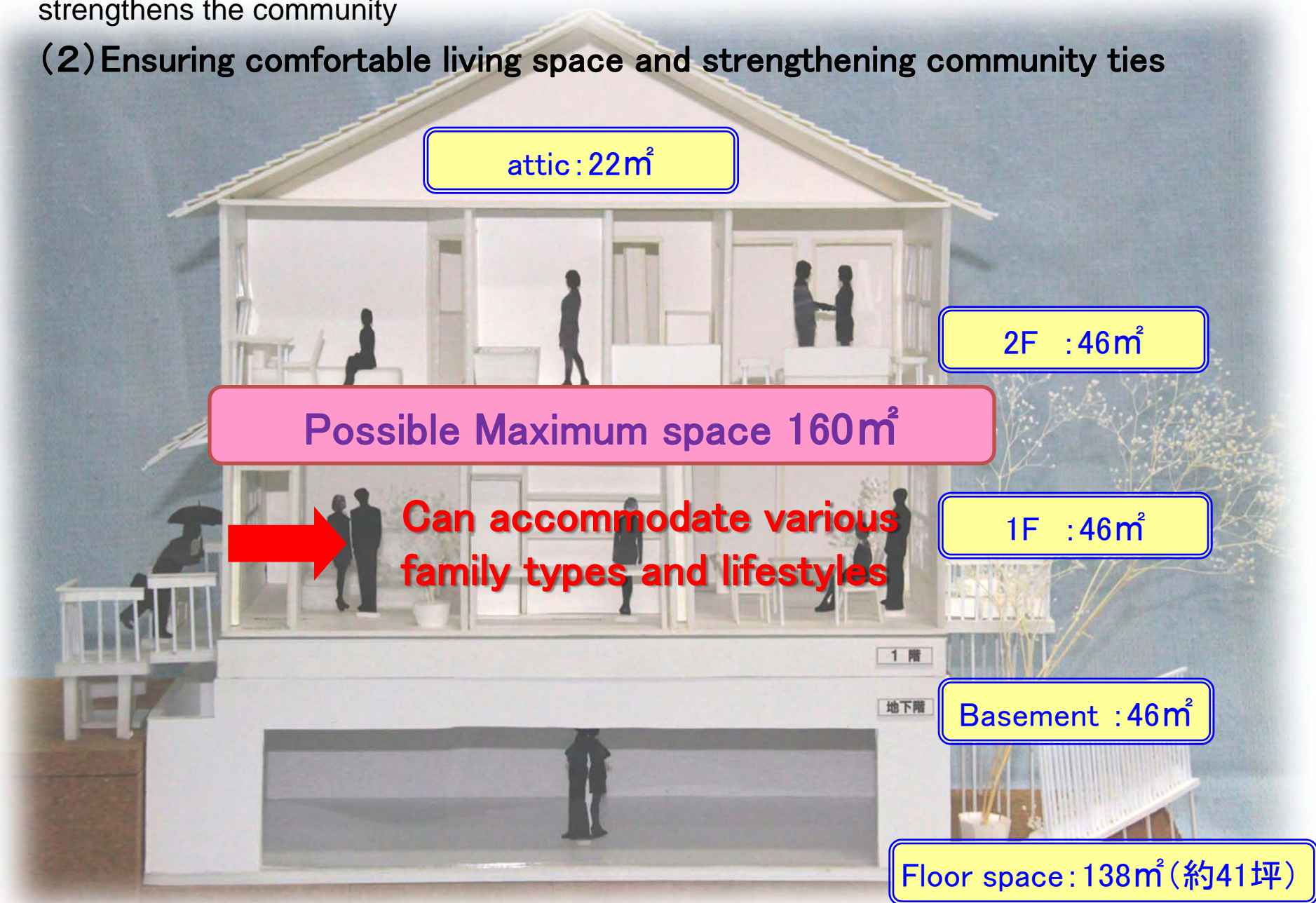


1. NCZ foundation construction method with basement which is disaster resilient and strengthens the community

(2) Ensuring comfortable living space and strengthening community ties



1. NCZ foundation construction method with basement which is disaster resilient and strengthens the community

(2) Ensuring comfortable living space and strengthening community ties

Solves the problems of basement rooms

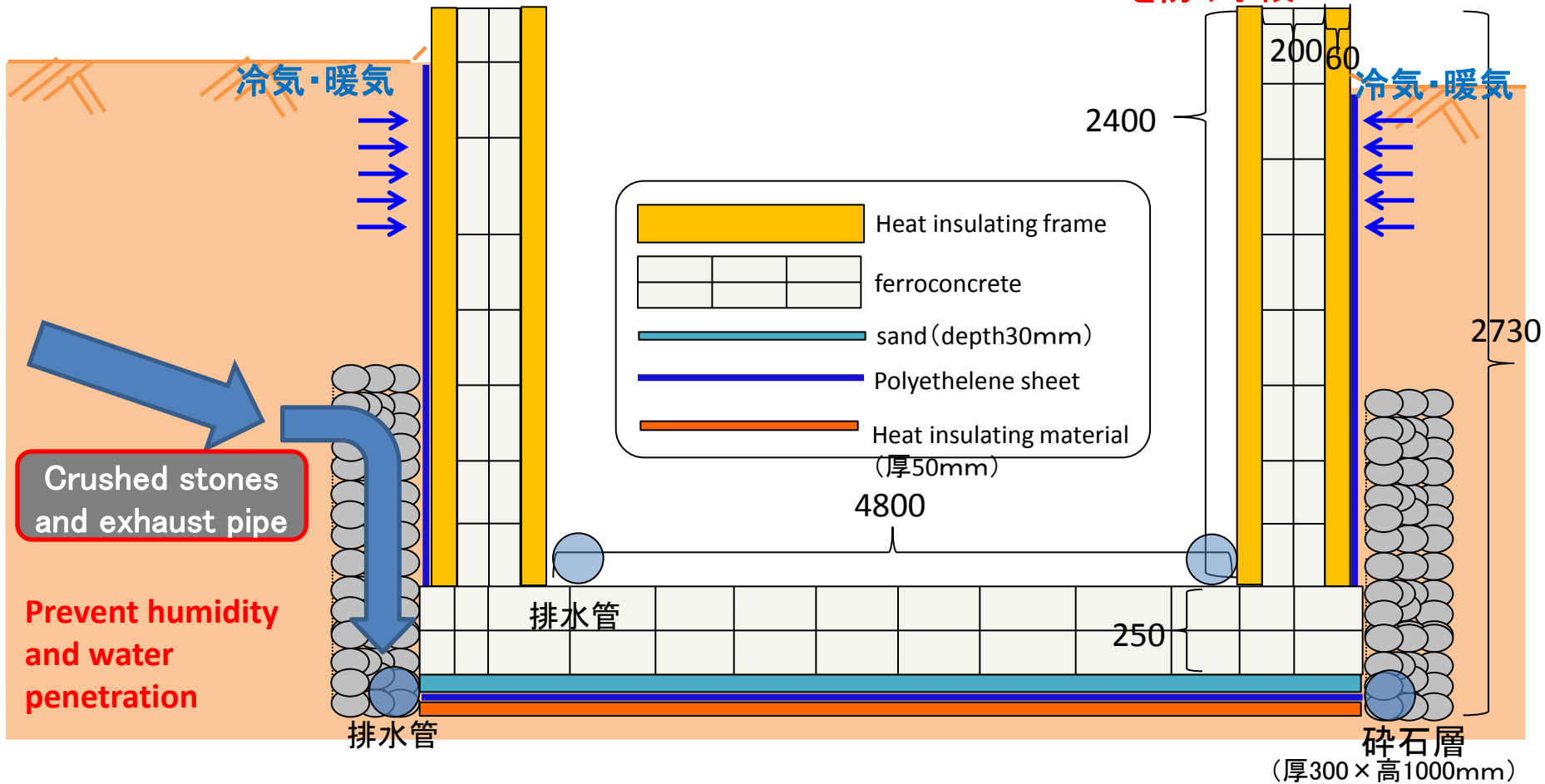
dew

Underground
percolating
water

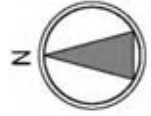
humidity

Heat insulating
from both sides

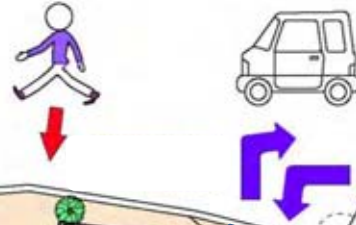
地下室内外の温度差を
極力減らし、結露や湿気
を防ぐ手段



1. NCZ foundation construction method with basement which is disaster resilient and strengthens the community



Master plan



Segregation of pedestrians/cars

ゴミステーション

Total property area
2699.18m²
(817坪)



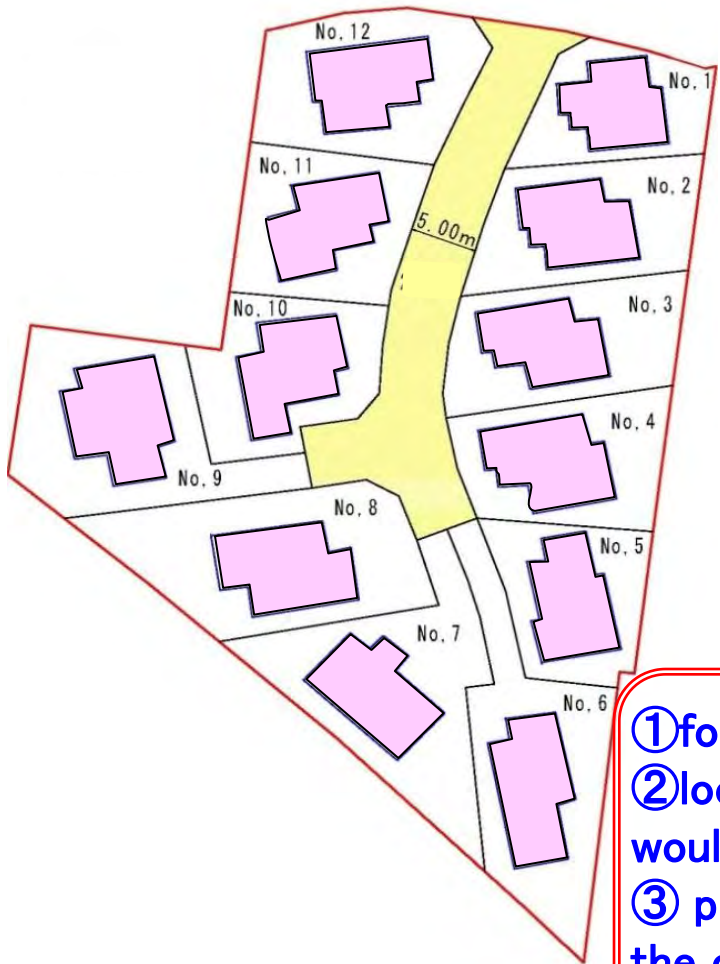
NCZ Housing Units
(Townhouse type)

No of houses	18
House space	1,840m ²
Road and parking space	242+217 =459m ²
Park space	400m ²
Common house	30m ²

Water and green
park space
約400m²

1. NCZ foundation construction method with basement which is disaster resilient and strengthens the community

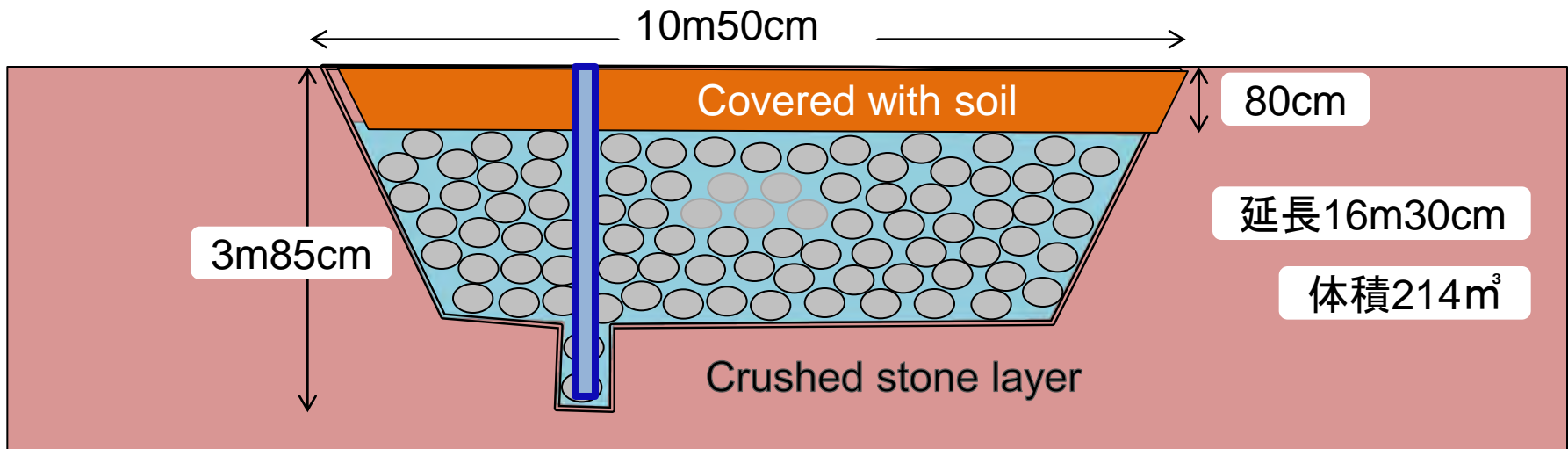
(2) Ensuring comfortable living space and **strengthening community ties**



- ① formulate the basic plan
- ② locate the housing so that residents would be able to communicate
- ③ place the pedestrians, not cars, at the center of the property
- ④ secure common space, and not space for individuals

2. An easy method to store clean rainwater and use; 'The Rainwater Underground Tank'

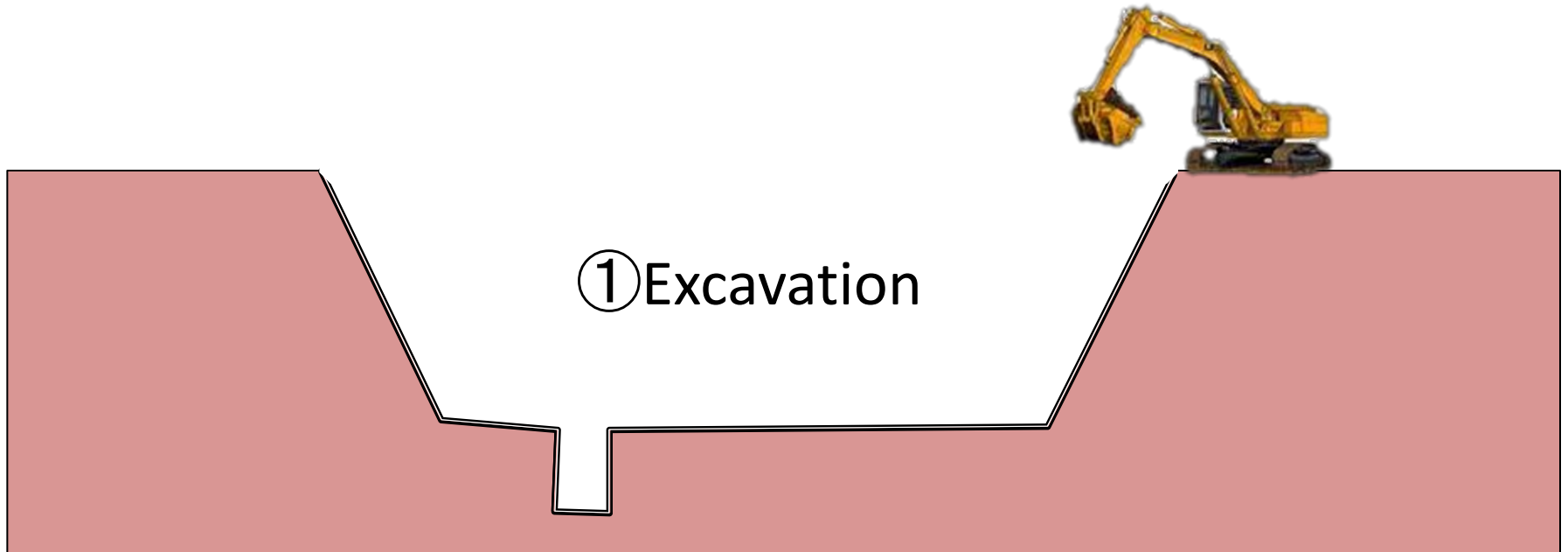
One of largest size rainwater underground harvesting tank,
developed jointly with **Kyushu University**



2. An easy method to store clean rainwater and use; 'The Rainwater Underground Tank'

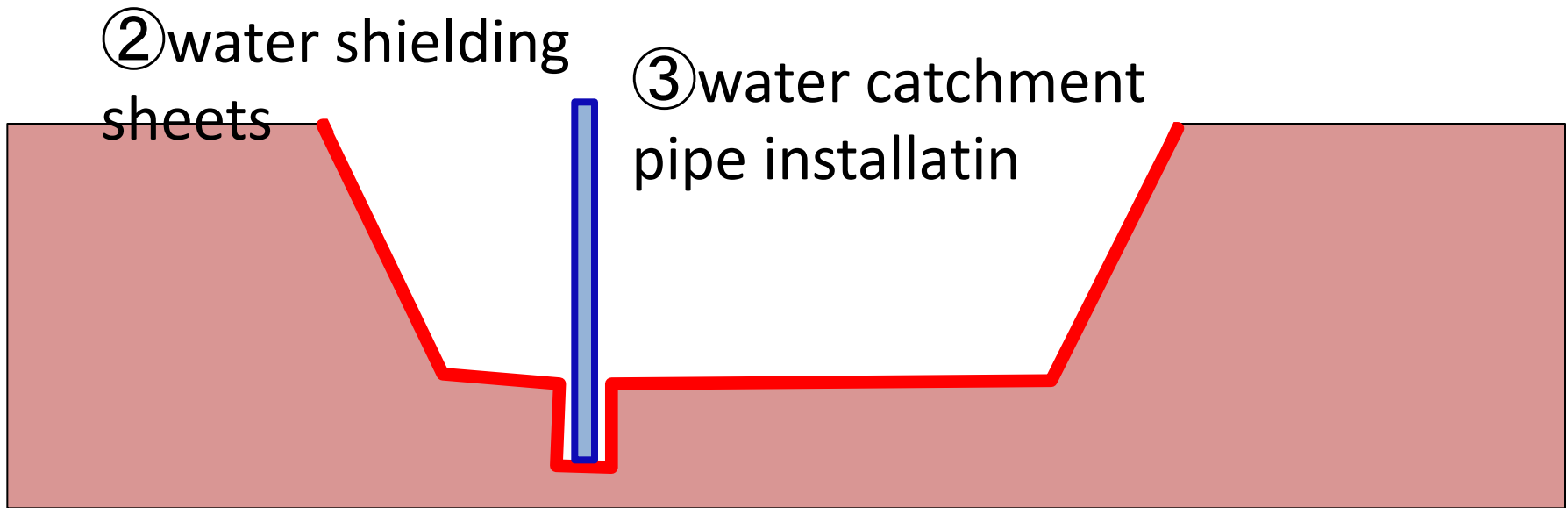
One of largest size rainwater underground harvesting tank,
developed jointly with **Kyushu University**

【Process flow of construction】①Excavation→



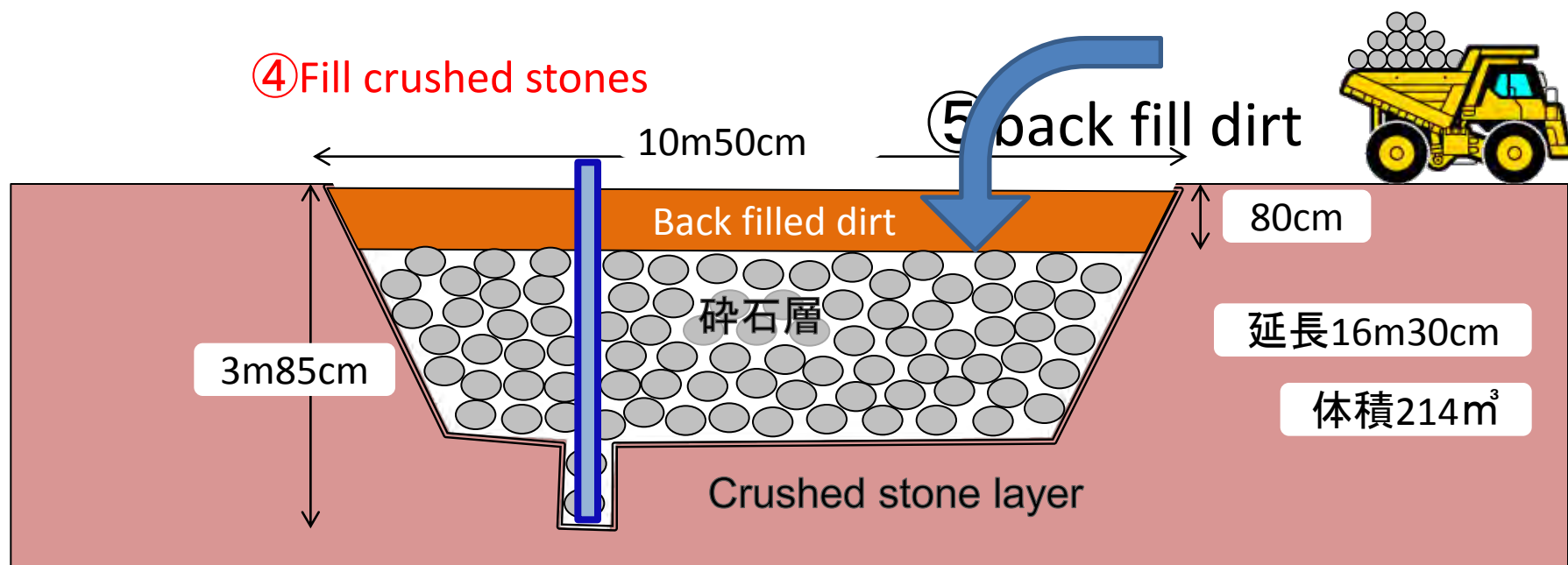
2. An easy method to store clean rainwater and use; 'The Rainwater Underground Tank'

【Process flow of construction】①Excavation→
→②placement of water shielding sheets→③water catchment pipe
installation

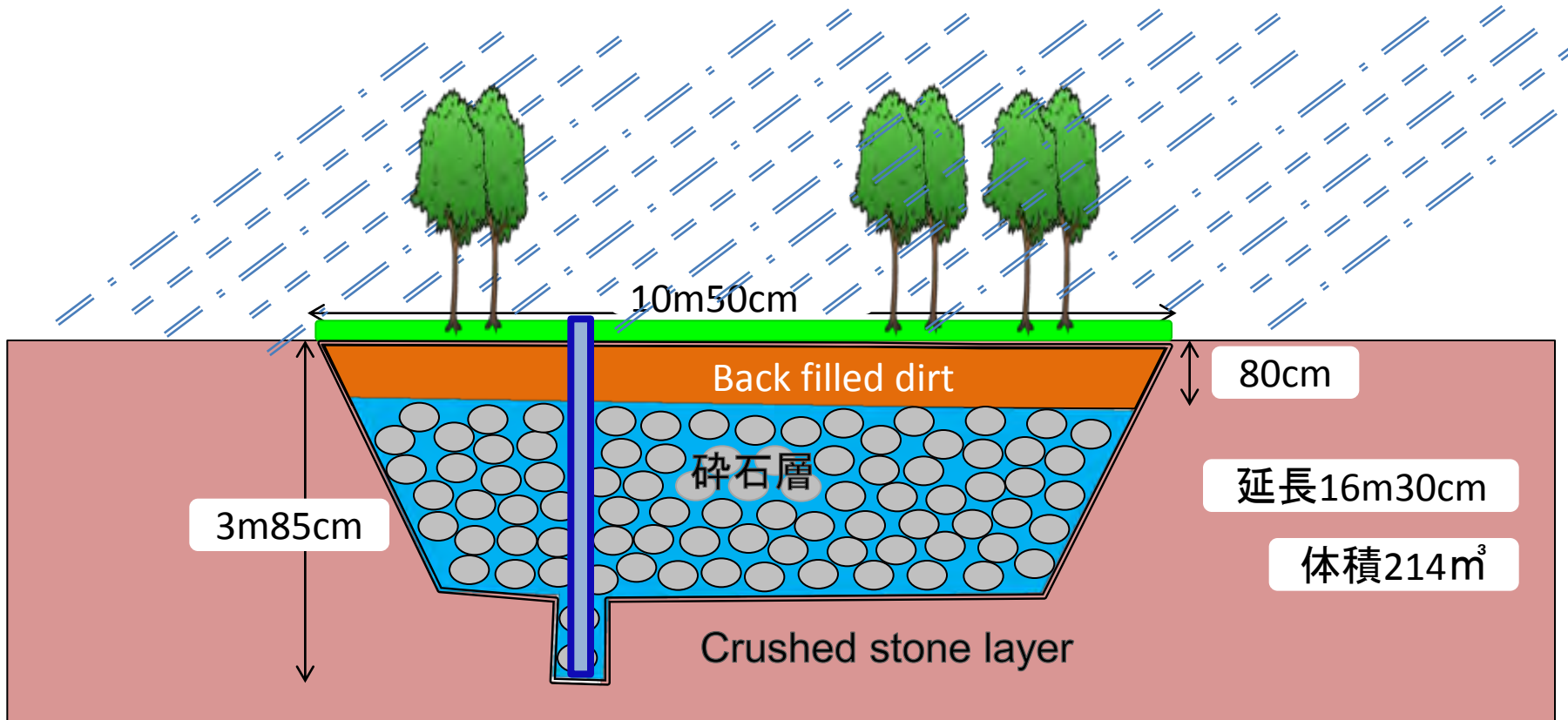


2. An easy method to store clean rainwater and use; 'The Rainwater Underground Tank'

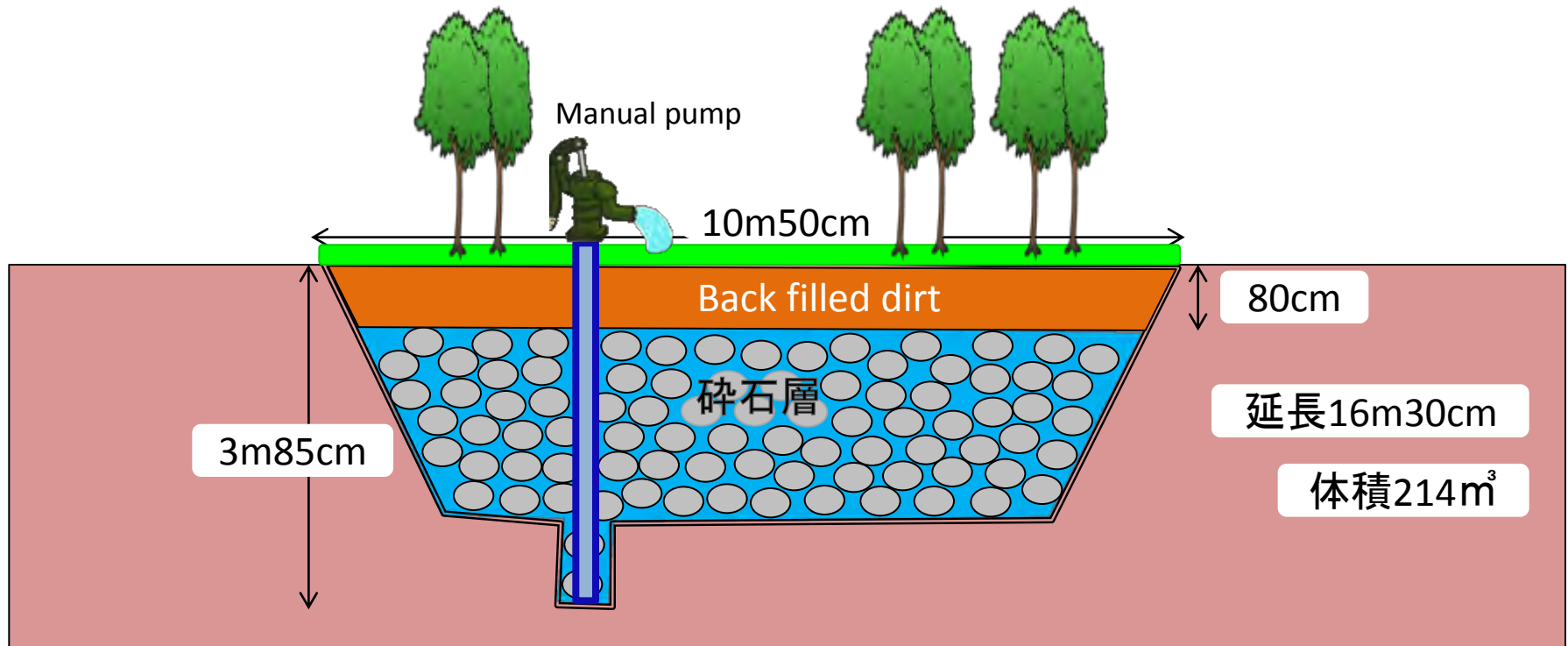
【Process flow of construction】①Excavation→
→②placement of water shielding sheets→③water catchment pipe
installation→④fill crushed stones→⑤back filling dirt



2. An easy method to store clean rainwater and use; 'The Rainwater Underground Tank'



2. An easy method to store clean rainwater and use; 'The Rainwater Underground Tank'



①Excavation (214m³)



② guard sheets and water shield sheet installation



③water catchment pipe installation



④ Filling crushed stones



Filling crushed stones: completed



⑤ Backfilling dirt; surface compaction



Completion





June 2012 at the center garden

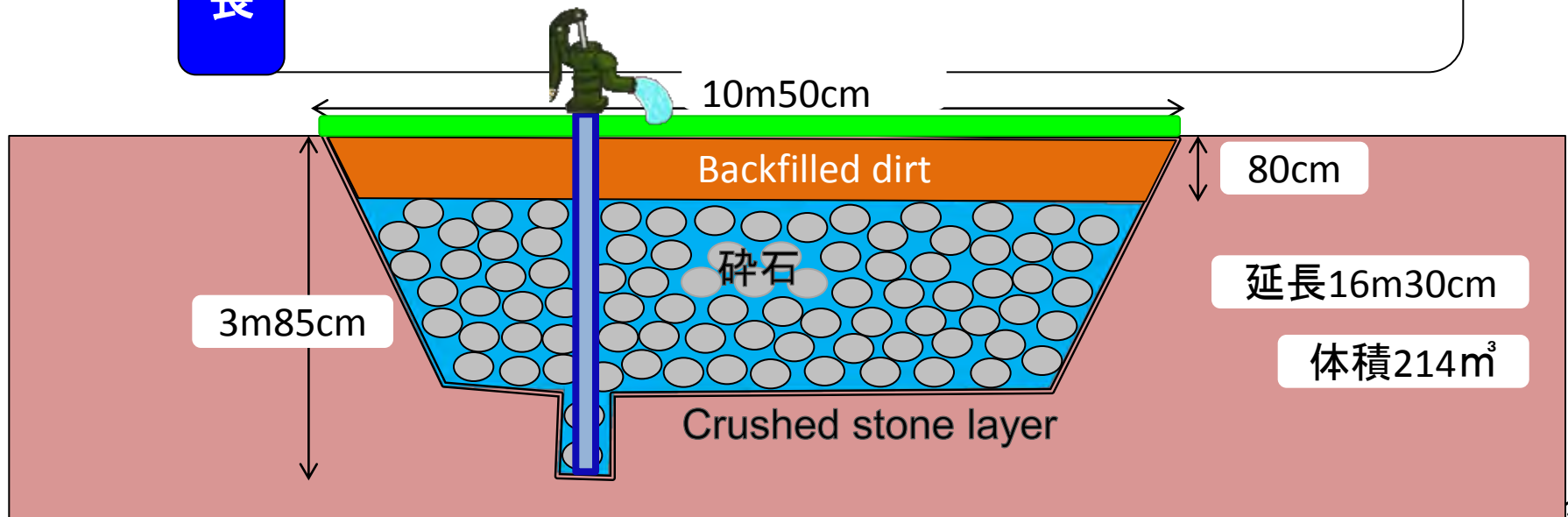
2. An easy method to store clean rainwater and use; 'The Rainwater Underground Tank'

雨水貯水地下タンクの特長

Features of underground rainwater harvesting tank

- (1) construction is easy and construction period is short
1/3 time compared to concrete tank, 1/2 cost
- (2) Able to capture 50% of rainwater at the excavated area
stone content $214\text{m}^3 \times 0.5 = \text{approx } 107\text{m}^3$ (実際 112m^3)
- (3) The water is not exposed to direct sunlight and therefore the water quality and temperature is very sustainable
- (4) Water intaking can be done easy by manual pumps
- (5) The surface land can be used

Cost is 450 Million Yen
\$500 / m^3
※when using heavy machinery



Thank you for your
attention

