

A. Summary Environmental and Social Review

1. General Project Information and Overview of Scope of IIC E&S Review

On October 14, 2015, the National Infrastructure Agency of Colombia (*Agencia Nacional de Infraestructura -ANI*) awarded the concession contract No. 14 of 2015 to DEVIMAR S.A.S. (the “Company”), a consortium formed by Sacyr Concesiones Colombia S.A.S., Strabag S.A.S. and Conca S.A. This contract includes the commitment to produce the design, studies, environmental and social management, land ownership management, construction, rehabilitation, improvement, operation, maintenance, and finalization of the concession on the Autopista del Mar 1 road. The Project consists of an existing 171-kilometer long toll road that connects the Medellín-Santa Fe de Antioquia, and Cañasgordas municipalities to the north, and a branch that connects the Santa Fe de Antioquia and Salgar municipalities to the south. The Project has been split into four sections or Functional Units (Unidades Funcionales-UFs), where operations and maintenance (O&M), improvement, rehabilitation, or construction work will be conducted depending on whether the UF has existing road infrastructure or not, as part of a 25-year concession contract with the ANI. A description of the different Functional Units is included in Table 1 below.

Table 1. Breakdown of the project works by Functional Unit

UF	Section	Length	Scope of Work
UF1	Occidente Tunnel – San Jeronimo	19 km	Improvement of existing road and construction of new parallel two-lane road
UF2.1	San Jeronimo – Santa Fe de Antioquia	14 km	Improvement of existing road and construction of new parallel two-lane road
UF2.2	Santa Fe de Antioquia – Cañasgordas	62km	Operation and maintenance only
UF3	Connection Vial Aburra – Cauca – Connection Occidente Tunnel – Santa Fe de Antioquia	5km	Construction of second tunnel parallel to existing tunnel and Accesses
	Connection Vial Aburra – Cauca – Occidente Tunnel	5km	Operation and maintenance of existing tunnel and road to UF1
UF4	Santa Fe- Peñalisa (Salgar)	70 km	Rehabilitation of existing road

In February 2018, IDB Invest carried out the Environmental and Social Due-Diligence (ESDD) and visited the Project site (routes that connect Medellín and Santa Fe de Antioquia, Medellín and Cañasgordas, and Medellín and Venecia. As part of the ESDD, IDB Invest visited the Devimar office in Medellín and toured the road between Medellín and Cañasgordas, with visits to key sites (tunnel, relocation area for existing toll booths, material dumpsite, mobile community office, fixed community office in Santa Fe de Antioquia, potential area for a small works management office and storage, concrete batch plant) and key receptors (La Volcana school, Guaymaral community, Los Almendros school and community, San Nicolas community, and the Tafetanes community.

During the site visit, information was obtained through a combination of discussions with DEVIMAR, site visit tours along the proposed route and meetings with community stakeholders. Documents included the environmental and social assessment process, the environmental and social management system, environmental licenses and permitting, environmental legislation, corporate policies and procedures, as well as the environmental and social due-diligence report prepared by an international firm.

Environmental and Social Categorization and Rationale

In accordance with IDB Invest's Environmental and Social Sustainability Policy, the project has been classified as a Category "A", since it is likely to generate the following adverse environmental and social impacts that are typical of toll roads and are described in Section 1.1 c).

While all Performance Standards are applicable to this invest, IDB Invest's environmental and social due diligence indicates the investment will have impacts, which must be managed in a manner consistent with the following Performance Standards.

- IFC PS1 – Assessment and Management of Environmental and Social Risks and Impacts
- IFC PS2 – Labor and Working Conditions
- IFC PS3 – Resource Efficiency and Pollution Prevention
- IFC PS4 – Community Health, Safety and Security
- IFC PS5 – Land Acquisition and Involuntary Resettlement
- IFC PS6 – Biodiversity Conservation/Sustainable Management of Living Natural Resources; and
- IFC PS8 – Cultural Heritage

Environmental and Social Context

The Project area crosses mountain ranges and lowland hills, as well as areas of quaternary sediments mostly in the bottom of the valleys. The landscape is varied, with landscape units greatly defined by the terrain and vegetation cover associated with the diverse land uses. Much of the Project area is considered to have high visual value, a result of combining the high visual quality with the high visibility of the Project. Approximately 65% of the total land area is covered by forests dedicated to watershed protection, as well as conservation of biodiversity, and protection against erosion and landslides. However, the area is moderately modified by agricultural and cattle herding activities, with some areas dedicated to agroforestry activities. Urban areas represent a small percentage of the land cover. Given the high precipitation in the Project area, there is a significant presence of permanent bodies of water. The ecosystems in the Project area are characterized as tropical wet forest.

The Project crosses 13 municipalities and in its area of the influence, there are five communities that are of five Afro-Colombian communities (located between San Jeronimo and Santa Fe de Antioquia in UF 2.1 that require prior informed consultation per Colombian legislation. These communities are: Guaymaral, La Puerta, Los Almendros, San Nicolas and Tafetanes.

1. Environmental Risks and Impacts and Proposed Mitigation and Compensation Measures

1.1 Assessment and Management of Environmental and Social Risks and Impacts

a. E&S Assessment and Management System

The Company has an integrated Environmental and Social Management System based on the requirements established by ISO 14001. Objectives are well defined, with key performance indicators (KPIs), evaluation systems, and document control processes. It also clearly references the documents that define the management system, which include the occupational, health and safety management system, Environmental and Social Impact Assessments (ESIA), environmental licenses and permits, environmental management plans, operations and maintenance manuals, social and environmental responsibility plans, contractual social management plan, good governance manual and anti-bribery plan.

b. Policy

The Company has a comprehensive environmental policy that includes clear objectives regarding quality, environment, society and community, as well as health and safety of employees.

c. Identification of Risks and Impacts

Given the road expansion activities for UF1, UF 2.1 and UF3, an Environmental and Social Impact Assessment (ESIA) was prepared for these sections of the project (UF 2.2 and UF4), in accordance with Colombian requirements. As the other UFs consist of rehabilitation and improvement rather than expansion, an Adaptation of the Environmental Plans (*Planes de Adaptación a las Guías Ambientales* - PAGA) were prepared.

Devimar has received the environmental license for UF1 and UF3, which was issued by the National Environmental Licensing Agency (*Autoridad Nacional de Licencias Ambientales* -ANLA) on May 27, 2017 via Resolution No. 00606 and updated on 30 June 2017 via Resolution No. 00764. The environmental license for UF2.1 was issued on June 2, 2017 via Resolution No. 00639.

In addition, IDB Invest's appraisal considered environmental and social management plans for the Project and gaps between these plans and IDB Invest requirements. Where necessary corrective measure intended to close these gaps within a reasonable period of time, are summarized in the Environmental and Social Action Plan (ESAP) agreed to with the Company. The Project is expected to be designed, constructed and operated in accordance with International Finance Corporation (IFC) Performance Standard (PS) objectives, national regulations, the World Bank Group General Environmental, Health and Safety (EHS) Guidelines, the ANI's guidelines for 4G concessions and the Constitution of the Republic of Colombia.

i. Direct and indirect impacts and risks

Some of the key impacts and risks that are typical of toll road projects and are related to this Project include: change in land use and access among certain route sections; habitat alteration and fragmentation (from expansion to existing right- of-way in certain sections); temporary diversion to alternative roads leading to congestion; congestion at toll booths (noise, air quality and safety issues) during construction; migration onto alternative routes (both temporarily and permanently); air quality impacts; noise impacts; visual impacts including night-time light pollution (principally from the toll booth location); traffic safety; pedestrian safety; changes in the risk of accidents; potential changes in tolls; land acquisition; physical and economic displacement; production wastes (liquid, solid, hazardous and domestic); natural hazards including climate change risks.

Other social impacts that are typical of these types of road projects include project induced migration, which is not anticipated in this case because most the Project workers will continue to be recruited from the local communities and there are no workers' camps needed. To date approximately 82% of workers are recruited from the Project's direct area of influence, which is a beneficial impact.

ii. Cumulative impact analysis

The environmental and social impact assessment methodologies used, which are based on accepted international impact assessment methodology included a cumulative impact assessment. The assessment identifies cumulative impacts for each UF which have been found to be mostly related to impact on the vegetation and the fauna. In some of the areas, there is a cumulative impact from the combined impact of the Project works and the presence of mining titles in areas of archaeological importance. However, Devimar's management plans in place to mitigate impacts on vegetation and fauna, as well as cultural heritage are considered sufficient to minimize potential cumulative impacts.

iii. Analysis of alternatives

Devimar has considered engineering alternatives to the design of the upgrades to the highway including a new design version with features such as reducing the height of contention walls and therefore the area occupied by them, which minimizes the economic and physical displacement caused by the project. In some cases, the agency responsible for the environmental licensing, the ANLA (*Agencia de Licencias Ambientales*) may require the project proponent to present an Analysis of Alternatives (*Diagnóstico Ambiental de Alternativas*, or DAA); however, in this case a DAA was not required. Nevertheless, the Company did analyze alternatives design features as mentioned above to minimize impacts. Also, as the Project follows the existing ROW, the extent to which it can move entirely the project location is rather limited.

d. Management Programs

The ESIA's and PAGAs (The "environmental studies") include environmental and social management plans and programs, from which Devimar has defined the action programs to be implemented during the first five years of operation. A comprehensive matrix summarizes the diverse environmental and social programs, including the budget and KPIs for each of them until 2021. The matrix includes the workforce that will be required to implement each program, references to the environmental documents and whether the program will be developed by internal or external resources. The environmental licenses provided for UF1, UF 2.1 and UF3 include additional conditions which must be added to the management programs proposed in the ESIA's.

The following plans and programs are included in each EIA:

- i) Abiotic management plans, which include plans on the following: geotechnical stability conservation and restoration; disposal and management of unsuitable fill materials; construction, operation and dismantling of project associated infrastructure; environmental management of machinery, equipment, workshops; environmental management of concrete, asphalt and rock crushing plants; landscape management; domestic and industrial wastewater management; industrial, domestic solid waste management; crossing of water bodies; surface hydrology management; groundwater management; water extraction management; emissions and noise management; traffic accident management; temporary construction roads construction and maintenance management.
- ii) Biotic management plans, including plans on the following: wildlife management; fauna special species conservation; topsoil and top vegetation removal management; flora management; revegetation; and sensitive ecosystem protection and conservation.
- iii) Socio-economic and cultural management programs to address the following: customer service; capacity and training for project staff; workers capacity building; Operational Guidelines for Risks and Crisis that contain information on measures to manage any potential conflicts due to toll increases; institutional capacity building program; education, capacity building and information program for the communities in the vicinity of the

project; preventive archaeology; traffic safety education program; social management of landowners' management program; resettlement program; private and public infrastructure management; and community services management.

e. Organizational Capacity and Competency

The Company's environmental and social staff are well organized and competent with extensive knowledge of permitting obligations and good control of the procedures, obligations and actions required. They have job descriptions with details about the role, necessary academic and practical experience, principle functions, decision-making level, internal relationships and competencies. They have a dedicated Social Coordinator, Environmental Coordinator, and Health and Safety Coordinator, who report to Senior Management (CTO). Each group has a well-staffed team. Overall, Devimar has a team of 16 people dedicated to the social and environmental management of the Project. The EPC contractor also has seven E&S staff and eight more dedicated to health and safety during construction and four during operation. In addition, to internal resources, two international consulting firms provide specific support on the legal and technical environmental and social aspects.

f. Emergency Preparedness and Response

Devimar has a Project-specific set of policies and procedures for emergencies and contingencies. These include specific plans for the response to the La Niña extreme weather events (a cyclical extreme weather period that takes place after the El Niño extreme weather oscillation period). The existing plans include a traffic safety plan which identifies and addresses accidents and risks with mitigation measures and plans, and ways to handle traffic accidents and injured people. The company has risk management plans for each of the UFs.

The emergency and contingency plan is Project-specific and contains information about how to respond to different emergencies. It also includes a description of different committees in charge of managing an emergency, clear scope of responsibilities, identification of first responders, and contact information of emergency agencies, hospitals, operations centers. Procedures have identified multiple events such as earthquakes, traffic accidents, floods, fire, landslides, chemical spills, social unrest, terrorism, petty crime activities, criminal actions, etc. The procedures establish clear action items in text and graphic form. The emergency plan includes additional contingency plans for specific events, such as chemical spills, emergency in the tunnel. DEVIMAR has identified a communications consultancy to prepare press releases during emergency situations.

g. Monitoring and Review

The Environmental Management Plans include variables for monitoring the implementation of the diverse plans, including a description of the responsible person, budget, frequency, and performance indicators. In addition to the monitoring of the mitigation plans, specific monitoring plans include:

- i) Environmental monitoring plan, which include erosion control, hazardous materials handling and storage, hydrological resources, waste management, air emissions, and groundwater;
- ii) Ecological, which include conservation of fauna and flora, soil conservation, protection and conservation of sensitive habitats; and
- iii) Socio-economic and cultural monitoring plans.

In addition to these plans, there are monitoring plans that look at changes with respect to the baseline, to determine the long-term impact the Project is having on the environment.

The environmental licenses for UF1, UF 2.1 and UF 3, as well as the UF 3 license modification includes changes in the scope and type of monitoring for some of the proposed monitoring programs.

h. Stakeholder Engagement

Devimar has effective systems and management capacity in place to successfully carry out ongoing stakeholder engagement. Evidence was provided including a wide range of material used for stakeholder engagement. The community relations team that resides in Medellin and Santa Fe Antioquia are well staffed and have sufficient budget allocated to stakeholder engagement to implement the communication plan, a media plan (that relies on radio, television, website, print, social media and staff) and the Social Management Plan for the road user assistance and road culture awareness. Examples of these print material were observed in the community relations offices visited. Devimar also has mobile road units that travels to different areas of the project every few days to tend to any public queries or issues that arise.

i. Stakeholder Mapping/Analysis and Engagement Planning (and ongoing)

Prior to the preparation of the Environmental Assessments, the Project identified the most relevant stakeholders. The key stakeholders for this Project are communities living alongside the road in the municipalities of San Jeronimo, Ebejico, Sopetran, Santa Fe de Antioquia, Betulia, Anza, Concordia, Salgar, Giraldo, Canasgordas, Buritica and the city of Medellin. General land use in the areas are farming and grazing in UF1, residential (weekend homes) and farming in UF2.1 and grazing in UF3. Five Afro-Colombian ethnic communities have been identified between San Jeronimo and Santa Fe de Antioquia in UF2.1: Guaymaral, La Puerta, Los Almendros, San Nicolas and Tafetanes. Along the existing sections that will be widened, there are both formal and informal businesses operating at the roadside. There are two schools that will need to be relocated: the Vulcan School, San Sebastian de Palmitas Corregimiento of the Municipality of Medellin, and the Los Almendros School of the Municipality of Sopetran-Antioquia. Road users include drivers and passengers in a variety of types of vehicles, cars and trucks. Larger vehicles include both private and commercial transport operators and haulage companies. Cyclists and pedestrians also use the transport network.

In addition, Devimar has recently implemented additional recommendations for stakeholder engagement, which include the following: appoint a media spokesperson; prepare response for emergency scenarios; engage with commercial road user associates; confirm response time for community grievances in documentation; and maintain an ongoing database for stakeholders' contacts and separate logs for community, resettlement and labor grievances.

ii. Disclosure of Information

Each of the ESIA's has a Non-technical summary (NTS). These non-technical summaries, despite condensing significantly the contents of the ESIA, are quite detailed in describing the Project, the environmental and social baseline, the impact on natural and socioeconomic resources, and a description of the proposed mitigation measures. A non-technical summary was provided in the presentations to the five affected Afro-Colombian

communities mentioned above. The Project also has brochures introducing the scheme to road users.

iii. Consultation

As part of the ESIA process several consultation events and meetings were held with stakeholder communities. In particular, prior consultations (“*consultas previa*” were carried out with the five Afro-Colombian communities (Guaymaral, La Puerta, Los Almendros, San Nicolas and Tafetanes). As part of this process in accordance with national legal requirements, the Project representatives and the Ministry of Interior and Justice are carrying have shared responsibilities that include the following: socialization with identified communities including sending formal communication to leaders, traditional authorities and local authorities; initiation of the consultation process involving meeting with different actors where the initial consultation process is officially reported; pre-consultation: explanation of the Project to be carried out in the area, evaluation of mitigation measures and compensation of the impacts identified in the project; workshops for the identification of impacts and definition of management measures, including conducting participatory workshops with the community that will be the beneficiary of the compensation measures that are agreed upon; pre-agreements that include formalizing the commitments agreed between the parties; protocol meetings, which include closing of the conciliation phase that allows for the plans to be implemented and the agreements to be fulfilled; compliance with agreed commitments including delivering and implementing the commitments and compensation with each community in a timely manner; systematic follow-up of compliance with agreements including signing of meeting minutes and ensuring evidence of compliance with the prior consultation process is obtained; and closing of the pre-consultation process that includes a closing meeting with the Ministry of the Interior, local authorities and the community in general where the execution and fulfilment of the process are verified and a closing act is signed.

Devimar has been successful in making progress with this process and pre-agreements have been signed with all of the communities. During site visit, IDB Invest observed several social investments agreed upon with these communities currently underway.

iv. Indigenous Peoples

The Project documentation and site visits indicate that there are no indigenous people affected by the Project. However, there are five Afro-Colombian communities within the Project area and although this group is not identified as indigenous peoples by the Colombian government, they are given similar rights to “previous consultations”/*consultas previas* as per the Political Constitution, the Law 21 of 1991 and the Decree 1320 of 1998.

i. External Communication and Grievance Mechanisms

Devimar has a project grievance mechanism that complies with PS1. Through this mechanism, concerns of individuals affected by the Project or of those interested in it are registered and addressed within a defined response time. The mechanism has been in place since October 2015 and a review of the logs indicates that most the complaints are related to falling rocks damaging vehicles, an issue that Devimar is working to address. Devimar has also recently made other improvements that include: establishing a database for stakeholders’ contacts and separate logs for community, resettlement and labor grievances. Also, it has appointed a media spokesperson within Devimar, and is contracting a communications firm to assist with preparing press releases and official responses for crisis situations.

j. Ongoing Reporting to Affected Communities

Devimar also carries out ongoing reporting to affected communities by producing quarterly newsletters. In addition, Devimar prepares and discloses a Project Sustainability report, which is published on the Project website every April (<http://www.devimar.co/index.php/devimar/responsabilidad-social-ambiental-empresarial.html>).

k. Gender

Devimar's relevant stakeholder materials were found to be gender inclusive. In addition, the Company has recently addressed gender issues more explicitly in several management plans. For instance, the Company's human resources manual has been amended to include an explicit commitment to respecting gender equality and the principles of non-discrimination and equal opportunity. The draft resettlement action plan (RAP) has also been developed to include gender considerations, including within the baseline, impact assessment and resettlement entitlements sections. The contractual social management plan indicates in its program number 10 that DEVIMAR will comply with all applicable legislation to guarantee gender equality and equal opportunities as established by Laws 823 of 2003 and 1496 of 2011.

1.2 Labor and Working Conditions

a. Working Conditions and Management of Worker Relationships

i. Human Resources Policies and Procedures

Devimar has documentation in place regarding its management of human resources (HR), which includes the following: an Internal Regulation for Work that covers measures to ensure compliance with HR laws and addresses working hours, overtime and night work, vacation, medical support, occupational risks, worker code of conduct, among others; a Human Resources Manual, which includes personnel procedures and remuneration policies; an Internal Work Regulation (*Reglamento Interno de Trabajo*) that lists obligations and responsibilities of Devimar and its workers; a Contractors' Manual that all contractors must follow, and a list of documents that contractors must provide prior to beginning to work including occupational health and safety regulations, a health and safety management system, and technical certifications to operate machinery. Collectively, this documentation covers the key elements required by PS2.

ii. Working Conditions and Terms of Employment

Devimar provides reasonable working conditions and terms of employment and treats migrant workers equally. It was observed during the site visit that Devimar also offers a safe working environment with access to drinking and washing water, toilets, eating areas, emergency medical kits, etc. There have been no fatal accidents to date, and incidents have been minor. The company hires primarily local employees so worker accommodations are not required for the Project. These local workers are transported by a Company bus. The national limit for overtime hours is capped at 52 hours in Colombia and normally staff workers are not asked to work overtime. However, the tunneling works may require working at night, on weekends and holidays and in this case, overtime rates for working outside normal hours will be documented and explained. Colombia's labor law regarding conditions of work applies equally to all workers regardless of origin and gender; Devimar has also established salaries according to the market and geographic location, aligning salary levels with responsibilities and workload. In addition, it has required all contractors to meet Project labor commitments and has contracted an international environmental firm to provide training on the IFC

Performance Standards to the contractor and subcontractor early in the construction phase.

iii. Workers' Organizations

Colombian labor law provides for the right of workers to form and join unions of their choice, to bargain collectively and to strike (except public servants). Devimar has a permanent committee where the workers and management are represented.

iv. Non-discrimination and Equal Opportunity

Devimar's Human Resources manual was amended in mid-2017 to include an explicit commitment to respecting gender equality and the principles of non-discrimination and equal opportunity in line with Colombian labor laws that prohibits discrimination based on race, gender, family or national origin, religious creed, political preference, social status, and other factors.

v. Retrenchment

Retrenchment is not anticipated to apply to the Project.

vi. Grievance Mechanism

Devimar has a workers' grievance mechanism in place and in September 2017, an awareness training session was organized to inform workers about the grievance mechanism.

b. Protecting the Workforce

i. Child Labor/ Forced Labor

Devimar's Internal Regulation on Work explicitly addresses child labor and forced labor in accordance with Colombian law, which: i) does not permit the hiring of minors, ii) promotes labor standards consistent with the voluntary performance of all types of work or services, prohibiting forced or coerced labor, iii) sets a minimum age of 18 years for all types of work, and iv) does not permit children to be employed in any manner that is economically exploitative, interferes with their education or potentially endangers their physical, mental or social development.

c. Occupational Health and Safety

Devimar has developed a health and safety management system based on OHSAS 18001 and national legislation.

d. Workers Engaged by Third Parties

DEVIMAR has a Contractors' Manual in place, which all contractors are required to follow. Contractors are also required to provide Devimar with a list of documents prior to the start of works including their occupational health and safety management system, and technical certifications to operate different types of machinery. Workers' rights are included in the induction training. DEVIMAR has a regular schedule and procedures for monitoring workers' conditions and the upholding of labor rights by contractors and subcontractors.

e. Supply Chain

The Company uses a supply chain questionnaire to review the suppliers in their primary supply chain. They also plan to produce a short report detailing the results from the reviews of primary supply chains including subcontractors to check for issues related to compliance with OHS, child and forced labor, and land acquisition

requirements. They are also committed to take actions to address risks identified, such as replacing suppliers that are in non-compliance as needed.

1.3 Resource Efficiency and Pollution Prevention

a. Resource Efficiency

The Company has been implementing the resource efficiency and pollution prevention measures included in the ESIAs, PAGAs and Greenhouse Gas Emissions (GHG) Reduction Plan.

i. Greenhouse Gases

A baseline study was conducted to quantify GHG emissions from the Project. The Project is expected to emit 16,800 tCO₂eq per annum. Operation of plant and equipment is expected to contribute 3% of the total Project emissions, but as Project-owned emissions, which Devimar will actively take measures to reduce, particularly given that they have more control over this. A further 284,900 t tCO₂eq per annum is predicted to be emitted by the traffic using the road. The Greenhouse Gas Emissions Reduction Plan developed by Devimar describes the measures that the Company will undertake to mitigate and prevent activities that could result in greenhouse gas emissions. Those actions will be fully implemented during the execution of construction works and during the operational phase. DEVIMAR has implemented actions related to the Mechanical Risk Plan and the Strategic Road Safety Plan such as providing routine maintenance to vehicles, machinery and equipment that will contribute to lowering GHG emissions. Energy efficiency lighting will be also used in the tunnels.

ii. Water Consumption

The ESIA includes water resource management programs to avoid surface and groundwater contamination and degradation. The Project will only use surface water except for the use of groundwater from the tunnel discharge for which an environmental license was granted. A Water Management Plan for Groundwater for construction and operations has also been developed and includes monitoring of protected aquifers and a specific plan is in place for the groundwater produced by the tunnel. Devimar has also developed and is implementing a Water Efficient use and Saving Program” - a requirement to obtain the permits to be able to use surface water.

b. Pollution Prevention

i. Wastes

The Environmental Management Plans include the details the project specific details of how solid waste, hazardous materials and liquid effluent from construction are managed. Devimar is implementing measures to reduce contamination of surface water including the installation of gravel and sand filters, sediment traps, grease traps.

1.4 Community Health, Safety and Security

a. Community Health and Safety

i. Infrastructure and Equipment Design and Safety

The National Road Institute (*Instituto Nacional de Vías* - INVIAS), the Colombian road authority has developed national standards, which the Project must apply in its design; many of these standards are based on national and international best practices, including the reference manuals of the United States Federal Highway Administration (FHWA) and the American Association of State Highway and Transportation Officials (AASHTO). The Concession Agreement includes technical requirements that cover minimum standard design i.e. curve radius, measures to include safety for road users, and road signage requirements.

The Company has developed a series of management and monitoring programs focused on road safety, and health and safety from the community perspective, as well as a road safety policy to ensure that the Project activities are carried out in a safe manner to prevent and reduce road accidents and fatalities. As part of the social management program there are sub-programs specifically for road user assistance and road awareness. DEVIMAR has several programs to address impacts on the health and safety of the community through measures aimed at reducing the health and safety risks (i.e. agreements with public authorities and private institutions, road safety education at schools and community centers). Devimar gathers data on accidents and reports annually on sites and actions to reduce accident rates, particularly in zones with high incident levels. It has installed signage at the 15 sites with the highest number of incidents. In addition, there will be a pedestrian footbridge crossing near the Almendros school to be moved for the project, which will result in a much safer crossing, given that currently the need to cross the highway at a crosswalk. Regarding noise control and air emissions, Devimar is committed to implementing mitigation and monitoring measures to control these impacts. Many of the air emissions methods are also detailed in the GHG emission Reduction Plan mentioned above.

IDB Invest carried out a climate vulnerability screening assessment of the Project and found it to be at medium risk to climate change. Devimar has developed an emergency response plan in which climate resilience is shown to have been considered for the design, as well as the response to increased weather events. In addition, slope stabilization measures are in place and included in the engineering design of the Project.

ii. Hazardous Materials Management and Safety

Devimar has detailed procedures for the storage, handling, and management of hazardous materials. The emergency preparedness plan has detailed procedures for handling chemical spill events. For blasting at the tunnel in the UF3 section of the Project, Devimar will follow the established protocol issued and overseen by the Colombian Ministry of Defense, whereby explosives may not be stocked or stored overnight, they may not be over-ordered, and they must be transported by special transport (Army personnel). A Government official must also be present if the explosives are inside the Project area. Neighbors will also be informed about when blasting will be scheduled.

iii. Ecosystem Services

The ESIA dedicates chapter 5.4 to ecosystem services and identifies activities such as cattle herding, agriculture, use of surface and groundwater, medicinal uses,

fisheries, game and hunting, amongst others. The mitigation measures to address impacts on these ecosystem services were reviewed and the company is considered to have addressed these impacts appropriately in the environmental management plans.

iv. Community Exposure to Disease

As the Project plans to rely primarily on local workers, an influx of nonlocal workers employed by the Project that could introduce new diseases to the region is not anticipated.

v. Emergency Preparedness and Response (EPR)

Devimar has an EPR Plan in place, which is based on an extensive risk analysis. The Plan adequately identifies and describes the risks and the management practices. The EPR Plan is detailed in its definition of methodologies used, legal framework, responsibilities (of individuals and committees), instructions and procedures (including resources available, training and capacity building requirements, implementation, and activation of the emergency plan). The Plan addresses the approach to different risk scenarios including chemical spills, fires, explosions, natural disasters, accidents in the workplace, and social unrest. The roles and responsibilities associated with how to coordinate with local communities are also well defined.

b. Security Personnel

DEVIMAR has drafted a Security Management Plan (SMP) that has been incorporated into its ESMS. For the SMP to be in full compliance with PS4 Devimar has worked on upgrading certain aspects of the Plan, including developing more detailed security procedures. The key elements of the SMP include: a Security risk assessment, policy and personnel code of conduct; due diligence procedure to vet private security firms and workers; training program for all security guards; disclosure of the security policy to all workers during inductions; consultation with government security forces; a well-defined security procedure to monitor government provided security; defined security procedure to record and map all security incidents (construction and operation) and investigate all allegations of unlawful or abusive acts and take action to prevent recurrence and report to public authorities. Devimar does not employ armed security personnel directly but rather uses two contractors that provide services related to private security activities; both companies have OHSAS and ISO 19001 certifications, as well as permits to work and private security companies. The Project currently has teams of two-armed security personnel working 8-hr shifts at the toll plazas. They are armed with permission from the Ministry of Defense. The Company is responsible for quarterly training on weapon use, customer service and first aid.

The Project does have a roadside assistance program and there are existing control centers. It is encouraged that generally security personnel, except for those involved in the transfer of toll fees, are unarmed since the presence of guns may make the staff a target. The revisions to the draft SMP will address the presence of national or government security forces, welfare- sites for security personnel, and equipment to be provided to guards, including communication equipment. Devimar has direct and permanent communication with the highway police

(*Policia de Caminos*); For instance, Devimar has on hand all road accident reports and produces monthly reports on road safety.

1.5 Land Acquisition and Involuntary Resettlement

a. General

i. Project Design

A description of how alternative Project locations were considered to minimize or avoid physical and economic displacement has been addressed in the Resettlement Action Plan designed for the Project. Currently Devimar has identified approximately 484 properties that need to be acquired. To date, Devimar in collaboration with international consultants has developed a Resettlement Action Plan for UF 2.1 in line with PS 5 requirements and IDB Group's OP-7010. The breakdown of properties acquired per Functional Unit is included in Table 2 below.

Table 2. Properties to be Acquired

UF	Properties for Acquisition with displacement impact	Properties filed for expropriation	Sub-total properties belonging to INVIAS (Ministry of Transport)	Total
UF1	281	1	80	281
UF2.1	189	0	27	189
UF3	2	3	22	12
UF4	12	0	0	12

The 2017/2018/2019 projection indicated 361 plots would be “available” by December 2017 and that 65 negotiated settlements would be signed by March 2017, leaving 25 lots to be processed for each of the remaining nine months in 2018.

ii. Compensation and Benefits for Displaced Persons

The Resettlement Plans consider the population census, characteristics of the beneficiary population, existing social networks and permanence at the property (should be for a period equal or superior to two years). The obligations of the resettlement plans are defined in the environmental license. The resettlement is funded from the environmental compensation sub-account established by ANI; ANI established a minimum budget for land acquisition and socio-economical compensation with the contractual possibility of exceeding this value under the risk sharing mechanism, where Devimar covers additional expenditures.

The Socio-economic compensation plans (RAPs) that will be upgraded as needed to meet PS5, as well as national requirements should: include the information from the matrix and compensation plan; provide details on how assets have been valued and when the valuation was undertaken; explain which displacement impacts will be compensated in kind and which in cash. Devimar will only take possession of acquired land and related assets after compensation has been made available.

iii. Community Engagement

Devimar has been engaging with affected communities, particularly as part of the preparation of the RAP for 2.1, in which the five communities were consulted and information on criteria used for valuing affecting structure and compensation were discussed. Devimar will continue to actively engage with people to be displaced along all the UFs working with them to find the best options.

iv. **Grievance Mechanism**

The UIF2.1 RAP includes a resettlement mechanism that will be used in other UFs. A resettlement grievance log has been established. DEVIMAR will investigate and close out resettlement grievances throughout the Project.

v. **Resettlement and Livelihood Restoration Planning and Implementation**

The Socio-economic compensation plans include the measures to restore the livelihood of those economically displaced, as well as those physically displaced.

b. **Displacement**

i. **Physical Displacement**

A total of 65 social units (SU – residences or commercial units, or both) containing 192 affected people (AP - residents, business owners and employees) were identified in the socioeconomic surveys undertaken in UF2.1 from March to April 2017. UF 2.1 is the most vulnerable section, given the presence of five ethnic communities. The majority (46) are used for residential purposes, with the remainder being used for commercial purpose (10), in 9 cases people live in and operate commercial enterprises from the same premises. Of the 65 SU covered by the socioeconomic survey 41 meet one or more of the vulnerable peoples' criteria and will therefore qualify for additional support to safeguard them from impoverishment risks.

Along UF 2.1 there are a total of 27 residential units (13 households from Guaymaral that need to be relocated). As part of the due-diligence visit, IDB Invest visited many of these households, where vulnerable living conditions were observed.

Two schools will be replaced with schools with better infrastructure. These include: 1) The Vulcan School, San Sebastian de Palmitas Corregimiento of the Municipality of Medellin in UF that has 150 students; and 2) Los Almendros School of the Municipality of Sopetran-Antioquia in UF 2.1 with 56 students.

The Vulcan School consists of three rooms, a library, a kitchen, two offices, a cafeteria, toilets, playground area, patio, field and shed. DEVIMAR will provide transportation to the children to an alternative location while the Municipality's education secretariat purchases land and construction of the school. The purchase and construction will be paid by the Project. In the case of the Almendros School that was visited during the due-diligence trip, Devimar has purchased a 3000 m2 land plot nearby that is further away from the main road, where they will be building the new school; therefore, in this case there is no need for provisional transfer of students. The RAP provides more details about the options and plans for relocating the schools.

ii. Economic Displacement

The RAPs will be implemented according to a compensation eligibility and entitlements framework that has been developed in line with both Colombian laws and regulations and IFC PS5. The types of loss that will be eligible for Project compensations include loss of land, structure, crops, trees, income, residential housing, businesses, employment, access to public social services, as well as the financial costs of moving.

1.6 Biodiversity Conservation and Natural Habitats

a. General

The ESIA identifies the potential direct and indirect impacts on biodiversity and natural habitats. Upon review of the ESIA and given that the Project follows the linear footprint of the existing highway, the Project is not considered to cause material adverse changes on biodiversity and natural resources. In addition, the Environmental Management Plans for each functional unit includes measures for effectively managing biodiversity in the Project's area of influence and details how clearing and removal of vegetation along the road will be done, as well as actions to restore affected areas and protect flora and fauna.

b. Protection and Conservation of Biodiversity

The existing highway and Project crosses an area of high biodiversity, with a large proportion of the area of influence being covered by forest assigned as "conservation", aimed at maintaining biodiversity, hydrological quality and protection against landslides. The Project baseline has conducted surveys with a methodology, which is tailored to each component and which includes conclusions about the validity of the survey intensity. In Colombia, the legislation establishes that certain types of projects like the activities that will be undertaken for this project, must include a Biodiversity Compensation Plan. Resolution 1517 of 2012 establishes the terms of reference that these plans must follow. These plans must establish how much area needs to be compensated, where it will be compensated and how it will be compensated. Depending on the ecological quality of the ecosystem affected, a compensation factor is applied to the area which needs to be compensated. This compensation factor ranges from 2 to 10 for critical ecosystems and between 1 to 5 for secondary ecosystems. The compensation measures include incentives for conservation, conservation programs, and restoration and habitat improvement programs. Devimar is also developing a critical habitat assessment as required under IFC PS6 to confirm the impact on trigger species and to confirm the specifics of the biodiversity compensation plans (referred to under IFC PS6 as Biodiversity action plan and biodiversity Management Plan).

c. Modified, Natural and Critical Habitat

i. Legally Protected Areas and Internationally Recognized Areas

The existing highway and the Project crosses two legally protected areas: i) the "Reserve for the Protection of Natural Resources in the Rio Cauca Riverine Land", affected especially by UF2.1 and UF4. The Project also intersects the "Integrated management of renewable natural resources district Valle de Aburrá – Rio Cauca".

These areas are already being affected by the existing road, but the proposed works in UF 2.1 are intended to widen the road with an extra lane and in UF4 where the road will be rehabilitated, sections of the road that have eroded into the adjacent river will be restored, therefore the impact is considered minimal. The actions to reduce impacts on these areas have been included in several management plans, whereas biodiversity compensation plans address compensatory measures. In addition, the Project will not significantly impact any critical natural habitat.

ii. Invasive Alien Species

Only native species will be used for the Revegetation Plans developed for the Project. In addition, Devimar is implementing measures to prevent the spread of any potential invasive species that could appear. The Company also produced an invasive species study focused on identifying any type of invasive species in the area that could be more threatening than others to the existing environment. The study also proposed mitigation and monitoring measures that include training the workforce on how to identify the presence of an invasive species that are of high concern such that measures can be quickly taken to remove them.

d. Management of Ecosystem Services

The ecosystem services identified in the ESIA include agriculture, cattle herding, medicinal uses, fisheries, game and hunting, use of surface and groundwater resources, water quality, recreational, and visual values. The impact on each of the ecosystem values has been quantified, as well as the extent of the positive and negative impacts of the Project on these services. The mitigation measures to address any potential impacts on ecosystem services are included in the Project's Environmental Management Plans.

e. Sustainable Management of Living Natural Resources

Devimar has developed a variety of measures, such as training of construction workers, proper signage of fauna crossings, development of fauna management program during construction, and other measures included in the Environmental Management Plans (PMB-01 such as general actions to mitigate impacts on fauna and PMB-02 that includes specific actions to mitigate and prevent impacts on protected fauna species). These plans clearly define the actions, specialists required and budget. After preparing the EIA, Devimar signed an agreement with the *Instituto Tecnológico Metropolitano*, Área Metropolitana del Valle de Aburrá, Corantioquia to carry out a project to assess the current roadkill situation and to develop measures to mitigate these fatalities. As a result, the roadkill map was completed in January 2018. Devimar also joined a nationwide initiative called RECOSFA (*Red Colombiana de Seguimiento de Fauna Atropellada*), which uses an innovative cellular application titled such that road users, can continue to monitor roadkill with data input from highway users and others; campaigns to promote the application (app) and fauna roadkill prevention have already begun. IDB Invest invited Devimar to share their experience with this innovative app during IDB Invest's 2018 Sustainability Week held in Lima. With this data, Devimar also plans to adapt their fauna protection program and if needed design fauna road crossings in areas identified to be particularly vulnerable for certain species.; these measures related to fauna road crossings and protection will be in place by the end of the construction phase of each UF. The Company has already developed an implementation timetable for the Management and Mitigation Plan for Fauna Roadkill (*Plan de Manejo y Mitigación de Atropellamiento de Fauna Silvestre*).

1.7 Indigenous Peoples

The Project documentation does not identify indigenous peoples as being affected by the Project. However, there are five Afro-Colombian communities within the Project area and although this group is not identified as indigenous peoples by the Colombian government, they are given similar rights to “previous consultations”/*consultas previas* as per the Political Constitution, the Law 21 of 1991 and the Decree 1320 of 1998. To date, Devimar has successfully completed these consultations with the communities, and have come to pre-agreements with them regarding socio-economic compensation and assistance.

1.8 Cultural Heritage

a. Protection of Cultural Heritage in Project Design and Execution

The ESIA, consultation process with communities, and field reviews indicate that no specific cultural heritage or archeological site will be impacted by the Project. Devimar has contracted archeologists to engage in archeological prospecting for its functional units. Devimar has also secured authorization from the Colombian Institute of Anthropology and History (ICANH) to engage in this archeological prospecting. They have developed an Archeological Management Plan, which has been submitted to ICANH. An Archeological Chance Finds Procedures has also been developed by Devimar and is being implemented.

2. Local Access of Project Documentation

Main office: Cra 43b No. 16-95, Of 1410, Medellín 050021

Fixed office: cabecera Municipal de Santa fe de Antioquia, Carrera 9#10-1, segundo piso, local 19.

Satellite Office Túnel de Occidente: Vereda Naranjal, Corregimiento de San Cristóbal (UF 3).

Satellite Office San Jerónimo: Carrera 9ª#18-16, calle la ronda, al lado de la registraduría municipal (UF1 y 2.1).

Satellite office Centro de Control y Operaciones Devimar: Vía Bolombolo- Santa fe de Antioquia, KM 71+600 vereda el Espinal (UF 4).

Mobile Units (UF 2 y 4), location moves depending on Project Work Schedule; current location disclosed to locals through flyers.

Mobile Units (UF 1 y 3), location moves depending on Project Work Schedule; current location disclosed to locals through flyers.

3. Environmental and Social Action Plan (ESAP)

See ESAP file on IDB website.

