








6.5 Action Plan


To date, the Action Plan has fourteen (11) activities. Five (5) of them correspond to “on track” activities, which need to be implemented during the full extension of the construction phase, three (3) are closed, one (1) is pending and three (3) are new actions proposed after the site visit and the document review. The current status of the activities are shown in Table 9 and has been evaluated with the following color coding.



 Solved.  On track  Pending  New Action




Table 9 Action Plan Monitoring

Proposed Action (As set in the ESDD or previous Action Plan)	Proposed Deadline	Current Status (Updated June 2018)	Color code
<p>1 Compensation – Resettlement. The system for social compensation offered by the Project to the communities located along the road is not clear. UF: ALL PS/EP:PS5</p>	<p>Biannual – Next Envi. And social report. (January 2018)</p>	<p>Socio-economic compensations are being performed under the Socioeconomic Compensation Plan, which complies with Resolution 545 of 2015. The real estate portfolio and the neighborhood minutes are being developed. The compensation will be evaluated in parallel with the property acquisition process. Until June 2017, there are 13 family units that need to be compensated. 2 in UF1, 7 in UF3.1, 3 in UF3.2 and 1 in UF4. During the site visit, Arup has visited some of the new properties. In Arup’s opinion, the living conditions have improved and the families seems to be happy with the new home.</p>	
<p>2 Supply Chain. There is no evidence in the ESDD that the source of the supplies is directly generated by the concessionaire or the suppliers, and given the case, if these ones have the permits required, in such a way that the habitat is not going to be affected negatively. UF: ALL PS/EP:PS6</p>	<p>Biannual – Next Envi. And social report. (January 2018)</p>	<p>The Concessionaire has submitted the certificates of the suppliers, and they comply with legal requirements. The documents were verified for all UFs and will be evaluated during all construction phase.</p>	

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<p>3 Materials disposal. The documentation for the design of the rubble and excavation material Management Area (ZODME) was not at the level of a detail design. UF: All PS/EP:PS6</p>	Biannual – Next Envi. And social report. (January 2018)	To date, the following ZODMES are being used: Remolinos 1B, Mirolindo, El Cuervo (todos), Calamar, Santa Ana, San Alejo, Tatiana, Monserrate, El Saibo, Leticia, Botija, Américas, Guadalajara, Ivan Dario, Vitrina and Coconi. They are meeting the technical specifications and designs approved by the environmental authority. The material disposal will be evaluated during all the construction phase.	
<p>4 Archaeology: According to the results obtained during the archeological field studies phase, which determined that the Project area has an archeological potential qualified as medium-high, and estimated the probability of archeological findings, the area is considered to have a risk of significant findings. UF: All PS/EP:PS8</p>	Biannual – Next Envi. And social report. (January 2018)	The Concessionaire continues with the archeological findings activities at UF3.1, UF3.2 and UF2. They have finished activities at UF4. Up to date, the overall progress is of 80% and they are expecting to end site works by December 2018. Currently, the archeological team has 42 members and they are planning to hire 20 more people. During the site visit, Arup reviewed the archeology laboratory and considers the Concessionaire is doing a rigorous work in the identification and study of all the pieces that have been found.	
<p>5 Hazardous materials management, Exit portal Tesalia Tunnel, UF2 The Concessionaire should improve the ACPM supply at the exit portal of Tesalia Tunnel with an additional protective barrier.</p>	Inmediatly	The handling of hazardous materials at the exit portal of Tesalia tunnel has improved in comparison with previous site visit. This action is solved.	
<p>6 Risk of fall at Tesalia Tunnel (Entrance portal) The channel to conduct the water from inside the tunnel to the its entrance, is not well signaled and does not have any protection barrier. This could represent a risk of fall for employees and machinery. UF: 2.2 PS4</p>	Inmediatly	The Concessionaire has not installed a protection barrier to reduce the risk of fall at the industrial wastewater treatment plant. However, the resident engineer informed that they will install the barrier in coming weeks.	
<p>Risk of Fall at Francisco Jaramillo Bridge</p>	Inmediatly	Construction works at this work site have ended. The bridge complies with health and safety standards.	

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<p>The protection barrier between the river and the bridge does not comply with safety standards. Employees are working in between construction materials with minimum space to walk. There is an important risk of fall.</p> <p>UF: 1 PS4</p>			
<p>7 Fatal Accident – Struck by lightning</p> <p>The employee Sergio Andrés Jaramillo Giraldo, was victim of a fatal accident. He was struck by lightning while covering a pile of material with a plastic cover. Up to the date of this report, Arup does not have evidence of the actions that have been implemented after the accident. In addition, it has not received the reports from the insurance company and the amounts to be compensated for: labor, civil, criminal and administrative liability.</p> <p>UF: PS4</p>	Immediately	<p>Due to the fatal accident of November 15, 2017, the Concessionaire prepared a procedure to prevent accidents and damages due to lightning strikes, and to attend any accident that may occur due to this type of events. Moreover, the Concessionaire programmed a drill to improve the staff response in lightning strike events. The first drill on this matter was conducted in May 2018. Also, the Concessionaire presented these plans to the labor force: between February 1 and 9, of 2018, the Concessionaire presented the technical norm NTC 4552 of Colombia to approximately 300 employees; on January 23, 2018, it presented the Lighting Strikes Procedure to 84 employees; and the Emergencies Plan to 115 employees. Considering that in January, February and March 2018, the EPC had an average of 2,600 employees, Arup believes that the disclosure of plans and procedures regarding the risk of lightning falls short of the size of the workforce. The Concessionaire shall increase the effort to communicate the lightning risks and plans to all the workforce that may be exposed to this type of event.</p> <p>Finally, the Concessionaire presented to Arup the amount of money that Professional Insurance Company paid Mr. Jaramillo's family. Arup recommends the Project Lenders to seek legal advice in this case to determine</p>	

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		whether or not the amount paid is enough to cover the legal requirements for this type of event.	
<p>8 Industrial water management of Tesalia Tunnel: The Concessionaire has started construction activities in both tunnels and has implemented a permanent primary treatment, which currently is capable to attend the infiltration flow. However, the water conduction from inside the tunnel to the treatment system could be improved. Specifically, in the entrance portal of Tesalia Tunnel, there is a lot of stagnant water (Figure 8).</p> <p>UF2 PS3</p>	Immediately	The Concessionaire has significantly improved the industrial wastewater treatment at the entrance and exit portal of Tesalia tunnel. Visually, it can be said that the treatment is efficient and is cleaning a high percent of the suspended solids. In addition, at the entrance portal, the Concessionaire has an inhouse laboratory, where they are performing daily measures of water quality parameters.	
<p>9 Entrance portal of Irra Tunnel: Between November 2017 and January 2018, one segment of the entrance portal of the Irra Tunnel collapsed (K52+300) due to a translational landslide. Currently, the Concessionaire is working in the stabilization of this sector through the implementation of different mitigation and control measures.</p> <p>The landslide occurred outside the allowed area of the Environmental License and PAGA of UF4. However, the Concessionaire is performing mitigation works in order to maintain the road trafficability. The Concessionaire has reported the event to national and regional environmental authorities, ANLA and CORPOCALDAS. Up to the date of this report, the Concessionaire has received a site visit from the ANLA and none site visit from CORPOCALDAS. The Concessionaire has not received any notification or request from additional information from these authorities.</p> <p>During the site visit, it was evidenced that the Concessionaire is progressing with the stabilization measures and is working in line with environment and health and safety standards. Construction activities at the tunnel are suspended until stabilization works are finished.</p>	Biannual – Next Envi. And social report. (January 2018)	New Action The Concessionaire should inform Arup of any notification or visits of the environmental authorities, ANLA and Corpocaldas. In addition, it should present the reports or documents showing the final works in this sector.	

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UF4 PS4			
10 Hydraulic Works near Cauca Bridge (K40+900): The hydraulic works performed at K40+900 did not have adequate water course protection barriers representing a possible risk of pollution of the stream. In addition, there were construction waste around the area which could also end in the stream.	Inmediatly	New Action	
11 Cauca Bridge facilities: A group of employees were performing woodworks without all the necessary PPE. We requested the Job hazard analysis (JHA) for this activity. However, the employees did not have certainty of the type of gloves they have to use. Arup recommends to reinforce training, re-develop the JHA and provide all necessary PPE.	Inmediatly	New Action	
12 ICA Reports: The concessionaire should send to the independent engineer the evidence of filing the pending ICA reports in ANLA.	Inmediatly	New Action	

7 Photographic Record



Figure 1 Landslide at the entrance portal of Irra Tunnel



Figure 2 Landslide at the entrance portal of Irra Tunnel from the top.



Figure 3 Epiphytes relocation at Guasimo property



Figure 4 Archaeology laboratory



Figure 5 Sedimentation ponds at Tesalia tunnel – entrance portal



Figure 6 Industrial water treatment laboratory at Tesalia tunnel – entrance portal



Figure 7 Sedimentation ponds at Tesalia tunnel – exit portal



Figure 8 Bridge workfront