

## Environmental and Social Review Summary

### Autopistas Del Coral S.A.

*This Environmental and Social Review Summary (ESRS) is prepared by MIGA staff and disclosed in advance of the MIGA Board consideration of the proposed issuance of a Contract of Guarantee. Its purpose is to enhance the transparency of MIGA's activities. This document should not be construed as presuming the outcome of the decision by the MIGA Board of Directors. Board dates are estimates only.*

*Any documentation which is attached to this ESRS has been prepared by the project sponsor, and authorization has been given for public release. MIGA has reviewed the attached documentation as provided by the applicant, and considers it of adequate quality to be released to the public, but does not endorse the content.*

Country:	<b>Dominican Republic</b>
Sector:	Infrastructure
Project Operator:	Autopista del Coral S.A. (on behalf of the Dominican Republic Ministry of Public Works and Communication)
Guarantee Holder:	Autopista del Coral Capital Funding Trust (Citibank N.A., and Govco LLC)
Environmental Category:	A
Date ESRS Disclosed:	April 15, 2011
Status:	Due Diligence

#### **A. Project Description**

The proposed project consists of the design, construction, and finance of a new four-lane toll highway (Autopista del Coral - ADC) in the southeast sector of the country, in La Romana province. Seventy kilometers of new road will be built by the Autopista del Coral S.A. (ADCSA), a wholly-owned subsidiary of Construtora Norberto Odebrecht S.A. of Brazil, under a construction and finance contract with the Government of the Dominican Republic (GoDR). ADCSA has also entered into a 25 year agreement with the GoDR for the operation (toll stations) and maintenance of the ADC, with all tolls being collected by ADCSA on behalf of the GoDR. The ADC will connect the cities of La Romana, Higüey, and Punta Cana, as part of the larger Eastern Highway Corridor that connects Santo Domingo and the eastern tourism areas the Dominican Republic.

MIGA intends to provide a non-honoring of sovereign financial obligation (NHSFO) guarantee to the prospective financier of the ADC, the Autopista del Coral Capital Funding Trust (USA), a special purpose funding vehicle for fund providers Citibank N.A., and Govco LLC<sup>1</sup>, both of the United States.

The project includes the construction of one interconnection, one by-pass at La Romana, five main interchanges, three bridges (Chavon River, Duey River, Arroyo Santa Clara),

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<sup>1</sup> Govco LLC is a Citibank N.A. administered commercial paper vehicle which raises financing from the commercial paper markets.

two railroad crossings, several vehicle over/underpasses, two toll plazas, and one administrative office building. The by-pass at La Romana is located between the communities of La Romana, Villa Hermosa and Cumayasa. It will link the end of the current Eastern Highway to the start of the Coral Highway. The proposed by-pass area is relatively flat with pastures and scrubland in varying degrees of use without large concentrations of people. The La Romana by-pass will be approximately 15.24 km in length and complementary works consist of the construction of two interchanges, two bridges and two railroad crossings. ADCSA has also constructed a campsite and an asphalt mixer plant for the project.

The majority of the project area has been significantly modified by agriculture activities, particularly sugar cane production and livestock grazing. Only the last portion of the highway segment, along the Punta Cana coast, contains some patches of principally secondary vegetation growth.

## **B. Environmental and Social Categorization**

The Autopista del Coral project is a Category A under MIGA's Policy on Social and Environmental Sustainability. The key environmental and social issues are: traffic patterns and flow, air quality and noise, water resources and drainage, waste and spill management, public and workers health and safety, land acquisition and compensation, land use, loss of natural and modified habitat, and biodiversity management. Additionally, in this green-field project approx. 5 km of the road will be located within the northeastern edge of the Hoyo Claro Natural Monument Protected Area. The Natural Monument is classified as a Category III under the Dominican Republic protected areas system, and it is known for limestone geologic formations and underground waters and springs. The presence of karst forms and their influence on the underground aquifer led to the designation of the area as a Natural Monument.

## **C. Applicable Standards**

While all Performance Standards are applicable to this investment, our current information indicates that the investment will have impacts which must be managed in a manner consistent with the following Performance Standards:

- PS1: Social and Environmental Assessment and Management System
- PS2: Labor and Working Conditions
- PS3: Pollution Prevention and Abatement
- PS4: Community Health, Safety and Security
- PS5: Land Acquisition and Resettlement
- PS6: Biodiversity Conservation and Sustainable Natural Resource Management

Performance Standards 7 and 8 are not applicable to this project. The investment will have no adverse impact on indigenous peoples. Significant effects on cultural resources

are not expected, though a “chance finds” policy has been established for paleontological and archeological artifacts that might be uncovered during construction. The project is not expected to impact any known cultural heritage sites. Therefore Performance Standard 8 will be implemented through a chance finds procedure which will identify potentially sensitive areas and govern conduct in the event that items or sites of physical cultural heritage are accidentally encountered during the construction phase.

#### **D. Key Documents and Scope of MIGA Review**

The primary documents reviewed by MIGA:

- Environmental Impact Assessment – Autopista del Coral – La Romana – Punta Cana, including the Environmental Management Plan, Golder Associates, July 2007
- Resettlement Action Plan – Coral Highway, Dominican Republic, Decio Freire Consulting, July 2010
- Environmental License 0121-07/SEMARN, August 2008
- Coral Highway – Dominican Republic, Technical Justifications for Adopting the Alternative Route Passing through the Natural Hoyo Claro Monument, Odebrecht, September 2010
- Environmental Impact Assessment (draft) – La Romana By-pass, Paredes Consultores Ambientales, March 2011
- Environmental permits for Quarries: La Zorra (2010), Gran Calle (2007), Ramon Gordo (2007), Ramon Diaz (2010)

MIGA’s review of this project consisted of appraising environmental and social information submitted by the ADCSA, and a site visit by a MIGA environment specialist to meet with ADCSA management, the Ministry of Public Works and Communications, and those residents who were compensated.

#### **E. Key Issues and Mitigation**

##### PS1 - Social and Environmental Assessment and Management Systems

The Environmental Impact Assessment (July 2008) including an Environmental Management and Adaptation Plan (EMAP), has been compiled, reviewed, and finalized. An environmental permit was granted in 2008 and is still effective. As the construction package for the La Romana by-pass was added to the project at a later stage, a separate EIA including an Environmental Assurance Management Program (PMAA) for the by-pass was prepared and reviewed in March 2011. Accordingly, the environmental permit granted in 2008 to ADCSA was revised to include the by-pass for La Romana and the final decision is scheduled to be sanctioned in April 2011. An environmental and social management system has been developed for the entire project which will ensure

implementation of both the EMAP and PMAA. The project's environmental and social management system incorporates Odebrecht's Corporate Guidelines for Sustainability and is based on the Odebrecht's corporate policies related to occupational health and environmental management, which are ISO 14001 for Environmental Management Systems, OHSAS Standard 18001 for Occupational Health and Safety Management Systems and British Standard 8800 for Occupational Health and Safety Management Systems certified, respectively.

### PS 2 - Labor and Working Conditions

The project is currently in the construction phase, and at the end of March 2011 the project had employed 1168 nationals, 39 internationals, and 864 subcontractors for a total of 2,071 workers. The maximum labor force is expected to be 2,400-2,500 during the construction phase including the by-pass of La Romana. During the operations phase, approximately 30 people will be employed. As of March 2011 the project had not experienced any work related deaths, permanent injuries, accidents requiring a worker to leave the work site, or incur any days lost. Three accidents had occurred requiring on-site treatment. Health and safety training is provided, including daily announcements on safety matters and monthly assessments of working conditions. The environmental and social management system includes occupational, health and safety plans to ensure workers health and safety.

ADCSA is operating under a written human resources policy. Remuneration is currently at least what is required by law. Company housing or housing payments will be provided to employees whose place of residence is outside of the project area. A health plan is provided to all employees. Food and transportation is provided as needed. Training is provided which will result in the development of skills among the local workforce. The EMAP contains a non-discrimination policy concerning HIV/AIDS. ADCSA will prepare and submit to MIGA an employee complaint and grievance mechanism which will form part of the human resources policy.

### PS3 - Pollution Prevention and Abatement

The impacts of dust, noise, diesel emissions, created along the 70 kilometers of road and by-pass construction, will affect small areas of urban and mostly rural zones and natural habitats along the right-of-way for brief periods during construction works. These will be mitigated by standard operating procedures for dust and traffic control, as well as use of well maintained equipment with adequate acoustic and emission controls. During operation of the toll road, these road segments will carry more traffic than at present, in places at higher speeds, but along a safer and more modern road alignment.

A project-specific Environmental Management and Adaptation Plan (EMAP) and an Environmental Assurance Management Program (PMAA) were developed within the EIAs that focus on construction impacts. Dust, gas, noise, and vibration emissions from

operation of heavy equipment in clearing right-of-way, earthworks, asphalt recycling and paving, and related works, will be managed or controlled by water spray for dust control on areas of construction and detours; covering beds of trucks carrying fill or aggregate; use of well maintained equipment in good mechanical condition to minimize noise and gas emissions; limitation of road work to daylight hours; and use of personal protective equipment to protect operators and workers and signage and diversion barriers to protect the public. These procedures are consistent with Performance Standards 2 and 3.

Impacts on surface and groundwater quality and changes to flows from possible leaks and spills of fuel and lubricants; waste management and disposal activities; increased impervious areas, erosion and sediment transport; loss of topsoil and deterioration of soil structure will be managed and controlled by standard procedures for management of hydrocarbons and wastes, as well as for stockpiling and re-placement of topsoil and fill. Other measures include use of well maintained mechanical equipment that does not leak; temporary and permanent diversion and drainage works as needed; and re-vegetation of works-exposed surfaces and borrow pits, which will also restore degraded visual quality. These procedures are consistent with Performance Standard 3.

#### PS4 - Community Health and Safety

The beginning and the end of the planned road sections pass through medium density settlements. Management and control of road traffic through (and in detours around) areas of road construction will minimize hazards to local residents and travelers (as well as road workers). These mitigation measures to protect/ensure public safety will be documented in an Accident Prevention Program and Occupational Health and Safety Plan. These plans were produced by ADCSA in close collaboration with The Ministry of Public Works and Communications, and are currently being enforced during the construction phase. ADCSA has also developed emergency contingency plans incorporating the entire work force to respond to unusual conditions (fire, hydrocarbon or hazmat spills, hurricane, tornado, or flood). These procedures are consistent with Performance Standard 4.

During the construction phase, all personnel, resources and equipment will be protected by approximately 30 private armed security guards, who have been employed to protect the assets of ADCSA and to liaise with local police authorities when necessary. During the operations phase, security will be provided by armed security guards at the toll plazas, while local police authorities will be responsible for patrolling the roadway. ADCSA has pledged to comply with PS4.

#### PS5: Land Acquisition and Resettlement

The project required resettlement of 14 households in one specific area named El Limón, out of a total of 28 plots of land affected in that specific area, in addition to 5

households located in other areas, for a total of 19 resettled households. This is the only resettlement currently planned, although the Resettlement Action Plan (RAP) identifies a section of the highway (km 35-36) which may, following pending topographical studies and the final determination of the exact route, result in further resettlement. Any such further resettlement will be carried out in accordance with the RAP and Performance Standard 5.

Land acquisition and resettlement for this project was carried out under the law of the Dominican Republic, the Odebrecht policy for involuntary resettlement, and a RAP prepared specifically for this project. Together these make up a resettlement process that is expected to be broadly in compliance with Performance Standard 5.

Cash compensation for resettlement is the customary form of compensation for public projects and public-private projects in the Dominican Republic, and resettlement is carried out by the Ministry of Public Works and Communications (MOPC), as described in the RAP, with the participation of other government entities. Odebrecht also undertakes in the RAP to monitor resettlement and ensure that the process and compensation are fair. Compensation for land is determined by MOPC in consultation with the Ministry of Finance (Ministerio de Hacienda), using the owner-declared values submitted to the government for tax purposes as the starting point. A mechanism exists to handle complaints, perform follow-up analysis, and negotiate a different price when warranted. Compensation for crops is determined using prices provided by the Dominican Agrarian Institute (IAD in Spanish). Compensation is not dependent on formal ownership. Informal occupants, as well as those formal owners who cannot furnish defect-free title documents, receive compensation. A detailed socioeconomic baseline study and survey of affected assets were prepared based on interviews and site visits, which provide detailed information on each affected plot and household.

Particular attention is paid in the RAP to vulnerable persons affected by the resettlement, for example those occupying dwellings on land owned by others, whether by temporary permission or some other arrangement, and employees and caretakers of landowners who may lose their employment due to the land acquisition. Depending on the situation these people are provided either 6 month's rent or construction material for a new dwelling. In some cases the construction itself is provided in addition to materials. Further assistance is provided on a case-by-case basis in the form of capacity-building (mostly agriculture skills), moving assistance, offers of employment, and indemnity for lost wages.

Of the 14 occupied houses in El Limón, 10 are occupied by the owners and 4 are occupied by non-owners. Each household has received or will receive resettlement assistance and compensation following the principles outlined above. For the remaining 14 plots of land affected out of the total of 28 in El Limón no resettlement will be required, but compensation will be paid for land acquired and for the value of unoccupied structures. Compensation will be paid for crops in all applicable cases.

In all cases households are being resettled a short distance away. Thus there are no anticipated effects on livelihoods vis-à-vis job loss due to movement away from a place of employment, except for the possibility of caretakers who may lose employment due to the land acquisition (discussed above). The only livelihood impacts potentially anticipated are those related to crops owned or possessed by resettled households, which are compensated by the IAD as described above.

The mission team met with several resettled households which all reported that the process and compensation were fair. The households had been properly consulted before, during and after the resettlement.

In addition to the resettlement described above, 94 plots of land have been or are in the process of being acquired. This is being carried out through willing-buyer-willing-seller methods. Total land acquisition for the main toll highway is approximately 5.3 million square meters. All of the above relates to the main toll highway.

For the La Romana by-pass, topographical studies are still pending, and the final determination of the exact route. As such, if any resettlement is required, it will be carried out in accordance with the RAP and Performance Standard 5.

#### PS6 - Biodiversity and Resource Management

The proposed project area is mainly rural and the road corridor lies in a biological area of subtropical humid forest. There are areas with deep and fertile soils and large areas of sugar cane production. The project direct area of influence includes the following vegetation cover and use: sugar cane (27.9%), shrubs and fallow lands (26.5%), pasture for livestock (23.8%), secondary forest over limestone rock (14%), secondary forests with advanced regeneration (3.5%) and native forests (2.2%).

In areas of road construction, issues include loss of agricultural and pasture resources, changes in land use, and potential effects on flora and fauna diversity. The EIA concludes that no threatened or endangered species were identified in the project right of way (ROW). The EIA lists potentially 38 fish species in the Chavon and Duey Rivers, of which 16 are introduced species, 15 are native species and 7 are endemic species. During the EIA field work, six native amphibians and two introduced species were identified. There are nine species of reptiles, of which 66% were lizards. None of the species registered in the area of study are considered endemic.

In the indirect area of influence, fifty species of birds were observed, with nine species listed in categories of conservation, eight are considered endemic, and two are considered threatened. Bats are also common to the area. None of the fauna species is known to be directly affected by road construction. The majority of the project area has been significantly modified by agriculture and livestock grazing. Significant impacts on

critical habitats, and on biodiversity resources in general, are not expected during the construction and operation of the toll road.

Impacts of loss of vegetative cover and fragmentation of habitats due to right of way clearing and the exploitation of borrow pits will be managed with slope stabilization measures where needed; restoration, re-vegetation and soil reconditioning measures, etc. These measures are included in the project's Terrestrial Flora and Fauna Management plan, which is part of the overall environmental management plan. These procedures are consistent with Performance Standard 6.

The Hoyo Claro Natural Monument is classified as a Category III under the Dominican Republic protected areas system, featuring limestone geological formations and underground waters and springs. The Hoyo Claro area is approximately 42 km<sup>2</sup> in size and the proposed road will pass through the northern edge of the area (km 61.8 to 66.5 of the highway). The geology in this area is composed of coralline limestone, characterized by its cavernous nature and presence of sharp outcrops.

This route was chosen through an analysis of alternatives as part of the project development process. One proposed alternative was rejected as it would have required additional land acquisition, greater change in land use and increased the impact to the shallow aquifer recharge. The other alternative would have required more excavation, including cuts up to 26m, and potentially increase soil erosion. The Environmental and Natural Resources State Secretariat, the body that grants Environmental Permits, identified potential advantages for locating the road at the edge of the protected area. The road could potentially help: i) to create a barrier to prevent uncontrolled development or encroachment into the protected area, and ii) improve access to the area to promote eco-tourism. ADCSA will work with the relevant authorities in providing support to protected area management.

A supplementary technical study was carried out on the proposed alternatives to ensure that specific mitigation/management measures are included in the EMAP. In particular, this study aimed to determine the potential environmental impacts by reviewing the existence of sinkholes (*dolinas*) both inside and outside the protected area and the volume of karst material (rocks) to be cut. The Natural Monument region is characterized by karst topography that extends over large areas beyond the limits of the protected area. Based on field inspections and topographical data, it was concluded that a series of sinkholes were located within the Natural Monument region, both inside and outside the protected area boundaries, which were determined for administrative reasons and not based on habitat value. The areas outside the natural monument are as equally as unique as those inside and confirmed that the karst habitat extends significantly beyond the natural monument.

## **F. Environmental Permitting Process and Community Engagement**



In the Dominican Republic, public hearings for significant projects are announced in newspapers 15 days in advance; all interested parties are invited to attend and express their opinions. Also, Public Notice issued through local authorities, lists the affected communities, gives the public 15 days to register views, and schedules the public hearings. If a project receives strong opposition during the public hearings, a Public Audience is organized for further detailed discussions. Outcomes of the Public Audience process are reported to the Project Validation Committee (which consists of members of the various subsecretariats of the Ministry of Environment).

Broad community consultations were carried out prior to commencing construction. This was done under a Citizen Participation Plan which was part of the overall Environmental and Social Impact Assessment (ESIA) process. This consisted in the early stages of information dissemination and three public hearings. Each of these hearings was conducted in three workshops in different locations, namely Benedicto, Verón, and Higüey, for a total of nine workshops. Feedback from the community was incorporated into the ESIA process. In addition, households subject to resettlement were consulted. This is discussed above under Performance Standard 5.

The Environmental Management and Adaptation Program (EMAP) contains a community consultation strategy and grievance mechanism. The mechanism features a Community Attention Point (PAC in Spanish) which will receive and provide responses to community concerns, claims and/or complaints concerning the project.

#### **G. Availability of Documentation**

[Environmental Impact Assessment](#) – Autopista del Coral – La Romana – Punta Cana, (July 2007), [Resettlement Action Plan](#) (July 2010) and the [draft Environmental Impact Assessment](#) for the La Romana By-Pass (March 2011), are disclosed as an attachment to this ESRS. The EIAs are also available at the Ministry of Environment in the Dominican Republic. The receipt of the Environmental Impact Assessment – Autopista del Coral – La Romana – Punta Cana, (July 2007) was published on the US EX-IM Bank’s website on May 13, 2010 for 30 days prior to their final commitment.