

INDEPENDENT ENGINEER SUPERVISION OF WORKS

WEEKLY REPORT CW 04

Contract number: 8854

File name: 8854-230208-Rev_0-IE_Weekly_Report_CW04

Number of pages: 13

0	08.02.2022.	Issued for review	D. Gavrić	J. Jeleč M. Hasanović	D. Gavrić
Rev.	Date	Status	Prepared by	Controlled by	Approved by
DOCUMENT CONTROL					

WEEKLY REPORT

Contents

1	Introduction.....	3
1.1	Purpose.....	3
1.2	Scope	3
2	Activities performed during the week 04/23 (23.01.-29.01.)	4
2.1	Monday	4
2.2	Tuesday	4
2.3	Wednesday.....	5
2.4	Thursday	6
2.5	Friday.....	6
2.6	Saturday.....	7
2.7	Sunday	7
2.8	Current status of works on the gondola lift	9
3	Activities planned for the week 05/23	10
4	HSE.....	10
5	Non-conformities	10
6	Remarks and proposals	12
7	Photos.....	13

1 INTRODUCTION

1.1 PURPOSE

This document is issued on basis of the Independent Engineer Services contract signed between IPSA Institute, Government of Montenegro and Žičara Kotor - Lovćen Ltd. Podgorica, number 8854 (IPSA Institute), as a report on monitoring and supervision of works on construction of the Kotor – Lovćen Ropeway, on weekly level.

1.2 SCOPE

Overview of site activities is presented for each day of the current week.

2 ACTIVITIES PERFORMED DURING THE WEEK 04/23 (23.01.-29.01.)

2.1 MONDAY

- Bottom station building: Placement of formwork and reinforcement for walls ZB, Z2 and Z3. Casting of the slab Pos 001.
- Bottom station: No activities.
- Tower R1: No activities.
- Tower S2: No activities.
- Tower W3: No activities.
- Tower S4: No activities.
- Tower W5: No activities.
- Tower S6: No activities.
- Tower S7: No activities.
- Tower S8: No activities.
- Tower W9: No activities.
- Tower W10: Assembly of the tower.
- Tower W11: No activities.
- Tower S12: No activities.
- Tower S13: No activities.
- Tower S14: No activities.
- Tower S15: No activities.
- Tower S16: No activities.
- Tower S17: No activities.
- Tower S18: No activities.
- Tower S19: No activities.
- Top station: No activities.
- Top station building: No activities.
- Remark: No works performed at the upper part of the line (Tower 12 and uphill) due to snow.

2.2 TUESDAY

- Bottom station building: Installation of the steel structure for the garage. Placement of formwork for the floor slab Pos 101 and the main staircase.
- Bottom station: No activities.
- Tower R1: No activities.
- Tower S2: No activities.
- Tower W3: No activities.
- Tower S4: No activities.
- Tower W5: No activities.
- Tower S6: Installation of the grounding system.
- Tower S7: No activities.
- Tower S8: No activities.
- Tower W9: Assembly of the tower.
- Tower W10: Assembly of the tower (finished).
- Tower W11: Placement of reinforcement.

- Tower S12: No activities.
- Tower S13: No activities.
- Tower S14: No activities.
- Tower S15: No activities.
- Tower S16: No activities.
- Tower S17: No activities.
- Tower S18: No activities.
- Tower S19: No activities.
- Top station: No activities.
- Top station building: No activities.
- Remark: No works performed at the upper part of the line (Tower 12 and uphill) due to snow.

2.3 WEDNESDAY

- Bottom station building: Installation of the steel structure for the garage. Placement of formwork for the floor slab Pos 101. Insulation of walls Z4 and Z5. Casting of walls Z3, Z4, D1, C2, C1 and Z3a.
- Bottom station: No activities.
- Tower R1: No activities.
- Tower S2: No activities.
- Tower W3: No activities.
- Tower S4: No activities.
- Tower W5: No activities.
- Tower S6: Installation of the grounding system. Preparation of the platform for the assembly crane.
- Tower S7: No activities.
- Tower S8: No activities.
- Tower W9: Assembly of the tower (finished).
- Tower W10: No activities.
- Tower W11: Casting of the foundation slab.
- Tower S12: No activities.
- Tower S13: No activities.
- Tower S14: No activities.
- Tower S15: No activities.
- Tower S16: No activities.
- Tower S17: No activities.
- Tower S18: No activities.
- Tower S19: No activities.
- Top station: No activities.
- Top station building: No activities.
- Remark: No works performed at the upper part of the line (Tower 12 and uphill) due to snow.

2.4 THURSDAY

- Bottom station building: Installation of the steel structure for the garage. Placement of formwork for the floor slab Pos 101. Insulation of walls Z4 and Z5. Placement of formwork for beams along axes 2 and E. Placement of formwork for the staircase ST-3
- Bottom station: No activities.
- Tower R1: No activities.
- Tower S2: No activities.
- Tower W3: No activities.
- Tower S4: Backfilling and preparation of the platform for the assembly crane.
- Tower W5: Backfilling and preparation of the platform for the assembly crane.
- Tower S6: Assembly of the tower (finished).
- Tower S7: No activities.
- Tower S8: No activities.
- Tower W9: No activities.
- Tower W10: No activities.
- Tower W11: Placement of formwork and reinforcement for the plinth.
- Tower S12: No activities.
- Tower S13: No activities.
- Tower S14: No activities.
- Tower S15: No activities.
- Tower S16: No activities.
- Tower S17: No activities.
- Tower S18: No activities.
- Tower S19: No activities.
- Top station: No activities.
- Top station building: Excavations for the restaurant.

2.5 FRIDAY

- Bottom station building: Installation of the steel structure for the garage. Placement of formwork for the floor slab Pos 101. Insulation of walls ZB, Z4 and Z5 and protection of the insulation. Placement of formwork for beams along axes 2 and E. Placement of formwork for the staircase ST-1 and ST-3.
- Bottom station: No activities.
- Tower R1: No activities.
- Tower S2: No activities.
- Tower W3: No activities.
- Tower S4: Assembly of the tower.
- Tower W5: Backfilling and preparation of the platform for the assembly crane.
- Tower S6: No activities.
- Tower S7: No activities.
- Tower S8: No activities.
- Tower W9: No activities.
- Tower W10: No activities.
- Tower W11: Placement of formwork for the plinth.

- Tower S12: No activities.
- Tower S13: No activities.
- Tower S14: No activities.
- Tower S15: No activities.
- Tower S16: No activities.
- Tower S17: No activities.
- Tower S18: No activities.
- Tower S19: No activities.
- Top station: No activities.
- Top station building: Excavations for the restaurant.

2.6 SATURDAY

- Bottom station building: Installation of the steel structure for the garage. Placement of formwork for the floor slab Pos 101. Insulation of walls ZB, Z4 and Z5 and protection of the insulation. Placement of formwork for beams along axes 2 and E. Placement of formwork for the staircase ST-1 and ST-3.
- Bottom station: No activities.
- Tower R1: No activities.
- Tower S2: No activities.
- Tower W3: No activities.
- Tower S4: Assembly of the tower.
- Tower W5: Preparation of the platform for the assembly crane.
- Tower S6: No activities.
- Tower S7: No activities.
- Tower S8: No activities.
- Tower W9: No activities.
- Tower W10: No activities.
- Tower W11: Casting of the plinth.
- Tower S12: No activities.
- Tower S13: No activities.
- Tower S14: No activities.
- Tower S15: No activities.
- Tower S16: No activities.
- Tower S17: No activities.
- Tower S18: No activities.
- Tower S19: No activities.
- Top station: No activities.
- Top station building: No activities.

2.7 SUNDAY

- Bottom station building: No activities.
- Bottom station: No activities.
- Tower R1: No activities.
- Tower S2: No activities.

- Tower W3: No activities.
- Tower S4: No activities.
- Tower W5: No activities.
- Tower S6: No activities.
- Tower S7: No activities.
- Tower S8: No activities.
- Tower W9: No activities.
- Tower W10: No activities.
- Tower W11: No activities.
- Tower S12: No activities.
- Tower S13: No activities.
- Tower S14: No activities.
- Tower S15: No activities.
- Tower S16: No activities.
- Tower S17: No activities.
- Tower S18: No activities.
- Tower S19: No activities.
- Top station: No activities.
- Top station building: No activities.

2.8 CURRENT STATUS OF WORKS ON THE GONDOLA LIFT

OVERVIEW OF THE CIVIL WORKS AND THE ASSEMBLY PROGRESS ON THE GONDOLA LIFT

- T1: Approaches
- T2: Excavations and arrangement of the bottom of the pit
- T3: Construction of foundation slab
- T4: Construction of foundation plinth/station columns
- T5: Installation of the grounding system outside the foundation
- T6: Backfilling
- INST: Installation of components (*in progress / completed*)

- Works finished
- Ongoing works
- Works stopped



3 ACTIVITIES PLANNED FOR THE WEEK 05/23

- Bottom station building: Casting of walls.
- Bottom station: No activities.
- Tower R1: No activities.
- Tower S2: No activities.
- Tower W3: No activities.
- Tower S4: Assembly of the tower.
- Tower W5: No activities.
- Tower S6: No activities.
- Tower S7: No activities.
- Tower S8: No activities.
- Tower W9: Preparation of the approach for the aerial cable foundation.
- Tower W10: No activities.
- Tower W11: No activities.
- Tower S12: No activities.
- Tower S13: No activities.
- Tower S14: Assembly of the tower.
- Tower S15: Assembly of the tower.
- Tower S16: No activities.
- Tower S17: No activities.
- Tower S18: No activities.
- Tower S19: No activities.
- Top station: Start of the assembly (rear column).
- Top station building: Further works on the outside walls of the administrative building. Excavations for the restaurant.
- Other: Preparation of pre-cast foundations for holding down the rope (20 pieces). Improvement of the grounding system

4 HSE

- Personal protective equipment is not used by all workers present on the site.
- No other HSE incidents reported.

5 NON-CONFORMITIES

- There is no time schedule for the power lines and the power sub-station construction.
- The grounding system individual resistivity test failed for towers S15, S17, S18 and S19.
- The grounding system combined resistivity test failed for towers S17 to S19.
- Design documents do not provide enough details for the execution of the ground slab and the installation canals around the columns of the ropeway facility at the bottom station.
- Proper details for the execution of the rain water dewatering system for the roof of the garage and the canopy above the boarding area are missing.

- Current solution for the grounding system on most of the tower locations, executed as so far, does not pass the field test upon installation.
- The chosen roof cladding for the garage is not supposed to be installed on roofs with such a small pitch.

6 REMARKS AND PROPOSALS

- The missing schedules should be submitted as soon as possible.
- The grounding system for all towers with failed tests shall be improved in order to keep its resistivity below the prescribed limits. It's up to the Designer to propose proper measures for further reduction of the resistivity.
- Mixing of bentonite with natural soil makes its application for reduction of the soil resistivity less effective. Much better results are usually achieved when the grounding rope or band is embedded in a layer of wet bentonite and then backfilled. We recommend such an approach to be considered for the improvement of the grounding system.
- There should be at least 7 days of dry weather left before the execution of the grounding system on-site tests. Tests on the wet soil trigger wrong results.
- The Main Design of the bottom station needs to be amended in parts relating to the ground slab and the installation canals around the columns of the ropeway facility.
- Further inputs on the improvement of the grounding system are expected from the Designer. An update of the design is deemed necessary.
- Rain water dewatering system for the roof of the garage and the canopy above the boarding area needs to be amended with proper details for the execution.
- Further adjustments of the roof cladding on the garage and canopy at the bottom station are necessary.

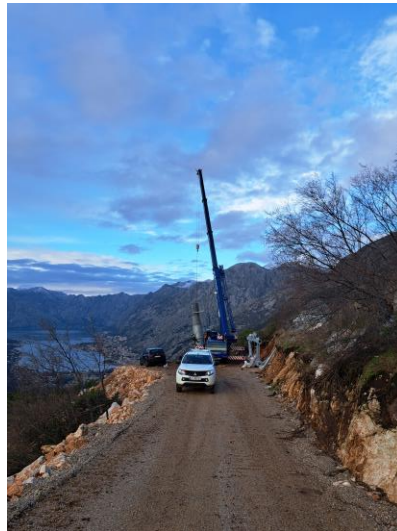
7 PHOTOS



Bottom station



Towers S7 and S8



Towers W9 and W10