

**MINISTRY OF
TRANSPORT**

No. 44/2018/TT-BGTVT

**SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness**

Hanoi, August 3, 2018

CIRCULAR

ISSUING ECONOMIC – TECHNICAL NORMS FOR DREDGING OF MARINE WORKS

Pursuant to the Maritime Code of Vietnam dated November 25, 2015;

Pursuant to the Government's Decree No. 12/2017/ND-CP dated February 10, 2017 defining the functions, tasks, powers and organizational structure of the Ministry of Transport;

Pursuant to the Government's Decree No. 32/2015/ND-CP dated March 25, 2015 on management of investment and construction costs.

Upon the request of the Director of the Department of Transport Infrastructure and the Director of the Vietnam Maritime Administration,

The Minister of Transport hereby issues the Circular issuing economic – technical norms for dredging of marine works.

Article 1. The economic – technical norms for dredging of marine works shall be annexed to this Circular.

Article 2. This Circular shall enter into force on October 1, 2018.

Article 3. The Chief of the Ministry's Office, the Ministry's Chief Inspector, department Directors, Director of the Vietnam Maritime Administration, Heads of entities, organizations and individuals concerned, shall be responsible for implementing this Circular./.

**PP. MINISTER
DEPUTY MINISTER**

Nguyen Van Cong

ECONOMIC – TECHNICAL NORMS

FOR DREDGING OF MARINE WORKS

(Issued together with the Circular No. 44/2018/TT-BGTVT dated August 3, 2018 of the Minister of Transport)

Chapter I

GENERAL PROVISIONS

I.1. Subjects of application:

Economic – technical norms for dredging of marine works are applied to domestic and foreign entities, organizations and individuals related to the dredging and overhaul of shipping channels, internal waters and territorial waters within the seaport's water area.

I.2. Bases for setting up these norms:

- + The Government's Decree No. 32/2015/ND-CP dated March 25, 2015 on management of investment and construction costs;
- + The Circular No. 06/2016/TT-BXD dated March 10, 2016 of the Ministry of Construction regarding instructions for determination and management of investment and construction costs;
- + The Circular No. 47/2015/TT-BGTVT dated September 14, 2015 of the Minister of Transport prescribing the scope and responsibilities of seafarers, operators and minimum safety requirements concerning personnel aboard the inland watercraft;
- + The Circular No. 04/2017/TT-BGTVT dated January 20, 2017 of the Minister of Transport on amendments and supplements to certain articles of the Circular No. 47/2015/TT-BGTVT dated September 14, 2015 of the Minister of Transport regarding the scope and responsibilities of seafarers, operators and minimum safety requirements concerning personnel aboard the inland watercraft;
- + Reporting and measurement data used for setting up economic – technical norms for dredging of marine works.
- + Certain legislative documents and other documents concerned.

I.3. Contents of these norms:

Economic – technical norms for dredging of marine works shall be constituted by the following components:

- *Labor consumption rate:*

This refers to the number of working days of direct construction workers and workers providing construction support services.

The number of working days includes those days during which both main workers and marginal workers spend on carrying out and completing a construction workload unit from the preparation stage to the stage of completion and clean-up of the construction site.

Worker rank refers to the average ranks of workers involved in carrying out a construction workload unit.

- *Construction machinery or equipment operation rate:*

This refers to the number of shifts during which both main construction machinery or equipment and auxiliary ones are directly operated to complete a construction workload unit.

I.4. Layout of these norms:

Economic – technical norms for dredging of marine works are arranged into groups, types of work, are numbered and organized into 02 chapters:

Chapter I: General provisions

Chapter II: Economic – technical norms for dredging of marine works.

- Submarine grab dredge;

- Transportation of dredged materials by self-propelled barges;

Each norm comprises a summary of work components, technical conditions and construction conditions, and is measured in an appropriate unit for dredging and transportation activities.

- Components which are consumed within a specified norm shall be defined according to the following principles:

+ Main and marginal labor consumption rate shall be determined by the number of working days specific to the average ranks of direct construction workers;

+ The construction equipment and machinery operation rate shall be determined by the number of shifts on which construction equipment or machinery is operated (construction equipment or machinery which are those incurring a large proportion of costs to total equipment or machinery cost per a workload unit, a work item or a construction structure. For the purposes of this Circular, construction equipment or machinery include construction barges, grab dredge, self-propelled barges with open decks, etc.);

+ The operation rate of other construction equipment and machinery shall be determined by the ratio (in percent) of operation of these equipment and machinery to total cost of operation of

main equipment or machinery (these construction equipment or machinery which are those incurring a small proportion of costs to total equipment or machinery cost per a workload unit, a work item or a construction structure. For the purposes of this Circular, these construction equipment or machinery include towboats, motor boats used for installing buoys, construction site positioning equipment, etc.).

I.5. Instructions for application of norms:

- Economic – technical norms for dredging of marine works are bases for unit construction cost formulation, construction cost estimation and investment and construction cost management.

- In addition to the abovementioned interpretations and instructions, in these norms, there must be specific interpretations and instructions for groups and types of dredge work and transportation in conformity with technical requirements, construction conditions and requirements concerning construction approaches.

Chapter II

ECONOMIC – TECHNICAL NORMS FOR DREDGING OF MARINE WORKS

II.1. Processes:

1. Dredging by using submarine grab dredge:

- Preparation of tools, equipment and signal buoys;
- Positioning of the construction center point and determination of excavation scope;
- Movement of construction equipment and machinery within the construction site;
- Maintenance of water transport safety within the construction site;
- Grab dredging and loading of dredged materials aboard the barge (transporting dredged materials for disposal is not included in these norms)

2. With respect to the transportation of dredged materials by using self-propelled barges:

- The barge carries dredged mud and soil to the dumping site in accordance with regulations in force;
- The barge drains dredged mud and soil;
- The barge turns around to the position of the dredging ship.

II.2. Application conditions:

Classification of dredged mud and soil, and guidelines for application of these norms under particular construction conditions, shall follow instructions given in equivalent norms for dredging of marine works which are available in the system of norms for construction cost estimates, issued by the Ministry of Construction.

II.3. Norms

II.3.1. Dredging, 10000 – Submarine grab dredging

Work components:

- Preparation, installation of signal buoys and determination of dredging scope;
- Movement of construction equipment and machinery within the construction site;
- Maintenance of water transport safety within the construction site;
- Grab dredging and loading of dredged materials aboard the open deck self-propelled barge (transporting dredged materials for disposal is not included in these norms).

Unit: 100 m³

Code	Work description	Items used	Unit	Sediment type			
				Thick sludge, gravel sediments accumulated for up to 3 years, peat sediments	Sandy loam soil, clayish soil	Sandy loam soil, clayish soil mixed with gravels, clamshells, sticky clay	Semi-stiff clay, stiff clay
NV.1001	Submarine dredging by using grab dredge having the capacity $\leq 5\text{m}^3$ and operating at the depth $\leq 6\text{m}$	<i>Workforce</i>					
		4/7-ranked workers	Labour	1.5	1.5	1.5	1.5
		<i>Construction equipment and machinery</i>					
		Grab dredge with the capacity $\leq 5\text{m}^3$	shift	0.090	0.102	0.115	0.172
		400T barge	shift	0.090	0.102	0.115	0.172

		Open deck self-propelled barge with the loading capacity of $\leq 400T$	shift	0.090	0.102	0.115	0.172
		23CV motor boat	shift	0.045	0.051	0.057	0.086
		Others	%	2.0	2.0	2.0	2.0
NV.1002	Submarine dredging by using grab dredge having the capacity $\leq 8m^3$ and operating at the depth $\leq 6m$	<i>Workforce</i>					
		4/7-ranked workers	Labour	1.5	1.5	1.5	1.5
		<i>Construction equipment and machinery</i>					
		Grab dredge with the capacity $\leq 8m^3$	shift	0.050	0.057	0.063	0.095
		800T barge	shift	0.050	0.057	0.063	0.095
		Open deck self-propelled barge with the loading capacity of $\leq 800T$	shift	0.050	0.057	0.063	0.095
		23CV motor boat	shift	0.025	0.028	0.032	0.048
		Others	%	2.0	2.0	2.0	2.0
				1	2	3	4
NV.1003	Submarine dredging by using grab dredge having the capacity $\leq 12m^3$ and operating at the depth $\leq 6m$	<i>Workforce</i>					
		4/7-ranked workers	Labour	1.5	1.5	1.5	1.5
		<i>Construction equipment and machinery</i>					
		Grab dredge with the capacity $\leq 12m^3$	shift	0.031	0.035	0.039	0.059
		1000T barge	shift	0.031	0.035	0.039	0.059
		Open deck self-propelled barge with the loading capacity of $\leq 1200T$	shift	0.031	0.035	0.039	0.059

		23CV motor boat	shift	0.015	0.018	0.020	0.030
		Others	%	2.0	2.0	2.0	2.0
NV.1004	Submarine dredging by using grab dredge having the capacity > 12m ³ and operating at the depth ≤ 6m	<i>Workforce</i>					
		4/7-ranked workers	Labour	1.5	1.5	1.5	1.5
		<i>Construction equipment and machinery</i>					
		Grab dredge with the capacity > 12 m ³	shift	0.021	0.024	0.027	0.041
		1200T barge	shift	0.021	0.024	0.027	0.041
		Open deck self-propelled barge with the loading capacity of > 1200T	shift	0.021	0.024	0.027	0.041
		23CV motor boat	shift	0.011	0.012	0.014	0.021
		Others	%	2.0	2.0	2.0	2.0
				1	2	3	4
NV.1005	Submarine dredging by using grab dredge having the capacity ≤ 5m ³ and operating at the depth > 6÷9m	<i>Workforce</i>					
		4/7-ranked workers	Labour	1.5	1.5	1.5	1.5
		<i>Construction equipment and machinery</i>					
		Grab dredge with the capacity ≤ 5m ³	shift	0.107	0.123	0.139	0.209
		400T barge	shift	0.107	0.123	0.139	0.209
		Open deck self-propelled barge with the loading capacity of ≤ 400T	shift	0.107	0.123	0.139	0.209
		23CV motor boat	shift	0.053	0.061	0.070	0.105
		Others	%	2.0	2.0	2.0	2.0
NV.1006		<i>Workforce</i>					

	Submarine dredging by using grab dredge having the capacity $\leq 8\text{m}^3$ and operating at the depth $> 6\div 9\text{m}$	4/7-ranked workers	Labour	1.5	1.5	1.5	1.5
		<i>Construction equipment and machinery</i>					
		Grab dredge with the capacity $\leq 8\text{m}^3$	shift	0.059	0.068	0.077	0.115
		800T barge	shift	0.059	0.068	0.077	0.115
		Open deck self-propelled barge with the loading capacity of $\leq 800\text{T}$	shift	0.059	0.068	0.077	0.115
		23CV motor boat	shift	0.029	0.034	0.038	0.058
		Others	%	2.0	2.0	2.0	2.0
				1	2	3	4
NV.1007	Submarine dredging by using grab dredge having the capacity $\leq 12\text{m}^3$ and operating at the depth $> 6\div 9\text{m}$	<i>Workforce</i>					
		4/7-ranked workers	Labour	1.5	1.5	1.5	1.5
		<i>Construction equipment and machinery</i>					
		Grab dredge with the capacity $\leq 12\text{m}^3$	shift	0.037	0.042	0.048	0.072
		1000T barge	shift	0.037	0.042	0.048	0.072
		Open deck self-propelled barge with the loading capacity of $\leq 1200\text{T}$	shift	0.037	0.042	0.048	0.072
		23CV motor boat	shift	0.018	0.021	0.024	0.036
		Others	%	2.0	2.0	2.0	2.0
NV.1008	Submarine dredging by using grab	<i>Workforce</i>					
		4/7-ranked workers	Labour	1.5	1.5	1.5	1.5

	dredge having the capacity > 12m ³ and operating at the depth > 6÷9m	<i>Construction equipment and machinery</i>					
		Grab dredge with the capacity > 12 m ³	shift	0.025	0.029	0.033	0.050
		1200T barge	shift	0.025	0.029	0.033	0.050
		Open deck self-propelled barge with the loading capacity of > 1200T	shift	0.025	0.029	0.033	0.050
		23CV motor boat	shift	0.013	0.015	0.017	0.025
		Others	%	2.0	2.0	2.0	2.0
				1	2	3	4
NV.1009	Submarine dredging by using grab dredge having the capacity ≤ 5m ³ and operating at the depth > 9m	<i>Workforce</i>					
		4/7-ranked workers	Labour	1.5	1.5	1.5	1.5
		<i>Construction equipment and machinery</i>					
		Grab dredge with the capacity ≤ 5m ³	shift	0.117	0.135	0.153	0.230
		400T barge	shift	0.117	0.135	0.153	0.230
		Open deck self-propelled barge with the loading capacity of ≤ 400T	shift	0.117	0.135	0.153	0.230
		23CV motor boat	shift	0.059	0.068	0.077	0.115
		Others	%	2.0	2.0	2.0	2.0
NV.1010	Submarine dredging by using grab dredge having the capacity ≤ 8m ³ and	<i>Workforce</i>					
		4/7-ranked workers	Labour	1.5	1.5	1.5	1.5
		<i>Construction equipment and machinery</i>					

	operating at the depth > 9m	Grab dredge with the capacity $\leq 8\text{m}^3$	shift	0.065	0.075	0.085	0.126
		800T barge	shift	0.065	0.075	0.085	0.126
		Open deck self-propelled barge with the loading capacity of $\leq 800\text{T}$	shift	0.065	0.075	0.085	0.126
		23CV motor boat	shift	0.032	0.037	0.042	0.063
		Others	%	2.0	2.0	2.0	2.0
					1	2	3
NV.1011	Submarine dredging by using grab dredge having the capacity $\leq 12\text{m}^3$ and operating at the depth > 9m	<i>Workforce</i>					
		4/7-ranked workers	Labour	1.5	1.5	1.5	1.5
		<i>Construction equipment and machinery</i>					
		Grab dredge with the capacity $\leq 12\text{m}^3$	shift	0.040	0.046	0.053	0.079
		1000T barge	shift	0.040	0.046	0.053	0.079
		Open deck self-propelled barge with the loading capacity of $\leq 1200\text{T}$	shift	0.040	0.046	0.053	0.079
		23CV motor boat	shift	0.020	0.023	0.026	0.039
		Others	%	2.0	2.0	2.0	2.0
NV.1012	Submarine dredging by using grab dredge having the capacity > 12m^3 and operating at the depth > 9m	<i>Workforce</i>					
		4/7-ranked workers	Labour	1.5	1.5	1.5	1.5
		<i>Construction equipment and machinery</i>					
		Grab dredge with the capacity > 12m^3	shift	0.028	0.032	0.036	0.055
		1200T barge	shift	0.028	0.032	0.036	0.055

	Open deck self-propelled barge with the loading capacity of > 1200T	shift	0.028	0.032	0.036	0.055
	23CV motor boat	shift	0.014	0.016	0.018	0.028
	Others	%	2.0	2.0	2.0	2.0
			1	2	3	4

II.3.2 Transportation and disposal of dredged materials by using self-propelled barges

Work components:

Preparation, transportation of dredged soil and sand by using open deck self-propelled barges to the dumping site.

Unit: 100 m³

Code	Description	Items used	Unit	In the first one kilometer	In the next one kilometer		
					Distance < 6km	Distance of 6÷20km	Distance > 20km
VC.101	Transportation of dredged soil and sand by using the open deck self-propelled barge having the loading capacity of ≤ 400T	<i>Construction equipment and machinery</i>					
		Open deck self-propelled barge with the loading capacity of ≤ 400T	shift	0.084	0.071	0.065	0.062
VC.102	Transportation of dredged soil and sand by using the open deck self-propelled barge having the capacity of ≤ 800T	<i>Construction equipment and machinery</i>					
		Open deck self-propelled barge with the loading capacity of ≤ 800T	shift	0.050	0.042	0.038	0.036

VC.103	Transportation of dredged soil and sand by using the open deck self-propelled barge having the capacity of $\leq 1200T$	<i>Construction equipment and machinery</i>					
		Open deck self-propelled barge with the loading capacity of $\leq 1200T$	shift	0.018	0.015	0.014	0.013
VC.104	Transportation of dredged soil and sand by using the open deck self-propelled barge having the capacity of $> 1200T$	<i>Construction equipment and machinery</i>					
		Open deck self-propelled barge with the loading capacity of $>1200T$	shift	0.008	0.007	0.006	0.005
				11	21	22	23