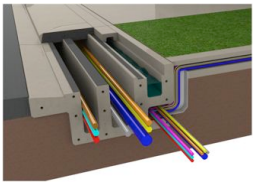
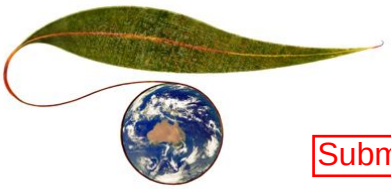




Submission No. 5

Networked Infrastructure National Architecture (N.I.N.A) Pty Ltd
5-21 Trelawney Street
Woollahra, N.S.W.
2025

Phone: 02-932 0632
[redacted]

Mr. Robert Oakeshott
Chairman Joint Committee National Broadband Network
Member for Lyne
9 October 2011

Dear Mr. Oakeshott,

I am writing to you in your capacity as a Member of the Joint Parliamentary Committee on the National Broadband Network (JCNBN) to introduce the recent research and development work, by my company, in the field of infrastructure distribution systems.

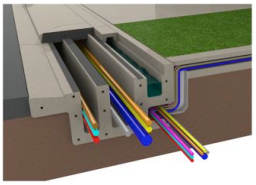
Our focus has been innovation in utility distribution systems and our results are described in the attached introduction. We set out to invent a 21st century alternative to the legacy utility distribution platforms of trenched and buried cables and pipes, pits, and pole mounted aerial cables. Our research and design objectives were improved: economics; capacity; safety; flexibility and adaptability in utilities distribution.

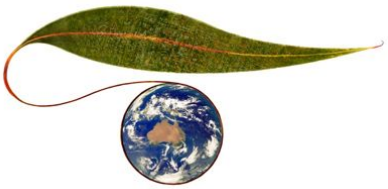
The solution developed by N.I.N.A Pty Ltd is not only a better and safer architecture for utilities distribution but also represents the last "low hanging fruit" in micro economic reform in Australia and globally. Widely implemented it would allow Australia to lead the world in economic productivity, environmental health and urban amenity.

As you are aware, planned investments in distribution infrastructure, of which the NBN $43bn and national power distribution network (NPDN) upgrades $32bn are the two largest infrastructure investment projects. Both these projects are dominated by massive civil works components and yet they are only a part of the distribution infrastructure needs of the Australian economy.

The NINA economic hypothesis is simple " Wouldn't make sense that instead of requiring massive civil costs to be recovered from one distribution service class, we provided a common civil access pathway on a "dig once" basis for a broad spectrum of services which share these costs vai the payment of lease or rental to the common platform".

The NINA solution provides the physical access ducting pathway, on a dig once only basis, to variety of current services electricity, gas, water, data/communications, pay TV, lighting and control to access consumers and end-users. It will also enable new services to enter the market at lower marginal costs, in a more timely manner and in response to demand.





The solution takes the form of multiple, surface accessible, ducting channels integrated into the curb, gutter and pavement architecture. This will enable both existing and new services to access customers at lower capital and operating costs in economics this is termed economies of scope.

We believe markets are emerging for new services which might include: alternate new and upgraded water distribution networks; expansion of the retail gas distribution network; 480V power distribution for electric cars, storm and grey water recycling, upgrades of curbs, gutters pavements, intelligent optical control systems for power, light and traffic management grids.

Improvements in distribution economics affect everyone positively.

The traditional location of distribution beneath the pavement and or on poles is not only high cost but leads to the material degradation of urban streets and pavements and poles infringe upon views, contribute to car accidents, are vulnerable to a wide variety of weather threats (storms, floods etc) and reduce the amenity and quality of the urban streetscape. This is both an economic and a political problem, for many years communities have been looking for a solution to overhead power lines but have been thwarted by cost arguments. In light of the massive expenditures on projects such as the NBN and NPDN and the digging they will entail the time is perfect to fix both the physical environment and the economic environment with a new enabling solution.

Uniquely the NINA Access pathway also enables the isolation of the majority of rainwater from contact with road surfaces where chemical and heavy metal contamination is most likely to occur, this makes available a water resource in the urban footprint which at 35% recovery (roof area) represents 1.8 billion cubic meters of water with an economic value of approximately $5bn per annum.

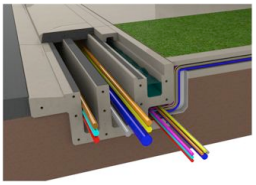
The recovery of the proposed civil costs is already triggering an increase in the prices or charges for networked utility services. Higher prices, for essentially the same services, constitute a loss of productivity and are contributing disproportionately to Australia's inflation. There is widespread concern from the Governor of the RBA, market economists, politicians and industry over both inflation and declining productivity.

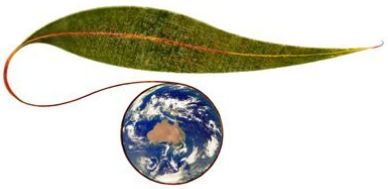
There is no evidence that these higher capital costs will result in expanded distribution margins, as regulated pricing will limit profit growth.

Now, for the first time, there is a simple, viable and economic, alternative. This is the modular precast concrete NINA Access Pathway™. Shown below in the attached Introductory document "the NINA Access Pathway™ – An Innovative Revolution in Utilities Access".

We have conducted detailed analysis of the metrics, costs and revenue potential of a national roll-out of the NINA Access Pathway™ to the 90+% of Australian residents who live in residential blocks and who are the focus of both the power network upgrades and the NBN.

We, can confidently assert, that it represents ***the greatest opportunity*** Australia has to grow its economy, productivity, improve its environment and enhance its social infrastructure.





We can also assert, with confidence that, ***the NINA Access Pathway represents the largest and most profitable business development opportunity within the infrastructure space*** and within the economy as a whole. I have over 20 years of experience in engineering, regulation, equity markets, finance and valuation and have applied all these skills to look critically at this project.

It is a better, cheaper, safer, more flexible, less risky and higher rate of return way of **enabling** the objectives of the NBN, the power network upgrade, storm water harvesting, sustainability, productivity, liveability and environmental health to be met.

Instead of utilities investing billons of dollars in digging up streets , planting poles and earning the ire of the community, they can deploy within a structurally separate "layer 1" ducting architecture. This provides a secure, easily accessible space through which to deploy cables, pipes and networking components.

For distributors, in urban markets, it enables them to avoid large upfront borrowings and to lower economic costs (capital x WACC + Depreciation + O&M + overheads) via a structurally separate entity. Shared, these costs will be lower for all and the new operating system it represents allows infrastructure companies to shift their focus towards new and innovative networking services and solutions for end users.

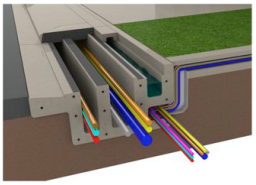
For investors and financiers it creates a new asset class "utility distribution pathways" which will support a wide range of investors (public, private or combined) following the urban footprint.

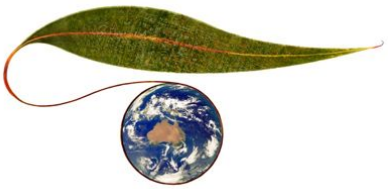
Our analysis indicates that access prices would be materially below those incurred by separate civil works programs and would generate superior returns (IRR~15%) to those reflected in recent regulatory pricing determinations (8-10%). A national rollout would create one of Australia's most valuable assets.

Currently ducting access costs are embedded in utility prices which we estimate at ~$130-150/month per household. We see the market for utility distribution pathways as growing on the back of substitution with existing utility distribution platforms (as they become due for replacement), new services and new residential developments. Our forecasts indicate a market of $32 billion per annum by 2023, for access to the 10.8 million households anticipated by then.

Construction costs fall with scale and the NINA Access Pathway is profitable at relatively small numbers of blocks once a minimum factory scale for the modular units is achieved. We believe that communities will love to see this type of infrastructure deployed.

NINA exhibits the characteristic of new property developments, with the additional benefit of being able to be applied retrospectively to established areas. This creates a vast opportunity to retro-fit urban Australia with a 21st century access and ducting system. The NINA Access Pathway is located in the only part of established streetscapes not occupied by legacy infrastructure which enables it to be deployed alongside existing structure which can later be decommissioned without disruption to services.





As an operating business it will, like property, exhibit high fixed costs and a consequentially high EBITDA margin of ~80%, this assumes a 10% royalty payment to local council for use of the land. Such a royalty payment when combined with a reduction in Local Costs of maintenance associated with curbs would transform Local Government economics and allow them to focus on higher value service and to catch up on the estimated $9bn capital works deficit, with out raising rates.

Applied to a national rollout (10.8m household in 2023) NINA would return EBITDA of ~$25bn and NPAT of ~$17.5bn. This in turn would support a market value for the national asset class of ~$238bn (at 13.6x, the long term average PE multiple)!

Cash generation grows with the roll-out which when matched with debt funding indicates that a national project may require equity funding of $30bn before reaching self funding.

Irrespective of the disaggregation e.g. along state, territory and, or local government lines this is a massive investment opportunity characterized by strong stable cash flows, few tenants (infrastructure based utilities) and low forecasting and technology risk.

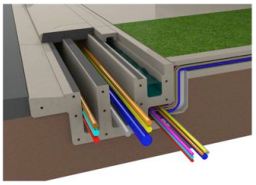
It is also matched with a powerful political narrative – economic growth, productivity, sustainability, environmental improvement and private enterprise. Of importance to rural and regional communities the NINA Access Pathway enables the creation of fiber rich small towns, provides a basis for the economic deployment of gas, town water, and other networked services. The creation of fiber rich footprints in relatively small communities also enables these communities to be used as a base for focused microwave or wireless services to individual households, homesteads or business located outside the footprint of local communities.

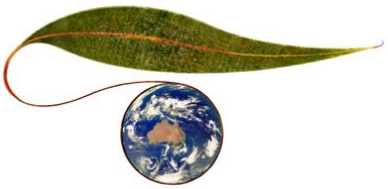
The NINA Access Pathway introduces great flexibility to market structure where its ownership may be disaggregated e.g. the power, water, gas and fiber channels jointly or separately within the common trench. This represents facilities based competition at all Layers of infrastructure.

It allows multiple Layer 2 infrastructure based service providers to operate within each segment. It opens the door to a new water source: ***urban rainwater isolated from contact with road surfaces*** which is therefore, cleaner than the general storm water blend and far more valuable and useful both for reuse and introduction into the natural ecosystem. The reduced demand on the current dam capacity would also permit greater general environmental fows leading to improve biodiversity, environmental health CO_2
Reductions due to increased net primary production of carbon by natural plant ecosystems, the only known way of cleaning the atmosphere.

We see no significant technical barriers; it is a simple, practical and effective technology.
It has global application wherever: power poles are prevalent; water security is a challenge; the need for efficient competitive broadband is a must; the upgrade of utility services in established areas is required; and, a cleaner safer urban environment is an aspiration!

We are at a stage where we are engaging with Councils, industry and government both to demonstrate the solution and seek the support of potential clients, JV partners or investors.





Our near term plan is to:

1. Undertake a Prototype Trial – using a small selected area 3-4 blocks. Woollahra Municipal Council has agreed to work with us on a trial and we are seeking a grant under the Department of Sustainability, Environment, Water, Population and Communities national Urban Water and Desalination Plan - Stormwater Harvesting and Reuse Projects. This project will assess practical issues such as sizing (for cables, pipes), measure water capture, time to deploy and community responses.

2. Undertake a larger Urban Footprint Trial – Objective: integrate the NINA Access Pathway into a community (50-100 blocks, 2500-5000 residences) to demonstrate commerciality, support the building of dedicated manufacturing facility, resolve regulatory and operational boundary issues and if successful attract financing/investors. An illustration of such a plan is shown in Figure 10 in the Attached Introduction.

3. Align the objectives of the NBN and NPDN with a broader national rollout, set criteria for large-scale survey, manufacturing, installation, commissioning, financing and funding.

There is support, within civil society for a new flexible distribution architecture, this support is presented clearly in the objectives and goals of bodies such as Infrastructure Australia, expressed by the Grattan Institute, the Productivity Commission, Engineers Australia, Federal, State and Local Governments.

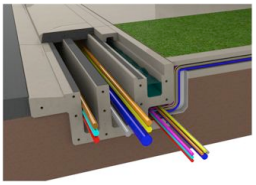
We have approached *Infrastructure Australia*, the *Productivity Commission* and key policy advisors who see merit in the approach and encouraged us to seek the support of private industry, interested parties and stakeholders: utility service providers (power companies, telecommunications, NBN, gas and water utilities), Local and State Governments. This is what we are doing.

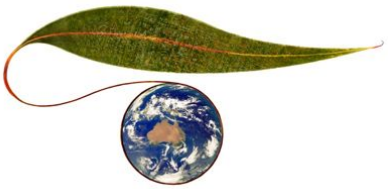
We would like to invite your support in encouraging the NBN to look carefully at participation in the trial program and to work constructively with us. This is the long-term solution to 21st century distributed infrastructure services.

Our work is an innovative, original and creative Australian solution. We have been diligent in preserving and protecting our intellectual property, which is subject to both national and international Patent Applications, Copyright and any other IP protections under Law. This is an Australian solution to one of the world's most pressing problems safe, secure, resilient urban distribution infrastructure.

I look forward to the opportunity of discussing any aspect of our solution with you and your fellow committee members, in more detail and hope that on closer examination you will see the merit contained therein and choose to support us in our endeavours.

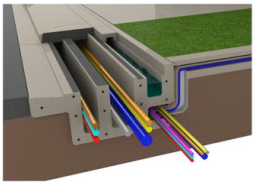
My preferred contact is on my mobile 0408 414 391 or via email guydixon@me.com. At the end of the attached introduction is a brief biography of myself for your information.

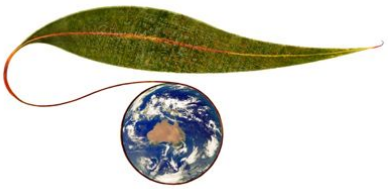




Yours Sincerely,

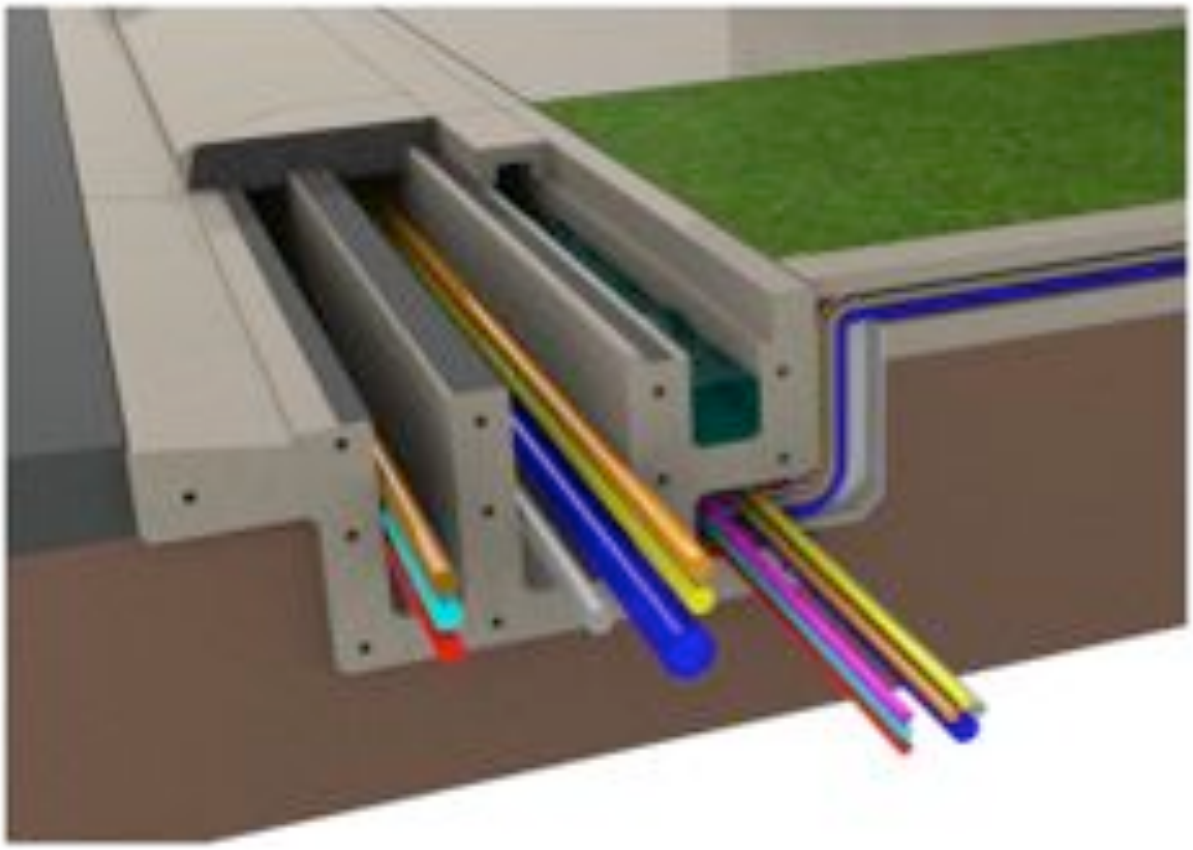
Guy Dixon
Founder and Inventor
Networked Infrastructure National Architecture (NINA) Pty Ltd



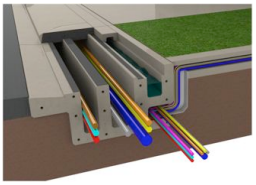


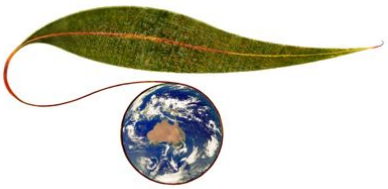
The NINA Access Pathway™

An Innovative Revolution in Utilities Access



Author: Guy Dixon
CEO, Founder and Inventor
Networked Infrastructure National Architecture (N.I.N.A) Pty Ltd





OVERVIEW

Monopolies are entrenched by 19th century technology

The high cost of pits, pipes, poles and trenches, technologies which go back to the 19th century and Roman times, constitute a material drag on our economic performance by entrenching (literally) monopoly service providers and suppressing opportunities for new and innovative services within our communities.

The use by date of pits, pipes, poles and trenched footpaths is up

The "use by date" of pits, pipes, poles and trenched footpath distribution platforms have been reached. Our streets are being damaged faster than we can afford to repair them, poles are intrusive to install, they require high transmission loss cable to reduce weight, they are a major contributor to fatal and serious injury in car crashes, are a source of visual pollution, they fail in severe weather, they limit access and movement of both pedestrians and vehicles (high loads in particular), they are limited in capacity, impede the growth of trees and dissuade investment in improved footpaths, and streetscapes.

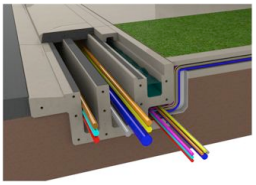
Utility distribution costs are rising above inflation

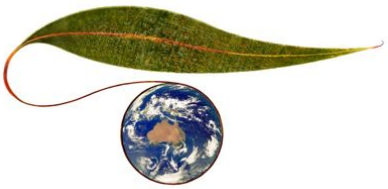
The efficient physical distribution of utility and networked services is a key foundation of productivity within an advanced economy.
Physical access charges (the civil component – ducts, poles, trenched pipes, now cost each household approximately $130/month, these costs are embedded in data, electricity, gas, water, Pay TV, telecommunications (including mobile) and street lighting charges.
Currently there are over 8.9 million households connected to these services and this equates to national charge of $ 14 billion per annum and these costs are rising at rates above inflation.

There was no alternative

There is widespread public support for the removal of power poles and for improved footpaths yet ironically there has been no viable alternative developed, either nationally or internationally. Utility companies and regulators have assumed such means are a given and that there is no alternative to either buried pipes and cables or cables on poles. These assumptions are no longer valid.

Till now! We now have the NINA Access Pathway™





Key elements

Figure 1 -A Simple Concept – an integrated curb, gutter, ducting and pavement system, designed for low cost mass production

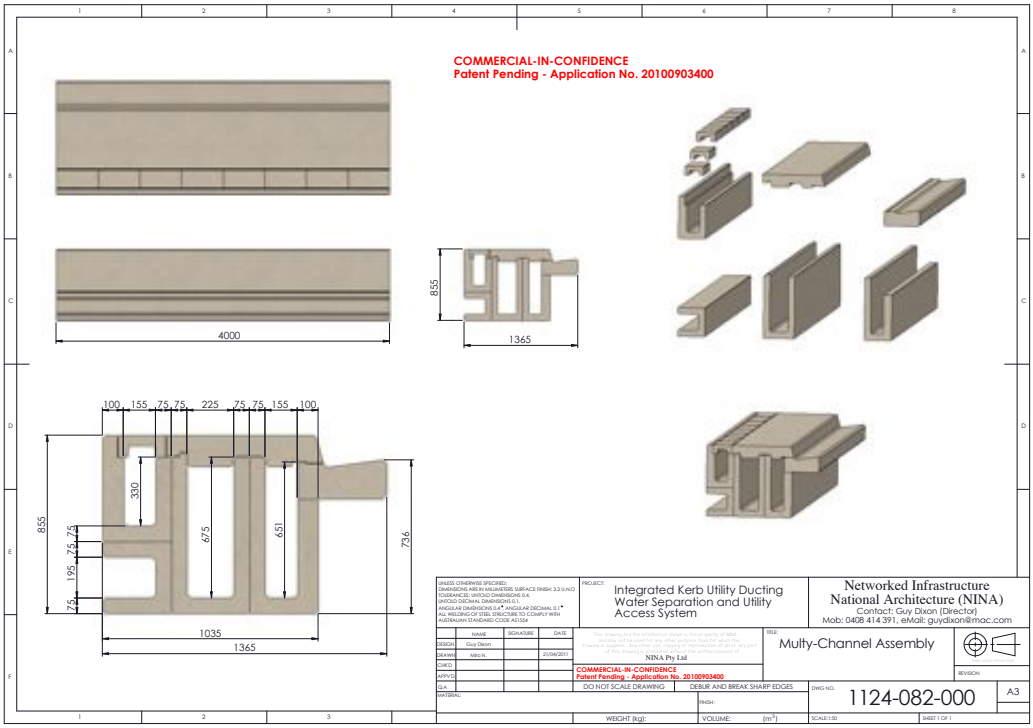
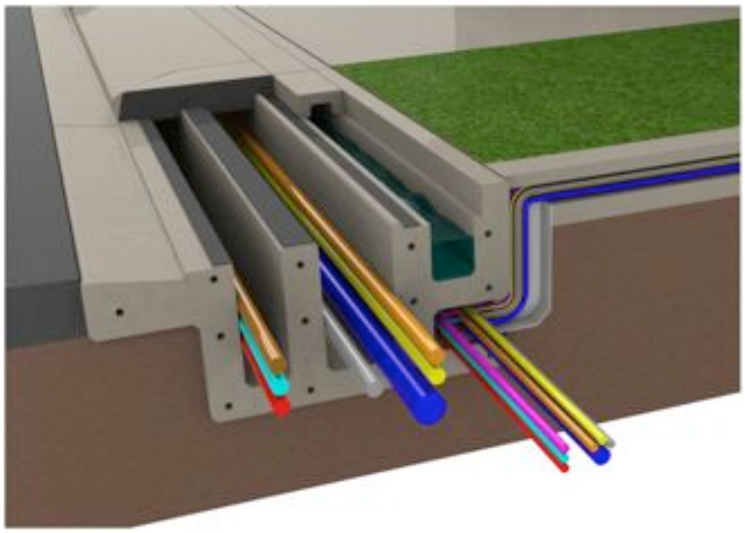
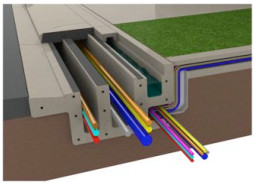


Figure 2 - Powerfully Applied





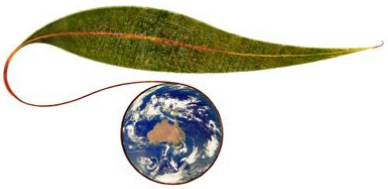
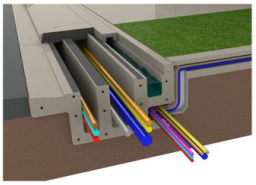


Figure 3 - Focused on a real need - households

Figure 4 - A new economic unit of productivity – the framed block



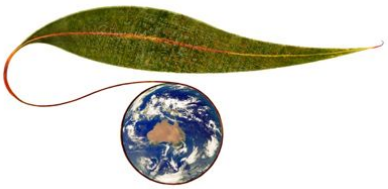
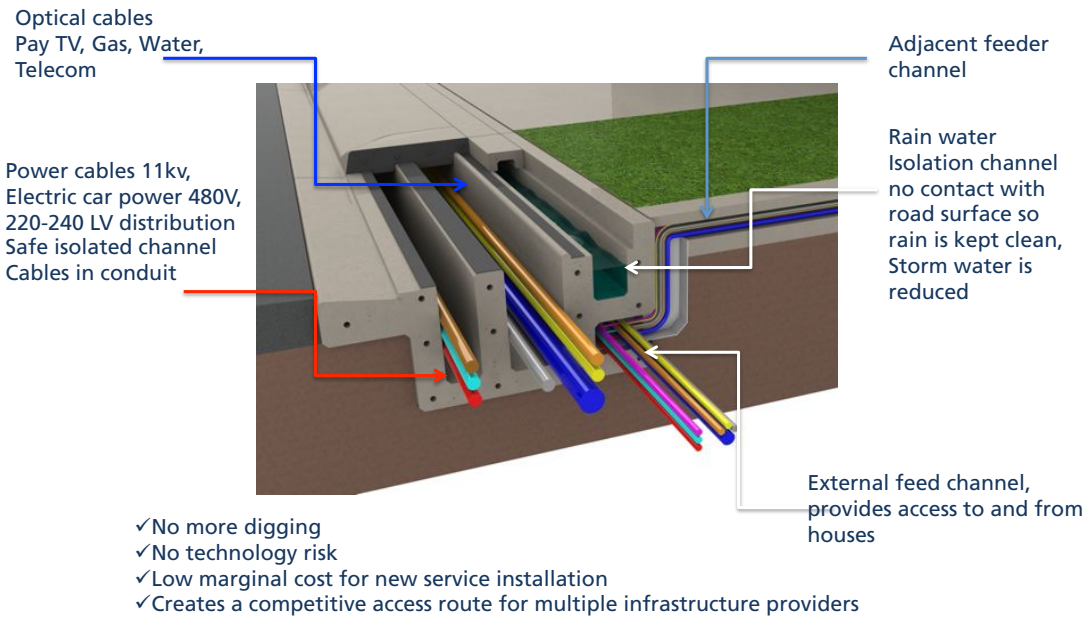
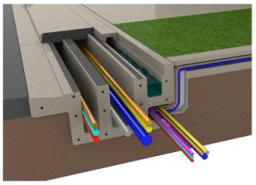
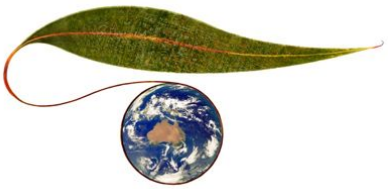


Figure 5 - Economies of Scale – there are ~162k residential blocks in 2011 rising to 190k in 2023

Figure 6 - Economies of Scope – costs are shared across access seekers/utility service providers







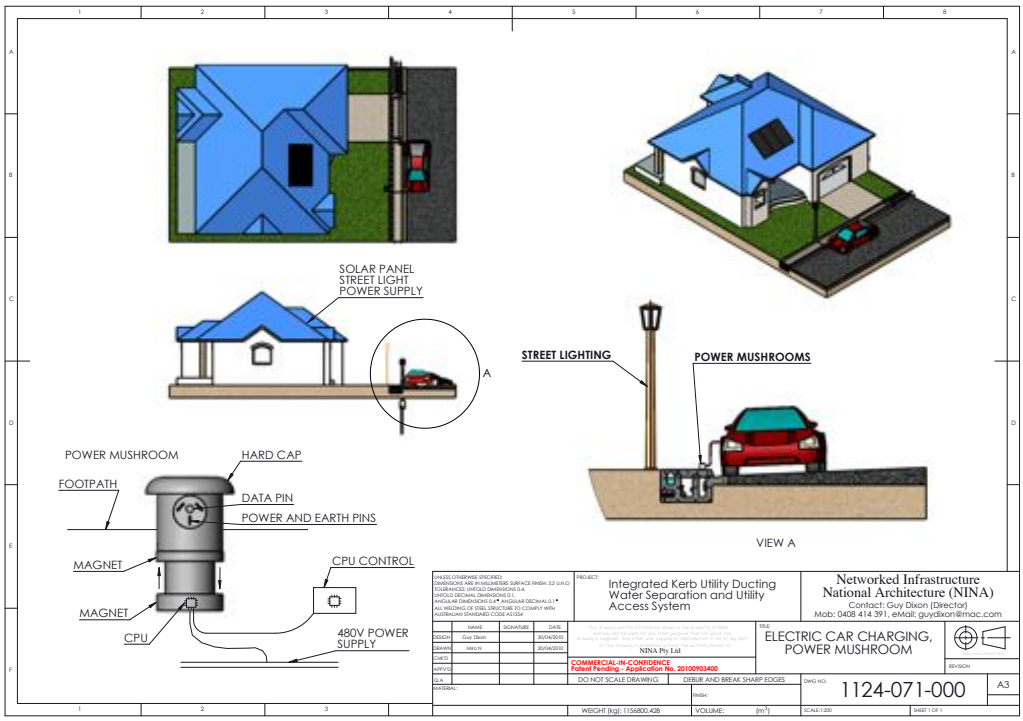
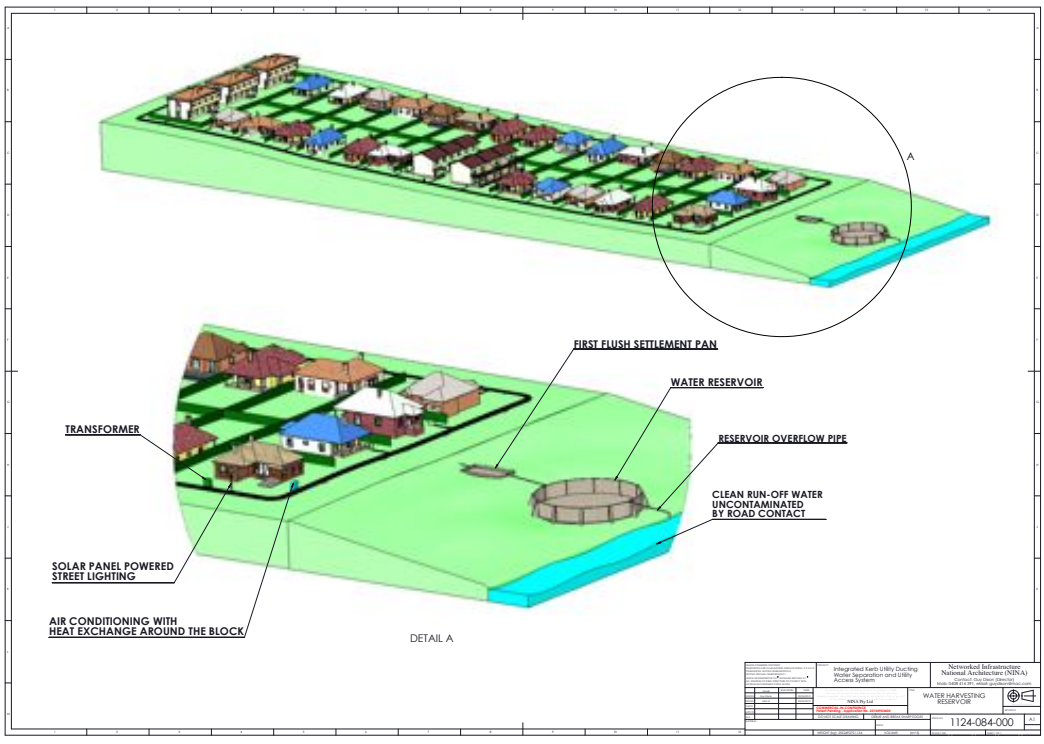
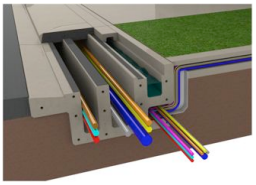
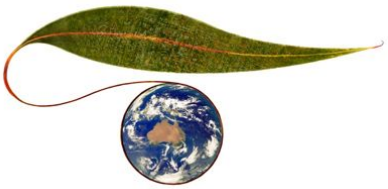


Figure 7 – Enable new, better, sustainable services

Figure 8 - A Unique Solution to Water – Keep it clean, keep it close







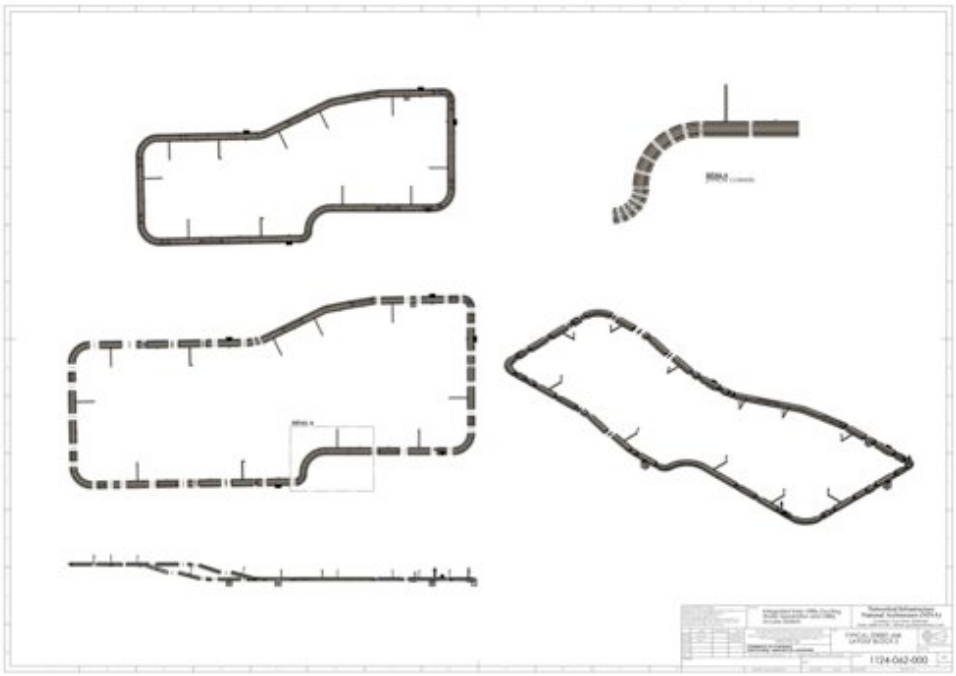
NINA has determined that 5.2 billion cubic meters of water fall within residential block footprint, major contamination occurs through contact with road surfaces – Solution: isolate rainwater from contact with the road surface and manage it separately into local storage close to end users. Roof water alone is equivalent to 3.4 Sydney harbors per annum. The total resource is 184% of household consumption.

Economies of scale and scope change the game

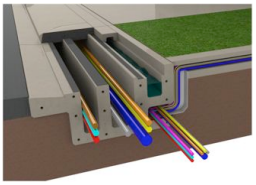
By sharing the civil works costs of physical access across multiple utilities, what the economists call "economies of scope". The modules have variable profile lids, which can be shaped to most standard forms such as driveways, wheel chair access, mountable and semi mountable curbs. They are flexible and can be shaped using interstitial members to conform to most urban terrains.

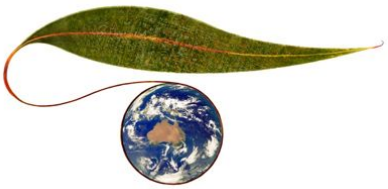
This is a "Lego set" solution with over 50 different components and elements designed to form flexile watertight connections. It is designed for mass production and massive economies of scale.

Unique feature include the external channel from access boxes along to points adjacent to houses and building through which feed lines and service are run. Once installed there is no longer any requirement to dig the length of the footpath.

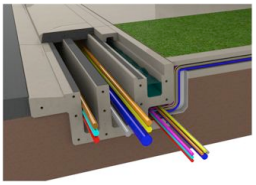


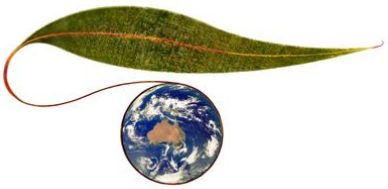
Interstitial "gaskets" made from recycled car tires introduce flexibility allowing minor directional adjustments. The gaskets would consume 400,000 tons of recycled car tires in a national rollout.





The NINA Access Pathway has been designed to bring heritage areas into the 21st Century and to restore the character of their streetscapes.
Before:
Figure 9 - Rebuild the foundations of older communities, clean up the act





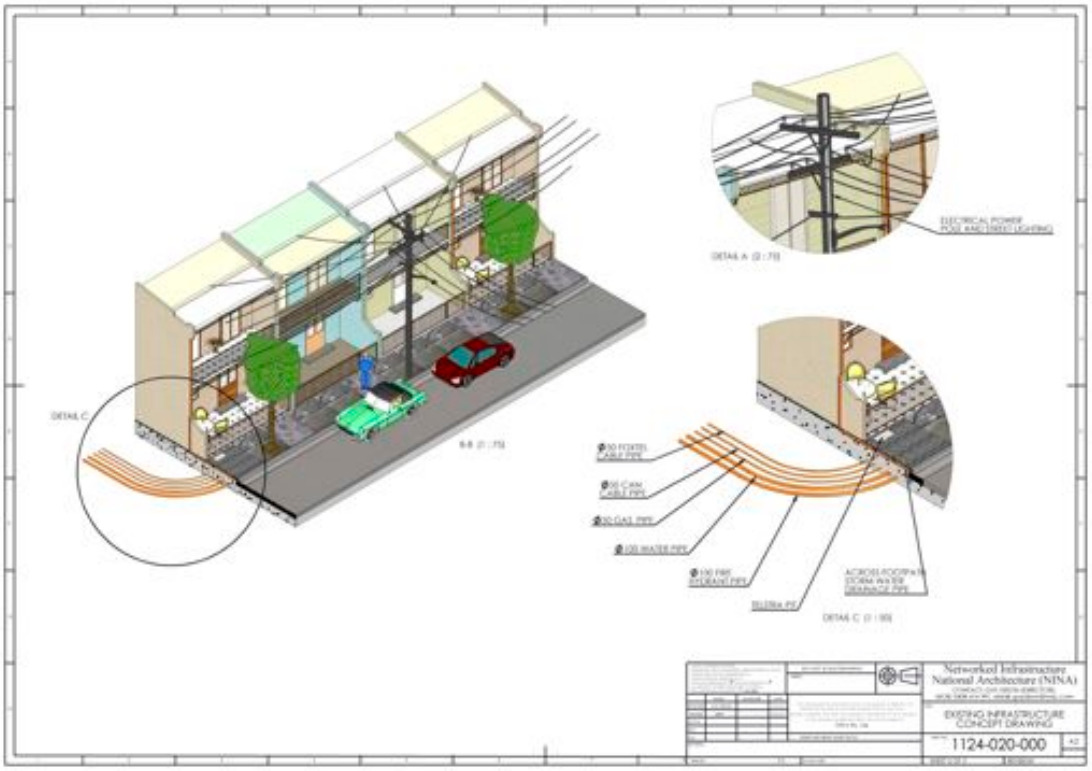
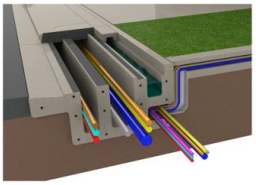
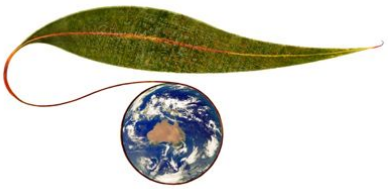


Figure 10 – A dumb way to do distribution infrastructure
Figure 11 – Wouldn't it be nice -following Installation of the NINA Access Pathway





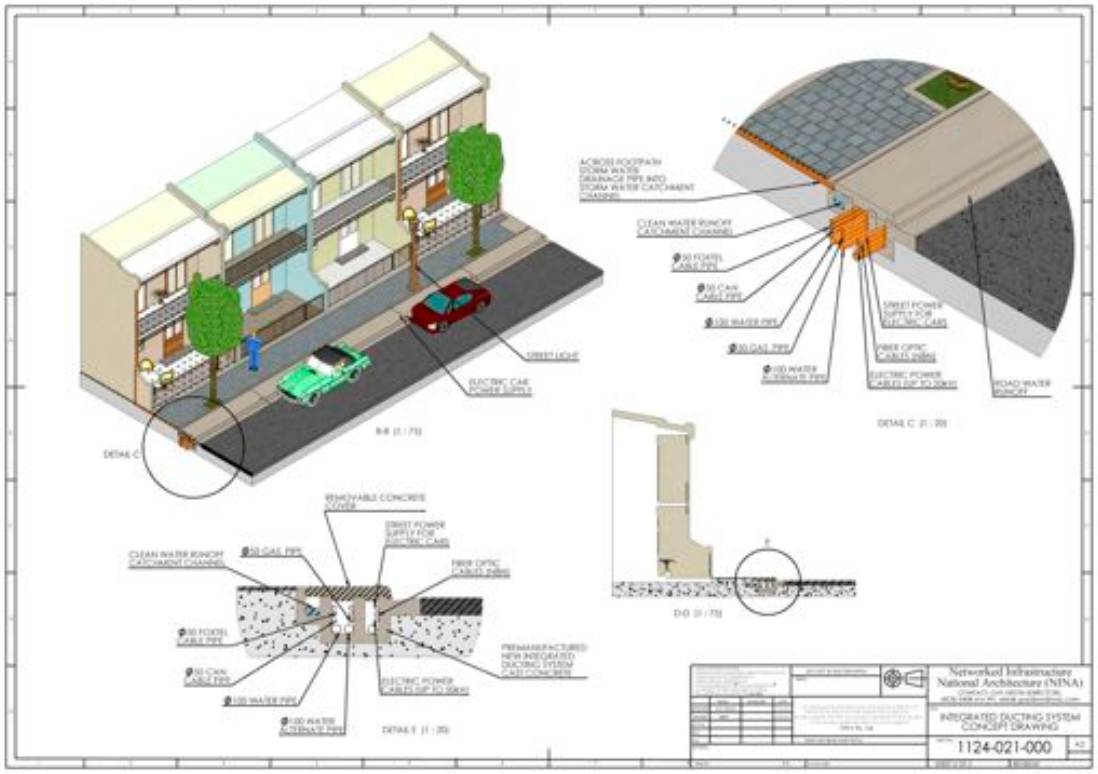
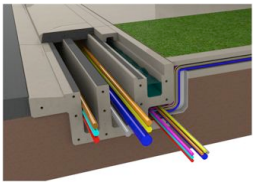


Figure 12 – Such a neat solution!
Note: The above illustration reflects and earlier version without the external open sided access feeder channel.



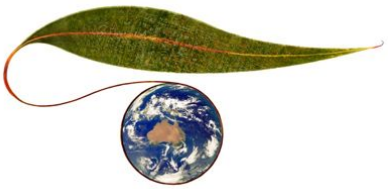
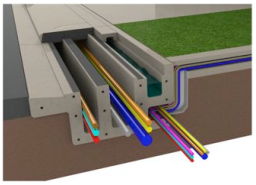
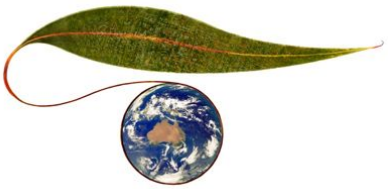


Figure 13 – Detailed Study of "Ashbury" Sydney NSW, study area shown with red curb lines

Ashbury			
Bound permieter	8,982	meters	
Bound Area	2,373,530	meters square	
Blocked Area	2,189,035	meters square	
Block Ratio	92%		
Average Block Area	24,323	meters square	
Average Perimter	665	meter	
Number of Buildings	2775	bldgs	
Area per bildg	789	meters square	
Road Area	184,495	meter square	
Road width average	6.23	meters	
Length of curbs	59,187	meters	
Rainfall annual	1,277	mm per annum	
Rainfall Volume	2,794,303	cubic meters	
Roof Area S15	4,826	observed roof area S15	
Sample 15 Block area	15,154	meters squared for roof area ratio	
Indicative roof area ratio	0.318	proportion of lot	
Estimated Clean water	889,884	cubic meters	
Per household	280	cubic meters per house per annum	

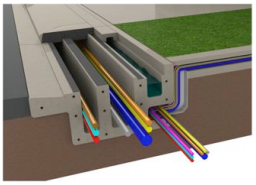


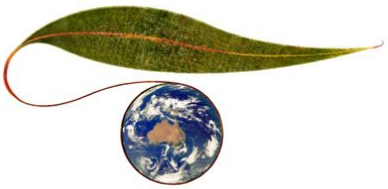


Key Points

The NINA Access Pathway is a new: demonstrable; measureable; achievable; and, economic solution to provide:

- ✓ **Sustainable cities**
- ✓ **More Water**
- ✓ **Better Energy Efficiency**
- ✓ **Better "liveability" – better streets, footpaths, mobility, lower noise and information access**
- ✓ **Better social inclusion – child, senior friendly streetscapes**
- ✓ **Better Local Governments – an alternate source of funding**
- ✓ **Better Land Use – improved urban capacity an upgrade of existing "brown fields" communities**
- ✓ **Better environments – cleaner waterways, less water removed from natural environments, less pollutant loading in rivers**
- ✓ **Better urban information and data collection systems**
- ✓ **Reduced greenhouse gas emissions – electric cars**
- ✓ **Reduced reliance on fossil fuels**
- ✓ **Capital Efficiency – greatly reduced civil access works cost**
- ✓ **Better "allocative" efficiency- can focus capital away from civil to higher functionality/value service elements**
- ✓ **Better dynamic efficiency – increased competition, new service introductions**
- ✓ **Better productivity – more for less**
- ✓ **Lower inflation – lower service prices from lower access costs and increased competition (est. $15-20bn p.a.), cheaper water, lower Council rates**
- ✓ **Economic growth – 1-2% of GDP pa, over 20 years**
- ✓ **Higher internal rates of return on infrastructure investment (15%+)**
- ✓ **More flexible financing options due to flexible project size**
- ✓ **The foundation for a non resource based economy**





An Introduction to the NINA Access Pathway

The NINA Access Pathway represents and innovative approach to utility service distribution, water capture and recycling. It is a new physical distribution technology developed as a physical operating system and an economic solution to the inadequacy and underperformance of existing legacy infrastructure distribution systems. It has global implications.

Key Features

The NINA Access Pathway integrates the functionality of curbs, pavements and ducting systems into a surface accessible encased concrete channel system. It incorporates variable "lids" configured as standard curbs, driveways and wheelchair access ramps allowing the systems to be adapted along the length of the curb line and over time as needs change. It provides a comprehensive alternative physical and economic operating system for the distribution of:

1. Electricity – 11kv, 480V, 415V, 240V, DC, feed-in solar
2. Water- potable, mains, grey, storm, filtered, rain water
3. Data- Broadband
4. Pay TV
5. Telecommunications – mobile, backhaul and voice services
6. Gas
7. Fibre Control Systems as used in intelligent grids, traffic control, urban operating systems
8. Street Lighting
9. Hydrant services
10. Urban data sourcing
11. Streetscape information systems

An enabling infrastructure architecture

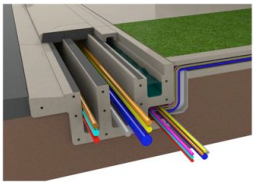
In addition the NINA Access Pathway enables clean rainwater and run-off water to be kept clean through a unique isolation and management system. As a consequence it protects the quality of rainwater from contamination in the storm water system. It will remove the need for major investments in new dams and will ensure, at low cost, Australia's water security in urban rural and regional environments.

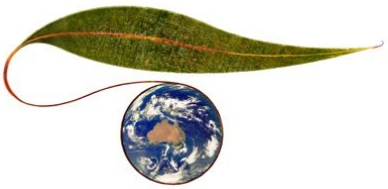
It enables curbside access of 480V rapid electric car charging (30mins) and overcomes all the substantive logistic problems associated with mass introduction of electric cars. It will enable Australia to exceed all current and likely future emission targets. It brings together power, fluids, and intelligence.

The NINA Access Pathway has been designed to withstand cyclones, floods, fire, earthquakes and tsunamis.

It improves the safety and amenity of streetscapes, will contribute substantially to lower greenhouse gases, and reduce noise and visual pollution in urban environments.

The Economics of the NINA Access Pathway





The NINA Access Pathway by enabling economies of scale, scope and competition will increase the profitability of distributed services, enable prices to fall and massively increase national, urban or community productivity.

The NINA model is fundamentally different to most major infrastructure for the following reasons:

1. It is a wholesale physical access service enabling a relatively small number of clients (up to 30 utility or distributed service providers) to access the entire urban market at lower cost. The user funds the infrastructure through the payment of fees (rents, leases, capital contributions etc) for their use of the space within the Access Pathway to locate their network infrastructure.

2. As a consequence the NINA Access Pathway is a commercial property asset, located where non existed previously, it does not appear as a separate user charge in utility bills, it will support lower utility service charges as it lowers the costs of service distribution.

3. Many of the financing risks that face large infrastructure projects are substantially reduced. Risks reduced include forecasting risk, technology risk, operational risk, liquidity risk, environmental risk, political risk etc.

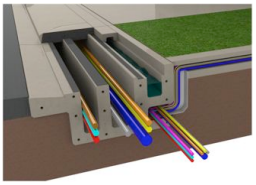
4. This asset is more fungible and could be financed, sold or acquired from a national level down to individual household access channels (a householder could invest in their own access), the path in front of their house and receive an income stream from this) or residential block.

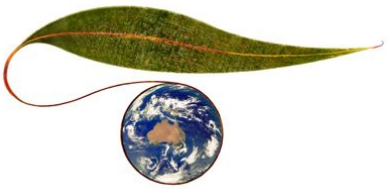
5. New areas may be rolled out as separate projects, new investors could be attracted, this partitioning has the effect of increasing the deal flow and liquidity without compromising the scale, scope and technical efficiencies of the roll-out.

6. It is estimated that a national rollout across the existing urban footprint and new green fields developments would take 12-15 years. This would address many of the limitations facing infrastructure investment by say superannuation funds who may choose to specialize in early stage financing and then sell and move on to the next project.

7. Operationally the model supports competition at all layers e.g. in layer 1 between access channels, between Layer 2 service providers (network infrastructure owners of cables, pipes, fibres, connectors, splitters etc) it is up to the occupants to determine their own pricing strategy and customer acquisition strategies however this is done against a known access cost structure – the cost per household passed.

8. The economic model is predicated upon the principle that *increased occupancy reduces costs for all* in a particular service group category or channel. While pricing is subject to commercial negotiation, NINA has assumed in its single owner model, i.e. individual channels are not competing with each other that there is an 80/20 split of new occupancy revenues i.e. NINA will meet is WACC requirement at starting





levels of occupancy and that each new tenant income stream would see rates fall for the others by an aggregate amount of 80% of the new income divided amongst the other occupants and 20% going to the owners.

9. The business plan assumption is that for initial tenants access space is provided at a highly competitive price relative to the alternatives of pole or buried cable access. Access Seekers deploy their own network assets within the pathway.

10. While initial pricing is competitive it is expected to earn a premium throughout its competitive advantage period, typically this would be to the point in time where the capital investment has been recovered. Following this is would earn its WACC.

11. Extensive, fact based, modeling support rates of return in excess of 15%.

12. It is both a green fields and brown field solution has a natural growth path through

13. Utility service providers are also potential investors and may choose to participate via a JV model or by securing space within the NINA Access Pathway by contributing a mix of upfront capital and the payment of ongoing leases or rental equivalent, numerous examples exist in international cable consortiums where the concept of "Indefeasible Rights of Use" (IRU) is well established.

14. The asset has a long useful life – 100 years – and will support long-term investment with stable cash flows.

15. Due to the diverse range of business types that may occupy space within the NINA Access Pathway, considerable capital flexibility (build/buy or Capex/Opex) is introduced into the operating cost structure of utility service providers. This will have the effect of reducing the barriers to entry within utility services distribution markets.

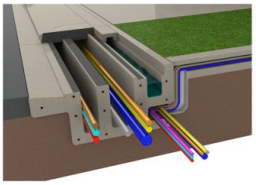
16. Risk mitigation – the NINA Access Pathway is specifically designed to minimize investment risk predicated demonstrating revenue potential and functionality as it progresses from prototype to manufacturing trial to high volume rollout. Its economics will be established early before substantial capital has been committed and a large break cost is established.

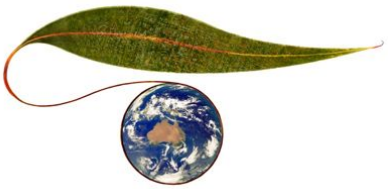
17. This process involves trialing survey, precast manufacturing, trenching installation and fit-out technologies

There is a role for Government at Local, Sate and Federal levels. While traditionally the involvement of all layers of government has been considered a complicating factor this need not be the case and is mitigated in that the NINA Access Pathway has the potential to solve key policy challenges for all levels of government.

It directly addresses:

a) the needs of infrastructure users – we classify these needs as being lower priced, more efficient, more diverse and more available services;





b) the need to reduce disturbance to the streetscape caused by pit, pipe and pole infrastructure deployments and the consequent impairment of streetscape functionality, amenity and views;

c) the need to reduce the regulatory burden associated with monopoly infrastructure , though the introduction of genuine facilities based competition;

d) the need for high rates of return on infrastructure investment to attract private investment and reduce the requirement for government equity funding and or backstopping;

e) the need for infrastructure investments to become profitable faster to fund financing requirements;

f) the need to "future proof" consumers from changes in technology by lowering the marginal cost and time required to upgrade technology platforms; and,

g) the need to increase the sustainability of our urban environments in light of climate change, normal weather events (cyclones, floods, fire etc), increased demand for scare resources such as water and imported fuels (petrol).

The NINA Access Pathway has been thoroughly researched and is the largest single source of potential productivity gains in the Australia economy, the last "low hanging" fruit.

NINA has undertaken detailed and thorough research to ascertain the feasibility of the NINA Project including;

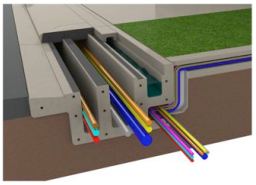
1. The survey of over 100 residential blocks nationally to determine a *national average* residential block metric, including its perimeter at the curb line, area, number of building lots, number of households/residences per block and the roof area ratio, a study to determine the number of such blocks nationally and their distributions.

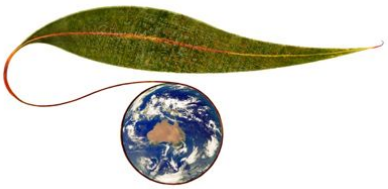
2. Detailed modeling of the number of residences per block and the economic characteristics of the block.

3. Detailed analysis of the construction metrics trenching volumes, cable and pipe runs, component analyses.

4. A detailed analysis of current and projected utility pricing.

5. Detailed analyses of rainfall including an annual weighted average analysis of rainfall across the urban footprint of Australia to determine water recovery potential from the isolation of rainfall from road contamination.





6. A comparative analysis of the relative pricing outcomes of a broadband network deployed via NINA and via the National Broadband Network and of the national power grid upgrade, and water proposals.

7. A detailed study of the embedded cost of ducting and poles in consumer utility prices and the expected efficiency gains of the integrated NINA Access Pathway ducting architecture.

8. A detailed survey of potential new multi-utility integrated trunk access routes for Sydney such that trunk routes (which feed local residential block precincts). The study has identified over 600km of potential trunk access routes substantially configured as cycle routes;

9. Detailed measurement of a whole suburb "Ashbury" for a potential trial, this analysis is comprised of 90 residential blocks, 2775 buildings and covers, 59km of curbs enclosing an area of 219 hectares;

10. Detailed reviews of all current major distributive infrastructure projects and comparative rates of return.

11. Detailed analysis of the construction metrics of a national rollout of the NINA Access Pathway.

12. Detailed analysis of the industry build up in precast concrete required to deliver a national roll-out over a 12 year time horizon, detailed studies of concrete volumes, trenching volumes, transport and labor requirements.

13. Detailed business case analysis of the NINA Access Pathway as a national infrastructure initiative including full P&L analysis, rates of return and NPV value and an equity market valuation on completion.

14. Detailed review of the current national infrastructure policy settings and concerns with the current state of infrastructure and productivity.

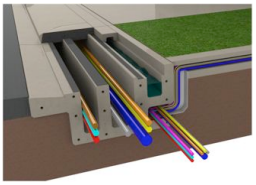
These studies have established that deployed nationally the NINA Access Pathway asset would:

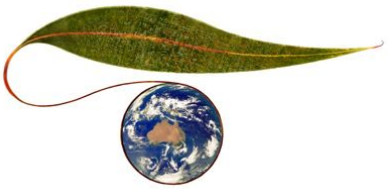
- ✓ Have a capital cost per household of less than $10,000 (not incl. GST) or less than 2% of the current median Australian house price.

- ✓ Would generate an NPAT of approximately $20bn per annum upon completion of national rollout to the 90+% of houses located in a blocks.

- ✓ Return $8bn per annum in income taxation receipts.

- ✓ Return $3.2bn per annum in GST





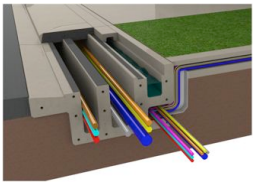
- ✓ Deliver productivity gains of $16bn per annum due to utility price reductions, improved capital allocation, reductions in: water losses, power outages, broken cables, fewer car fatalities and reduced distribution network maintenance.

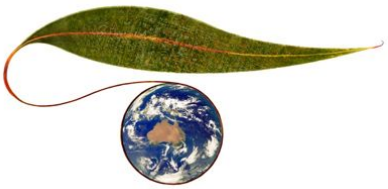
- ✓ Improvements in local government economics due to an increase in revenues of ~$3.2bn per annum (NINA assumes a 10% royalty payment to LGA for land use) in a national rollout , reductions in local government operating costs (maintenance of curbs) $0.5-1.0bn per annum, reduced maintenance capital expenditure , reduced interest expenses and increase revenue diversity and increased land values feeding into rates. This represents a 30-40% increase on current levels.

- ✓ Provide benefits to health (reduced falls due to poor pathways), increased urban mobility due slightly wider pathways, increased length cycle ways.

- ✓ Stimulate the economy due to the general economic benefits of increased bandwidth at lower cost and a ubiquitous fibre footprint, which supports more focused, and extensive wireless and fixed networks in rural and regional communities.

- ✓ Reductions in environmental degradation due to contaminated water flows into natural environments.





ABOUT THE AUTHOR

Mr. Guy Dixon, BE (UNSW), MBA (AGSM) is the inventor of the NINA Access Pathway™.

Mr. Dixon has worked extensively in the fields of engineering, design and construction, telecommunications, regulation, economics, finance and valuation.

He was formerly Associate Director – Australian Telecommunications Equity Research at Credit Suisse First Boston, Commercial Manager for Regulation and Interconnection at Optus Communications and a Senior Engineer at Whollohan Grill & Partners (now Worley Parsons).

For the past 3 years he has dedicated himself to researching the physics and economics of utilities access within the urban landscape.

The outcome of that research and development has been the NINA Access Pathway™© (Patent Pending PCT/AU2011/000962), the NINA Networking Model© and the NINA Access Pathway Business Model©.

Mr. Dixon is a passionate advocate for the efficient re-building of the urban environment in ways, which place people, the health of that environment and sound economics at the centre of the problem solving process and solution.

In January 2010 he formed Networked Infrastructure National Architecture (NINA) Pty Ltd to bring his research and observations to fruition. This resulted in a provisional patent applications being filed for the NINA Access Pathway and Network Model in July 2010.

Since then the focus has shifted to the economics and implementation. This work has included extensive research and analysis of the economics of utility distribution and further R&D into high volume precast concrete production and development of implementation technologies.

This analysis has confirmed the economic viability of the NINA Access Pathway™ and it is now ready for trial and commercialization. He is now actively promoting the concept to JV partners, investors, clients and government.

Mr. Dixon is a passionate creator and innovator who believes in the power of creative thinking.

October 2011.