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Trains under water

Roughly half of this walk is on pavement and a natural surface, especially between points 1 and 10. There are inclines as steep as 12 per cent, primarily in the area of the Old Town; access to Lindenhof, 18 per cent.



Zürich on foot  
**All around water**

## 1 Limmat boats

Today, when water levels are normal, flat-bottomed Limmat boats travel in Summer from Lake Zurich to the landing stage at the Swiss National Museum. The first five «steaming swallows» travelled the route from the Rathausbrücke (City Hall Bridge) towards the Tiefenbrunnen and Wollishofen neighbourhoods starting in 1892. Just like horse-drawn trams, the Limmat boats were part of the city's first public-transportation network – as were steamboats, which have been operating on Lake Zurich since 1835.



Horse-drawn tram and «steaming swallow», 1893. Photo: Archive of Building History, City of Zurich.

## 2 Limmat crest gate

The grounds where the Sihl and Limmat rivers merge tempt you to take a stroll. Here it becomes apparent that the water level of the Limmat is a few metres higher than that of the Sihl. A hydraulic crest gate holds back water in the Limmat and thus regulates the level of all of Lake Zurich. Depending on the season and the danger of flooding, the level of the lake is raised or lowered by approximately 50 centimetres after consultation with national authorities. The gate, which consists of two steel flaps, is moved by the inflow and outflow of water.

## 3 Heat pump

It is well known that turbines can be driven by flowing river water. The vortex in the river, which can often be seen from here, hints at a further form of energy generation. Directly behind the river wall is the underground Walche heat pump facility belonging to ETH Zurich (Swiss Federal Institute of Technology Zurich). Roughly 0.7 degrees C of heat is removed from the



Cross section of the heat pump facility under the Walche. Photo: ETH Zurich.

river water, which is redirected back into the river. The heat energy drawn in this way is fed into a district heating network and covers up to 50 per cent of the heating requirements of the ETH buildings in the university district. The current concession is valid till 2017.

## 4 Mühlestieg

There were once mills and factories in the Limmat basin along the upper and lower Mühlestieg (Mill Bridge). They used the flowing water to drive their water wheels. These installations, however, blocked the flow of water during floods. More than once there were demands to «clean out the Limmat». In the 1950s, at the same time the new crest gate system was being erected, the bed of the Limmat was dredged while the landings and buildings were torn down. A branch of the Limmat on the side of the train station was drained and converted into a roadway underpass. The new Mill Bridge where you are now standing has brought pedestrians across the river since 1982.



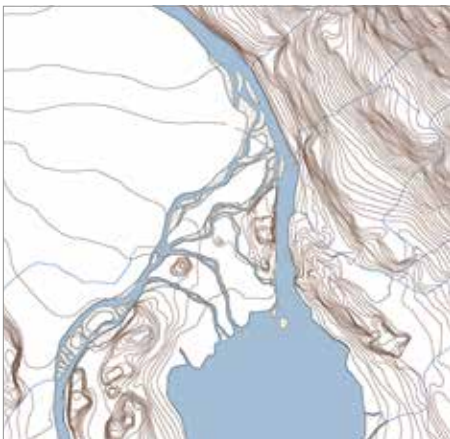
River Limmat basin around 1910. Photo: Archive of Building History, City of Zurich.

## 5 Limmatquai

The spatial development strategy of the City of Zurich plans to continue enhancing the area near the water as a municipal recreational and relaxation area. Thus, since 2004 a part of the Limmatquai has been blocked off from most motorised traffic and now offers a space for leisurely strolls. In the Roman days, the right banks of the Limmat were located roughly 45 metres behind today's Limmatquai; the river took more space for itself. Since the Middle Ages, its route has been narrowed with river walls, and land for construction was gained by filling in that space. The last expansion of the quay system along the Limmat was done in the 19th century.

## 6 Lindenhof

In the Ice Age, the area near Zurich was covered with a thick layer of ice. The glacier, which receded some 20,000 years ago, left a hilly landscape with moraine deposits. What today is the Lindenhof was created by a small elevation that has remained. The wild River Sihl built up a delta and flowed around the hill into the Limmat and Lake Zurich, which itself was formed by flows of glacial water. The sub-soil of the inner city, as is also the case in Wiedikon and Altstetten, consists of large amounts of gravel from the Sihl. Debris from the Sihl was for some time able to considerably raise the water level in the lake so that the water reached all the way to the Lindenhof hill. Settling this area was a continual struggle to control this mass of water.



River Sihl (left) and the Sihl delta 3000 years ago. Map: Zurich Archaeological Service.

## 7 Rennweg

During the Middle Ages, it was for the most part necessary to get drinking water from fountains. They were fed using mains for spring water from the Zürichberg and Uetliberg hills. You can still drink this water at more than half of the roughly 100 fountains in Zurich's Old Town, for instance here at the Amazon Fountain. The wells which went all the way down to the groundwater are even older. The water had to be brought to the surface with mechanical aids. You can look down the shaft of such a well if you go further to the intersection of Rennweg and Fortunagasse.

Guide to the Fountains in the City of Zurich:

[www.stadt-zuerich.ch/wasserversorgung](http://www.stadt-zuerich.ch/wasserversorgung) > Publikationen & Broschüren

## 8 Bahnhofstrasse

A testimony to the city's contemporary wastewater disposal system lies beneath Zurich's elegant Bahnhofstrasse. During the introduction of the waterborne sewage systems in the 19th century, a central collecting canal was built here. To allow faecal matter to flush out effectively, the canal was built in the reverse shape of an egg, following then modern English engineering methods. Except for the bed, which had to be renovated, it still operates in its original state today. The wastewater flows towards the Werdhölzli water-purification plant, which each year cleans up as much as 80 million cubic metres of wastewater. The path leads further through Thermengasse (Thermal Way), where remains of the Roman bath culture can be viewed.



Collecting canal underneath Bahnhofstrasse. Photo: Markus Kriesi.

## 9 Frauenbadi (women's bathhouse)

The high quality of water in the Limmat and lake invite you to take a swim. What goes on in public today could only happen in the 19th century in screened off areas and with the sexes separated. Due to the growing culture of hygiene, a number of bathing facilities arose in Zurich. The city set up the first «bathhouse for women» near the man-made Bauschänzli island in the Limmat. In 1888, it was replaced by the enclosed bathing complex which today you can see on the river's other side. In daytime the «Frauenbadi» is still for women only, but in evenings the «barfussbar» is open to all.

## 10 Lake Zurich

By looking at Lake Zurich, you wouldn't immediately think of drinking water. Even so, the Moos and Lengg lake-water purification facilities supply 70 per cent of Zurich's drinking water. The lake water is drawn from a depth of 30 metres and purified in a multi-stage process. The Hard groundwater facility pumps another 15 per cent of the required water from the groundwater layers, while spring water from the slopes of Zurich's local hills covers the remaining 15 per cent. The water utility of the City of Zurich supplies drinking water of exceptional quality.

## 11 Bürkliplatz

Today we refer to «Zurich, the city on the lake». However, up until the major land reclamation at the end of the 19th century, the City of Zurich was primarily centred around the Limmat river basin. The shore line was roughly at the site of the Bauschänzli, which was then part of the city fortifications. City Engineer Arnold Bürkli (1833–1894) took over the task of building a new system of quays along the lakefront from Wollishofen all the way into the Seefeld district. Some 1.24 million cubic metres of stone and lake sludge were dumped there. The reclaimed land was developed into a multi-purpose shore walkway and handed over to the public in 1887. The pitfalls of this foundation soil – due to settling – become apparent each time the Quaybrücke (Quay Bridge) is repaired. From there, the path leads along the Schanzengraben, a Baroque defensive trench which was made accessible by means of a pedestrian path in 1975.



The quay system along the lake shore around 1890. Photo: Archive of Building History, City of Zurich.

Passage through the Old Botanical Gardens open April–September 7 a.m.–7 p.m., October–March 8 a.m.–6 p.m.

## 12 Fish ladder

The water in Zurich also provides a habitat for plants and animals. Chub, roach, gudgeon, trout, barbel and burbot are the names of some of the fish which swim in these waters. To make it possible for fish to get past the small crest gate at the Schanzengraben on their way from the Limmat to their feeding and spawning grounds in the lake, the «slit fish path» was erected in 2003. The trip up of about a metre is made using four steps with resting chambers. To use the water that is dammed here, plans are being made for a traditional water-wheel driven generator which should supply electricity for 25 homes.

## 13 Selnau SZU train station

The station for the Sihltalbahnhof (Sihl Valley Railway) rises from the riverbed like a stranded ship. The railway's route leads from the Zurich Main Station underneath the Sihl. That river, which generally appears to be a gentle stream, can turn into a rushing torrent when water levels are high. Since 1937, the energy produced at the Sihl Dam in the Canton of Schwyz has reduced the amount of water flowing towards Zurich. Despite this and additional measures, in extreme weather conditions flooding is possible. The Sihl and Limmat last rose above their banks in 1910. In 2005, the City of Zurich was barely spared from flooding due to the Sihl's high water levels. If there were to be flooding, damage to the city is estimated at anywhere from CHF 3 to 5 billion. Thus, preventive measures are being continually strengthened such as by the planned traps for driftwood in the Sihl near Langnau am Albis.

[www.stadt-zuerich.ch/hochwasserschutz](http://www.stadt-zuerich.ch/hochwasserschutz)



Selnau SZU train station during near-flood conditions in 2005. Photo: AWEL, Canton of Zurich.

## 14 Zurich Main Station

The first railroad line from Zurich to Baden, the «Spanisch-Bröttli-Bahn» (Spanish Bun Railway), crossed the Sihl over a bridge even long ago. Since then, the rail yard and thus the covering-over of the Sihl have been continuously expanded. There has been construction underneath the Sihl since 2007. The new underground Löwenstrasse direct-transit train station, which will open in mid 2014, is 16 metres below the tracks. For its construction, the Sihl culverts were drained in stages so that in those spots the ceilings, side walls and supports for the new station could be embedded in the ground. As a protective measure against flooding, the bed of the Sihl was lowered by 60 centimetres. The water from the Schanzengraben, which previously flowed into the Limmat, today flows here into the Sihl.

[www.durchmesserlinie.ch](http://www.durchmesserlinie.ch)

## By foot all around water

People love water. This is also the case in Zurich, where city residents and guests enjoy spending time near water. And the fact that you can swim in the lake and the Limmat is a great advantage for our city. That means it's an appropriate time for a «Zurich on foot» path along our waterways. Water has characterised the living space of the City of Zurich from time immemorial. The wild River Sihl brought debris with it and built up a delta. In the 19th century, Zurich was expanded and became the city on the lake. Residential districts arose on the Sihl's natural banks of debris. Protecting these districts from flooding is a big challenge even today. This walk provides you with interesting facts all about the water that is so characteristic of our city.

## Zurich on foot – always a new discovery

Zurich has countless tales to tell, and «Zurich on foot» brings a few of them to life. In the process, you'll see that our pedestrian infrastructure is already quite good, but the Civil Engineering Department intends to make it even better. Walkways should be designed to be direct, safe and appealing and be usable wherever possible with walking aids or baby carriages. Roughly a third of all trips within the city are made on foot, and that provides proof as to which is Zurich's most important «means of transportation»: our feet!

I wish you much enjoyment while out and about.

*Filippo*

City Councillor Filippo Leutenegger  
Head of the Civil Engineering and Waste Management Department

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approx. 2 hours

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## Zurich on foot:

- 1 The Inner City ↻
- 2 Wollishofen
- 3 Along the River Sihl ↻ ↕
- 4 Wiedikon ↕
- 5 Aussersihl und Hard ↕
- 6 Limmat and Zurich West ↻
- 7 University District
- 8 Witikon
- 9 Seefeld
- 10 Altstetten
- 11 Wipkingen ↕
- 12 Höngg
- 13 Affoltern
- 14 Oerlikon ↻
- 15 Schwamendingen
- 16 Seebach ↕
- 20 2000 Watt Society ↻
- 21 All about football ↻
- 22 With children ↻
- 23 All around water ↕

↻ audio play available

↕ unobstructed path

«Zurich on foot» maps are directly available in the Pavilion at Werdmühleplatz or can be ordered at the City of Zürich Civil Engineering Department: 044 412 50 99, [www.stadt-zuerich.ch/stadtverkehr2025](http://www.stadt-zuerich.ch/stadtverkehr2025)

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