

A d d e n d u m

Iowa Department of Transportation
Office of Contracts

Date of Letting: August 19, 2014
Date of Addendum: August 12, 2014

B.O.	Proposal ID	Proposal Work Type	County	Project Number	Addendum
303	59-0652-021	SLIDE REPAIR	LUCAS	ER-069-2(20)--28-20 ER-065-2(21)--28-59	19AUG303.A02

Please ADD the following plan sheets to project ER-065-2(21)--28-59:

Survey Information

General Information

Measurement units for this survey are US survey feet. This survey is to gather information to repair a box culvert and slide along the west side of HWY 65 in Lucas County, ~1/4 mile north of the intersection of HWY 65 and North St. The survey is a full DTM.

Vertical Control

Project ellipsoidal height was established at Pt. 1 by averaging a minimum of two Iowa RTN Epoch observations with 4 hours or greater time span between each observation. NAVD88 height was computed at Pt. 1 using Geoid 12A. The relative network error of height observations was less than 0.04 ft. at 95% confidence level. Additional vertical control was established at points 2 and 3 by averaging a minimum of two 360 Epoch observations with the GPS base set on point 1 with 4 hours or greater time span between each observation. NAVD88 height was computed at these points using Geoid 12A. The relative network error of height observations was less than 0.02 ft. and 0.03 ft. respectively at 95% confidence level.

This survey observed 4 NGS Control Monument with published NAVD88 height to compare with observed survey height.

Mark 895 is located 2 miles north of the project
 NGS 2nd order class 0 mark designated 895 published height = 895.27
 IaRTN NAVD88 height computed using Geoid 12A = 894.67. The relative network error of the height observations of 895 was less than 0.08 ft. at 95% confidence level.

Mark 1009 is located 8 miles south of the project.
 Wayne county GPS point NAD 1988 published height = 1087.05
 IaRTN NAVD88 height computed using Geoid 12A = 1087.01
 The relative network error of the height observations of a GPS target in close proximity to Q455 was less than 0.02 ft. at 95% confidence level.

This survey also observed one As built plan height benchmark inside the project limits to compare with observed survey height.
 BM # 38 EI = 943.65 ft. FA 344 Bridges and Culverts Plans=
 BM 500 this survey = 631.05 ft. (the benchmark was observed using a total station).

Horizontal Control

The project coordinate system is Modified Iowa State Plane South Zone (U.S. Survey Feet) scaled around Pt. 1 at 610391.293 N, 1567124.036 E, 961.859 (Height, IaRTN datum is adjusted to NAD83(2011) (Epoch 2010.00). Project coordinates were established at Pt. 1 by averaging a minimum of two Iowa RTN Epoch observations with 4 hours or greater time span between each observation. The relative network error of observations was less than 0.04 ft. at 95% confidence level. Additional control points were placed by averaging a minimum of two Base and Rover RTK observations with 4 hours or greater time span between each observation. The local error of these observations was less than 0.02 ft. at 95% confidence level.

1/Combined Scale Factor of project (State plane grid modified to ground) = 1.000085354716

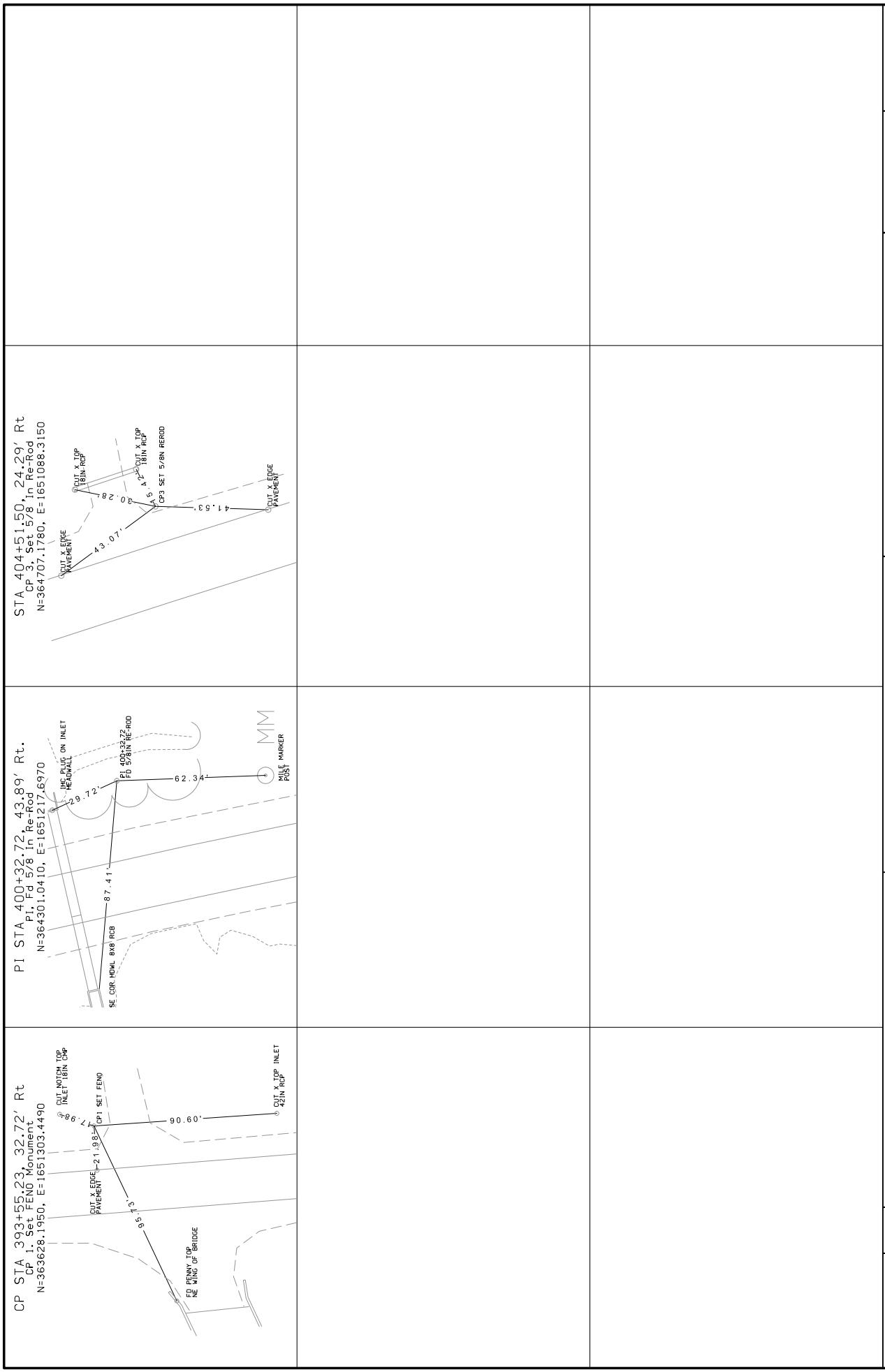
The 1/Combined Scale Factor scaled at Pt. 1 will be used for GPS/IGNSS stakeout and location survey in the Project Coordinate system. A scale factor of 1 will be used for total station stakeout and location survey in the Project Coordinate system.

Alignment Information

Alignment information was provided by District 5 ROW.

VERTICAL CONTROL

Point	North	East	Elevation	Station	Offset	Feature	Description
500	364328.0700	1651265.3510	931.0480	4004-57.51	37.72	BM	PD IHC/BMI INLET HDVNL 4X4 RCB
	364328.1950	1651303.4490	936.0960	3534-55.23	32.72	CP	SET PENO MONUMENT



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