

Thoughts about a 500-year plan (give or take 499 years)

Background

In late 2008—yes, over 13 years ago—I attended my first HOA Board meeting. I had prepared a photo essay showing the degradation of the concrete beams in the garage, as a result of years of seepage from the inevitable leaks that occur when one places water-retaining basins (think “wading pools”) on top of concrete slabs. This would still be an architectural-detailing concern in the 21st century, but the technology available in the 60s was not likely to last more than a decade. So it is likely that the leaking underneath the planter basins has been going on for four decades. Then-Board president Darryl Andrews, agreed with my observations and encouraged staff and other Board members to take action.

Sadly, 13 years later, the problem remains unchecked. Imagine you discover that your bathtub has developed a serious leak, and then notice that the ceramic tile floor, adjacent to the tub, needs grouting. Whom do you call first—the plumber or the tile expert? As it out turns out, for the courtyard project of 2015/16, only the tile expert was called, but the tub is still leaking. It’s time for the plumber.

A 500-year plan? To solve immediate problems?

When I was asked to consider what to do in the eventuality of replacing the waterproofing membrane, I was surprised to discover how inconsistent and uninformed the information is about what is the problem and what it would take to remedy it, once and for all. It also struck me that this was not perceived as an *opportunity* to bring the design and plant materials up to date—into the 21st century—only, as another noisy intrusion. But, foremost, building integrity is at risk—that’s the priority.

Fixing the existing waterproofing for the planter basins has to be, conceptually, one of the easiest construction projects imaginable—it’s equivalent to maintaining a koi pond—remove the plant material (koi); remove the soil (water); replace the waterproofing membrane; put back the soil (either original and/or new); put back plants (some of the salvageable original, but mostly new). Because the basins are physically separated, they could even be accomplished one at a time, each time using the other to stockpile materials.

What makes this project seem complicated is when adjacent walkway areas—the tile floor in my example, above—get added to the project. Those areas may also contribute to water penetration, but still those areas are discrete from the planter basins and of lower priority. And may never need to be done at all.

Harrison West Condominium

Another preposterously quick turnaround from the Krochina/Bosch architectural design studio and bait shop “Leeches, our specialty,” with an epiphany moment from Janet Van Wess

Einstein would approve

Following Einstein’s admonition of how to explain complexity to a six-year old, on the following pages are six simplified—first grade—descriptions that take one from “what happened” to “what could be:”

- 1) What did the courtyard look like originally in 1966?
- 2) What does the courtyard look like currently as a result of the 2006 conversion?
- 3) How are the planter basins set on top of the concrete slab and why are they a different problem from the adjacent walkway areas?
- 4) A tree and shrub inventory, with observations about trees least likely to be salvageable, whether the courtyard project proceeds or not.
- 5) A visual survey of leaks and seepage to determine what may be the various sources of the leaks.
- 6) Three options for how to proceed: do nothing; pretend nothing happened; update the concept of *what is a community garden in the 21st century*. (I owe the final scenario—the idea of a *certified garden*—to my knowledgeable colleague, Janet Van Wess.)

A 500-year plan? For you, only 499 less.

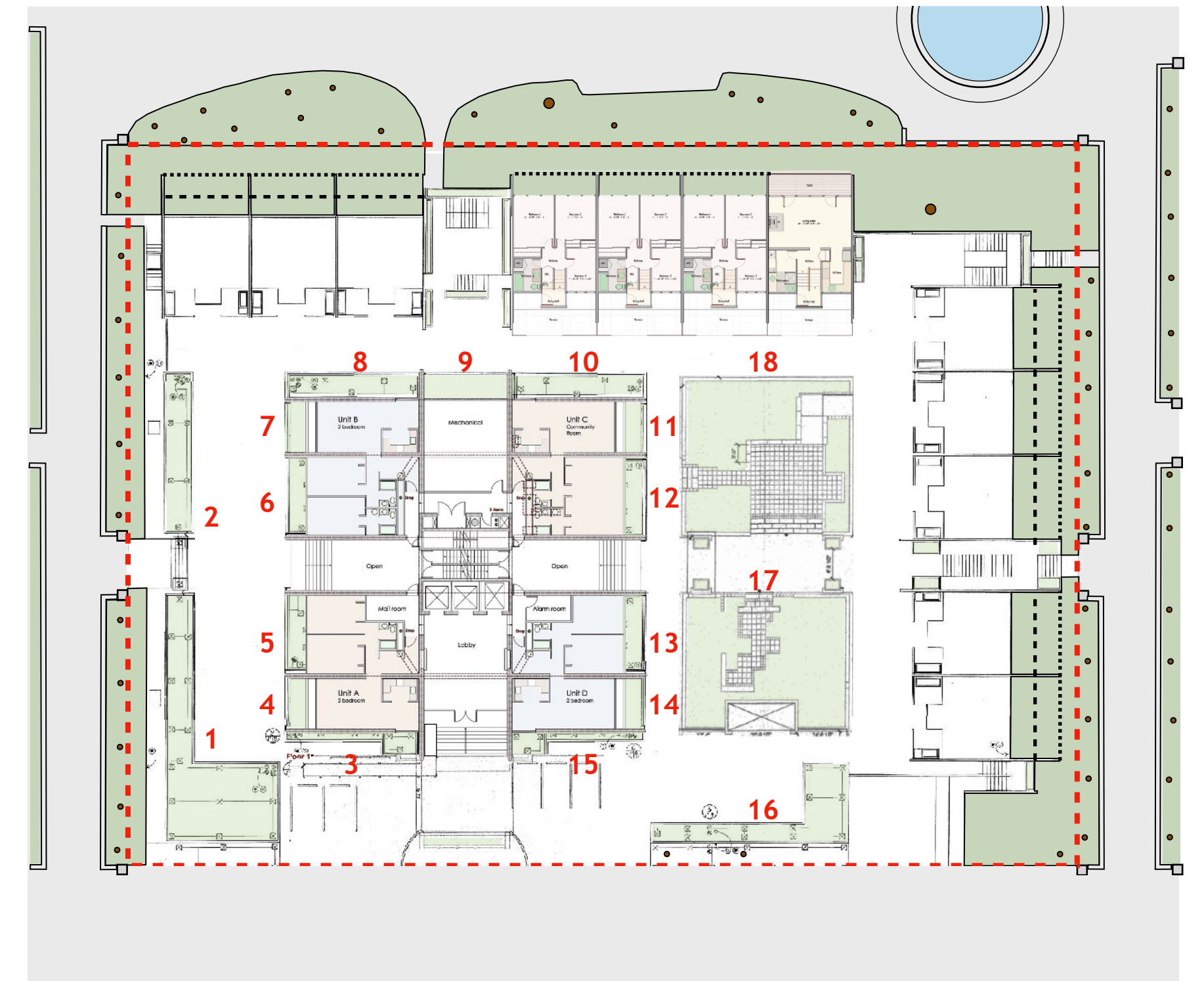
So even though this may not guide us through the next five centuries, this final suggestion would provide a permanent transition from a mostly-ornamental and vulnerable approach, to a more diverse and sustainable approach. As for sentiment, several of the trees have outgrown their wading pool deep soil, anyway, and are in need of replacing.

I have deliberately steered away from proposing a plant list for the new garden. That would be an infringement on the function of the CA/LC—they are more qualified than I to develop that list and should be encouraged to do so now. That might just be the catalyst, and the assurance, that this long-overdue project needs.

This project cannot be put off again and again. It needs to be accomplished now. And without the adjacent walkway areas, it is an easy project. So my encouragement is to steer away from esoteric long-range plans, that will provide an excuse to do nothing, and focus instead on how the short-range plan can be more adaptable in the future and, thereby, meet that same goal.

Is that an epiphany, or what?

Site plan



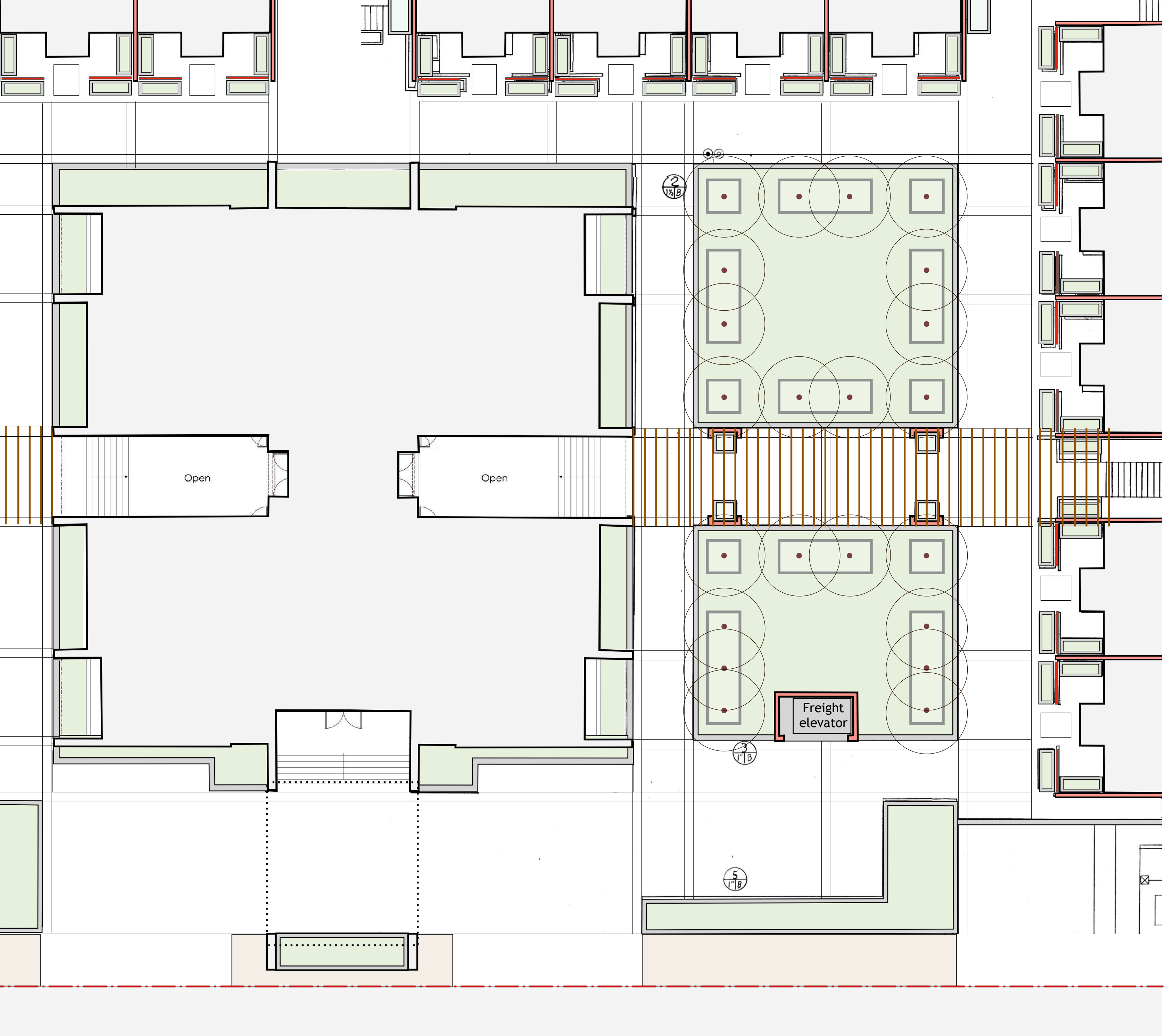
This overall site plan of the Harrison West complex shows the *18 larger, permanent, concrete planters surrounding the tower and filling the courtyard. They range in soil depth from about 6” to 8” (planters 3 through 15), to about 30” to 36” (planters 1, 2, 16 and the four small ones under the trellises). The large areas (17 and 18), which are the primary planters of concern, have soil depths ranging from about 15” to about 18”.

All the planters were waterproofed in the same manner, so all planters probably have leaked to some degree over the past decades. Planters 8, 9 and 10 were included in the courtyard project of 2015/16 and are assumed to no longer leak. Three planters were removed during the courtyard project, as at least one of them had leaked into the adjacent townhouse.

Although there are some trees in planters 1, 2, 16, they are perceived as though street trees—peripheral to the courtyard. The area of most concern, therefore, is focused on 17 and 18.

*There are 10 other, lesser planters remaining from the original layout of 1966.

Note: All plans are oriented with north facing up.



1

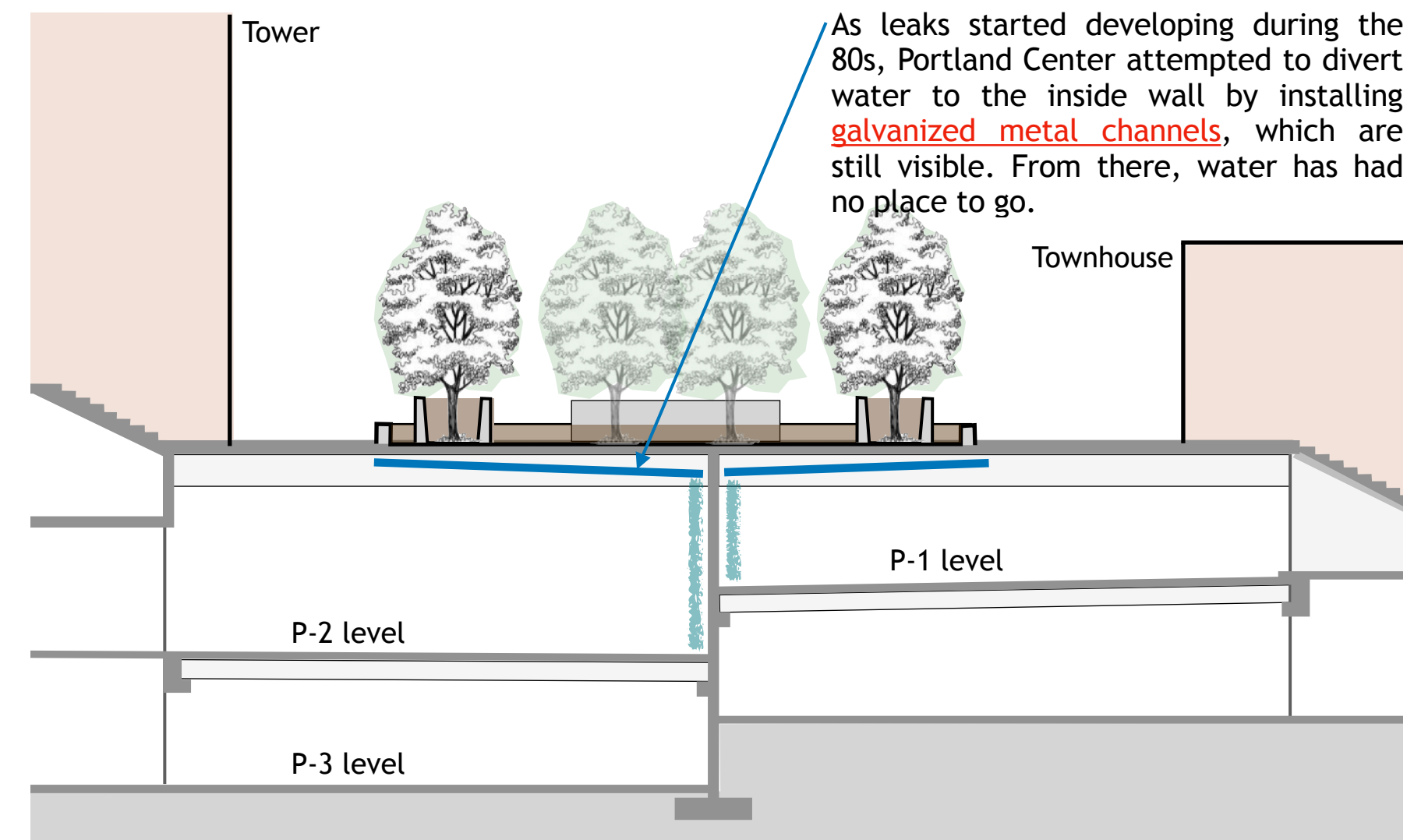
1966

The two primary planting areas consisted of a low section, about 15” to 18” deep, intended only for ground cover. The northern half is about 48 feet square; and the southern half is about 48 feet wide by 40 feet high. Set within those larger planters was a grouping of 13 large concrete planters—six feet square, and longer—providing each tree with about four cubic yards of soil.

There were no steps onto the ground cover, or breaks in the perimeter walls, so presumably, the intent was only to provide a green roof over the garage. The only encroachment was the area for the freight elevator on the southern edge. Each townhome had four planters separated by tall, wooden garden walls.

The layout was strictly geometric to complement the architecture. But, in fairness, that so much planting was included in this 60s project—and not cut out for budget reasons—was an accomplishment in its own right.

The cross-section below is to the same scale as the plan and shows the lower section for ground cover, the six foot wide planters, and trees reaching about 20 feet in height.



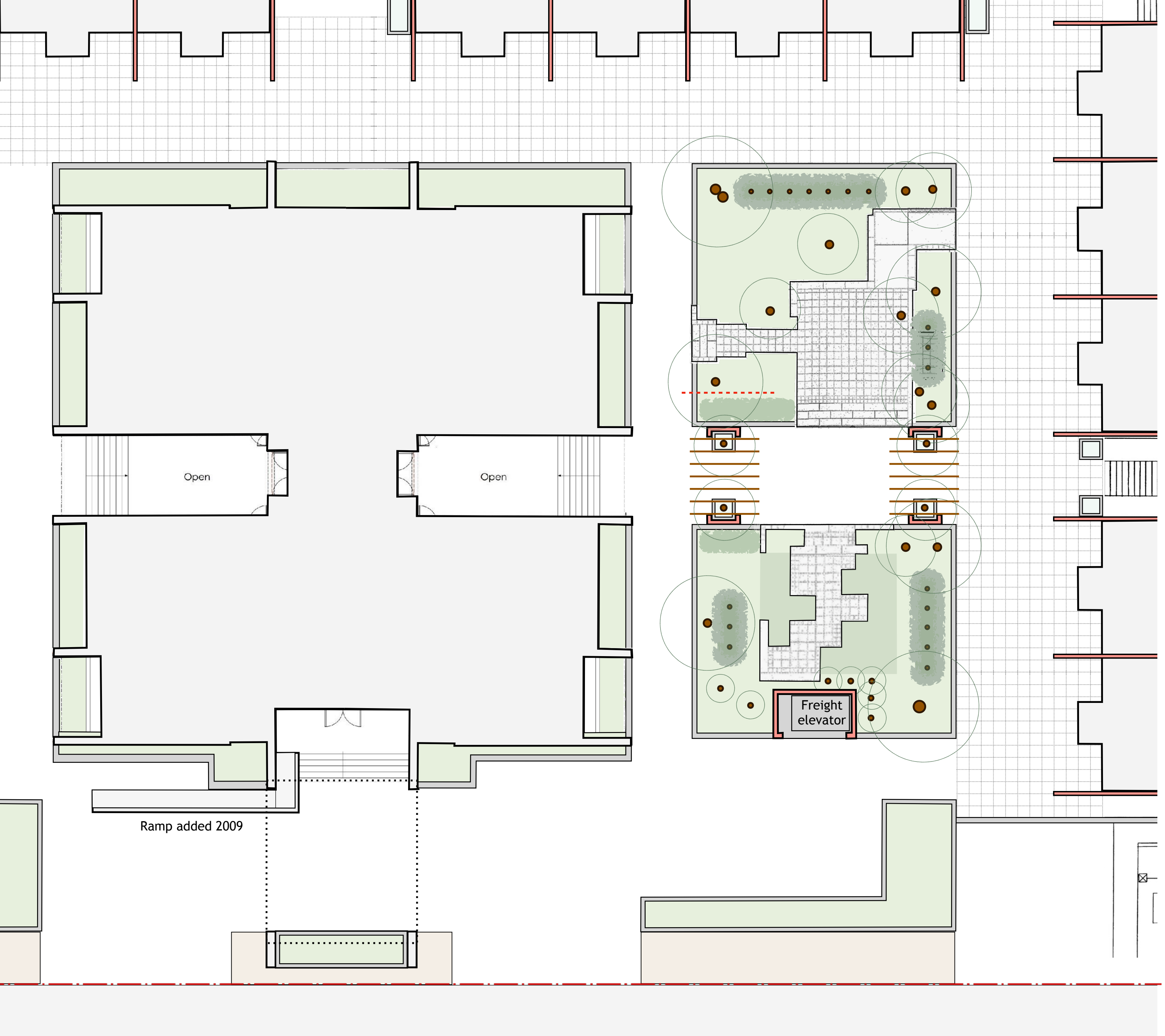
As leaks started developing during the 80s, Portland Center attempted to divert water to the inside wall by installing galvanized metal channels, which are still visible. From there, water has had no place to go.

Note also, the handsome paving pattern that existed back then, that picked up on the structural lines of the tower and carried across to the East Tower, and the wooden trellis that extended all the way from the tower to the beginning of the stairway down to the Second Ave Mall.

The paving pattern was obliterated from memory when the first waterproofing was applied to the walkways, decades ago, and the wood trellis (along with other wood structures, not depicted) undoubtedly deteriorated over time and was removed.

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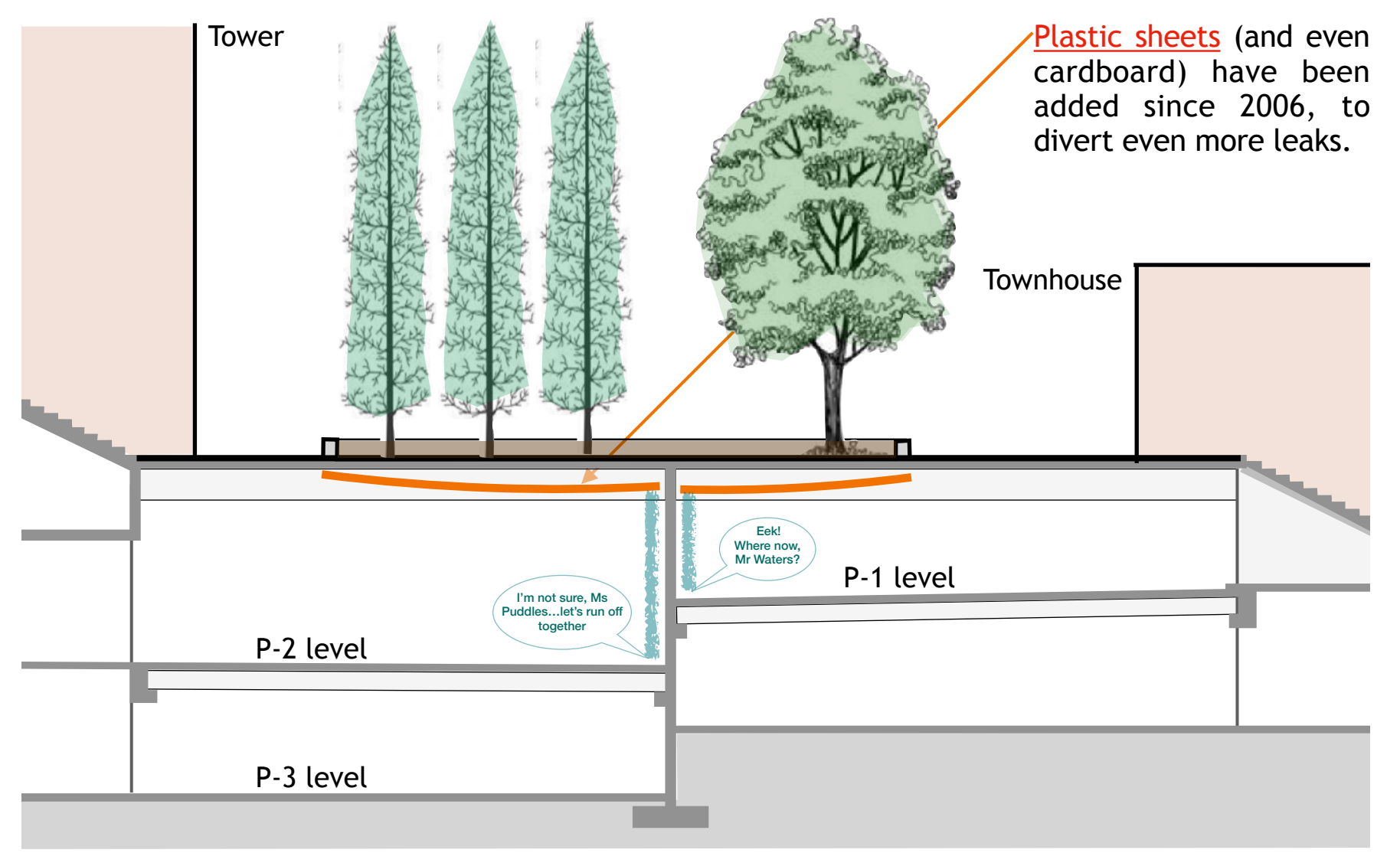


2

2006

The two primary planting areas remain, but have been modified by four breaks in the perimeter walls to allow access onto newly created paved areas. The deep tree wells have been removed so that all plant materials now compete within the same 15" to 18" of soil intended previously only for ground cover.

The cross-section is to the same scale as the previous section and shows the remaining low section, originally intended for ground cover, and yet some trees reaching about 40 feet in height—where do the roots go? Certainly not down.



The geometric sameness of the 60s plan was modified by choosing nine types of trees and several types of shrubs. Camellias were placed deliberately to provide screening between courtyard users and townhome residents and unit 1-D.

A token segment of lawn was added to the south half, but repeated edging has reduced it to an area about half of the original intent—and yet, in 2022, it still requires the same mowing maintenance as it did in 2006.

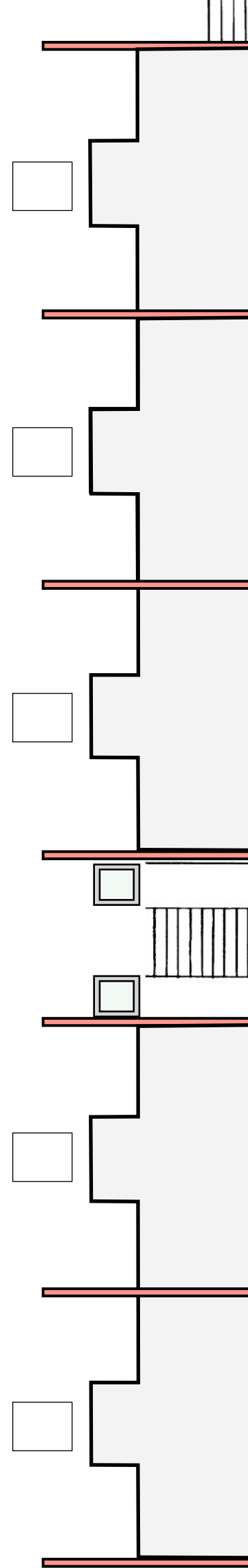
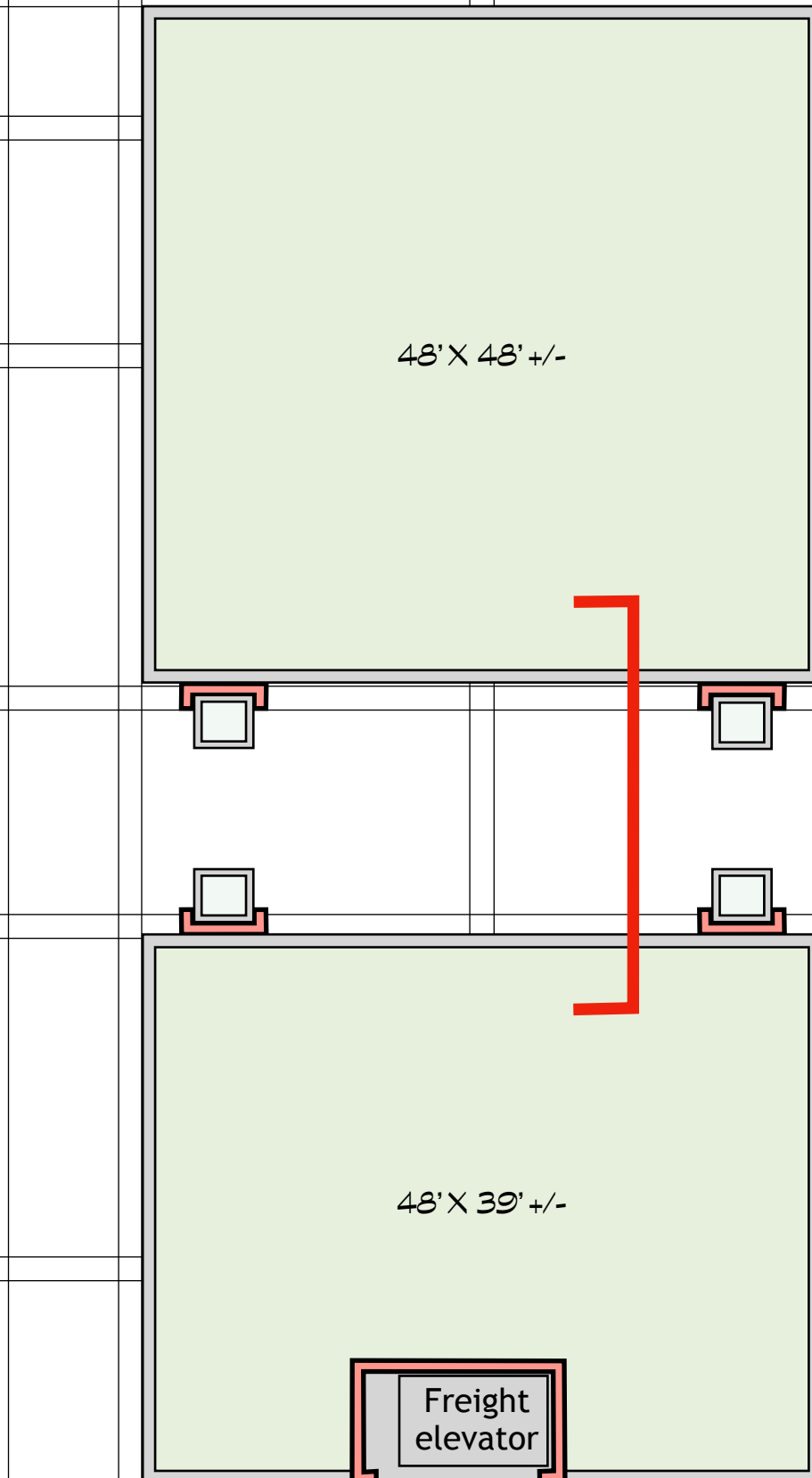
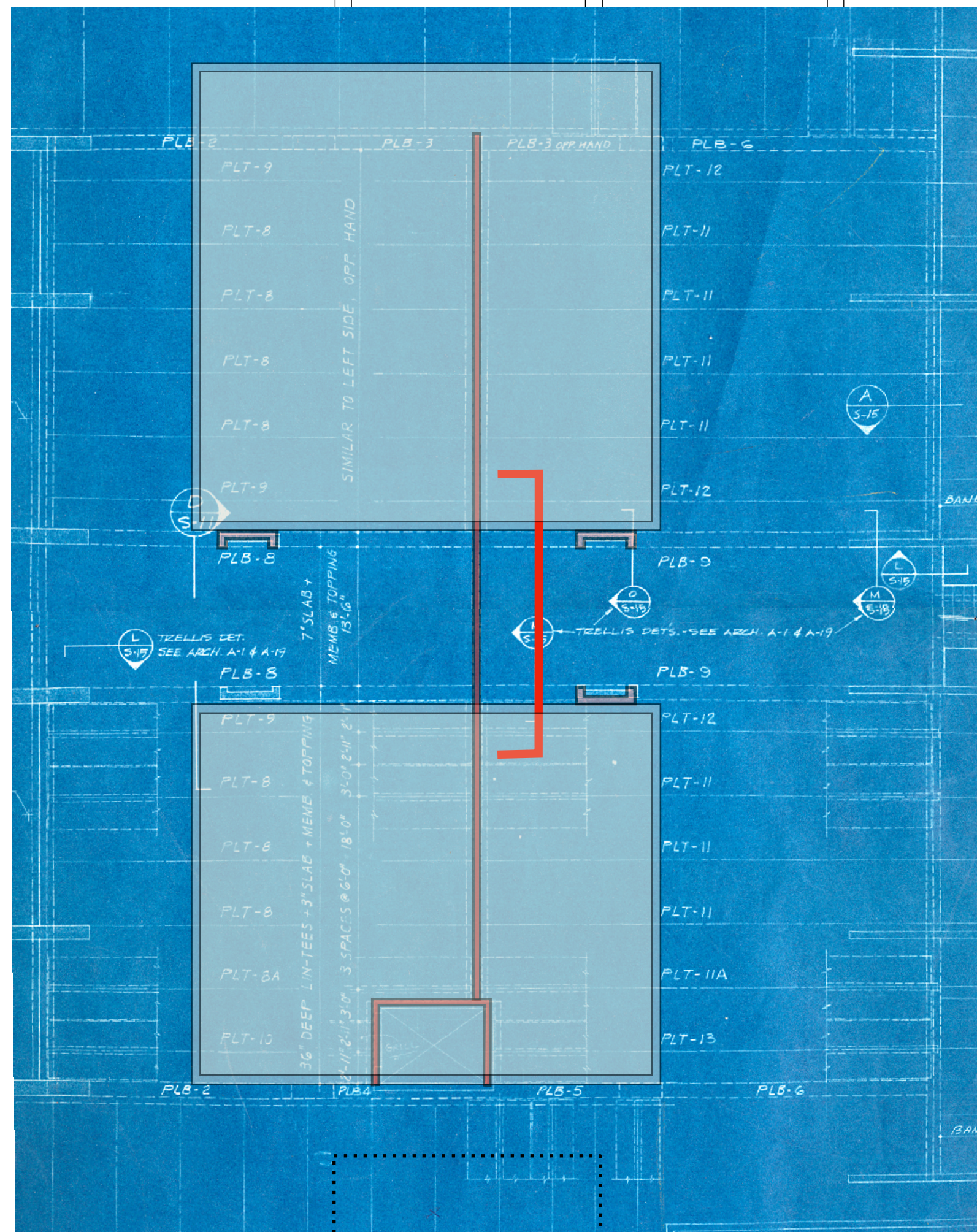
New concrete pavers (indicated with the small grid) were added in 2016, as part of the courtyard project, but other walkway areas retain the waterproofing membrane dating back decades, cited on the previous page, although not as old as the planter basins and not nearly as deteriorated.

The supports that held up the trellis have been repurposed into holding up smaller sections reminiscent of the earlier trellis, although turned 90 degrees.

The important point is that the two planted areas may have been changed in character, but the waterproofing membrane of the 60s was not upgraded. Based on the technology available back then, the first sign of leaking would have occurred around 1980—four decades ago—and today still remains unchecked.

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It is important to realize that the load associated with the planter curbs and the soil was calculated into the structural design and should not be altered significantly—a lesson learned from the previous courtyard project. In other words, don't remove the planters altogether and don't



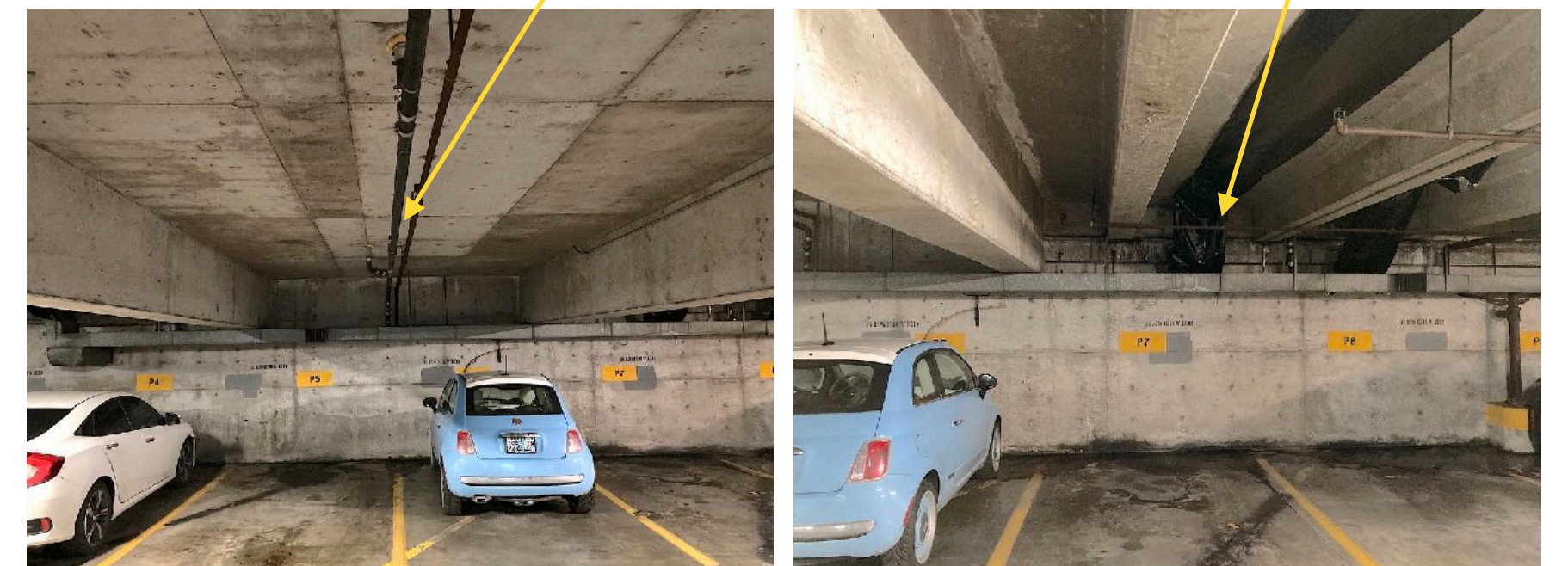
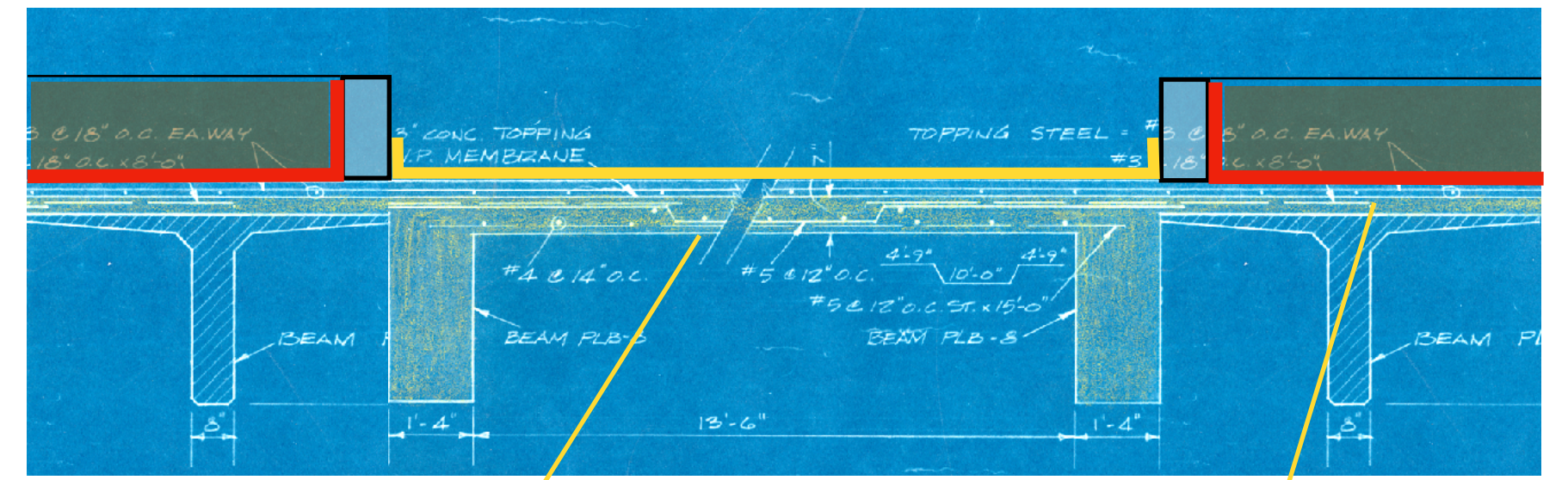
3 the planters

These excerpts from the original blueprints are invaluable. The image to the far left, and the section below, show the framing just below the planters, which are merely 15" deep concrete curbs set on top of the deck. (They weren't even indicated on the structural drawings.) The center bay, which corresponds to the walkway, is poured-in-place concrete along with two enormous beams, but all the other framing consists of precast concrete T-beams, deliberately spaced about an inch apart to hide electrical conduit for lighting, which has long ago shorted out and had to be abandoned. That's where the leaks find their paths.

As the two photos indicate, one can walk around the garage and see where the planters are, above, just by tracing the wet areas and the plastic sheets. The center section—without planter—is clean and dry. Immediately to the right the concrete is wet and plastic sheets attempt to divert the seepage.

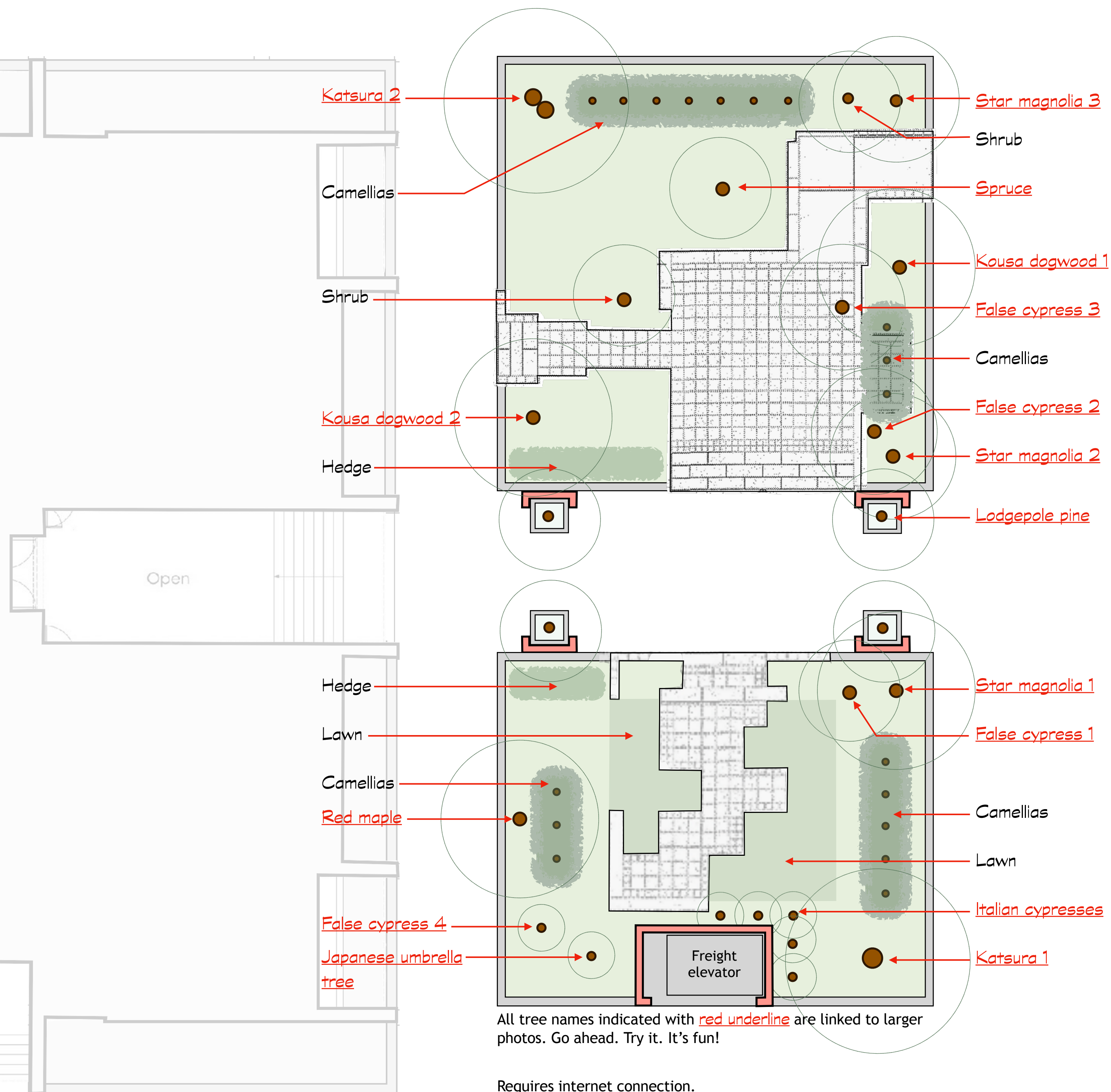
In the section below, the original waterproofing associated with the planters is indicated in red; the much later waterproofing over the walkways, is indicated in yellow. The point is they are not interrelated and could be dealt with independent of each other, as the first phase of the courtyard project had done.

From the visible evidence, it appears that the planter waterproofing has never been replaced, and yet between aggressive tree roots and rats, it is likely that what remains of the original waterproofing will come out as fragments. The membrane over the walkways is newer and not susceptible to roots or rats.



One can walk around the garage and see where the planters are, above, just by tracing the wet areas and the plastic sheets. The photo to the left taken below the center section—without planter—is clean and dry. Immediately to the right the concrete is wet and plastic sheets attempt to divert the seepage.

Click images to see them full size and to see other images. Requires internet connection.



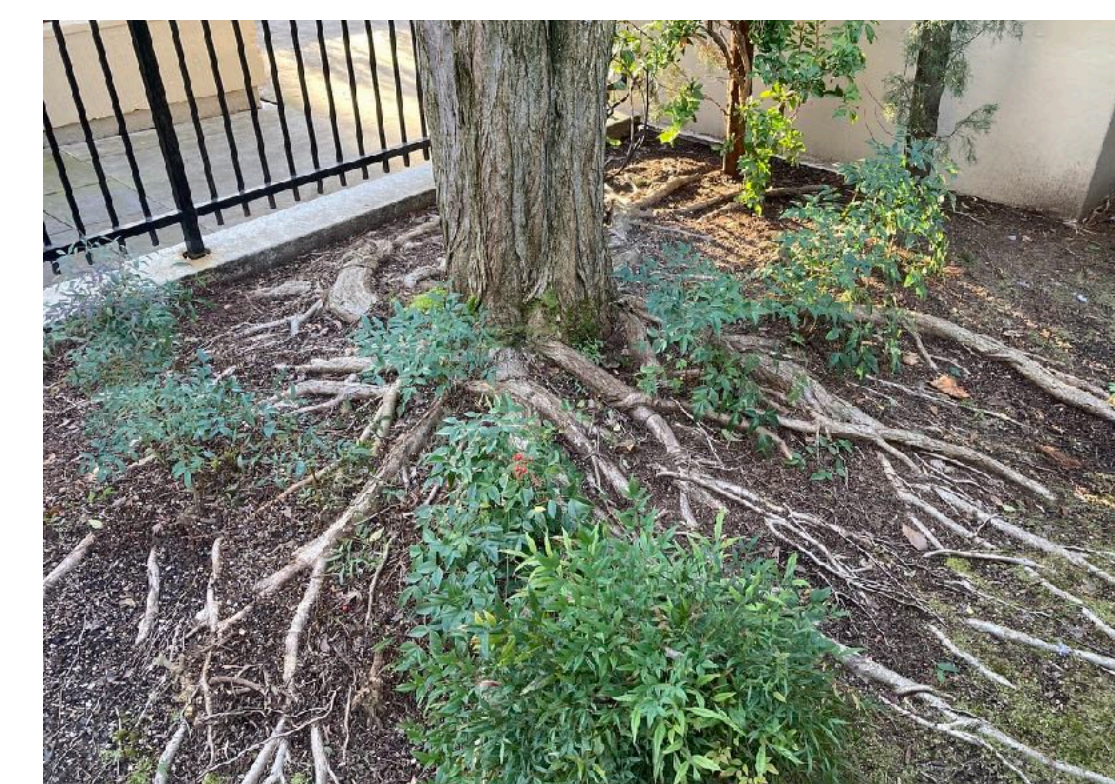
If there were an **ASPCP**—Society for the Prevention of Cruelty to **Plants**—the HW condominium surely would receive its share of citations. The 15” to 18” soil depth, originally intended for ground cover plants, has proven unsuitable for several of the tree species, all of which have had to rely solely on lateral root development, and much of it exposed because of lack of soil cover.

The saddest example is the large Katsura 1 (ca 40 feet tall) in the southeast corner, which has its entire root system exposed to the elements, with roots anchored under the concrete walls to prevent toppling. But, perennial leaf dehydration and early leaf dropping, suggest that the tree has reached its maximum life in this location.

The adjacent Italian cypresses, although better adapted to the limited soil, have become so tall, that they are vulnerable to high winds. Star magnolia 1, has a long root system that has become entangled with the ailing Katsura. Kousa dogwood 1 has its roots trapped by the concrete walkway. On and on. Conversely, Camellias and other shrubs have fared well in the restrictive environment. And as for the remnant, token lawn...? Yawn.

We have come to know that trees, as with other living organisms, are survivors and will try to keep alive by whatever means possible. (See: Richard Powers, The Overstory) Ironically, as part of that survivor instinct, tree roots can be very intrusive—even splitting concrete—and, more than likely, several of these trees have accelerated the deterioration of the remaining waterproofing membrane.

The conclusion is that smaller trees (between 2 and 5), and all of the shrubs, could be root-balled and salvaged during the upcoming courtyard project, phase 2. But, all the mature trees (between 14 and 17) have outgrown their environment. Even if the trees were salvageable, the question is: would one replant a mature tree back to a hostile environment? Or, is this an opportunity to reevaluate what kind of plants materials would be more appropriate for a shallow planting bed and win the approval of the **ASPCP**?



The root structure of Katsura 1—roots are doubling back on themselves and burrowing under the concrete curb wall. Sad.

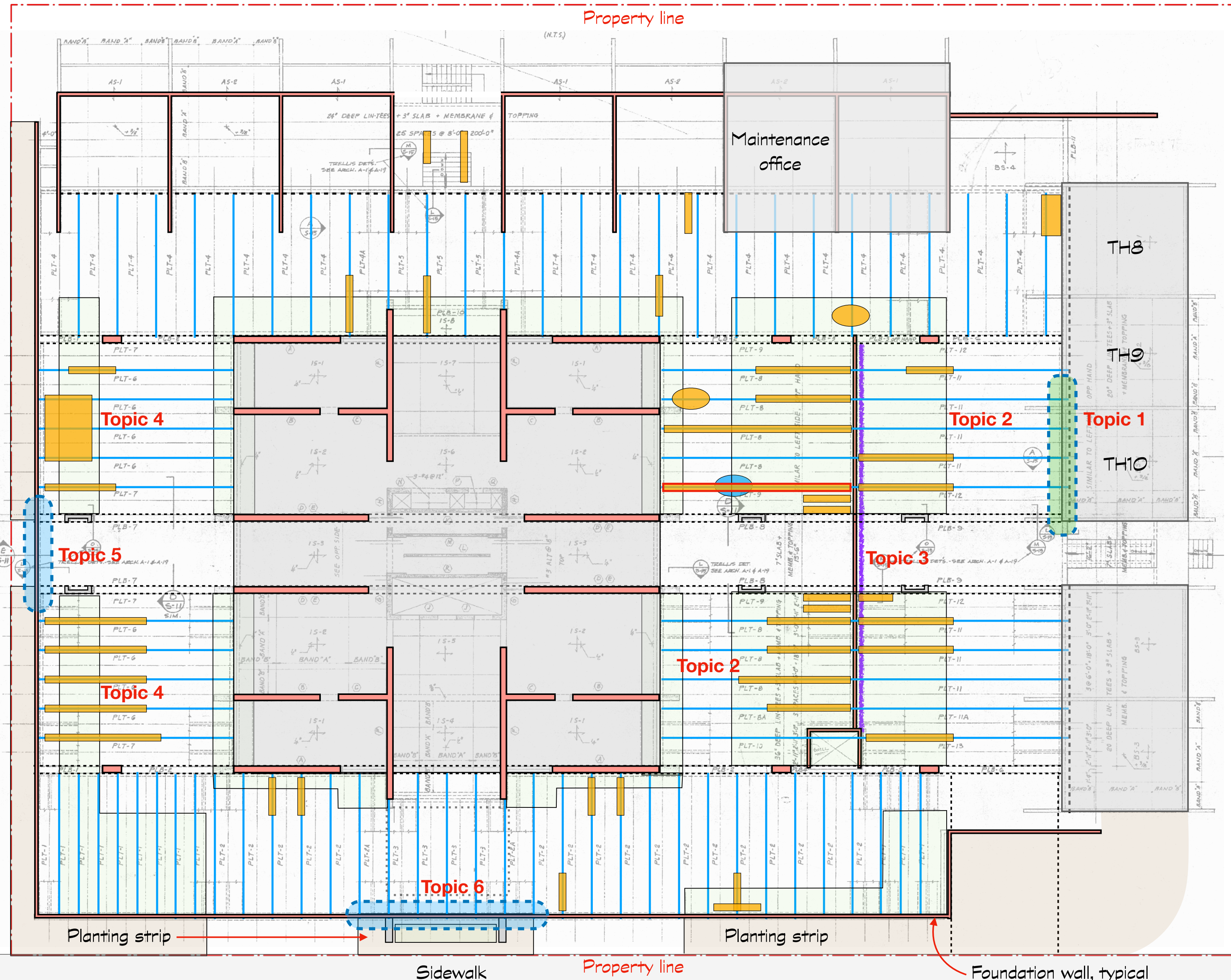


The Italian cypresses are happier, but have grown so tall that they are vulnerable to high winds.

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5

the leaks

By looking up at the underside of the courtyard level, from the upper parking level [a “reflected ceiling plan”], one can see 40+ leak locations indicated in yellow, the predominance of which are diverted by galvanized channels, indicating that those leaks were already existing long before the 2005 conversion. Locations with plastic sheets indicate attempts by HW Maintenance to deflect leaking away from vehicles. Note that all the leaks find their way through the slab through gaps between the T-Joists—the gaps are indicated by blue lines.

The areas identified by oblong shapes—**Topics 1, 5 and 6**—indicate areas affecting wall surfaces more so than leaks from above, primarily along foundation walls.

Topic 1 There is a rusted area at the top of the wall, below TH10 and part of TH9, that suggests a past history of water penetration along the edge of the townhome foundation walls. It’s possible, and likely, that the project of 2015/16 corrected this problem and what remains is purely aesthetic, although there is another problem area at the north corner below TH8, that warrants further investigation.

Priority area 1

Topic 2 Overhead leaks are located in relation to the courtyard-level planters, indicated in pale green. All leaks are directed towards the structural wall in the middle. The two yellow ovals are locations where dripping leaks are visible, but no attempt has been made to divert them. The blue oval is a perennial wet spot that corresponds to the worst of all the leaking areas, highlighted with a red outline.

Topic 3 The squiggly purple line indicates a perennially wet rivulet of water along the 8” concrete structural wall, since the two slabs slope and divert all runoff to this wall, without any drainage. Evidence of water seeping into the concrete wall is noticeable on the west side of the wall and even at the lower parking level, below the purple line. This situation should be of greater concern than other areas, which might be more aesthetic in nature, but not likely to fail.

Priority area 2

Topic 4 Similar to **Topic 2**, there is a series of overhead leaks, most of which are diverted by galvanized channels and even cardboard. There is one area, indicated with the yellow rectangle, that seems to be a plastic tent covering several parking spaces. The correspondence with planters, above, is not as obvious as in **Topic 2**.

Topic 5 Corresponding to the steps of the west side-entrance, the ceiling and wall of the upper garage level indicate discoloration and efflorescence that suggest that the waterproofing membrane underneath has been compromised. This area is the most difficult to assess by visual observation alone.

Priority area 3

Topic 6 Corresponding to the width of the porte-cochère and the planted area between the sidewalk, the ceiling and wall of the upper garage level, and the wall of the lower garage level, indicate discoloration and efflorescence that suggest that the waterproofing membrane along the foundation wall has been compromised. Large cracks along the edge of the foundation, and down the middle of the porte-cochère, are obvious points of water intrusion into the slab below and into the ground adjacent to the foundation.

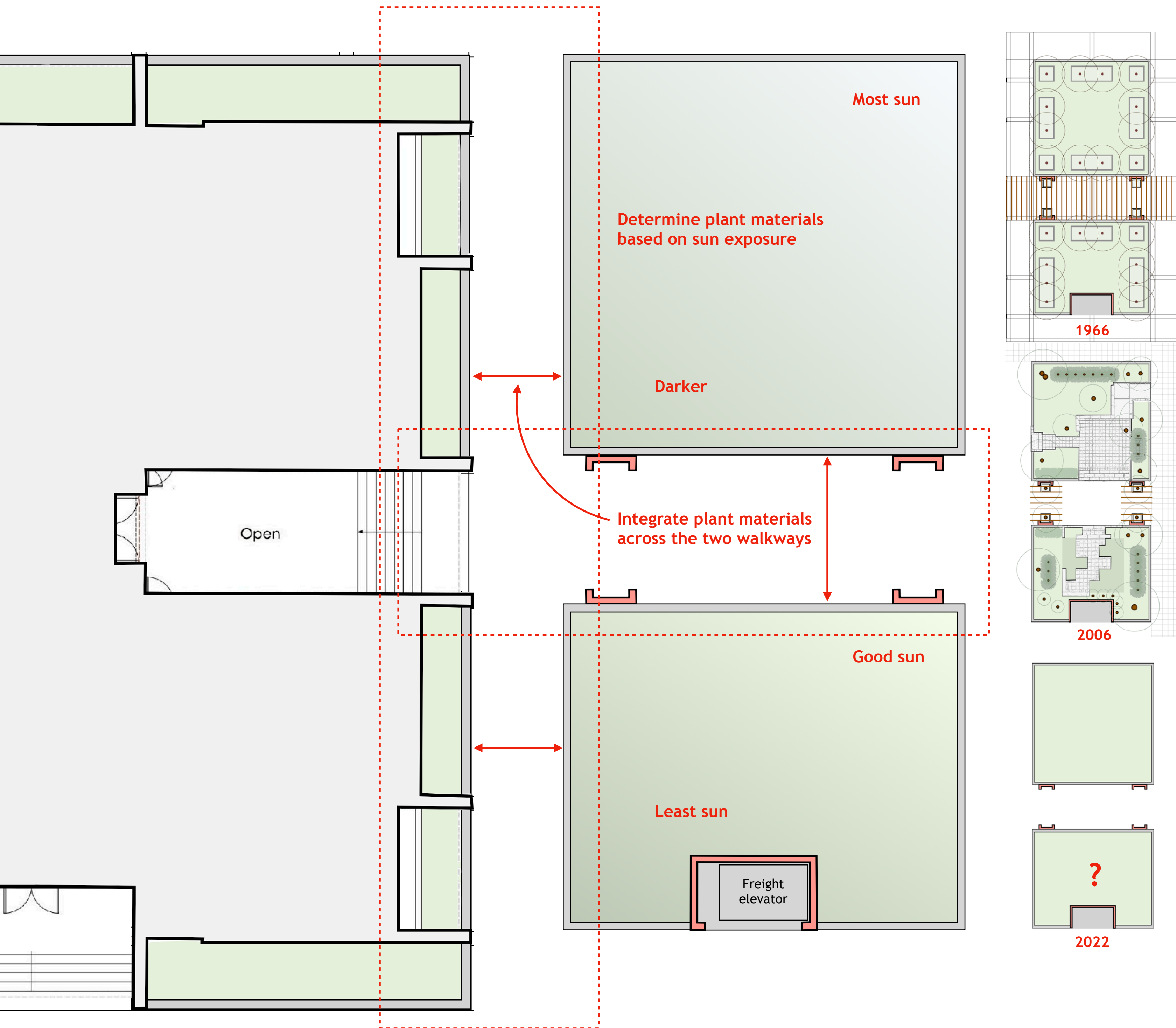
Recommendation Verify the integrity of two typical, but extreme conditions—one for a planter, the other for a foundation wall—by authorizing two test pits to expose and extract samples of waterproofing membrane. We proceed from there.



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Photos to the left, and underlined words, above, provide web links to example photos. To view all the photos as a slideshow click [here](#). Download the PDF to your computer for easiest viewing.



6 next steps: the future plan

The ground rules:

- 1) The existing planter basins need to remain and with about the same soil depth.
- 2) The trellis supports can remain and the walkway needs to remain for egress.
- 3) The freight elevator and its enclosure need to remain.

Options:

- 1) Replace the ornamental garden, as is, by reutilizing the small trees and shrubs that were salvageable and with about 14 to 17 new trees.
- 2) Consider new plant materials: primarily to create a “certified garden;” to create a landscape that will provide interest and usability year-round for all residents; and to provide some plants, such as herbs, that may be considered part of a community garden.
- 3) Do nothing for another 13 years and assume the situation couldn’t get any worse than it already is. (Hint: It *will* get worse.)

What do you mean by “certified garden?”

A wildlife habitat garden to attract birds, butterflies, and other neighborhood wildlife, as described on Metro’s [Backyard Habitat](#) page, by providing:

Diversity: Native plants with more diversity than just trees and shrubs.

Food: Native plants provide food eaten by a variety of wildlife.

Water: All animals need water to survive.

Cover: Wildlife need places to take shelter from bad weather and places to hide from predators.

Sustainable practices: Maintain garden in natural ways to ensure soil, air, and water stay healthful and clean. Distinguish between shady and sunny areas.



So, now we need to sacrifice beauty to accommodate wildlife?

Beautiful examples exist, some within just a few blocks from the Harrison West. Perhaps the biggest difference is at the ground plane. Previously trees and shrubs were often just stuck in the ground and then surrounded by either dirt or bark mulch or some obligatory ground cover. With greater plant diversity, the ground plane can become as beautiful and vital as the ornamental plants.



South Waterfront Park features a beautiful, nearby garden made up of native and diverse plants.



These images, taken at different seasons—spring at left; early fall at right—are of The Pacific Wave, at the entrance to Forest Heights. The Wave provides varying colors for every season.

Click image to see full size.

Click images to see them larger.

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