2.0A Survey Requirements

1. Scope of Work – The CONSULTANT shall complete the following work on the project.
2. The DEPARTMENT shall provide:
3. target diagrams
4. specific instructions regarding project location
5. The CONSULTANT shall be responsible to complete each project in accordance with Chapter Four “Photogrammetric Surveys” of the current Illinois Design and Environment Manual , and the Specifications for GPS Surveys Appendix F (copies of which have been provided to the consultant) as listed below:
6. Horizontal

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1. Traverses shall begin and close on Published NGS control stations.
2. Coordinates are to be Illinois State Plane, West Zone and referenced to the NAD (North American Datum) 83(1997),or most current datum, First (1st) Order or higher only.
3. All Traverse Points are to be located using GPS Equipment to the Standards stated in the current Design and Environment Manual Appendix F.
4. Traverse Stations shall be marked by iron pins 5/8” x 30”, unless discussed with District and other marks are approved on a project by project basis.
5. All Traverse Stations will have swing ties set and located with coordinates.
6. Vertical
7. The NAVD (North American Vertical Datum) 88 vertical datum shall used.
8. Vertical data will be referenced to published NGS vertical control stations, only 1st or 2nd Order monuments will be used.
9. Bench Marks established shall be to third order accuracy (0.012√K).
10. Bench Marks shall be described with a “To Reach” description and located with coordinates.
11. All level lines shall be run using an electronic level.
12. Material to be Delivered
13. All original horizontal and vertical field notes shall be submitted to the Department upon completion of the project.
14. Print outs of traverses with closure information shall be submitted.
15. All level notes shall be reduced and adjustments made to all control points.
16. New Bench Marks shall be marked to accommodate third order standards: chiseled squares in concrete, railroad spikes in base of power poles (only as a last resort ), ect.
17. All raw data from GPS shall submitted in either Rinex or Leica format.
18. All computed and balanced horizontal control information shall be submitted to the Department on diskette or cd.
19. All electronic level notes shall be submitted to the Department on diskette or cd.
20. All finished data shall be submitted to the Department in GeoPak and Microstation format.

 2.0C General Survey requirements

 Scope of Work – The CONSULTANT shall complete the following work on the project.

1. The DEPARTMENT shall provide:
2. Point Codes and Point Number Standards
3. Specific instructions regarding each project
4. The CONSULTANT shall be responsible to complete each topo project in accordance with Appendix B “ Electronic Survey Data Requirements” of the current Design and Environment Manual and the Specifications for GPS Surveys found in Appendix F (copies of which have been provided to the consultant) as listed below:
5. Horizontal
6. A minimum of two (2) control points shall be set on each

 project

1. Traverses shall begin and close on existing NGS control or new GPS control stations.
2. Coordinates are to be Illinois State Plane West Zone and referenced to the NAD (North American Datum) 83(1997), First (1st) Order or higher only.
3. All Traverse Points are to be located using GPS Equipment to the Standards stated in the current Design and Environment Manual Appendix F.
4. Traverse Stations shall be marked by iron pins 5/8” x 30”, unless discussed with the District and other are marks approved on a project by project basis.
5. All Traverse Stations shall have tie points set and they shall be located with coordinates.
6. All Traverse Points, curve control, centerline control and topo shots shall be numbered according to the District Point Number Standard
7. All topo shots will be coded using the District Point Code List and Line Coded (as provided by the District)
8. All cross-sections will be determined by “TIN” Model
9. All horizontal work will be done in GRID format
10. All centerlines will be established through the length of the project and include the next complete tangent beyond each end of the project.
11. Vertical
12. The NAVD (North American Vertical Datum) 88 vertical datum shall used.
13. Bench Marks established shall be to third order accuracy (0.012√K).
14. Bench Marks shall be described with a “To Reach” description and located with coordinates.
15. All level lines shall be run using an electronic level
16. All Traverse Stations as well as Bench Marks will be elevated
17. General Requirements
18. The consultant shall use all Microstation and GeoPak resources available from District 2 and IDOT’s website <http://www.dot.state.il.us>. These resources shall be (but not limited to) line styles, symbols, seed files, point codes, point number schemes, line coding; as directed by District 2
19. Material to be Delivered
20. All original horizontal and vertical field notes shall be submitted to the Department upon completion of the project.
21. Print outs of Traverse Points and Centerline Control shall be submitted
22. All level notes shall be reduced and adjustments made to all control points.
23. New Bench Marks shall be marked to accommodate third order standards: chiseled squares in concrete, railroad spikes in base of power poles (only as a last resort ), ect.
24. All raw data from GPS shall submitted in either Rinex or Leica format.
25. All computed and balanced horizontal control information shall be submitted to the Department on diskette or cd.
26. All electronic level notes shall be submitted to the Department on diskette or cd.
27. All topo shots and shots for creating the “TIN” shall be submitted to the Department in an ASCII format
28. All finished data shall be submitted to the Department in GeoPak and Microstation format.