No. of Decimal Places | Purpose of the field  |
|------------|------------|--------------------|-----------------------|---|
| Length     | Double     | 0                  | 0                     | To contain the length of the bridge/culvert   |
| Angle      |            |                    |                       | To contain the Geographic angle of the bridge/culvert   |
| Width      | Double     | 0                  | 0                     | To contain the width of the bridge/culvert  |
| Abutment   | numeric    | 20                 | 0                     | To contain the number of abutment   |
| Span       | Double     | 0                  | 0                     | To contain the span of the bridge/culvert   |
| Location   | String     | 20                 | -                     | To contain the area name (Mauza_JL_Sheet or locality)   |
| Remarks    | String     | 254                | -                     | To contain comments about the bridge such as conditions of abutment, deck, wing wall, etc.<br>*** To follow the road preparing methods. |

**21) Shape file name: EDRN11601.shp (Standard Code such as Thana\Upazila) (EDRN = Existing Drain Line)**  
Type: **Polyline**

This shape file will contain the information of existing drains in the project area. It must contain three fields as described in the following table:

| Field Name   | Field Type | Width of the field | No. of Decimal Places | Purpose of the field  |
|--------------|------------|--------------------|-----------------------|---|
| Type         | string     | 20                 | -                     | To contain the (construction) type of the drain. The value of the field may be any of the following two<br>- Surface (Katcha)<br>- Surface (Uncovered)<br>- Surface (Covered)<br>- Pipe |
| Drain_width  | Double     | 0                  | 0                     | To contain the width of the drain   |
| Drain_depth  | Double     | 0                  | 0                     | To contain the depth of the drain   |
| Drain_radios | Double     | 0                  | 0                     | To contain the radios of the drain  |
| Road_ID      | string     | 20                 | -                     | To contain the adjacent Road ID   |
| Remarks      | String     | 254                | -                     | *** To follow the road preparing methods.   |

**22) Shape file name: BWL11601.shp (Standard Code such as Thana\Upazila) (BWL=Boundary Wall Line)**  
Type: **Polyline**

This shape file will contain boundary walls as line features of project area. It must contain the field as described in the following table:

| Field Name | Field Type | Width of the field | No. of Decimal Places | Purpose of the field                            |
|------------|------------|--------------------|-----------------------|---|
| Type       | string     | 50                 | -                     | To contain line features such as Boundary wall. |

**23) Shape file name: WSL11601.shp (Standard Code such as Thana\Upazila) (WSL= Water Supply Line)**

Type: **Polyline**

This shape file will contain water distribution pipe network as line features in project area. It must contain the field as described in the following table:

| Field Name | Field Type | Width of the field | No. of Decimal Places | Purpose of the field                      |
|------------|------------|--------------------|-----------------------|---|
| Type       | string     | 20                 | -                     | To contain type of pipe (Steel, PVC, etc) |
| Dia        | Double     | 0                  | 0                     | Diameter of pipe in mm                    |
| Remarks    | String     | 254                | -                     | *** To follow the road preparing methods. |

**24) Shape file name: OHT11601.shp (Standard Code such as Thana\Upazila) (OHT = Overhead Tank)**

Type: **Point**

This shape file will contain overhead water tanks as point features in project area. It must contain the field as described in the following table:

| Field Name | Field Type | Width of the field | No. of Decimal Places | Purpose of the field                          |
|------------|------------|--------------------|-----------------------|---|
| Capacity   | Double     | 0                  | 0                     | To contain the capacity of the overhead tank. |
| Catchment  | Double     | 0                  | 0                     | To contain the catchment area in sq. meter    |
| Owner      |            |                    |                       | Contains the owner name                       |

**25) Shape file name: ESL11601.shp (Standard Code such as Thana\Upazila) (ESL = Electricity Supply Line)**

Type: **Polyline**

This shape file will contain High Voltage Electric Lines as line features in project area. It must contain the field as described in the following table:

| Field Name | Field Type | Width of the field | No. of Decimal Places | Purpose of the field                                   |
|------------|------------|--------------------|-----------------------|--|
| capacity   | string     | 20                 | -                     | Contains the capacity of each line as 11KV, 33 KV etc. |
| Owner      | string     | 20                 |                       | Contains the name of Organization                      |
| Remarks    | String     | 254                | -                     | *** To follow the road preparing methods.              |

**26) Shape file name: ULT11601.shp (Standard Code such as Thana\Upazila) (ULT = Utilities )**

Type: **Point**

This shape file will contain locations of various utility features as described in the following table:

| Field Name | Field Type | Width of the field | No. of Decimal Places | Purpose of the field  |
|------------|------------|--------------------|-----------------------|---|
| Type       | string     | 20                 | -                     | To contain <ul style="list-style-type: none"> <li>- “Electric Pole”</li> <li>- “Electric Tower”</li> <li>- “High Volt Electric Tower”</li> <li>- “Electric Box”</li> <li>- “Power Station”</li> <li>- “Power Sub-station”</li> <li>- “Transformer”</li> <li>- “Gas Transmission Center</li> <li>- “Light Post”</li> <li>- “Telephone Pole”</li> <li>- “Telephone Box”</li> <li>- “Fire Service Station”</li> <li>- “Traffic Signal Pole”</li> </ul> |
| Owner      |            |                    |                       | Contains the name of the owner  |
| Remarks    | String     | 100                | -                     | *** To follow the road preparing methods.   |

**27) Shape file name: SRL11601.shp (Standard Code such as Thana\Upazila) (SRL = Sewerage Line)**  
Type: **Polyline**

This shape file will contain sewerage network as line features in [project area. It must contain the field as described in the following table:

| Field Name | Field Type | Width of the field | No. of Decimal Places | Purpose of the field   |
|------------|------------|--------------------|-----------------------|--|
| Size       | string     | 20                 | -                     | To contain pipe diameter of sewerage line  |
| Type       | string     | 25                 | -                     | Contains type of waste water carried by the sewerage line such as storm sewerage or household sewerage line etc. |
| Location   | string     | 20                 | -                     | Contains location of sewerage line   |
| Owner      |            |                    |                       | Contains the name of the owner   |
| Remarks    | String     | 100                | -                     | *** To follow the road preparing methods.  |

**28) Shape file name: OHP11601.shp (Standard Code such as Thana\Upazila) (OHP = Other polygon )**  
Type: **Polygon**

This shape file will contain polygon features of project area. It must contain the field as described in the following table:

| Field Name | Field Type | Width of the field | No. of Decimal Places | Purpose of the field   |
|------------|------------|--------------------|-----------------------|--|
| Type       | string     | 50                 | -                     | To contain boundary of following features <ul style="list-style-type: none"> <li>- “Graveyard”</li> <li>- “Crematorium”</li> <li>- “Cemetery”</li> <li>- “Eidgah”</li> <li>- “Restricted Area”</li> <li>- “Airport”</li> </ul> |

|       |  |  |  |  |
|-------|--|--|--|--|
|       |  |  |  | <ul style="list-style-type: none"> <li>- “Brick Field”</li> <li>- “Rikshaw Garage”</li> <li>- “Automobile Garage”</li> <li>- “Slum”</li> <li>- “Monument”</li> <li>- “Open Space”</li> <li>- “Parks”</li> <li>- “Playground”</li> <li>- “Stadium”</li> <li>- “Golf Course”</li> <li>- “Botanical Garden”</li> <li>- “Zoological Park”</li> <li>- “Power Plant/Station”</li> <li>- “Bus Terminal”</li> <li>- “Truck Terminal”</li> <li>- “Water Treatment Plant”</li> <li>- “Sewerage Treatment Plant”</li> <li>- “Waste Disposal Plant”</li> <li>- “Railway Station”</li> <li>- “Bazaar Boundary”</li> <li>- “Forest Land”</li> <li>- “Sand Fill”</li> <li>- “Swimming Pool”</li> <li>- - <i>Other if necessary</i></li> </ul> |
| Owner |  |  |  | Contains the name of the owner   |

**29) Shape file name: AP11601.shp (Standard Code such as Thana\Upazila) (AP = All point )**

Type: **Point**

This shape file will contain point features of project area. It must contain the field as described in the following table:

| Field Name | Field Type | Width of the field | No. of Decimal Places | Purpose of the field   |
|------------|------------|--------------------|-----------------------|--|
| Type       | string     | 50                 | -                     | <ul style="list-style-type: none"> <li>- “Airport”</li> <li>- “Bazar”</li> <li>- “Government Bank”</li> <li>- “Private Bank”</li> <li>- “Brickfield”</li> <li>- “Bridge”</li> <li>- “Bus Terminal”</li> <li>- “Cemetery”</li> <li>- “Church”</li> <li>- “Cinema Hall”</li> <li>- “College”</li> <li>- “Crematorium”</li> <li>- “Deep tube well”</li> <li>- “Dustbin”</li> <li>- “Filling Station”</li> <li>- “Graveyard”</li> <li>- “Growth Center”</li> </ul> |

|           |        |    |   |   |
|-----------|--------|----|---|---|
|           |        |    |   | <ul style="list-style-type: none"> <li>- “Hand tube well”</li> <li>- “Historic site”</li> <li>- “ Government High School”</li> <li>“Registered High School”</li> <li>“Non-Registered High School”</li> <li>- “Hospital/Clinic”</li> <li>- “Madrasa”</li> <li>- “Registered Madrasa”</li> <li>- “Non-Registered Madrasa”</li> <li>- “Mazar/Dargah”</li> <li>- “Monument”</li> <li>- “Mosque”</li> <li>- “Museum”</li> <li>- “Oil Reservoir/Depot”</li> <li>- “Over Bridge”</li> <li>- “Pagoda”</li> <li>- “Police Box”</li> <li>- “Police Station”</li> <li>- “Post Office”</li> <li>- “River Port”</li> <li>- “Government Primary School”</li> <li>- “Registered Primary School”</li> <li>- “Non-Registered Primary School”</li> <li>- “Sluice gate”</li> <li>- “Temple”</li> <li>- “Theater Hall”</li> <li>- “Truck Terminal”</li> <li>- “Under Pass”</li> <li>- “University”</li> <li>- “Private University”</li> <li>- “Well”</li> <li>- “Culvert”</li> <li>- <i>Other if necessary</i></li> </ul> |
| Name      | string | 50 | - | To contain name of the feature, if any  |
| PointType | string | 50 | - | To contain short name “GPS” of the feature, e.g. Government Primary School (GPS)  |
| Owner     |        |    |   | Contains the name of the owner  |
| Remark    | string |    |   | Contains Further Explanation  |

**30) Shape file name: ITN11601.shp (Standard Code such as Thana\Upazila) (ITN = Important Names )**

Type: **Point**

This shape file will contain the names of important places and structures as point features in project area.

| Field Name  | Field Type | Width of the field | No. of Decimal Places | Purpose of the field   |
|-------------|------------|--------------------|-----------------------|--|
| <b>Name</b> | String     | 100                | -                     | To contain<br>- Name of locality, market, bazaar, important structure, historic site, university, play ground, poultry farm, river, khal, lake, pond, etc. |

**31) Shape file name: RN11601.shp (Standard Code such as Thana\Upazila) (RN = Road Name)**

Type: **Annotation/Line**

This shape file will contain the names of important places and structures as point features in project area.

| Field Name  | Field Type | Width of the field | No. of Decimal Places | Purpose of the field                 |
|-------------|------------|--------------------|-----------------------|--------------------------------------|
| <b>Name</b> | String     | 100                | -                     | To contain the name of road segment. |

**32) Shape file name: PRL11601.shp (Standard Code such as Thana\Upazila) (PRL = Proposed Road Line )**

Type: **Polyline**

This shape file will contain center lines of proposed roads as line features in the project area.

| Field Name       | Field Type | Width of the field | No. of Decimal Places | Purpose of the field   |
|------------------|------------|--------------------|-----------------------|--|
| <b>Width_m</b>   | Double     | 0                  | 0                     | To contain width of the proposed road in meter   |
| <b>Width_ft</b>  | Double     | 0                  | 0                     | To contain width of the proposed road in foot  |
| <b>From_To</b>   | String     | 100                | -                     | To contain the names (of road/place) from where the road starts and to where the road ends.    |
| <b>Prop_type</b> | String     | 20                 | -                     | To contain any of the two<br>- “New”<br>- “Widening”   |
| <b>Type</b>      | String     | 20                 | -                     | To contain any of the following<br>- “Underground”<br>- “Ground”<br>- “Flyover”<br>- “Viaduct” |
| <b>Remarks</b>   | String     | 254                | -                     | *** To follow the road preparing methods.  |

**41) Shape file name: PPL11601.shp (Standard Code such as Thana\Upazila) (PPL = Population)**

Type: **Polygon**

This shape file will contain polygon features of unions and wards derived from dissolved Mouzas of the project area area. It must contain the field as described in the following table:



| Field Name   | Field Type | Width of the field | No. of Decimal Places | Purpose of the field                |
|--------------|------------|--------------------|-----------------------|-------------------------------------|
| Union_Ward   | String     | 50                 | -                     | To contain name of the Mouza        |
| Area_BBS     | Double     | 0                  | 0                     |                                     |
| Area_GIS     | Double     | 0                  | 0                     |                                     |
| Pop_2001     | Double     | 0                  | 0                     |                                     |
| Pop_2011     | Double     | 0                  | 0                     |                                     |
| Pop_2021     | Double     | 0                  | 0                     |                                     |
| Pop_2035     | Double     | 0                  | 0                     |                                     |
| Pop_den_2011 |            |                    |                       |                                     |
| Thana        |            |                    |                       |                                     |
| Union        |            |                    |                       |                                     |
| Geocode      | String     | 11                 | -                     | To contain BBS geocode of the Union |
| Remarks      | String     | 254                | -                     | *** To add more field.              |

**42) Shape file name: STP11601.shp (Standard Code such as Thana\Upazila) (STP = Structure Plan)**

Type: **Polygon**

This shape file will contain proposed policy on the **merged mouza map** of the project area. It must contain the fields as described in the following table:

| Field Name  | Field Type | Width of the field | No. of Decimal Places | Purpose of the field                     |
|-------------|------------|--------------------|-----------------------|--|
| Policy_Zone | String     | 50                 | -                     | To contain proposed policy on the plots. |
| Remarks     | String     | 100                | -                     | To contain remark, if any.               |

### Point Feature Codes

The following Point feature codes (Unique ID) will be used as follows.

| Point Feature Categories            | Unique ID |
|-------------------------------------|-----------|
| - "Airport"                         | 255       |
| - "Bazar"                           | 260       |
| - "Government Bank"                 | 265       |
| - "Private Bank"                    | 270       |
| - "Brickfield"                      | 275       |
| - "Bridge"                          | 280       |
| - "Bus Terminal"                    | 285       |
| - "Bus Stand"                       | 290       |
| - "Cemetery"                        | 295       |
| - "Church"                          | 300       |
| - "Cinema Hall"                     | 305       |
| - "Government Medical College"      | 245       |
| - "Private Medical College"         | 250       |
| - "Government College"              | 145       |
| - "Government Woman College"        | 150       |
| - "Registered College"              | 155       |
| - "Non-Registered College"          | 160       |
| Government Poly Technical Institute | 165       |

|                                       |     |
|---------------------------------------|-----|
| Private Poly Technical Institute      | 170 |
| Vocational Institute                  | 175 |
| Jubo Unnayan Kendra                   | 310 |
| Government Teacher's Training College | 235 |
| Private Teacher's Training College    | 240 |
| - "Crematorium"                       | 315 |
| - "Deep tube well"                    | 320 |
| - "Dustbin"                           | 325 |
| - "Filling Station"                   | 330 |
| - "Graveyard"                         | 335 |
| "Growth Center"                       | 340 |
| - "Hand tube well"                    | 345 |
| - "Arsenic Hand tube well"            | 350 |
| - "Tara Pump"                         | 355 |
| - "Historic site"                     | 360 |
| - "Government High School"            | 125 |
| - "Government Girl's High School"     | 130 |
| "Registered High School"              | 135 |
| "Non-Registered High School"          | 140 |
| - "Hospital/Clinic"                   | 365 |
| - "Government Kamel Madrasa"          | 180 |
| - "Registered Kamel Madrasa"          | 185 |
| - "Government Fazel Madrasa"          | 190 |
| - "Registered Fazel Madrasa"          | 195 |
| - "Government Alem Madrasa"           | 200 |
| - "Registered Alem Madrasa"           | 205 |
| - "Government Eftedayee Madrasa"      | 210 |
| - "Registered Eftedayee Madrasa"      | 215 |
| - "Non-Registered Madrasa"            | 220 |
| - "Mazar/Dargah"                      | 370 |
| - "Monument"                          | 375 |
| - "Mosque"                            | 380 |
| - "Museum"                            | 385 |
| - "ASA NGO"                           | 390 |
| - "BRAC NGO"                          | 395 |
| - "Proshikha NGO"                     | 400 |
| - "TMSS NGO"                          | 405 |
| - "Other's NGO"                       | 410 |
| - "Insurance Company"                 | 415 |
| - "Life Insurance Company"            | 420 |
| - "Oil Reservoir/Depot"               | 425 |

|                                   |  |
|-----------------------------------|--|
| - “Over Bridge”                   | 430  |
| - “Pagoda”                        | 435  |
| - “Police Box”                    | 440  |
| - “Police Station”                | 445  |
| - “Post Office”                   | 450  |
| - “River Port”                    | 455  |
| - “Government Primary School”     | 100  |
| - “Registered Primary School”     | 105  |
| - “Non-Registered Primary School” | 110  |
| - “K.G. School”                   | 115  |
| - “Kindergarten School”           | 120  |
| - “Sluice gate”                   | 460  |
| - “Temple”                        | 465  |
| - “Theater Hall”                  | 470  |
| - “Truck Terminal”                | 475  |
| - “Under Pass”                    | 480  |
| - “Government University”         | 225  |
| - “Private University”            | 230  |
| - “Well”                          | 485  |
| - “Culvert”                       | 490  |
| - <i>Other if necessary</i>       | To put or<br>add the<br>Unique ID<br>accordingly<br>5 interval |