

E409

V5

Loan From World Bank

Environmental Impact Assessment
on
Public Transport Overhaul Plant Project
of
Shijiazhuang Municipal Traffic Project

(Simplified Edition)

Construction Unit: Shijiazhuang Municipal Traffic Project Office

Assessment Unit: Hebei University of Science and Technology

1. Origin of Project

The Public Traffic Overhaul Plant Project is an important content of improving Shijiazhuang urban public traffic which is involved in the public traffic subentry of Municipal Transport Project of Shijiazhuang loaning from World Bank. The construction of the item has great significance to the implement of urban traffic priority and the improvement of urban traffic environment.

The initial proposed site of public traffic overhaul plant is located in northwest of Shijiazhuang City's No.2 Public Traffic Company, which is at the northeast part of Zhonghua North Street and Zhaotuo Road junction, and the environment assessment report has been approved by Shijiazhuang Environment Protection Bureau, but the residential area around No.2 Public Traffic Company is near to the site, considering that the site is located at a sensitive area, and may have a certain limit to the further development, after several times' discussion, we decide to alter the site to the location where west to No. 5 Public Traffic Company, southeast to crossing of south 2nd ring and Yuxiang Road, southeast of Shijiazhuang City.

The selected site is a land for public establishment that defined in *Shijiazhuang Municipal General Plan* (2004-2020), the property right belongs to public transport parent company, and the project will not levy land furthermore. On the north of the project is a green area of 50m, on the north side of the isolation area is south 2nd ring, on the west is the lifting station of municipal drainage office, on the south is Nanjiao long-distance passenger transport station, and on the east is No. 5 Public Traffic Company, there is no environment sensitive point around the project.

2. Assessment Standards

The Assessment Standards adopted China's domestic relevant Environmental Quality Standards and the Pollutants Discharge Standards. The selected standard has already been confirmed by Shijiazhuang Municipal Environmental Protection Bureau.

3. Main Construction Content and Scale of the Project

The overhaul workshop is designed with 9 lines overhaul tunnel for engine chassis, and 11 III level maintaining positions. Its annual production capacity is 800 sets. The overhaul workshop has sections and procedures of engine, chassis, sheet metal, spray-painting,

machine processing, wire overhaul and etc, and assists with related mechanical, maintaining, and repair equipments.

The land area of the plant is nearly 13553m², green area is 2114m², and the total construction area is 9950.52m², among which three floors' overhaul workshops is totally 9870m², with 3316.84m² for each floor.

4. Construction Impact on Environment and Mitigation Measures

4.1 Impact on Water and Mitigation Measures

The sewage of overhaul plant is mainly from washing vehicles in washing house, washing engine and ground in overhaul workshop, and living sewage in general building. The total sewage discharging amount is 29.6m³/d. Main pollutants in sewage are COD, SS, NH₃-N, petroleum and etc. The sewage of overhaul workshop which is treated by “oil isolation + oil and water separator” technic and the living sewage which is treated in septic tank will be drained into municipal sewage pipeline, after joining with other sewage, they will be get further treatment in Qiaodong Sewage Treatment Plant.

The draining sewage of this project conforms to the Class II of *General Standard of Sewage Drainage* (GB8978—1996) which is listed in table 4, and satisfies the enter water quality requirement of Shijiazhuang Qiaodong Sewage Treatment Plant. Because the drainage amount of this project is small and water quality is simple, it has little influence on the treatment system of Shijiazhuang Qiaodong Sewage Treatment Plant, besides that, the sewage will not drain to ground surface water body directly, therefore, it has little impact on ground surface water environment.

The main influence factor of ground water pollution is running, emitting, dropping, and leaking water in the production period. If the anti-seepage measure is not appropriate, the pollutant in sewage will seep into the soil, and has impact on groundwater, hereby, the environmental assessment unit suggests that the project should adopt the following measures to demolish the impact on ground water environment.

- (1) All the ground in workshop adopts anti-seepage concrete lift.
- (2) The sewage treatment structure such as separation tank and septic tank should do the anti-seepage treatment.
- (3) All the other areas (except greening land) of overhaul workshop shall be hardened.

After using the above measures, it can effectively avoid the sewage impact on groundwater.

4.2 Impact on Sound Environment and Mitigation Measures

After the completion of this project, the main noise sources are machine tool noise and noise of testing engine in testing section, the noise value can reach to 70~96dB(A). The proposed project will adopt sound isolation, elimination and other measures to reduce the impact on sound environment, through forecasting, the noise contribution value of four boundaries during daytime of operation period is between 46.8- 48.2dB(A), which is very low and can satisfy the Class I standard requirements of *Standard of Noise at Boundary of Industrial Enterprises* (GB12348-90). The project is located at southeast of crossing of south 2nd ring and Yuxiang Road, and west of No. 5 Public Traffic Company, there is 50m green area on the north side of the site; on the south is the Nanjiao long-distance passenger transport station where the noise is much higher than the contribution value of the project. Therefore, the project has little impact on ambient environment.

4.3 Impact on Air Environment and Mitigation Measures

The main air pollutant during operation period is the exhaust gas in the procedure of spray-paint drying and dust in demolishing spray-paint and rust.

The project will adopt environmental protection watercraft vehicle lacquer, and VOC content in the lacquer is only 2%~15%, about 1/3 of common solvent lacquer. The spray-paint drying procedure is settled at the south side of first floor of overhaul workshop, which has two spray-paint drying houses, and the underground vent-pipe on the two sides of each spray-paint drying house, it is connected with the induced draught fan on the top of building. In order to reduce the amount of emitting volatility solvent, it is set with active carbon adsorption instrument to give further cleaning treatment to the spray-paint drying procedure, the adsorption rate of active carbon is more than 85%, and after adsorption of the exhaust gas by active carbon, it will be emitted through a 15m high letting pipe, quite little amount of VOC is let in air, which can satisfy the requirement of malodor pollutant standard in Table 2 of *Letting Standard of Malodor Pollutant* (GB14554-93); the active carbon will be reclaimed by professional department; therefore, the paint exhaust gas of this project has little impact on around environment.

Demolishing paint and rust of this project adopts German FESTO dustless grind system, the professional Germany FESTO mobile dustless grind machine take the mobile cleaner as center to collect dust during grinding into the cleaner, all the function is gathered in the soft pipe, it adopts coupling pipe head, which makes the grinding much more flexible, and adopts original central hole grinding mat design, utilizes the convection principle to strengthen the

adsorption effect. It is an advanced technology that complies with requirement of environmental protection. Instead of the conventional grinding technic, this technology not only improves working efficiency and the spray-paint quality on object surface, but also reduces the amount of dust. While improving the working environment of workers, the amount of pollutant that emitted to the air decreased. Meanwhile, the project also sets a suit of spray dust reducing system in workshop. The system adopts high effective blowgun that arouse the high pressure stream into fog, which can increase humidity of workshop and then get the effect on reducing dust. When operating, the workers shall wear dustproof respirator to demolish the impact on health from demolishing paint and rust to the maximum. Therefore, demolishing paint and rust has little impact on environment.

4.4 Solid Waste

The solid waste of this project is mainly from living garbage of personnel, little oiliness cotton yarn, scrap from demolishing paint and rust, waste oil and waste active carbon which are reclaimed from oil and water separator of repair workshop. The living garbage amount is 36 t/a, and the site will set up fixed dustbin to collect living garbage, which will be reclaimed by municipal environmental protection department; the amount of oiliness cotton yarn is 0.20t/a, waste oil reclaimed in oil and water separator is 0.07t/a, the scrap from demolishing paint and rust is 1.6t/a, and waste active carbon is 0.2t/a, which will be reclaimed by professional department after collection. All the solid waste during the project running period will be disposed appropriately, and will not arouse second pollution to the environment.

5. Environmental Protection Plan of the Project

5.1 Environment management during the construction period

In order to effectively control environmental pollution during construction period, the project shall not only manage the construction quality and progress, but also make supervision on the civilized level of construction, implementation of mitigation measures to environmental impact, and the implementation of contract which is concerned about environmental protection.

(1) To water the construction site and main transportation roads on dry days without rain termly, in order to avoid dust rising, and reduce the air pollution, especially on the position that near to residential area;

(2) Clean and move the construction garbage in time, give necessary insufflations measures

at the site, to reduce the impact of dust rising on around environment;

(3) The excavated earth of the site shall be disposed in time, to reduce land occupy, avoid dust pollution, and improve the construction environment;

(4) Arrange working time in reason, for the working with big noise should be controlled in 6: 00~12: 00, 14: 00~22: 00;

(5) Strengthen the supervising and inspection of night work, generally speaking, all the construction should be stopped during 22: 00~6: 00 except for some projects that must be constructed at night,;

(6) Dispatching the construction program scientifically to reduce the impact on traffic during night working time;

(7) When temporarily storing soil, stone and construction machines at land, it should pay attention to protect the trees and green areas of the site;

(8) Appropriately dispose the living garbage and sewage of construction personnel, and they cannot be drained directly. The living sewage should drain to municipal sewage pipeline, and the living garbage should be cleaned in time to reduce mosquitoes and flies.

5.2 Environment Management in Operation Period

To avoid and treat the environment pollution during operation after project completion, the environment management of the project should be brought into the original municipal traffic project management system, and people should know the responsibilities of management organization clearly. It should contain the following aspects:

(1) To organize to carry out laws, regulations, policies on environment protection of state, Hebei Province, Shijiazhuang City and other trade management department, and assist with local environment department to do well the environment management works of this project.

(2) To implement every kind of environment managing system of upper charging department, and formulate relevant managing program to carry out.

(3) Strengthen the ground maintaining and daily clean of overhaul plant to reduce dust and second dust rising.

(4) To check, repair, and maintain pollution treatment instrument, ensure its normal running, assure all the pollutant can let on standard steadily in the long-term, and exam the effect of environment protection measures.

6. Policy for safety guarantee

According to relevant regulation of World Bank, the implementation of the project shall notice the profits of public, therefore, Shijiazhuang Traffic Project Office and assessment unit have checked and confirmed the policy for safety guarantee in accordance with relevant articles on environment documents of World Bank. See results on Table 1.

Table 1 Screen sheet of safety ensure policy

No.	Checking content	Confirming results
1	Evaluation on environment impact	Relevant (environment impact has been approved by Shijiazhuang Environment Protection Bureau).
2	Natural habitat	All the areas involved in the project are located at city zone, and not refer to natural habitat.
3	Transference work	No transference work is involved in the project.
4	Cultural relic and heritage	After investigation, no cultural relic is involved in this project.
5	Disputing area	There is no international disputing area.
6	Safety of dam	There is no dam in the range of shijiazhuang Municipal traffic Project.
7	International water area	There is no international water area.
8	Forest	All the areas involved in the project is located at city zone, and there is no natural forest and manual forest.
9	Pesticide management	This project will not involve pesticide and herbicide during the construction and operation period.

7. Conclusion

The selected site of the Public Traffic Overhaul Plant Project of Shijiazhuang Municipal Traffic Project loaning from World Bank complies with the requirements of Shijiazhuang municipal general plan. It adopts perfect environmental protection and treatment measures to ensure that all the pollutants emission are in accordance with standards. The implement of the project has little effect on ambient environment. Besides that, this project will utilize the existing vacant space of the Public Transport Company, and not levy new land, which can make the existing land resource arranged reasonably. Therefore, From the point view of environmental protection, the construction of this item is feasible.

