National Highways Authority of India
(Ministry of Road, Transport and Highways)
Punjab Division

To,

Regional Officer,
RO - Chandigarh,
National Highways Authority of India,
Bays No. 35-38, Sector-4,
Panchkula-134 112, Haryana,
Ph.: (0172) 2583030

Sub: Construction of 6-lane Elevated structure at Ch. 414+000, 425+880, 432+300 and 438+850 of NH-3 section from Amritsar to Jalandhar for Rectification of Blackspots under Priority II. –**Regarding approval of project.**

Ref: RO-Chandigarh submission vide E-office file no. 67231

Sir,

This is with reference to aforesaid subject and submission made in E-file, vide which proposal for construction of 6-lane Elevated structure at Ch. 414+000, 425+880, 432+300 and 438+850 of NH-3 section from Amritsar to Jalandhar for Rectification of Blackspots was recommended for approval of Competent Authority.

2. In the above context, it is informed that Competent Authority has approved the proposal. Approved total capital cost of proposal is Rs. 166.70 Cr. Details of Cost Estimate are attached as Annexure-A.

3. Further, appraisal Minutes are also enclosed. It is requested to ensure compliance of same.

4. This is for your information and for taking further necessary action please.

Yours faithfully,

(A J Azmi)
DGM (Tech.)-PB

Copy to: PD, PIU, Amritsar – for information and necessary action.

Annexure-A

Approved cost details is as under :

S.No	Location name	Chainage in km	Amount (in Rs.)
i	Beas Flyover (6 X 30 m)	413.910 – 414.090	28,89,97,841
ii	Khichian Flyover (3 x 30 m)	425.835- 425.925	23,41,49,135
iii	VUP Chouhan (1x20 m)	432.290- 432.310	20,72,45,403
iv	Jandiala Flyover (11x30 m)	438.685- 439.015	68,47,30,229
1	**Total Civil Cost**		**141,51,22,608**
	Utility Shifting Cost (utility shifting cost is taken 5% of total civil cost for estimation purpose)		7,07,56,130
2	**Estimated Civil Construction Cost including Utility shifting cost**		**148,58,78,738**
a)	GST on Civil Cost		As applicable
b)	Contingencies @ 2.8% of Civil Cost		3,96,23,433
c)	Escalation Charges @ 5% per annum for 1.5 years of Civil Cost		10,61,34,196
d)	Post Maintenance Charges 2.5% for 5 Years		3,53,78,065
3	**Estimated Project Cost including Centages**		**166,70,14,432**
	Other Costs		
i	Cost of land acquisition		-
ii	Cost of Structure Valuation		-
iii	Cost of Diversion of Forest Area		-
4	**Total Other Costs**		**-**
5	**Total Capital Cost**		**166,70,14,432**

भारतीय राष्ट्रीय राजमार्ग प्राधिकरण
(राजक परिवहन और राजमार्ग मत्रालय)
National Highways Authority of India
(Ministry of Road Transport and Highways)
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NHAI/PIU/ASR/NH-01/BLACKSPOTS/2020/825.-Part(1)/E-67231/PB-328

Dated: 02.06.2021

OFFICE MEMORENDUM

Sub: Construction of 6-lane Elevated structure at Ch. 414+000, 425+880, 432+300 and 438+850 of NH-3 section from Amritsar to Jalandhar for Rectification of Blackspots under Priority II. –**Regarding MoM of appraisal of project by IAC**.

A meeting of Internal Appraisal Committee for "Construction of 6-lane Elevated structure at Ch. 414+000, 425+880, 432+300 and 438+850 of NH-3 section from Amritsar to Jalandhar for Rectification of Blackspots under Priority II" was held on 24.05.2021 for appraisal of subject project.

2. In this context, please find enclosed herewith copy of approved minutes of meeting for information and necessary action please.

Yours faithfully

(A J Azmi)
DGM (Tech)-PB

Encl.: As above

To,

All Committee Members
Sh. R.K Pandey- Member (P), Chairman
Sh. Vishal Gupta, CGM (T), Member
Sh. B.M. Rao, CGM (F&A), Member
Sh. Akhil Khare, CGM (T), Member Secretary
Sh. R.K. Singh, Advisor (Tech), Member

Copy to:

(i) RO, Chandigarh
(ii) PD, PIU Amritsar

Minutes of Meeting

Sub : Construction of 6-lane Elevated structure at Ch. 414+000, 425+880, 432+300 and 438+850 of NH-3 section from Amritsar to Jalandhar for Rectification of Blackspots under Priority II.

A meeting of Internal Appraisal Committee (IAC) was held on 24.05.2021 at 1500 hrs for appraisal of subject project. Members of Committee are as below (**Attendance in enclosed at Annexure-I**):

1. Sh. R.K Pandey, Member (P) : Chairman
2. Sh. Vishal Gupta, CGM (CMD) : Member
3. Sh. B.M. Rao, CGM (F&A) : Member
4. Sh. Akhil Khare, GM (T) : Member
5. Sh. R.K. Singh, Advisor (Tech) : Member

2. The following proposal was discussed and considered in the IAC Meeting held on 24.05.2021, as mentioned below:

State	Name of the Work	Estimated Cost
Punjab	Construction of 6-lane Elevated structure at Ch. 414+000, 425+880, 432+300 and 438+850 of NH-3 section from Amritsar to Jalandhar for Rectification of Blackspots under Priority II.	▪ Civil Construction Cost: **Rs. 142.83 Cr.** ▪ Total Capital Cost : **Rs. 168.47 Cr.**

3.1 A presentation was done before the Committee. It was informed that the project will remove blackspots at existing road and at Grade Junction. This is for safety of road users and save travel time from Amritsar to Jalandhar.

3.2 The committee was informed that present proposal involve construction 4 nos. of Grade separated structures of 6-lane at Ch. 414+000, 425+880, 432+300 and 438+850 with provision of service roads.

3.3 Existing RoW of project is 55 m available throughout the project and land acquisition is not required and subject project is to be taken up on standalone basis on EPC Mode and is for rectification of blackspots. Above locations are not MoRTH identified blackspot.

3.4 It was informed to Committee that out of 69 Km Amritsar-Jalandhar (Bidipur) section, Amritsar to Dhilwan 49 km was under BOT (Toll) mode which was completed under NHDP as Four lane, however due to deficiency of Concessionaire, concession agreement for this 49 km was terminated. Whereas remaining 20 km Dhilwan to Bidipur section already six lane. Under this four lane section, blackspots section was identified where accidents were frequent and affecting the safety of road user. Some Blackspots was already covered under MoRTH list, which are under development as per guidelines for carrying our rectification of MoRTH identified blackspots. Some blackspots was identified and not covered under MoRTH list, were also decided to be taken up for development. Accordingly, under priority –I MoRTH identified blackspots was taken up. In

priority-II, this work are proposed at four locations and balance will be rectified under priority-III.

3.5 Further Wildlife Clearance, Environmental Clearance and Forest Clearance are not required.

3.6 As per the traffic studies carried out by DPR Consultant, expected annual average daily traffic is minimum 35982 PCU (FY 2020-21) in National Highway section.

4. The proposed features of the project elaborated are as under:-

4.1 Feature of the project and Abstract of Cost is as under:

Description	Quantity
Beas Flyover (Ch. 413.910 – Ch. 414.090)	6 X 30 m
Khichian flyover (Ch. 425.835- Ch. 425.925)	3 x 30 m
VUP Chouhan (Ch. 432.290- Ch. 432.310)	1x20 m
Jandiala Flyover (Ch. 438.685- Ch. 439.015)	11x30 m
Length including approaches	6.578 km
Type of Pavement	Flexible Pavement
ROW	55 m
Length of Service/Slip Road	13.156 Km (including both side)
Culvert (No.)	02 (Retain & Widening)
Total Civil Cost	Rs. 142.83 Cr.
Total Capital Cost	Rs. 168.47.04 Cr.

5.1 The location of blackspots where flyover/VUP is proposed was apprised to Committee which is as under:

Location name	Chainage in km
Beas Flyover- 6 X 30 m	413.910 – 414.090
Khichian Flyover- 3 x 30 m	425.835- 425.925
VUP Chouhan - 1x20 m	432.290- 432.310
Jandiala Flyover-11x30 m	438.685- 439.015

5.2 During the meeting, Member (P) asked about the scheme under which project is considered. It was informed that project are related to removal of blackspot and pertains to safety of road users. As project is important from road safety aspects, hence considered for appraisal, However, it was advised that before approval of project, scheme under which project is to be carried out, may be finalised. The Member (P) has suggested the project may be taken up in residual NHDP. Accordingly, the same is proposed to be included in Residual NHDP.

5.3 Further, Member (P) asked that VUP at Chouhan is provided with 1 x 20 m, whereas now, as per guidelines 3 spans VUP at crossing is to be provided.

Committee was informed that the VUP is required for cross movement of traffic only, therefore, one span was sufficient at this location.

5.4 A Jandiala flyover of 330 m (11 x 30 m) is proposed. Economical aspects, for uniform span of 30 m needs to be checked. DPR Consultant has informed that 30m span has been taken up in the section for all structures. Moreover, the project has been taken on EPC mode, the contractor will execute the work as per their own design.

5.6 Further, reason for taking carriageway on the flyover as 10.50 m without paved shoulder was sought. It was informed that carriageway is considered without paved shoulder width to accommodate all facilities within the existing RoW available i.e. 55 m (without any further land acquisition). Moreover, considering provision of at grade road and small length of flyover, there is not much requirement of paved shoulder at flyover at above location. Further, proposed section is in conformity with sections already adopted and approved at preceding sections which are under development. The above deviation from manual is incorporated in schedule-D.

5.7 CGM (F) has asked about the centages considered for the project. It was informed that centages are considered as per MoRTH circular related to centages. Further, as per discussion, centages for maintenances charges is updated as per clause of 14.1 (i) (a) of DCA related to flexible pavement including structures for 5 years maintenance period.

5.8 Further, CGM (F) inquired about tolling for this work. It was informed that after completion of work, influence toll length of this works will be added in existing toll plaza which are already under operation tolling.

5.9 Advisor (Tech) had submitted some observations related to the project. Point-wise reply of the observations is submitted at ***Annexure-II***. Advisor (Tech) suggested that suitable antiglare measures may be proposed as per clause 2.5.6 of IRC:SP-87-2019, so that total height of median crash barrier and anti-glare measure is 1.5 m. After discussion, suggestion was accepted and schedule is amended accordingly. Further suggested, at hazardous locations in the section if any, the high containment crash barrier may be provided.

6.1 Accordingly the cost for project workout is as under:

S.No	Location name	Chainage in km	Amount (in Rs.)
i	Beas Flyover (6 X 30 m)	413.910 – 414.090	28,89,97,841
ii	Khichian Flyover (3 x 30 m)	425.835- 425.925	23,41,49,135
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a)	GST on Civil Cost	As applicable
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3	**Estimated Project Cost including Centages**	**166,70,14,432**
	Other Costs	
i	Cost of land acquisition	-
ii	Cost of Structure Valuation	-
iii	Cost of Diversion of Forest Area	-
4	**Total Other Costs**	-
5	**Total Capital Cost**	**166,70,14,432**

6.2 Total civil construction cost of Rs. 141.51 Cr was compared with the normative cost and found within the limit of normative cost.

7. After detailed deliberations, the Committee appraised the proposal with the following details:

S.N.	Name of the Work	Estimated Cost
1.	Construction of 6-lane Elevated structure at Ch. 414+000, 425+880, 432+300 and 438+850 of NH-3 section from Amritsar to Jalandhar for Rectification of Blackspots under Priority II.	▪ Civil Construction Cost: **Rs. 141.51 Cr.** ▪ Civil Construction Cost including utility shifting cost: **Rs. 148.58 Cr.** ▪ Total Capital Cost : **Rs. 166.70 Cr.**

8. The meeting ended with vote of thanks to the Chair.

Annexure-I

List of participants in the PATSC meeting:

1 Sh. R.K Pandey- Member (P) –In chair
2 Sh. B.M. Rao, CGM (F&A)
3 Sh. Vishal Gupta, CGM (CMD)
4 Sh. R.K. Singh, Advisor (Tech)
5 Sh. Akhil Khare, GM (T)-PB
6 Sh. A.J. Azmi, DGM (T)-PB
7 Sh. Sandeep Lohmaroria, Dy. Manager (T)-PB
8 DPR Consultant M/s Feedback Infra Pvt. Ltd. and its team

Annexure-II

Pointwise reply on the observations of Advisor (Tech)

SN	Observations of Adviser (Tech)	REPLY
1	From schedule-A it is seen that the existing Grade Separator at km. 413.37, underpass at km 414.12, 414.49 and km. 439.100 as well as viaduct at 414.644 are having their width either of 4 lane standard or less than 4 lane standards. Then why 6 lane standard elevated structure at km 414.00, 425.88, 432.30 and 432.85 proposed? If all the structure in the subject is of 4 lane standards, then it appears to be no need to construct some structure of 6 lane standard. Is there any chance of six lanning of this section of NH in near future? If so, then 6 lane standards may be proposed otherwise 4 lane structure would be sufficient.	The project is Construction of 6-lane Elevated structure at Ch. 414+000, 425+880, 432+300 and 438+850 of NH-3 section from Amritsar to Jalandhar under Rectification of Blackspots. These at grade junctions were identified as black spot location based on past accident data. To remove blackspots, it was decided to construct grade separated/FO with cross sectional width catering to the ever-increasing traffic as well as without any requirement of Land Acquisition. Present traffic in the National Highway Section is minimum 35,982 PCU and as section having more than 25,000 PCU qualify for 6-lane standard, Therefore proposed flyover is proposed as 6- lane standards.
2	Annex-II of schedule-A gives width of RoW from km 418.68 to 420.66 only. However, the elevated structure are proposed at km. 414.00, 425.88, 432.30 and 432.85. Why the RoW width at these elevated structures not given. The RoW details at all elevated structure locations also need to be given.	The ROW details for the elevated structure proposed at km. 414.000, 425.880, 432.300 and 438.850 have been updated in Schedule A.
3	In Annex-1 of schedule-B at no of places, article-13 has been mentioned but article -13 of which documents. If it is of contract agreement, then same needs to be written.	In Schedule B, the Article 13 refers to the Article 13 of Contract agreement. Schedule is updated accordingly.
4	In para 2.1 and 2.2 of Annex-1 of schedule-B, it is written that geometric design and general features as well as design speed will be as par clause 2.2/section-2 of IRC: SP 87-2019. But the type of terrain not mentioned. As such type of terrain needs to be included in para 2.1& 2.2 /other relevant paras.	The design speed shall be the ruling/minimum design speed for various terrain classifications specified in Clause 2.2 of the IRC:SP:87-2019. For Plain terrain Ruling design speed will be 100(km/h) while minimum design speed will be 80(km/h).
5	Para 2.5 of annexure to schedule –B mentions that the shoulder should be 2.5 m/1.5m wide paved as per section 2 and section 5 of IRC: SP-87-2019. However, NHAI circular (NHAI/Bharatmala/EC/DPR/2016/143	The width of paved shoulder has been taken 1.5m in all sections. The same has been shown in TCS & PnP and mentioned in the Schedules. Further, TCS-1 is applicable for elevated structures where the length is 300-400m

	430) dated 30.10.2019 in para 10 of circular mentions that the width of paved and earthen shoulder and of structures will be adopted as per earlier 6 lane manual (IRC: SP-87-2013) and this manual does not provide for 2.5 m paved shoulder. As such width needs to be provided as par IRC: sp-87-2013 which is 1.5 m wide and not 2.5 m wide.	or more and for sections of the road with heavy built up. So in order to maintain the level of service of the carriageway and to accommodate situations where there is a possibility of a vehicle break down or any other failure, extra 1 m width is added in paved shoulder, can be used for standby and parking of vehicles which will avoid any traffic bottleneck and congestion in the future.
6.	Deck configuration of 24.70 m wide for VUP, flyover and elevated structure has been proposed. This deck configuration is neither as per IRC: sp-87-2013 nor as per IRC: sp-87-2019. Reason for the same may be furnished.	Deck configuration of grade separated structure for VUP, flyover and elevated structure is considered as per Fig 7.8 of IRC SP -87 -2019 without paved shoulder width to accommodate all facilities within the existing RoW available i.e. 55 m (without any further land acquisition). Deviation from manual is incorporated in schedule-D. Break up of 24.7m deck width is: from left to right 100mm (projection beyond Crash Barrier) + 450mm (CB)+500mm (Shy distance)+10500mm (Left CW) + 500mm (Shy distance) + 600mm (Median CB) + 500mm (Shy distance) + 10500mm (Right CW) + 500mm (Shy distance) +450mm (CB)+100mm (Projection beyond CB) = Total 24700mm.
7	TCS for structures shows 600 mm wide median with crash barrier. The height of crash barrier in median has not been shown Also the height of crash barrier adjacent to Carriageway has not been shown. Considering high truck traffic, and to prevent the vehicles to fall down from grade separated structures, will it not be better and adequate to provide high containment crash barrier at the edges (adjacent to end of carriageway) as per fig. 3 of IRC: 5-2015 and median crash barrier as per Fig 8.03 (AASHTO Designation SGM 12) of MoRTH Guidelines for expressways. Fig 8.03 enclosed for ready reference. Above the median crash barrier, suitable antiglare measures may be proposed as per clause 2.5.6 of IRC:SP-87-2019 so that total height of median crash barrier and anti glare measure is 1.5 m.	The height of crash barrier has been adopted as per IRC-5-2015 fig-02 pg-33. In median New Jersey Crash Barrier has been used which is of same height as of Crash Barrier adjacent to carriageway. Regarding use of high containment crash barrier, please refer to Clause- 109.6.1 Point-C which states "high containment crash barrier is provided mainly on busy railway lines, complex interchanges and other hazardous locations" hence the same has not been used. However, at hazardous locations in the section if any, the same may be provided. Suggestion reg. suitable antiglare measures above the median crash barrier was accepted.

8	In para 5.3.1 (C), it is mentioned that as per clause 4.3.1 of IRC: 37- 2018, a design life of 30 years has been considered for flexible pavement. It is seen from clause 4.3.1 of IRC:37-2018, that a design period of 20 years is to be adopted for NHS, SHS and urban roads. For high density corridors (more than 300 MSA) and Expressways, either long life augments or for a minimum of 30 years design period may in adopted. In this context, it may be clarified whether the Brownfield spur of Delhi-Amritsar-Katra Expressway was designed for 30 years if so then 30 years life in this proposal may be taken, otherwise the flexible pavement may be designed for 20 years.	During DFR stage the project road was considered as expressway and hence, design life considered as 30 years (as per the IRC 37). But now proposal has been changed as six lane carriageway (block spot-safety project), hence now considered as NH accordingly the pavement design life considered now is 20 years and will follow 6 lane manual (IRC: SP-87). Pavement design has been revised and accordingly documents has been updated. due to revision of design from 30 year to 20 year, design traffic has been reduced to 50 MSA from 74 MSA accordingly thickness of DBM is changed to 105 mm from 120 mm and **amount Rs. 1.19 Cr**. is decreased that has been updated in cost estimate.
9	Details given for shifting of utilities in para 17 of Annex-1 of section-B and schedule B-1 are not matching. The same may be Checked. Also once the details are included in para 17 of Annex-1 of Section-B, there is no need for Schedule B-1 (Schedule B-1 was included at the time when the details of utilities were not included in Section-B and Circular in this context was not issued)	Utility details have been updated in Schedule A & B. Schedules revised, accordingly.
10	In TCS-1 (A), TCS-2, TCS-3, Width of Foot path cum drain has not been shown, whereas in TCS-1, 1.5m wide footpath cum drain has been shown. In all TCS, dimensions of all items need to the done.	The width of Footpath/drain has been taken as 1.5m in all TCS. The dimensions have been updated in the revised drawings for TCS1 (A), TCS2 and TCS3.
11	In BOQ item no 6c, 16 (a) wearing Coat having 65 mm thick composing two layers of 25 mm thick bituminous concrete laid over a coat of 15 mm thick mastic Asphalt has been proposed. However as per clause 2702.1 (type 2) , of MORTH specifications for Road and Bridge works, wearing Coat having Bituminous concrete 40 mm thick over laid with 25 mm Thick mastic asphalt is to be provided. Reason for changing the MORTH specification may in furnished.	The Revised Item will be Bituminous Concrete Wearing Coat of total 65 mm thick comprising of 40 mm thick Bituminous Concrete laid over a coat of 25 mm thick Mastic Asphalt as per Technical Specification Sections 2702.1 (Type-2). Updated as per MORT&H 5th Revision. Due to revision of specification cost is **reduced by amount Rs. 0.12 Cr.** that has been updated in cost estimate