

Reports

Typhoon Hagibis: Japan suffers deadly floods in October, 2019

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Catastrophe caused by Typhoon Hagibis

Typhoon Hagibis hit eastern Japan on 12th of October 2019, and brought immense damage arising from heavy rain and flood over a large area. 88 people were killed and 7 people were reported missing nationwide (as of 31st of October). Also, a total of 140 levees at 71 rivers were failed, and total 281 rivers overflowed their levees due to the disaster. According to the report from the Fire and Disaster Management Agency (FDMA), 84,383 residences in total were flooded or damaged by the disaster. Photo 1 shows a view of flooding at Chikuma River.



Photo 1 Torrential rain has caused rivers to flood along Chikuma River.

Site Investigation and Restoration Work

GIKEN LTD. conducted a site investigation regarding the disaster, specifically putting emphasis on the place where the damage was severe such as Nagano and Kanagawa Prefectures. While investigating, GIKEN LTD. visited the persons in charge of the management of the levees. This is a brief report on the circumstances of one of the disaster areas along Chikuma River and a restoration work performed in the construction site as is shown in Photo 2.

A levee constructed in Chikuma River was failed over the length of 70 meter, therefore a temporary levee was constructed by filling soils to prevent further damage. However, Nagano city office considered that the temporary levee is not enough. Therefore, another temporary levee work by installing sheet piles was performed. 2 Silent Pilers and 2 vibratory hammers were operated for the second temporary levee construction from evening of 16th of October and completed the construction work on 30th of October. Total 1,700 sheet piles (L=16m, W=40cm) were installed to construct the temporary levee with a height of 5.5m and horizontal length of 320m. Upon the completion of the construction, Nagano city canceled evacuation order of the area. Photo 3 illustrates the plan of recovery work, and Photo 4 presents a view of recovery work using Silent Piler.



Photo2 Overview of Construction Site

Sources of Photo 2 and Photo 3:
Ministry of Land, Infrastructure, Transport and Tourism Hokuriku
Regional Development Bureau

(<http://www.hrr.mlit.go.jp/press/2019/10/191028press2.pdf>)

Reference:

Daily construction industry newspaper blog
(http://nikkankensetsukogyo2.blogspot.com/2019/10/blog-post_13.html)

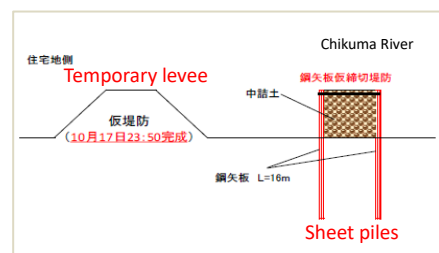


Photo 3 Cross-Section of Construction



Photo 4 Construction of sheet pile wall by Silent Piler