



:020-26133148
: 020-26052869

REGD SDS / BY POST

Superintending Technical Examiner (SC)
PCDA (SC) Complex, No.1, Finance Road
Pune – 411 001

1151/157/ 02/Q/ADGTE

Oct 2018

Garrison Engineer
Gwalior
PIN – 900 126
C/o 56 APO

SITE VISIT : CEBZ/GWL-24 OF 2016-17

1. Refer inspection conducted by STE team on 08-09 Oct 2018.
2. The copy of factual statement of the work is held on your record. The obsns on account of above mentioned visit are enclosed as Appendix 'A'. The obsns apply to the entire work except where otherwise specially mentioned. No action for price adjustment/deviation has been initiated till date of insp.
3. Please take suitable action to get the defective work rectified as mentioned on factual notes/obsns and ensure compliance. If, however, the defects are not rectifiable and the defective work as executed is technically acceptable to you, please forward the details of overpayments invoiced for such defective work accepted.
4. Please ref to E-in-C's Branch letter No 41000/E4 dated 14 Oct 1981 and take necessary further action to ensure that the defects are not allowed in the current works in your area and remedial actions are taken. This should be taken in other cases also including financial recovery.
5. Please furnish your specific replies to obsns within 06 weeks failing which the matter may have to be reported to Higher Authorities. In this connection please ref to Sec 23 of Manual of Contracts, 2007.

(Satish Chander, IDSE)
STE SC, Pune

Encls : As above

Copy to :-

HQ ADGTE, New Delhi

.. For info & necessary action alongwith obsns.

HQ CE Bhopal Zone
Bhopal
PIN – 900 236
C/o 56 APO

1. For info & necessary action. Obsn may please be replied incl conditions.

2. Please refer to Sec 23 of Manual of Contracts, 2007 and issue suitable instruction to all other GEs under you with a view to prevent acceptance of similar defective work in those divisions where such defects are suspected to be occurring. Financial recoveries as applicable may be effected in similar works also.

CWE
Jhansi – 284 002

3. Systematic corrective measures be instituted in all units of your AOR (Area of Responsibility).

Station HQ
Gwalior – 474 006

**SUPERINTENDING TECHNICAL EXAMINER
(SOUTHERN COMMAND) PUNE
NO. 01 FINANCE ROAD, PCDA (SC) COMPLEX, PUNE - 411 001**

TECHNICAL EXAMINATION OF CONTRACTS / WORKS / FINAL BILLS

CA No	CEBZ/GWL-24 OF 2016-17	Amount (in lakhs)	1640.34 lakhs	Location	Gwalior				
Name of Work	Provn of OTM Accn for Med Regt (SP) at Gwalior								
(a)	Contractor	M/s Atul Construction Co.							
(b)	Date of Commencement	16 Jan 2017							
(c)	Completion as per CA	15 Jul 2018							
(d)	Extended date of completion	09 Apr 2018							
(e)	Actual date of Completion	28 May 2019							
(f)	DV No & Date of final bill if paid	-							
(g)	Whether ADGTE visited project (if yes, date)	-							
(h)	Name of STE / TE	Name of MES Offrs Accompanying							
	Shri Satish Chander, IDSE, STE SC Pune Shri D Suresh Reddy, IDSE, SE(NF), TE Lt Col Digvijay Singh, TE	Shri Rashi Garg, IDSE, EE(SG), GE Shri MK Asraph, AGE B/R-II Shri M Palanivel, AGE E/M							
(k)	Inspection Summary :								
	No Inspection	Ist Check		2nd Check		3rd Check			
(i)	Date of Check	10 Oct 2018		-		-			
(ii)	Progress %	Actual	Target	Actual	Target	Actual	Target		
	33%	-	-	100%	-	-	-		
(iii)	Obsn Nos Raised	Ist	-	2nd	-	3rd	-		
(iv)	Total Obsn Raised	17							
(v)		<u>Minor</u>	<u>Maj</u>	<u>Adv</u>	<u>Minor</u>	<u>Maj</u>	<u>Adv</u>		
		-	17	-	-	-	-		
(vi)	Obsn Split	B/R		E/M		B/R		E/M	
(vii)		17		-		-		-	
(viii)	Total Settled	-		-		-		-	
(ix)	Outstanding Obsn	17		-		-		-	
(x)	Outstanding Obsn (Check wise)	17		-		-		-	
(xi)		IRNR		-		IRNR		-	
(xii)	Net Outstanding Obsns	17							
(xiii)	Date of Expiry of DLP (where wk 100% completed)	-							

CA No : CEBZ/GWL-24 OF 2016-17
Name of Work : Provn of OTM Accn for Med Regt (SP) at Gwalior
Amount in lakhs : ₹. 1640.34 Lakhs

OBSNS ON ADM APPROVAL, PLG & TS

-NIL -

OBSERVATION ON CONTRACT & SITE DOCUMENT

-NIL -

OBSERVATION ON SITE INSPECTION (MAJOR)

1. **Obsn No 01 : Slow Progress.** The date of commencement of work was 16.01.17 and date of completion expired on 15.07.18. The present progress found 40% and it may take more than a year to complete the entire work. 07 bldgs are yet to be demolished and are found occupied by users. But this is found not hampering progress of work because no new bldg is coming up at these locations :-

(a) Please fwd the specific reasons for the delay and action taken to expedite the completion of work.

(b) It is observed that job PDC is expiring on 30 Mar 2020. Please take requisite action and ensure that the job PDC is enhanced before granting any extension of time to the contractor.

(c) Please identify the problem areas in execution of work and take remedial actions to expedite the progress of the work.

(d) Since progress of the work is very slow, please intimate why requisite action has not been resorted to in terms of E-in-C's Branch policy letter No. 16/2014 issued vide letter No A/37696/OSDPL/POL/E2(PPC) dated 13 Aug 2014 which states clearly that "Contracts having period of completion more than twelve months shall have performance evaluation meetings at intervals of every six months from the date of commencement indicated in work order No. 01. These shall be held at the work site on a date fixed well in advance to ensure presence of all concerned. These meetings shall be attended by the Accepting Officer, CWE, GE, AGE, representatives of CE's office [E8, E2 (Design), E6, E2 (Planning) and E4], contractor and the PMG. The present progress of wk and reasons for any delay shall be analysed and time-bound action plan to remove any encumbrances/bottlenecks will be discussed in detail. In case extension of time is contractually and circumstantially due, it shall be deliberated upon. Fwd your reply through AO.

2. **Obsn No 02 : Brick Work.**

(a) Fly-ash bricks are being manufactured at site and same are being used. Tests for compressive strength and water absorption only were found carried out.

Please carryout other tests as per CA & fwd acceptance criteria.

(b) Joints found wider varying from 15 to 20 mm. Joints not filled properly especially vertical joints. Curing found inadequate as cement mortar is coming out in hand with slight rubbing. Raking not done at places. Brick bats & loose screed in lieu of PCC found filled at junction of wall & roof beams. Identify similar defects and rectify the same. Intimate cost. Accept a penal recovery of ` 10,000/- for the lapses.

(c) MS flat 25 x 2.9 mm @ spacing of 50 cm C/C found provided during casting of columns at junction of column & wall. At places, flat is dislocated away from wall alignment. Please rectify defect and in future use anchor fasteners to fix the flat to RCC columns at correct alignment. This will also avoid difficulty in placing the MS flat and damages to the RCC members.

3. **Obsn No 03 : Plinth Height.**

(a) Plinth height of garages randomly checked and found varying from 15 to 20 cm above present GL in lieu of 30 cm and other buildings found varying 25 to 30 cm in lieu of 45 cm. Roads are yet to be formed. The plinth levels of these buildings are located at lower levels and may lead to flooding in case of rains. Please ensure the plinths are kept as per CA and keep formation levels of roads accordingly. Intimate cost.

(b) Also ensure drainage net work is planned according to the levels of the ground. Fwd the drainage network plan with invert levels.

4. **Obsn No 04 : RCC.**

(a) Honey combing observed in columns & beams. Repairing of columns found carried out by plaster especially at junction of two lifts of column. Cement grouting need to be carried out.

(b) Cover of columns not found uniformly maintained and varying from 30 to 80mm. Column bars found twisted at places.

(c) Date of casting of RCC elements not found marked and same need to be ensured.

(d) Vertical alignment of columns found out of plumb at places (5/7.5 Tonne Garage 5 Tractor) in the top portion.

(e) Hacking of RCC columns, beams not found done at places.

Identify similar defects and rectify them. Intimate cost. Accept a penal recovery of ` 10,000/- for the lapses.

5. **Obsn No 05 : Reinforcement.** Hooks of rings found bend at 90 degree. Re-bars found twisted in certain columns and main bars are closely spaced at places. Bars are left out at lintel level for casting lintel bands and anchorage length not adequate. Please identify similar defects & rectify the same. Confirm & Intimate cost.

6. **Obsn No 06 : Compression Strength of RCC.** Non-destructive test carried out at different places of the RCC columns/beams by using Stanley Rebound hammer and following values recorded :-

- (a) 5/7.5 Tonne Garages. 27, 24, 23.5, 28, 29 N/mm²
 (b) 5 Trailor. 21, 23.5, 26, 20.5 N/mm²
 (c) 2.5 Tonne. 28, 26, 21.5, 19, 27.5, 19.5 N/mm²
 (d) JCO's Mess. 27, 23.0, 26.5, 21.0, 18.5 N/mm²

Compressive strength found less at places for M-25 Gde of concrete. Please get the confirmatory NDT test carried out from SEMT wing, CME Pune or IIT & fwd the results. Also forward your comments through Chief Engineer for the less compressive strength obtained at site alongwith proposed remedial measures. Also review the design mix report and ensure designed w/c ratio and adequate water curing of RCC.

7. **Obsn No 07 : Cement Plaster.**

(a) 10 to 11 mm thick internal cement plaster found carried out. White patches observed over the plastered surfaces due to efflorescence. 15 to 18 mm thick external plaster found provided. Surface found undulated and spider cracks observed on plastered surfaces. Identify similar defects and rectify them. Carryout tests to find out reasons for efflorescence and take suitable remedial measures. Intimate the measures taken & cost involved.

(b) Grooves found made at junction of dissimilar materials. Uniformity not maintained and width of groove found varying 10 to 15 mm and depth varying from 10 to 12 mm. Chicken wire mesh not provided. Please rectify defects and ensure uniform grooves as per CA . Intimate cost.

8. **Obsn No 08 : Filling under Floors.** Excavated soil being used for filling under floors. Compaction/ramming found inadequate. Identify similar defects and ensure proper compaction before placing sub-base concrete. Intimate cost.

9. **Obsn No 09 : Sand.** River sand found stacked on ground. Fines found more. Carryout tests for suitability of this sand for RCC work and other purposes. Confirm with test reports.

10. **Obsn No 10 : Materials at Site.** Following materials found laying at site and stacked on open ground :-

(a) Steel. Following reinforcement bars found laying on ground. Dunnage not used :-

- (i) Shree Balaji TMT - 500 D
- (ii) Goel TMT - 500 D
- (iii) Concast Maxx - 500 D
- (iv) Shyam - 500 D

(b) Aggregate. 20 mm & 12.5 mm aggregate found stacked on ground.

(c) Sand. River sand found stacked on ground. Fines found more.

Please stack all the materials on dunnage/suitable hard surface & intimate cost. Accept penal recovery of ` 5,000/ for the lapses.

11. **Obsn No 11 : Shuttering & Form Work.** Steel shuttering, steel props found being used. Few steel shutters found rusted, bent. Gaps observed on the form work prepared for slab casting. Wooden planks found being used at places. Please remove un-approved & bad quality shuttering material from site and use good quality shuttering materials as per CA. Intimate cost.

12. **Obsn No 12 : ITI Qualified Tradesmen.** Adequate ITI qualified tradesmen not found deployed at site and no supporting documents found maintained at site. The respective CA clause stipulates that the number of ITI/NICMAR/NAC qualified tradesmen shall not be less than 25% of total skilled/semi-skilled tradesmen required in each trade. Please forward documentary proof through AO.

13. **Obsn No 13 : Site Lab.** Following testing equipment found in site lab :-

- (a) Manually operated compressive testing machine.
- (b) Slump Cone
- (c) Sieve sets (Fine and coarse aggregate)
- (d) Thickness gauge
- (e) Microwave oven
- (f) Weigh balance 100 kg, Digital weigh balance 10 Kg
- (g) Flakiness & Elongation gauge

The above equipments found less as compared to minimum equipments listed in CA clause No 31.5 on Ser Page No 153. Please do the needful now and also forward recovery on account of non- adherence to the contract clause.

14. **Obsn No 14 : Site Engineers.** Following site engineers found at site :-

- (a) Shri Rakesh Singh Sisodia, BE(Civil) - 30 years
- (b) Shri Mohd Farook , Diploma in Civil Engineering - 2 yrs experience.
- (c) Shri Rajan Mishra, Diploma in Civil Engineering - 2 yrs experience.

From the above, it is observed that the site Engineers employed by the contractor are inadequate and not as per condition 25 (a) of IAFW-2249. Please elucidate why the contractor was allowed to progress the work when the adequate number of experienced Engineers are not deployed at site and forward the recovery on account of the amount saved due to non-deployment of the qualified degree holder Engineers as per IAFW-2249 for our perusal. Also fwd the details of payment made for the site engineers.

15. **Obsn No 15 : Quality Control : Appx 'F'.** Appx Not found filled by CWE & CE. Performance evaluation not found carried out for this work, though it is stipulated in CA. It is understood that quality control mechanism not being followed by higher auth despite clear provisions in CA. Fwd the same duly filled by GE, CWE, CE. Please fwd reasons for deviation from CA provisions & fwd reply through AO.

16. **Obsn No 16 : Site Documents.**

The following were observed while checking site documents :-

- (a) **Cement.** Prism cement champion PPC 5460 bags Majority of cement procured through dealers with consignee as 'Atul Construction Co'. Cement consumption register & acceptance register not maintained properly. Fly ash found varying from 23 to 33%. Please fwd reasons for procuring cement through dealer in lieu of direct procurement. Also fwd accepting criteria of this cement and accept recovery @ 10% cost of the material brought through dealers.
- (b) **Steel.** Steel register & consumption register not produced.
- (c) **ATT.** ATT chemical chloropyriphos – 20% EC, De – Nocil found procured from Pest Killers. Total ATT chemical procured 2000 ltrs. Independent test certificate produced. IPCA approval expired on 31 Mar 2017. Fwd validity of the firm.
- (d) **Site Order.** Many site orders not found complied with. Please explain.
- (e) **Hindrance Register.** Not maintained properly. Explain how extension of time granted in the absence of details of hindrances recorded.
- (f) **PMG Register.** Not produced. This is an important document and need to be maintained.
- (g) **Water.** Bore well found drilled by the contractor at site and same water being used for work. Water found tested twice but water need to be tested on quarterly basis.
- (h) **Brick Test Register.** Compressive strength, water absorption test carried out. Balance tests need to be carried out.

17. **Obsn No 17.**

(a) Following works are yet to be contracted :-

- (i) Furniture.
- (ii) Arboriculture.
- (iii) Rain water harvesting.
- (iv) GRIHA Items.

Please expedite contract action for all the pending items for which sanction has been obtained. Intimate PDC for all the pending works. Fwd the reply through AO.

(b) External Services. External services are yet to be started. Please expedite the progress of external services.

18. **NOTE.** Rep of CE/CWE not found during STE team's visit. As per policy on technical inspection, Officers or their reps need to be present during technical examination by STE team. CWE office is located nearby. Please fwd reply through CE.

(Satish Chander, IDSE)
STE SC Pune

MINOR OBSERVATION

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Amount in lakhs : ₹. 1640.34 Lakhs

-NIL-

(Satish Chander, IDSE)
STE SC Pune

IMPORTANT OBSERVATION

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(Satish Chander, IDSE)
STE SC Pune