



A Guide to Land Development over First Gas Pipelines

firstgas.co.nz



Contents

Working together for safety	3	What requirements do YOU need to plan for when planning and undertaking site construction works?	12
Introduction to working near First Gas assets	4	Pipeline easement permits	12
First Gas assets	5	Access over easements	12
Developers legal requirements	6	Planning and design	12
First Gas legal requirements	6	Easement working practices	12
Registered easements	7	Pipeline depth and cover protection requirements	12
Pipeline Designations	7	Compaction, blasting and vibration	13
First Gas pipeline development conditions for land developers	8	First Gas site support and further requirements	13
Development agreement	8	Planting guide	14
Land development approvals	8	Guidelines	15
Pipeline impacts from the changes in land use	8	Property improvements on or near pipelines, facilities and right-of-ways	15
Rerouting pipelines	8	Crossing pipelines, gas transmission lines, mains and service connections on or near pipelines, facilities and rights-of-way	16
Locating pipelines in roads	8	Overhead and buried power and communication cables including fiber optics on or near pipelines, facilities and rights-of-way	17
Designation changes	8	Appendix A – Development Checklist	16
Structures on the easement	9		
Pipeline crossings	9		
The process for working near First Gas assets	10		





Working together for safety

First Gas places safety as a priority and has produced this guideline to ensure the ongoing safety of anyone involved in land development who is planning or conducting work near our pipelines, and to protect the integrity of our pipeline asset.

It is essential that First Gas and Developers work together to maintain a safe working and living environment.

Understanding where First Gas high pressure transmission pipelines are located, how to contact and work with First Gas, how to plan development works to achieve both the Developers' and First Gas' requirements and knowing what to do in the event of an emergency, are critical to the protection of us all.

Before anyone works or excavates close to First Gas pipeline designations, easements or assets, First Gas must determine the safety controls required and issue a pipeline easement permit.

Engaging with First Gas early in the development planning process will minimise potential risks to safe operations and reduce delays and unexpected costs.





Introduction to working near First Gas assets

This guideline assists anyone who is planning or conducting land development work near First Gas assets.

It provides information on how land with existing pipeline assets can be developed in ways that are compatible with protecting the community and the existing pipelines. It also provides developers and landowners with opportunities for the use of their land, and to keep us all safe.

These activities and other similar activities that damage the pipeline can cause an immediate risk to people and may cause long-term safety risks months or years later.

Physical damage such as pipeline coating damage can lead to corrosion and future gas leaks, prevent or disrupt gas supply, or restrict access for operation and maintenance.

Development work includes the construction of buildings and structures, and any work that causes changes to the land, including but not limited to:

- subdivisions
- excavation works
- developing transport infrastructure and other associated transport structures
- earthworks and alteration of the surface of the land
- construction of roads, tracks and access ways
- drain construction and cleaning
- movement of heavy vehicles (other than on permanent roads)
- work causing excessive vibrations (such as blasting, pile driving, ground compaction)
- installing ground anchors
- under boring and directional drilling
- fencing
- installing buried and overhead services
- planting and removing trees

This guideline describes:

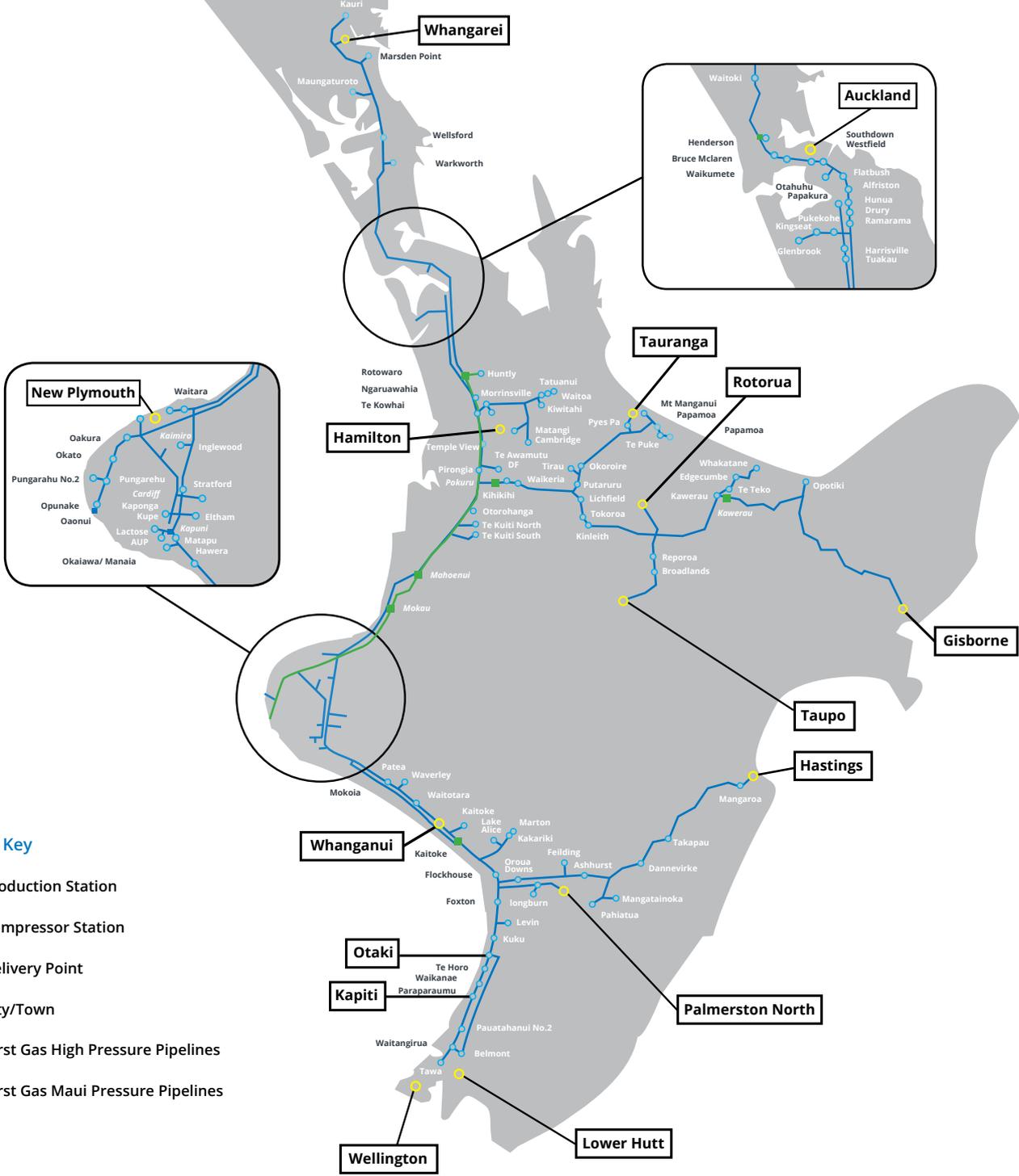
- processes for achieving the development objective and protecting the pipeline assets
- when the developer is required to obtain First Gas approval
- the legal agreement entered between the developer and First Gas
- options for reducing risk of potential damage
- requirements for keeping people safe

It is the responsibility of the developer to determine how to best conduct the work in consideration of the information provided in this guideline. First Gas is not responsible for any costs associated with offsetting the development risks, or any damages caused by development activities.

First Gas assets

First Gas owns and operates more than 2,500kms of high pressure gas transmission pipelines and stations that supply natural gas from Taranaki to industrial consumers throughout the North Island.

First Gas also operates more than 4,800kms of gas distribution networks across the North Island. Through these distribution networks First Gas provides gas distribution services to gas retailers who sell gas to more than 60,000 customers.



Map Key

- Production Station
- Compressor Station
- Delivery Point
- City/Town
- First Gas High Pressure Pipelines
- First Gas Maui Pressure Pipelines



Developers legal requirements

The Health and Safety at Work Act 2015 (the Act) requires people to identify and manage all hazards within their worksite. Anyone working on our easements that fails to consult and obtain First Gas approval may be considered in breach of the Act.

Anyone who causes injury or damages a pipeline because of unsafe work practices during or after construction may be found in breach of the Act and liable for prosecution by the Ministry of Business, Innovation and Employment (MBIE).

First Gas may take legal action to recover the cost of repairs, the cost impact of an interruption of gas supply and the cost of lost business, from any party or parties responsible for damaging our pipelines.

First Gas legal requirements

The Ministry of Business Innovation and Employment (MBIE) has safe work practices for carrying out any work near gas pipelines.

Its "Guide for Safety with Underground Services" states that "all underground services shall be physically identified, by way of pot holing using hand tools only before an excavation can be carried out with machinery". Our permit system controls this process.

The key statutory and industry regulations that affect development around pipelines are:

- Health and Safety in Employment (Pipelines) Regulations 1999
- AS2885: Pipelines-Gas and Liquid Petroleum
- Crown Minerals Act 1991
- The Gas Act 1992
- Building Act 2004
- District and Regional Plan requirements
- RMA (Resource Management Act) 1991
- Any registered easements over the land

This guide provides general information only.

For information relating to specific development planning, further relevant legislation and amendments to the above legislation, please consult the appropriate regulators, legal advisors or obtain advice from a specialist engineer for a safe and compliant development.



Registered easements

Registered easements give First Gas a legal right to access land it doesn't own to undertake its operations.

First Gas' high pressure gas transmission pipelines lie within areas of land, referred to as pipeline corridors, which are defined on survey plans and protected by easements registered on property titles. Pipeline corridor widths do vary but are generally 12 metres wide for a single pipeline and increase by 4 metres for each additional pipeline (Easement).

The registered easements specify the rights of both the landowner and First Gas relating to the land. They give First Gas the legal right to access the Easement Area, and to construct, inspect, maintain and operate a pipeline or pipelines (and associated structures). The terms of the easements state that there must not be any building or construction in the Easement Area, nor must a landowner unreasonably interfere with the rights of First Gas to operate its pipeline in the pipeline corridor.

Pipeline markers located along the easement route indicate the presence of pipelines under the surface of the land, however they are only an indication of the presence of a pipeline and must not be relied upon as evidence of the exact physical location.

To determine the exact physical location a First Gas field technician will locate the pipeline free of charge and then determine if a pipeline easement permit should be obtained before any excavation or other work activities can occur.

Pipeline Designations

A Pipeline Designation is a statutory mechanism which gives First Gas the right to undertake design, construction, operation, maintenance, repair, upgrade and renewal of its pipelines on a defined section of land (Designated Area).

Pipeline Designations are not immediately visible to the landowner or developer as they are recorded in Council District Plans, and not on the property titles. The Council records will contain the details of the designations, including the width of the Designated Area, and the type of activities they permit. Typically, designations are 6m to 25m width corridors.

The obligations they impose on a landowner are like those contained in a registered easement, and therefore need to be considered at the outset of a land development proposal to alleviate costly delays later in the process.

No person may undertake activities on the Designated Area which would prevent or hinder the work to which the designation relates without the written consent of First Gas.

Changes in land use, subdivision, and changing the character, intensity, or scale of the use of the land are all examples of activities which would require the written consent of First Gas.

All landowners and their developers should check Council District Plans and/or with First Gas directly, as early as possible in the development planning to ascertain whether the land is subject to a Pipeline Designation, and to understand its effects on a landowner and their development proposals.



First Gas pipeline development conditions for land developers

Development agreement

A developer and/or landowner will be required to enter into a legal and binding Development Agreement with First Gas prior to commencement of any land development works.

The Development Agreement will set out each party's obligations, costs and responsibilities in relation to the works, and will usually include plans, specifications and construction methodologies. The purpose of the Development Agreement is to ensure that the developer can undertake their required objectives, and First Gas assets are adequately protected.

Land development approvals

First Gas will provide its written approval on a development plan, prior to its submission for Council approval for a land use consent, once adequate information on the development has been provided to First Gas, and assessed by First Gas, and once a Development Agreement has been signed by both parties.

Pipeline impacts for the changes in land use

Pipelines were constructed and designed to meet the legal requirements, the physical nature of the land, type of land use (e.g. rural/residential/industrial) and land access requirements at the time of construction.

Any change in land use could result in First Gas needing to provide additional pipeline protection measure requirements such as physical protection over the pipeline. Changes in land use can also place a higher and more

expensive maintenance burden on First Gas. Increasing the earth cover above the pipeline or constructing transport infrastructure such as roads over the pipeline are examples of changes in use which could impose additional future expense on First Gas.

Changes of land use may trigger additional expense needing to be incurred by First Gas to maintain and operate its pipelines. These expenses are to be funded by the developer either through a bond or upfront payment.

Rerouting pipelines

First Gas prefers not to relocate pipelines rather we will work with the developer to plan to work around the pipelines through design options. First Gas prefers that public land open space is placed over the pipeline. If there is no option for the developer other than to relocate the pipelines this relocation work will be carried out at the cost of the developer.

Locating pipelines in roads

First Gas will not generally support the locating of its pipeline under roads and prefers locating along berms or reserve strips. This is due to the higher maintenance cost, maintenance practicality issues and the potential loss of easement rights.

Designation changes

First Gas holds designations to provide for future pipeline activities. It will not release or vary these designations for a land development. All land development proposals and designs will need to consider the effects of the designation.



Structures on the easement

No buildings or structures are allowed on the First Gas easement or designation areas in accordance with the terms of the registered pipeline easement or designation.

Pipeline crossings

It is First Gas' preference that no utility service, road or rail line crosses the First Gas easement or designation area, or if there are no practical alternative design options available to avoid a crossing, then crossings are minimised via common utility corridors.

Where a utility service, road, or rail line crosses the First Gas easement area appropriate physical protection measures may be required as part of the design. Protection measures will be detailed by First Gas following notification by the developer of the crossing being requested.

First Gas' consent will be required to the grant of any easement to a third party which crosses over First Gas' easement area and/or designation. This will involve First Gas reviewing and possibly seeking amendment to the third-party easement template.

The process for working near First Gas assets

STEPS 1 - 8



Contact
First Gas



Identify process
and/or information
required



Provide
information
to First Gas



Meet on site



First Gas undertake
risk assessment



Response and
requirements
from First Gas



Agreement
with First Gas



FINAL STEP
Undertake
approved works

Call 0800 800 393

Explaining the process



Contact First Gas

Contact First Gas to discuss the development proposal to identify the degree of First Gas involvement and to seek guidance for the process required for approval.

First Gas' main communication and incident prevention tool is BeforeUDig. This tool allows anyone working near pipelines to have them located by First Gas before they begin work.

You can also contact First Gas by phone, email or website.



Identify the process to follow and/or information required

First Gas will advise the best process to follow, what information First Gas requires and what support, guidance and approvals First Gas can provide. This generally involves:

- a description of the proposed development including:
 - the proposed works to be constructed such as fences, buildings, other infrastructure, tracks and roads (public and/or private), and any other structures and the proximity of these works to First Gas assets
 - any excavation works
 - location of any proposed/required marginal strips or esplanade reserves adjoining water ways
 - what resource consents the developer requires and the status of these consents
- detailed development plans
- design drawings and calculations
- contact details of key staff
- development timeframes and/or development roadmap.



Provide information to First Gas

Provide the completed information required to First Gas. This may require specialist reports and design.



Meet on site – first visit free

First Gas will meet you on site to discuss your development proposal and highlight the opportunities and requirements of your concept design to ensure both parties' objectives are met.

This is a free service that we provide.



First Gas undertake a risk assessment

A risk assessment of the proposed development will be undertaken by First Gas. The risk assessment identifies all risks to the pipeline assets and includes risks during construction of the proposed work, risks to future pipeline operations and integrity, and produces risk control measures that will be used to minimise those risks

A minimum period of one month should be allowed for First Gas to assess the proposed development and discuss any aspects with the developer. Following this initial period the joint risk assessment will be undertaken if required.



Response and requirements from First Gas

First Gas will provide a written response to the proposed development giving its requirements and conditions for works prior to any work commencing within the pipeline easement or near an asset.



Agreement with First Gas

Once the development is reasonably understood by First Gas an agreement is established between You, First Gas and the developer. The agreement outlines each parties' responsibilities, and current and ongoing obligations.

How long will this process take?

This depends on the quality and thoroughness of information you provide First Gas and the complexity of the proposed development that may have challenging consenting or construction issues for example.

Typically, this can take a few weeks or months, and in some very complex cases over a year.



What requirements do YOU need to plan for when planning and undertaking site construction works?

Pipeline easement permits

Permits are issued by First Gas to authorise and control all works that could damage or endanger a high pressure gas pipeline. All work within the pipeline easement is approved through the pipeline easement permit.

- A permit can be obtained by contacting First Gas or following the Before U Dig process.
- Works should not commence until a permit is issued to ensure the safety of people and the pipeline.
- All developers must notify the First Gas Permits Office prior to commencement of any proposed work so that permit on-site support can be programmed into daily work schedules. The time taken to arrange for a permit reflects the scale of the works to be approved but most permits can be arranged within 2 working days.

Access over easements

Any heavy or construction machinery crossing the unformed easement shall not cross the pipeline without prior approval from First Gas. Approval may require the provision of pipeline protection measures.

Planning and design

Issues to consider in your planning and design that may impact the pipeline and pipeline easement and discuss with us include:

- Subdivision Layout to ensure the pipelines can be safely accessed for operation and maintenance
- Lot configuration to prevent conflict from access issues and compromising safety setbacks
- Stormwater run-off
- Service, road, or rail line crossings pipeline protection
- Concrete or HDPE protection slabs use to protect pipeline

- Power and telegraph pole location and electrical interference of pipelines or pipeline cathodic protection
- Approved crossings over the pipeline for services and vehicles shall cross at right angles

Easement working practices

First Gas will provide guidelines for approved methods for common pipeline easement activities. These include:

- Set back distances
- Horizontal directional drilling (HDD)
- Services laid above and below pipelines
- Road stabilisation
- Fencing
- Excavation
- Cover increase or removal from over pipelines

At all times, the developer should discuss these first with First Gas as part of the Permit Process prior to undertaking the works.

Pipeline depth and cover protection requirements

- First Gas high-pressure transmission pipelines are buried at a minimum depth of 900mm in rural areas and 1.2m in residential areas. This can vary as alterations to the ground surface may reduce or increase depths
- A minimum depth of cover of 900mm or 1.2m cover must be maintained over the First Gas pipeline always unless a decreased depth of cover has been previously agreed upon between First Gas and the developer
- Any buried service crossing the pipeline must have at least 500mm all around clearance to the nearest surface of the First Gas pipeline. The buried high voltage (415Kv and above 11kv) electricity cables crossing will require at least 600mm clearance.



- Any structure close to the easement is to be fully supported off the easement. This is to enable an excavation to a minimum depth of 500mm below the underside of the First Gas pipeline to be performed along the adjacent edge of the easement without affecting the structure's integrity.

Compaction, blasting and vibration

These activities have high potential to damage the pipeline. Therefore First Gas needs to approve any of the following:

- Compaction within the pipeline easement regardless of the depth of cover.
- Blasting within 100 metres of the pipeline
- Use of vibrating equipment or processes
- The use of hydraulic or air operated machine mounted rock breakers

Note: First Gas may undertake a coating defect survey of the pipeline covering the proposed vibration compaction or blasting works prior to works commencing and will record any existing coating defects this will be compared to a post works survey the developer will pay for. Any new defects found through comparison with the baseline survey will be repaired by First Gas at the developers' cost.

First Gas site support and further requirements

First Gas will offer free administrative guidance to assist through the process.

- First Gas will provide a representative on site for the entire time or part of the time that works activities are carried out on the easement and no work shall proceed unless the First Gas representative is present.
 - The first four hours onsite is provided free of charge.
 - Thereafter First Gas will charge an hourly rate, currently \$115 (+gst) per hr.

- Should an extended period be required for the supervision of works by First Gas, these costs are to be paid by the developer. A decision on this will be made at the time the proposal is being reviewed and agreed with the developer.
- First Gas will provide the developers personnel and/or contractors a Pipeline Safety induction prior to works commencing.
- First Gas reserves the right to inspect and approve all the developers' equipment to be used on the First Gas easement, and all third-party operator licenses and certificates, prior to works commencing to ensure that such equipment is safe to use close to the First Gas assets and all licenses and certificates are current.

Also refer to the following information provided to help you through the process:

- **Appendix A:** 'Development Checklist' when considering the development of land with pipelines, or when considering a resource consent application, this list provides some issues that may need to be considered.



Planting guide

First Gas may support the controlled planting of trees and vegetation within the pipeline easements.

You may be granted permission to plant in certain circumstances, but this approval is dependent upon the plant type, pipe depth, pipe-wrap type and water table depth.

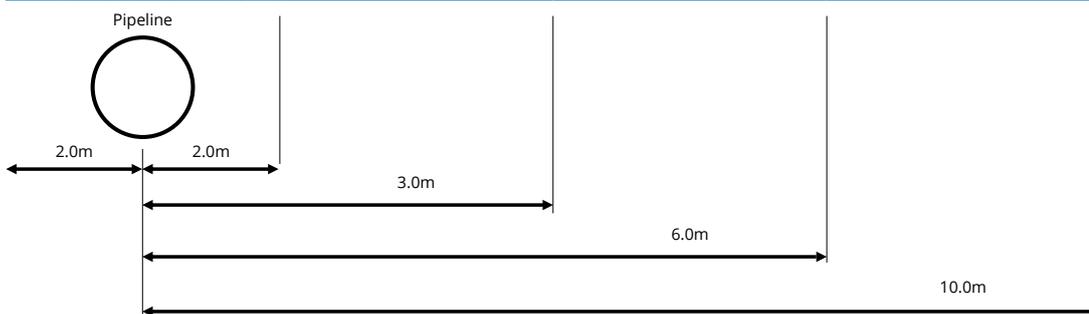
Any approval granted to plant within the easement is subject to First Gas retaining the rights to remove at any time in the future, all vegetation which First Gas believes may restrict access or endanger the pipeline and no compensation will be paid for this removal.

First Gas will not agree to vegetation covenants as these permanent obligations are not achievable due to access requirements.

At all times First Gas will require vehicle access along the easement and this should be considered when planting.

The following guidelines suggest suitable plant groups and their appropriate distance from the pipeline for planting.

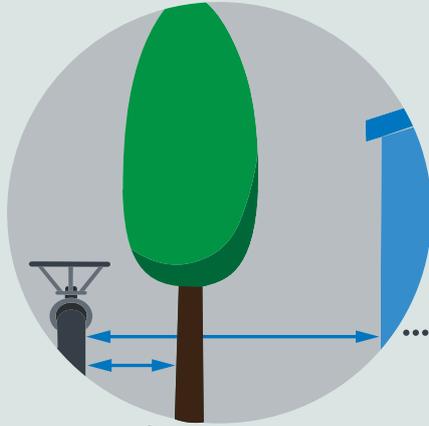
A	B	C	D	E
<p>Plants acceptable directly over the pipeline, e.g. grasses, prostrate plants, dwarfs toe toe, dwarf flaxes and annual crops (lucerne, wheat, oats, maize and feed crops). These are species with small and shallow rooting depths</p> 	<p>Mainly fibrous shallow rooted plants, e.g. native grasses, flaxes and many berry plants. A minimum of 2 metres is required from the pipeline.</p> 	<p>Plants up to 3 meters high that have a root system that may do some damage. Many fruit, ornamentals and small native trees are included. A minimum planting distance of 3 metres from the pipeline is required.</p> 	<p>This allows for trees that are slightly less vigorous and could be used as shelterbelts. A minimum separation of 6 metres from the pipeline is required to ensure access to the pipeline is not compromised</p> 	<p>These are all the large very vigorous species such as Pines, Rimu, Totara, Kauri, Poplar Macrocarpa, Willow and Eucalyptus. These should be planted a minimum of 10 metres from the pipeline.</p> 



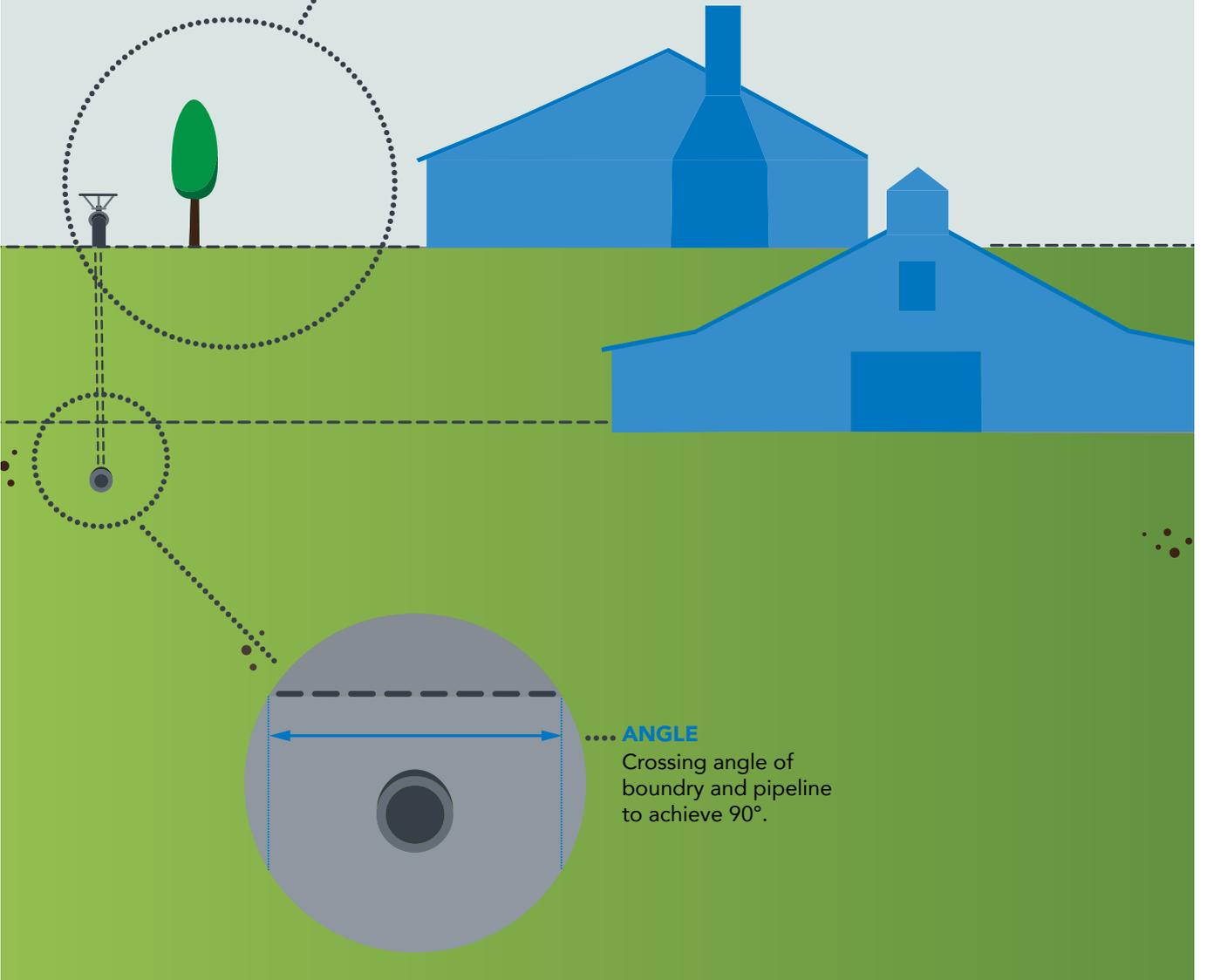
Guidelines – Property improvements on or near pipelines, facilities and right-of-ways

KEY

- Property boundary
- === Pipeline

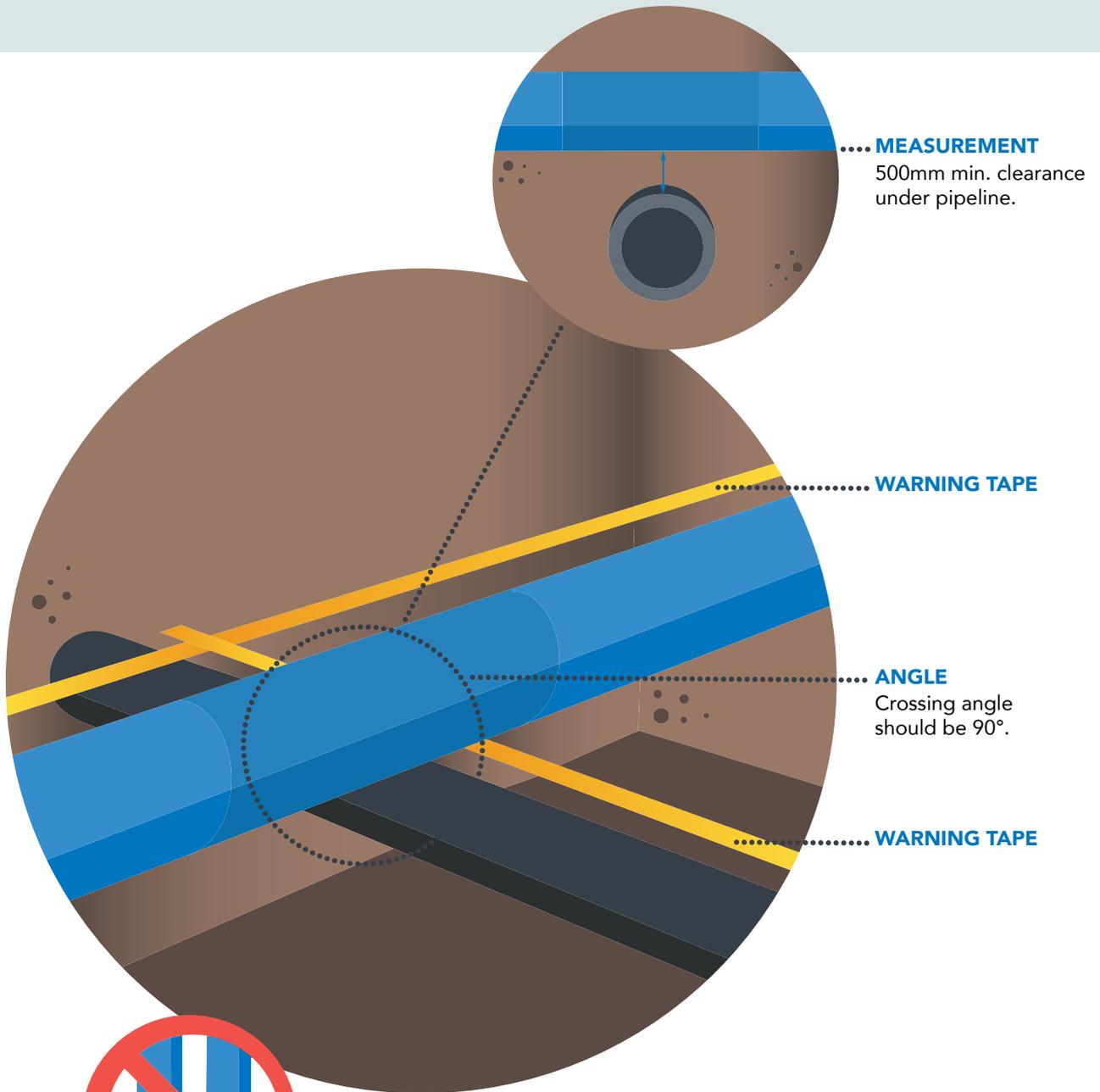


.... **MEASUREMENT**
20m between pipeline and building.
6m between pipeline and trees.



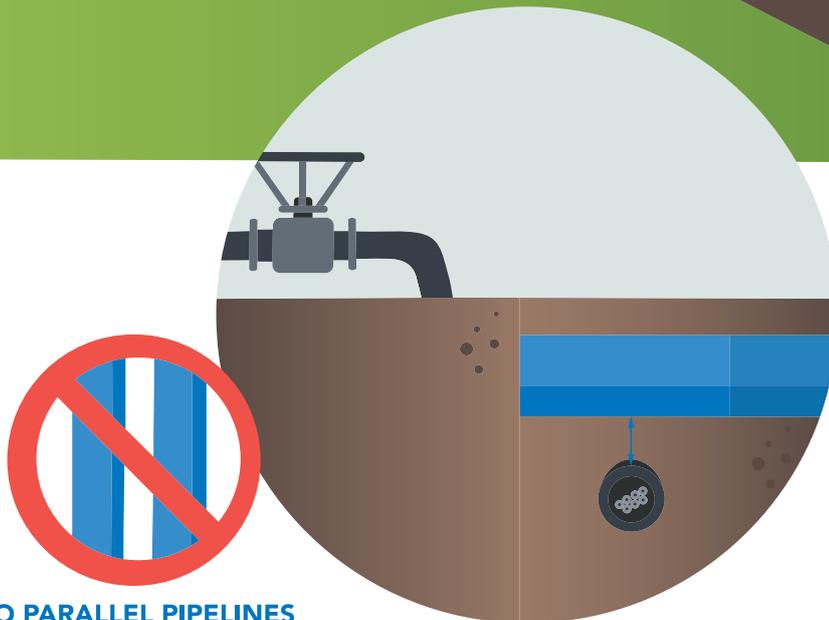
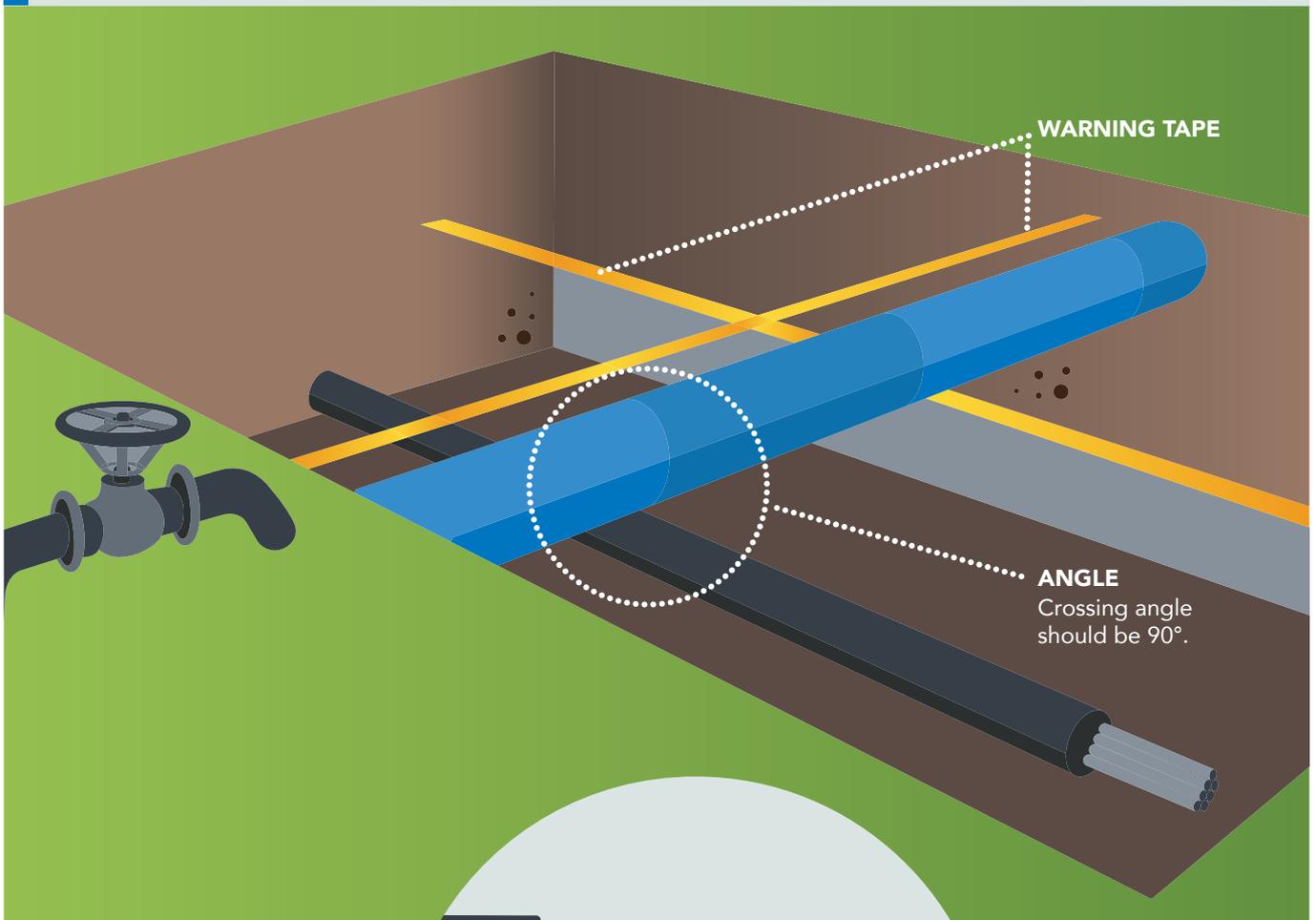
.... **ANGLE**
Crossing angle of boundry and pipeline to achieve 90°.

Guidelines – Crossing pipelines, gas transmission lines, mains and service connections on or near pipelines, facilities and rights-of-way



**NO PARALLEL PIPELINES
WITHIN 3 METERS
ROAD CORRIDOR ONLY**

Guidelines – Overhead and buried power and communication cables including fiber optics on or near pipelines, facilities and rights-of-way



**NO PARALLEL PIPELINES
WITHIN 3 METERS
ROAD CORRIDOR ONLY**

Appendix A – Development Checklist

When considering the development of land with pipelines, or when considering a resource consent application, the following list are some things that will need to be considered.

Safety Requirements

- Check for transmission pipelines on site
- Discuss your plans with First Gas
- Enter into an agreement with First Gas
- Obtain a pipeline easement permit before works begin
- Ensure any changes in ground level are discussed with First Gas

Enter into an agreement with First Gas Development

- This agreement will clarify the approvals, obligations, costs and responsibilities between the developer and First Gas.

Check for existing easements over the land

- Check whether the proposed use of the land will conflict with any registered easement or designations against the land or any overriding statutory rights that First Gas may have.
- If in doubt about the effect of any proposed use, contact First Gas to discuss the proposal.

Provide First Gas with the design plans that include:

- Timeframes and schedules
- Utilities and services
- Storm water management
- Roading & access ways
- Intended land use
- Building/dwelling footprints
- Open space and/or reserve requirements
- Cut and fill levels
- Planting design
- Civils contraction plans

Achieve good development outcomes for Subdivisions

- Where an activity may adversely impact on existing transmission pipelines or a designation for a future pipeline you should discuss your plans with First Gas, particularly when considering mitigation measures or appropriate conditions to place on consents
- Plan early to 'design-in' the transmission pipelines easement
- Ensure that new lots can accommodate dwellings/buildings that will not encroach onto the transmission pipeline easements and that these sites have sufficient room to allow for future expansion
- Use the easement area for open space or passive recreation development
- Locate all structures such as buildings, sheds, swimming pools (etc) outside the easement
- Install services such as power, fibre or telephone cables at right angles to the pipeline and in single collective trenches
- Design for open space, walkways or cycleways along the pipeline easement
- Ensure planting is compatible with the First Gas planting guidelines
- Ensure that vehicle access to the existing pipelines is preserved

Provide for access and operation of the pipelines

- Obtain First Gas approval before constructing new access ways
- Discuss any activities that require the use of heavy machinery with First Gas
- Ensure vehicle access is maintained to the pipeline easement
- Check that earthworks do not affect the stability of the pipeline easement or integrity of the pipeline
- Comply with AS2885 and the Health and Safety (Gas Pipeline) Regulations

Check incompatible activities over or near pipelines

Some activities are not appropriate to locate within the vicinity of gas or petroleum pipelines because of safety risks or effects on the integrity or operation of the pipelines themselves. Examples include:

- Fires (including burning of stubble)
- Placement of fill, removal of fill and any other excavation works
- Laying or working on other utility services
- Planting
- Blasting
- Structures on the easement
- Quarrying or sand winning operations
- Seismic activities – notice should be provided to First Gas to enable calculations and designs to be produced to protect the pipeline during seismic work

Manage change of land use

- Discuss your plans with First Gas, or seek specialist engineering advice
- Check plans to make sure buildings, structures, dwellings and fencing are set back from the pipeline
- Vehicle access to existing pipelines must be preserved.
- Check whether changes to water bodies will affect the stability of the pipeline
- Ensure no flammable, explosive or dangerous goods are stored near a pipeline
- Mobile plant and machinery (e.g. forklifts, cranes) must have nominated crossing points which should be engineered to ensure no impact on pipelines

Understand requirements for Earthworks

- Ensure developers know their obligations – discuss your plans with First Gas, or seek specialist engineering advice
- Obtain a pipeline easement permit from First Gas before undertaking any earthworks
- Ensure a First Gas representative is on site whilst any earthworks are undertaken near the pipeline
- Approval is required for excavating in the easement resulting in raising or lowering ground levels
- Ensure earthworks do not undermine or affect the stability of the pipeline easement
- Any earthworks or vehicle crossings over the pipeline easement is of concern to First Gas. Plans for earthworks and vehicle crossings (including temporary crossings during construction) must be approved by First Gas to ensure that an adequate depth of cover is maintained over the pipeline and there is not excessive loading over the pipe which could adversely affect the pipeline

Planting/Landscaping

- Ensure the trees or plants being planted are not on or will not interfere with the pipeline easement (refer to planting guide)
- Ensure trees and fences do not restrict First Gas existing access rights



Before You Dig

0800 248 344

First Gas Support

0800 800 393

firstgas.co.nz