INDIANA DEPARTMENT OF TRANSPORTATION

Driving Indiana's Economic Growth

Design Memorandum No. 12-14
Technical Advisory

June 8, 2012

TO: **All Design, Operations, and District Personnel, and Consultants**

FROM: ***/s/ David H. Boruff***
David H. Boruff
Traffic Administration Section Supervisor
Traffic Support Division

SUBJECT: **Radio Communication Interconnection**

REVISES: ***Indiana Design Manual*** **Section 77-6.03**

EFFECTIVE: **September 12, 2012, Letting**

Radio interconnection is the Department's preferred communication method if the radio site survey is satisfactory. The use of other interconnection methods will be determined on a system-by-system basis.

A. Radio Site Survey

The district or the designer will conduct a site survey and submit the completed radio site survey report to the district traffic engineer. The radio site survey should be conducted with foliage on deciduous trees in the vicinity to ensure a minimum level of communications during the summer months. An approved digital Ethernet radio should be used for the survey. *Indiana Design Manual* Figure 77-6A, Radio Site Survey Report form, is attached herewith, and also appears on the editable-documents webpage, http://www.in.gov/dot/div/contracts/design/dmforms/index.html. A copy of the radio site survey report should be included in the Contract Information book.

B. Radio Communication Equipment

The district or the designer will determine, based on the results of the radio site survey, what type of radio antenna should be used and the number of repeaters, if necessary, for the signal system.

DB:alu
Attachment

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RADIO SITE SURVEY REPORT

General Location Information			
Location:			
Commission Number:	Contract Number:	Project Des Number:	
Date of Survey:	Weather Conditions:	Equipment Used:	
Location of Master Controller:			
Radio Survey Information			
Radio Configuration:	Master:	Repeater:	Remote:
Was a Spectrum Analyzer used? ☐ Yes ☐ No			
Personnel in Attendance:			
Instruction: Primary Hop Patterns #1 and #2 are required if this is a repeater location.			
1. Primary Hop Pattern #1:			
2. Primary Hop Pattern #2:			
Recommended antenna location:			
Recommended location and orientation of antenna: ☐ Vertical ☐ Horizontal Distance from pole on mast arm:			Pointing:
Mounting:	☐ Standard Bracket		☐ Truss Arm Length:
Communications Test	No. of Polls:		% Successful:
Base Unit Signal Strength:		Mobile Unit Signal Strength:	
Comments:			
Radio Site Surveyor Signature:			

Figure 77-6A – Radio Site Survey Report Form

Send Copies To:
District Traffic Engineer
Project Manger