

**PENERAPAN K3 DENGAN METODE HIRARC  
(HAZARD IDENTIFICATION, RISK ASSESSMENT AND RISK CONTROL)  
PADA KONTRUKSI DRAINASE U-DITCH PROYEK TOL  
(Studi Kasus : PT. RST)**

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**ABSTRAK**

PT. RST merupakan perusahaan yang bergerak di bidang konstruksi. Saat ini, PT. RST berpartisipasi dalam pembangunan proyek jalan tol. Infrastruktur jalan tol memerlukan saluran air untuk menjaga kualitas jalan agar tidak rusak akibat genangan air hujan. *Drainase u-ditch* digunakan sebagai solusi untuk mengatasi genangan air (Gustomi et al., 2023). Namun, proses pembuatan *drainase u-ditch* memerlukan persiapan yang matang guna mencegah atau meminimalkan kecelakaan kerja, karena pekerjaan ini dikategorikan sebagai pekerjaan berisiko tinggi. Maka dari itu, Penelitian ini menggunakan metode *Hazard Identification, Risk Assessment and Risk Control* selanjutnya disebut HIRARC yang bertujuan untuk mengidentifikasi potensi bahaya, melakukan penilaian serta analisis risiko, dan menentukan pengendalian risiko (Juraman & Beatrix, 2020) dengan metode wawancara, observasi, studi literatur dan kuesioner.

Hasil penelitian menunjukkan terdapat 38 potensi bahaya di lokasi kerja, dampak yang terjadi meliputi luka ringan, cedera fisik, kelelahan, ISPA akibat paparan debu dan bahan kimia, serta risiko kegagalan pengangkatan material dan tergulingnya alat berat. Analisis risiko dilakukan dengan menilai tingkat keparahan (*severity*) dan kemungkinan terjadi (*likelihood*), yang kemudian dikategorikan dalam tingkat risiko rendah, sedang, atau tinggi. Dari hasil analisis, ditemukan 11 potensi bahaya masuk dalam kategori risiko *moderate*, 19 potensi bahaya dalam kategori *high*, dan 8 potensi bahaya dalam kategori *extreme*. Untuk mengurangi tingkat risiko, penelitian ini dominan merekomendasikan pengendalian rekayasa teknik (*engineering control*), administrasi (*administrative control*) dan alat pelindung diri (APD).

**Kata kunci:** HIRARC, keselamatan kerja, penilaian risiko, pengendalian bahaya,

**IMPLEMENTATION OF K3 WITH THE HIRARC METHOD  
(HAZARD IDENTIFICATION, RISK ASSESSMENT AND RISK CONTROL)  
IN THE CONSTRUCTION OF U-DITCH DRAINAGE OF TOLL ROAD PROJECT  
(Case Study: PT. RST)**

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**ABSTRACT**

*PT. RST is a company engaged in the construction sector. Currently, PT. RST is participating in the construction of toll road projects. Toll road infrastructure requires water channels to maintain road quality so that it is not damaged by rainwater puddles. U-ditch drainage is used as a solution to overcome water puddles (Gustomi et al., 2023). However, the process of making u-ditch drainage requires careful preparation to prevent or minimize work accidents, because this work is categorized as high-risk work. Therefore, this study uses the Hazard Identification, Risk Assessment and Risk Control method, hereinafter referred to as HIRARC, which aims to identify potential hazards, conduct risk assessments and analyses, and determine risk control (Juraman & Beatrix, 2020) using interview methods, observations, literature studies and questionnaires.*

*The results of the study showed that there were 38 potential hazards at the work site, the impacts that occurred included minor injuries, physical injuries, fatigue, ARI due to exposure to dust and chemicals, as well as the risk of failure to lift materials and overturning heavy equipment. Risk analysis is conducted by assessing the severity and likelihood, which are then categorized into low, medium, or high risk levels. From the analysis results, 11 potential hazards were found to be in the moderate risk category, 19 potential hazards in the high category, and 8 potential hazards in the extreme category. To reduce the risk level, this study predominantly recommends engineering control, administrative control, and personal protective equipment (PPE).*

**Keywords :** *HIRARC, occupational safety, risk assessment, hazard control,*