



# Engineering Contributions Policy

Policy by Dwayne Baker  
City Electrical Engineer



# Contents

- Introduction
- Definitions
- The relationship between engineering contributions and connection costs
- Why, How much and When
- Service agreements
- Conclusion



# Introduction

In terms of chapter 3 of the Constitution of South Africa, all spheres of Government and all organs of state within each sphere must cooperate with one another in mutual trust and good faith by informing one another of, and consulting one another, on matters of common interest.



# Definition

“Engineering contributions is the capital recovery of shared infrastructure, whether it is existing or required in the future”

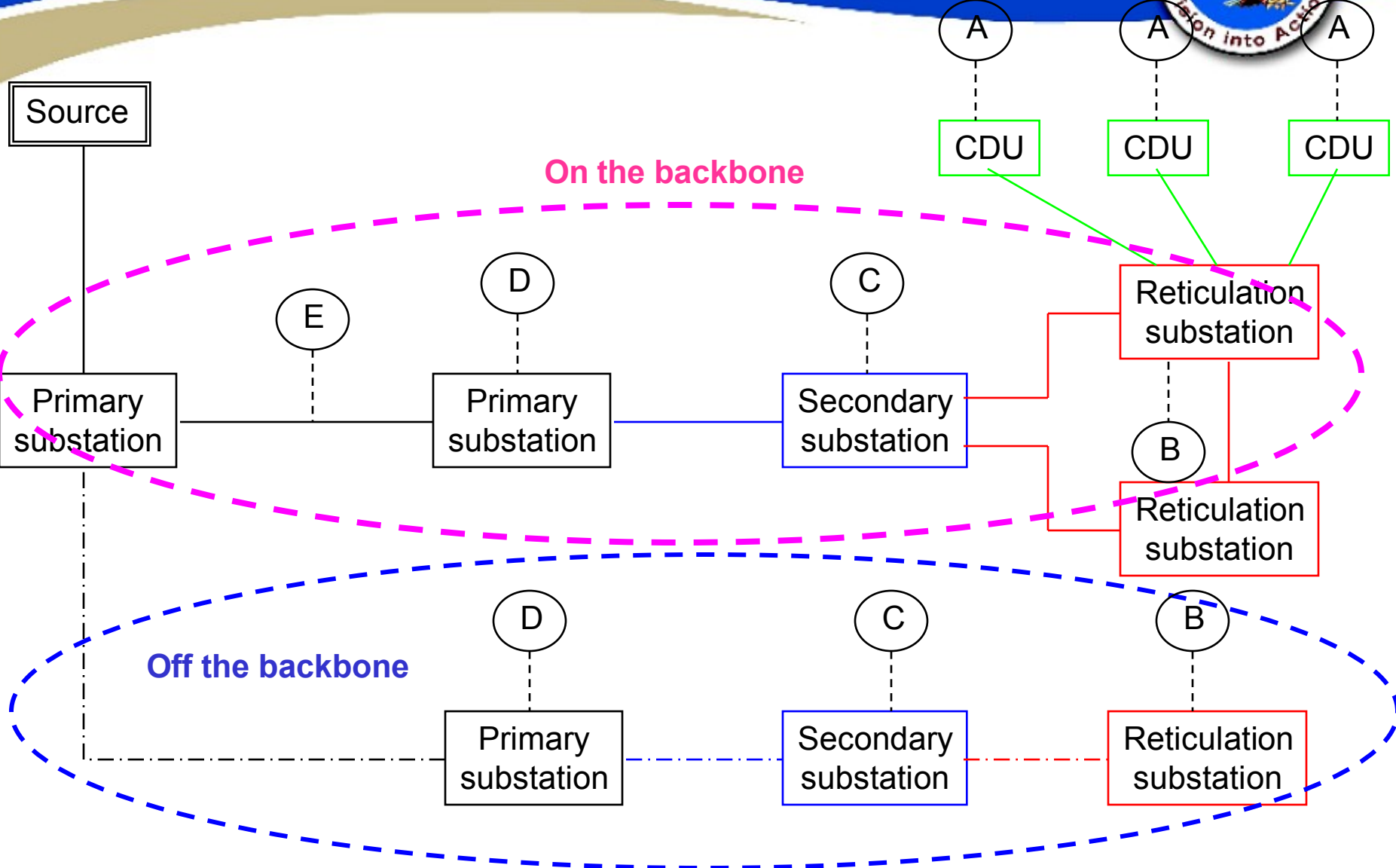
(It is NOT the service connection!)

# Definitions cont...

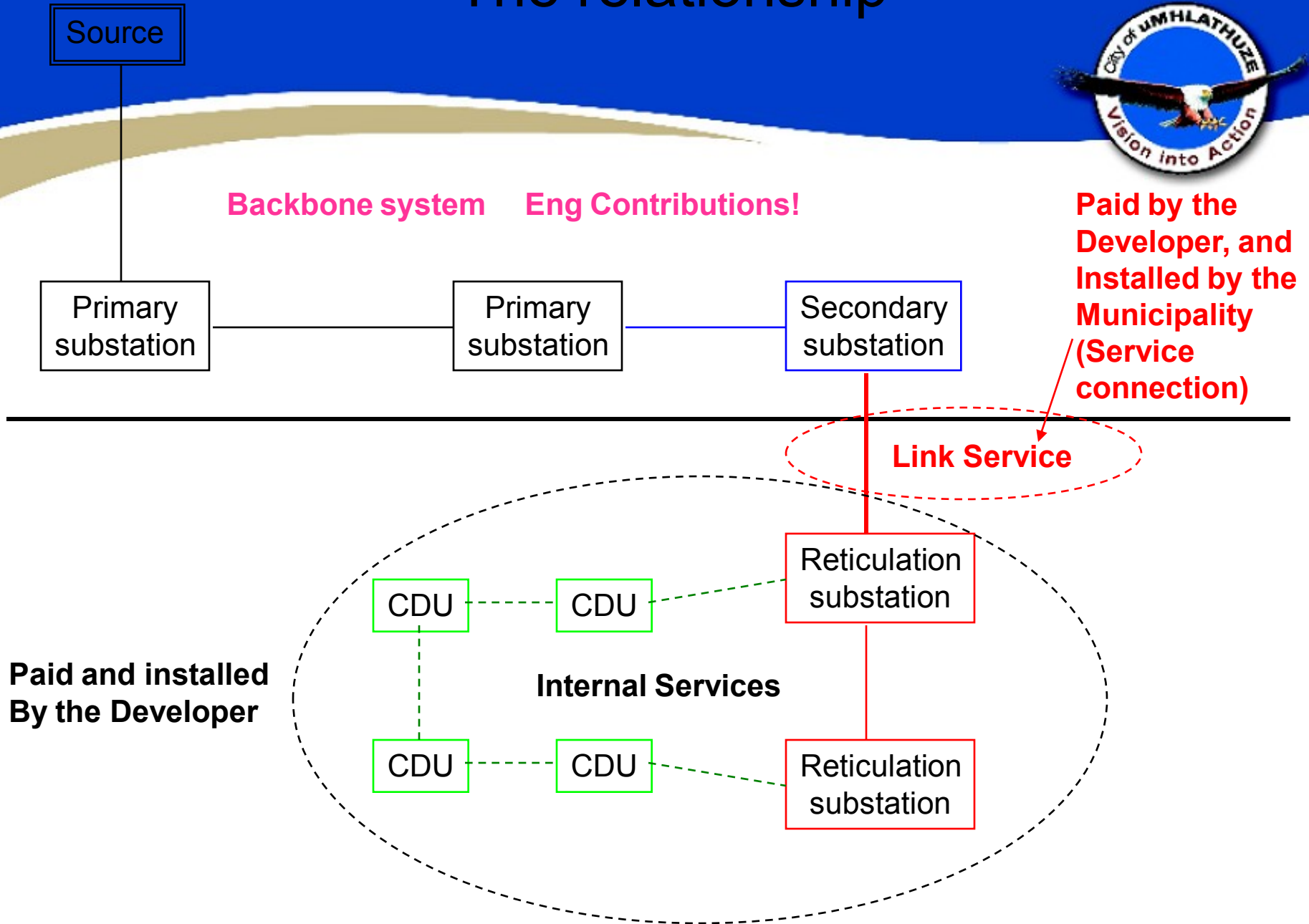


- Backbone service infrastructure
  - Bulk infrastructure components that service a multitude of customers. It is not the service connection.
  - Typically expensive and complex in comparison to the service connection
- Service or Link connection
  - The direct link to a singular customer
- Customer
  - Single residential (low, medium and high cost housing must be well defined in your policy)
  - Single commercial
  - Single industrial
  - Complex (Bulk supplied, individually metered) (Mini factories, townhouses, residential estates, Malls etc)

# Components of a backbone system



# The relationship





# Why, How much and When?

- Why should customers pay engineering contributions?
  - This presentation
- How much should they pay?
  - Promulgated tariffs
- When should they pay?
  - Clear guidelines and Council approved Policy

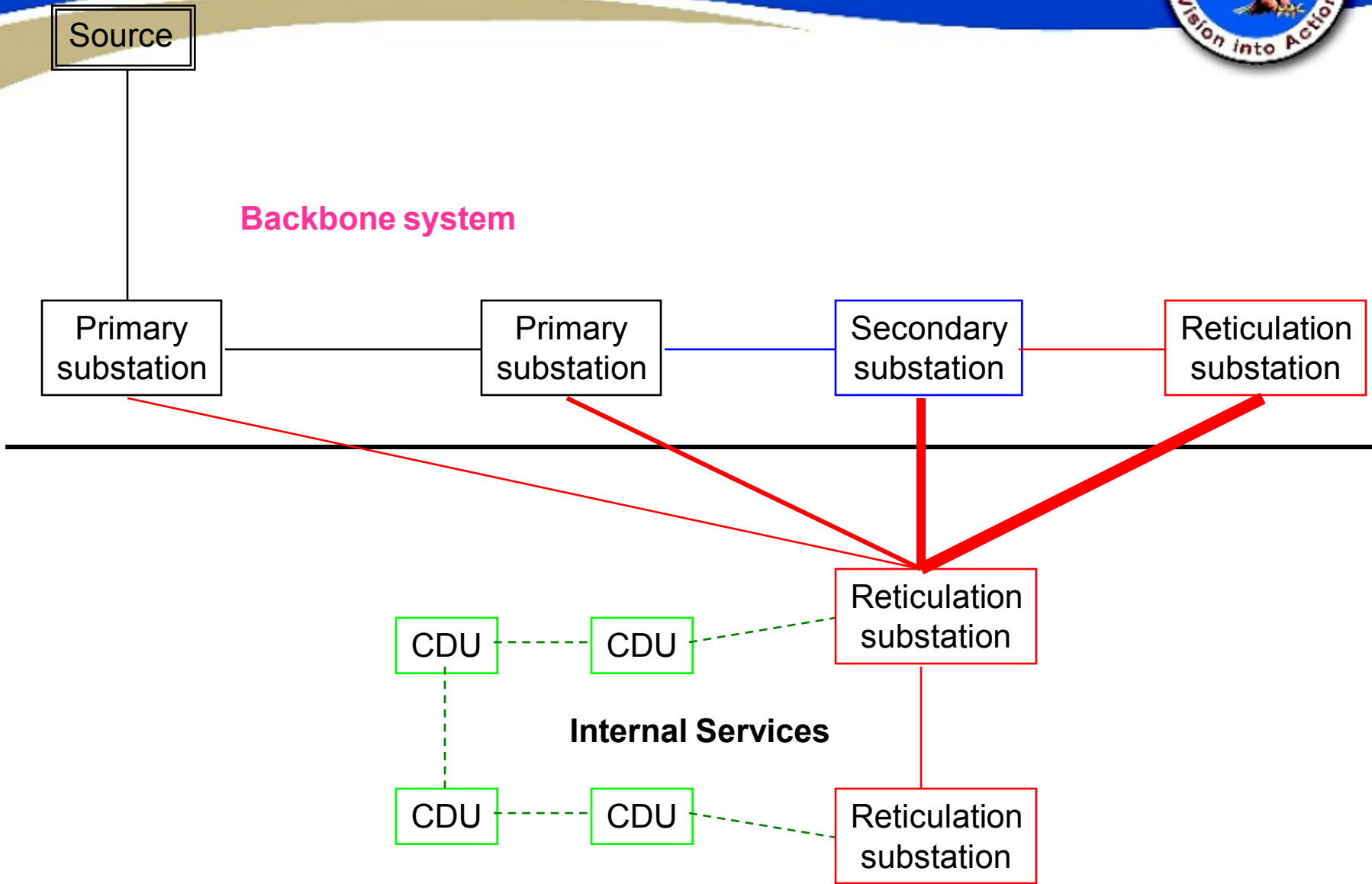


# Why?

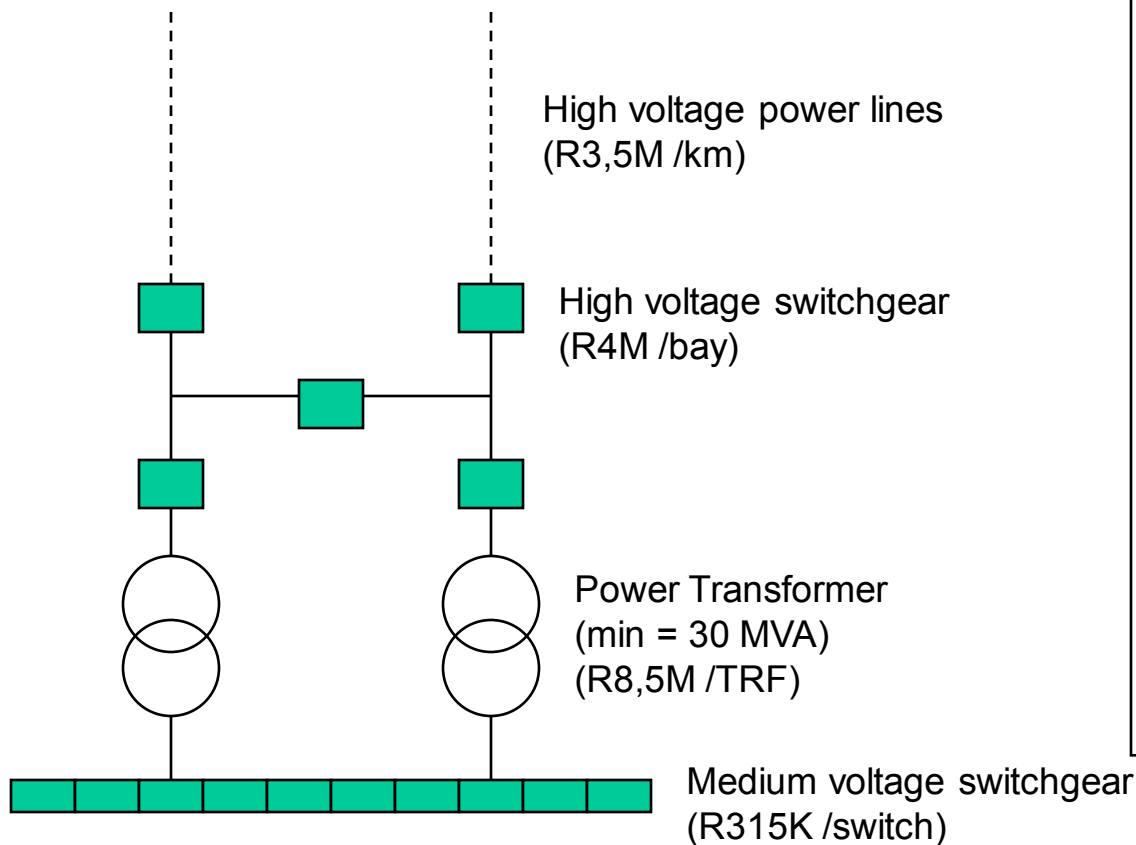


- Ask the question:
  - Is it fair that the local TAX base (rate payer) should pay for backbone infrastructure that will ONLY serve a specific singular customer or development, now or in the future?
- Everyone should contribute pro rata for their demand requirements irrespective of where they are located on the backbone.
- This means that “you pay a share for what you demand”
- What about “paid-up” infrastructure?
  - There will always be future demand requirements.
  - Although a section of the infrastructure could be paid for, it will have to be reinforced, expanded or rebuilt to cater for future demand requirements.
  - This will always be on-going.

# How Much? Where on the backbone in terms of Engineering Contributions?



# What's in a backbone primary substation?



High voltage switchgear  
5 bays @ R4M/bay = R20M

Power transformers  
2 TRF's @ R8,5M = R17M

Medium voltage switchgear  
11 panels @ R315K ea = R3,5M

Civil works etc = R2M

TOTAL = +/- R42M

Contribution = R700/kVA  
(2009/2010 = R626/kVA)

# The uMhlathuze Policy



- The respective senior engineering manager is responsible for the correct implementation of the Policy. Not the CFO!
- The scope addresses all customers, existing and future.

# When should customers pay for engineering contributions?



- CLASS A residential customers:
  - All residential properties are sold with a standard single phase supply. Initial sale includes engineering contributions.
  - Customers typically request an increase in supply or change to 3-phase supply.
  - Customers pay **up-front** before any additional demand is required including any change to the service connection.
  - Rebates are promulgated:
    - Low cost housing: no engineering contribution as infrastructure is typically 100% Government grant funded including new bulks.
    - Low and medium cost housing by private developer: promulgated rebate against the engineering contribution tariff to attract developers.
    - High cost housing: no rebate – full contributions.

# Residential examples



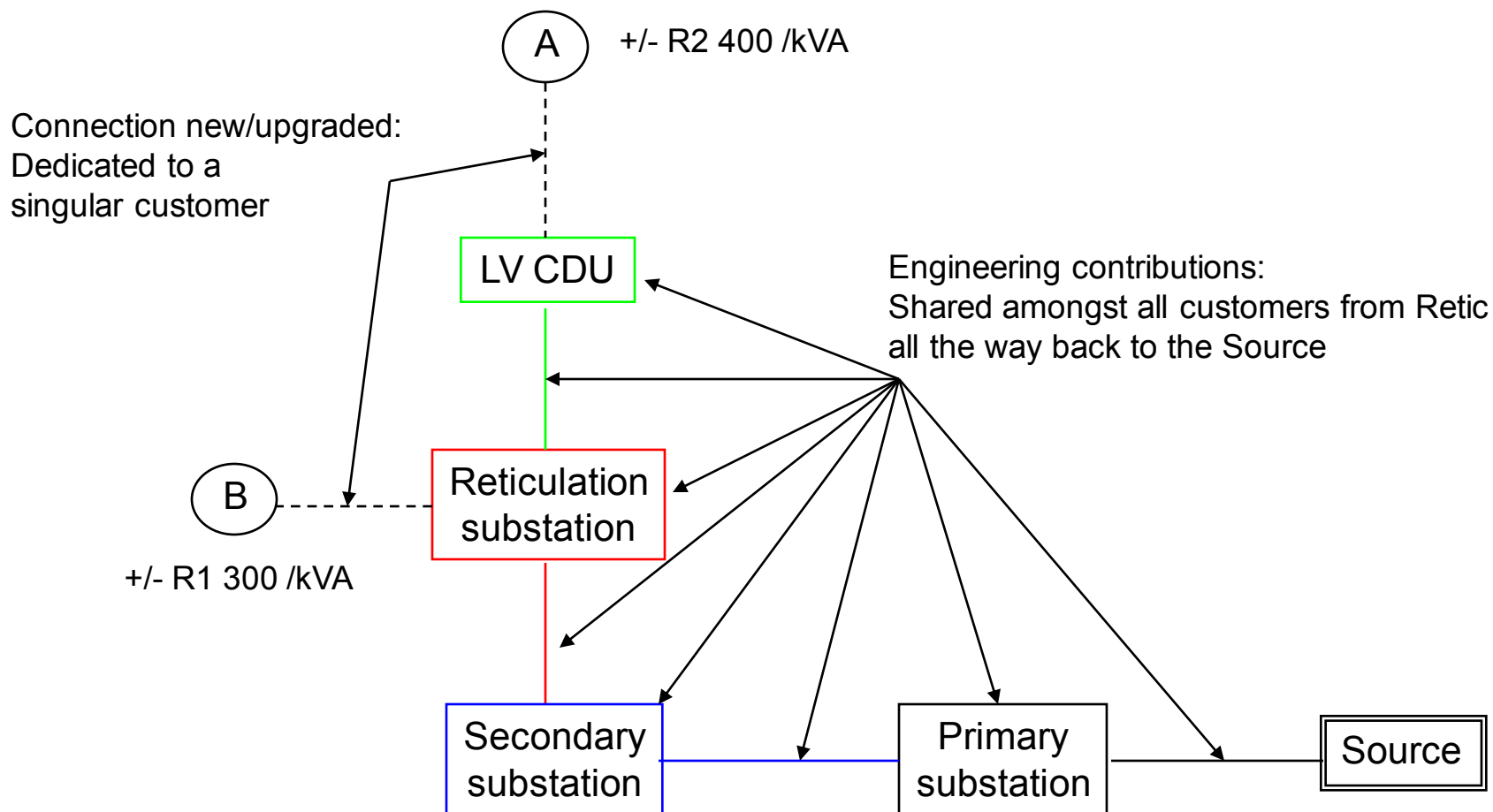
- Medium cost housing in former township outside of Empangeni:
  - Total cost of services (roads, sewer, water and electricity) = R75 000/ property (2008/2009)
  - Market value of land = R100 000
  - 75% of land value towards servicing costs.
- High cost golf estate in Richards Bay:
  - Total cost of services (roads, sewer, water and electricity) = R133 000 /property (2008/2009)
  - Market value of land = +R600 000
  - 22% of land value towards servicing costs!

# When should customers pay for engineering contributions?



- CLASS B: Small commercial
  - Similar to residential
  - Mall shops, small enterprises, B&Bs, Petrol stations, etc
  - Properties are sold with a standard three phase supply (60/80 A). Initial sale includes engineering contributions.
  - Customers typically request an increase in supply depending on the nature of their business. This is typically monitored through the Network access and demand charges. Customers are then prompted to apply for a NMD increase in terms of By-Laws.
  - Customers pay once off up-front for the connection changes and the engineering contributions.
  - No rebate on the contribution tariffs unless Council approved through special cases – welfare organisations etc.

# CLASS A & B





# When should customers pay for engineering contributions?



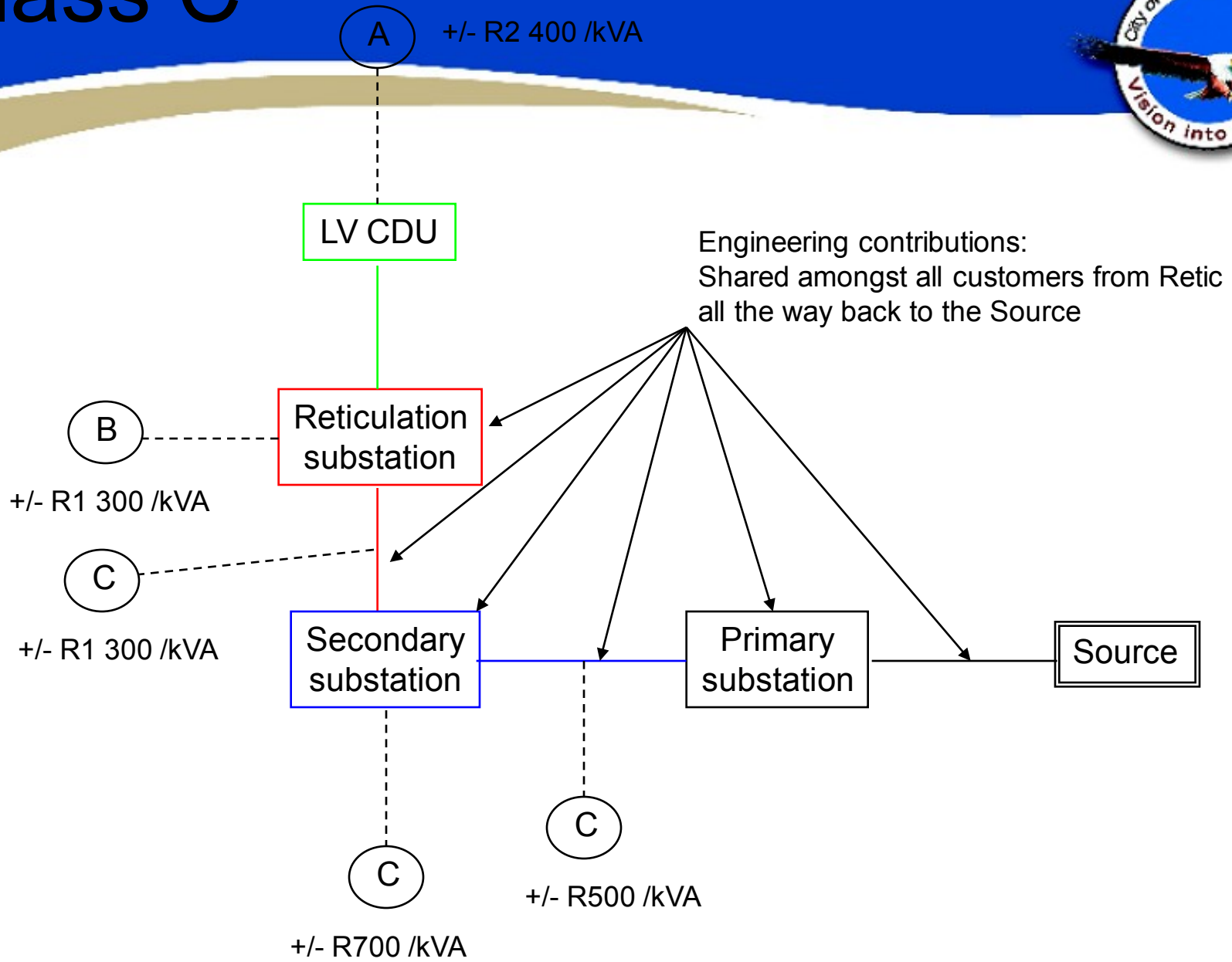
- CLASS C: Residential/Commercial complexes/estates
  - Final demand is not instantaneous.
  - Demand is taken up over a period of time as and when internal customers draw load from the backbone system.
  - Example is a residential estate that could take 5 – 10 years to complete.
  - Engineering contributions are therefore phased-in although the bulk infrastructure has to be installed up front.
  - Municipality then covers the initial upfront costs for backbone infrastructure and recovers the cost through engineering contributions over time.
  - Where the backbone system exists, developer requests demand in “blocks” over a period of time. This must be covered in the services agreement!!!

# When should customers pay for engineering contributions?



- If the development is far removed from the source, entire new backbone infrastructure must be installed.
- If the new backbone infrastructure is dedicated to the development, then
  - Developer pays for entire cost
  - No engineering contributions would be payable
- If the new backbone infrastructure is to be shared amongst developments (even if in the future), then
  - Municipality funds backbone upfront (through loans or reserves), and
  - Developer pays for connection cost and engineering contributions
  - Recovery of spare capacity would then be through future contributions in terms of promulgated tariffs and land sales.

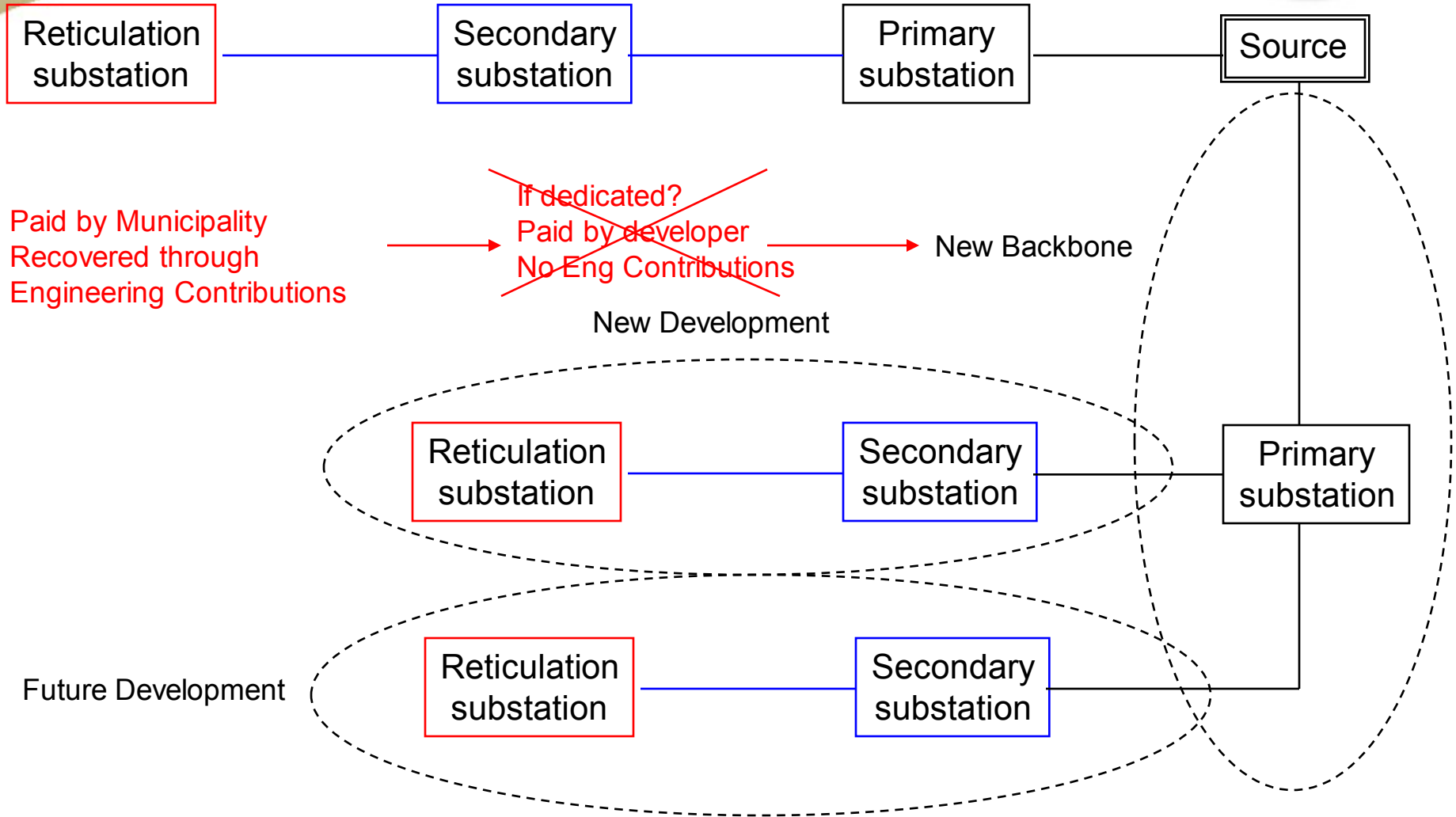
# Class C



# Example



EXISTING BACKBONE



# Service Agreements



- In terms of the DFA, the developer must enter into a services agreement with the local authority.
- The services agreement covers all local authority services such as civil and electrical engineering services and health related services.
- Use the services agreement to reinforce your Municipalities policy on engineering contributions.
- [Example](#)

# Summary



- All customers should pay engineering contributions in addition to the actual connection cost.
- Do not recover backbone infrastructure costs through your consumption tariffs!
- All Municipalities should adopt an engineering services contribution policy.
- Engineering contributions should be calculated using an acceptable methodology and the tariffs then promulgated
- Applicable to all services, not only electricity!  
Use a services agreement at all times.

# Thank you!

