

INTISARI

**DETAIL ENGINEERING DESIGN PENGAMANAN PIPA
PT. PGN YANG MELINTASI SALURAN AIR AKIBAT PEMBANGUNAN
JALUR *DOUBLE TRACK* PT. KAI MOJOKERTO - SURABAYA**

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PT. KAI akan melanjutkan pembangunan jalur *double track* kereta api dari Mojokerto – Surabaya. Sepanjang jalur tersebut terdapat pipa gas PT. PGN yang sejajar rel dengan panjang 10 KM pada segmen Trosobo – Krian. Sepanjang segmen tersebut terdapat 19 titik saluran air dengan tipe *box culvert* yang bersilangan dengan jalur rel dan pipa gas.

Penelitian ini dilakukan untuk mengetahui penanganan yang harus dilakukan pada pipa gas akibat jalur rel dan saluran air *box culvert*. Parameter perhitungan meliputi beban kereta api, beban saluran air *box culvert*, dan daya dukung tanah. Sebelum masuk tahap perhitungan, dilakukan identifikasi pipa gas yang terdampak langsung oleh saluran air dan jalur rel.

Hasil identifikasi menunjukkan bahwa pipa yang terdampak ada di 6 titik saluran air *box culvert* yang masing-masing akan di analisis beban kereta, beban saluran air *box culvert*, dan daya dukung tanah. Berdasarkan hasil analisis dari 6 titik pipa yang terdampak, terdapat 2 titik pipa yang ditangani dengan Metode Zinker dan 4 titik yang di relokasi.

Kata kunci : *double track, box culvert, daya dukung tanah, pipa gas, pengamanan*

ABSTRAK

DETAIL ENGINEERING DESIGN PIPE SAFETY PT. PGN WHO LOCATES WATER CHANNEL DUE TO DOUBLE TRACK DEVELOPMENT PT. KAI MOJOKERTO – SURABAYA

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PT. KAI will continue the construction of a double track railway line from Mojokerto - Surabaya. Along the route there is a gas pipeline PT. PGN is parallel to the rail with a length of 10 KM in the Trosobo - Krian segment. Throughout the segment there are 19 water channel points with box culvert types that cross with rail lines and gas pipes.

This research was conducted to determine the handling that must be done on gas pipes due to rail lines and water channel box culverts. Calculation parameters include train load, box culvert drainage load, and soil carrying capacity. Before entering the calculation phase, a gas pipeline that is directly affected by water lines and rail lines is identified.

The identification results show that the affected pipes are at 6 point culvert water channel points, each of which will be analyzed by train load, box culvert drainage load, and soil carrying capacity. Based on the results of the analysis of 6 affected pipe points, there were 2 pipe points that were handled by the Zinker Method and 4 point that was relocated.

Keywords: double track, box culvert, soil carrying capacity, gas pipeline, protection