

MISCELLANEOUS

BASIC PLAN READING

Job Element	Date	Project Inspector's Signature
<p>Completes the Location & Design Division's Plan Reading Guide (Imperial), which is found on the Intranet by selecting:</p> <ul style="list-style-type: none"> >Divisions >Location & Design >All Manuals (External) >Plan Reading Guide >Imperial. 		
<p>Using a set of project plans (or more, if needed), complete the following tasks:</p> <ol style="list-style-type: none"> 1. Computes distances by using station numbers. 2. Computes equalities. 3. Identifies the construction and right-of-way limits for a project on the plans. 4. Compute the percent of grade using a profile sheet. 5. Identifies the conventional signs shown on most title sheets. 6. Describes the types and depth of the proposed materials from the subgrade to finished grade using a typical section sheet. 7. Interprets the standards for fencing, guardrail, and curb & gutter. <p>Note: Sign and date when trainee can complete all of the above.</p>		
<p>Defines each of the following five items:</p> <ol style="list-style-type: none"> 1. P.C. 2. P.I. 3. P.T. 4. P.O.C. 5. P.O.T 		

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General description of how competencies were completed:

Trainee's Comments:

Project Inspector's Comments:

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Surveying Checklist for Transportation Construction Inspector Trainees

Activity	Date	Monitoring Inspector's or Surveyor's Signature
1. Using an English scale, measures 5 plan items.		
2. Using a cloth tape, verifies in the field the lengths of the 5 plan items in Activity 1 above.		
3. Measures undercut areas and topsoil removal areas using a hand level, fold up rulers and a cloth tape.		
4. Establishes radius points for 4 different pavement flares using a cloth tape.		
5. Using either a cloth tape or a distance wheel, measures the surface area of one (1) seeding area.		
6. Using a cloth tape and a hand level, verifies 2 utility layouts.		
7. Using a hand level and rod, verifies the height of 4 concrete structures in relation to travel way elevations.		
8. Using a cloth tape, measures the surface area of one (1) concrete slope protection.		
9. Using a level rod, determines 3 critical vertical clearances.		
10. Verifies the location and offset distance of 2 right-of-way monuments using a metal tape.		

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Activity	Date	Monitoring Inspector's or Surveyor's Signature
11. Measures one (1) section of fencing (up to 200') using a cloth or metal tape.		
12. Verifies the accuracy of an automatic level by the "pegging" method. (Note: See the outline of the "pegging method" at the end of the accompanying notes.)		
13. Using the elevation at a benchmark, determines elevations at a minimum of 5 points by taking 5 level readings with an automatic level. (Note: See Activity 14 before completing this one).		
14. Records the 5 level readings and elevations (from Activity 13) in a level book using standard VDOT notations.		
15. Checks the slope rates on 3 different driveways by using either an automatic level or a Locke level		
16. Checks 6 critical grade points using an automatic level or a hand level.		
17. Using an automatic level and rod, verifies fine grades.		

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Activity	Date	Monitoring Inspector's or Surveyor's Signature
18. Verifies the inlet and outlet invert elevations at 3 different pipe or box culverts using an automatic level.		
19. Checks the slope rates at 2 different cut cross-sections by using an automatic level. (Note: Activities 19 & 20 can be accomplished at 4 cut/fill cross-sections.)		
20. Checks the slope rates at two (2) different fill cross-sections by using an automatic level. (Note: Activities 19 & 20 can be accomplished at 4 cut/fill cross-sections.)		
21. Describes finished roadway/ earthwork product at four (4) stations after reading associated slope stakes.		
22. Verifies the plumbness of any combination of three (3) of the following: traffic poles, structure pilings, or concrete pier forms.		

Notes to Accompany the Surveying Checklist for Transportation Construction Inspector Trainees

Inspector Trainees should begin to complete the checklist as soon as possible after completing their Plan Reading and Surveying for Inspector classes. In addition, the Trainees will find helpful information in the Construction Manual, Appendix D – Road and Bridge Stakeout on the following topics: slope stakes; fine grade stakes; bridge stakeout responsibilities; use of surveying instruments; and checking plan dimensions and elevations.

In completing the checklist, the Trainees should attempt to visualize/picture in their minds what the measurements, distances, elevations, locations, clearances, slope rates, etc. mean in relation to ongoing construction activities as well as to the completed project.

With most of the tasks, the Trainee and the Monitoring Inspector (or Surveyor) will find specified conditions or standards (the number of instances or times to complete a task, the number of items to measure, the lengths to measure, the number of locations and types of items to check/verify, etc.) under which the performance is to occur.

Recognizing that the Trainees will differ individually in skills, abilities, and experience, VDOT is listing these conditions or standards as simple guidelines for both the Trainee and the Monitoring Inspector/Surveyor to use as appropriate.

However, VDOT expects each Trainee to “master” the task at-hand - and to not just meet the specified condition(s) or standard(s) - to insure that he/she can successfully complete it in the future on a repeated, ongoing, and sustainable basis as a part of his/her normal work functions with little or no help from other people.

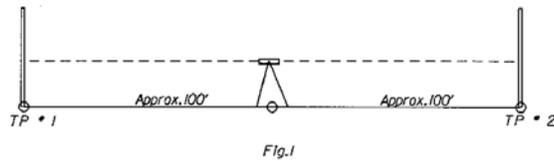
Some Trainees may require more attempts and some may require less attempts in order to master a particular task. Therefore, the Monitoring Inspector/Surveyor must only “sign-off” when he/she is comfortable that the Trainee can complete the task on a repeated, ongoing, and sustainable basis in the future with little or no help from others.

LEVEL ACCURACY CHECK BY " PEGGING METHOD "

- 1 . Set up Automatic level midway between two stable turning points, approximately 100' in each direction. (Fig.1)
- 2 . Read rod on TP * 1 to the thousandth and add to assumed elevation of 100.000', creating height of instrument.
- 3 . Rotate level 180° and read rod on TP * 2 : subtract from H.I., creating elevation on TP * 2
- 4 . Relocate level and set up approximately 10' past TP * 2. (Fig.2)
- 5 . Read rod on TP * 2 and add to elevation of TP * 2, creating new H I.
- 6 . Read rod on TP * 1 : subtract from H.I. to determine elevation of TP * 1.

* IMPORTANT *

If elevation determined in Step * 6 varies from the beginning elevation of 100.000' by as much as 0.020', the Level is not reading on a truly level line. For confidence in your own observations, repeat the entire procedure. If a similar variance is determined adjustment or repair is necessary. For assistance call the Survey Section of your District Location And Design Unit.



SAMPLE LEVEL NOTES

STATION	PLUS	HT. INST.	MINUS	ELEV.	BENCHMARK
TP * 1			5.574	100.007	100.000'
TP * 2	5.338	105.581	4.973	100.243	
TP * 1	5.216	105.216			100.000'

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LEVEL CARE & USE

Job Element	Date	Project Inspector's Signature
Performs the use the level road in the field on actual inspection scenarios (6 times).		
Maintains the level properly.		
Performs proper use of the level in the field on actual inspection scenarios (6 times).		
Enters the data from the actual inspection scenarios above.		
Checks the level for accuracy (3 times).		
Performs the checking, transferring, and resetting of grades (4 times).		

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LEVEL CARE & USE

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TRANSIT CARE & USE

Job Element	Date	Project Inspector's Signature
Maintains the transit properly.		
Performs the correct use of the transit in the field on actual inspection scenarios (6 times).		
Computes curve data associated with the actual inspection scenarios above (6 times).		
Checks the transit for accuracy (3 times).		
Enter the data from the 6 actual inspection scenarios above.		

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TRANSIT CARE & USE

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Project Preparation

Job Element	Date completed	Project Inspector's Signature
1. Explains why project preparation is important.		
2. Attends each of the following project meetings three times: a. Pre-advertisement Meeting i. Date ii. Date iii. Date b. Project Showing i. Date ii. Date iii. Date c. Pre-construction meeting i. Date ii. Date iii. Date		
3. Explains why pre-construction project conditions must be photographed.		
4. Completes photographing pre-construction project conditions.		
5. Can establish the project files for a project.		
6. Review the project file at the Residency Office and ensures that the following are copied and placed in project files: a. Right-of- Way Agreements b. Soil Survey c. Environmental Permits d. Constructability Review (if available) e. Bid-ability Review (if available) f. Pre-construction Quantity Estimate		

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7. Reviews at least 2 of the 6 documents shown in item 6 above for informational purposes.		
8. Verifies that the Contractor has provided the source list for all no-pay materials.		
9. Verifies that the Right-of-Way and all easements are staked before construction begins.		
10. Ensures that all Begin Construction and End Construction Signs are properly placed before construction starts.		
11. Ensures that the bid quantities in the contract match the quantities shown on the plans (for the same 6 different quantity units).		
12. With a highlighter, identifies from the General Notes on the plans those conditions that apply to the project.		
14. Completes the Job Element Set on Field Office. Note; Should include "Verifies that the Network Connection is completed", etc.		

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PROJECT FINALIZATION

Job Element	Date Completed	Project Inspector's Signature
1. Explains the concept that project finalization begins when the construction of a project is started.		
2. On a small, no-plan project, compares the tonnage figures for both stone and asphalt to the associated quantities shown in the Final Summary in SiteManager and the Materials Notebook.		
3. On a small, no-plan project, completes the Asphalt Monthly for a minimum of 3 months.		
4. Completes the Drop Inlet Adjustment Summary for a minimum of 6 different drop inlet structures.		
5. On a Federal-aid project, completes the letter advising where the project payrolls are stored.		
6. Compares the Final Summary against either the current estimate or the Semi-final Estimate.		
7. Resolves any discrepancies found in item 6 above to find any unauthorized or any incorrect Daily Work Reports (DWR's) by running Installed Reports on SiteManager.		

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8. Authorizes or edits (with proper permissions) the unauthorized or incorrect DWR's found in item 7 above.		
9. Checks the Transition Summary Report against the project diary at least once per month for a period of a minimum of 3 months just prior to the estimate completion date.		
10. Determines if the DWR's support the payment of 10 different pay items each with different units.		
11. Prepares a set of final records for a small project (preferably a no-plan project) to include the distinct separation of the tonnage and non-tonnage tickets.		