



INBOUND TRACK CIRCUIT DIAGRAM FROM TAKOMA STATION PLATFORM TO FORT TOTTEN STATION PLATFORM

TRACK CIRCUIT OPERATION:

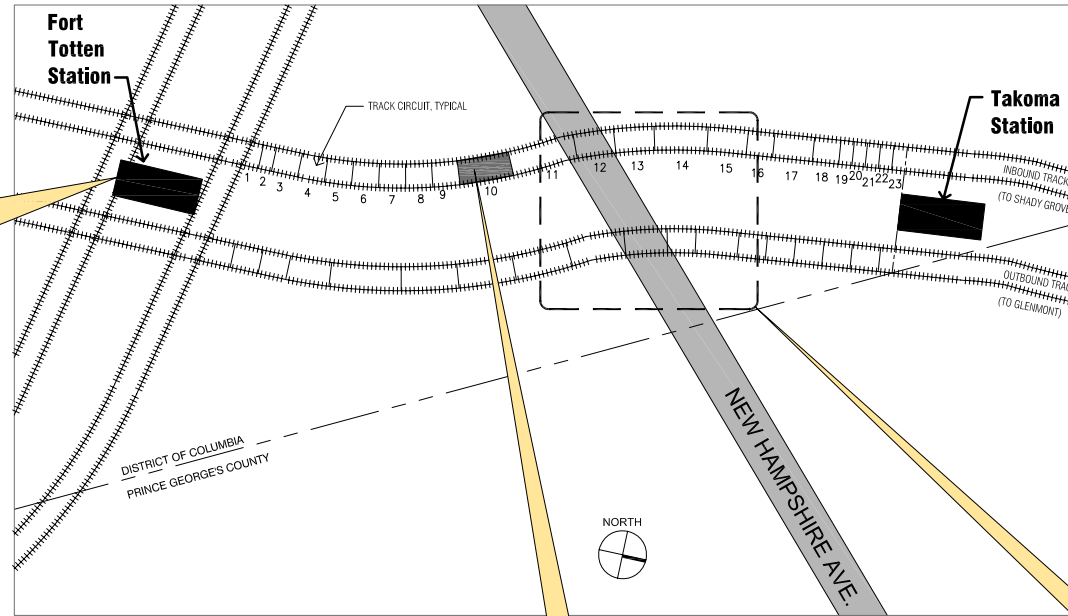
A track circuit is an electrical circuit formed by a section of the two running rails connected by impedance bonds at each end. One bond transmits a signal into the circuit which passes through the rails to the second bond, which receives the signal. As long as the receiver bond detects the signal from the transmitter bond, a relay is energized in the Train Control Room, which signals that the circuit is not occupied.

When a train passes either bond, the signal is interrupted by the train wheels and axle, and it does not reach the receiver bond. The receiver bond then cuts power to the relay in the Train Control Room to indicate that this circuit is occupied.

When the last wheels of the train leave the circuit, the circuit returns to normal and the receiver bond again energizes the relay to indicate that the circuit is no longer occupied.

This process works the same regardless of direction of train travel.

The movement of trains from circuit to circuit is monitored in the Operations Control Center, which receives signals from all of the Train Control Rooms.



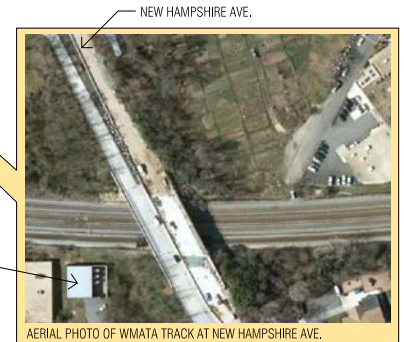
SITE PLAN - FORT TOTTEN TO TAKOMA
NOT TO SCALE



TRAIN CONTROL ROOM



TRAIN CONTROL MODULE

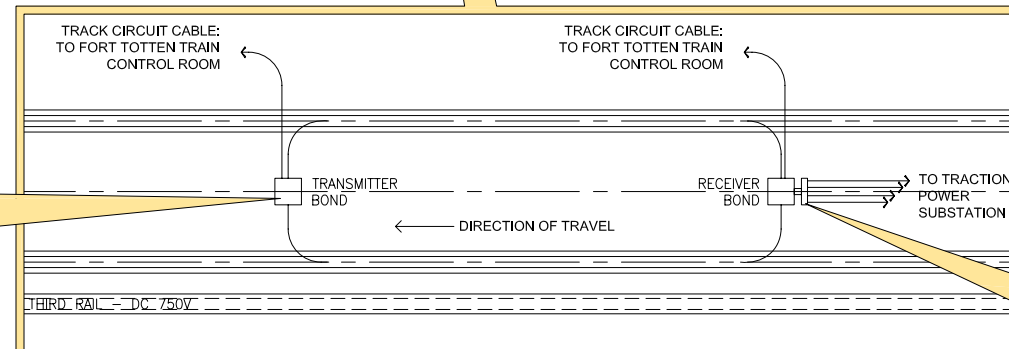


AERIAL PHOTO OF WMATA TRACK AT NEW HAMPSHIRE AVE.

NEW HAMPSHIRE AVE.
TRACTION POWER
SUBSTATION



TYPICAL IMPEDENCE BOND (W Z BOND, OR "WEE-Z" BOND)



ENLARGED VIEW OF CIRCUIT UNDER INVESTIGATION
NOT TO SCALE



HIGH CURRENT SUBSTATION RETURN IMPEDENCE BOND