

**STATE OF OHIO (DAS)**CLASSIFICATION  
SPECIFICATION**CLASSIFICATION SERIES:**

Photogrammetry

**SERIES NO.:**

8232

**MAJOR AGENCIES:**

Transportation

**EFFECTIVE DATE:**

02/26/2012

**SERIES PURPOSE:**

The purpose of the photogrammetry occupation is to produce topographic & planimetric maps & other photogrammetric products (e.g., X-sections, site plans, plan sheets, line sheets) for use by requesting engineer (e.g., planning; design; construction; maintenance) in development of highway projects.

At the lower levels, incumbents receive training & produce topographic & planimetric maps & terrain data through manual operation of stereoplotter.

At the middle levels, incumbents prepare, review & revise topographic maps & related highway project plans & develop original aerotriangulation data & original & revised site plans & specifications through use of analytical stereoplotter & interactive graphics system.

At the higher level, incumbents coordinate photogrammetric review of district survey control data & determine completeness & accuracy of data.

**CLASS TITLE**

Photogrammetry Technician 1

**CLASS NUMBER**

82320

**PAY RANGE**

27

**EFFECTIVE**

01/09/2005

**CLASS CONCEPT:**

The developmental level class works under close supervision & requires working knowledge of surveying principles/techniques, trigonometry & basic photogrammetry principles/techniques in order to receive training in photogrammetry procedures & techniques & assist higher-level photogrammetry personnel in manual operation of stereoplotter to produce topographic & planimetric maps & terrain data for use in design, construction & maintenance of structures & highways.

**CLASS TITLE**

Photogrammetry Technician 2

**CLASS NUMBER**

82321

**PAY RANGE**

28

**EFFECTIVE**

03/26/1990

**CLASS CONCEPT:**

The first full performance level class works under general supervision & requires considerable knowledge of surveying principles/ techniques, basic photogrammetry principles/techniques, aerial photograph interpretation & trigonometry in order to independently produce topographic & planimetric maps through manual operation of projection stereoplotters & digitizers for use in design, construction & maintenance of structures & highways.

**CLASS TITLE**

Photogrammetrist 1

**CLASS NUMBER**

82322

**PAY RANGE**

29

**EFFECTIVE**

03/26/1990

**CLASS CONCEPT:**

The second full performance level class works under general supervision & requires considerable knowledge of surveying principles/ techniques, photogrammetry principles/techniques, aerial photograph interpretation, trigonometry & aerotriangulation principles/techniques in order to prepare, review & revise topographic component of highway design plans & related design information through use of analytical stereoplotter interactive graphic design system/equipment.

**CLASS TITLE**

Photogrammetrist 2

**CLASS NUMBER**

82323

**PAY RANGE**

30

**EFFECTIVE**

01/09/2005

**CLASS CONCEPT:**

The third full performance level class works under general supervision & requires thorough knowledge of surveying principles/techniques, photogrammetric principles/techniques, aerial photograph interpretation, interactive graphics design system, aerotriangulation principles/techniques & trigonometry in order to plan & develop original aerotriangulation data & original & revised site plans & related photogrammetric data through use of analytical stereoplotter/interactive graphic design system.

**CLASS TITLE**

Photogrammetrist 3

**CLASS NUMBER**

82324

**PAY RANGE**

31

**EFFECTIVE**

01/09/2005

**CLASS CONCEPT:**

The advanced level class works under general direction & requires thorough knowledge of surveying principles/techniques, photogrammetric principles/techniques, aerial photograph interpretation, interactive graphics system, analytical stereoplotter, aerotriangulation principles/techniques & trigonometry in order to coordinate photogrammetric review of district survey control data required to develop topographic & planimetric maps used in design of transportation projects, determine completeness & accuracy of data, request revisions, complete reports, write correspondence & develop procedures for assessing data.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Photogrammetry Technician 1	82320	07	01/09/2005	27

**JOB DUTIES IN ORDER OF IMPORTANCE: (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)**

Receives training in photogrammetry procedures & techniques & assists higher-level photogrammetrists (i.e., employees assigned to photogrammetry classifications within 8232 series) in manual operation of stereoplotter to produce topographic & planimetric maps & terrain data for use in design, construction & maintenance of structures & highways.

Performs photogrammetric drafting functions & assists in plotting of cross section data, laying manuscripts & preparing photo & map indexes.

Assists in basic cleaning & calibration of projection stereoplotter equipment.

**MAJOR WORKER CHARACTERISTICS:**

Knowledge of surveying principles/techniques; trigonometry; basic photogrammetry principles/techniques. Skill in operation of projection stereoplotter; digitizer. Ability to deal with problems involving several variables in familiar context; read technical manuals & instructions; gather, collate & classify information about data, people or things; cooperate with co-workers on group projects; demonstrate stereo vision.

(\*)Developed after employment.

**MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT:**

Must have normal stereoscopic vision in compliance with following standards as measured by Bausch & Lomb Ortho-Rater: depth 8 or 9, color 6 (if required to operate anaglyph instrument), near acuity 9 or above, near vertical phoria 4 or 5, near horizontal phoria above 5; 12 mos. trg. or 12 mos. exp. in any one of combination of following areas: photogrammetry; highway design draftsman; surveying &/or other comparable engineering technical support function of which included 1 course or 3 mos. exp. in trigonometry.

-Or equivalent of Minimum Class Qualifications for Employment noted above.

**TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT:**

Not applicable.

**UNUSUAL WORKING CONDITIONS:**

Works in semi-darkness (i.e., only light in room is illuminated from equipment in use).

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Photogrammetry Technician 2	82321	07	03/26/1990	28

**JOB DUTIES IN ORDER OF IMPORTANCE: (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)**

Prepares, reviews & revises topographic component of highway design plans for state highway projects through manual use of projection stereoplotting photogrammetric equipment design systems (e.g., performs final calibration of equipment, views terrain in three-dimension, traces contours) & independently produces topographic & planimetric maps & digital terrain data.

Prepares design information (e.g., cross section data; highway centerline locations; earthwork quantities; vertical & horizontal survey control data) through manual use of projection stereoplotting photogrammetric equipment design systems; receives training in analytical photogrammetry (e.g., vertical & horizontal survey control data; manual aerotriangulation; developing cross sections from photogrammetric mapping).

Assists in providing training to lower-level photogrammetry personnel in photogrammetric theory & principles & in equipment operation, calibration & maintenance.

**MAJOR WORKER CHARACTERISTICS:**

Knowledge of surveying principles/techniques; basic photogrammetry principles/techniques; aerial photograph interpretation; trigonometry. Skill in operation of projection stereoplotter; digitizer. Ability to define problems, collect data, establish facts & draw valid conclusions; use trigonometry; read technical manuals & instructions; gather, collate & classify information about data, people or things; work alone on most tasks; cooperate with co-workers on group projects; demonstrate stereo vision.

(\*)Developed after employment.

**MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT:**

Must have normal stereoscopic vision in compliance with following standards as measured by Bausch & Lomb Ortho-Rater: depth 8 or 9, color 6 (if required to operate anaglyph instrument), near acuity 9 or above, near vertical phoria 4 or 5, near horizontal phoria above 5; completion of 2 yr. technical program in geodetic science & surveying.

-Or normal stereoscopic vision as previously cited; 24 mos. trg. or 24 mos. exp. in field of photogrammetry.

-Or normal stereoscopic vision as previously cited; 24 mos. as Photogrammetry Technician 1, 82320.

-Or equivalent of Minimum Class Qualifications for Employment noted above.

**TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT:**

Not applicable.

**UNUSUAL WORKING CONDITIONS:**

Works in semi-darkness (i.e., only light in room is illuminated from equipment in use).

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Photogrammetrist 1	82322	13	03/26/1990	29

**JOB DUTIES IN ORDER OF IMPORTANCE: (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)**

Prepares, reviews & revises topographic component of highway design plans for state projects through use of analytical stereoplotting & interactive graphics design systems/equipment.

Prepares design information including cross section data, highway centerline locations, earthwork quantities & vertical & horizontal survey control data through use of analytical stereoplotting & interactive graphics design systems/equipment.

**MAJOR WORKER CHARACTERISTICS:**

Knowledge of advanced survey principles/techniques; basic photogrammetry principles/techniques; aerial photograph interpretation; trigonometry; employee training & development\*; aerotriangulation principles/techniques. Skill in operation of computer\*; optical stereo plotter; digitizer. Ability to define problems, collect data, establish facts & draw valid conclusions; read technical manuals & instructions; gather, collate & classify information about data, people or things; work alone on most tasks; cooperate with co-workers on group projects; demonstrate stereo vision.

(\*)Developed after employment.

**MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT:**

Must have normal stereoscopic vision in compliance with following standards as measured by Bausch & Lomb Ortho Rater: depth 8 or 9, color 6 (if required to operate anaglyph instrument), near acuity 9 or above, near vertical phoria 4 or 5, near horizontal phoria above 5; completion of 2 yr. technical program in geodetic science & surveying; 12 mos. exp. as projection stereoplotter operator.

-Or normal stereoscopic vision as previously cited; 12 mos. as Photogrammetrist Technician 2, 82321.

-Or equivalent of Minimum Class Qualifications for Employment noted above.

**TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT:**

Not applicable.

**UNUSUAL WORKING CONDITIONS:**

Not applicable.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Photogrammetrist 2	82323	07	01/09/2005	30

**JOB DUTIES IN ORDER OF IMPORTANCE: (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)**

Plans & develops original aerotriangulation data to supply survey data required to orient stereo photogrammetric models through use of analytical stereoplotting/interactive graphics design systems & plans & reviews application of large photogrammetric bundle adjustment program.

Plans & develops original & revised site plans & specifications, photogrammetric mapping, route locations, straight line diagrams, & engineering drawings & project plans through use of analytical stereoplotter interactive graphics design systems.

Reviews aerotriangulation data & digitizing of route locations & surveys, topography, cadastral survey data, demographic data, programmed design & construction projects created by lower-level technicians; reviews computations of aerial & linear measurements, cross sectioning, earthwork quantities, highway centerline locations & vertical & horizontal alignment for accuracy & completeness; provides technical guidance & assistance to other technicians using aero triangulation methods & data on programmetric procedures (e.g., engineering mapping; plan preparation; project reports).

**MAJOR WORKER CHARACTERISTICS:**

Knowledge of advanced surveying principles/techniques; advanced photogrammetry principles/techniques; aerotriangulation principles/techniques; aerial photograph interpretation; interactive graphics system; trigonometry; employee training & development\*. Skill in operation of computer; analytical stereoplotter; interactive graphics. Ability to define problems, collect data, establish facts & draw valid conclusions; read technical manuals & instructions; gather, collate & classify information about data, people or things; work alone on most tasks; cooperate with co-workers on group projects; handle sensitive inquiries from & contacts with officials & general public.

(\*)Developed after employment.

**MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT:**

Must have normal stereoscopic vision in compliance with following standards as measured by Bausch & Lomb Ortho Rater: depth 8 or 9, color 6 (if required to operate anaglyph instrument), near acuity 9 or above, near vertical phoria 4 or 5, near horizontal phoria above 5; completion of undergraduate core program in geodetic science & surveying; 12 mos. exp. as analytical stereoplotter operator.

-Or normal stereoscopic vision as previously cited; 12 mos. exp. as Photogrammetrist 1, 82322.

-Or equivalent of Minimum Class Qualifications for Employment noted above.

**TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT:**

Not applicable.

**UNUSUAL WORKING CONDITIONS:**

Not applicable.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Photogrammetrist 3	82324	07	01/09/2005	31

**JOB DUTIES IN ORDER OF IMPORTANCE: (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)**

Coordinates photogrammetric review of district survey control data required to develop stereo photogrammetric models for developing topographic & planimetric maps used in design of transportation projects, determines completeness & accuracy of data through use of aerotriangulation & analytical stereoplotter operational techniques & accepts or rejects control data, requests necessary revisions from district personnel, completes reports summarizing control adequacy & writes correspondence & procedures as needed.

Initiates review of photogrammetric aerotriangulation data for preparing highway project plans (e.g., route locations & surveys; topography; demographic data; programmed design & construction projects); computes aerial & linear measurements, cross sectioning, earthwork quantities & highway centerline locations; develops procedures for assessing data & prepares &/or monitors agency district photogrammetric aerotriangulation procedures & data.

Assists supervisor as needed; meets with district engineers, contractors & consultants to resolve aerotriangulation data problems.

**MAJOR WORKER CHARACTERISTICS:**

Knowledge of surveying principles/techniques; photogrammetric principles/techniques; stereo aerotriangulation principles/techniques; aerial photograph interpretation; interactive graphics system; analytical stereoplotters; trigonometry; public relations. Skill in operation of computer; optical & analytical stereoplotter; interactive graphics. Ability to define problems, collect data, establish facts & draw valid conclusions; prepare meaningful, concise & accurate reports; gather, collate & classify information about data, people or things; cooperate with co-workers on group projects; demonstrate stereo vision.

**MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT:**

Must have normal stereoscopic vision in compliance with following standards as determined on Bausch & Lomb Ortho Rater: depth 8 or 9, color 6 (if required to operate anaglyph instrument), near acuity 9 or above, near vertical phoria 4 or 5, near horizontal phoria above 5; completion of undergraduate core program in geodetic science & surveying; 24 mos. exp. as analytical stereoplotter operator.

-Or normal stereoscopic vision as previously cited; 12 mos. exp. as Photogrammetrist 2, 82323.

-Or equivalent of Minimum Class Qualifications for Employment noted above.

**TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT:**

Not applicable.

**UNUSUAL WORKING CONDITIONS:**

Not applicable.