PROJECT DESCRIPTION REPORT

River Restoration and Large-Scale Dredging of Bansud River Project

To be located at the Municipality of Bansud, Province of Oriental Mindoro

JULY 2023

ELITE MARINE
CONSTRUCTION CORPORATION

SMC INFRASTRUCTURE
PAREX PASIG RIVER EXPRESSWAY CORP.

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PROJECT DESCRIPTION REPORT for SCOPING (PDS)

1.0 BASIC PROJECT INFORMATION

Table PD-1. Project Fact Sheet

Name of Project	**River Restoration and Large-Scale Dredging of Bansud River Project**
Project Location	The mouth of the river is within Barangays Proper Bansud and Poblacion Municipality of Bansud, Province of Oriental Mindoro
Project Category & Type (based on Annex A of MC 2014-005)	Environmental Mitigation; Disaster Risk Reduction; Climate Change Adaptation. Considered critical due to potential impact on bridge
Project Area	River length : **9.157 line km** River Area: **21.35 ha** Offshore length/navigational: **1.45 km** Offshore area/navigational: **102 ha**
Project Cost	**PhP 147,282,000.00 (estimate)**
Major Project Components	1. Dredging zone/basin near river mouth, totaling **9.157 line km** covering **21.35 hectares** (river) and **1.45 km, 102 hectare** (offshore) navigational lane 2. 10 meters minimum buffer zone (easement) from the toe of both sides of the river bank and 1km minimum for the protection of Bansud River Bridge 3. Volume of Material for Dredging is 353,381.16 cubic meters 4. Projected annual extraction / production is 353,381.16 cubic meters per year of dredged material during the maximum operation 5. Bottom width is 20 meters 6. Average Depth is 1.5-2.5 meters (Design Depth is 3 meters) 7. Cost recovery through sale of dredged materials, subject to appropriate government regulations 8. Transport of dredge materials is thru barge
Project Proponent	**ELITE MARINE CONSTRUCTION CORPORATION** Mr. Thomas A. Tan President and General Manager Lot 4-6 Block 9, Fernando Street corner Francisco Seiro Street, Manila Harbour Center, Tondo, City of Manila 02-8550-3637 **PASIG RIVER EXPRESSWAY CORPORATION** Mr. Raoul Eduardo Romulo Chief Finance Officer 40 San Miguel Avenue 1550 Mandaluyong City, Metro Manila 02-8632-3000
EIA Preparer	**Engr. Emerson Darroles** **Project Team Leader** 09274926858 emersongeme20@gmail.com

EIA Team

The table showing the list of EIA Preparers is provided below.

Table PD-2. EIA Team Composition

Name	Field of Expertise	EMB Registry No.
Engr. Emerson B. Darroles	Team Leader / Water Quality Expert / ERA	IPCO-153
Nadia P. Conde	Assistant Team Leader / People Module / EIS Integrator	IPCO-102
Angelie Faye Nicolas	EIS Integrator / Research	IPCO - 259
Engr. Jonathan Conde	Noise/EMP	
Mr. Benjamin Francisco	Marine and Freshwater Ecology	IPCO-038
Mr. Michael Chester Francisco	Fisheries	IPCO-040

2.0 PROJECT DESCRIPTION

2.1 Project Area, Location and Accessibility

The proposed project is the dredging works along the lower portion of Bansud River in the Municipality of Bansud, Province of Oriental Mindoro.

Oriental Mindoro covers a total area of 4,238.38 square kilometers (1,636.45 sq mi) occupying the eastern section of Mindoro island in Mimaropa region. The province is bordered by the Verde Island Passage to the north, by Marinduque, Maestre de Campo, Tablas Strait and the rest of Romblon to the east, by Semirara and the rest of Caluya Islands, Antique to the south, and by Occidental Mindoro to the west.

The western portion of the province is mountainous or rugged, while the east has hills and flood plains. Mount Halcon, standing 2,582 meters (8,471 ft) above sea level, is the 18th highest mountain in the country and is the province's and island's highest peak. Lake Naujan, the fifth largest lake in the country with an area of approximately 8,125 hectares (20,080 acres) of open water, is located at the northeastern part of the island and the province.

The Municipality of Bansud is a 2nd class municipality in the province of Oriental. It has a land area of 343.47 square kilometers or 132.61 square miles which constitutes 8.10% of Oriental Mindoro's total area.

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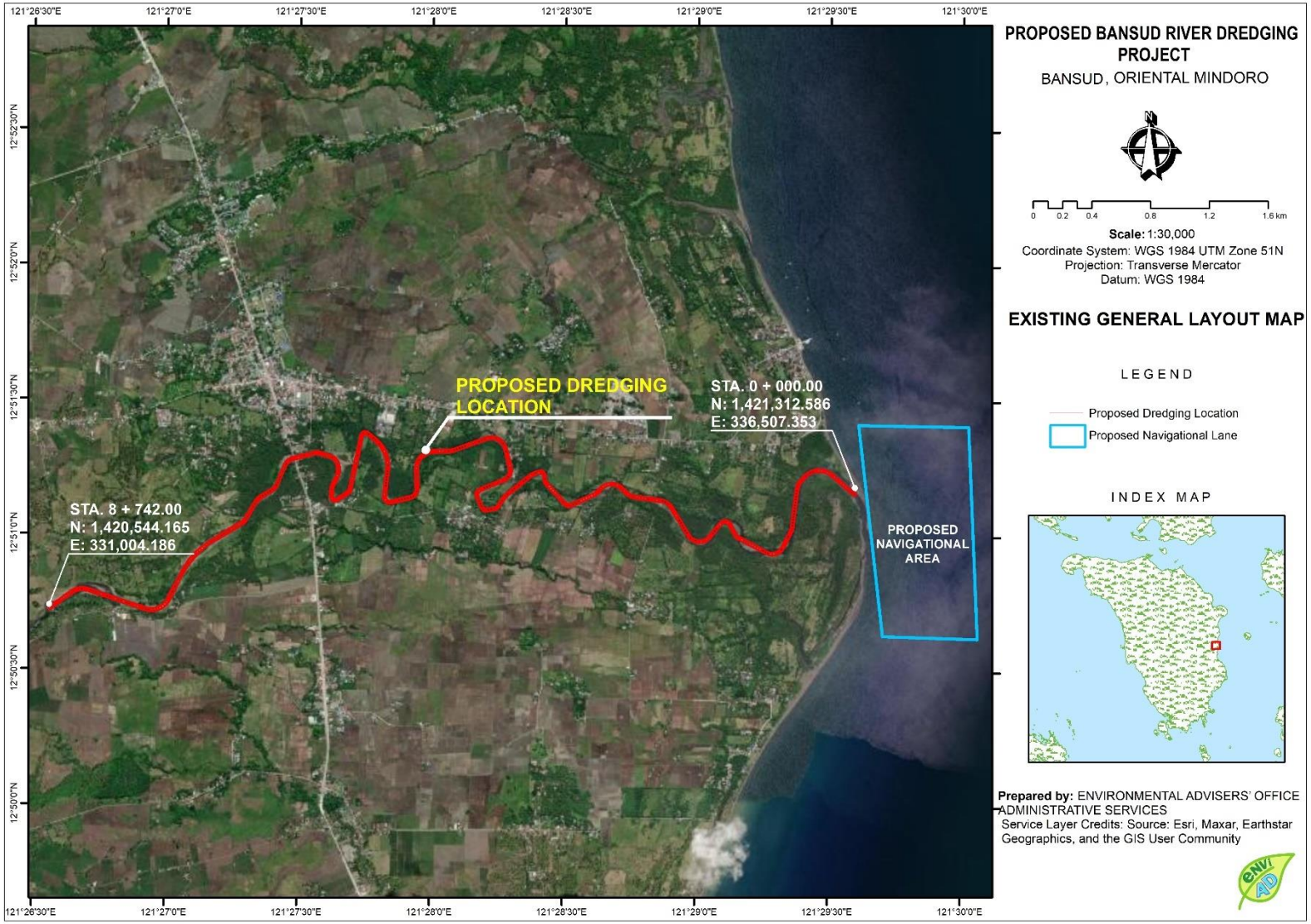

Figure PD-1. Project Area and Location Map

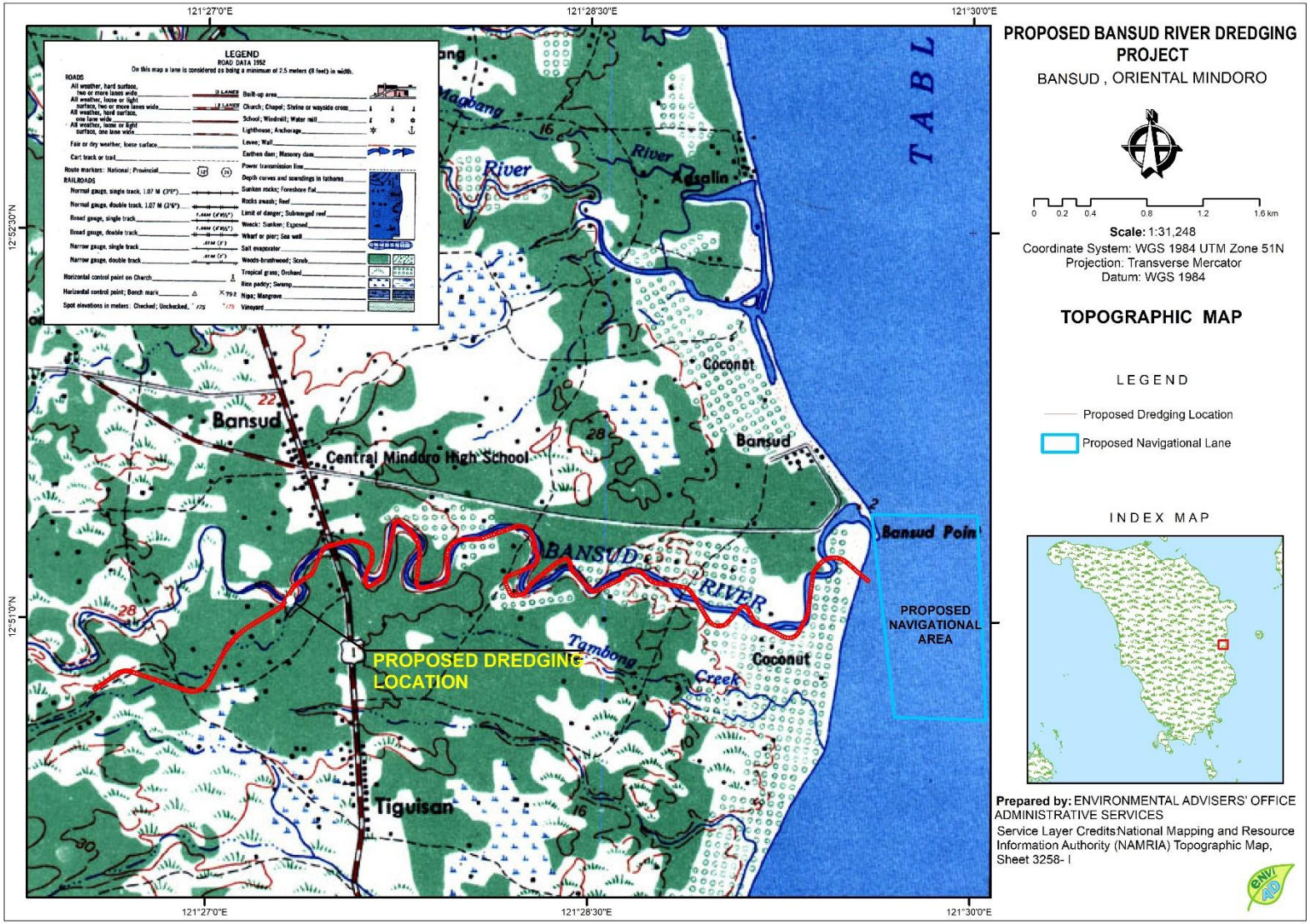

Figure PD-2. Topographic Map

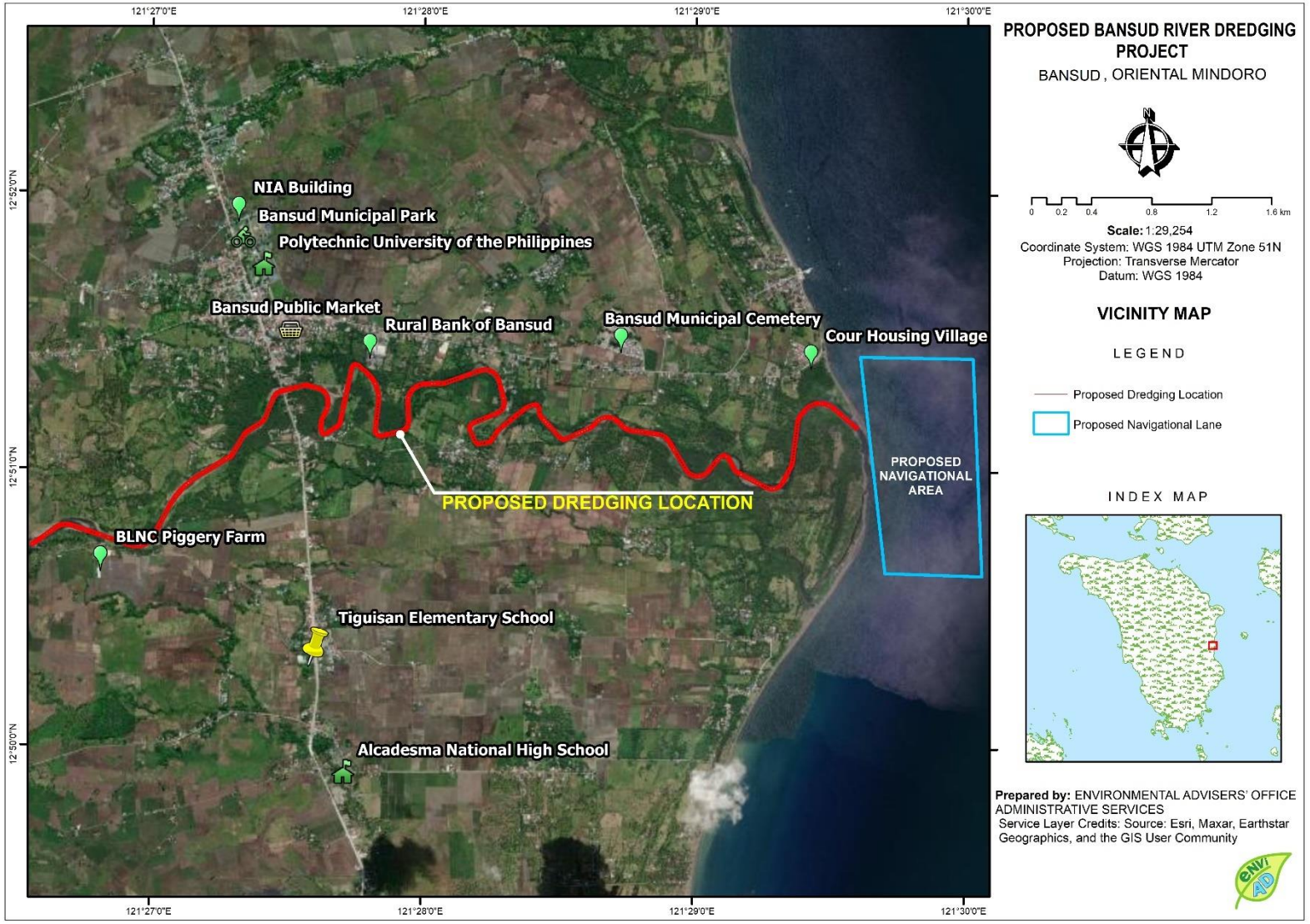

Figure PD-3. Vicinity Map

Geographic Coordinates (Shape File Data) of Project Area

Table PD-3. Geographical Coordinates (WGS 84) – RIVER

Point	Longitude	Latitude
1	121°26'33.81"	12°50'43.25"
2	121°26'34.27"	12°50'43.58"
3	121°26'34.56"	12°50'43.77"
4	121°26'34.82"	12°50'43.95"
5	121°26'35.36"	12°50'44.33"
6	121°26'35.58"	12°50'44.48"
7	121°26'35.9"	12°50'44.7"
8	121°26'36.18"	12°50'44.9"
9	121°26'36.44"	12°50'45.08"
10	121°26'36.98"	12°50'45.45"
11	121°26'37.53"	12°50'45.83"
12	121°26'38.07"	12°50'46.2"
13	121°26'38.61"	12°50'46.58"
14	121°26'39.15"	12°50'46.95"
15	121°26'39.19"	12°50'46.98"
16	121°26'39.72"	12°50'47.29"
17	121°26'40.01"	12°50'47.41"
18	121°26'40.34"	12°50'47.52"
19	121°26'40.79"	12°50'47.63"
20	121°26'40.86"	12°50'47.64"
21	121°26'40.99"	12°50'47.65"
22	121°26'41.65"	12°50'47.67"
23	121°26'41.96"	12°50'47.64"
24	121°26'42.3"	12°50'47.58"
25	121°26'42.64"	12°50'47.49"
26	121°26'42.94"	12°50'47.39"
27	121°26'43.57"	12°50'47.19"
28	121°26'44.2"	12°50'46.99"
29	121°26'44.83"	12°50'46.78"
30	121°26'45.46"	12°50'46.58"
31	121°26'46.09"	12°50'46.38"
32	121°26'46.42"	12°50'46.27"
33	121°26'46.72"	12°50'46.17"
34	121°26'47.35"	12°50'45.97"
35	121°26'47.98"	12°50'45.76"
36	121°26'48.31"	12°50'45.66"
37	121°26'48.61"	12°50'45.56"
38	121°26'49.24"	12°50'45.36"
39	121°26'49.87"	12°50'45.15"
40	121°26'50.5"	12°50'44.95"

Point	Longitude	Latitude
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42	121°26'51.76"	12°50'44.54"
43	121°26'52.39"	12°50'44.34"
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45	121°26'53.02"	12°50'44.14"
46	121°26'53.65"	12°50'43.93"
47	121°26'54.28"	12°50'43.73"
48	121°26'54.59"	12°50'43.63"
49	121°26'54.91"	12°50'43.53"
50	121°26'55.54"	12°50'43.32"
51	121°26'55.68"	12°50'43.28"
52	121°26'56.18"	12°50'43.15"
53	121°26'56.84"	12°50'43.07"
54	121°26'57.5"	12°50'43.09"
55	121°26'58.15"	12°50'43.21"
56	121°26'58.66"	12°50'43.38"
57	121°26'58.77"	12°50'43.42"
58	121°26'59.36"	12°50'43.73"
59	121°26'59.89"	12°50'44.12"
60	121°27'0.35"	12°50'44.59"
61	121°27'0.73"	12°50'45.12"
62	121°27'0.87"	12°50'45.35"
63	121°27'1.05"	12°50'45.69"
64	121°27'1.35"	12°50'46.27"
65	121°27'1.66"	12°50'46.85"
66	121°27'1.96"	12°50'47.43"
67	121°27'2.27"	12°50'48.01"
68	121°27'2.57"	12°50'48.58"
69	121°27'2.88"	12°50'49.16"
70	121°27'3.18"	12°50'49.74"
71	121°27'3.49"	12°50'50.32"
72	121°27'3.79"	12°50'50.9"
73	121°27'4"	12°50'51.28"
74	121°27'4.1"	12°50'51.47"
75	121°27'4.35"	12°50'51.92"
76	121°27'4.42"	12°50'52.04"
77	121°27'4.76"	12°50'52.6"
78	121°27'5.12"	12°50'53.14"
79	121°27'5.51"	12°50'53.68"
80	121°27'5.91"	12°50'54.19"

Point	Longitude	Latitude
81	121°27'6.33"	12°50'54.7"
82	121°27'6.77"	12°50'55.19"
83	121°27'6.91"	12°50'55.34"
84	121°27'7.22"	12°50'55.66"
85	121°27'7.69"	12°50'56.12"
86	121°27'8.18"	12°50'56.56"
87	121°27'8.69"	12°50'56.98"
88	121°27'9.21"	12°50'57.38"
89	121°27'9.74"	12°50'57.77"
90	121°27'10.29"	12°50'58.14"
91	121°27'10.82"	12°50'58.47"
92	121°27'11.41"	12°50'58.83"
93	121°27'11.98"	12°50'59.17"
94	121°27'12.54"	12°50'59.51"
95	121°27'13.11"	12°50'59.84"
96	121°27'13.68"	12°51'0.18"
97	121°27'14.24"	12°51'0.52"
98	121°27'14.81"	12°51'0.86"
99	121°27'15.37"	12°51'1.2"
100	121°27'15.94"	12°51'1.54"
101	121°27'16.51"	12°51'1.88"
102	121°27'17.07"	12°51'2.22"
103	121°27'17.64"	12°51'2.56"
104	121°27'17.75"	12°51'2.62"
105	121°27'17.89"	12°51'2.74"
106	121°27'18.01"	12°51'2.89"
107	121°27'18.09"	12°51'3.02"
108	121°27'18.43"	12°51'3.58"
109	121°27'18.77"	12°51'4.14"
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111	121°27'19.45"	12°51'5.26"
112	121°27'19.79"	12°51'5.82"
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115	121°27'20.51"	12°51'7.01"
116	121°27'20.84"	12°51'7.47"
117	121°27'21.03"	12°51'7.68"
118	121°27'21.31"	12°51'7.93"
119	121°27'21.7"	12°51'8.22"
120	121°27'21.85"	12°51'8.31"
121	121°27'22.41"	12°51'8.66"
122	121°27'22.97"	12°51'9.01"

Point	Longitude	Latitude
123	121°27'23.53"	12°51'9.36"
124	121°27'24.09"	12°51'9.71"
125	121°27'24.12"	12°51'9.73"
126	121°27'24.61"	12°51'10.1"
127	121°27'24.87"	12°51'10.38"
128	121°27'25.04"	12°51'10.59"
129	121°27'25.37"	12°51'11.16"
130	121°27'25.39"	12°51'11.21"
131	121°27'25.63"	12°51'11.76"
132	121°27'25.88"	12°51'12.36"
133	121°27'26.14"	12°51'12.96"
134	121°27'26.39"	12°51'13.56"
135	121°27'26.65"	12°51'14.16"
136	121°27'26.9"	12°51'14.76"
137	121°27'27.12"	12°51'15.27"
138	121°27'27.16"	12°51'15.36"
139	121°27'27.51"	12°51'15.92"
140	121°27'27.86"	12°51'16.27"
141	121°27'27.98"	12°51'16.37"
142	121°27'28.55"	12°51'16.7"
143	121°27'28.91"	12°51'16.82"
144	121°27'29.19"	12°51'16.89"
145	121°27'29.51"	12°51'16.97"
146	121°27'29.83"	12°51'17.05"
147	121°27'30.47"	12°51'17.21"
148	121°27'30.81"	12°51'17.29"
149	121°27'31.12"	12°51'17.37"
150	121°27'31.76"	12°51'17.53"
151	121°27'32.08"	12°51'17.61"
152	121°27'32.4"	12°51'17.69"
153	121°27'33.05"	12°51'17.85"
154	121°27'33.69"	12°51'18.01"
155	121°27'34.01"	12°51'18.09"
156	121°27'34.19"	12°51'18.13"
157	121°27'34.39"	12°51'18.15"
158	121°27'34.6"	12°51'18.12"
159	121°27'34.98"	12°51'18.01"
160	121°27'35.3"	12°51'17.92"
161	121°27'35.62"	12°51'17.83"
162	121°27'35.88"	12°51'17.75"
163	121°27'36.25"	12°51'17.65"
164	121°27'36.89"	12°51'17.47"

Point	Longitude	Latitude
165	121°27'37.21"	12°51'17.37"
166	121°27'37.33"	12°51'17.34"
167	121°27'37.52"	12°51'17.28"
168	121°27'38.1"	12°51'16.96"
169	121°27'38.36"	12°51'16.75"
170	121°27'38.52"	12°51'16.58"
171	121°27'38.58"	12°51'16.51"
172	121°27'38.92"	12°51'15.96"
173	121°27'39.09"	12°51'15.31"
174	121°27'39.13"	12°51'15.01"
175	121°27'39.16"	12°51'14.82"
176	121°27'39.17"	12°51'14.68"
177	121°27'39.18"	12°51'14.03"
178	121°27'39.14"	12°51'13.71"
179	121°27'39.13"	12°51'13.63"
180	121°27'39.08"	12°51'13.39"
181	121°27'38.87"	12°51'12.77"
182	121°27'38.74"	12°51'12.49"
183	121°27'38.61"	12°51'12.25"
184	121°27'38.58"	12°51'12.19"
185	121°27'38.43"	12°51'11.9"
186	121°27'38.27"	12°51'11.61"
187	121°27'38.06"	12°51'11.2"
188	121°27'37.97"	12°51'11.03"
189	121°27'37.85"	12°51'10.73"
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191	121°27'37.74"	12°51'10.36"
192	121°27'37.66"	12°51'9.77"
193	121°27'37.66"	12°51'9.47"
194	121°27'37.67"	12°51'9.12"
195	121°27'37.68"	12°51'8.8"
196	121°27'37.69"	12°51'8.47"
197	121°27'37.7"	12°51'8.29"
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199	121°27'38.12"	12°51'7.63"
200	121°27'38.41"	12°51'7.55"
201	121°27'38.93"	12°51'7.68"
202	121°27'39.03"	12°51'7.74"
203	121°27'39.23"	12°51'7.88"
204	121°27'39.57"	12°51'8.11"
205	121°27'39.87"	12°51'8.31"
206	121°27'40.12"	12°51'8.48"

Point	Longitude	Latitude
207	121°27'40.67"	12°51'8.84"
208	121°27'40.95"	12°51'9.03"
209	121°27'41.22"	12°51'9.21"
210	121°27'41.4"	12°51'9.33"
211	121°27'41.48"	12°51'9.38"
212	121°27'41.69"	12°51'9.6"
213	121°27'41.81"	12°51'9.88"
214	121°27'41.9"	12°51'10.25"
215	121°27'41.96"	12°51'10.57"
216	121°27'42.03"	12°51'10.89"
217	121°27'42.17"	12°51'11.53"
218	121°27'42.24"	12°51'11.85"
219	121°27'42.31"	12°51'12.17"
220	121°27'42.44"	12°51'12.8"
221	121°27'42.58"	12°51'13.44"
222	121°27'42.65"	12°51'13.76"
223	121°27'42.72"	12°51'14.08"
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225	121°27'42.92"	12°51'15.03"
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227	121°27'43.13"	12°51'15.99"
228	121°27'43.27"	12°51'16.62"
229	121°27'43.34"	12°51'16.94"
230	121°27'43.4"	12°51'17.26"
231	121°27'43.54"	12°51'17.9"
232	121°27'43.61"	12°51'18.21"
233	121°27'43.68"	12°51'18.53"
234	121°27'43.82"	12°51'19.17"
235	121°27'43.95"	12°51'19.81"
236	121°27'44.02"	12°51'20.12"
237	121°27'44.09"	12°51'20.44"
238	121°27'44.23"	12°51'21.08"
239	121°27'44.3"	12°51'21.4"
240	121°27'44.37"	12°51'21.72"
241	121°27'44.44"	12°51'22.05"
242	121°27'44.54"	12°51'22.3"
243	121°27'44.96"	12°51'22.63"
244	121°27'45.11"	12°51'22.67"
245	121°27'45.44"	12°51'22.65"
246	121°27'45.75"	12°51'22.49"
247	121°27'46.24"	12°51'22.08"
248	121°27'46.49"	12°51'21.87"

Point	Longitude	Latitude
249	121°27'46.75"	12°51'21.66"
250	121°27'47.25"	12°51'21.24"
251	121°27'47.71"	12°51'20.86"
252	121°27'47.76"	12°51'20.82"
253	121°27'48"	12°51'20.6"
254	121°27'48.24"	12°51'20.37"
255	121°27'48.68"	12°51'19.89"
256	121°27'48.89"	12°51'19.63"
257	121°27'49.08"	12°51'19.36"
258	121°27'49.26"	12°51'19.09"
259	121°27'49.36"	12°51'18.92"
260	121°27'49.42"	12°51'18.81"
261	121°27'49.72"	12°51'18.23"
262	121°27'49.84"	12°51'17.93"
263	121°27'49.96"	12°51'17.62"
264	121°27'50.14"	12°51'17"
265	121°27'50.22"	12°51'16.65"
266	121°27'50.27"	12°51'16.36"
267	121°27'50.34"	12°51'15.71"
268	121°27'50.35"	12°51'15.06"
269	121°27'50.33"	12°51'14.7"
270	121°27'50.31"	12°51'14.48"
271	121°27'50.3"	12°51'14.41"
272	121°27'50.23"	12°51'13.76"
273	121°27'50.16"	12°51'13.12"
274	121°27'50.09"	12°51'12.47"
275	121°27'50.01"	12°51'11.82"
276	121°27'49.94"	12°51'11.18"
277	121°27'49.87"	12°51'10.53"
278	121°27'49.83"	12°51'10.2"
279	121°27'49.8"	12°51'9.88"
280	121°27'49.73"	12°51'9.23"
281	121°27'49.65"	12°51'8.59"
282	121°27'49.65"	12°51'8.52"
283	121°27'49.65"	12°51'8.26"
284	121°27'49.73"	12°51'7.95"
285	121°27'50.05"	12°51'7.5"
286	121°27'50.13"	12°51'7.44"
287	121°27'50.42"	12°51'7.28"
288	121°27'50.74"	12°51'7.21"
289	121°27'51.12"	12°51'7.24"
290	121°27'51.39"	12°51'7.3"

Point	Longitude	Latitude
291	121°27'51.82"	12°51'7.4"
292	121°27'52.04"	12°51'7.45"
293	121°27'52.36"	12°51'7.53"
294	121°27'52.68"	12°51'7.6"
295	121°27'53.33"	12°51'7.75"
296	121°27'53.98"	12°51'7.9"
297	121°27'54.62"	12°51'8.05"
298	121°27'55.27"	12°51'8.2"
299	121°27'55.89"	12°51'8.43"
300	121°27'56.41"	12°51'8.82"
301	121°27'56.57"	12°51'9.01"
302	121°27'56.62"	12°51'9.07"
303	121°27'56.79"	12°51'9.35"
304	121°27'56.99"	12°51'9.97"
305	121°27'57.02"	12°51'10.4"
306	121°27'57.01"	12°51'10.62"
307	121°27'56.99"	12°51'10.94"
308	121°27'56.98"	12°51'11.27"
309	121°27'56.95"	12°51'11.92"
310	121°27'56.92"	12°51'12.57"
311	121°27'56.89"	12°51'13.22"
312	121°27'56.86"	12°51'13.87"
313	121°27'56.84"	12°51'14.2"
314	121°27'56.83"	12°51'14.52"
315	121°27'56.86"	12°51'15.17"
316	121°27'56.99"	12°51'15.81"
317	121°27'57.1"	12°51'16.11"
318	121°27'57.24"	12°51'16.41"
319	121°27'57.58"	12°51'16.97"
320	121°27'57.87"	12°51'17.31"
321	121°27'58.01"	12°51'17.46"
322	121°27'58.53"	12°51'17.87"
323	121°27'58.81"	12°51'18.04"
324	121°27'59.1"	12°51'18.19"
325	121°27'59.72"	12°51'18.42"
326	121°28'0"	12°51'18.48"
327	121°28'0.37"	12°51'18.53"
328	121°28'0.61"	12°51'18.55"
329	121°28'0.71"	12°51'18.55"
330	121°28'1.04"	12°51'18.56"
331	121°28'1.37"	12°51'18.58"
332	121°28'1.7"	12°51'18.59"

Point	Longitude	Latitude
333	121°28'2.36"	12°51'18.61"
334	121°28'3.03"	12°51'18.64"
335	121°28'3.36"	12°51'18.65"
336	121°28'3.69"	12°51'18.66"
337	121°28'4.35"	12°51'18.68"
338	121°28'4.68"	12°51'18.69"
339	121°28'4.81"	12°51'18.71"
340	121°28'4.93"	12°51'18.74"
341	121°28'5"	12°51'18.77"
342	121°28'5.63"	12°51'18.99"
343	121°28'6.25"	12°51'19.21"
344	121°28'6.87"	12°51'19.43"
345	121°28'7.5"	12°51'19.66"
346	121°28'8.12"	12°51'19.88"
347	121°28'8.43"	12°51'19.99"
348	121°28'8.75"	12°51'20.1"
349	121°28'9.37"	12°51'20.32"
350	121°28'9.99"	12°51'20.54"
351	121°28'10.05"	12°51'20.56"
352	121°28'10.3"	12°51'20.65"
353	121°28'10.62"	12°51'20.77"
354	121°28'11.24"	12°51'20.99"
355	121°28'11.86"	12°51'21.21"
356	121°28'12.49"	12°51'21.43"
357	121°28'12.68"	12°51'21.5"
358	121°28'13.12"	12°51'21.62"
359	121°28'13.78"	12°51'21.69"
360	121°28'14.44"	12°51'21.62"
361	121°28'15.07"	12°51'21.43"
362	121°28'15.3"	12°51'21.32"
363	121°28'15.65"	12°51'21.11"
364	121°28'16.15"	12°51'20.69"
365	121°28'16.55"	12°51'20.17"
366	121°28'16.84"	12°51'19.59"
367	121°28'16.93"	12°51'19.3"
368	121°28'17.02"	12°51'18.96"
369	121°28'17.18"	12°51'18.33"
370	121°28'17.26"	12°51'18.02"
371	121°28'17.35"	12°51'17.7"
372	121°28'17.43"	12°51'17.38"
373	121°28'17.51"	12°51'17.07"
374	121°28'17.68"	12°51'16.44"

Point	Longitude	Latitude
375	121°28'17.76"	12°51'16.14"
376	121°28'17.85"	12°51'15.81"
377	121°28'18.01"	12°51'15.18"
378	121°28'18.04"	12°51'15.08"
379	121°28'18.11"	12°51'14.54"
380	121°28'18.1"	12°51'14.23"
381	121°28'18.03"	12°51'13.89"
382	121°28'17.86"	12°51'13.46"
383	121°28'17.77"	12°51'13.29"
384	121°28'17.36"	12°51'12.79"
385	121°28'16.82"	12°51'12.42"
386	121°28'16.65"	12°51'12.34"
387	121°28'16.52"	12°51'12.28"
388	121°28'16.21"	12°51'12.16"
389	121°28'15.6"	12°51'11.91"
390	121°28'15.45"	12°51'11.84"
391	121°28'14.99"	12°51'11.65"
392	121°28'14.68"	12°51'11.53"
393	121°28'14.38"	12°51'11.4"
394	121°28'13.76"	12°51'11.15"
395	121°28'13.15"	12°51'10.9"
396	121°28'12.54"	12°51'10.65"
397	121°28'11.93"	12°51'10.4"
398	121°28'11.62"	12°51'10.27"
399	121°28'11.32"	12°51'10.15"
400	121°28'10.79"	12°51'9.76"
401	121°28'10.6"	12°51'9.44"
402	121°28'10.53"	12°51'9.17"
403	121°28'10.52"	12°51'8.85"
404	121°28'10.61"	12°51'8.53"
405	121°28'10.88"	12°51'7.94"
406	121°28'11.16"	12°51'7.35"
407	121°28'11.43"	12°51'6.76"
408	121°28'11.71"	12°51'6.16"
409	121°28'11.75"	12°51'6.07"
410	121°28'12.13"	12°51'5.68"
411	121°28'12.62"	12°51'5.62"
412	121°28'12.78"	12°51'5.64"
413	121°28'13.43"	12°51'5.75"
414	121°28'14.09"	12°51'5.86"
415	121°28'14.66"	12°51'5.95"
416	121°28'14.74"	12°51'5.97"

Point	Longitude	Latitude
417	121°28'14.96"	12°51'6.07"
418	121°28'15.2"	12°51'6.29"
419	121°28'15.25"	12°51'6.36"
420	121°28'15.43"	12°51'6.63"
421	121°28'15.55"	12°51'6.8"
422	121°28'15.62"	12°51'6.9"
423	121°28'15.99"	12°51'7.44"
424	121°28'16.37"	12°51'7.98"
425	121°28'16.52"	12°51'8.21"
426	121°28'16.75"	12°51'8.51"
427	121°28'16.86"	12°51'8.62"
428	121°28'17.25"	12°51'8.98"
429	121°28'17.74"	12°51'9.37"
430	121°28'18"	12°51'9.58"
431	121°28'18.25"	12°51'9.78"
432	121°28'18.77"	12°51'10.2"
433	121°28'19.28"	12°51'10.61"
434	121°28'19.54"	12°51'10.81"
435	121°28'19.8"	12°51'11.02"
436	121°28'20.31"	12°51'11.43"
437	121°28'20.56"	12°51'11.63"
438	121°28'20.83"	12°51'11.84"
439	121°28'21.33"	12°51'12.24"
440	121°28'21.86"	12°51'12.66"
441	121°28'22.1"	12°51'12.86"
442	121°28'22.36"	12°51'13.06"
443	121°28'22.91"	12°51'13.45"
444	121°28'23.2"	12°51'13.61"
445	121°28'23.32"	12°51'13.66"
446	121°28'23.5"	12°51'13.75"
447	121°28'24.12"	12°51'13.97"
448	121°28'24.18"	12°51'13.99"
449	121°28'24.74"	12°51'14.14"
450	121°28'25.09"	12°51'14.16"
451	121°28'25.4"	12°51'14.04"
452	121°28'25.75"	12°51'13.51"
453	121°28'25.8"	12°51'13.13"
454	121°28'25.84"	12°51'12.87"
455	121°28'25.93"	12°51'12.22"
456	121°28'25.94"	12°51'12.1"
457	121°28'26.01"	12°51'11.87"
458	121°28'26.12"	12°51'11.7"

Point	Longitude	Latitude
459	121°28'26.18"	12°51'11.64"
460	121°28'26.45"	12°51'11.36"
461	121°28'26.63"	12°51'11.16"
462	121°28'27.08"	12°51'10.68"
463	121°28'27.53"	12°51'10.2"
464	121°28'27.98"	12°51'9.72"
465	121°28'28.43"	12°51'9.24"
466	121°28'28.88"	12°51'8.76"
467	121°28'29.32"	12°51'8.29"
468	121°28'29.77"	12°51'7.81"
469	121°28'30.22"	12°51'7.33"
470	121°28'30.36"	12°51'7.18"
471	121°28'30.72"	12°51'6.9"
472	121°28'31.11"	12°51'6.77"
473	121°28'31.36"	12°51'6.74"
474	121°28'32"	12°51'6.88"
475	121°28'32.6"	12°51'7.16"
476	121°28'33.2"	12°51'7.43"
477	121°28'33.8"	12°51'7.71"
478	121°28'34.4"	12°51'7.98"
479	121°28'35"	12°51'8.26"
480	121°28'35.6"	12°51'8.53"
481	121°28'36.2"	12°51'8.81"
482	121°28'36.81"	12°51'9.09"
483	121°28'36.99"	12°51'9.17"
484	121°28'37.39"	12°51'9.39"
485	121°28'37.6"	12°51'9.54"
486	121°28'37.77"	12°51'9.69"
487	121°28'37.9"	12°51'9.81"
488	121°28'38.1"	12°51'10.04"
489	121°28'38.32"	12°51'10.31"
490	121°28'38.78"	12°51'10.78"
491	121°28'39.32"	12°51'11.15"
492	121°28'39.93"	12°51'11.41"
493	121°28'40.58"	12°51'11.54"
494	121°28'40.71"	12°51'11.55"
495	121°28'40.91"	12°51'11.56"
496	121°28'41.24"	12°51'11.55"
497	121°28'41.75"	12°51'11.46"
498	121°28'41.89"	12°51'11.42"
499	121°28'42.5"	12°51'11.17"
500	121°28'42.79"	12°51'11.01"

Point	Longitude	Latitude
501	121°28'43.05"	12°51'10.81"
502	121°28'43.27"	12°51'10.62"
503	121°28'43.54"	12°51'10.37"
504	121°28'44.01"	12°51'9.91"
505	121°28'44.21"	12°51'9.71"
506	121°28'44.47"	12°51'9.48"
507	121°28'45.04"	12°51'9.1"
508	121°28'45.32"	12°51'8.96"
509	121°28'45.65"	12°51'8.83"
510	121°28'46.26"	12°51'8.67"
511	121°28'46.47"	12°51'8.64"
512	121°28'46.94"	12°51'8.58"
513	121°28'47.6"	12°51'8.49"
514	121°28'48.26"	12°51'8.41"
515	121°28'48.92"	12°51'8.32"
516	121°28'49.57"	12°51'8.24"
517	121°28'49.9"	12°51'8.2"
518	121°28'50.23"	12°51'8.16"
519	121°28'50.89"	12°51'8.07"
520	121°28'51.55"	12°51'7.99"
521	121°28'51.88"	12°51'7.95"
522	121°28'52.16"	12°51'7.91"
523	121°28'52.85"	12°51'7.75"
524	121°28'53.44"	12°51'7.46"
525	121°28'53.97"	12°51'7.07"
526	121°28'54.22"	12°51'6.8"
527	121°28'54.49"	12°51'6.43"
528	121°28'54.75"	12°51'6.02"
529	121°28'54.96"	12°51'5.69"
530	121°28'55.1"	12°51'5.47"
531	121°28'55.3"	12°51'5.16"
532	121°28'55.45"	12°51'4.92"
533	121°28'55.8"	12°51'4.36"
534	121°28'56.15"	12°51'3.81"
535	121°28'56.5"	12°51'3.26"
536	121°28'56.85"	12°51'2.7"
537	121°28'57.2"	12°51'2.15"
538	121°28'57.55"	12°51'1.6"
539	121°28'57.9"	12°51'1.04"
540	121°28'58.25"	12°51'0.49"
541	121°28'58.4"	12°51'0.26"
542	121°28'58.62"	12°50'59.95"

Point	Longitude	Latitude
543	121°28'59.09"	12°50'59.5"
544	121°28'59.23"	12°50'59.4"
545	121°28'59.66"	12°50'59.16"
546	121°29'0.28"	12°50'58.95"
547	121°29'0.72"	12°50'58.88"
548	121°29'0.94"	12°50'58.88"
549	121°29'1.6"	12°50'58.95"
550	121°29'1.92"	12°50'59.04"
551	121°29'2.22"	12°50'59.17"
552	121°29'2.78"	12°50'59.52"
553	121°29'3.21"	12°50'59.93"
554	121°29'3.46"	12°51'0.22"
555	121°29'3.67"	12°51'0.48"
556	121°29'4.1"	12°51'0.98"
557	121°29'4.52"	12°51'1.48"
558	121°29'4.95"	12°51'1.98"
559	121°29'5.37"	12°51'2.48"
560	121°29'5.79"	12°51'2.98"
561	121°29'6.34"	12°51'3.34"
562	121°29'6.66"	12°51'3.39"
563	121°29'6.82"	12°51'3.39"
564	121°29'6.99"	12°51'3.36"
565	121°29'7.55"	12°51'3.03"
566	121°29'7.74"	12°51'2.77"
567	121°29'7.9"	12°51'2.47"
568	121°29'8.05"	12°51'2.18"
569	121°29'8.2"	12°51'1.9"
570	121°29'8.51"	12°51'1.32"
571	121°29'8.66"	12°51'1.03"
572	121°29'8.81"	12°51'0.74"
573	121°29'9.19"	12°51'0.21"
574	121°29'9.29"	12°51'0.11"
575	121°29'9.69"	12°50'59.78"
576	121°29'9.95"	12°50'59.63"
577	121°29'10.27"	12°50'59.47"
578	121°29'10.86"	12°50'59.17"
579	121°29'11.45"	12°50'58.87"
580	121°29'12.04"	12°50'58.57"
581	121°29'12.63"	12°50'58.27"
582	121°29'13.22"	12°50'57.97"
583	121°29'13.81"	12°50'57.67"
584	121°29'14.39"	12°50'57.37"

Point	Longitude	Latitude
585	121°29'14.98"	12°50'57.07"
586	121°29'15.57"	12°50'56.77"
587	121°29'16.16"	12°50'56.48"
588	121°29'16.79"	12°50'56.26"
589	121°29'17.45"	12°50'56.21"
590	121°29'18.16"	12°50'56.33"
591	121°29'18.71"	12°50'56.57"
592	121°29'18.98"	12°50'56.75"
593	121°29'19.23"	12°50'56.97"
594	121°29'19.64"	12°50'57.48"
595	121°29'19.72"	12°50'57.63"
596	121°29'19.94"	12°50'58.06"
597	121°29'20.09"	12°50'58.35"
598	121°29'20.25"	12°50'58.64"
599	121°29'20.4"	12°50'58.92"
600	121°29'20.55"	12°50'59.21"
601	121°29'20.85"	12°50'59.79"
602	121°29'21.16"	12°51'0.37"
603	121°29'21.31"	12°51'0.66"
604	121°29'21.46"	12°51'0.95"
605	121°29'21.55"	12°51'1.13"
606	121°29'21.73"	12°51'1.55"
607	121°29'21.83"	12°51'1.99"
608	121°29'21.85"	12°51'2.18"
609	121°29'21.94"	12°51'2.83"
610	121°29'22.02"	12°51'3.47"
611	121°29'22.11"	12°51'4.12"
612	121°29'22.19"	12°51'4.77"
613	121°29'22.28"	12°51'5.41"
614	121°29'22.36"	12°51'6.06"
615	121°29'22.44"	12°51'6.7"
616	121°29'22.53"	12°51'7.35"
617	121°29'22.61"	12°51'7.99"
618	121°29'22.7"	12°51'8.64"
619	121°29'22.78"	12°51'9.28"
620	121°29'22.87"	12°51'9.93"
621	121°29'22.95"	12°51'10.58"

Point	Longitude	Latitude
622	121°29'22.98"	12°51'10.78"
623	121°29'23.07"	12°51'11.21"
624	121°29'23.18"	12°51'11.5"
625	121°29'23.34"	12°51'11.81"
626	121°29'23.58"	12°51'12.14"
627	121°29'23.74"	12°51'12.32"
628	121°29'23.83"	12°51'12.43"
629	121°29'24.17"	12°51'12.82"
630	121°29'24.38"	12°51'13.07"
631	121°29'24.53"	12°51'13.24"
632	121°29'24.6"	12°51'13.32"
633	121°29'25.07"	12°51'13.78"
634	121°29'25.61"	12°51'14.16"
635	121°29'26.2"	12°51'14.45"
636	121°29'26.83"	12°51'14.66"
637	121°29'27.15"	12°51'14.73"
638	121°29'27.48"	12°51'14.78"
639	121°29'27.48"	12°51'14.78"
640	121°29'28.14"	12°51'14.8"
641	121°29'28.8"	12°51'14.73"
642	121°29'28.92"	12°51'14.7"
643	121°29'29.12"	12°51'14.65"
644	121°29'29.44"	12°51'14.56"
645	121°29'30.05"	12°51'14.3"
646	121°29'30.61"	12°51'13.95"
647	121°29'30.85"	12°51'13.76"
648	121°29'31.12"	12°51'13.54"
649	121°29'31.62"	12°51'13.12"
650	121°29'32.13"	12°51'12.69"
651	121°29'32.38"	12°51'12.48"
652	121°29'32.64"	12°51'12.27"
653	121°29'33.14"	12°51'11.85"
654	121°29'33.65"	12°51'11.43"
655	121°29'34.15"	12°51'11.01"
656	121°29'34.66"	12°51'10.59"
657	121°29'35.16"	12°51'10.17"
658	121°29'35.67"	12°51'9.75"
659	121°29'36.18"	12°51'9.33"

Table PD-4. Geographical Coordinates (WGS 84) – OFFSHORE AREA

Point	Latitude	Longitude
1	12°51'24.82"N	121°29'36.77"E
2	12°51'24.55"N	121°30'1.66"E
3	12°50'37.44"N	121°30'3.86"E
4	12°50'38.02"N	121°29'42.42"E

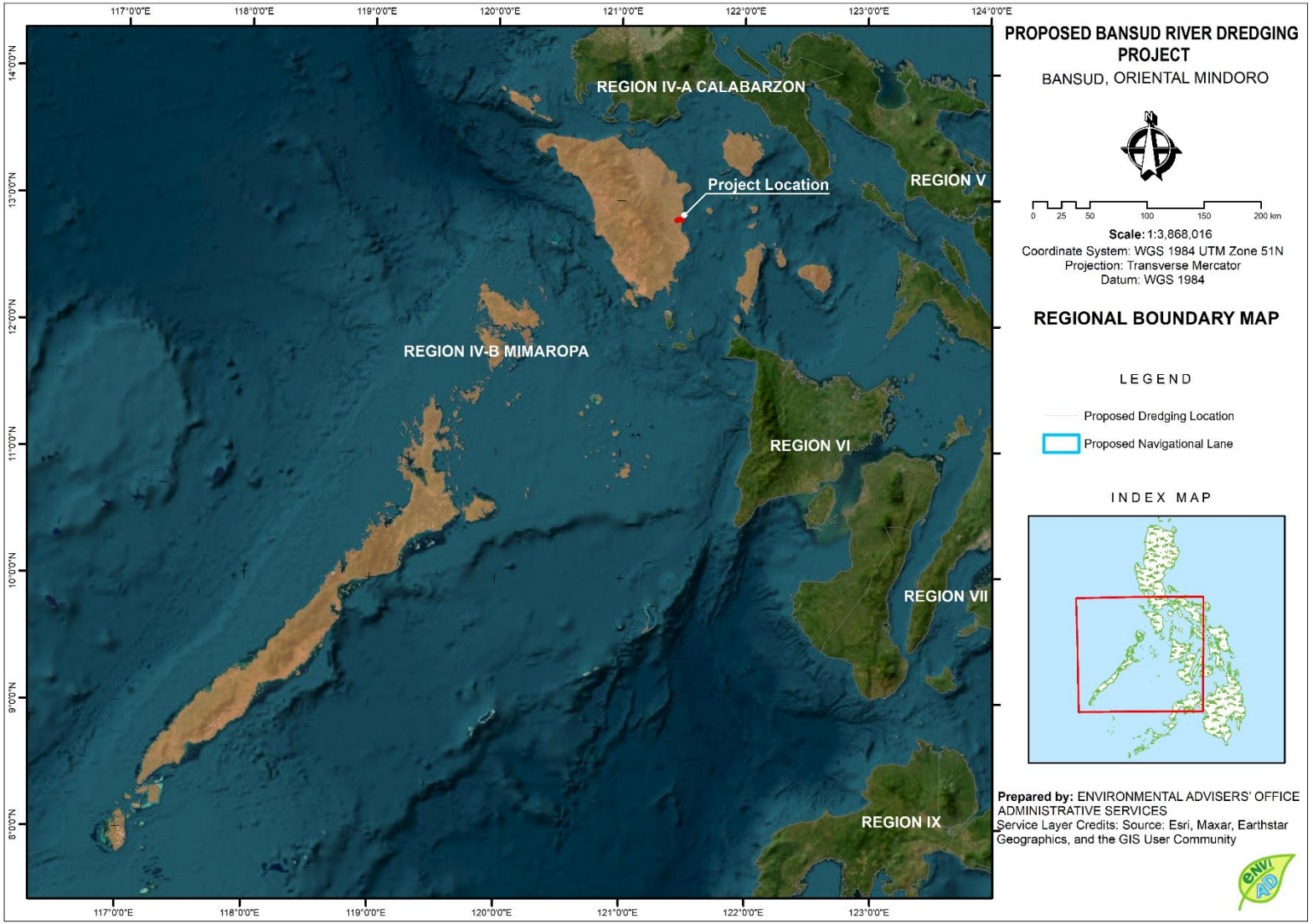

Figure PD-4. Map of Project Area vis-à-vis Regional and Provincial Boundaries

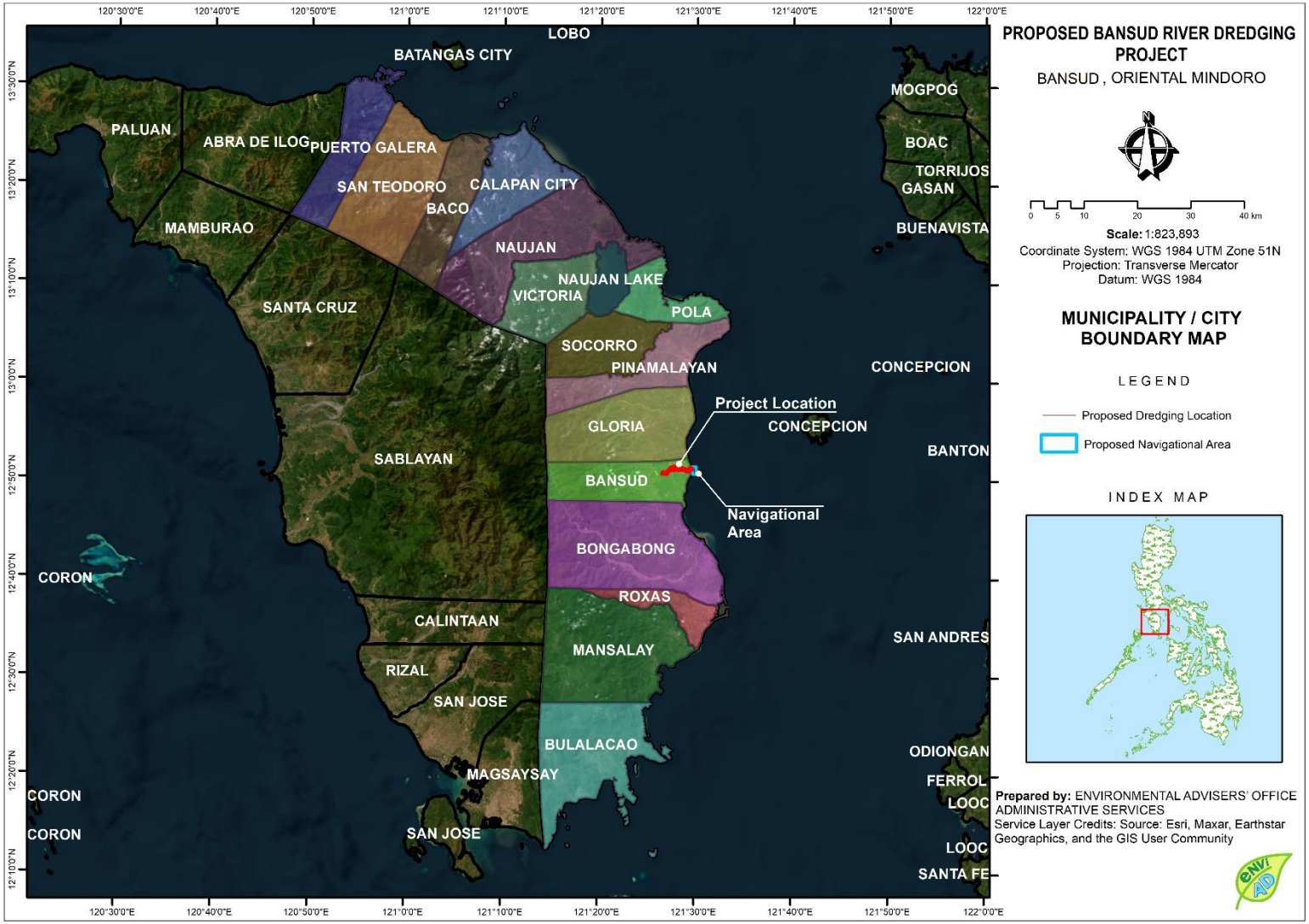

Figure PD-5. Map of Project Area vis-à-vis Municipal Boundaries

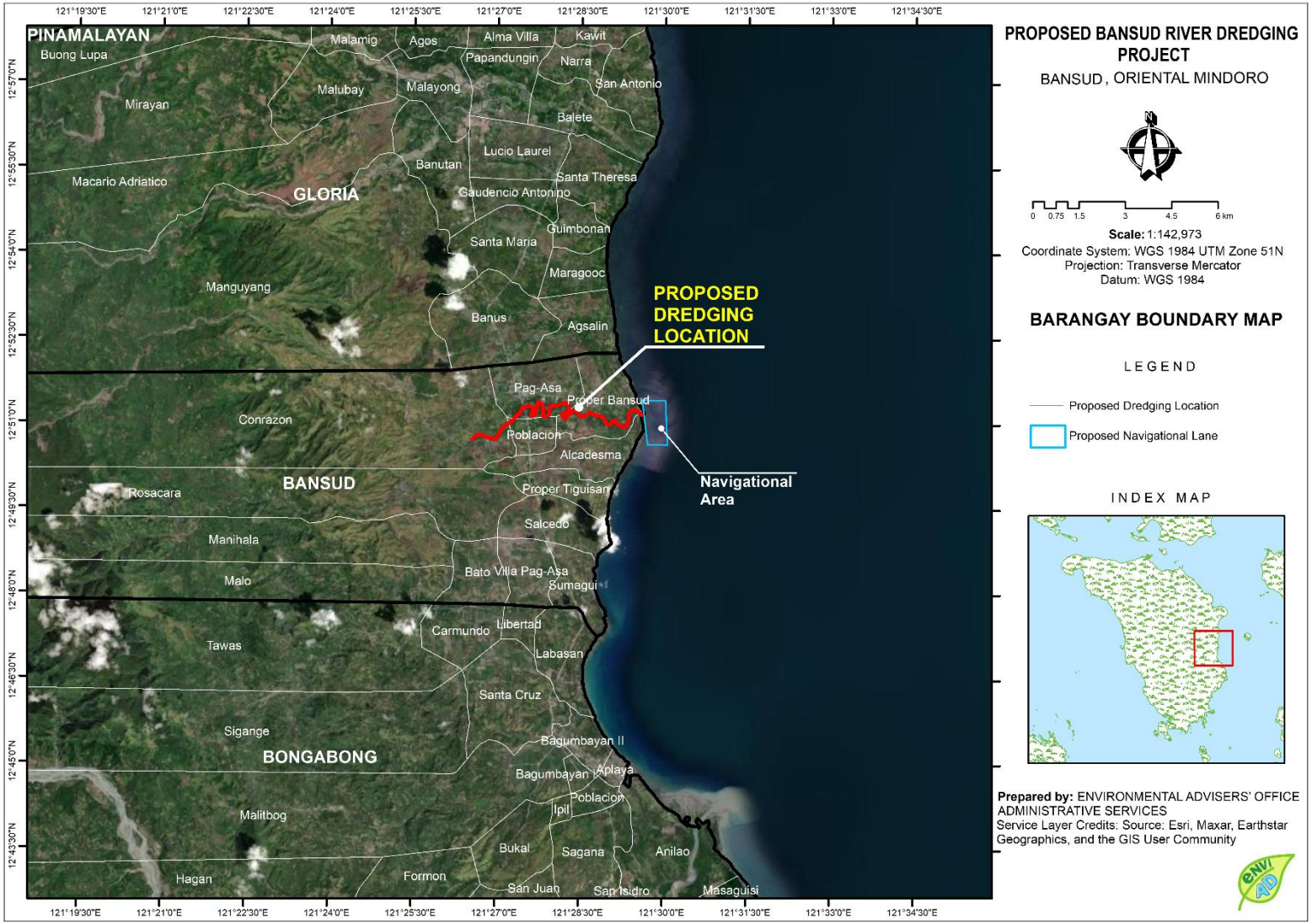

Figure PD-6. Map of Project Area vis-à-vis Barangay Boundaries

2.2 Accessibility

The Province of Oriental Mindoro is part of the MIMAROPA Region and is located approximately 140 kilometers directly south of Manila. From Manila, travel time going to Batangas Port takes up to 2 to 2.5 hours via private vehicle or bus. The island province is a one-hour fast craft ferry ride and two-to-three-hour roll-on-roll-off (RoRo) ferry ride from the International Port of Batangas which operates on a 24-hour basis. Calapan City, the seat of the Provincial Government, is the main gateway to the province. All the towns in the Province of Oriental Mindoro are connected through the Strong Republic Nautical Highway where public utility vehicles are available when one wants to transfer from one town to another.

The municipality of Bansud is accessible by sea from Batangas, Manila and Visayan Islands; by land from north and south sections of the province; and by air through private aircrafts. Alternative routes may be through Batangas-Calapan City-Sablayan, Batangas-Abra de Ilog- Sablayan - San Jose, and Manila-San Jose-Sablayan. Manila-Mamburao-Sablayan.

The inter-municipal shuttle-van plying the Calapan to the southern part of Oriental Mindoro route provides the long-distance transport requirement of Bansud. Jeepneys, on the other hand, service shorter inter-municipal as well as inter-barangay requirements. Intra-municipal movement is augmented by tricycles and motorcycles.

Going to the river mouth area in Brgy. Proper Bansud, vehicles will pass through barangay road then take an about 5 minutes' walk along seashore going to the river mouth.

2.3 Protected Areas

NIPAS and RAMSAR

The identified protected areas in proximity to the proposed project area is provided in the table below and in **Figure PD-7**.

Name	Legal Basis	Legal Status	Proximate Distance from the Project Area
Naujan Lake	Proclamation No. 335, s. 1968	Initial Component	30.9 km
Mangrove Areas along banks of Mamburao River, Buluagan River to Lagarum River, Naujan, Bank of Betel, Sablayan Pt. to bagong Sabang River, Labangan to Calalayuan Pt. Sukol River, Casiliga River, Island of Soguicay	Proclamation No. 2152, s. 1981	Initial Component	Mangrove Areas along banks of Mamburao River – 102 km Buluagan River to Lagarum River, Naujan – 56.2 km Bank of Betel Creek – 81.7 km Sablayan Pt. to bagong Sabang River – 73.1 km Labangan to Calalayuan Pt. -67.4 km Sucol River in Bongabong - 11.6 km Casiliga River -31.7 km Island of Siguicay -55.6 km

Name	Legal Basis	Legal Status	Proximate Distance from the Project Area
Mts. Iglit-Baco National Park	Proclamation No. 557, s. 1969	Legislated	17 km

2.4 Impact Areas

The identified EIA direct impact area (DIA) is the **9.157 -line kilometer, 21.35 hectares** of lower Bansud River within barangays Proper Bansud and Poblacion **102** hectare portion of offshore area for navigational lane. **Figures PD-8** to **PD-10** show the impact area maps of the proposed project.

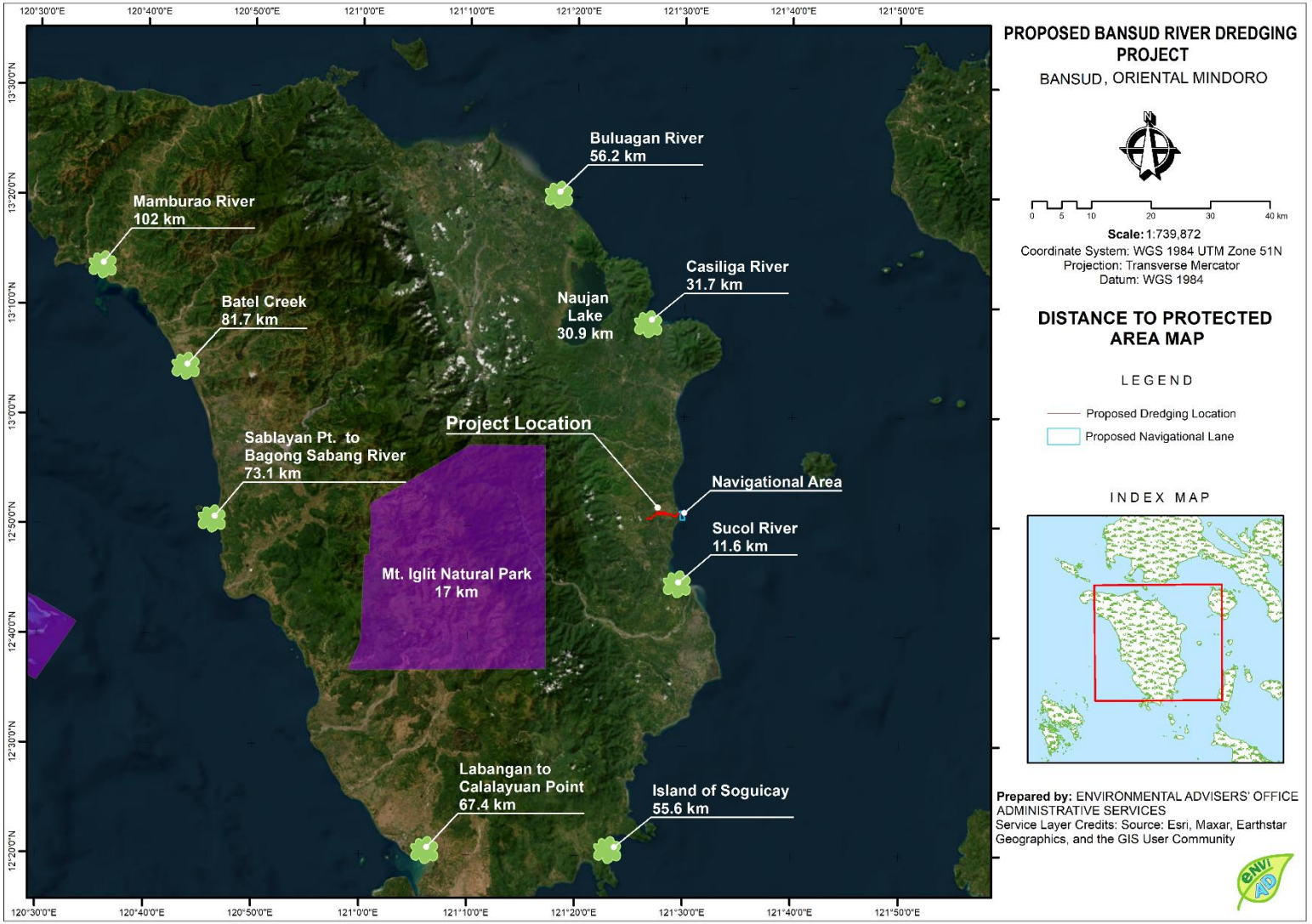

Figure PD-7. Relative Location of Project Area and Protected Areas

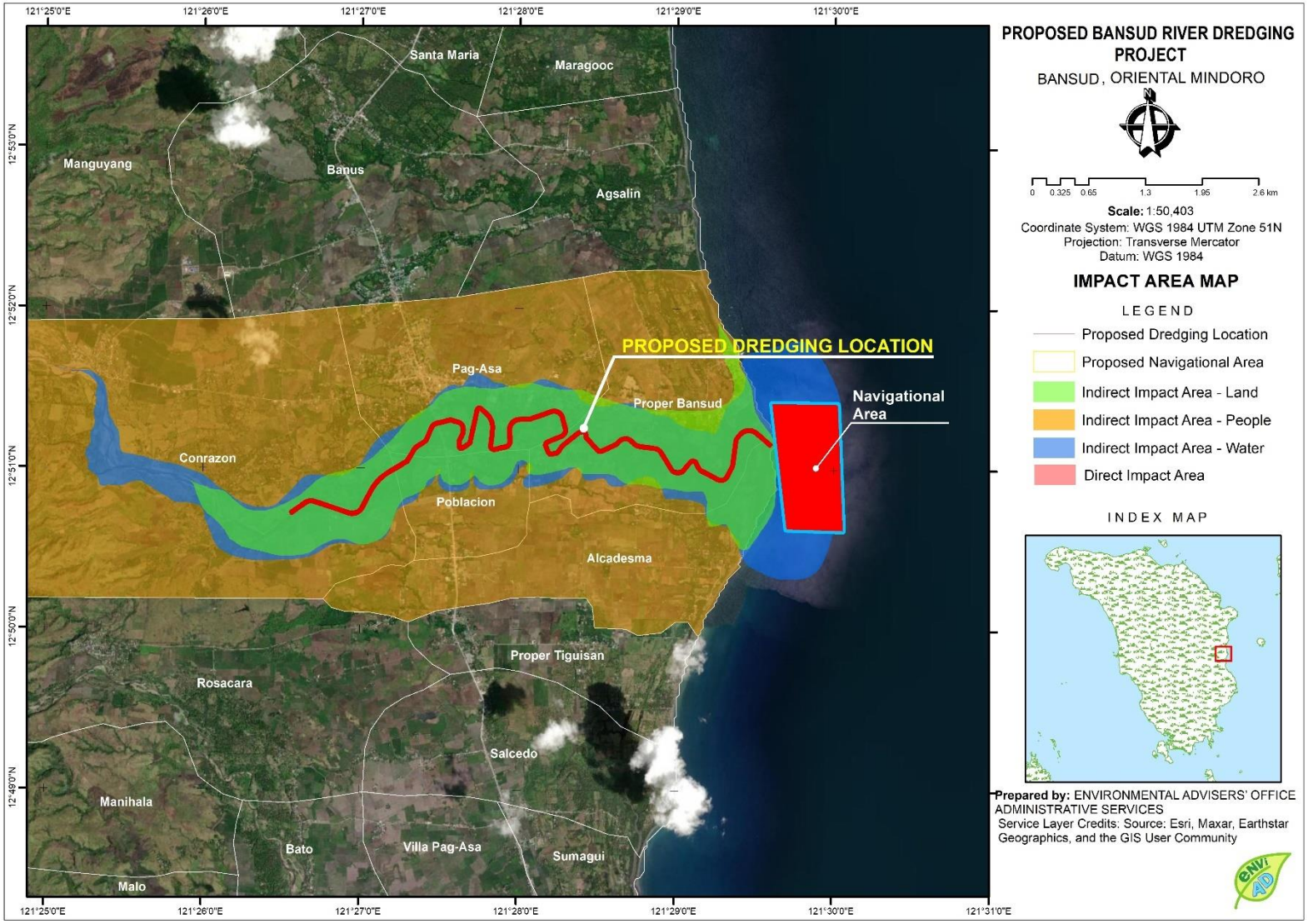

Figure PD-8. Map of the Impact Areas

3.0 PROJECT RATIONALE

This Project is in line with the government's efforts to mitigate flood risks in the province of Oriental Mindoro where river dredging was identified as a safety measure that can reduce water levels in flooding events.

Flood control is a basic government service. With the issuance of the DPWH Department Order 139, the Government provides guidelines for private sector participation in the delivery of flood control services, similar to the principle of harnessing private sector participation in the provision and operation of important basic services such as water, road infrastructures, and telecommunications.

Private sector participation in the delivery of basic services will enable the government to utilize its limited resources for other development purposes, while providing an important basic service which impacts on public safety, agricultural productivity, avoidance of losses to the economy from damage to infrastructure and private property due to regular flooding.

The proposed river restoration and large-scale dredging of Bansud River will not only revert the original course of the river as determined from the available NAMRIA Maps and DPWH Plans through deepening and widening but it will also to open the river mouth / estuary to be able to unload the water carrying the river-run materials coming from the mountains.

Dredging will mitigate the risk of flooding in the surrounding areas or adjoining communities and eventually focus on the restoration and rehabilitation of Bansud River.

4.0 PROJECT ALTERNATIVES

4.1 Consequences of Not Proceeding with the Project or the "No Project Scenario".

No Project Scenario means to allow siltation/sedimentation to accumulate until the riverbed is completely choked, for the flooding and destruction of agricultural crops to continue, and for the risks to life and property to continue.

Not pursuing this Project will prolong the agony and increase risks to life and property sustained yearly by the people of Brgys. Proper Bansud and Poblacion and neighboring affected areas.

The high volume of sediment transported from the watershed catchment of Bansud River to the sea will continue, the sediment accumulation in the riverbed will increase, and extreme rainfall volume in extreme Tropical Storms will become more frequent and Government expenditures for disaster preparedness, management, relief, rescue and repair of flood-damaged structures will increase. Doing nothing about the situation costs the Philippine Government and the residents, annually.

To do nothing is not a wise option when there are alternatives being offered at no obligation to the Government.

5.0 PROJECT COMPONENTS

The key components, with corresponding details are presented in **Table PD-5**.

Table PD-5. Project Components

Component	Description
Dredging zone/basin	9.157 line kilometers located downstream of Bansud River Bridge to river mouth, totaling 21.35 hectares plus the 1.45 km, 102 hectare for offshore areas
Buffer zone	10 meters minimum from the toe of existing river bank and 1km minimum from the existing bridge

Component	Description
Volume of Material for Dredging	353,381.16 cubic meters
Projected annual extraction / production	353,381.16 cubic meters per year of dredged material during the maximum operation
Bottom Width	20 meters
Average Depth	1.5-2.5 meters (Design Depth is 3 meters)
Buffer zone	10 meters minimum from the toe of existing river bank
Transport of dredged materials	Thru barge
Proposed Location of Stockpile Area	Direct loading to barge
Cost recovery through sale of dredged materials	Subject to appropriate government regulations

- **Power Supply**

The power supply for land-based equipment and the office camp will be sourced from existing power service provider **(Oriental Mindoro Electric Cooperative, Inc – ORMECO**) while the dredging vessel shall have its own power generating unit.

- **Fuel / Diesel Oil Requirement**

Fuel, oil and lubricants that will be needed to fuel the dredging equipment, accessories and other equipment shall be supplied either by a local fuel station or private oil company and contained in DOE-MARINA approved containers and on-board dispensers. The containers will be regularly brought onboard the dredgers through the cargo barge. The dispensing mechanism shall be required to have a latch-on mechanism with the recipient fuel tank before these release petroleum fuel. The barge and dredger crew will be given by the Proponent updated orientation of petroleum fuel management (likewise waste management, safety and disaster response) protocols and these will form part of the Dredging Contractors' Health, Safety and Environmental Management Plan.

- **Water Supply**

The water requirement of the dredger and anchor barge will be transported in appropriate containers filled from permitted local sources and brought on-board by barge.

Water requirements of the crew are expected to be for normal human physical cleaning, drinking and cooking.

For land-based personnel and operations, the domestic water supply shall come from the local water concessionaire.

The drinking water needs of the crew, both onboard and on land shall be the purified water contained in 10-gallon canisters to be purchased from local suppliers.

6.0 PROCESS TECHNOLOGY

The dredging operation will involve simple, straightforward dredging and haul out of dredged materials. This process will be repetitive until the desired river bed elevation based on the Dredging Master Plan is attained. It is important to mention that dredging in itself is a mitigating process to address the perennial and increasing flooding problem in Bansud River.

The dredging process will be implemented using heavy equipment such as a cutter suction dredger to initially break up a small channel at the river mouth to the silting / catchment basin, and to remove the deposits at the dredging channel in and the river mouth.

Going upstream to non-navigable portions, the backhoe-truck tandem shall be used in dredging.

The cargo barge hauls the dredged material to the designated and permitted disposal site/s.

7.0 PROJECT SIZE

The proposed Project is approximately 9.157 line km, 21.35 hectares for the river and 1.45 km, 102 hectares for the offshore areas to cover the navigational lane. The estimated volume of materials to be extracted is 353,381.16 cubic meters per annum for the river. Projected annual extraction is 353,381.16 cubic meters per year of dredged material during the maximum operation.

8.0 DEVELOPMENT PLAN, DESCRIPTION OF PROJECT PHASES AND CORRESPONDING TIMEFRAMES

8.1 Planning / Pre - Operation / Preparation Phase

Project planning, Pre-operation and Preparation phase will include the following activities, which are not expected to generate adverse environmental impacts. Project Preparation Phase will resume as soon as the Project Dredging Permit is approved.

1. Information, Education and Communication Activities
2. Securing agreements with other permit holders in the area, as necessary
3. Other Government Permitting and Clearance Requirements such as the LGU
4. Detailed Operations Planning
5. Detailed Safety Procedure Planning for Dredger and Anchor Boat
6. Detailed Contractor's Environmental Management Plan preparation.

The Project preparation phase may last from one (1) to three (3) months due to the numerous players involved.

8.2 Project Operation Phase

Dredging Equipment:

- Cutter-Suction Dredger (CSD) having a maximum capacity of 1500 cubic meters per hour;
- Long Arm excavator with bucket capacity of 1.5 cubic meter
- Tug boat
- Generator 30 kva

The Project implementation / operation activities are as follows:

- Dredging operation shall be undertaken following the dredging plan of DPWH by removing silt/aggregate materials along the mouth and river channel of Bansud River.
- The aggregates/spoils of dredging will be temporary stockpiled / embanked on reclaimed area and riverbank to prevent future flooding
- The dredging channel which requires slope protection shall be protected by sand bagging / geotextile retaining wall on both sides of the riverbanks in order to prevent erosion with the supervision and approval of DPWH.

The operation phase is expected to have an annual extraction rate of **353,381.16 cubic meters per year** of dredged material during the maximum operation.

8.2.1 Options for Commercial Disposition

Elite Marine Construction Corporation and Pasig River Expressway Corporation plan to disposed extracted materials within the country specifically in Metro Manila noting the need of materials for reclamation projects.

8.3 Project Decommissioning and Abandonment

The following conditions will be met by the Project to enable it to safely relinquish the area and be released from accountability for the Project site:

- The unobstructed and efficient surface flow in Bansud River is observed, the riverbed elevation enables it to handle a storm with longer term return period such as a 50-year ARI storm as approved by the DPWH.
- A buffer of at least 10 meters minimum at both banks of Bansud River is maintained.
- All Project structures, equipment and the geo-tube retaining walls are removed from the Project site
- All social commitments made by the Proponent, if any, have been fulfilled.
- The Project office site shall have been cleared of debris and hazardous materials;
- No complaint on damage to property against the Proponent remains unresolved.

9.0 MANPOWER REQUIREMENT

The project will be requiring a total manpower of 60 as presented in the table below.

The Company will hire technical and skilled workers for dredging operations. Nonetheless, the company will prioritize hiring of local residents in its operation. It will ensure that the requirements of the Labor Code of the Philippines will be met in determining the compensation and workplace concerns including wages, benefits and workplace health and safety.

Table PD-6. Manpower Requirement

POSITION / PERSONNEL	REQUIREMENT PER SKILL
Operation / Resident Manager	1
Captain / Dredger Operator	2
Dredging Ship Crew	10
Shift Foreman	2
Community Relations Officer	1
Safety & Pollution Control Officer	1
Quality Control Engineer	1
Mechanic & Welder	2
Accountant	1
Samplers	6
Nurse	2
Logistics	1
Clerk / Checker	2
Driver Liaison	2
Backhoe Operator	4
Bulldozer / loader Operator	2
Crew for land-based operation	10
Security Guards (on Contract)	10
Total	**60**

10.0 INDICATIVE PROJECT INVESTMENT COST

The estimated project investment cost is **Php** 147,282,000.00 **(estimate)**

11.0 IMPLEMENTATION SCHEDULE

Project Phases	Year																											
	1				2				3				4				5				6				7			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Planning/ Pre-operations																												
Operation																												
Decommissioning																												

12.0 PHOTOS OF THE PROJECT SITE


12°51'11"N, 121°29'35"E
accuracy: 12ft
-0.6
18.0
310
Altitude
199 ft
24/05/2023
11:55 am


12°51'17"N, 121°27'29"E
accuracy: 12ft
-1.4
16.9
100
Altitude
205 ft
24/05/2023
12:58 pm

Table PD-7. PRELIMINARY IDENTIFIED ENVIRONMENTAL ASPECTS FOR EACH ALTERNATIVE

Project Activity which will likely Impact the Environmental Component	Environmental Component Likely to be Affected	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Responsible Entity
PRE-CONSTRUCTION PHASE				
• **Staking of Dredging Limits & Location of geo-tubes / protection measures**	LAND	None expected	Not Applicable	
	WATER	Slight re-suspension of suspended solids due to ground staking	None necessary	
	AIR	None expected	Not Applicable	
	PEOPLE	• Perceived conflict with other sand and gravel interest in Bansud River • Fears and apprehensions of the people regarding project environmental impacts • Potential displacement of workers expecting employment in other sand and gravel quarry projects along Bansud River.	Conduct of community-based IEC to discuss project activities, impacts, co-existing with other sand and gravel quarry interests mitigating measures employment opportunities and areas set aside for small scale.	Proponent
OPERATIONS PHASE				
Construction of support facilities; like site office;	LAND	Bank erosion	• Easement of at least 10 meters minimum between bank and dredging operations	Proponent
		Waste management	All operating units to have respective waste management facilities (segregated garbage, waste water receptacles, all subject to proper disposal.	Proponent
	WATER	Change in river hydrology	Maintain a central pilot channel to guide stream flow	Proponent
		Pollution of marine waters	• Confine dredging to a basin with barrier to the sea • Allow accumulated sediments to rebuild the equipment entrance channel to lower Bansud River	Proponent

Project Activity which will likely Impact the Environmental Component	Environmental Component Likely to be Affected	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Responsible Entity
		Oil spills from dredging and hauling equipment	• Regular equipment maintenance outside of river channel • Refueling by appropriate dispensers (latch-lock between dispenser and receiving fuel tank) • Prepare belt oil skimmer for oil spill emergency	Proponent
		Contamination from equipment and human waste water	• Provision of portalet in water- operating vessels • Prevention of disposal of un-or improperly treated wastewater to water environment	Proponent
		Increase turbidity in dredging areas	• Dredging basin serves as settling pond	Proponent
	AIR	Greenhouse gas emissions and particulates from operating equipment and transport vehicles	• Install catalytic converters for SOx & NOx and particulate filters to operating equipment including gen-set • Opt for solar -powered equipment for site office	Proponent
		Increase in noise	• Choose less noisy equipment or cover noisy equipment with suitable noise reducing sheets	Proponent
	PEOPLE	Conflict with other interest in sand and gravel quarry	• Quarterly meetings to communicate and resolve conflicts	Proponent
		Solid and liquid waste management issues	Solid waste management and provision of sanitary facilities.	Proponent
		Equipment and personnel safety during rainy season	• Use amphibious dredger, define quick shelter route in event of strong rain • Set up barometer and anemometer at site, provide trained person to monitor weather and all-weather communication equipment with all operators. • Provide training for adaptation of working procedures and protocol under all weather conditions	Proponent
		Generation of employment	Able and trainable local residents will be given first priority in hiring, posting of notice at LGU	Proponent

Project Activity which will likely Impact the Environmental Component	Environmental Component Likely to be Affected	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Responsible Entity
		Increase in population due to employment opportunities	Hiring of non-residents will be limited to highly skilled, trained or confidential staff	Proponent
		Occupational safety and public health	• Occupational safety, health and work environmental management orientation will be conducted with emphasis on environmental compliance. • Workers will be required to do Protective Personal Equipment while at work. • Warning and safety signs will be provided where needed	Proponent
		Fair wages and laborers benefit	Project will provide employees' wages and benefits as prescribed by law	Proponent
DECOMMISIONING AND ABANDONMENT PHASE				
Removal / dismantling of equipment and infrastructures	LAND	Possible stockpiling of waste materials at riverbanks	All waste materials will be hauled out by hauling company	Proponent
	WATER	Increase in turbidity due to sediment re-suspension	Maintain sediment barrier until sediment transport is below the limit for Class C	Proponent
		Possible spillages of oil lubricants, waste water	All waste fluids will be hauled out through accredited 3rd party hazardous waste treater	Proponent
	AIR	Greenhouse Gas particulate emissions from operating equipment	Provide catalytic converters and particulate filters for petroleum-fueled equipment	Proponent
	PEOPLE	Safety issue aesthetic / visual impact	• All equipment will be hauled out Area will be tested for and must attain environmental compliance (air quality, water quality, absence of hazardous materials and unsafe formations) • Dredging basin will be replenished by natural sediment transport; river surface flow will be restored • Area will be left clear of all structures. Beach side will be leveled for aesthetic view	Proponent

Project Activity which will likely Impact the Environmental Component	Environmental Component Likely to be Affected	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Responsible Entity
		Possible health and safety issues regarding handling of hazardous materials	• Personnel will be trained in handling used oil; • Use of PPE will be mandatory. • a 3rd party treater will be contracted to haul out and treat all hazardous materials (used oil, spent batteries, busted light bulbs).	Proponent
		Unemployment	• Agreement with LGU on the use of local mineral excise tax for livelihood development; • Participatory planning for livelihood projects to start self-sustaining livelihood preparation and implementation in due course.	CSR