

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

Bridge Specialist

SERIES NO.:

8585

MAJOR AGENCIES:

Transportation only

EFFECTIVE DATE:

03/04/2007

SERIES PURPOSE:

The purpose of the bridge specialist occupation is to visually & physically perform bridge & culvert inspections to evaluate structural condition & to determine existence & extent of damage, deterioration & potential hazards & to prepare & maintain related records & reports used as basis by bridge engineer to schedule replacement, repairs & painting.

At the lower level, incumbents receive training to gain expertise to conduct bridge & culvert inspections & assist higher-level bridge specialist with conducting bridge inspections.

At the higher level, incumbents independently or as part of two-person team perform bridge & culvert inspections to evaluate structural conditions and/or act as lead worker (i.e., provides work direction & training) over lower-level bridge specialists, prepare & maintain reports & records of bridge inspections & assist maintenance crews in making repairs to bridge structure.

Note: Employees classified as Bridge Specialist 1, 85851, shall be reclassified to Bridge Specialist 2, 85852, the first day of the pay period following the date the employee submits documentation to ODOT that shows they meet the minimum qualifications for Bridge Specialist 2, 85852. It is the employee's responsibility to notify ODOT.

CLASS TITLE

Bridge Specialist 1

CLASS NUMBER

85851

PAY RANGE

31

EFFECTIVE

03/04/2007

CLASS CONCEPT:

The developmental level class works under immediate supervision of professional engineer & requires some knowledge of bridge design, construction & maintenance, bridge inspection procedures & how to read simple plans & specifications in order to receive training in how to conduct bridge & culvert inspections & assist higher-level bridge specialists in conducting bridge & culvert inspections & operate state vehicle to perform bridge or culvert inspection & transport bridge inspection equipment to & from bridge sites.

CLASS TITLE

Bridge Specialist 2

CLASS NUMBER

85852

PAY RANGE

32

EFFECTIVE

03/04/2007

CLASS CONCEPT:

The full performance level class works under direction of professional engineer & requires considerable knowledge of bridge design, construction & maintenance, national & state bridge inspection standards & guidelines, bridge inspection procedures, use & operation of hand, power & motorized bridge inspection equipment & how to read plans & specifications in order to independently or as part of two-person team perform bridge & culvert inspections to evaluate structural condition & to determine existence & extent of damage, deterioration & potential hazards, prepare & maintain reports & records related to bridge & culvert inspections &/or act as lead worker (i.e., provides work direction & training) over lower-level bridge specialists & operate state vehicle to perform bridge or culvert inspection & transport bridge inspection equipment to & from bridge sites.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Bridge Specialist 1	85851	13	03/04/2007	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.)

Receives training in how to visually & physically conduct bridge & culvert inspections to include climbing structures & operating bridge inspection equipment & assists higher-level bridge specialist in physically & visually inspecting bridges & culverts (e.g., visually inspects all components of bridges; sounds bridges using hammer or sounding rod; assists in making sketches & taking photographs of areas of deterioration; climbs bridges; enters & crawls through culverts; wades in water &/or operates boat to determine scour holes; positions, lifts, carries &/or climbs ladders; takes measurements; records data) to determine existence & extent of damage, deterioration & potential hazards & operates state vehicle (e.g., pickup truck or van) to perform bridge or culvert inspection & transport bridge inspection equipment (e.g., coring machine, pin tester, rebar locator & chain drag) to & from bridge sites.

Receives training in how to prepare & maintain reports & records related to bridge inspections & assists in completing bridge inspection report (i.e., BR 86); prepares reports & assists in making recommendations for needed maintenance, repairs & replacement of bridges & culverts from field inspections.

Attends seminars for training; assists maintenance crews in repairing bridge structures.

MAJOR WORKER CHARACTERISTICS:

Knowledge of bridge & culvert design, construction & maintenance; national & state bridge inspection standards & guidelines*; bridge & culvert inspection procedures & techniques*; safety practices associated with bridge & culvert inspections*. Skill in use & operation of bridge inspection equipment (e.g., hammer, sound rod & chains, camera, boat, ladders, plumb bob, gas detection monitors, magnetic particle device, ultrasonic pin tester, ultrasonic thickness gage, dye penetrant, measuring instruments & tools); operation of motor vehicle (e.g., pickup truck or van). Ability to read simple plans & specifications; define problems, collect data, establish facts & draw valid conclusions about structural conditions of bridges & culverts; calculate fractions, decimals & percentages; understand manuals & verbal instructions which are technical in nature; cooperate with co-workers on group projects; ability to demonstrate physical fitness (e.g., to crawl through culverts; to climb up & down ladders, fences & hillsides; balance & stay upright to wade in high water); lift & move up to 60 pounds.

(*)Developed after employment.

MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT:

2 yrs. trg. or 2 yrs. exp. in reading & interpreting plans & specifications to determine basic dimensions & bridge terminology; 2 yrs. trg. or 2 yrs. exp. in position applying knowledge of bridge design, construction & maintenance to complete daily assignments; valid driver's license.

-Or possess National Institute for Certification of Engineering Technologies Level I or Level II inspection certification (i.e., under National Society of Professional Engineers); valid driver's license.

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

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

Successful completion of agency approved confined space assessment & work training course. Successful completion of Ohio Department of Transportation's bridge inspector training & Ohio Department of Transportation's climbing course. Employees must take the confined space assessment & work training course, the ODOT Bridge Inspector Training (orientation) & ODOT climbing course the first time offered, notwithstanding extenuating & mitigating circumstances. If failed the first time offered, employee may re-test the next time course is offered. However, if employee does not pass on the second attempt or refuses to take either the training or climbing course, employee shall be reclassified to the classification held prior to becoming a Bridge Specialist 1, 85851, or be removed if hired as a Bridge Specialist 1, 85881. ODOT may subsequently change the prior curriculum for ODOT comprehensive training based on the Federal Highway Administration Safety Inspection of In-Service Bridges Course & ODOT climbing course as necessary to comply with Federal regulations & such may be administered by entities other than ones previously used so long as the course content is not substantially changed.

Note: Employees classified as Bridge Specialist 1, 85851, shall be reclassified to Bridge Specialist 2, 85852, the first day of the pay period following the date the employee submits documentation to ODOT that shows they meet the minimum qualifications for Bridge Specialist 2, 85852. It is the employee's responsibility to notify ODOT.

Bridge Specialist 1's hired prior to the effective date of this classification specification must successfully complete the confined space assessment & work training course pursuant to the updated training and development required to remain in the classification after employment set forth above. If the confined space assessment & work training course is not successfully completed, the employee will be placed in accordance with Article 37.09 per Union & Management Agreement.

UNUSUAL WORKING CONDITIONS:

Requires travel; must climb & walk structural members on bridges; must work at heights varying from 10-500 feet; enter & crawl through culverts; wade in water or operate boat in water; access bridges from a snooper truck; exposed to varying environmental conditions (e.g., poison ivy, weather, insects, animals/reptiles, birds); works around traffic.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Bridge Specialist 2	85852	13	03/04/2007	32

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.)

Independently or as part of two-person team, visually & physically performs standard, special & emergency inspections on, under & above bridges & culverts to include climbing structures, performing on-site material, non-destructive testing & operating bridge inspection equipment to determine existence & extent of damage, deterioration & potential hazards &/or acts as lead worker (i.e., provides work direction & training) over lower-level bridge specialists & operates state vehicle (e.g., pickup truck or van) to perform bridge or culvert inspection & transport bridge inspection equipment (e.g., coring machine, pin tester, rebar locator & chain drag) to & from inspection sites.

Prepares & maintains records & reports detailing bridge & culvert inspections conducted which are used by bridge engineer as basis for scheduling repairs, painting & replacement (e.g., identifies bridge structure types; updates bridge inventory file; develops inspection sequence; updates pictures & videos; makes recommendations for bridge replacement, repair & painting; prepares work orders for items needing repair or maintenance; gathers data, gets measurements & inputs data for bridge load rating analysis & bridge management system; prepares sketches & simple plans for bridge repair & painting); trains & provides direction to lower-level bridge specialists in completion of required reports & records.

Assists maintenance crews in making repairs to bridge structures (e.g., bridge deck repairs by mixing concrete; banding pipe for culvert construction or repair; waterproofing deck surfaces); schedules inspections to comply with state law or district policy as to intervals of inspection; collects & reviews pertinent data in order to prepare for site inspections; makes arrangements for needed equipment & traffic control for scheduled inspections.

MAJOR WORKER CHARACTERISTICS:

Knowledge of bridge & culvert design, construction & maintenance; national & state bridge inspection standards & guidelines; bridge & culvert inspection procedures & techniques; safety practices associated with bridge & culvert inspections; employee training & development*. Skill in use & operation of bridge inspection equipment (e.g., hammer, sound rod & chains, camera, boat, ladders, plumb bob, gas detection monitors, magnetic particle device, ultrasonic pin tester, ultrasonic thickness gage, dye penetrant; measuring instruments & tools); operation of motor vehicle (e.g., pickup truck or van). Ability to read simple plans & specifications; define problems, collect data, establish facts & draw valid conclusions about structural conditions of bridges & culverts; calculate fractions, decimals & percentages; understand manuals & verbal instructions which are technical in nature; cooperate with co-workers on group projects, or work alone on assignments; demonstrate physical fitness (e.g., to crawl through culverts; to climb up & down ladders, fences & hillsides; to balance & stay upright to walk bridge spans/beams with inspection equipment); lift & move up to 60 pounds.

(*)Developed after employment.

MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT:

Successful completion of agency approved confined space assessment & work training course; successful completion of Ohio Department of Transportation's comprehensive training based on Federal Highway Administration safety inspection of in-service bridges course; successful completion of certified bridge climbing course; five (5) years bridge inspection experience (i.e., bridge inspection is defined as active participation in bridge inspections in accordance with National Bridge Inspection Standards, in either a field inspection, supervisory or management role); valid driver's license. Note: A combination of experience in bridge design, bridge maintenance, bridge construction (i.e., 2.4 years maximum) & bridge inspection (i.e., 2.6 years minimum) with the predominant amount in bridge inspection is acceptable.

-Or successful completion of agency approved confined space assessment & work training course; successful completion of Ohio Department of Transportation's comprehensive training based on Federal Highway Administration safety inspection of in-service bridges; successful completion of certified bridge climbing course; successful completion of Level III or IV bridge inspection certification under National Society of Professional Engineers' program for National Certification in Engineering Technologies (NICET); valid driver's license.

-Or successful completion of agency approved confined space assessment & work training course; successful completion of Ohio Department of Transportation's comprehensive training based on Federal Highway Administration safety inspection of in-service bridges; successful completion of certified bridge climbing course; bachelor's degree in engineering from college or university accredited by or determined as substantially equivalent by Accreditation Board for Engineering & Technology; successful passage of National Council of Examiners for Engineering & Surveying Fundamentals of Engineering examination; two (2) years bridge inspection experience (i.e., bridge inspection is defined as active participation in bridge inspections in accordance with National Bridge Inspection Standards, in either a field

inspection, supervisory or management role); valid driver's license. Note: A combination of experience in bridge design, bridge maintenance, bridge construction (i.e., .9 years maximum) & bridge inspection (i.e., 1.1 years minimum) with the predominant amount in bridge inspection is acceptable.

-Or successful completion of agency approved confined space assessment & work training course; successful completion of Ohio Department of Transportation's comprehensive training based on Federal Highway Administration safety inspection of in-service bridges; successful completion of certified bridge climbing course; associate's degree in engineering or engineering technology from college or university accredited by or determined as substantially equivalent by Accreditation Board for Engineering & Technology; four (4) years bridge inspection experience (i.e., bridge inspection is defined as active participation in bridge inspections in accordance with National Bridge Inspection Standards, in either a field inspection, supervisory or management role); valid driver's license. Note: A combination of experience in bridge design, bridge maintenance, bridge construction (i.e., 1.9 years maximum) & bridge inspection (i.e., 2.1 years minimum) with the predominant amount in bridge inspection is acceptable.

-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:

Requires travel; must climb & walk structural members on bridges; must work at heights varying from 10-500 feet; enter & crawl through culverts; wade in water or operate boat in water; access bridges from snooper truck; exposed to varying environmental conditions (e.g., poison ivy, weather, insects, animals/reptiles, birds); works around traffic.