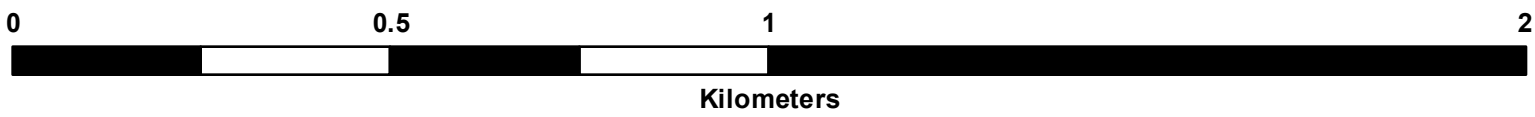
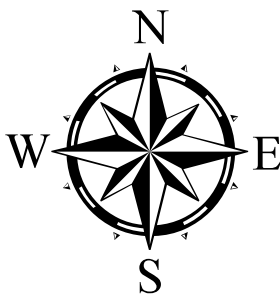
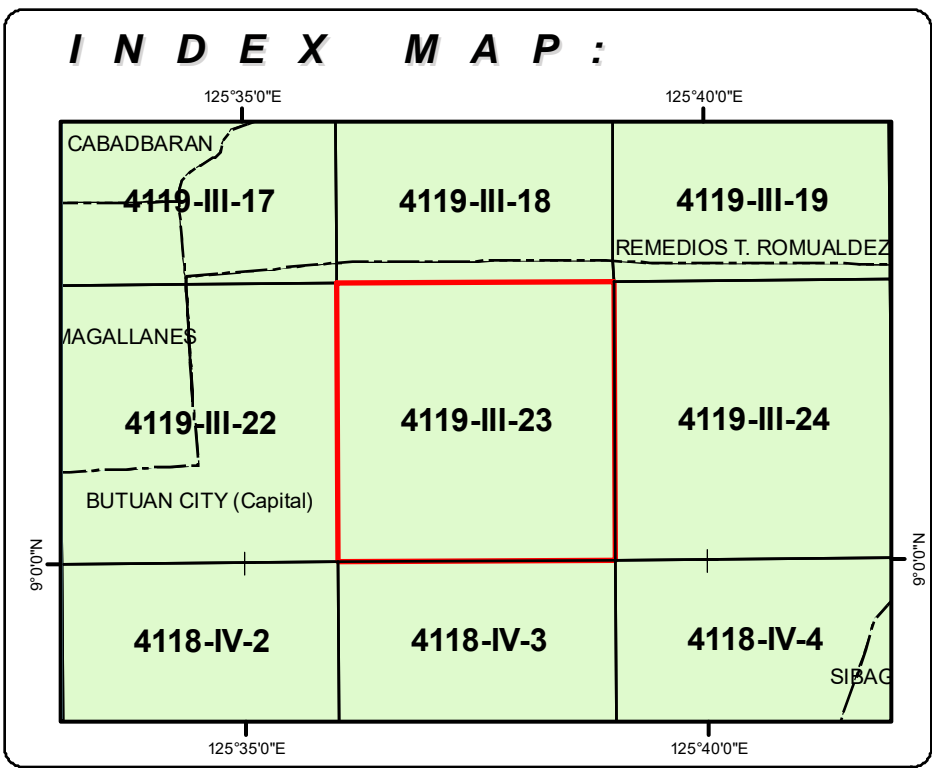




# DETAILED LANDSLIDE AND FLOOD HAZARD MAP OF BUTUAN CITY (CAPITAL), AGUSAN DEL NORTE, PHILIPPINES

## 4119-III-23 SUMILIHON QUADRANGLE



### LEGEND :

- |                    |                                 |
|--------------------|---------------------------------|
| Main road          | Barangay center location        |
| Secondary road     | Purok/Sitio location (Barangay) |
| Track; trail       | School                          |
| River              | Hospital                        |
| Municipal boundary | Church                          |
| Contour (meter)    | Proposed relocation site        |

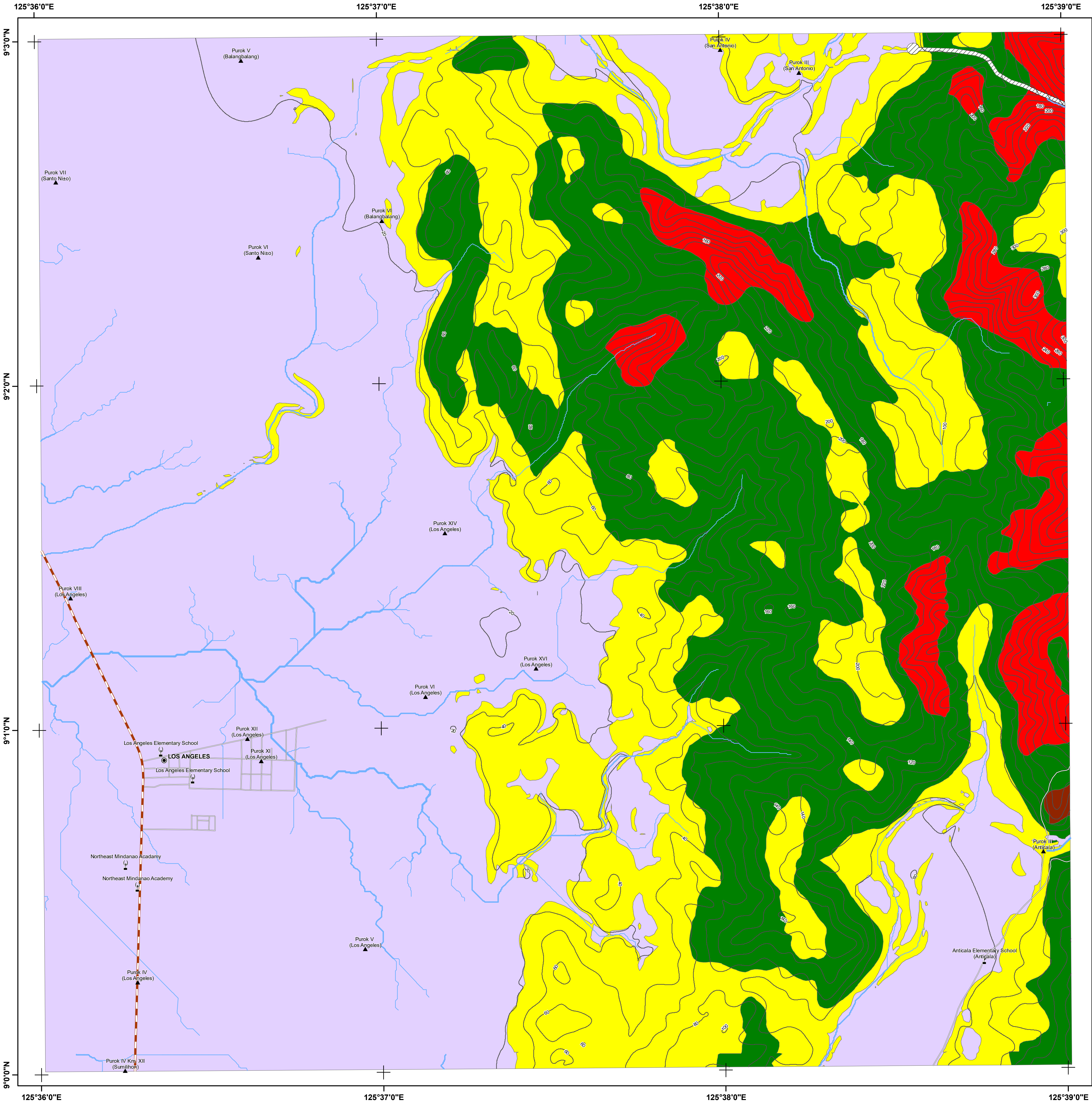
### Landslide

- |  |                   |
|--|-------------------|
| <b>Very high landslide susceptibility</b><br>Areas usually with steep to very steep slopes and underlain by weak materials. Recent landslides, escarpments and tension cracks are present. Human initiated effects could be an aggravating factor. |                   |
| <b>High landslide susceptibility</b><br>Areas usually with steep to very steep slopes and underlain by weak materials. Areas with numerous old/inactive landslides.  |                   |
| <b>Moderate landslide susceptibility</b><br>Areas with moderately steep slopes. Soil creep and other indications of possible landslide occurrence are present.   |                   |
| <b>Low landslide susceptibility</b><br>Gently sloping areas with no identified landslide.  |                   |
| <b>Debris flow / Possible accumulation zone</b><br>Areas that could be affected by landslide debris.   |                   |
| Active landslide   | Creep             |
| Inactive landslide   | Tension crack     |
| Landslide area with mitigating measure   | Gully             |
| Rock fall/Rock slide prone area  | Riverbank erosion |
| Old landslide deposits   |                   |
| Recent landslide deposits  |                   |
| Areas susceptible to ground subsidence/sinkhole development  |                   |

### Flood

- |  |  |
|--|--|
| <b>Very high flood susceptibility</b><br>Areas likely to experience flood heights of greater than 2 meters and/or flood duration of more than 3 days. These areas are immediately flooded during heavy rains of several hours; include landforms of topographic lows such as active river channels, abandoned river channels and area along river banks; also prone to flashfloods.      |  |
| <b>High flood susceptibility</b><br>Areas likely to experience flood heights of greater than 1 up to 2 meters and/or flood duration of more than 3 days. These areas are immediately flooded during heavy rains of several hours; include landforms of topographic lows such as active river channels, abandoned river channels and area along river banks; also prone to flashfloods.   |  |
| <b>Moderate flood susceptibility</b><br>Areas likely to experience flood heights of greater than 0.5m up to 1 meter and/or flood duration of 1 to 3 days. These areas are subject to widespread inundation during prolonged and extensive heavy rainfall or extreme weather condition. Fluvial terraces, alluvial fans, and infilled valleys are areas moderately subjected to flooding. |  |
| <b>Low flood susceptibility</b><br>Areas likely to experience flood heights of 0.5 meter or less and/or flood duration of less than 1 day. These areas include low hills and gentle slopes. They also have sparse to moderate drainage density.  |  |

- |                                  |                       |
|----------------------------------|-----------------------|
| Direction of rising floodwater   | Flood depth (meter)   |
| Direction of receding floodwater | Flashflood exit point |



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Lands Geological Survey Division  
Geosciences Division MGB Regional Office XIII  
National Mapping and Resource Information Authority

**GIS Processing :**  
Lands Geological Survey Division

**Coordinate System :**  
Spheroid : Clark 1866  
Projection : Transverse Mercator  
Datum : Luzon 1911

Mapping scale 1:10,000