THEME PAPER
Ensuring and Advancing the Workforce in Indonesia's Construction Sector

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1. INTRODUCTION

The construction sector plays a strategic role in the national development process, particularly in supporting economic growth and meeting societal needs. Several strategic roles of the construction sector include infrastructure development, job creation, economic stimulation, innovation and technology, sustainability maintenance, poverty and inequality reduction, local capacity building, quality of life improvement, and national security and resilience.

The construction sector has both backward and forward linkages with other economic sectors. The construction industry has backward linkages, which refer to opportunities for providing investment prospects for other sectors. On the other hand, forward linkages measure the connections going forward, indicating the provision of inputs by one economic sector to other economic sectors.

The important role of the construction sector in driving economic growth from year to year still needs to be enhanced, particularly through increasing the amount of investment. However, this condition must also be accompanied by improvements in aspects related to the capabilities and capacities of Construction Service Enterprises in carrying out construction activities, supported by the availability of adequate materials, equipment, and technology, as well as the availability of competent construction worker.

The government, as a regulator, also sets specific competency requirements for construction workers, including educational qualifications, educational program requirements, and work experience for certain job positions. Additionally, the government has developed and periodically reviewed the applicability of the Indonesian National Work Competency Standards, which serve as a reference for certification by licensed Professional Certification Bodies under the National Professional Certification Agency. Furthermore, the government has implemented programs to align vocational education curricula and vocational training with the needs of the business world and industry.

The construction sector in Indonesia contributes approximately 10.49% to the Gross Domestic Product, with one of its contributors being construction worker. However, according to data from the Central Bureau of Statistics in 2023, the current state of Indonesian construction worker is still predominantly comprised of workers with education levels of Senior High School or below, accounting for more than 90%, as shown in the table below (Source: Construction in Figures – *Konstruksi dalam Angka*, BPS, August 2022).

Table 1. *Construction Sector Workforce Data (August 2022)*

NO	EDUCATION LEVEL	CONSTRUCTION WORKERS	PERCENTAGE
1	Not Graduated	789.744	9,31 %
2	Elementary School	2.857.768	33,69 %
3	Middle School	2.217.009	26,13%
4	High School (SMA/SMK)	2.220.539	26,18%
5	Diploma (DI-DII-DIII)	70.420	0,83%
6	University	325.869	3,84%
TOTAL		**8.481.349**	

The Ministry of Public Works and Housing, through the Directorate General of Construction Development and the Construction Services Development Board of Indonesia, plays a role in accordance with the mandate of Law No. 2 of 2017 on Construction Services, Article 84, which explains that the implementation of certain central government authorities is carried out by involving the construction services community through a non-structural institution established by the Minister, namely the Construction Services Development Board of Indonesia.

The tasks of the Construction Services Development Board of Indonesia according to Government Regulation No. 14 of 2021 on the Implementation of Law No. 2 of 2017 on Construction Services are as follows:

1. Recording of Experience;
2. Accreditation;
3. Appointment of Expert Assessors;
4. Establishment of Professional Certification Bodies;
5. Issuance of Licenses;
6. Equivalence in the Construction Services Sector; and
7. Other tasks assigned by the Minister.

Based on Government Regulation No. 14 of 2021 on the Implementation of Law No. 2 of 2017 on Construction Services and the Minister of Public Works and Housing Regulation No. 08 of 2022 on the Procedures for the Fulfillment of Construction Service Standards Certification to Support Ease of Business Licensing for Construction Business Entities. Qualifications and Job Levels of Construction Workers as follows:

Table 2. *Qualifications and Job Levels of Construction Workers.*

No.	Qualification	Level
1	Expert	7, 8, 9
2	Technician / Analyst	4, 5, 6
3	Operator	1, 2, 3

Job Levels in the Construction Sector and Their Requirements are detailed in Appendix I.

The classification and sub-classification of construction workers according to Government Regulation No. 14 of 2021 on the Implementation of Law No. 2 of 2017 on Construction Services are as follows:

Table 3. *Classification and Subclassification of Construction Workforce*

NO	CLASSIFICATION	SUBCLASSIFICATION
1	Architecture	1
2	Civil	23
3	Mechanical	7
4	Environmental Management	5
5	Implementation Management	6
6	Landscape Architecture, Illumination, and Interior Design	3
7	Regional and Urban Planning	3
8	Science and Engineering	3

The classification and sub-classification according to Government Regulation No. 14 of 2021 on the Implementation of Law No. 2 of 2017 on Construction Services are fully detailed in Appendix II.

2. REGULATIONS FOR CERTIFIED CONSTRUCTION WORKERS

Construction worker certification is conducted through licensed Professional Certification Bodies in the construction sector, in accordance with legal regulations. Efforts to increase the number of certified construction workers must be intensively and continuously promoted by the central government (Directorate General of Construction Development, Ministry of Public Works and Housing, and the Construction Service Development Board) and local governments (responsible for construction oversight). This includes emphasizing the obligation for all construction workers to hold a Construction Work Competency Certificate, ensuring that service users/providers employ certified construction workers, and enforcing strict penalties for workers lacking certification. Certification or competency assessment by Professional Certification Bodies is conducted in a tiered manner based on the demand for specific job certification, adhering to Indonesian National Work Competency Standards, Special Standards, or International Competency Standards.

2.1. Establishment of Professional Certification Organizations

Certification or competency assessment for construction workers is conducted by Professional Certification Bodies established by accredited construction professional associations or by educational and training institutions, in accordance with legal regulations.

The competency certification process for construction workers is conducted by Professional Certification Bodies that must be licensed by National Professional Certification Agency and registered with the Construction Service Development Board. According to data from the Indonesian Construction Information System as of June 19, 2024, managed by the Construction Service Development Board, there are currently 69 Professional Certification Bodies that are both licensed and registered with Construction Service Development Board. The details of these licensed Professional Certification Bodies, based on their constituent elements, are as follows:

Table 4. Details of Licensed Professional Certification Institutions Based on Forming Elements (as of July 24, 2024)

Forming Element	Number of Licensed Professional Certification Institutions
Accredited Professional Associations	41
Educational and Job Training Institutions	28
Total	**69**

2.1.1. Professional Certification Bodies Established by Accredited Professional Associations

One of the elements forming the Professional Certification Bodies is the accredited Professional Association. Accreditation is carried out by the Minister through the Construction Services Development Board. Accreditation is an assessment activity and a form of formal recognition to determine the eligibility of an association.

The accreditation requirements for associations are as follows:

a. Registered in general legal administration;
b. Number and distribution of members;
c. Empowerment of members;
d. Democratic election of the board;
e. Facilities and infrastructure at the central and regional levels; and
f. Fulfillment of obligations in accordance with the provisions of laws and regulations.

2.1.2. Professional Certification Bodies Established by Educational and Job Training Institutions

Educational and job training institutions involved in this process include two types:

a. Educational Institutions: Providing education in the field of construction services, such as Vocational High Schools and Universities/Polytechnics.

b. Job Training Institutions: Providing job training in the field of construction services, which includes: private Job Training Institutions, Government Job Training Institutions, and Company Job Training Institutions.

Registration of Educational and Job Training Institutions in the field of construction services
Educational and job training institutions in the field of construction services must register with the Minister through the Construction Services Development Board.

2.2. Issuance of Professional Certification Body License Recommendations by the Construction Services Development Board

Currently, the Construction Services Development Board has issued license recommendations to Professional Certification Bodies, including both new Professional Certification Bodies and those with expanded scopes.

Table 5. *Number of License Recommendations by Forming Element (as of July 27, 2024)*

No	Forming Element	New	Addition of Scope	Jumlah
1	Accredited Professional Associations	55	37	92
2	Government Training Institutions	11	1	12
3	Company Training Institutions	3	1	4
4	Private Training Institutions	19	2	21
5	University	13	0	13
6	Polytechnics	24	0	24
7	Vocational High Schools	83	1	84
	Total	207	42	250

2.3. Issuance of Professional Certification Body Licenses by the National Professional Certification Agency

The issuance of Professional Certification Body licenses is carried out by the National Professional Certification Agency through an assessment process, where the National Professional Certification Agency evaluates the Professional Certification Body's implementation of competency certification by referring to the requirements stipulated in the National Professional Certification Agency's Guidelines and other regulations governing certification in the construction services sector.

Table 6. Number of Licensed Professional Certification Institutions by Forming Element (as of July 24, 2024)

Forming Element		Number Registered	Number of Licensed Professional Certification institutions
Professional Associations		80	41
Educational and Job training institutions	Government Training Institutions (LPK Pemerintah)	16	1
	Company Training Institutions (LPK Perusahaan)	5	1
	Private Training Institutions (LPK Swasta)	29	6
	Universities	19	0
	Polytechnics	22	1
	Vocational High Schools (SMK)	204	9

3. EXISTING CONDITION AND ISSUES OF CONSTRUCTIONS WORKERS

Construction Workers and Construction Service Business Entities are stakeholders in the construction services sector. To ensure the quality of construction services, every Construction Worker and Construction Business Entities operating in the sector must have a Construction Work Competency Certificate and a Construction Service Business Entities Certificate that have been registered by the Minister through the Construction Services Development Board of Indonesia. These certificates serve as evidence of compliance with the standards for carrying out business activities, which are obtained through certification processes conducted by construction service certification bodies.

According to data from the Indonesian Construction Information System as of June 19, 2024, managed by the Construction Services Development Board of Indonesia, the number of registered Construction Work Competency Certificates is 503,870, with a total of 404,134 Construction Workers. The details by qualification are as follows:

Table 7. *Registered Construction Work Competency Certificate by Qualification*

Qualification	**Number of Construction Work Competency Certificates**	**Number of Construction Workers**
Expert	185.431 **Certificates**	134.634 workers
Skilled	318.439 **Certificates**	269.500 workers
Total	**530.870 Certificates**	**404.134** workers

Furthermore, the number of registered Construction Service Business Entities Certificates is 312,724, with a total of 85,805 construction service business entities. The details by qualification are as follows:

Table 8. Registered Construction Service Business Entities Certificates by Qualification
(as of June 19, 2024)

Qualification	**Number of Construction Service Business Entity Certificates (SBU)**	**Number of Construction Service Business Entities (BUJK)**
Small	276.155 **Certificates**	73.622 **Business Entities**
Medium	23.978 **Certificates**	6.636 **Business Entities**
Large	4.647 **Certificates**	1.793 **Business Entities**
Specialist/Individual	7.944 **Certificates**	3.754 **Business Entities**
Total	**312.724 Certificates**	**85.805 Business Entities**

3.1. The Shortfall in Certified Construction Workers Relative to Industry Needs

According to the source: Construction in Figures, BPS, August 2022, the total number of construction workers is 8,481,349, while the number of certified construction workers is 404,134. To address the gap in the demand for certified construction workers, the government has undertaken the following measures:

- Enhancing the quantity and quality of instructors and assessors in the construction field;
- Developing and reviewing the Indonesian National Work Competency Standards (SKKNI) and aligning educational and training modules/curricula in the construction sector with industry needs;
- Improving the quality of construction worker training programs, including vocational training; and

- Implementing competency certification for recent graduates.
  Graduates and/or recent graduates (within the past 2 years) from Polytechnic Diploma IV (DIV) programs and/or universities offering DIV programs and/or Bachelor's degrees (S1) in construction can participate in additional competency training activities, including the Provision of Additional Competency Training (PKT) and remote (online) training through the SIBIMA Construction Sector. They are eligible to undergo competency certification at Level 7 for fresh graduates (accelerated program), with the competency certificate being valid for one year. The competency assessment process conducted by Professional Certification Bodies in the construction sector in Indonesia is designed to ensure that construction workers possess competencies that meet established standards. This is expected to enhance the quality and competitiveness of Indonesian construction workers both nationally and internationally.

3.2. Insufficient Number of Applicants for Construction Worker Competency Certification

The suboptimal number of applicants for construction worker competency certification can be attributed to several factors. These include:

1. **Lack of Awareness and Understanding:** Many workers in the construction sector do not fully understand the importance of competency certification. They may be unaware of the benefits that such certification can offer in terms of skill enhancement and job opportunities.
2. **Accessibility of Training:** In some regions, access to training and certification examinations may be limited. The scarcity of quality training providers or easily accessible examination locations can hinder workers from obtaining certification.
3. **Certification Costs:** The expenses associated with training and certification examinations can be a barrier for many workers, particularly for those without a stable income or those working as freelancers.
4. **Attitudes Toward Formal Education:** Some workers may prefer practical work experience and believe that formal education or certification is not necessary for career success. This perception can reduce motivation to pursue certification programs.
5. **Regulations and Policies:** Government policies related to competency certification can sometimes affect the number of applicants. Ambiguous or inaccessible regulations may deter workers from applying.
6. **Competition:** In certain cases, workers may perceive that certification does not provide a significant competitive advantage compared to their existing work experience or skills.
7. **Perception of Certification:** Certification might be viewed as a mere formality and not considered essential, leading workers to feel that pursuing it is unnecessary.
8. **Availability of Information:** A lack of clear and accurate information regarding the certification process, its benefits, and the steps required to obtain certification can also be a deterrent.

3.3. Suboptimal Dissemination of Construction Service Information Systems

Several factors contribute to the suboptimal dissemination of the Construction Service Information System:

1. **Lack of Understanding and Awareness:** Many construction service providers do not fully grasp the benefits and importance of the Construction Service Information System. This results in low participation in using the system.
2. **Limited Technological Infrastructure:** In some areas, technological infrastructure, such as internet connectivity, remains inadequate. This hinders effective access to and utilization of the Construction Service Information System.
3. **Ineffective Coordination:** Coordination among central and local governments, as well as construction service providers, is often ineffective. Each party may have differing methods and priorities in the implementation of construction services.
4. **Human Resource Limitations:** Not all construction service providers possess the necessary skills or knowledge to operate the Construction Service Information System effectively. Training and development of human resources need to be enhanced.
5. **Regulatory and Policy Constraints:** Frequent changes in regulations and policies can cause confusion and uncertainty among construction service providers, potentially impeding the consistent implementation of the Construction Service Information System.

4. IMPROVEMENT OF CONSTRUCTION WORKFORCE COMPETENCE

The improvement of construction workforce competence in Indonesia is carried out through continuous professional development by stakeholders in the construction services sector and through knowledge transfer conducted by foreign worker users in the construction sector.

4.1. Continuous Professional Development

One effort to maintain and enhance the competence and professionalism of experts is through Continuous Professional Development (CPD) in Construction. CPD is an effort to continuously maintain and improve the competence, professionalism, and productivity of workers with expert qualifications. CPD serves as an indicator for competent construction workers, who must possess three criteria: sufficient knowledge, skills, and work attitudes. CPD can also increase the productivity level of construction workers. Through activities beyond daily tasks and following the provisions outlined in CPD regulations, the capabilities and expertise of construction workers can improve in tandem with increased productivity.

The government has established Minister of Public Works Regulation No. 12 of 2021 on Continuous Professional Development, which mandates that experts must continuously maintain and develop their competencies through participation in expert empowerment programs.

Continuous Professional Development (CPD) activities can be organized by:

a) Ministries/agencies, provincial governments, or district/city governments;
b) Professional associations, business associations, and associations related to the construction services supply chain;
c) Educational and job training institutions;
d) Construction consultants and construction contractors;
e) Fabricators, distributors, and applicators of construction materials and equipment; and

f) Other institutions or organizations with a vision for developing human resources in construction services, which are legally recognized, have a clear organizational structure, and are capable of organizing CPD activities.

CPD activity reports are submitted by registered CPD organizers through the Integrated Construction Services Information System. The report must be submitted within 14 (fourteen) days after the CPD activity concludes.

The Construction Services Development Board verifies and validates the reporting of CPD activities within a maximum of 3 (three) working days from the date of submission. The results of the verification and validation serve as the basis for assessing the verified CPD activity credit points.

4.2. Knowledge and Technology Transfer in the Construction Sector

Regulations concerning foreign construction workers are outlined in Government Regulation No. 14 of 2021 on the Implementation of Law No. 2 of 2017 on Construction Services. As mandated by Article 28 of Government Regulation No. 14 of 2021. Before providing construction services, foreign workers in the construction sector must undergo equivalency and registration with the Minister, this process is managed by the Construction Services Development Board through the construction information system in Indonesia prior to delivering construction services in Indonesia.

As of June 2024, the Construction Services Development Board has registered a total of 503 (five hundred three) foreign construction workers from 25 (twenty-five) countries. Of these, 449 (four hundred forty-nine) foreign construction workers have been accredited with equivalency, while 54 (fifty-four) foreign construction workers have been accredited with discrepancies.

There are two mechanisms for the entry of foreign workers into Indonesia: ASEAN MRA and Non-MRA.

1. **ASEAN MRA** The ASEAN MRA method is designated for ASEAN professionals who hold ACPE certificates and ASEAN Architects who hold AA certificates.
2. **Non-MRA** The Non-MRA method is managed by the Construction Services Development Board as part of its central government authority. This method applies to foreign workers who do not have MRA certificates and is subject to the requirements outlined in Government Regulation No. 14 of 2021:
   a. Specific job positions according to worker regulations;
   b. Minimum educational qualification of a bachelor's degree (S1);
   c. At least 5 (five) years of experience;
   d. Expertise with a copy of the competency certificate or proof of recognized competence from the country of origin, in accordance with the qualifications and classifications required for the job position.

Before foreign workers arrive in Indonesia, they must first obtain a Foreign Worker Utilization Plan from the Ministry of Manpower. For foreign construction workers, before providing construction services in Indonesia, they are required to register with the Construction Services Development Board through the Competency Equivalency mechanism.

One of the obligations for foreign construction workers when working in Indonesia is to conduct knowledge transfer to local assistant workers selected by the foreign worker's employer, in accordance with Article 70b of Government Regulation No. 14 of 2021 and Article 28 of Government Regulation No. 34 of 2021.

Specific positions in the construction sector that can be occupied by foreign workers are determined by the Decree of the Minister of Manpower of the Republic of Indonesia No. 228 of 2019, outlined in Appendix III.

5. CHALLENGES RELATED TO FUTURE CONSTRUCTION WORKFORCE

5.1. Competency-Based Continuous Professional Development Programmed According to the Strategic Plan of the Construction Services Development Board

In Indonesia, the syllabus for Continuous Professional Development for Associations clearly defines responsibilities: the Provincial Government oversees expert-level personnel, while the Municipal/Regency Government is responsible for skilled workers. Additionally, there is a push for professional associations to empower their members, as all construction professionals at the expert level are typically members of a professional association. These professional associations play a crucial role as they serve as platforms for the ongoing development of knowledge. Therefore, it is a challenge to create a Continuous Professional Development program that is well-programmed and aligned in direction and purpose to achieve a national construction service that is reliable and highly competitive.

5.2. The Use of Foreign Worker Through Investment Funding

The entry of foreign worker into the construction sector in Indonesia, accompanied by investment, may reduce job opportunities for domestic construction workers. However, on the other hand, it facilitates the transfer of new knowledge and technology that can positively impact Indonesia's long-term development. Nonetheless, strict regulations and oversight are necessary to ensure that the presence of foreign workers does not displace local workers and to guarantee that the knowledge and skills acquired by Indonesian workers continue to develop.

5.3. Growth in Competent Workforce Not Keeping Pace with National Construction Sector Development

The growth in the number of competent workers failing to keep up with investment in Indonesia's construction sector is a serious issue that requires attention. Despite the rapid expansion of the construction industry due to ongoing infrastructure projects, the available workforce is insufficient to meet the increasing demand. This disparity can lead to project delays, reduced work quality, and potential cost overruns.

One primary cause of this imbalance is the shortage of trained personnel in the construction sector. Many local workers lack the skills and knowledge needed to meet the standards of increasingly complex construction projects. Additionally, the low interest among younger generations in pursuing careers in construction exacerbates this imbalance.

To address this issue, concrete steps are needed, such as enhancing training and education for construction workers, collaborating with educational institutions and industry to create programs that align with worker market needs, and encouraging young people to pursue careers in the construction sector. With structured and integrated efforts, it is hoped that the growth of the construction workforce can match the incoming investment, ensuring that infrastructure development in Indonesia proceeds smoothly and with high quality.

5.4. Enhancing the Distribution and Equitability of Competent Construction Workers

Ensuring the equitable distribution of competence among construction workers in Indonesia is crucial, given the disparities, especially in education. The dominance of higher education institutions on Java Island results in imbalances in knowledge and skills among construction workers across different regions. This disparity can affect the quality of construction work and innovation in the sector. Therefore, steps must be taken to ensure the equitable distribution of competencies throughout Indonesia to support the balanced and sustainable development of the construction industry.

Due to the concentration of higher education institutions on Java Island, many construction workers are also concentrated in this region. This can make it challenging to find quality construction workers in other parts of Indonesia. This imbalance in distribution also impacts economic growth and infrastructure development outside Java Island. Therefore, concrete measures are necessary to improve the availability, distribution, and quality of construction workers across Indonesia. Collaborative efforts between the government, educational institutions, and the construction industry will be key to bridging this gap and ensuring a competent, competitive workforce ready to meet the demands of the national construction industry.

5.5. Equitable Investment Distribution in the Construction Sector Across Regions

In addition to differences in worker availability, investment disparity is also a serious issue in Indonesia's construction industry. Investment tends to be concentrated on Java Island, leaving other regions with limited access to the capital needed for infrastructure and construction projects. This can lead to uneven economic growth and disparities in infrastructure development across Indonesia. To address this issue, policies and incentives are needed to encourage investment outside Java Island, along with collaboratives approaches between central and regional governments and the private sector. Ensuring a more equitable distribution of investment is expected to foster inclusive, sustainable development and benefit the entire Indonesian population.

5.6. Discrepancies in Take-Home Pay Compared to Applicable Remuneration Standards

The government has set standards for fair remuneration through the Decree of the Minister of Public Works and Public Housing No. 524 of 2022, which aims to ensure adequate income and job security for construction workers. This remuneration standard is used as a guideline in the procurement process for government goods and services.

However, in practice, the actual remuneration provided by construction service companies to workers often falls below the established standards. This discrepancy needs to be addressed to ensure compliance with the regulatory framework and to guarantee fair compensation for construction workers.

5.7. Suboptimal Implementation of Occupational Health and Safety Standards to Prevent Construction Service Malpractice

To address safety risks in construction work, the government has established the Ministerial Regulation No. 10 of 2021 concerning Construction Safety Management System Guidelines. The primary goal is to identify, reduce, and manage risks of accidents and other hazards during the construction process. The system comprises eight key components:

1. Safety Policy: An official document that sets out the company's commitment to occupational health and safety (OHS) and establishes specific OHS goals and objectives.
2. Risk Assessment: A thorough evaluation of potential hazards at the construction site, including risk analysis to determine the level of risk associated with various construction activities.
3. Risk Control: Implementation of measures to mitigate or eliminate identified risks, such as using personal protective equipment (PPE), standard operating procedures (SOPs), and maintaining a safe working environment.
4. Education and Training: Ensuring that all workers and staff are well-trained in relevant safety procedures and aware of potential hazards.
5. Monitoring and Auditing: Regular monitoring to ensure compliance with safety policies and procedures, and conducting audits to assess the effectiveness of the Construction Safety Management System.
6. Communication: Encouraging open communication between management, supervisors, and workers regarding safety issues, including prompt reporting of incidents or potential hazards.
7. Emergency Management: Establishing procedures for handling emergencies that may arise at the construction site, including evacuation and prompt medical assistance.
8. Performance Measurement: Setting safety performance indicators to measure progress toward achieving established safety goals and objectives.

The Construction Safety Management System is typically tailored to the specific needs and scale of a given construction project. Effective implementation of this system not only enhances the safety and health of workers but can also improve productivity and efficiency on the construction site.

References:

BPS Indonesia. (2022, December 19). *Konstruksi Dalam Angka, 2022*. Badan Pusat Statistik Indonesia. https://www.bps.go.id/id/publication/2022/12/19/c84c87118c9decd04f00b633/konstruksi-dalam-angka-2022.html

Government Regulation No. 14 of 2021 on Amendments to Government Regulation No. 22 of 2020 on the Implementation of Law No. 2 of 2017 on Construction Services

Government Regulation No. 34 of 2021 on the Use of Foreign Workers

Government Regulation No. 5 of 2021 on the Implementation of Risk-Based Business Licensing;

Law No. 2 of 2017 on Construction Services, amended several times, with the latest amendment by Law No. 6 of 2023 on the Stipulation of Government Regulation in Lieu of Law No. 2 of 2022 on Job Creation

Minister of Manpower Decree No. 228 of 2019 on the Employment of Foreign Workers in the Construction Sector

Minister of Public Works and Housing Regulation No. 12 of 2021 on Sustainable Professional Development (PKB)

Minister of Public Works and Housing Regulation No. 8 of 2022 on the Procedures for Fulfillment of Construction Service Standards Certification

Appendix I

QUALIFICATIONS, JOB LEVELS, AND EDUCATIONAL REQUIREMENTS

Qualification	Level	Educational Requirements* *Program Requirements for Levels 6-9 > SK DJBK 33 of 2023*	Experience Requirements	Competency Requirements
Expert	Level 9	Doctorate / Applied Doctorate / Specialist Education 2	Minimum 0 Years	Pass Expert Competency Test Level 9
		Master's Degree / Applied Master's Degree / Specialist Education 1	Minimum 4 Years	
		Professional Education	Minimum 7 Years	
		Bachelor's Degree / Applied Bachelor's Degree / Applied D4	Minimum 8 Years	
	Level 8	Master's Degree / Applied Master's Degree / Specialist Education 1	Minimum 0 Years	Pass Expert Competency Test Level 8
		Professional Education	Minimum 5 Years	
		Bachelor's Degree / Applied Bachelor's Degree / Applied D4	Minimum 6 Years	
	Level 7	Professional Education	Minimum 0 Years	Pass Expert Competency Test Level 7
		Bachelor's Degree / Applied Bachelor's Degree / Applied D4 (with additional competencies for fresh graduates*, SKK validity is 1 year) + SIBIMA	Minimum 0 Years	
		Bachelor's Degree / Applied Bachelor's Degree / Applied D4	Minimum 2 Years	
Teknisi/ Analis	Level 6	Bachelor's Degree / Applied Bachelor's Degree / Applied D4	Minimum 0 Years	Pass Expert Competency Test Level 6
		Diploma 3 (D3)	Minimum 4 Years	
		Diploma 2 (D2)	Minimum 8 Years	
		Diploma 1 (D1)	Minimum 12 Years	
	Level 5	Diploma 3 (D3)	Minimum 0 Years	Pass Expert Competency Test Level 5
		Diploma 2 (D2)	Minimum 4 Years	
		Diploma 1 (D1) / SMK Plus	Minimum 8 Years	
		Vocational High School	Minimum 10 Years	

Qualification	Level	Educational Requirements* *Program Requirements for Levels 6-9 > SK DJBK 33 of 2023*	Experience Requirements	Competency Requirements
Operator		High School (SMA)	Minimum 12 Years	
	Level 4	Diploma 2 (D2)	Minimum 0 Years	Pass Expert Competency Test Level 4
		Diploma 1 (D1) / SMK Plus	Minimum 2 Years	
		Vocational High School	Minimum 4 Years	
		High School (SMA)	Minimum 6 Years	
	Level 3	Diploma 1 (D1) / SMK Plus	Minimum 0 Years	Pass Expert Competency Test Level 3
		Vocational High School	Minimum 3 Years	
		High School (SMA)	Minimum 4 Years	
		Elementary School	Minimum 5 Years	
	Level 2	Vocational High School	Minimum 0 Years	Pass Expert Competency Test Level 2
		High School (SMA)	Minimum 1 Years	
		Elementary School	Minimum 2 Years	
	Level 1	Elementary School	Minimum 0 Years	Pass Expert Competency Test Level 1
		Non-Education (with PBK)	Minimum 2 Years	

Appendix II

Table of Classification and Subclassification of Construction Workers Based on Government Regulation No. 14 of 2021

No	CLASSIFICATION	SUBCLASSIFICATION
1.	Architecture	Architectural
2.	Civil Engineering	Buildings
		Materials
		Roads
		Bridges
		Airstrips
		Tunnels
		Dams and Weirs
		Irrigation and Swamps
		Rivers and Coasts
		Groundwater and Raw Water
		Drinking Water Facilities
		Wastewater Facilities
		Waste Management Facilities
		Urban Drainage
		Geotechnics and Foundations
		Geodesy
		Railways
		Tower Buildings
		Port Buildings
		Technical Assesment and Analysis
		Offshore Structures
		Demolition
		Grouting
3.	Mechanical Engineering	Air Conditioning and Refrigeration
		Plumbing and Mechanical Pumps
		Fire Protection
		Building Transportation
		Mechanical Engineering
		Heavy Equipment
		Lifting Techniques
4.	Environmental Engineering	Drinking Water Engineering
		Environmental Engineering
		Wastewater Engineering
		Piping Engineering
		Waste Management Engineering
5.	Project Management	Construction Safety
		Construction Management/Project Management

No	CLASSIFICATION	SUBCLASSIFICATION
		Construction Contract Law
		Quality Control in Construction
		Construction Cost Estimation
		Management of Construction Assets
6.	Landscape Architecture, Illumination, and Interior Design	Landscape Architecture
		Illumination Engineering
		Interior Design
7.	Urban and Regional Planning	Regional Planning
		Urban Planning
		Urban Design
8.	Science and Engineering	Infrastructure Investment
		Construction Computation
		Blasting

Appendix III

Job Positions for Foreign Workers Eligible for Equivalency Certification

Classification and Subclassification		**Minister of Manpower Decree No. 228 of 2019**	
Construction Services		**Indonesian**	**English**
A. Architecture Classification			
1. Architecture Subclassification			
	1	Arsitek	*Architect*
B. Civil Engineering Classification			
1. Building Subclassification			
	2	Ahli Teknik Bangunan	*Building Engineer*
	3	Ahli Teknik Bangunan Lapangan	*Field Building Engineer*
	4	Ahli Teknik Pemeliharaan Gedung	*Building Maintenance Engineer*
	5	Ahli Teknik Struktur Konstruksi	*Construction Structure Engineer*
	6	Ahli Teknik Struktur	*Structure Engineer*
	7	Ahli Teknik Perancah	*Scaffolding Engineer*
	8	Ahli Desain Sipil	*Civil Design Engineer*
	9	Ahli Teknik Sipil	*Civil Engineer*
	10	Ahli Teknik Kepala Sipil	*Civil Lead Engineer*
2. Material Subclassification			
	11	Ahli Teknik Material	*Material Engineer*
	12	Ahli Teknik Beton Pracetak	*Precast Concrete Engineer*
	13	Ahli Teknik Beton Pratekanan	*Prestress Concrete Engineer*
	14	Ahli Teknik Beton	*Concrete Engineer*
	15	Ahli Penguatan Beton	*Reinforced Concrete Expert*
	16	Ahli Teknik Utama Struktur Baja	*Steel Structured Lead Engineer*
	17	Ahli Teknik Struktur Baja Lapangan	*Field Steel Structure Engineer*
	18	Ahli Teknik Material Perpipaan	*Piping Material Engineer*
3. Road Subclassification			
	19	Ahli Teknik Jalan Raya	*Highway Engineer*
	20	Ahli Teknik Keselamatan Jalan	*Road Safety Engineer*
	21	Ahli Teknik Transport	*Transport Engineer*

	22	Ahli Perencanaan Transportasi	*Transportation Planning Expert*
	23	Ahli Teknik Pengaspalan	*Pavement Engineer*
4. Bridge Subclassification			
	24	Ahli Teknik Jembatan	*Bridge Engineer*
	25	Ahli Teknik Konstruksi Jembatan	*Bridge Construction Engineer*
	26	Ahli Teknik Jembatan Baja	*Steel Bridge Engineer*
5. Airstrip Subclassification			
	27	Ahli Teknik Konstruksi Landasan Terbang	*Airstrip Construction Engineer*
6. Tunnel Subclassification			
	28	Ahli Teknik Terowongan	*Tunnel Engineer*
7. Dam and Weir Subclassification			
	29	Ahli Teknik Bendungan	*Dam Engineer*
	30	Ahli Teknik Concrete Faced Rockfill Dam	*Concrete Faced Rockfill Dam Engineer*
	31	Ahli Teknik Waduk Umum (>75m)	*Basin Engineer (>75m)*
	32	Ahli Teknik Danau Buatan	*Reservoir Engineer*
	33	Ahli Teknik Instrumentasi Bendungan	*Dam Instrument Engineer*
	34	Ahli Teknik Pengendalian Sedimen	*Sediment Control Engineer*
8. Irrigation and Swamp Subclassification			
	35	Ahli Teknik Bangunan Irigasi	*Irrigation Building Engineer*
	36	Ahli Teknik Irigasi	*Irrigation Engineer*
	37	Ahli Teknik Konstruksi Rawa	*Swamp Construction Engineer*
9. River and Coastal Subclassification			
	38	Ahli Teknik Sungai	*River Engineer*
	39	Ahli Teknik Pesisir	*Coastal Engineer*
	40	Manajer Pengerukan	*Dredging Manager*
	41	Tenaga Survei Hidrografis	*Hydrographic Surveyor*
10. Groundwater and Raw Water Subclassification			
	42	Ahli Teknik Sumber Air	*Water Resource Engineer*
11. Drinking Water Facilities Subclassification			
12. Wastewater Facilities Subclassification			
	43	Ahli Teknik Gorong-Gorong	*Sewerline Engineer*
13. Waste Management Facilities Subclassification			

14. Urban Drainage Facilities Subclassification			
15. Geotechnics and Foundations Subclassification			
	44	Ahli Teknik Tiang Pancang	*Piling Engineer*
	45	Ahli Teknik Bawah Tanah	*Underground Engineer*
	46	Ahli Teknik Geoteknik	*Geotechnical Engineer*
	47	Ahli Teknik Mekanika Tanah	*Soil Mechanic Engineer*
16. Geodesy Subclassification			
	48	Topografer, Kartografer	*Topographer, Cartographer*
17. Railway Subclassification			
	49	Kepala Ahli Sistem Kereta Api Terintegrasi	*Railway System & Integrated Expert Chief*
18. Tower Buildings Subclassification			
19. Port Buildings Subclassification			
	50	Ahli Teknik Pelabuhan	*Port Engineer*
20. Assesment and Analysis Subclassification			
21. Offshore Structures Subclassification			
	51	Ahli Teknik Struktural Kelautan	*Marine Structural Engineer*
	52	Ahli Teknik Pengelasan Bawah Air	*Underwater Welding Specialist*
22. Demolition Subclassification			
23. Grouting Subclassification			
	53	Ahli Teknik Injeksi Semen Bertekanan/ Sementasi	*Grouting Engineer*
C. Mechanical Classification			
1. Air Conditioning and Refrigeration Engineering			
2. Plumbing and Mechanical Pumps			
3. Fire Protection			
4. Building Transportation			
5. Mechanical Engineering			
	54	Ahli Teknik Mesin	*Mechanical Engineer*
	55	Manajer Mekanik	*Mechanical Manager*
6. Heavy Equipment			
7. Lifting Engineering			

D. Environmental Engineering Classification			
1. Drinking Water Engineering			
	56	Ahli Teknik Desalinasi	*Sea Water Reverse Osmosis/ Brackish Water Reverse Osmosis*
2. Environmental Engineering			
	57	Ahli Teknik Lingkungan	*Environmental Engineer*
	58	Ahli Lingkungan	*Environmental Expert*
3. Wastewater Engineering			
	59	Ahli Teknik Pengolahan Limbah	*Sewage Management Engineer*
	60	Ahli Teknik Air Limbah	*Wastewater Engineer*
4. Piping Engineering			
	61	Ahli Teknik Instalasi Jalur Pipa	*Pipeline Installation Engineer*
	62	Ahli Teknik Utama Area Jalur Pipa	*Piping Area Lead Engineer*
	63	Ahli Teknik Perpipaan	*Piping Engineer*
	64	Ahli Teknik Utama Perpipaan	*Piping Lead Engineer*
	65	Ahli Teknik Area ORF Perpipaan	*Piping ORF Area Engineer*
	66	Ahli Teknik Senior Analis Tegangan Perpipaan	*Senior Piping Stress Engineer*
	67	Ahli Teknik Utama Bidang Perpipaan	*Field Lead Engineer - Piping*
	68	Ahli Teknik Pengecekan Garis	*Line Checker Engineer*
5. Waste Management Engineering			
	69	Ahli Teknik Pengolahan Sampah melalui Waste to Energy	*Waste Processing Engineer through Waste-to-Energy*
	70	Ahli Teknik Pengolahan Leachate	*Leachate Management Engineer*

E. Construction Management Classification			
1. Construction Safety			
2. Construction/Project Management			
	71	Manajer Konstruksi	*Construction Manager*
	72	Manajer Konstruksi Bangunan	*Building Construction Manager*
	73	Manajer Konstruksi Sipil	*Civil Construction Manager*
	74	Manajer Sipil	*Civil Manager*
	75	Manajer Struktur	*Structure Manager*
	76	Ahli Teknik Konstruksi	*Construction Engineer*
	77	Manajer Proyek Konstruksi	*Construction Project Manager*
	78	Manajer Koordinator Proyek	*Project Coordinator Manager*
	79	Ahli Teknik Pengendalian Jadwal Lapangan	*Field Schedule Control Engineer*
	80	Manajer Pengujian	*Commissioning Manager*
	81	Ahli Teknik Pengujian	*Commissioning Engineer*
	82	Ahli Teknik Pengujian Lapangan	*Field Commissioning Engineer*
	83	Ahli Teknik Value	*Value Engineer*
	84	Manajer Logistik	*Logistic Manager*
	85	Manajer Pengadaan	*Procurement Manager*
	86	Spesialis Pengadaan	*Procurement Specialist*
	87	Manajer Situs Umum	*General Site Manager*
	88	Manajer Pengendali Proyek Situs	*Site Project Control Manager*
	89	Ahli Teknik Situs	*Site Engineer*
	90	Ahli Teknik Utama Proyek Situs	*Site Project Lead Engineer*
	91	Ahli Teknik Proyek	*Project Engineer*
	92	Ahli Teknik Proyek Area Proses	*Project Engineer Process Area*
	93	Ahli Teknik Perencanaan Proyek	*Project Planning Engineer*
	94	Ahli Teknik Residen	*Resident Engineer*
	95	Ahli Teknik Pelacakan Kerja	*Track Work Engineer*
	96	Manajer Teknik Bidang/ Lapangan	*Field Engineering Manager*
	97	Manajer Jasa Bidang/ Lapangan	*Field Service Manager*

3. Construction Contract Law			
	98	Ahli Manajemen Kontrak Konstruksi	*Construction Contract Management Engineer*
	99	Ahli Kontrak	*Contract Expert*
	100	Spesialis Manajemen Kontrak	*Contract Management Specialist*
	101	Ahli Depot Kontrak	*Depot Contract Expert*
	102	Manajer Pertalian	*Tie-in Manager*
	103	Ahli Teknik Hubungan/ Pertalian Lapangan	*Field Tie-in Engineer*
	104	Ahli Teknik Proyek ORF Area/Tie-in	*Project Engineer - ORF Area/Tie-in*
4. Quality Control in Construction Work			
	105	Manajer Jaminan Mutu dan Pengendalian Kualitas	*Quality Assurance & Quality Control Manager*
	106	Ahli Teknik Jaminan Mutu	*Quality Assurance Engineer*
	107	Manajer Pengendalian Kualitas	*Quality Control Manager*
	108	Ahli Teknik Pengendalian Kualitas	*Quality Control Engineer*
	109	Ahli Teknik Sistem Pengendalian	*Control System Engineer*
	110	Ahli Teknik QAQC	*QAQC Engineer*
	111	Manajer Kualitas Bidang/ Lapangan	*Field Quality Manager*
	112	Deputi Manajer Pengendalian Kualitas	*Quality Control Deputy Manager*
5. Construction Cost Estimation			
	113	Ahli Teknik Estimasi	*Estimation Engineer*
	114	Manajer Estimasi	*Estimation Manager*
	115	Tenaga Survei Kuantitas	*Quantity Surveyor*
	116	Ahli Teknik Pengendalian Biaya Lapangan	*Field Cost Control Engineer*
	117	Ahli Teknik Pengendalian Biaya	*Cost Control Engineer*
	118	Manajer Keuangan Proyek	*Project Finance Manager*
6. Construction Asset Management			
	119	Ahli Manajemen Aset	*Asset Management Specialist*
F. Landscape Architecture, Illumination, and Interior Design			
1. Landscape Architecture			

2. Illumination Engineering			
3. Interior Design			
G. Regional and Urban Planning			
1. Regional Planning			
2. Urban Planning			
3. Urban Design			
	120	Ahli Desain Perkotaan	*Urban Design Expert*
H. Science and Engineering Technology			
1. Infrastructure Investment			
	121	Penghubung Kerjasama Pemerintah dan Swasta	*Public Private Partnership Expert*
2. Construction Computation			
	122	Ahli Teknik Informasi Hidro	*Hydro Information Technology Engineer*
3. Blasting Engineering			