

Infrasense, Inc. Uses Ground Penetrating Radar to Identify Repaired Concrete Joints Beneath Asphalt Along Interstate 75 Near Mt. Cory, Ohio

Infrasense, Inc. has completed the evaluation of 310 concrete joint locations along 6-miles of Interstate 75 near Mt. Cory, Ohio for an upcoming rehabilitation project - Infrasense was brought in to non-destructively identify the repaired joints and provide dimensions through the use of Ground Penetrating Radar (GPR). The result of the survey was a comprehensive table, delineating the length and depth of each of the concrete joints, also identifying those which had already been repaired and those still in need.

Mt. Cory, Idaho ([PRWEB](#)) April 29, 2016 -- In October of 2015, Infrasense was contacted to aid in the mapping of concrete joints for an upcoming rehab project. The project area consists of a 6-mile stretch of interstate 75 between milepost 144.5 and 150.5 near Mt. Cory and Rawson, Ohio. Approximately 310 joint locations were marked for repair, however, an unknown number of the joints had previously been repaired using an undercutting technique that increased the overall length and depth of the joint. Because of the varying size, the previously repaired joints required additional time to remove and repair. Infrasense was brought in to identify the repaired joints and provide dimension through the use of Ground Penetrating Radar (GPR).

The survey system consisted of dual-vehicle mounted 900- and 400-MHz ground coupled GPR antennas spaced approximately 6 feet apart. Data collection consisted of making two passes in each lane, one pass with each antenna pair, for each of the travel and high speed lanes in both the southbound and northbound. Directions, going at an average speed of 5 mph. The survey vehicle was equipped with an electronic distance-measuring instrument (DMI) mounted to the rear wheel, providing synchronous distance data as the GPR data was collected; and a Trimble GPS unit, providing high resolution, differentially corrected geo-spatial information.

The GPR data was reviewed to reveal distinct features indicative of the current concrete joint condition, including the length, total thickness, and repair status, and to locate the key features for analysis. The length and thickness of the asphalt and concrete layers were calculated for the site specific dielectric, calibrated using cores completed by the Ohio DOT.

The concrete joint analysis resulted in the identification of previously repaired joints, along with calculation of the length and depth at the joint, and the thickness of the pavement well as before and after the joint. The analysis shows that approximately 20% of the 310 joints investigated were previously repaired using an undercutting method that increased the length and depth of the joints. This information will be used to define the limits of each of the concrete joints scheduled for repair, dictating the project schedule, the quantities of repair material needed and the equipment necessary to rehab each joint.

Ground coupled ground penetrating radar (GPR) data is collected at low to high speeds, achieving depths of up to 15 feet making it the fastest NDE technology for measuring pavement layers, construction depth, moisture intrusion and subsurface anomalies at depth in pavement. GPR is a versatile tool that can be executed in a variety of ways; including single lane, double wheel-path, or complete full width analysis. The GPR data is collected using project specific frequencies, tailored for the desired resolution and depth penetration.

About Infrasense, Inc.

Since 1987, Infrasense, Inc. has applied state-of-the-art technologies to address the most difficult challenges in



subsurface scanning. Infrasense engineers are able to nondestructively extract critical information from a diverse range of structures. In addition to providing ongoing subsurface evaluation services to clients across the country, the firm has also conducted numerous research programs to advance the field of subsurface detection and non-destructive evaluation.



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