

# **PROJECT DESCRIPTION REPORT**

## **River Restoration and Large-Scale Dredging of Balete River Project**

**To be located at the Municipality of  
Gloria, Province of Oriental Mindoro**

**06 JULY 2023**



**SOUTHERN CONCRETE INDUSTRIES INC. AND PASIG RIVER EXPRESSWAY CORPORATION**  
**PROPOSED RIVER RESTORATION AND LARGE-SCALE DREDGING OF BALETE RIVER PROJECT**

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

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## PROJECT DESCRIPTION REPORT for SCOPING (PDS)

### 1.0 BASIC PROJECT INFORMATION

*Table PD-1. Project Fact Sheet*

<b>Name of Project</b>	<b>River Restoration and Large-Scale Dredging of Balete River Project</b>
<b>Project Location</b>	The mouth of the river is within Barangays Balete, San Antonio and Narra, Municipality of Gloria Province of Oriental Mindoro
<b>Project Category &amp; Type</b> (based on Annex A of MC 2014-005)	Environmental Mitigation; Disaster Risk Reduction; Climate Change Adaptation. Considered critical due to potential impact on bridge
<b>Project Area</b>	River length : <b>8742.06 line km</b> River Area: <b>113.54 hectares</b> Offshore length/navigational: <b>1.41 km</b> (approximately) Offshore area/navigational: <b>101 ha</b>
<b>Project Cost</b>	<b>Php 309,914,000.00</b>
<b>Major Project Components</b>	<ol style="list-style-type: none"> <li>1. Dredging zone/basin near river mouth, totaling <b>8,742.06 line km</b> covering <b>113.54 hectares</b> (river) and <b>1.41 km, 101 hectare</b> (offshore) navigational lane</li> <li>2. 10 meters minimum buffer zone (easement) from the toe of both sides of the river bank and 1km minimum for the protection of Balete River Bridge</li> <li>3. Volume of Material for Dredging is 3,762,468.77 cubic meters</li> <li>4. Projected annual extraction / production is 1.5 million cubic meters per year of dredged material during the maximum operation</li> <li>5. Bottom width is 110 meters</li> <li>6. Average Depth is 2-3 meters (Design Depth is 4 meters)</li> <li>7. Cost recovery through sale of dredged materials, subject to appropriate government regulations</li> <li>8. Transport of dredge materials is thru barge</li> </ol>
<b>Project Proponent</b>	<p><b>SOUTHERN CONCRETE INDUSTRIES INC.</b> Ferdinand K. Constantino Chairman and President Lot 4-6 Block 9, Fernando Street corner Francisco Seiro Street, Manila Harbour Center, Tondo, City of Manila 02-8550-3637</p> <p><b>PASIG RIVER EXPRESSWAY CORPORATION</b> Mr. Raoul Eduardo Romulo Chief Finance Officer 40 San Miguel Avenue 1550 Mandaluyong City, Metro Manila 02-8632-3000</p>
<b>EIA Preparer</b>	<p><b>Engr. Emerson Darroles</b> <b>Project Team Leader</b> 09274926858 <a href="mailto:emersongeme20@gmail.com">emersongeme20@gmail.com</a></p>

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### 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 Balete River in the Municipality of Gloria, 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 Gloria is a 3rd class municipality in the province of Oriental Mindoro. It is located 77 kilometers from the provincial capital Calapan. It is one of the 7 towns comprising Oriental Mindoro's second district. On its north lies its mother town Pinamalayan, on the west is the town of Sablayan in Occidental Mindoro. On the south is the town of Bansud, while on the east is the Tablas Strait.

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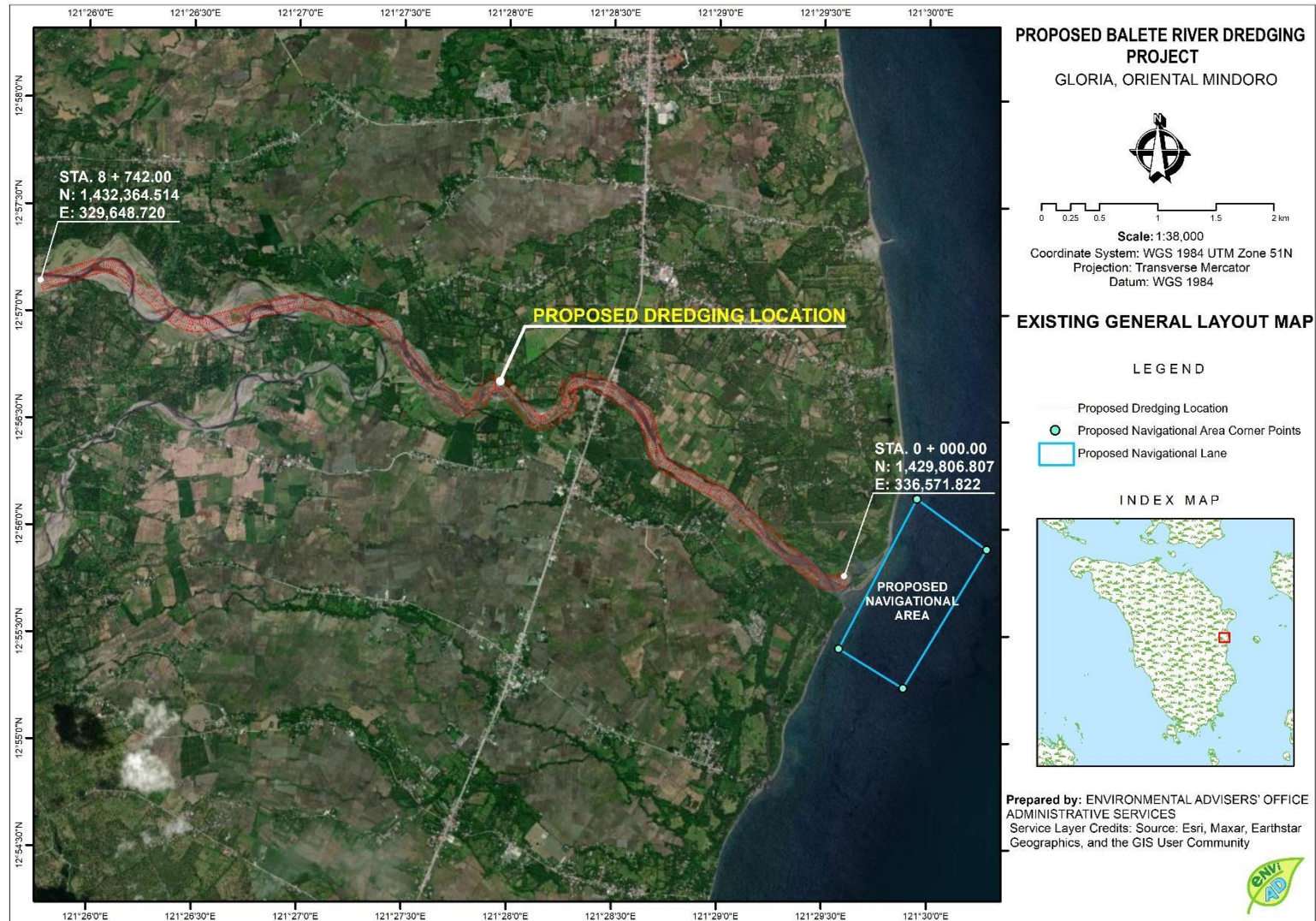


Figure PD-1. Project Area and Location Map



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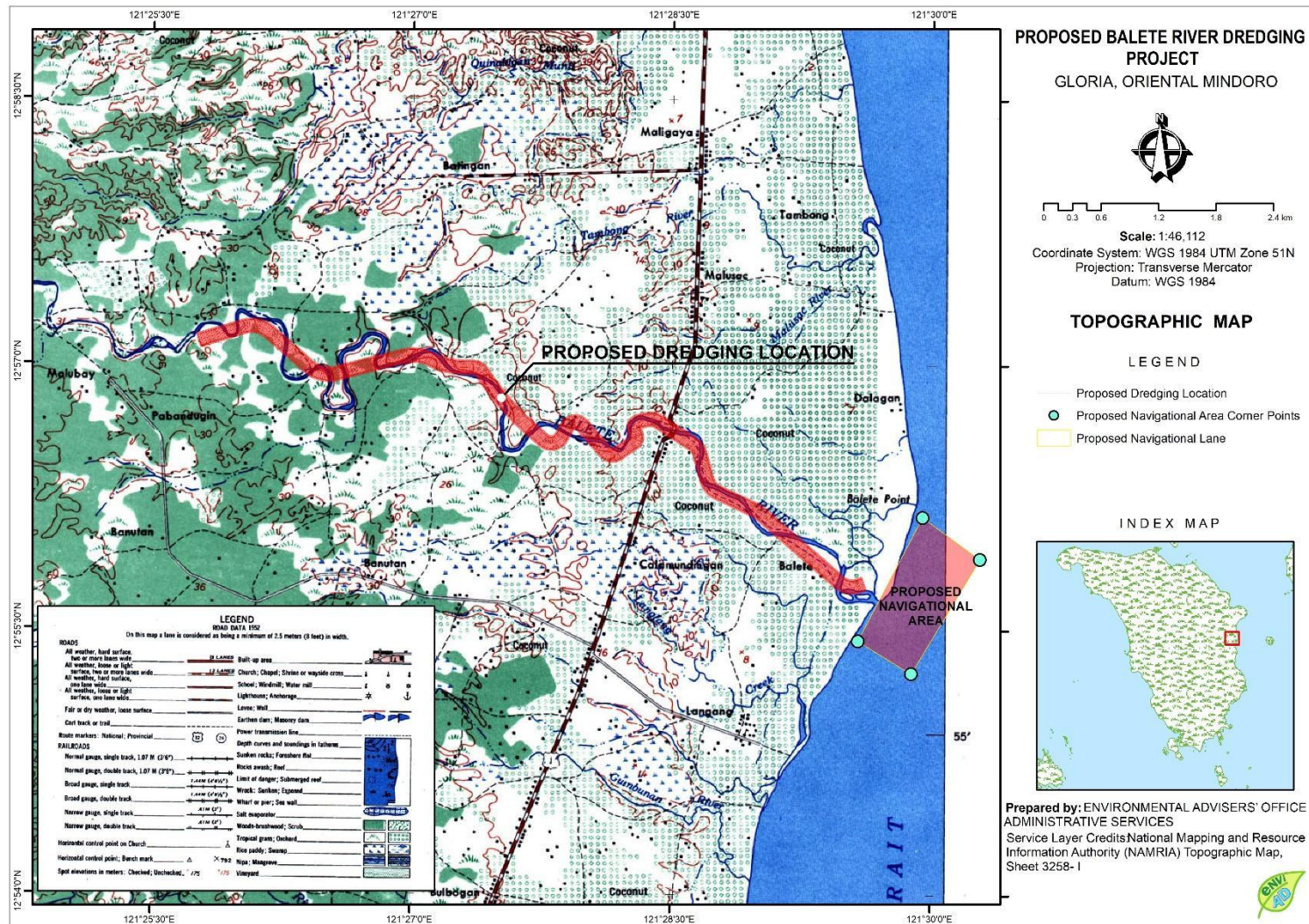
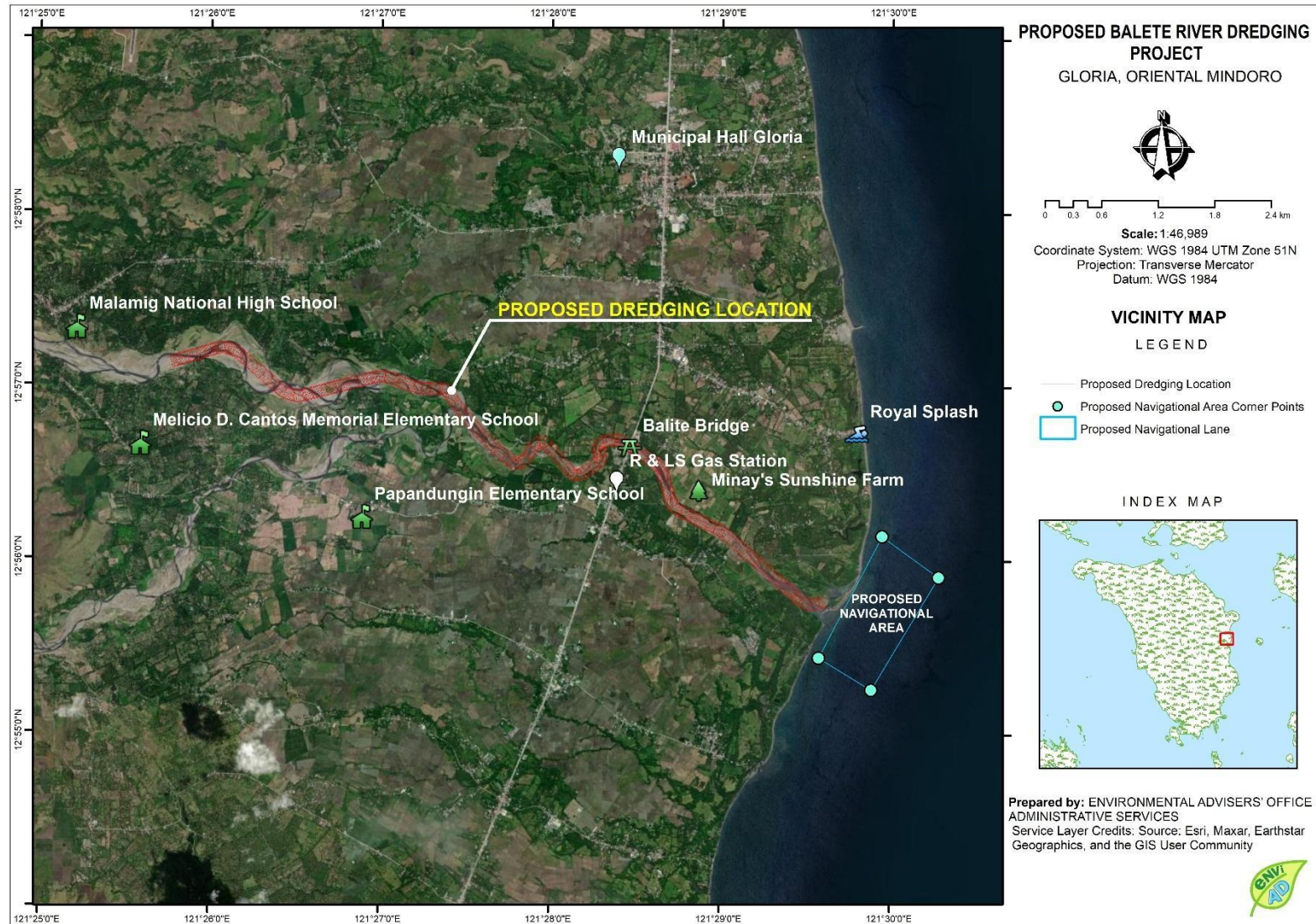


Figure PD-2. Topographic Map



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*Figure PD-3. Vicinity Map*

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Geographic Coordinates (Shape File Data) of Project Area

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

Point	Latitude	Longitude
1	12°55'45.74"	121°29'36.63"
2	12°55'45.53"	121°29'36.01"
3	12°55'45.33"	121°29'35.38"
4	12°55'45.22"	121°29'35.06"
5	12°55'45.12"	121°29'34.73"
6	12°55'45"	121°29'34.34"
7	12°55'44.95"	121°29'34.11"
8	12°55'44.91"	121°29'33.94"
9	12°55'44.84"	121°29'33.45"
10	12°55'44.85"	121°29'33.54"
11	12°55'44.81"	121°29'33.13"
12	12°55'44.8"	121°29'32.79"
13	12°55'44.81"	121°29'32.31"
14	12°55'44.83"	121°29'32.13"
15	12°55'44.86"	121°29'31.8"
16	12°55'44.92"	121°29'31.5"
17	12°55'45.08"	121°29'30.83"
18	12°55'45.12"	121°29'30.71"
19	12°55'45.26"	121°29'30.32"
20	12°55'45.31"	121°29'30.21"
21	12°55'45.42"	121°29'29.95"
22	12°55'45.6"	121°29'29.61"
23	12°55'45.94"	121°29'29.05"
24	12°55'46.14"	121°29'28.79"
25	12°55'46.31"	121°29'28.58"
26	12°55'46.77"	121°29'28.03"
27	12°55'46.98"	121°29'27.78"
28	12°55'47.2"	121°29'27.53"
29	12°55'47.62"	121°29'27.02"
30	12°55'47.83"	121°29'26.78"
31	12°55'47.93"	121°29'26.65"
32	12°55'48.05"	121°29'26.52"
33	12°55'48.26"	121°29'26.27"
34	12°55'48.47"	121°29'26.02"
35	12°55'48.89"	121°29'25.51"
36	12°55'49.11"	121°29'25.26"
37	12°55'49.32"	121°29'25.01"
38	12°55'49.74"	121°29'24.51"
39	12°55'50.17"	121°29'24.01"
40	12°55'50.38"	121°29'23.75"



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Point	Latitude	Longitude
41	12°55'50.59"	121°29'23.5"
42	12°55'51.02"	121°29'23"
43	12°55'51.44"	121°29'22.5"
44	12°55'51.87"	121°29'21.99"
45	12°55'52.08"	121°29'21.74"
46	12°55'52.29"	121°29'21.49"
47	12°55'52.5"	121°29'21.24"
48	12°55'52.72"	121°29'20.99"
49	12°55'53.14"	121°29'20.48"
50	12°55'53.56"	121°29'19.98"
51	12°55'53.99"	121°29'19.48"
52	12°55'54.41"	121°29'18.98"
53	12°55'54.63"	121°29'18.72"
54	12°55'54.84"	121°29'18.47"
55	12°55'55.26"	121°29'17.97"
56	12°55'55.69"	121°29'17.47"
57	12°55'56.11"	121°29'16.96"
58	12°55'56.54"	121°29'16.46"
59	12°55'56.75"	121°29'16.21"
60	12°55'56.96"	121°29'15.96"
61	12°55'57.38"	121°29'15.45"
62	12°55'57.81"	121°29'14.95"
63	12°55'58.23"	121°29'14.45"
64	12°55'58.66"	121°29'13.95"
65	12°55'58.87"	121°29'13.69"
66	12°55'59.08"	121°29'13.44"
67	12°55'59.3"	121°29'13.19"
68	12°55'59.51"	121°29'12.94"
69	12°55'59.72"	121°29'12.69"
70	12°55'59.93"	121°29'12.44"
71	12°56'0.36"	121°29'11.93"
72	12°56'0.78"	121°29'11.43"
73	12°56'0.99"	121°29'11.18"
74	12°56'1.21"	121°29'10.93"
75	12°56'1.42"	121°29'10.68"
76	12°56'1.63"	121°29'10.42"
77	12°56'2.05"	121°29'9.92"
78	12°56'2.48"	121°29'9.42"
79	12°56'2.9"	121°29'8.92"
80	12°56'3.12"	121°29'8.66"
81	12°56'3.33"	121°29'8.41"
82	12°56'3.75"	121°29'7.91"

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Point	Latitude	Longitude
83	12°56'4.18"	121°29'7.41"
84	12°56'4.6"	121°29'6.9"
85	12°56'5.03"	121°29'6.4"
86	12°56'5.24"	121°29'6.15"
87	12°56'5.45"	121°29'5.9"
88	12°56'5.87"	121°29'5.39"
89	12°56'6.3"	121°29'4.89"
90	12°56'6.72"	121°29'4.39"
91	12°56'7.15"	121°29'3.89"
92	12°56'7.36"	121°29'3.63"
93	12°56'7.57"	121°29'3.38"
94	12°56'8"	121°29'2.88"
95	12°56'8.42"	121°29'2.38"
96	12°56'8.85"	121°29'1.87"
97	12°56'9.26"	121°29'1.36"
98	12°56'9.46"	121°29'1.1"
99	12°56'9.65"	121°29'0.83"
100	12°56'10.02"	121°29'0.29"
101	12°56'10.13"	121°29'0.12"
102	12°56'10.37"	121°28'59.72"
103	12°56'10.7"	121°28'59.15"
104	12°56'11"	121°28'58.56"
105	12°56'11.14"	121°28'58.26"
106	12°56'11.18"	121°28'58.17"
107	12°56'11.28"	121°28'57.96"
108	12°56'11.55"	121°28'57.36"
109	12°56'11.83"	121°28'56.76"
110	12°56'12.1"	121°28'56.16"
111	12°56'12.38"	121°28'55.56"
112	12°56'12.52"	121°28'55.26"
113	12°56'12.65"	121°28'54.96"
114	12°56'12.93"	121°28'54.36"
115	12°56'13.2"	121°28'53.75"
116	12°56'13.48"	121°28'53.15"
117	12°56'13.75"	121°28'52.55"
118	12°56'13.89"	121°28'52.25"
119	12°56'14.03"	121°28'51.95"
120	12°56'14.16"	121°28'51.65"
121	12°56'14.3"	121°28'51.35"
122	12°56'14.58"	121°28'50.75"
123	12°56'14.85"	121°28'50.15"
124	12°56'14.99"	121°28'49.84"

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Point	Latitude	Longitude
125	12°56'15.13"	121°28'49.54"
126	12°56'15.26"	121°28'49.24"
127	12°56'15.4"	121°28'48.94"
128	12°56'15.68"	121°28'48.34"
129	12°56'15.95"	121°28'47.74"
130	12°56'16.23"	121°28'47.14"
131	12°56'16.5"	121°28'46.54"
132	12°56'16.64"	121°28'46.24"
133	12°56'16.74"	121°28'46.01"
134	12°56'16.78"	121°28'45.94"
135	12°56'17.09"	121°28'45.35"
136	12°56'17.45"	121°28'44.8"
137	12°56'17.87"	121°28'44.29"
138	12°56'18.33"	121°28'43.83"
139	12°56'18.46"	121°28'43.71"
140	12°56'18.58"	121°28'43.61"
141	12°56'18.84"	121°28'43.41"
142	12°56'19.38"	121°28'43.04"
143	12°56'19.96"	121°28'42.74"
144	12°56'20.56"	121°28'42.49"
145	12°56'20.97"	121°28'42.35"
146	12°56'21.18"	121°28'42.29"
147	12°56'21.49"	121°28'42.2"
148	12°56'21.81"	121°28'42.11"
149	12°56'22.43"	121°28'41.93"
150	12°56'23.06"	121°28'41.76"
151	12°56'23.69"	121°28'41.58"
152	12°56'24.32"	121°28'41.4"
153	12°56'24.63"	121°28'41.31"
154	12°56'24.94"	121°28'41.22"
155	12°56'25.57"	121°28'41.04"
156	12°56'26.2"	121°28'40.86"
157	12°56'26.82"	121°28'40.68"
158	12°56'27.45"	121°28'40.5"
159	12°56'27.76"	121°28'40.42"
160	12°56'28.08"	121°28'40.33"
161	12°56'28.7"	121°28'40.15"
162	12°56'29.33"	121°28'39.97"
163	12°56'29.96"	121°28'39.79"
164	12°56'30.11"	121°28'39.75"
165	12°56'30.58"	121°28'39.59"
166	12°56'30.88"	121°28'39.46"



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Point	Latitude	Longitude
167	12°56'31.17"	121°28'39.31"
168	12°56'31.72"	121°28'38.97"
169	12°56'31.83"	121°28'38.89"
170	12°56'32.23"	121°28'38.55"
171	12°56'32.46"	121°28'38.32"
172	12°56'32.68"	121°28'38.08"
173	12°56'33.08"	121°28'37.55"
174	12°56'33.13"	121°28'37.47"
175	12°56'33.25"	121°28'37.27"
176	12°56'33.43"	121°28'36.99"
177	12°56'33.78"	121°28'36.43"
178	12°56'34.13"	121°28'35.87"
179	12°56'34.48"	121°28'35.31"
180	12°56'34.83"	121°28'34.75"
181	12°56'35.01"	121°28'34.48"
182	12°56'35.18"	121°28'34.2"
183	12°56'35.36"	121°28'33.92"
184	12°56'35.53"	121°28'33.64"
185	12°56'35.88"	121°28'33.08"
186	12°56'36.23"	121°28'32.52"
187	12°56'36.58"	121°28'31.96"
188	12°56'36.76"	121°28'31.68"
189	12°56'36.93"	121°28'31.4"
190	12°56'37.29"	121°28'30.84"
191	12°56'37.64"	121°28'30.28"
192	12°56'37.81"	121°28'30"
193	12°56'37.99"	121°28'29.72"
194	12°56'38.34"	121°28'29.16"
195	12°56'38.51"	121°28'28.88"
196	12°56'38.69"	121°28'28.6"
197	12°56'38.86"	121°28'28.33"
198	12°56'39.04"	121°28'28.05"
199	12°56'39.39"	121°28'27.49"
200	12°56'39.74"	121°28'26.93"
201	12°56'40.09"	121°28'26.37"
202	12°56'40.27"	121°28'26.09"
203	12°56'40.44"	121°28'25.81"
204	12°56'40.58"	121°28'25.6"
205	12°56'40.78"	121°28'25.24"
206	12°56'41.05"	121°28'24.64"
207	12°56'41.25"	121°28'24.01"
208	12°56'41.32"	121°28'23.68"

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Point	Latitude	Longitude
209	12°56'41.33"	121°28'23.61"
210	12°56'41.37"	121°28'23.36"
211	12°56'41.39"	121°28'23.03"
212	12°56'41.4"	121°28'22.69"
213	12°56'41.36"	121°28'22.03"
214	12°56'41.27"	121°28'21.48"
215	12°56'41.24"	121°28'21.38"
216	12°56'41.09"	121°28'20.73"
217	12°56'40.94"	121°28'20.09"
218	12°56'40.87"	121°28'19.77"
219	12°56'40.8"	121°28'19.44"
220	12°56'40.72"	121°28'19.12"
221	12°56'40.65"	121°28'18.8"
222	12°56'40.59"	121°28'18.56"
223	12°56'40.46"	121°28'18.16"
224	12°56'40.1"	121°28'17.62"
225	12°56'39.65"	121°28'17.25"
226	12°56'39.58"	121°28'17.21"
227	12°56'39.28"	121°28'17.08"
228	12°56'38.97"	121°28'17"
229	12°56'38.32"	121°28'17"
230	12°56'38.07"	121°28'17.06"
231	12°56'38"	121°28'17.08"
232	12°56'37.69"	121°28'17.17"
233	12°56'37.38"	121°28'17.26"
234	12°56'37.07"	121°28'17.35"
235	12°56'36.44"	121°28'17.54"
236	12°56'36.13"	121°28'17.63"
237	12°56'35.82"	121°28'17.73"
238	12°56'35.69"	121°28'17.77"
239	12°56'35.5"	121°28'17.81"
240	12°56'35.18"	121°28'17.85"
241	12°56'34.54"	121°28'17.76"
242	12°56'34.45"	121°28'17.73"
243	12°56'33.96"	121°28'17.47"
244	12°56'33.5"	121°28'17"
245	12°56'33.46"	121°28'16.96"
246	12°56'33.31"	121°28'16.73"
247	12°56'33.13"	121°28'16.45"
248	12°56'32.94"	121°28'16.18"
249	12°56'32.76"	121°28'15.91"
250	12°56'32.39"	121°28'15.36"

**SOUTHERN CONCRETE INDUSTRIES INC. AND PASIG RIVER EXPRESSWAY CORPORATION  
PROPOSED RIVER RESTORATION AND LARGE-SCALE DREDGING OF BALETE RIVER PROJECT**

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

Point	Latitude	Longitude
251	12°56'32.03"	121°28'14.81"
252	12°56'31.66"	121°28'14.26"
253	12°56'31.48"	121°28'13.99"
254	12°56'31.29"	121°28'13.71"
255	12°56'30.93"	121°28'13.17"
256	12°56'30.56"	121°28'12.62"
257	12°56'30.19"	121°28'12.07"
258	12°56'29.82"	121°28'11.52"
259	12°56'29.77"	121°28'11.44"
260	12°56'29.65"	121°28'11.24"
261	12°56'29.5"	121°28'10.95"
262	12°56'29.29"	121°28'10.32"
263	12°56'29.21"	121°28'9.66"
264	12°56'29.24"	121°28'9.19"
265	12°56'29.26"	121°28'9"
266	12°56'29.45"	121°28'8.37"
267	12°56'29.58"	121°28'8.07"
268	12°56'29.75"	121°28'7.78"
269	12°56'30.16"	121°28'7.27"
270	12°56'30.3"	121°28'7.14"
271	12°56'30.4"	121°28'7.05"
272	12°56'30.65"	121°28'6.83"
273	12°56'31.14"	121°28'6.39"
274	12°56'31.63"	121°28'5.95"
275	12°56'31.87"	121°28'5.74"
276	12°56'32.12"	121°28'5.52"
277	12°56'32.6"	121°28'5.08"
278	12°56'33.09"	121°28'4.64"
279	12°56'33.58"	121°28'4.2"
280	12°56'34.07"	121°28'3.77"
281	12°56'34.32"	121°28'3.55"
282	12°56'34.56"	121°28'3.33"
283	12°56'35.05"	121°28'2.89"
284	12°56'35.54"	121°28'2.45"
285	12°56'36.03"	121°28'2.02"
286	12°56'36.52"	121°28'1.58"
287	12°56'36.76"	121°28'1.36"
288	12°56'37.01"	121°28'1.14"
289	12°56'37.5"	121°28'0.7"
290	12°56'37.99"	121°28'0.26"
291	12°56'38.48"	121°27'59.83"
292	12°56'38.96"	121°27'59.39"



**SOUTHERN CONCRETE INDUSTRIES INC. AND PASIG RIVER EXPRESSWAY CORPORATION  
PROPOSED RIVER RESTORATION AND LARGE-SCALE DREDGING OF BALETE RIVER PROJECT**

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

Point	Latitude	Longitude
293	12°56'39.21"	121°27'59.17"
294	12°56'39.33"	121°27'59.06"
295	12°56'39.45"	121°27'58.95"
296	12°56'39.87"	121°27'58.44"
297	12°56'40.17"	121°27'57.85"
298	12°56'40.34"	121°27'57.21"
299	12°56'40.38"	121°27'56.55"
300	12°56'40.37"	121°27'56.38"
301	12°56'40.35"	121°27'56.24"
302	12°56'40.28"	121°27'55.9"
303	12°56'40.05"	121°27'55.28"
304	12°56'39.69"	121°27'54.72"
305	12°56'39.23"	121°27'54.26"
306	12°56'38.82"	121°27'53.97"
307	12°56'38.69"	121°27'53.89"
308	12°56'38.41"	121°27'53.73"
309	12°56'38.12"	121°27'53.57"
310	12°56'37.56"	121°27'53.24"
311	12°56'36.99"	121°27'52.91"
312	12°56'36.42"	121°27'52.59"
313	12°56'36.14"	121°27'52.42"
314	12°56'35.86"	121°27'52.26"
315	12°56'35.58"	121°27'52.09"
316	12°56'35.29"	121°27'51.93"
317	12°56'35.11"	121°27'51.82"
318	12°56'34.74"	121°27'51.58"
319	12°56'34.25"	121°27'51.15"
320	12°56'33.83"	121°27'50.64"
321	12°56'33.51"	121°27'50.07"
322	12°56'33.38"	121°27'49.76"
323	12°56'33.28"	121°27'49.45"
324	12°56'33.19"	121°27'49.05"
325	12°56'33.16"	121°27'48.79"
326	12°56'33.14"	121°27'48.13"
327	12°56'33.23"	121°27'47.48"
328	12°56'33.43"	121°27'46.84"
329	12°56'33.56"	121°27'46.57"
330	12°56'33.73"	121°27'46.26"
331	12°56'34.08"	121°27'45.78"
332	12°56'34.55"	121°27'45.23"
333	12°56'34.98"	121°27'44.72"
334	12°56'35.4"	121°27'44.22"

**SOUTHERN CONCRETE INDUSTRIES INC. AND PASIG RIVER EXPRESSWAY CORPORATION  
PROPOSED RIVER RESTORATION AND LARGE-SCALE DREDGING OF BALETE RIVER PROJECT**

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

Point	Latitude	Longitude
335	12°56'35.62"	121°27'43.97"
336	12°56'35.83"	121°27'43.72"
337	12°56'36.26"	121°27'43.22"
338	12°56'36.68"	121°27'42.72"
339	12°56'37.11"	121°27'42.22"
340	12°56'37.53"	121°27'41.71"
341	12°56'37.75"	121°27'41.46"
342	12°56'37.89"	121°27'41.3"
343	12°56'38.39"	121°27'40.71"
344	12°56'38.82"	121°27'40.22"
345	12°56'39.26"	121°27'39.72"
346	12°56'39.7"	121°27'39.23"
347	12°56'39.92"	121°27'38.99"
348	12°56'40.14"	121°27'38.75"
349	12°56'40.58"	121°27'38.26"
350	12°56'41.03"	121°27'37.78"
351	12°56'41.49"	121°27'37.31"
352	12°56'41.71"	121°27'37.07"
353	12°56'41.94"	121°27'36.83"
354	12°56'42.17"	121°27'36.6"
355	12°56'42.4"	121°27'36.36"
356	12°56'42.86"	121°27'35.9"
357	12°56'43.1"	121°27'35.67"
358	12°56'43.33"	121°27'35.43"
359	12°56'43.56"	121°27'35.2"
360	12°56'43.8"	121°27'34.97"
361	12°56'44.27"	121°27'34.52"
362	12°56'44.51"	121°27'34.29"
363	12°56'44.75"	121°27'34.07"
364	12°56'45.23"	121°27'33.62"
365	12°56'45.71"	121°27'33.17"
366	12°56'46.19"	121°27'32.73"
367	12°56'46.55"	121°27'32.41"
368	12°56'46.68"	121°27'32.29"
369	12°56'46.93"	121°27'32.07"
370	12°56'47.17"	121°27'31.85"
371	12°56'47.67"	121°27'31.42"
372	12°56'48.17"	121°27'31"
373	12°56'48.67"	121°27'30.57"
374	12°56'49.17"	121°27'30.15"
375	12°56'49.42"	121°27'29.94"
376	12°56'49.68"	121°27'29.74"

**SOUTHERN CONCRETE INDUSTRIES INC. AND PASIG RIVER EXPRESSWAY CORPORATION  
PROPOSED RIVER RESTORATION AND LARGE-SCALE DREDGING OF BALETE RIVER PROJECT**

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

Point	Latitude	Longitude
377	12°56'50.19"	121°27'29.32"
378	12°56'50.44"	121°27'29.12"
379	12°56'50.7"	121°27'28.91"
380	12°56'51.22"	121°27'28.51"
381	12°56'51.73"	121°27'28.11"
382	12°56'51.99"	121°27'27.91"
383	12°56'52.25"	121°27'27.71"
384	12°56'52.78"	121°27'27.32"
385	12°56'53.31"	121°27'26.93"
386	12°56'53.83"	121°27'26.54"
387	12°56'54.1"	121°27'26.35"
388	12°56'54.37"	121°27'26.16"
389	12°56'54.63"	121°27'25.97"
390	12°56'54.9"	121°27'25.78"
391	12°56'55.44"	121°27'25.4"
392	12°56'55.98"	121°27'25.03"
393	12°56'56.32"	121°27'24.81"
394	12°56'56.52"	121°27'24.67"
395	12°56'57.03"	121°27'24.33"
396	12°56'57.33"	121°27'24.1"
397	12°56'57.57"	121°27'23.88"
398	12°56'57.99"	121°27'23.38"
399	12°56'58.21"	121°27'23.02"
400	12°56'58.32"	121°27'22.81"
401	12°56'58.54"	121°27'22.18"
402	12°56'58.65"	121°27'21.53"
403	12°56'58.66"	121°27'21.32"
404	12°56'58.66"	121°27'21.2"
405	12°56'58.66"	121°27'20.87"
406	12°56'58.68"	121°27'20.2"
407	12°56'58.69"	121°27'19.54"
408	12°56'58.7"	121°27'18.88"
409	12°56'58.71"	121°27'18.21"
410	12°56'58.72"	121°27'17.88"
411	12°56'58.72"	121°27'17.72"
412	12°56'58.73"	121°27'17.55"
413	12°56'58.75"	121°27'16.89"
414	12°56'58.79"	121°27'16.22"
415	12°56'58.85"	121°27'15.56"
416	12°56'58.92"	121°27'14.9"
417	12°56'58.96"	121°27'14.57"
418	12°56'59.01"	121°27'14.25"



**SOUTHERN CONCRETE INDUSTRIES INC. AND PASIG RIVER EXPRESSWAY CORPORATION  
PROPOSED RIVER RESTORATION AND LARGE-SCALE DREDGING OF BALETE RIVER PROJECT**

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

Point	Latitude	Longitude
419	12°56'59.11"	121°27'13.59"
420	12°56'59.23"	121°27'12.94"
421	12°56'59.37"	121°27'12.29"
422	12°56'59.43"	121°27'12.01"
423	12°56'59.52"	121°27'11.64"
424	12°56'59.6"	121°27'11.32"
425	12°56'59.69"	121°27'11"
426	12°56'59.87"	121°27'10.37"
427	12°57'0.07"	121°27'9.73"
428	12°57'0.29"	121°27'9.11"
429	12°57'0.52"	121°27'8.49"
430	12°57'0.64"	121°27'8.18"
431	12°57'0.76"	121°27'7.87"
432	12°57'1.02"	121°27'7.26"
433	12°57'1.33"	121°27'6.59"
434	12°57'1.44"	121°27'6.36"
435	12°57'1.57"	121°27'6.06"
436	12°57'1.83"	121°27'5.45"
437	12°57'1.95"	121°27'5.14"
438	12°57'2.05"	121°27'4.83"
439	12°57'2.25"	121°27'4.2"
440	12°57'2.42"	121°27'3.56"
441	12°57'2.55"	121°27'2.91"
442	12°57'2.66"	121°27'2.25"
443	12°57'2.7"	121°27'1.92"
444	12°57'2.72"	121°27'1.71"
445	12°57'2.73"	121°27'1.59"
446	12°57'2.77"	121°27'0.93"
447	12°57'2.78"	121°27'0.27"
448	12°57'2.76"	121°26'59.6"
449	12°57'2.71"	121°26'58.94"
450	12°57'2.67"	121°26'58.61"
451	12°57'2.63"	121°26'58.28"
452	12°57'2.52"	121°26'57.63"
453	12°57'2.37"	121°26'56.98"
454	12°57'2.21"	121°26'56.34"
455	12°57'2.04"	121°26'55.7"
456	12°57'1.96"	121°26'55.38"
457	12°57'1.88"	121°26'55.06"
458	12°57'1.71"	121°26'54.42"
459	12°57'1.55"	121°26'53.77"
460	12°57'1.38"	121°26'53.13"

**SOUTHERN CONCRETE INDUSTRIES INC. AND PASIG RIVER EXPRESSWAY CORPORATION  
PROPOSED RIVER RESTORATION AND LARGE-SCALE DREDGING OF BALETE RIVER PROJECT**

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

Point	Latitude	Longitude
461	12°57'1.22"	121°26'52.49"
462	12°57'1.14"	121°26'52.17"
463	12°57'1.06"	121°26'51.85"
464	12°57'0.89"	121°26'51.21"
465	12°57'0.73"	121°26'50.56"
466	12°57'0.56"	121°26'49.92"
467	12°57'0.4"	121°26'49.28"
468	12°57'0.32"	121°26'48.96"
469	12°57'0.23"	121°26'48.64"
470	12°57'0.07"	121°26'48"
471	12°56'59.91"	121°26'47.35"
472	12°56'59.82"	121°26'47.03"
473	12°56'59.74"	121°26'46.71"
474	12°56'59.58"	121°26'46.07"
475	12°56'59.49"	121°26'45.75"
476	12°56'59.41"	121°26'45.43"
477	12°56'59.25"	121°26'44.78"
478	12°56'59.17"	121°26'44.46"
479	12°56'59.08"	121°26'44.14"
480	12°56'58.92"	121°26'43.5"
481	12°56'58.75"	121°26'42.86"
482	12°56'58.67"	121°26'42.54"
483	12°56'58.59"	121°26'42.22"
484	12°56'58.43"	121°26'41.57"
485	12°56'58.26"	121°26'40.93"
486	12°56'58.1"	121°26'40.29"
487	12°56'57.93"	121°26'39.65"
488	12°56'57.85"	121°26'39.33"
489	12°56'57.77"	121°26'39.01"
490	12°56'57.6"	121°26'38.36"
491	12°56'57.44"	121°26'37.72"
492	12°56'57.28"	121°26'37.08"
493	12°56'57.11"	121°26'36.44"
494	12°56'57.03"	121°26'36.12"
495	12°56'56.95"	121°26'35.8"
496	12°56'56.78"	121°26'35.15"
497	12°56'56.62"	121°26'34.51"
498	12°56'56.45"	121°26'33.87"
499	12°56'56.3"	121°26'33.22"
500	12°56'56.25"	121°26'32.9"
501	12°56'56.2"	121°26'32.57"
502	12°56'56.13"	121°26'31.91"

**SOUTHERN CONCRETE INDUSTRIES INC. AND PASIG RIVER EXPRESSWAY CORPORATION  
PROPOSED RIVER RESTORATION AND LARGE-SCALE DREDGING OF BALETE RIVER PROJECT**

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

Point	Latitude	Longitude
503	12°56'56.1"	121°26'31.25"
504	12°56'56.12"	121°26'30.58"
505	12°56'56.18"	121°26'29.92"
506	12°56'56.22"	121°26'29.59"
507	12°56'56.28"	121°26'29.27"
508	12°56'56.37"	121°26'28.8"
509	12°56'56.42"	121°26'28.62"
510	12°56'56.6"	121°26'27.98"
511	12°56'56.81"	121°26'27.36"
512	12°56'57.07"	121°26'26.75"
513	12°56'57.22"	121°26'26.45"
514	12°56'57.37"	121°26'26.16"
515	12°56'57.7"	121°26'25.59"
516	12°56'58.07"	121°26'25.04"
517	12°56'58.51"	121°26'24.55"
518	12°56'58.6"	121°26'24.36"
519	12°56'58.89"	121°26'24.01"
520	12°56'59.11"	121°26'23.76"
521	12°56'59.32"	121°26'23.51"
522	12°56'59.75"	121°26'23.01"
523	12°57'0.17"	121°26'22.51"
524	12°57'0.6"	121°26'22.01"
525	12°57'1.03"	121°26'21.51"
526	12°57'1.24"	121°26'21.26"
527	12°57'1.45"	121°26'21.01"
528	12°57'1.88"	121°26'20.5"
529	12°57'2.31"	121°26'20"
530	12°57'2.73"	121°26'19.5"
531	12°57'3.16"	121°26'19"
532	12°57'3.37"	121°26'18.75"
533	12°57'3.59"	121°26'18.5"
534	12°57'4.05"	121°26'18.03"
535	12°57'4.44"	121°26'17.5"
536	12°57'4.87"	121°26'17"
537	12°57'5.29"	121°26'16.5"
538	12°57'5.51"	121°26'16.25"
539	12°57'5.72"	121°26'16"
540	12°57'6.15"	121°26'15.49"
541	12°57'6.57"	121°26'14.99"
542	12°57'7"	121°26'14.49"
543	12°57'7.43"	121°26'13.99"
544	12°57'7.64"	121°26'13.74"



**SOUTHERN CONCRETE INDUSTRIES INC. AND PASIG RIVER EXPRESSWAY CORPORATION  
PROPOSED RIVER RESTORATION AND LARGE-SCALE DREDGING OF BALETE RIVER PROJECT**

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

Point	Latitude	Longitude
545	12°57'7.86"	121°26'13.49"
546	12°57'8.28"	121°26'12.99"
547	12°57'8.5"	121°26'12.74"
548	12°57'8.71"	121°26'12.49"
549	12°57'9.14"	121°26'11.99"
550	12°57'9.35"	121°26'11.74"
551	12°57'9.56"	121°26'11.49"
552	12°57'9.78"	121°26'11.24"
553	12°57'9.99"	121°26'10.99"
554	12°57'10.35"	121°26'10.56"
555	12°57'10.42"	121°26'10.48"
556	12°57'10.82"	121°26'9.96"
557	12°57'11.18"	121°26'9.41"
558	12°57'11.51"	121°26'8.84"
559	12°57'11.66"	121°26'8.54"
560	12°57'11.79"	121°26'8.24"
561	12°57'12.03"	121°26'7.63"
562	12°57'12.23"	121°26'6.99"
563	12°57'12.35"	121°26'6.49"
564	12°57'12.38"	121°26'6.35"
565	12°57'12.48"	121°26'5.69"
566	12°57'12.52"	121°26'5.36"
567	12°57'12.54"	121°26'5.03"
568	12°57'12.55"	121°26'4.37"
569	12°57'12.51"	121°26'3.71"
570	12°57'12.43"	121°26'3.05"
571	12°57'12.29"	121°26'2.4"
572	12°57'12.21"	121°26'2.08"
573	12°57'12.17"	121°26'1.95"
574	12°57'12.12"	121°26'1.76"
575	12°57'12.03"	121°26'1.44"
576	12°57'11.93"	121°26'1.12"
577	12°57'11.75"	121°26'0.49"
578	12°57'11.56"	121°25'59.85"
579	12°57'11.37"	121°25'59.22"
580	12°57'11.28"	121°25'58.9"
581	12°57'11.19"	121°25'58.58"
582	12°57'11.09"	121°25'58.26"
583	12°57'11"	121°25'57.94"
584	12°57'10.81"	121°25'57.31"
585	12°57'10.63"	121°25'56.67"
586	12°57'10.44"	121°25'56.04"

**SOUTHERN CONCRETE INDUSTRIES INC. AND PASIG RIVER EXPRESSWAY CORPORATION  
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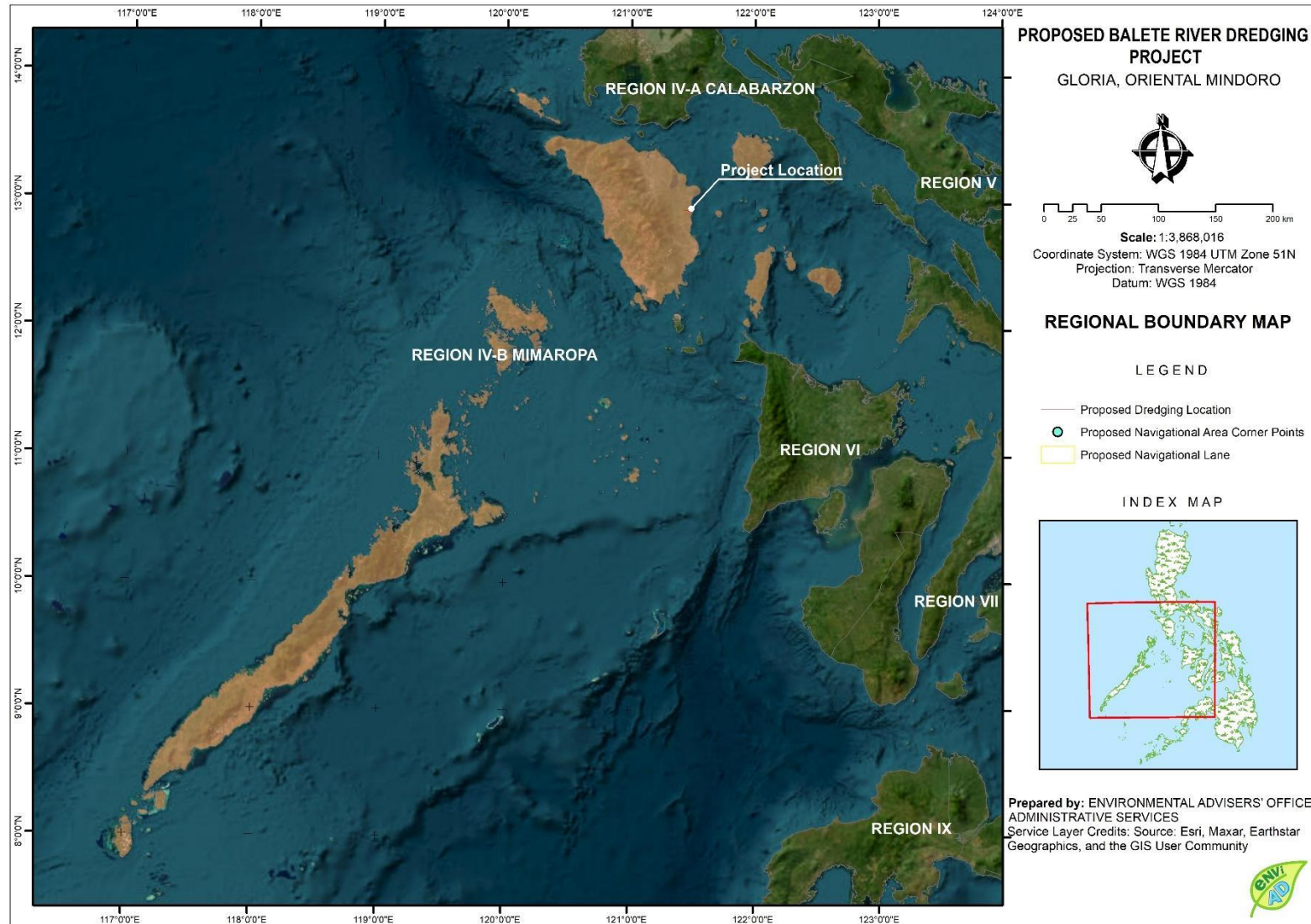
To be located at the Municipality of Gloria, Province of Oriental Mindoro

Point	Latitude	Longitude
587	12°57'10.35"	121°25'55.72"
588	12°57'10.25"	121°25'55.4"
589	12°57'10.07"	121°25'54.77"
590	12°57'9.88"	121°25'54.13"
591	12°57'9.69"	121°25'53.49"
592	12°57'9.51"	121°25'52.86"
593	12°57'9.42"	121°25'52.54"
594	12°57'9.32"	121°25'52.22"
595	12°57'9.14"	121°25'51.59"
596	12°57'8.95"	121°25'50.95"
597	12°57'8.76"	121°25'50.31"
598	12°57'8.58"	121°25'49.68"
599	12°57'8.48"	121°25'49.36"
600	12°57'8.39"	121°25'49.04"
601	12°57'8.2"	121°25'48.41"
602	12°57'8.02"	121°25'47.77"
603	12°57'7.83"	121°25'47.14"
604	12°57'7.64"	121°25'46.5"
605	12°57'7.63"	121°25'46.44"

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

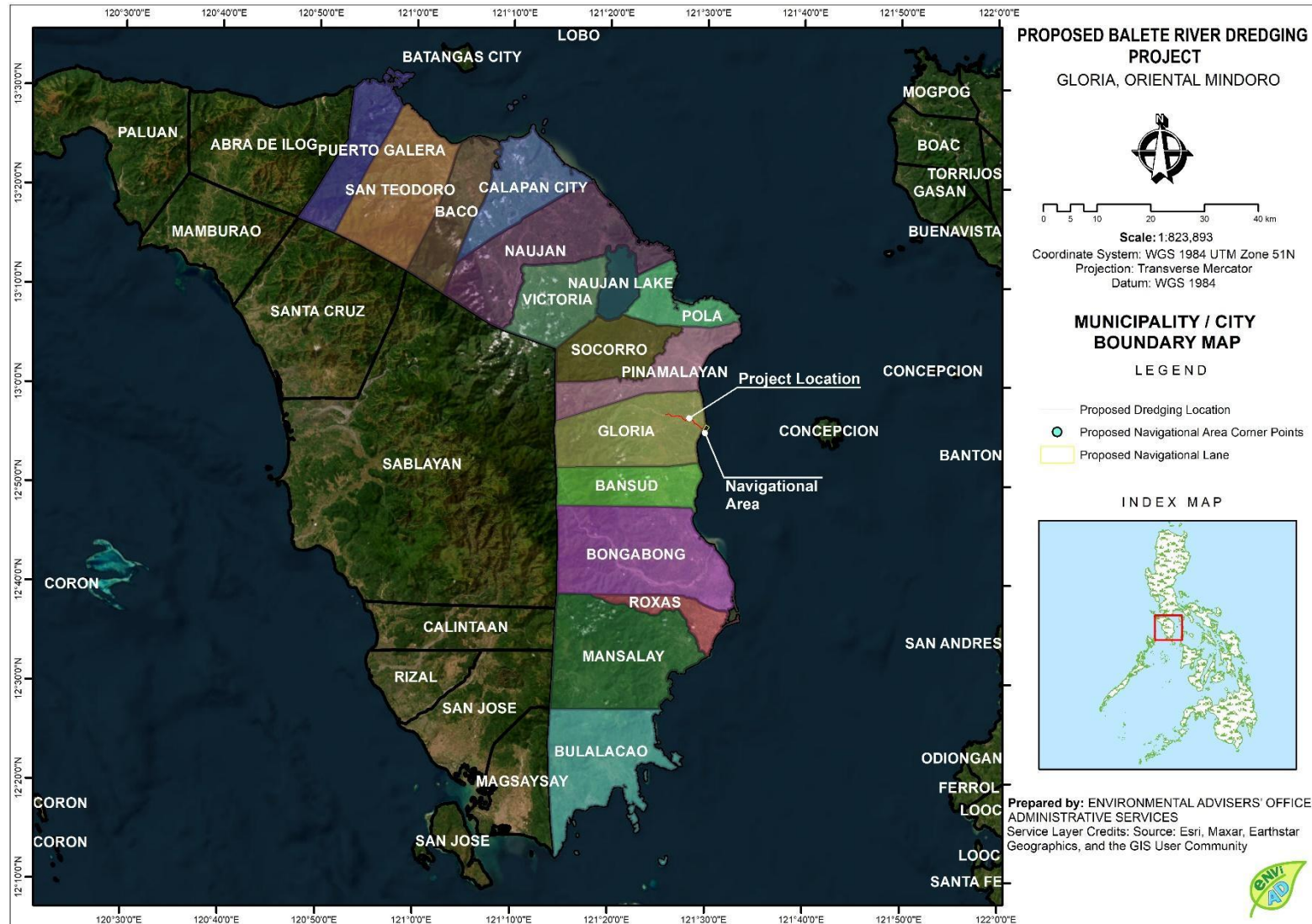
Point	Longitude	Latitude
<b>1</b>	12°56'8.41"	121°29'57.09"
<b>2</b>	12°55'54.27"	121°30'17.05"
<b>3</b>	12°55'15.30"	121°29'53.38"
<b>4</b>	12°55'26.31"	121°29'34.90"

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

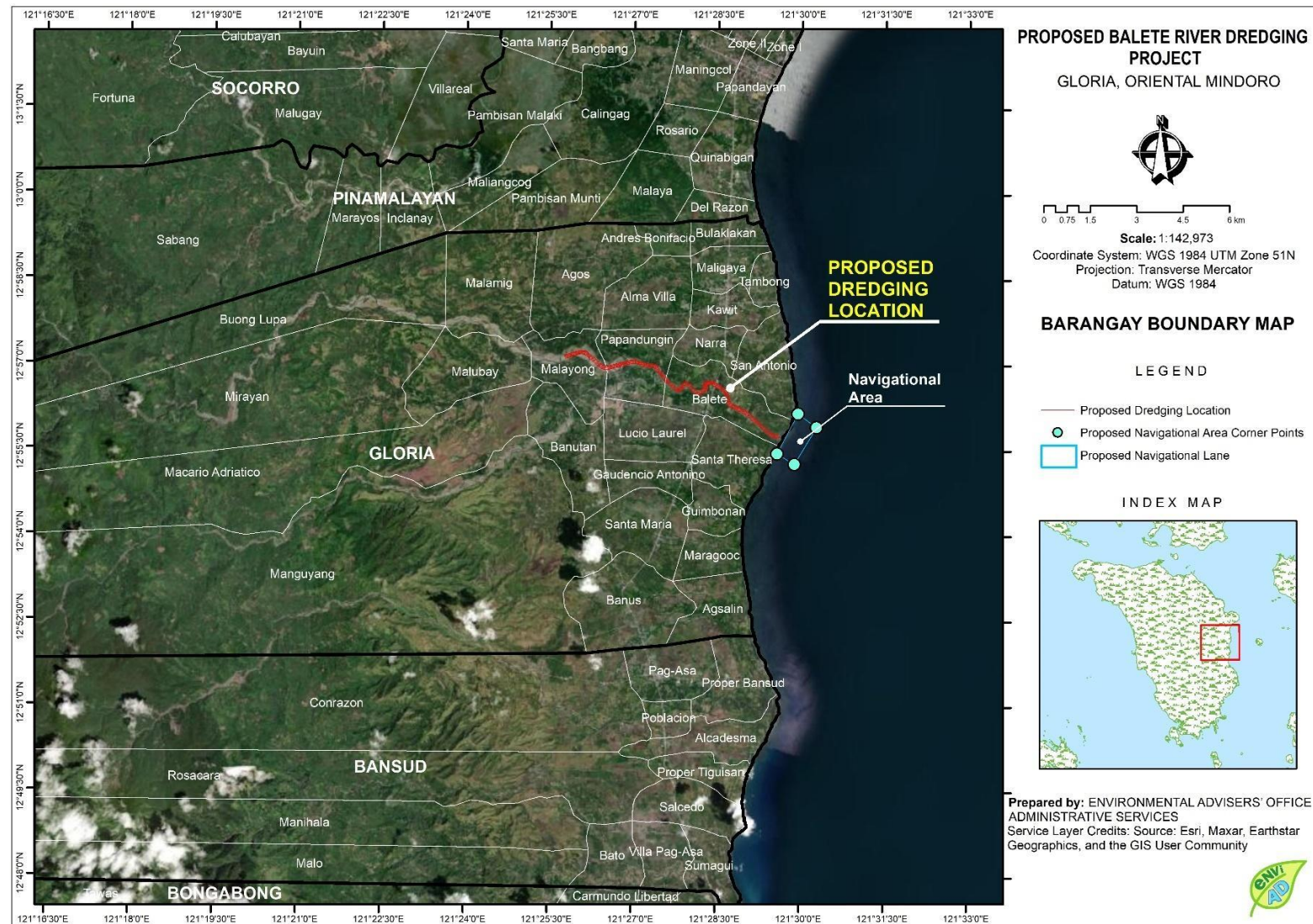
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*Figure PD-5. Map of Project Area vis-à-vis Municipal Boundaries*



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



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## 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 Gloria 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 Balete. Jeepneys, on the other hand, service shorter inter-municipal as well as inter-barangay requirements. Intra-municipal movement is augmented by tricycles and motorcycles.

Balete River is about 3 kilometers from the National Road and can be accessed via Barangay Balete road. Tricycles and motorcycles are the common transportation used by the locals.

## 2.3 Protected Areas

### NIPAS and RAMSAR

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

Name	Legal Basis	Legal Status	Proximate Distance from the project site
Naujan Lake	Proclamation No. 335, s. 1968	Initial Component	19.9 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 – 95 km  Buluagan River to Lagarum River, Naujan – 44.7 km  Bank of Betel Creek – 77.4 km  Sablayan Pt. to bagong Sabang River – 72.7 km  Labangan to Calalayuan Pt. -77.3 km  Sukol River in Bongabong -20.2 km  Casiliga River -20.7 km

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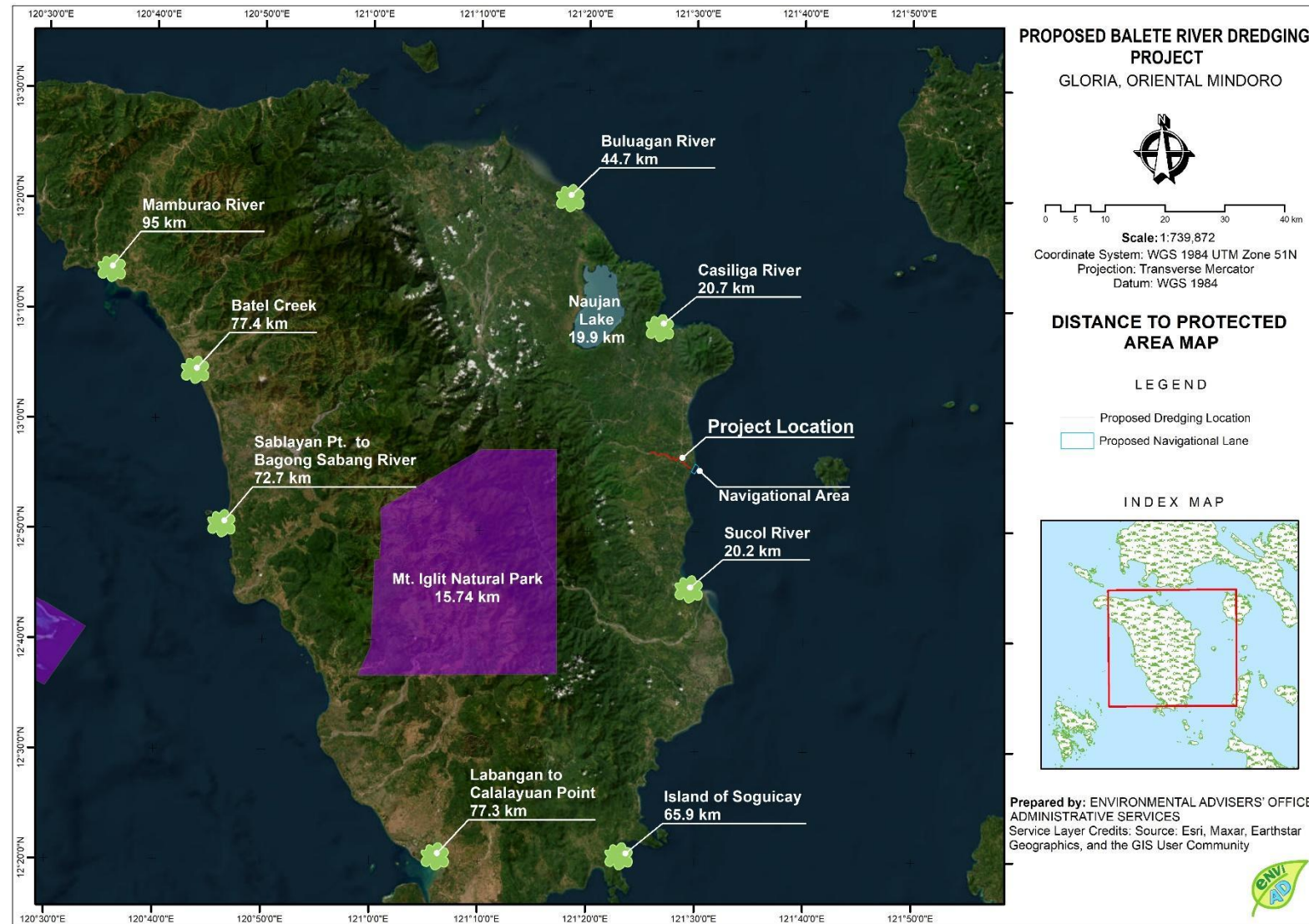
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Name	Legal Basis	Legal Status	Proximate Distance from the project site
			Island of Siguicay -65.9 km
Mts. Iglit-Baco National Park	Proclamation No. 557, s. 1969	Legislated	15.74 km

## 2.4 Impact Areas

The identified EIA direct impact area (DIA) is the **8742.06 -line kilometer, 113.54 hectares** of lower Balete River within barangays Balete, San Antonio, Narra, Malamig, Alma Villa, M. Adriatico and Papandungin **101** hectare portion of offshore area for navigational lane. **Figure PD-8** shows the impact area of the proposed project.

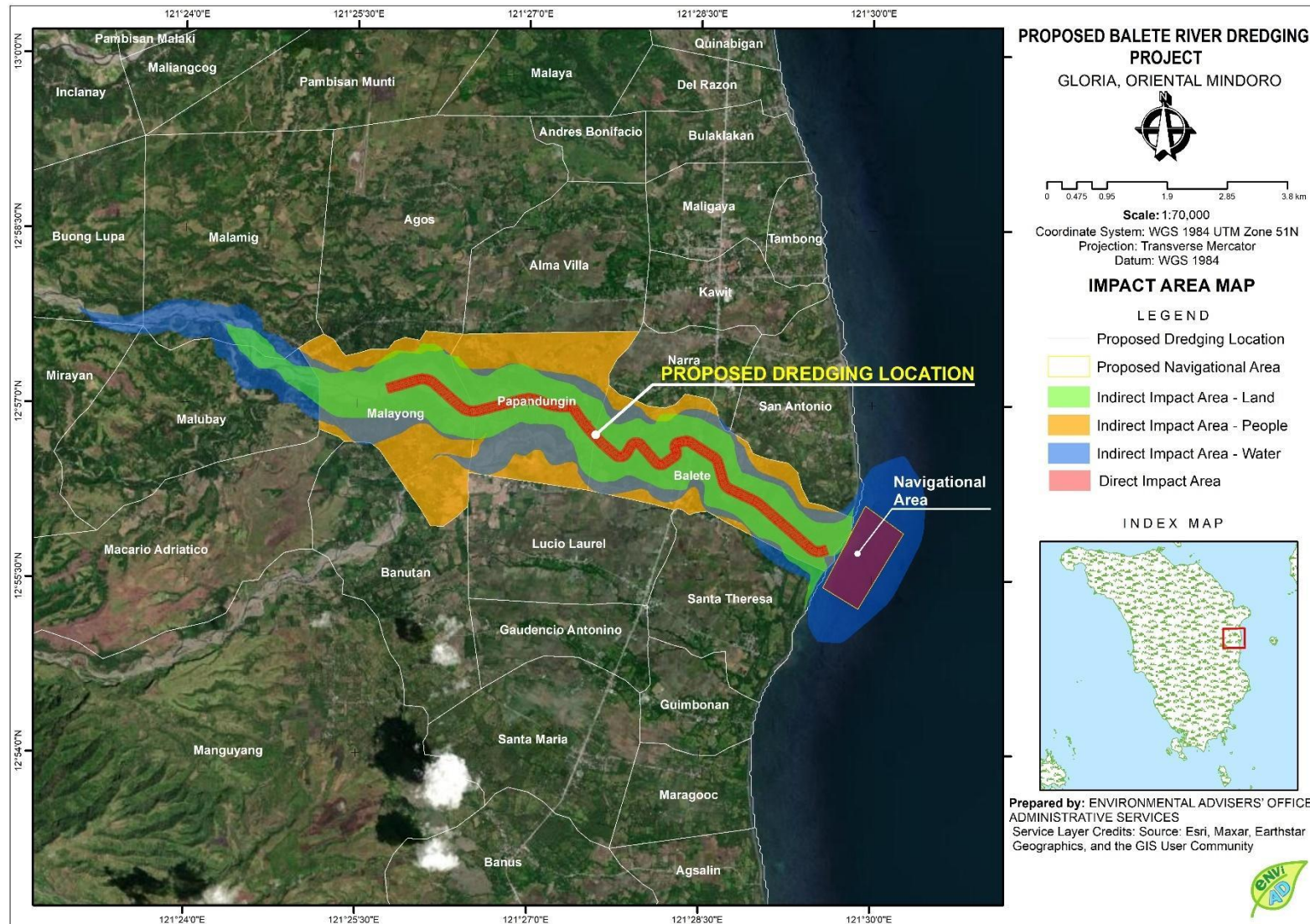
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*Figure PD-7. Relative Location of Project Area and Protected Areas*



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*Figure PD-8. Map of the Impact Areas*

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### **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 Balete 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 Balete 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 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 increase risks to life and property sustained yearly by the people of Brgys. Balete, San Antonio, Narra, Malamig, Alma Villa, M. Adriatico and neighboring affected areas.

The high volume of river run materials from the mountain 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*

<b>Component</b>	<b>Description</b>
Dredging zone/basin	8,742.06 line kilometers located downstream of Balete River Bridge to river mouth, totaling 113.54 hectares plus the 1.41 km, 101 hectare for offshore areas
Buffer zone	10 meters minimum from the toe of existing river bank and 1km minimum from the existing bridge



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Component	Description
Volume of Material for Dredging	3,762,468.77 cubic meters
Projected annual extraction / production	1.5 million cubic meters per year of dredged material during the maximum operation
Bottom Width	110 meters
Average Depth	2-3 meters (Design Depth is 4 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.

The dredging activity is not a water intensive activity.

## **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 Balete River.

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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 8,742.06 line km, 113.546638 hectares for the river and 1.41 km, 101 hectares for the offshore areas to cover the navigational lane. The estimated volume of materials to be extracted is 3,762,468.77 cu.m per annum for the river. Projected annual extraction is 1.5 million 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 Balete 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 **1.5 Million cubic meters per year** of dredged material during the maximum operation.

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**Purpose of Dredging:**

- To increase the conveyance capacity of the Balete River Channel through deepening and widening of the river channel based on the approved dredging plan of DPWH and restore the natural state and water flow of the heavily silted Balete River and to maintain the navigability of the channel.
- Balete River Dredging Project 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 including the river run materials to Tablas Strait.
- Dredging will mitigate the risk of flooding in the surrounding areas or adjoining communities and eventually focus on the restoration and rehabilitation of Balete River.

**8.2.1 Options for Commercial Disposition**

Ionic Cementworks Industries Inc. and Pasig River Expressway Corporation plan to dispose the 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 Balete 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 Balete 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 97 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	20
Shift Foreman	2
Community Relations Officer	2
Safety & Pollution Control Officer	2
Quality Control Engineer	1
Mechanic & Welder	2
Accountant	1
Samplers	10
Nurse	2

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Logistics	2
Clerk / Checker	4
Driver Liaison	4
Backhoe Operator	8
Bulldozer / loader Operator	4
Crew for land-based operation	15
Security Guards (on Contract)	15
<b>Total</b>	<b>97</b>

#### **10.0 INDICATIVE PROJECT INVESTMENT COST**

The estimated project investment cost is **Php 309,914,000.00**

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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																												



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**12.0 PHOTOS OF THE PROJECT SITE**





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*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
<b>PRE-CONSTRUCTION PHASE</b>				
• 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	<ul style="list-style-type: none"> <li>Fears and apprehensions of the people regarding project environmental impacts</li> <li>Potential displacement of workers expecting employment in other sand and gravel quarry projects along Balete River.</li> <li>Conflict with other sand and gravel interest in Balete River</li> </ul>	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
<b>OPERATIONS PHASE</b>				
Construction of support facilities; like site office;	LAND	Bank erosion	<ul style="list-style-type: none"> <li>Easement of at least 10 meters minimum between bank and dredging operations</li> </ul>	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	<ul style="list-style-type: none"> <li>Confine dredging to a basin with barrier to the sea</li> <li>Allow accumulated sediments to rebuild the equipment entrance channel to lower Balete River</li> </ul>	Proponent

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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	<ul style="list-style-type: none"> <li>Regular equipment maintenance outside of river channel</li> <li>Refueling by appropriate dispensers (latch-lock between dispenser and receiving fuel tank)</li> <li>Prepare belt oil skimmer for oil spill emergency</li> </ul>	Proponent
		Contamination from equipment and human waste water	<ul style="list-style-type: none"> <li>Provision of portalet in water- operating vessels</li> <li>Prevention of disposal of un-or improperly treated wastewater to water environment</li> </ul>	Proponent
		Increase turbidity in dredging areas	<ul style="list-style-type: none"> <li>Dredging basin serves as settling pond</li> </ul>	Proponent
	AIR	Greenhouse gas emissions and particulates from operating equipment and transport vehicles	<ul style="list-style-type: none"> <li>Install catalytic converters for SOx &amp; NOx and particulate filters to operating equipment including gen-set</li> <li>Opt for solar -powered equipment for site office</li> </ul>	Proponent
		Increase in noise	<ul style="list-style-type: none"> <li>Choose less noisy equipment or cover noisy equipment with suitable noise reducing sheets</li> </ul>	Proponent
	PEOPLE	Conflict with other interest in sand and gravel quarry	<ul style="list-style-type: none"> <li>Quarterly meetings to communicate and resolve conflicts</li> </ul>	Proponent
		Solid and liquid waste management issues	Solid waste management and provision of sanitary facilities.	Proponent
		Equipment and personnel safety during rainy season	<ul style="list-style-type: none"> <li>Use amphibious dredger, define quick shelter route in event of strong rain</li> <li>Set up barometer and anemometer at site, provide trained person to monitor weather and all-weather communication equipment with all operators.</li> <li>Provide training for adaptation of working procedures and protocol under all weather conditions</li> </ul>	Proponent
		Generation of employment	Able and trainable local residents will be given first priority in hiring, posting of notice at LGU	Proponent

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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	<ul style="list-style-type: none"><li>Occupational safety, health and work environmental management orientation will be conducted with emphasis on environmental compliance.</li><li>Workers will be required to do Protective Personal Equipment while at work.</li><li>Warning and safety signs will be provided where needed</li></ul>	Proponent
		Fair wages and laborers benefit	Project will provide employees' wages and benefits as prescribed by law	Proponent
DECOMMISSIONING 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	<ul style="list-style-type: none"><li>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)</li><li>Dredging basin will be replenished by natural sediment transport; river surface flow will be restored</li><li>Area will be left clear of all structures. Beach side will be leveled for aesthetic view</li></ul>	Proponent



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

<b>Project Activity which will likely Impact the Environmental Component</b>	<b>Environmental Component Likely to be Affected</b>	<b>Potential Impact</b>	<b>Options for Prevention or Mitigation* or Enhancement</b>	<b>Responsible Entity</b>
		Possible health and safety issues regarding handling of hazardous materials	<ul style="list-style-type: none"> <li>• Personnel will be trained in handling used oil;</li> <li>• Use of PPE will be mandatory.</li> <li>• a 3rd party treater will be contracted to haul out and treat all hazardous materials (used oil, spent batteries, busted light bulbs).</li> </ul>	Proponent
		Unemployment	<ul style="list-style-type: none"> <li>• Agreement with LGU on the use of local mineral excise tax for livelihood development;</li> <li>• Participatory planning for livelihood projects to start self-sustaining livelihood preparation and implementation in due course.</li> </ul>	CSR