7. Mineral and Thermal Waters for Spa and Recreation

Jiri Sima

Mineral and Thermal Waters

There is similarity between Ethiopia and Czech Republic – rich in resources and long term experience in use for medical and recreational purpose

Czech Tradition

Karlovy Vary = Karlsbad = Carlsbad

It is named after King of Bohemia and Holy Roman Emperor Charles IV, who founded the city in 1370. It is historically famous for its hot springs (1 main springs, 12 small springs)

Main spring

Small springs

Low yield
Specific chemistry
Use for drinking

Main spring 1974 by
4 wells 48 – 88 m deep

Small springs 1982 by
7 – 20 deep wells

Protection zones by law
1966 / 1982

AQUATEST tradition

Company is working for Spa Company (1970) – development of springs by shallow and deep wells

Spa Inspectorate – mineral water protection zones

Private investors – new wells (inspection of existing for new spa /wellness establishments bottling industry

Current activities in abroad

Slovenia – drilling and well logging of new wells for wellness hotels

Peru – feasibility study for use of thermal waters in Cajamarka and Churin towns

Ethiopia – Potential of thermal and mineral water resources in southern Ethiopia for spa and recreational purposes

Perolitos Cajamarca - Atahualpa-1533 by Pizzaro

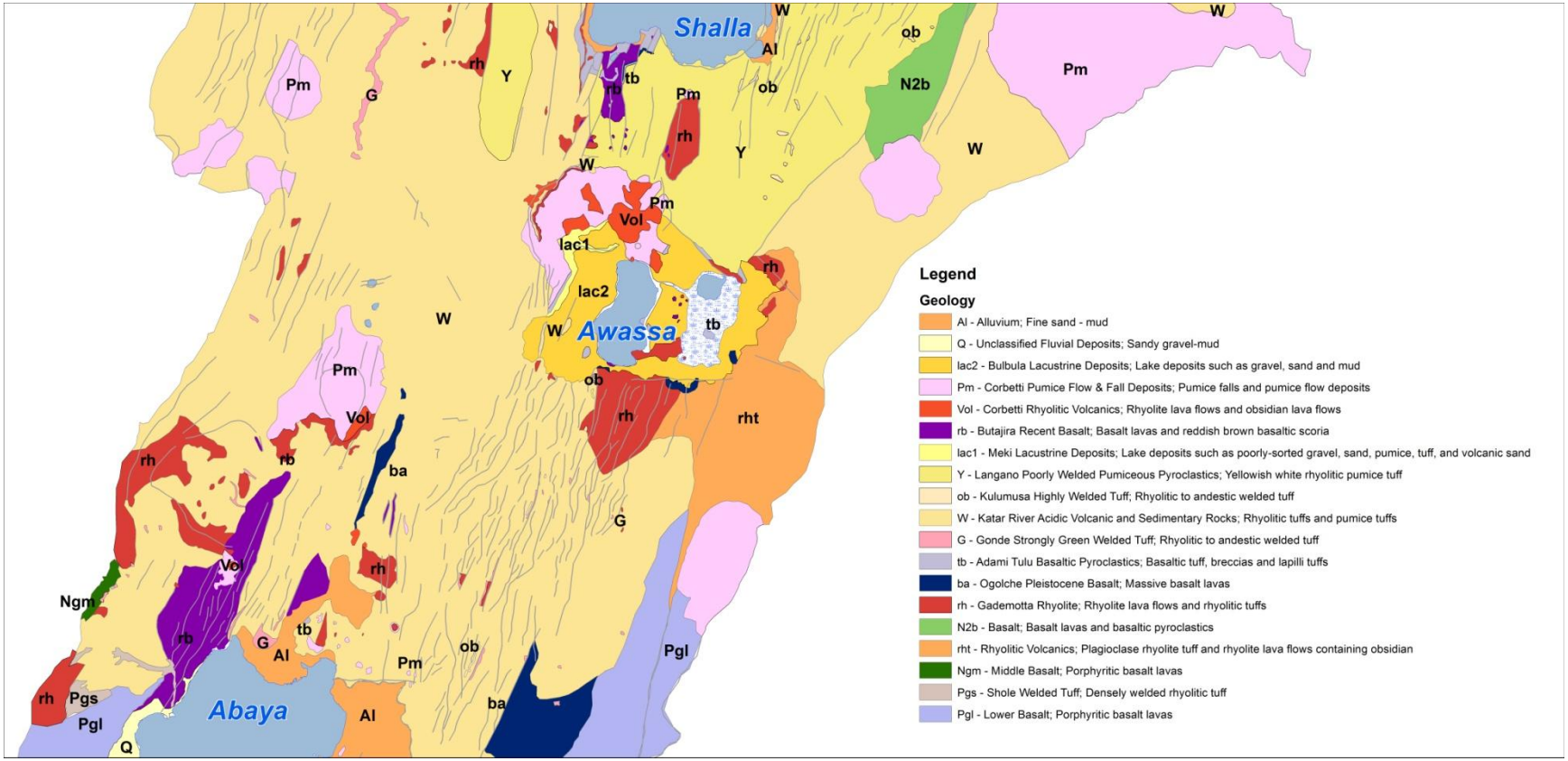
Churin – Lima spa

Ethiopia

- Rich in thermal and mineral water (120 sites)
- The Main Ethiopian Rift Valley (geothermal energy, industrial purpose, spa/wellness)
- Three sectors (Afar – Erta Ale, central – energy, southern - mixed use – development)
- Southern sector selected for assessment

Southern sector ineterst of goverment in development of the arae

Geology – volcano-sedimentary



Three areas of southern sector

Area 1 – Lake Shalla - caldera

Souther bank - group

Temperature 53-70
Yield 1 – 10 l/s
TDS – 1 – 10 g/l
Chemistry Na-HCO_3

Eastern bank

Area 2 Awassa Lake / town

Awassa capital of SNNP
100 000 inhabitants
Shallo Lake – not used (distance)
Graha Quhe – used – not developed

Steam inhalation
Simple bath 200 – 2 000 people

Area 3 – Wondo Genet - Yirga Alem

1964 by Haille Selassie swimming pool and hotel

Yirga Alem

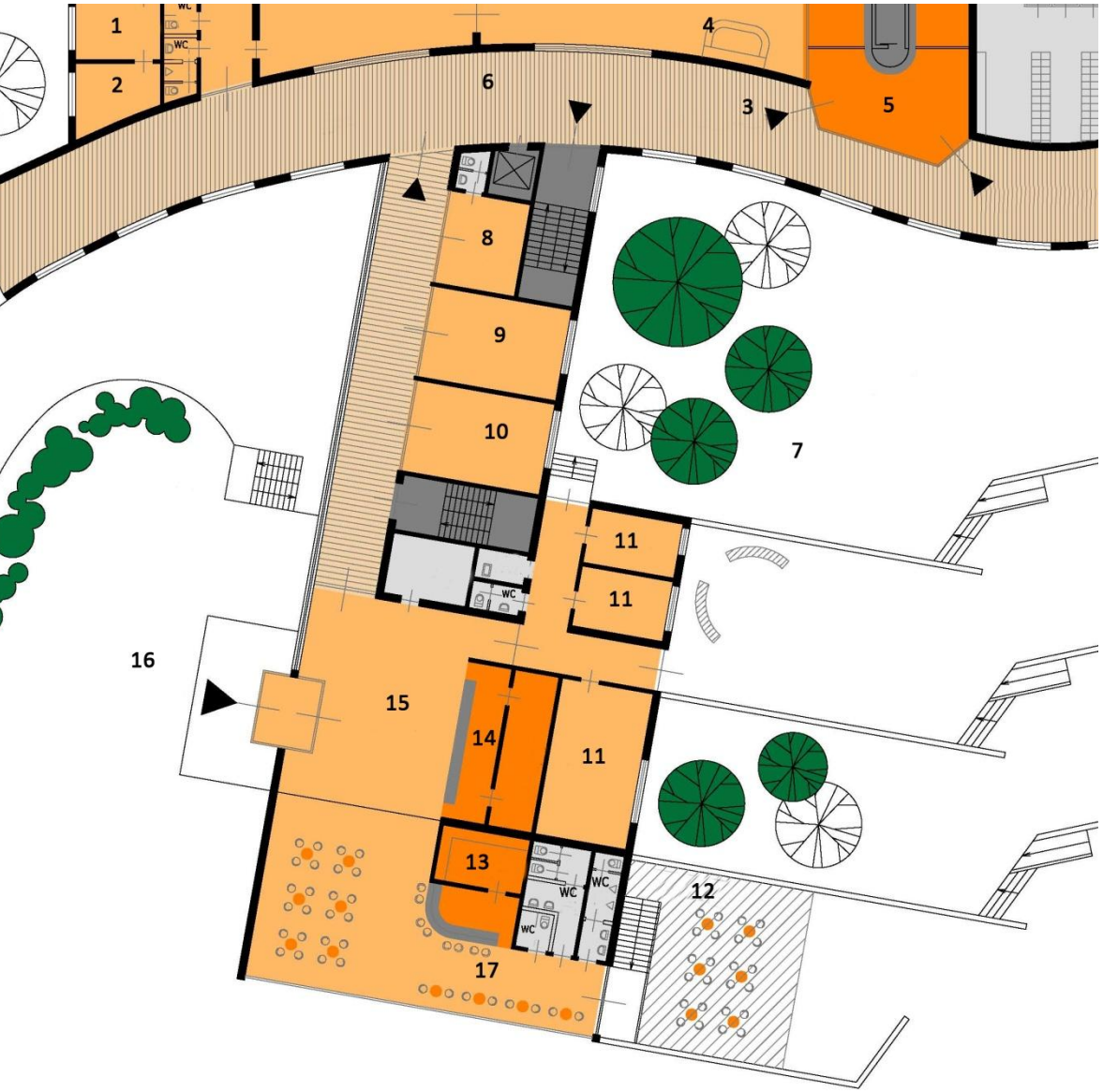
One spring developed (hospital) about 4 totaly undeveloped

Medical use

Prevention and healing includes of:

1. Musculo-skeletal disorders (arthritis)
2. Chronic diseases of respiratory system (bronchitis, asthma)
3. Chronic diseases of the digestive system (stomach)
4. Metabolic diseases (obesity, diabetes)
5. Dermal diseases and allergies (atopic eczema, acne)

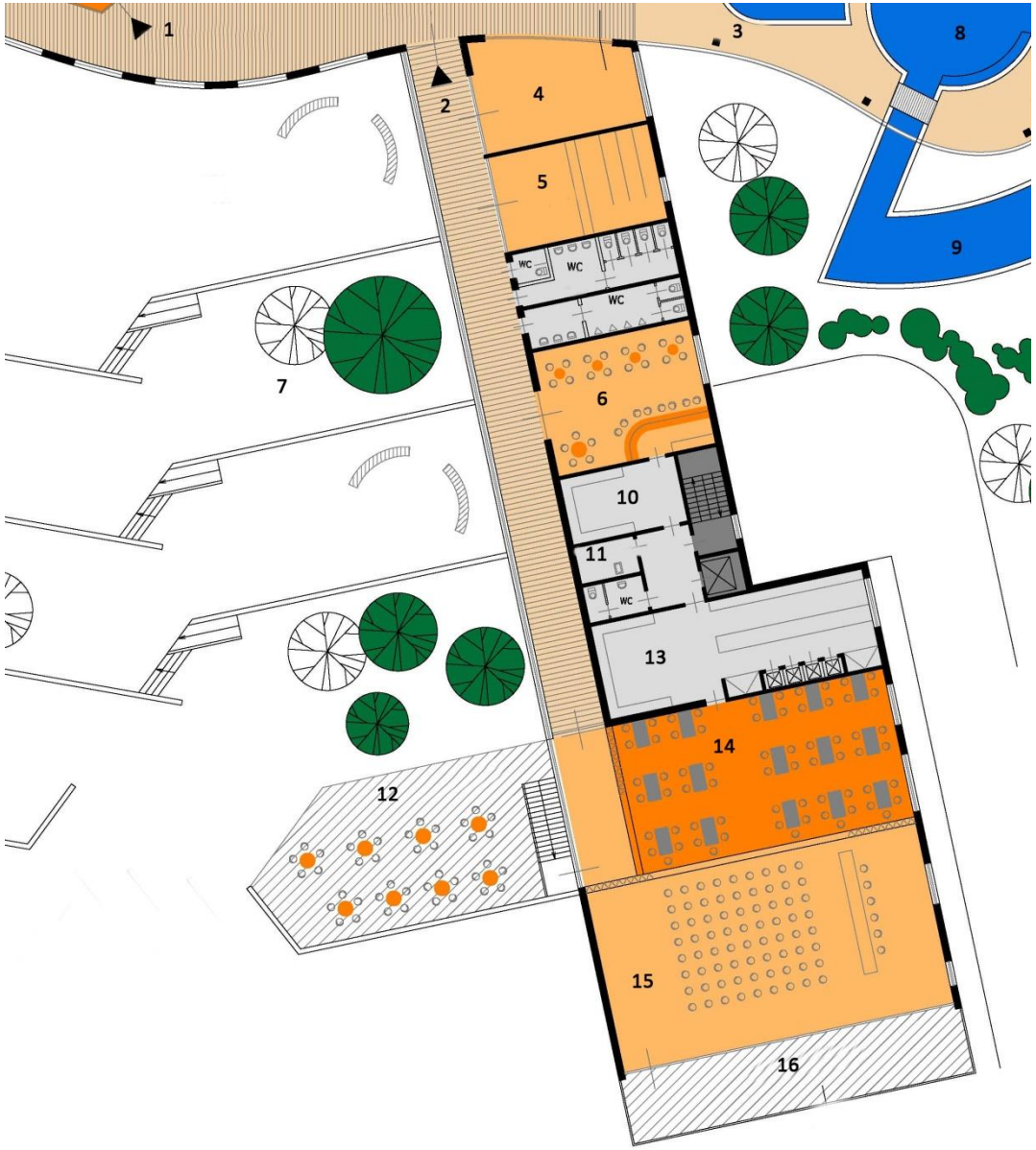
Proposal
Lake Shalla



Construction – reception part

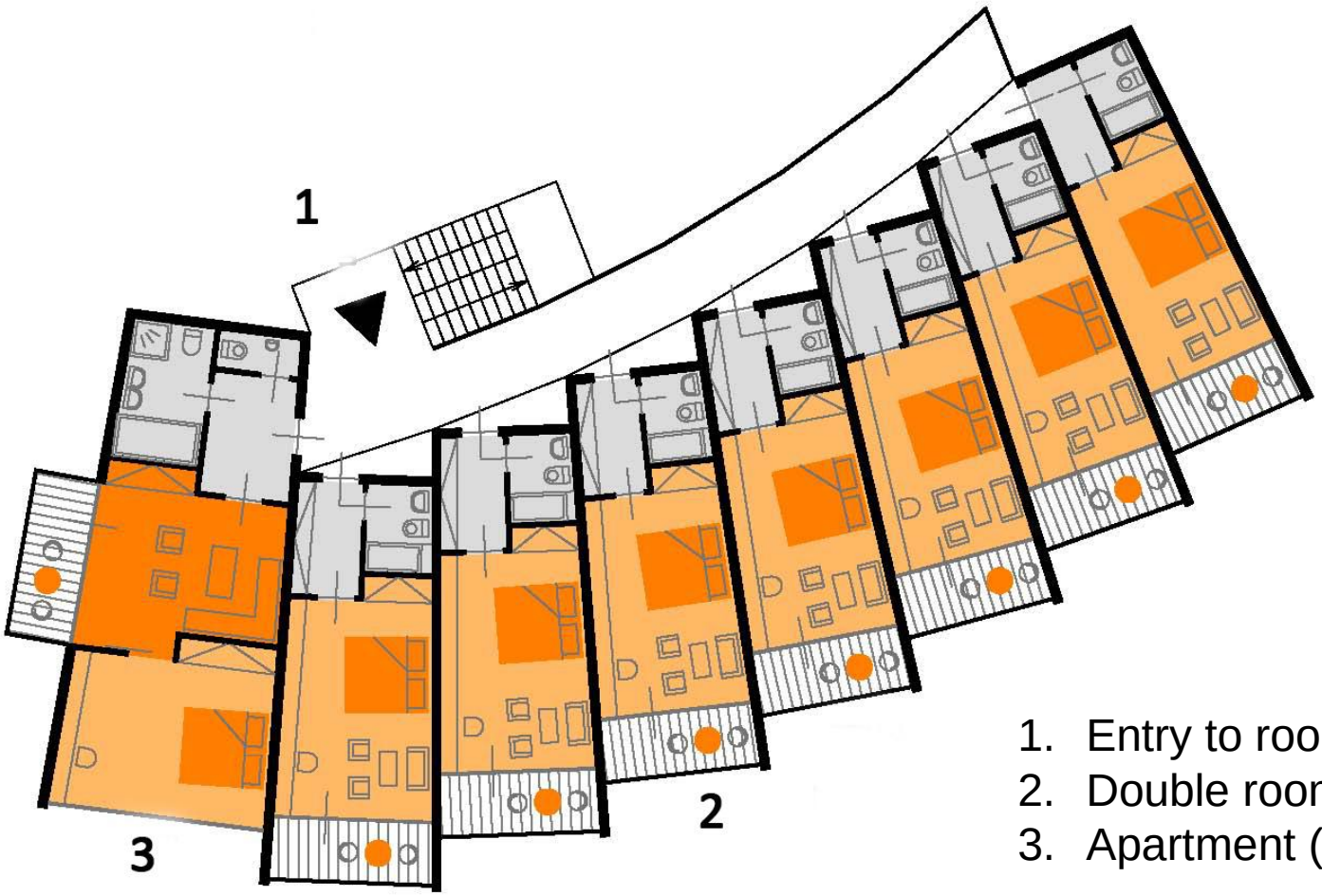
1. Laboratory
2. Loungue
3. Entry to thermal spa
5. Cash desk/information
8. Beauty salon
9. Shop
10. Internet
11.Office
13. Cloak room
14. Reception desk
15. Hall
16. Entry to spa
17. Lobby bar
12 Bar terrace

Catering and congress part



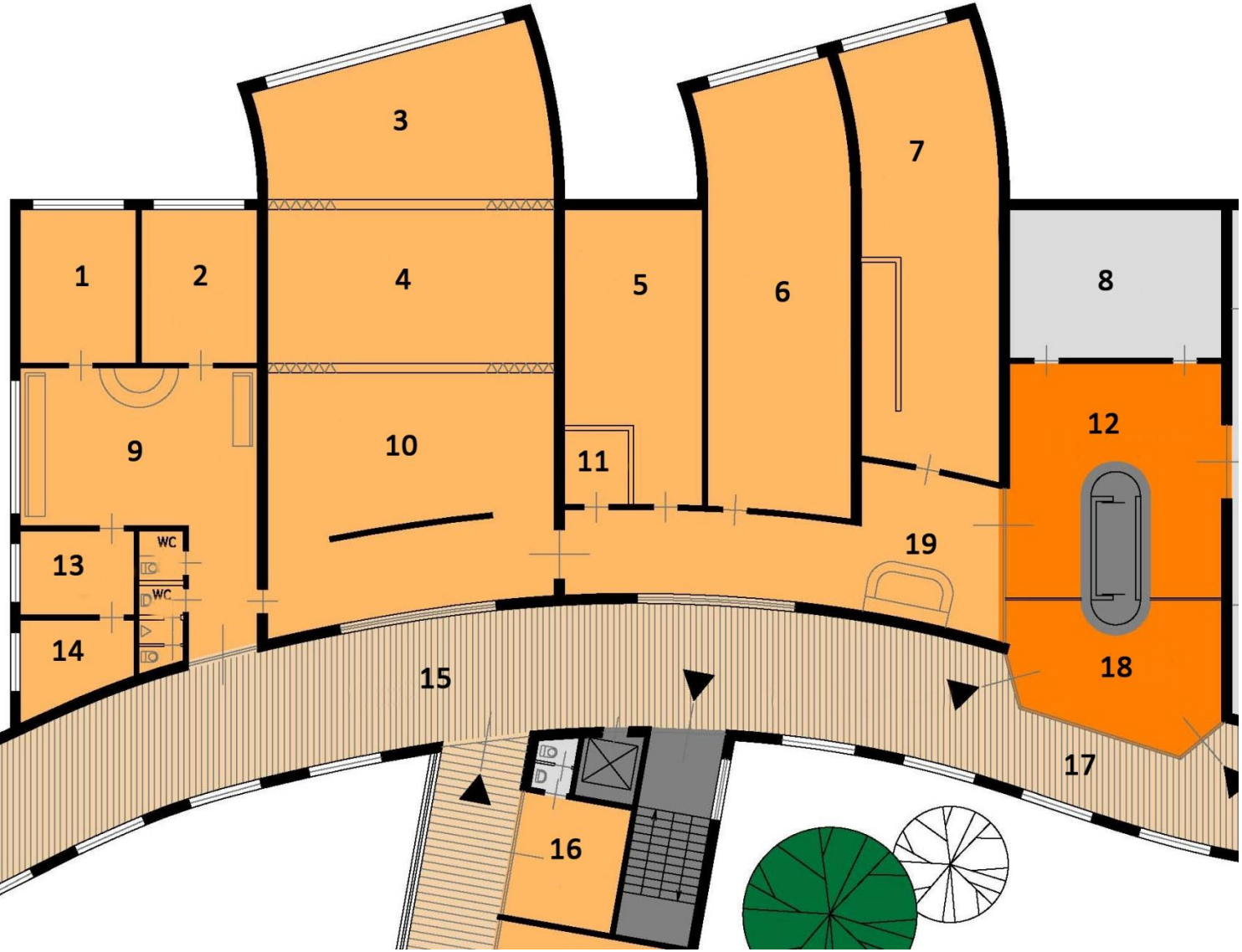
4. Beauty salon
5. Changing room
10. Office
11. Cleaning room
12. Restaurant terrace
13. Buffet area
14. Breakfast restaurant
15. Auditorium
16. Terrace (covered garden)

Construction – accomodation part



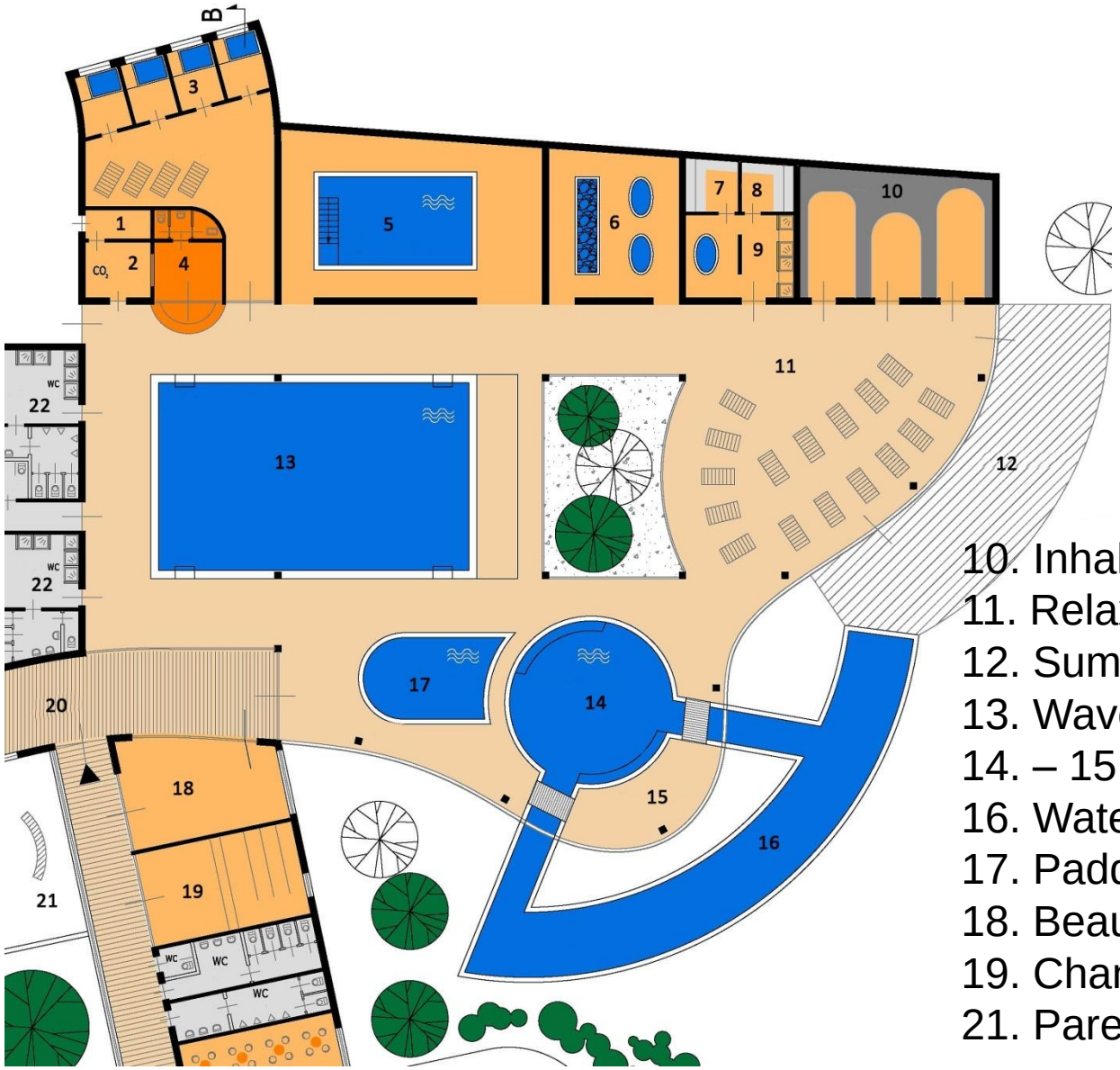
1. Entry to rooms
2. Double room (25m^2)
3. Apartment (54m^2)

Construction – curative / recreation part



1. Doctor
2. Laser
3. Spinning
4. Rehabilitation
5. Pelotherapy
6. Electrotherapy
7. Hydrotherapy
8. Office
9. Reception
10. Gym
11. Phototherapy
12. Clothes rent
13. Laboratory
14. Lounge
15. Corridor
16. Beauty salon
18. Cash desk

Construction – curative / recreation part



1. Gas storage
2. CO_2 bath
3. Family small pools
4. Life guards
5. Exercise pool
6. Kneipp therapy pits
7. Dry sauna
8. Steam sauna
9. Cool down room
10. Inhalation / aromatherapy
11. Relaxation
12. Summer terrace
13. Wave pool
14. – 15. Relaxation pool and area
16. Water massage
17. Paddling pool
18. Beauty salon
19. Changing room
21. Parental supervision area

Basic economy

- Construction cost (4 accommodation buildings, reception, catering and restaurant-congress part) – 18.6 M USD
- Therapeutic + other equipment - 6.8 M USD
- Running cost (personnel + material) – 2.3 M USD
- Annual income with occupancy 60-70% = 6 to 6.7 M USD
- Return of investment 8 years (96 rooms /192 beds) 6-7 years (240 rooms /480 beds)

Monitoring

Thermal and Mineral water resources assessment and sustainable use should be accompanied by monitoring where groundwater table, water consumption monitoring and water quality programs are fundamental additional to climatic data monitoring

Thank you for your attention