

The impact of each activity on each receptor was assessed according to magnitude on a scale of -10 to 10, where negative values indicate a negative influence on the receptor, and importance on a scale of 0 to 10, which encompasses the probability of occurrence, frequency of the impact etc. The numbering system is used as a relative measure, where more negative numbers correspond to impacts having a higher negative magnitude. Susceptible receptors and corresponding activity are deduced and addressed if both magnitude and importance are of minor severity. **As per the following table:**

| | | Project Phases | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Assessment | | | | | | | | | | | | | | | | | | | | | |
|-------------------|------------------------|--|--------------|----|-----|----|-----|----|----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|----|----|-----------|--------------|-----------|------------|-----------|------------|-------------|------------|------------|----------|----|---|-----|----|-----|----|---|----|-----|----|-----|----|----|
| Receptor Category | Component | Activities | Construction | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Operation | Construction | | Operation | | | | | | | | | | | | | | | | | | | |
| | | | M | I | M | I | M | I | M | I | M | I | M | I | M | I | M | I | M | I | M | I | M | I | M | I | M | I | M | I | M | I | M | I | Magnitude | Importance | Magnitude | Importance | | | | | | | | | | | | | | | | | |
| PHYSICAL | Soil | Soil Degradation | | | | -3 | 2 | | | -2 | 2 | | | | | | | -2 | 2 | | | | | | | | | | | | | | | | | -7 | 6 | 0 | 0 | | | | | | | | | | | | | | | | |
| | | Soil Pollution | | -2 | | -1 | 1 | | | | | | | | -1 | 1 | | | | | | | | | | | | | | | | -5 | 5 | -10 | 9 | -10 | 1 | | | | | | | | | | | | | | | | | | |
| | | Landscape | | -2 | | -3 | 5 | | | -2 | 5 | | | | | 3 | 5 | | | -2 | 5 | | | | | | | | | | | | | | | | -3 | 27 | 0 | 0 | | | | | | | | | | | | | | | |
| | Air | Emission of Gases | -2 | 2 | | | -2 | 2 | | | -3 | 2 | -1 | 2 | -4 | 4 | | | -3 | 1 | -1 | 2 | -4 | 4 | | | | | | | | | | | | -2 | 3 | -24 | 24 | 0 | 0 | | | | | | | | | | | | | | |
| | | Emission of dust | -4 | 3 | | | -4 | 3 | | | -6 | 6 | -1 | 2 | | | -6 | 4 | | | -6 | 6 | -1 | 2 | | | | | | | | | | | | | -3 | 3 | -37 | 33 | 0 | 0 | | | | | | | | | | | | | |
| | Water | Surface water pollution | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | -3 | 3 | 0 | 0 | | | | | | | | | | | | | |
| Noise | Background noise level | -2 | 2 | -2 | 3 | -4 | 1 | | | -6 | 6 | -4 | 4 | -2 | 4 | -4 | 4 | -6 | 3 | -4 | 4 | -2 | 4 | -4 | 4 | -4 | 4 | | | -1 | 1 | | | | | | | | | -45 | 40 | 0 | 0 | | | | | | | | | | | | |
| BIOLOGICAL | Flora | Trees and plants | -1 | 1 | | | -2 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | -2 | 2 | -5 | 4 | 0 | 0 | | | | | | | | | |
| | Fauna | Dogs, Cats, Pigeons | -1 | 1 | -1 | 2 | -2 | 1 | | | -2 | 3 | -2 | 1 | | | -2 | 1 | -2 | 3 | -2 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | -14 | 16 | 0 | 0 | | | | | |
| SOCIO-ECONOMIC | | OHS Workers | -2 | 2 | -3 | 4 | -2 | 1 | -6 | 6 | -5 | 4 | -6 | 2 | -7 | 2 | -4 | 4 | -5 | 4 | -6 | 2 | -7 | 2 | -4 | 4 | -8 | 8 | -8 | 8 | -3 | 2 | -8 | 4 | | | | | | | | | | | -86 | 52 | 0 | 0 | | | | | | | |
| | | Infrastructure and underground utilities | | | | | | | | | -5 | 4 | | | | | | | -3 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | -2 | 2 | -8 | 8 | -2 | 2 | | |
| | | Traffic | -3 | 2 | | | -2 | 1 | | | -6 | 2 | | | | | -3 | 1 | | | -6 | 1 | | | | | -3 | 1 | | | | | | | | | | | | | | | | | | | | | | | -23 | 8 | 0 | 0 | |
| | | Community Health , Safety & Security | -2 | 2 | -1 | 1 | -1 | 2 | | | -5 | 5 | -2 | 2 | -2 | 3 | -4 | 2 | | | -5 | 5 | -2 | 2 | -2 | 3 | -4 | 2 | | | | | | | | | | | | | | | | | | | | | | | | | -47 | 36 | -4 |
| | | Total | -17 | 15 | -11 | 13 | -26 | 20 | -6 | 6 | -42 | 39 | -16 | 13 | -16 | 14 | -20 | 19 | -40 | 34 | -16 | 13 | -16 | 14 | -20 | 19 | -15 | 15 | -14 | 12 | -5 | 5 | -12 | 6 | -20 | 21 | -16 | 5 | -312 | 266 | -16 | 5 | | | | | | | | | | | | | |
| | | Average | -2 | 2 | -2 | 2 | -2 | 2 | -6 | 6 | -4 | 4 | -3 | 2 | -3 | 3 | -3 | 3 | -4 | 3 | -3 | 2 | -3 | 3 | -3 | 3 | -4 | 4 | -7 | 6 | -2 | 2 | -6 | 3 | -3 | 3 | -5 | 2 | -24 | 20 | -1 | 0 | | | | | | | | | | | | | |

Further, the **Buroz** Relevant Integrated Criteria and is used to determine the total importance, *I*, of the impact for each activity on all receptors and of the project overall.

On the basis of the value of the importance of impact, *I*, obtained, the severity of the impact of an activity is assessed.

| Criterion | Definition | Scoring Scale |
|---------------------------------|---|---|
| Intensity (IN) | Degree of destruction of activity on receptor | 1 (lowest)-12 (highest) |
| Extension (EX) | Theoretical area of influence of the impact | 1 (localized) – 8 (widespread) |
| Momentum (MO) | Period of time for manifestation of the impact | 4 (immediate: <1 year) – 2 (medium: 1-5 years)- 1 (long term: > 5 years) |
| Persistence (PE) | Duration of the effect of the impact | 1 (fleeting, < 1 year), 2 (temporary, 1-5 years), 4 (permanent, >5 years) |
| Reversibility (RV) | Possibility of returning to pre-activity initial conditions by rebuilding or natural means | 1 (short term, < 1 year)- 2 (medium term, 1-5 years) – 4 (long term, > 5 years or irreversible) |
| Recoverability (MC) | Possibility of reconstruction with corrective measures | 1 -2 (full and immediate recovery)- 4 (partial recovery and medium term)- 8 (unrecoverable) |
| Synergy (SI) | Reinforcement ability of manifested effects | 1(No synergy of actions on a receptor) -2 (moderate synergism)-4 (high synergy) |
| Accumulation (Ac) | Progressive increase of the effect | 1 (no cumulative effect)-4(cumulative effect) |
| Effect (EF) | Directionality of impact-the cause (action)-effect (impact) | 4 (direct)- 1 (indirect) |
| Frequency (PR) | Regularity of manifestation of the effect | 4 (continuous) – 2 (irregular)-1 (periodic) |
| Importance of Impact (I) | $I = \pm (3 \times IN + 2 \times EX + MO + PE + RV + SI + AC + EF + PR + MC)$ | |

The table below is based on the Buroz's Relevant Integrated Criteria:

| Activities Receptor | Construction | | | | | | | | | | | | | | | | | Operation and maintenance |
|---------------------------------|--|--|--|--------------------------------|---|---------------------|---------------|-------------|---|---------------------------------------|--------------|-------------|---|--|----------------------|----------------------------|------------------|---------------------------|
| | Transport of equipment/ machinery- truck driving | Temporary storage/unloading of equipment and materials | Site preparation: Area delineation & Fencing | Working in outdoor environment | Excavation: intermediate pressure network | Pipe laying (PE100) | Welding PE100 | Backfilling | Excavation: low pressure PEB0 connections | Pipe laying: low pressure connections | welding PEB0 | Backfilling | Household installation- carbon steel pipe threading | Household installations and working at heights | Appliance conversion | Leakage testing: pneumatic | Waste Generation | Gas network processing |
| Type of impact | | | | | | | | | | | | | | | | | - | |
| Intensity (IN)/12 | 3 | 3 | 3 | 7 | 9 | 7 | 6 | 5 | 9 | 7 | 6 | 5 | 5 | 7 | 5 | 6 | 6 | 7 |
| Extension (EX)/8 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 4 |
| Momentum (MO)/4 | 3 | 4 | 3 | 0 | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 |
| Persistence (PE)/5 | 1 | 3 | 2 | 1 | 4 | 4 | 4 | 1 | 4 | 4 | 4 | 1 | 2 | 1 | 1 | 1 | 4 | 1 |
| Reversibility (RV)/4 | 1 | 1 | 1 | 1 | 4 | 4 | 4 | 1 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Sinergy (SI)/4 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 2 |
| Accumulation (AC)/4 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 |
| Effect (EF)/4 | 1 | 1 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 4 | 4 | 3 |
| Frequency (PR)/4 | 4 | 1 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 1 |
| Recoverability (MC)/8 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 |
| Importance of impact (I) | 26 | 26 | 27 | 39 | 52 | 42 | 39 | 30 | 52 | 42 | 39 | 30 | 28 | 33 | 27 | 39 | 47 | 43 |
| Sub-Average (I) | 36.4 | | | | | | | | | | | | | | | | | 43.0 |
| Total-Average (I) | 39.7 | | | | | | | | | | | | | | | | | |

| | | |
|------------------|----|-----|
| None/ irrelevant | 0 | 25 |
| Minor Severity | 26 | 50 |
| Medium Severity | 51 | 75 |
| Major Severity | 76 | 300 |

