

## The List of Symbols for Topographic Map at a scale of 1/10,000 Inhabited Area-30\_Buildings, 35\_Building Classification Symbols






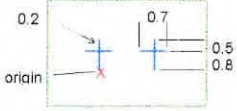

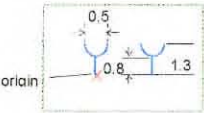

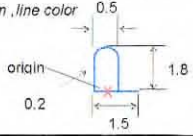

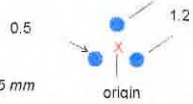
No.	Classification Code		Description	Symbol	Cartographic Specification	Data Type			Notes on Usage
	Primary	Secondary				Entity	weight	color	
58	35	15	Police Station 警察署 注記は不要		<i>lineweight 0.1 mm , line color 100% blue</i> 	Pt	1	BU	Acquire as point data. No annotation is required irrespective of its size.
59	35	16	Factory 工場		<i>lineweight 0.15 mm , line color 100% blue</i> 	Pt	1.5	BU	Acquire as point data.
60	35	17	Lighthouse 灯台		<i>lineweight 0.1 mm , line color 100% brown</i> 	Pt	1	BN	Acquire as point data.
61	35	18	Warehouse/倉庫		<i>lineweight 0.15 mm , line color 100% blue</i> 	Pt	1.5	BU	Acquire as point data.
62	35	19	Stadium (shown as point symbol when too small to express at scale) 小規模競技場		<i>lineweight 0.1 mm , line color 100% blue</i> 	Pt	1	BU	Acquire as point data
63	35	20	Stadium (at scale) 大規模競技場 競技場/大規模なものは実形で取得し、注記を入れる。それ以外は記号を表示する。		<i>outline lineweight 0.1 mm , line color 100% blue</i> 	L Text	1	BK BU	Acquire as line data. Large scaled stadium shall be shown at scale and place name if any. Other than larged scaled stadium shallw be shown with symbol.

# The List of Symbols for Topographic Map at a scale of 1/10,000

## 42\_Related Features of Industry, Agriculture and Sociocultural Objects

No.	Classification Code		Description	Symbol	Cartographic Specification	Data Type			Notes on Usage
	Primary	Secondary				Entity	weight	color	
64	42	01	High Tower/Power Transmission Tower, Belfry, Observation Tower and Water Tower 送電塔、教会の鐘楼、展望台及び独立した給水塔 基部の大きさが図上2mm以上のものは、実形で表示する。		<i>lineweight 0.1 mm ,line color 100% blue</i> 	Pt	1	BU	Acquire as pointa data. When base of tower with short side is 2mm or more on the map, it shall be delineated to actual scale size and shown the center of tower. Parts of tower shall symbolize automatically.
65	42	02	Antenna Tower 電波塔		<i>lineweight 0.1 mm ,line color 100% blue</i> 	Pt	1	BU	Acquire as point data.
66	42	03	Active Mine or Quarry 活動中の鉱山又は採石場			Pt	1	BU	Acquire as point data.
67	42	04	Inactive Mine or Quarry 非活動の鉱山又は採石場			Pt	1	BU	Acquire as point data.
68	42	05	Water Tank 貯水槽		<i>circle diameter 1.0 mm</i> 	Pt Text	1	BU	Acquire as pointa data. Annotate "WT"to the right of the symbol basically.
69	42	06	Oil tank オイルタンク 大規模(火力発電所)以外は記号表示		<i>circle diameter 1.0 mm</i> 	Pt Text	1	BU	Acquire as point data. Annotate "Oil"to the right of the symbol basically. Only a large-scale tank is shown at scale.


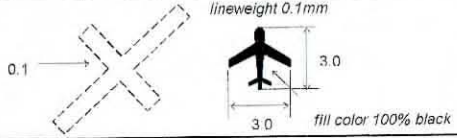


## The List of Symbols for Topographic Map at a scale of 1/10,000 42\_Related Features of Industry, Agriculture and Sociocultural Objects

No.	Classification Code		Description	Symbol	Cartographic Specification	Data Type			Notes on Usage
	Primary	Secondary				Entity	weight	color	
70	42	07	Well 井戸		circle diameter 0.6 mm 	Pt	1	BU	Acquire as point data. Annotate "Well" to the right of the symbol basically.
71	42	08	Transmission Lines 送電線 20Kv以上を取得する。鉄塔は"4201"を適用する。			L	1	BU	Acquire the center of transmission lines (power voltage of 20Kv or more) as line data. "4201" will be applied to the expression of the transmission line tower.
72	42	09	Cemetery, Christian キリスト教墓地/墓地はその区域を地物線で表示できない場合は、植生界"6301"で外周を表示し、内部に記号を意匠的に配置する。		lineweight 0.2 mm , line color 100% blue 	Pt	2	BU	"6301" will be applied for the boundary of the cemetery. And symbols shall be shown at a suitable position in the enclosed area.
73	42	10	Cemetery, Moslim イスラム教墓地 墓地はその区域を地物線で表示できない場合は、植生界"6301"で外周を表示し、内部に記号を意匠的に配置する。		lineweight 0.2 mm , line color 100% blue 	Pt	2	BU	"6301" will be applied for the boundary of the cemetery. And symbols shall be shown at a suitable position in the enclosed area.
74	42	11	Monument 目標となる記念碑及び銅像、記念塔		lineweight 0.2 mm , line color 100% blue 	Pt	2	BU	Acquire as point data.
75	42	12	Archeological Site 考古学的遺跡			Pt		BU	Acquire as point data.

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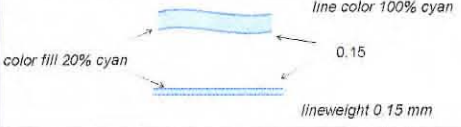



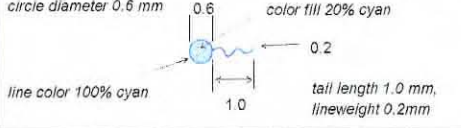

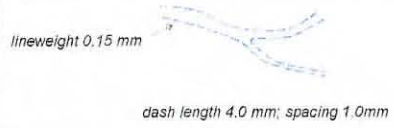

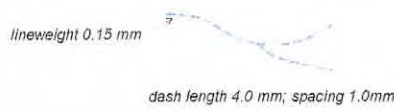

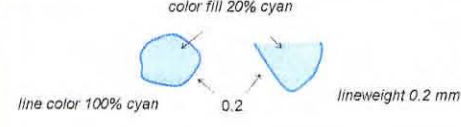
No.	Classification Code		Description	Symbol	Cartographic Specification	Data Type			Notes on Usage
	Primary	Secondary				Entity	weight	color	
76	42	13	Pipeline/ Above Ground-Oil, Gas and Water 輸送管(地上)/油、ガス及び水を含む			L Text	2	BK	Acquire as line data. Annotate "Pipeline" above the line or at an appropriate position.
77	42	14	Pipeline/ Air-Oil, Gas and water 輸送管(空間)/油、ガス及び水を含む			L Text	1	BK	Acquire as line data. Annotate "Pipeline" above the line or at an appropriate position.
78	42	15	Pipeline/Underground 輸送管(地下埋設)			L Text	3	BU	Figure shall be shown based on the data provided by counterpart. Showing "Pipeline"
79	42	16	Bus Terminal バスターミナル			Pt	1	BU	Acquire as point data.
80	42	17	Helicopter ヘリポート			Pt	1	BU	Acquire as point data.
81	42	18	Tunnel/Pit Mouth/Culvert トンネル、坑口及び暗渠内径が図上0.8mm以上の場合、その形状により実寸で表示し、未満ものは記号で表示する。	mapped to scale  not mapped to scale 		Pt	1 2	BK	When the diameter of Tunnel/Pit Mouth/Culvert is 0.8mm or more on the map, it shall be shown at scale.

## The List of Symbols for Topographic Map at a scale of 1/10,000 42\_Related Features of Industry, Agriculture and Sociocultural Objects

No.	Classification Code		Description	Symbol	Cartographic Specification	Data Type			Notes on Usage
	Primary	Secondary				Entity	weight	color	
82	42	19	Airports (shown at scale) 空港 外周及び滑走路は区域界 "6302"で表示し、記号及び注記 を入れる。		 lineweight 0.1mm 3.0 3.0 fill color 100% black	L Pt Text	1	BK	Acquire as line data "6302" and shown with symbol and annotation.
83	42	20	Disposal Site ゴミ投棄区域/処分場 規模に応じて"Disposal area"を 範囲内か外側に配置する。			L Text	1	BK BU	Acquire the area as line data "6302". Place an annotation " <i>Disposal Site</i> " either within area or outside depending on its area.

# The List of Symbols for Topographic Map at a scale of 1/10,000

## 51\_Hydrology, 52\_ Water-related Structures

No.	Classification Code		Description	Symbol	Cartographic Specification	Data Type			Notes on Usage
	Primary	Secondary				Entity	weight	color	
84	51	01	Canals, rivers and streams/ 運河、河川及び小川 幅2m以上の運河、河川及び小川は実線で表示する。			Pg	1.5	BU	Width 2m or more shall be shown with double lines as polygon data. The inside is filled in 20% cyan in color.
85	51	02	Canals, rivers and streams 運河、河川及び小川幅2m以下の運河、河川及び小川は1条線 で表示する。			L	1.5	BU	Width 2m or less shall be shown with single line as line data.
86	51	03	Fountainheads (springs/fountains) 源泉(湧水、泉)回転記号を真位置に配置			Pt	1	BU	Acquire with rotate symbol at true position.
87	51	04	Indefinite/Dried Rivers and Streams 不明確及び涸れた河川と小川、幅2m以上の不明確及び涸れた河川は実形表示する。			L	1.5	BU	Width 2m or more shall be shown with double lines as line data.
88	51	05	Indefinite/Dried Rivers and Streams 不明確及び涸れた河川と小川、幅2m以下の不明確及び涸れた河川は1条線で表示する。			Pg	1.5	BU	Width 2m or less shall be shown with single line as line data.
89	51	06	Lake/Pond, Shoreline 湖、池及び水涯線			Pg	2	BU	Acquire as polygon data. The inside is filled in blue. Acquire shoreline as line data and fill up the interior of the lake and pond with cyan in color.




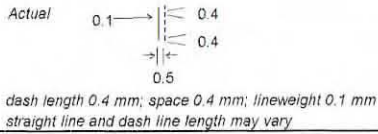

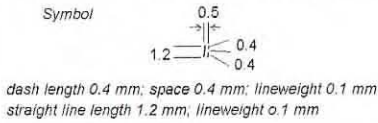

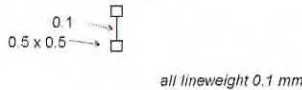

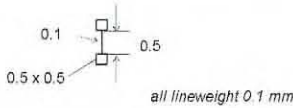

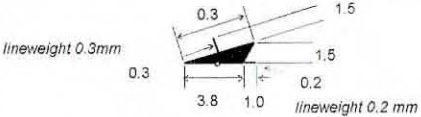

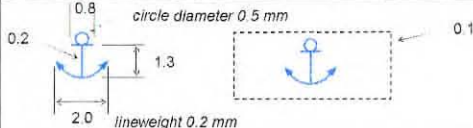
# The List of Symbols for Topographic Map at a scale of 1/10,000

## 51\_Hydrology, 52\_ Water-related Structures

No.	Classification Code		Description	Symbol	Cartographic Specification	Data Type			Notes on Usage
	Primary	Secondary				Entity	weight	color	
90	52	01	Pier-jetty 棧橋			Pg	1	BK	Acquire as polygon data.
91	52	02	Wharf 埠頭			L	2	BK	Acquire as line data.
92	52	03	Revetment 護岸			L	2	BK	Acquire as line data
93	52	04	Breakwater 防波堤			L	2	BK	Acquire as polygon data
94	52	05	Flow Arrow/ 流水方向 幅が図上0.8mm以上ある場合は中央に表示する。それ以下は河川を間断し表示する。			Pt	2	BU	When the river width is 0.8mm or more on the map, the flow arrow shall be expressed inside of the river. and for the single river, it is shown in a line gap of the rivers/streams. Arrow points down the stream.
95	52	06	Falls (double-line drainage) 滝(大)			L	3	BU	Acquire falls (wide river) with one-side generation symbol as line data. Hachures indicates down stream. Length of line will be varied depending on the river width.
96	52	07	Fall (single-line drainage) 滝(小)			Pt	2	BU	Acquire falls (single-line drainage) as point data.

# The List of Symbols for Topographic Map at a scale of 1/10,000

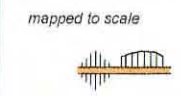
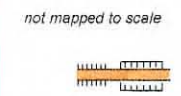
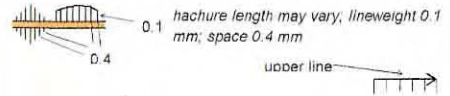
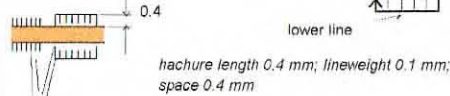

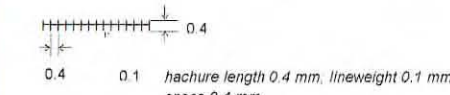
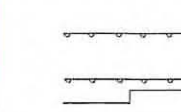
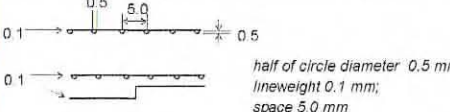

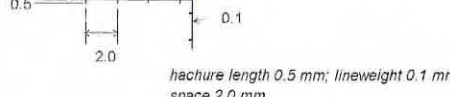
## 51\_Hydrology, 52\_ Water-related Structures

No.	Classification Code		Description	Symbol	Cartographic Specification	Data Type			Notes on Usage
	Primary	Secondary				Entity	weight	color	
97	52	08	Dam ダム			L	5	BK	Acquire as line data. Length of line will be varied depending on the area of reservoir.
98	52	09	weir (mapped to scale) 堰(実寸)			L	1	BK	Acquire as line data. Both lengths of line will be varied depending on the rivers and streams width.
99	52	10	weir (not mapped to scale) 堰(記号)			Pt	1	BK	Acquire weir as point data.
100	52	11	Flood Gate (at scale) 水門(実寸)			L	1	BK	Flood gate 15m or more in length shall be shown at scale. Length of line will be varied depending on the rivers and streams width.
101	52	12	Flood Gate (symbolized) 水門(記号)			Pt	1	BK	When it is smaller than 15m or less in length, it shall be symbolized.
102	52	13	Wreck 難破船			Pt	2	BK	Acquire as point data.
103	52	14	Anchorage Area 繫留地/繫留地の外線を地域界 "6302"で囲み記号を入れる。			Pt	2	BU	Acquire the anchorage area as line data using "6302" and place symbol inside.






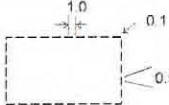

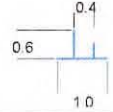

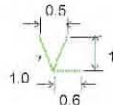



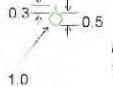

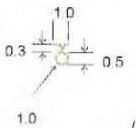
# The List of Symbols for Topographic Map at a scale of 1/10,000

## Land Classification-61\_Slope and Fence


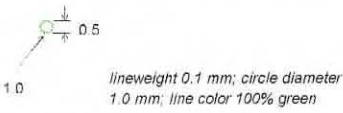

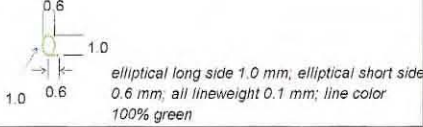

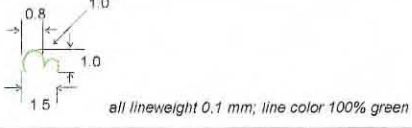

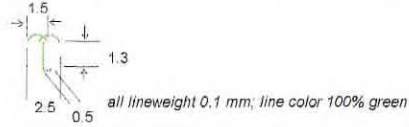


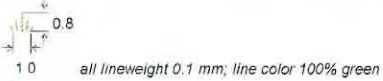

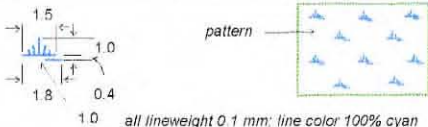
No.	Classification Code		Description	Symbol	Cartographic Specification	Data Type			Notes on Usage
	Primary	Secondary				Entity	weight	color	
104	61	01	<b>Artificial Cut and Embankment</b> 人工斜面(盛土・切土)斜面を示す短線の長さが図上1mm以上の場合は記号(大)を、それ未満の場合は記号(小)を使う。	<i>mapped to scale</i>  <i>not mapped to scale</i> 	 hachure length may vary; lineweight 0.1 mm; space 0.4 mm 0.1 0.4 upper line  lower line hachure length 0.4 mm; lineweight 0.1 mm; space 0.4 mm 0.4	L	1	BK	When a short-line slope length is 1mm or more on the map, all slopes shall be shown at scale. If it is smaller than 1mm or less, it will be symbolized. Draw upper line in a clockwise to direct downslope with hachure. Draw bottom line in a clockwise to direct downslope with hachure.
105	61	02	<b>Earth Embankment</b> 土手		 hachure length 0.4 mm; lineweight 0.1 mm; space 0.4 mm 0.4 0.1	L	1	BK	Acquire as both sides as generation symbol. Generated hachure will be shown at both sides automatically.
106	61	03	<b>Retaining Wall</b> 擁壁		 half of circle diameter 0.5 mm; lineweight 0.1 mm; space 5.0 mm 0.1 0.5 5.0 0.5	L	1	BK	Acquire as line data. Half of circle shows downslope.
107	61	04	<b>Wall/ Fence</b> 壁、サク		 hachure length 0.5 mm; lineweight 0.1 mm; space 2.0 mm 0.5 2.0 0.1	L	1	BK	Acquire wall/fence as line data. Hachre shows interior side.

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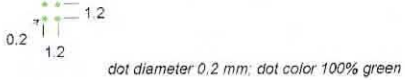

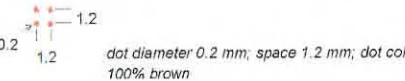

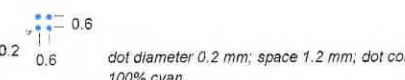
## Land Classification-63\_Vegetation Covers & Soils

No.	Classification Code		Description	Symbol	Cartographic Specification	Data Type			Notes on Usage
	Primary	Secondary				Entity	weight	color	
108	63	01	Vegetation Boundaries 地類界/異なった植生の区分に使用する。		 <i>lineweight 0.1 mm; line color 100% green</i>	L	1	GN	Acquire as line data.
109	63	02	Boundary of Territory/Zone 区域界/空港の滑走路、競技場(トラック)等、地類界が使えない場合に適用する。		 <i>dash 0.5 mm, space 1.0 mm lineweight 0.1 mm; line color black</i>	L	1	BK	Acquire as line data. It is used for the airport, dispersal area, anchorage area and track in stadium and so on.
110	63	03	Rice Field たんぼ/輪郭を"6301"で取得し、記号を適宜配置する。		 <i>all lineweight 0.1 mm; line color cyan</i>	Pt	1	BU	Acquire as line data using "6301" and place symbols at appropriate position
111	63	04	Crop Land/Agricultural Land 耕作地、農地		 <i>all lineweight 0.1 mm; line color green</i>	Pt	1	GN	Acquire as line data and place symbols at appropriate position.
112	63	05	Mangrove マングローブ/輪郭を"植生界"6301"で取得、中を面塗り(青色/パターン)し、記号を適宜配置する。		 <i>pattern</i>	Pg	1	GN BU	First acquire as polygon data using "6301" and show the pattern in background and place symbols its inside automatically.
113	63	06	Vineyard ブドウ畑		 <i>lineweight 0.1 mm; circle diameter 1.0 mm; line color 100% green</i>	Pt	1	GN	Acquire as line data using "6301" and place symbols at appropriate position.
114	63	07	Orchard/Pineapple-Pi, Coconut-Co, Banana-Ba, Sugarcane-Su, Mango-Man 果樹園/パイナップル、バナナ、ココナツ、サトウキビ、マンゴ等略語で表示する。		 <i>lineweight 0.1 mm; circle diameter 1.0 mm; line color 100% green</i>	Pt	1	GN	Acquire as line data using "6301" and place symbols and abbreviated names at appropriate position.

## The List of Symbols for Topographic Map at a scale of 1/10,000 Land Classification-63\_Vegetation Covers & Soils

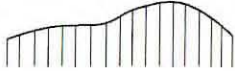
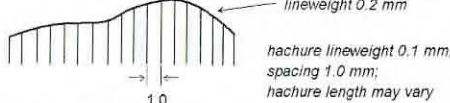

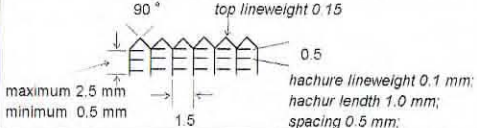
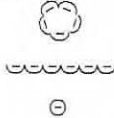



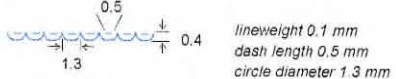






No.	Classification Code		Description	Symbol	Cartographic Specification	Data Type			Notes on Usage
	Primary	Secondary				Entity	weight	color	
115	63	08	Plantation/Rubber, Palm,Cassava 農園			Pt	1	GN	Acquire as line data using "6301" and place symbols and abbreviated names at appropriate position.
116	63	09	Broadleaf Forest 広葉樹林			Pt	1	GN	Acquire as line data using "6301" and place symbols at appropriate position.
117	63	10	Bushes/Shrub ブッシュ及び低木の茂み			Pt	1	GN	Acquire as line data using "6301" and place symbols at appropriate position.
118	63	11	Palms-independent ヤシの木(独立)			Pt	1	GN	Place symbols at appropriate position.
119			Mixed Shrub & Broadleaf 低木の茂み及び広葉樹の混交 林/うっそうとした森林に適用す る。			Pt	1	GN	Acquire as line data using "6301" and place symbols at appropriate position. Show bushes/shrub and broadleaf separately
120	63	12	Savanna サバンナ 疎林と灌木を交えた草原			Pt	1	GN	Acquire as line data using "6301" and place symbols at appropriate position.
121	63	13	Swamp/Marsh 湿地、沼地/輪郭を"植生界" "6301"で取得、中を面塗り(青色/ パターン)し、記号を適宜配置す る。			Pg	1	BU	First acquire as polygon data using "6301" and show the pattern in back ground and place symbols its inside automatically.

## The List of Symbols for Topographic Map at a scale of 1/10,000 Land Classification-63\_Vegetation Covers & Soils

No.	Classification Code		Description	Symbol	Cartographic Specification	Data Type			Notes on Usage
	Primary	Secondary				Entity	weight	color	
122	63	14	Steppe 藪、灌木、草地等が一緒になった 茂み、木を中心とした植生。			Pt	1	GN	Acquire as line data using "6301" and place symbols at appropriate position.
123	63	15	Sand 砂地			Pg	1	BN	Acquire area as polygon data
124	63	16	Mud 泥地			Pg	1	BU	Acquire area as polygon data and fill up with a specified dot pattern inside .

# The List of Symbols for Topographic Map at a scale of 1/10,000

## Relief-72\_Slope\_Quarry\_Depression\_Cliff

No.	Classification Code		Description	Symbol	Cartographic Specification	Data Type			Notes on Usage
	Primary	Secondary				Entity	weight	color	
125	72	01	Slope 土がけ			L	1 2	BK	Acquire as line data. Hachur shows downslope.
126	72	02	Cliff, Rock 岩がけ			L	1	BK	It will be shown as line between top and bottom lines. Symbols will be generated automatically.
127	72	03	Scattered Rocks 散岩		<i>Large-scale</i>  <i>small-scale</i> 	Pt L	1	BK	The symbol shall be used in view of the size of cliff/rock as point data.
128	72	04	Reef/Coral さんご礁			Pt	1	BU	Acquire as line data.
129	72	05	Closed Depression on Landslide (shown at scale) 低地、くぼみ			L	1	BK	Acquire as line data. Huchurs shows lower direction of depression.
130	72	06	Hummock on landslide (shown at scale) 小丘			L	1	BK	Acquire as line data. Huchures shows lower direction of hummock.
131	72	07	Hummock on Landslide (shown as point symbol when too small to be shown at scale) 小丘			L	1	BK	Acquire small-scaled hummock of 15m or less in diameter as point data.

## Geographical Names and Other related-names

	Text	Arial	Point	color	Remarks
Geographical Name	First importance Capital	<b>MONROVIA</b>	18	Bk	Arial/Bold
	Second importance	MONROVIA	16	Bk	Arial
	Third importance	Monrovia	16	Bk	Arial
	Fourth importance	Willi Town	12.8	Bk	Arial
	Fifth importance	Zepole	11.2	Bk	Arial
	County importance	<b>GREENVILLE</b>	16	Bk	Arial
Land Classification	Other names	Park	7	Bk	Arial
		Stadium	7	BU	Arial
	//	<i>Pipeline</i>	7	BU	Arial Italic
	//	<i>Exposure Area</i>	7	BU	Arial Italic
	//	<i>Rubber</i>	7	GR	Arial Italic
	//	<i>Pineapple</i>	7	GR	Arial Italic
Hydrology	Other names	WT	7	Bu	Arial
	//	Oil	7	Bu	Arial
	//	Well	7	Bu	Arial
	//	<i>mud</i>	7	Bu	Arial
Elevation Value	Triangulation Station-point	123.3	5.1	Bk	Arial
	Bench Mark	123.3	5.1	Bk	Arial
	Direct Leveling Point	123.3	5.1	Bk	Arial
	Spot height	123.3	5.1	Bk	Arial
	Contour Value	20	5.1	Bk	Arial

## Geodetic Coordinate System

The systems proposed in this project are as follows:

### 1. Coordinate System Parameters

Coordinate System	:	UTM
Zone Name	:	Zone 29
Geodetic Datum		
- Ellipsoid Name	:	WGS 84
Semi-major Axis (m)	:	846378137.000
1/f	:	298.257223563
Map Projection	:	Transverse Mercator
-Map Projection Parameters		
False Northing	:	0.000 (m)
False Easting	:	500,000.000 (m)
Longitude of the Central Meridian	:	9 ° W
Latitude of the Origin of the Projection	:	Equator
Scale Reduction Factor at the Central Meridian	:	0.9996

### 2. WGS84

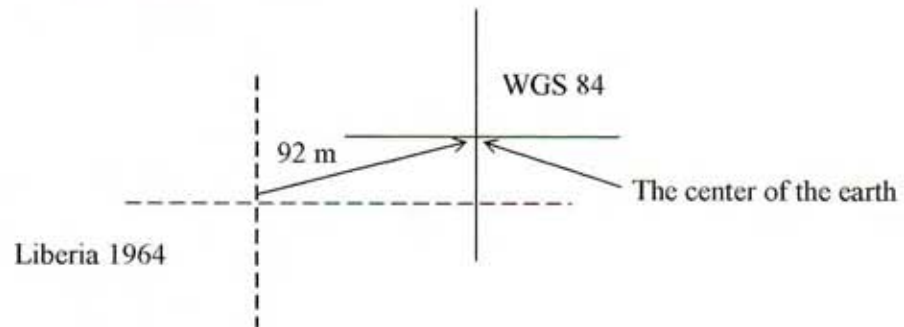
The World Geodetic System of 1984 (WGS 84) is a 3-D, Earth-centered reference system developed by the former U.S. Defence Mapping Agency now incorporated into a new agency, National Imagery and Mapping Agency (NIMA). The Conventional Reference System (CTRS) is a 3-D geocentric coordinate system; its origin coincides with the center of the Earth. With the most recent update, WGS 84 is coincident with the International Terrestrial Reference Frame (ITRF) at the subdecimeter accuracy level. Because WGS 84 have the advantage of the seamless data, its geodetic longitude and latitude can be used in worldwide.

### 3. Comparison between Datum of Liberia 1964 and WGS 84

Liberia maps were produced with the local datum. That is Liberia 1964 was selected to best fit only Liberia, while worldwide new maps are mostly produced with the geocentric datum.

Comparison with UTM by using two geodetic datum is as follows:

-Grid is shifted to approximately 92m northeast.



#### 4. GPS surveying and Heights

Static GPS surveying is carried out based on RAMROD known as existing control point to determine the coordinates for each photo control. A height of each photo control is determined based on existing BM(s) by leveling survey basically. However, in the case of some of photo controls located in a remote area, it is very difficult to link all together. These are determined with the geoidal height or undulation assumed on a Geoid Map.