MOTIVERINGSVERSLAG: AANSOEK OM HERSONERING EN ONDERVERDELING: RESTANT VAN ERF 2833 GROOT BRAKRIVIER (GEWYSIG)

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INHOUDSOPGAWE

9. SAMEVATTING

BYLAES

Bylaag "A": Onderverdelingsplan

Bylaag "B": Munisipale aansoekvorm

Bylaag "C": Vooraf konsultasie vergadering notule

Bylaag "D": Titelakte

Bylaag "E": Volmag

Bylaag "F": Resolusie

Bylaag "G": Maatskappy dokument

Bylaag "H": Aktebesorgersertifikaat

Bylaag "I": Liggingsplan

Bylaag "J": Landmeter Generaal Diagram

Bylaag "K": Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering – Rekord van Besluit – 3 Augustus 2010

Bylaag "L": Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering – Rekord van Besluit – 18 Junie 2013

Bylaag "M": Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering – Rekord van Besluit - 25 Augustus 2015

Bylaag "N": Verkeersimpakstudie

Bylaag "O": Siviele Diensteverslag

Bylaag "P": Elektriese Diensteverslag

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1. AANSOEK

- Aansoek word in terme van Artikel 15(2)(a) van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 gedoen vir die hersonering van die Restant van Erf 2833 Groot Brakrivier vanaf Landbousone I na 'n Onderverdelingsgebied bestaande uit Algemene Residensiële Sone I erwe (± 1.11 hektaar), 'n Nutssone erf (± 0.03 hektaar), Oopruimtesone II erwe (± 3.56 hektaar), 'n Vervoersone III erwe (Privaat straat) (± 0.99 hektaar) en 'n Vervoersone II erf (Publieke straat) (± 0.35 hektaar).
- Aansoek word in terme van Artikel 15 (2)(d) van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 gedoen vir die onderverdeling van die Onderverdelingsgebied in die volgende erwe:

  - 41 Algemene Residensiële Sone I erwe (Gedeeltes 1 tot 3, 6 tot 12 en 14 tot 44);
  - 1 Nutssone erf (Gedeelte 5)
  - 4 Oopruimtesone II erwe (Gedeeltes 4, 13, 45 en 46);
  - 1 Vervoersone III (Privaat straat) erf (Gedeeltes 47), en
  - 1 Vervoersone II (Publieke straat) erf (Gedeelte 48).

Die voorgestelde onderverdelingsplan is hierby as **Bylaag "A"** aangeheg. Die aansoekvorm om hersonering en onderverdeling vir die bogenoemde aansoeke is hierby as **Bylaag "B"** aangeheg.

2. ONTWIKKELINGSVOORSTEL

2.1 Inleiding

Dit word bevestig dat die Ontwikkelaar aansoek doen vir die regte soos uiteengesit in hierdie aansoek. Die voorneme van die Ontwikkelaar word vervolgens in meer detail in die onderstaande paragrawe uiteengesit.

Erf 2833 Groot Brakrivier sal in 5 hoof grondgebruike onderverdeel word soos aangetoon op die onderstaande onderverdelingsplan wat ook hierby as **Bylaag "A"** aangeheg is.

Die vyf voorgestelde hoof grondgebruike is as volg:

- 41 Algemene Residensiële Sone I erwe (Gedeeltes 1 tot 3, 6 tot 12 en 14 tot 44);
- 1 Nutssone erf (Gedeelte 5)
- 4 Oopruimtesone II erwe (Gedeeltes 4, 13, 45 en 46);
- 1 Vervoersone III (Privaat straat) erf (Gedeeltes 47), en

- 1 Vervoersone II (Publieke straat) erf (Gedeelte 48).

Die verskillende hoof grondgebruike sal vervolgens verder toegelig word.

2.2 Algemene Residensiële Sone I erwe (Gedeeltes 1 tot 3, 6 tot 12 en 14 tot 44)

Die voorgestelde ontwikkeling maak vir 41 individuele Algemene Residensiële Sone I erwe (Gedeeltes 1 tot 3, 6 tot 12 en 14 tot 44) voorsiening. Die 41 Algemene Residensiële Sone I erwe beskik oor ‘n gesamentlike oppervlakte van ongeveer 1.11 hektaar wat neerkom op ‘n gemiddelde grootte van ongveer 270.73m^2 per groepserf. Die gedeelte van die erf wat vir groepbehuising aangewend word, insluitende die privaat strate wat toegang tot die onderskeie groepserwe verleen, beskik oor ‘n oppervlakte van ongeveer 2.1 hektaar. Die groepbehuising ontwikkeling sal dus oor ‘n digtheid van ongeveer 19.53 eenhede per hektaar beskik.

Die grenslyne van die 41 voorgestelde Algemene Residensiële Sone I erwe is na aanleiding van ‘n 1:4 hellingsanalise wat vir die erf gedoen is, bepaal. Die hellingsanalise is aangevul met ’n sensitiwiteitsplan wat vanaf Cape EAPrac ontvang is. Die helling van die 41 erwe is binne die 1:4 beperking met geen oorskreidings wat binne die geidentifiseerde sensitiewe areas plaasvind nie.

Argitektoniese riglyne sal vir die groepbehuising ontwikkeling opgestel word met die groepshuise wat aan die bepalings van die Argitektoniese riglyne moet voldoen. Die groepshuise sal deur die ontwikkelaar as voltooide eenhede vervreem word.

2.3 Nutssone erf (Gedeelte 5)

In terme van die ontwikkelingvoorstel word ‘n water gedrewe rioolverwyderingstelsel vir die 41 erwe voorgestel. As gevolg van gebrekkige kapasiteit by die Langstraat-rioolpompstasie kan die riool afkomstig van die 41 erwe nie na die pompstasie afgevoer word tot tyd en wyl die pompstasie opgegradeer is nie.

Aangesien dit egter nog ‘n geruime tyd gaan duur alvorens die probleem aangespreek is het die ontwikkelaar besluit om die riool afkomstig vanaf die 41 erwe by wyse van swaartekrag af te voer

na 'n bewaringstenk wat op die lae deel van die terrein geleë sal wees. Gedeelte 5 is as 'n aanvaarbare laagte punt geidentifiseer en is daar is as sulks besluit om die erf vir die doel aan te wend, derhalwe die voorstel om 'n Nutssone sonering aan die erf toe te ken. Meer detail rakende die bewaringstenk word in die Siviele Diensteverslag waarna daar later in hierdie Motiveringsverslag verwys word, verskaf.

Dit is ook die voorneme om 'n vuilisverwyderingsarea vir die 41 erwe op die gedeelte te ontwikkel van waar die vuilis deur die Mosselbaai Munisipalitei se vuilisverwyderingsdiens verwyder sal word.

Ten einde egter te verseker dat die ontwikkeling wat op die erf voorgestel word nie negatief op die ontwikkeling sal impakteer nie gaan die erf behoorlik gelandskapeer word om die impak daarvan op die omliggende erwe te versag.

2.4 Vervoersone III erf (Privaat straat) (Gedeelte 47)

Alle strate binne die ontwikkeling sal as privaat strate geregistreer word. Toegang tot die ontwikkeling word vanuit Sandhoogteweg voorgestel.

Die toegangspunt tot Sandhoogteweg stem ooreen met die bestaande 20 meter reg van weg serwituut wat oor die Restant van Erf 2833 Groot Brakrivier ten gunste van Erf 2832 Groot Brakrivier en Erf 4650 Groot Brakrivier geregistreer is. Die reg van weg serwituut sal as toegangpad tot die noordelike 12 Algemene Residensiële Sone I erwe (Gedeeltes 33 tot 44) dien. Die oorblywende 29 Algemene Residensiële Sone I erwe wat op die suidelike gedeelte van die erf ontwikkel staan te word sal via 10 meter interne strate toegang via die genoemde reg van weg serwituut toegang vanaf Sandhoogteweg verkry.

'n Verkeersimpakstudie is deur Urban Engineering onderneem met die wenslikheid van die toegang wat in die Verkeersimpakstudie verder bespreek word. Die inhoud en aanbevelings van die Verkeersimpakstudie word verder in punt 8.10 van die Motiveringsverslag aangespreek.

'n Elektriese gekontroleerde skuifbare toegangshek sal by die ttoegang tot die ontwikkeling opgerig word van waar verkeer wat in en uit die ontwikkeling beweeg gekontroleer en beheer sal word.

Dit is belangrik om daarop te wys dat die erf sodanig geleë is dat daar nie ‘n behoefte aan ‘n deurpad deur hierdie erf na enige aanliggende eiendom bestaan nie. Erwe 2832 en 4650 Groot Brakrivier se bestaande reg van weg toegang sal behou word en die twee erwe sal ook via die voorgestelde westelike elektries gekontroleerde skuifbare toegangshek toegang verkry. Die ontwikkeling van die erf as ‘n geslote sekuriteitsontwikkeling gaan dus nie toegang tot enige ander aanliggende eiendom beperk nie. Daar is vir genoegsame ruimte vir die elektriese gekontroleerde skuifbare toegangshek, vanwaar toegangsbeheer tot die ontwikkeling toegepas sal word.

Die privaat strate en toegangshek sal nadat dit ontwikkel is, aan ‘n te gestigte Huiseienaarsvereniging oorgedra word, wat daarna bestuurs- en onderhoudsverantwoordelik van die privaat strate en die toegangshekke sal aanvaar.

2.5 Oopruimtesone II erf (Gedeelte 4, 13 45 en 46)

In terme van die voorstel word daar 4 Oopruimte Sone II erwe (Gedeeltes 4, 13, 45 en 46) binne die ontwikkeling voorsien. Die oopruimte erwe beskik oor ‘n oppervlakte van ongeveer 3.56 hektaar of anders gestel omvat ongeveer 59% van die ontwikkelingsgebied. In terme van die ontwikkelingsvoorstel word daar in totaal 41 wooneenhede beplan wat neerkom op ‘n oopruimte ratio van ongeveer 868m^2 eksterne oopruimte per wooneenheid.

Die natuurlike plantegroei wat op die Gedeelte 45 voorkom sal behou word en enige indringer plantegroei wat op die gedeeltes voorkom sal ooreenkomstig ’n Omgewingsbestuursplan verwyder word sodat slegs uit inheemse plantegroei uiteindelik op die privaat oopruimtes aangetref word, terwyl Gedeeltes 46 as ‘n funksionele privaat oopruimtes vir gebruik deur die eienaars van die erwe ontwikkel sal word. Gedeeltes 4 en 13 word voorsien om voorsiening te maak vir die wegdoening van stormwater afkomstig vanaf die 10 meter interne straat wat op die suidelike gedeelte van die erf ontwikkel staan te word.

Die privaat oopruimtes binne die ontwikkeling sal aan ‘n te gestigte Huiseienaarsvereniging oorgedra word wat daarna bestuurs- en onderhoudsverantwoordelik vir die drie privaat oopruimtes sal aanvaar.

2.6 Vervoersone II erf (Publieke straat) (Gedeelte 48)

Soos vanuit die onderverdelingsplan blyk wat hierby as **Bylaag "A"** aangeheg is vorm Sandhoogteweg deel van die Restant van Erf 2833 Groot Brakrivier. Aangesien Sandhoogteweg nie deel van die ontwikkeling gaan vorm nie, word dit van die ontwikkeling afgesny.

2.7 Sekuriteit

Die ontwikkeling word as 'n sekuriteitskompleks beplan. Die volgende sekuriteitsmaatreëls gaan deur die ontwikkelaar geimplementeer word:

- die ontwikkeling sal met 'n permanente sekuriteitsheining omhein word soos goedgekeur deur die Munisipaliteit van Mosselbaai.
- 'n elektriese gekontroleerde skuifbare toegangshek sal by die ingang tot die ontwikkeling opgerig word.

2.8 Voorgestelde Huiseienaarsvereniging Konstitusie

Die voorgestelde konstitusie van die te gestigte Huiseienaarsvereniging van die voorgestelde ontwikkeling sal na goedkeuring van die aansoek om hersonering en onderverdeling aan die Mosselbaai Munisipaliteit vir goedkeuring voorgelê word.

2.9 Argitektoniese riglyne

Die voorgestelde argitektoniese riglyne waaraan die woonhuise en groepshuise moet voldoen, sal na goedkeuring van die aansoek om hersonering en onderverdeling aan die Mosselbaai Munisipaliteit vir goedkeuring voorgelê word.

2.10 Straatname

Voorgestelde straatname vir alle strate binne die ontwikkeling is op die onderverdelingsplan wat hierby as **Bylaag "A"** aangeheg is, aangetoon.

Die volgende straatname word voorgestel:

- Tarentaalstraat
- Laksmansstraat
- Kwikstertjiestraat
- Geelvinkstraat

3. FASERING VAN ONTWIKKELINGSVOORSTEL

As gevolg van die grootte en omvang van die ontwikkeling word dit voorsien dat die ontwikkeling op Erf 2833 Groot Brakrivier as ‘n enkele fase ontwikkel sal word.

4. VOORAF KONSULTASIE PROSES

‘n Vooraf aansoek vergadering insake die ontwikkeling van Restant van Erf 2833 Groot Brakrivier het op 25 Maart 2022 plaasgevind. Die notule van die vergadering is hierby as **Bylaag “C”** aangeheg.

Die volgende kommentaar is in die notule vervat:

- *“In the past year the Municipality experienced an ongoing trend of smallholding erven being poorly managed /unsustainable, resulting in property owners submitting additional Land Use applications (i.e. subdivision applications).*
- *It is advisable to establish a private road & register a servitude that will be maintained by a HOA. The private road/servitude is to be addressed in the motivation report along with the accessibility of Erven 2832 & 4650, Great Brak River, the refuse removal and functionality of the development.*
- *Clearance of vegetation may trigger a listed activity in terms of NEMA (please consult an environmental specialist).*
- *Footprint and /or clearing must be indicated in developable areas on SDP. Footprint and clearing must be surveyed prior to development.*
- *Services to be installed by developer in line with Services Agreement between the Municipality and developer if required.*

- *Comments from the Planning & Environmental Departments (DEA&DP) and the Department of Forestry will be required.*
- *Please consult the proposed draft SDP for future development potential of the property."*

5. EIENAARSKAP

5.1 Beskrywing van die eiendom

Die erf wat die onderwerp van die aansoek vorm staan as die Restant van Erf 2833 Groot Brakrivier bekend.

5.2 Geregistreerde eienaar

Die Restant van Erf 2833 Groot Brakrivier is in die naam van Newcare Innovations (Pty) Ltd Registrasienommer 2018/053092/07 geregistreer.

5.3 Titelakte

Die titelakte van die Restant van Erf 2833 Groot Brakrivier is hierby as **Bylaag "D"** aangeheg.

5.4 Volmag

'n Volmag waarby Jan Vrolijk Town Planner/Stadsbeplanner deur Willem Hermanus De Villiers in sy hoedanigheid as Direkteur van Newcare Innovations (Pty) Ltd Registrasienommer 2018/053092/07 aangestel word om die aansoeke, waarna in punt 1 van hierdie Motiveringsverslag verwys word, te hanteer en alle relevante dokumente te onderteken is hierby as **Bylaag "E"** aangeheg.

'n Maatskappy Resolusie waarby Willem Hermanus De Villiers in sy kapasiteit as Direkteur van Newcare Innovations (Pty) Ltd Registrasienommer 2018/053092/07 gemagtig word om Jan Vrolijk Stadsbeplanner / Town Planner aan te stel om die aansoek te hanteer is hierby as **Bylaag "F"** aangeheg.

'n Afskrif van die Maatskappy dokument van Newcare Innovations (Pty) Ltd Registrasienommer 2018/053092/07 waarby die name van die direkteure van die maatskappy bevestig word is hierby as **Bylaag "G"** aangeheg.

5.5 Verbandhouer se toestemming

Daar is nie 'n verband oor die Restant van Erf 2833 Groot Brakrivier geregistreer nie.

5.6 Aktebesorgersertifikaat

'n Afskrif van die Aktebesorgersertifikaat ten opsigte van die Restant van Erf 2833 Groot Brakrivier is hierby as **Bylaag "H"** aangeheg. Die Aktebesorgersertifikaat bevestig dat daar, met die uitsondering van die 20 meter reg van weg serwituut ten gunste van Erwe 2832 en 4650 Groot Brakrivier, geen ander voorwaardes in die titelakte van die Restant van Erf 2833 Groot Brakrivier voorkom wat die goedkeuring van die aansoek verhinder nie.

Soos reeds in hierdie verslag uitgewys word die 20 meter reg van weg serwituut in die aansoek geakkommodeer.

6. ALGEMENE INLIGTING RAKENDE DIE RESTANT VAN ERF 2833 GROOT BRAKRIVIER

6.1 Ligging

Die Restant van Erf 2833 Groot Brakrivier is aan die noordekant van Sandhoogteweg in die suid-westelike gedeelte van Groot Brakrivier geleë. Die ligging van die erf word op die plan wat hierby as **Bylaag "I"** aangeheg is aangetoon.

6.2 Bestaande grondgebruike

Die Restant van Erf 2833 Groot Brakrivier is vakant en word tans vir geen doel aangewend nie.

6.3 Oppervlakte

Die Restant van Erf 2833 Groot Brakrivier beskik oor ‘n oppervlakte van 6.0372 hektaar.

6.4 Huidige sonering

Ingevolge die Mosselbaai Munisipaliteit: Geïntegreerde Soneringskema Verordening, 2021 is daar ‘n Landbousone I sonering aan die Restant van Erf 2833 Groot Brakrivier toegeken.

6.5 Landmeter Generaal Diagram

‘n Landmeter Generaal Diagram van die Restant van Erf 2833 Groot Brakrivier is hierby as **Bylaag “J”** aangeheg.

6.6 Serwitute

Daar is ‘n 20 meter reg van weg serwituut oor die Restant van Erf 2833 Groot Brakrivier geregistreer. Die reg van weg serwituut word op die Landmeter Generaal Diagram wat hierby as **Bylaag “J”** aangeheg is, aangetoon. Die reg van weg serwituut word in die uitleg geakkommodeer soos aangetoon op die onderverdelingsplan wat hierby as **Bylaag “A”** aangeheg is.

7. EKONOMIESE IMPAK VAN ONTWIKKELINGSVOORSTEL

Die konstruksie koste vir die voorgestelde ontwikkeling sal ongeveer R 100 miljoen beloop en daar word voorsien dat ongeveer 100 persone tydens die konstruksiefase indiens geneem gaan word. Die werksgeleenthede gaan aan plaaslike inwoners beskikbaar gestel word en gaan hoofsaaklik op die persone met konstruksie en bou agtergrond konsentreer. Alle boumateriaal gaan verder plaaslike aangekoop word.

Uit die aard van die tipe ontwikkeling wat voorgestel word gaan daar ook heelwat ander permanente en deeltydse werksgeleenthede geskep word en in die opsig word daar verwys onder andere na huishulpe, tuinwerkers, ensovoorts verwys.

Soos duidelik vanuit bogenoemde afgelei kan word hou die voorgestelde ontwikkeling direkte ekonomiese voordele vir Mosselbaai en sy omgewing in en sal die nie goedkeuring van hierdie ontwikkelingsaansoek beslis daartoe aanleiding gee dat ‘n ontwikkelingsgeleentheid wat ekonomiese voordele vir die gemeenskap inhou, verlore sal gaan.

Ontwikkeling van die aard en omvang wat voorgestel word het tot gevolg dat addisionele eiendomme geskep word wat vanuit ‘n eiendomsbelasting en dienste oogpunt verhoogde inkomste vir die munisipaliteit impliseer. In die huidige ekonomiese situasie waarin munisipaliteite verkeer is dit belangrik dat ‘n munisipaliteit voortdurend poog om sy belastingbasis en inkomste basis te verbreed. Daar is geen goedkoper en meer effektiewe manier om die belastingbasis te verbreed as om hierdie tipe aansoeke, wat geen uitgawes vir die munisipaliteit tot gevolg het nie en wat ook nie negatief op omliggende omgewing impakteer nie, goed te keur.

Die opinie word derhalwe gehuldig dat die ontwikkeling ‘n belangrike bydrae kan lewer tot die uitbouing en groei van Mosselbaai.

8. WENSLIKHEID VAN AANSOEK OM HERSONERING EN ONDERVERDELING VAN DIE RESTANT VAN ERF 2833 GROOT BRAKRIVIER

8.1 Inleiding

Die begrip “wenslikheid” in die konteks van grondgebruikbeplanning kan gedefinieer word as die mate van aanvaarbaarheid van die grondgebruik(e) op die betrokke grondeenheid. Die ontwikkelingsvoorstel sal vervolgens aan die hand van die volgende aspekte bespreek word:

- Fisiese eienskappe van die eiendom.
- Digthede wat in terme van die Onderverdelingsgebied voorgestel word.
- Die hoof grondgebruike wat voorgestel word.
- Wenslikheid van die voorgestelde sonering en grondgebruike.
- Fasering wat voorgestel word.
- Versoenbaarheid van voorstel met bestaande beplanningsdokumentasie, struktuurplanne, wetgewing en beleide.

- Versoenbaarheid van voorstel met die karakter van die omgewing waarbinne dit geleë is.
- Toegange en toeganklikheid.
- Die impak van die voorstel op die beskikbaarheid van dienste.

Daar sal in die volgende paragrawe aangetoon word dat die voorstel wel as wenslik geag word.

8.2 Fisiese eienskappe van die eiendom

8.2.1 Topografie

Die Restant van Erf 2833 Groot Brakrivier word gekenmerk deur ‘n laagtepunt wat vanaf die noord-oostelike hoek na die suid-westelike hoek van die eiendom oor die erf strek.

Die gedeelte ten noorde van die laagtepunt het ‘n redelike steil afwaartse helling in die rigting van die laagtepunt. Vanuit die hellingsanalise wat onderneem is kom daar egter wel gedeeltes op hierdie noordelike gedeelte van die eiendom voor wat oor ‘n helling van 1:4 en groter beskik wat dus wel ontwikkelbaar is. Gedeeltes 33 tot 44 word binne die gebied voorgestel.

Die hellingsanalise toon dat ‘n klein gedeelte van die erf direk ten noorde van Erf 5131 Groot Brakrivier en ten suide van bogenoemde laagtepunt ook oor ontwikkelbare gedeelte beskik. As gevolg van die feit dat dit nie moontlik is om toegang tot die gedeelte te verkry nie, is daar besluit om die gedeelte by die privaat oopruimte te inkorporeer.

Die helling oor die suidelike gedeelte van die erf is van so aard dat dit ten geen beperking op die ontwikkeling van die gedeelte van die erf plaas nie. Gedeeltes 1 tot 3, 6 tot 12 en 14 tot 32 word dan ook binne die gedeelte van die ontwikkelingsgebied voorgestel.

Vanuit bogenoemde blyk dit dus dat sekere gedeeltes van die erf wel in terme van die topografie van die erf ontwikkelbaar is. Die uitlegplan is dan ook binne die beperkings opgestel.

Die topografie van die erf is dus deeglik in ag geneem met die opstel van die onderverdelingsplan.

8.2.2 Bodemtoestande

Weinig inligting is rakende die grondtoestande wat op die erf voorkom bekend. Geen opvullings kom egter op die erf voor nie en die bodemstoestand is dus natuurlik en stabiel.

Grondtoetse sal egter wel gedoen word alvorens daar met enige konstruksiewerk op die erf ‘n aanvang geneem sal word ten einde te verseker dat die grondtoestande verstaan en in ag geneem word in die ontwerp en konstruksiefase van die ontwikkeling.

8.2.3 Plantegroei

In terme van die ontwikkelingsvoorstel word 12 Algemene Residensiële Sone I erwe op die noordelike gedeelte van die erf voorgestel. Die grenslyne van die 12 voorgestelde erwe is na aanleiding van ‘n 1:4 hellingsanalise wat vir die groter erf onderneem is bepaal asook met in agneming van ’n sensitiwiteitsplan wat vanaf Cape EAPrac ontvang is. Die “ravine” is op die onderverdelingsplan geidentifiseer en word met ‘n 32 meter breë strook aan weerskante van die “ravine” beskerm. Die “ravine” vorm deel van die privaat oopruimte (Gedeelte 45) wat voorgestel word. Geen ontwikkeling sal binne Gedeelte 45 plaasvind nie en enige indringer plantegroei wat op die gedeelte voorkom sal verwyder word. Dit is die voorneme om die gedeelte tot sy natuurlike staat te rehabiliteer.

Soos verder ook vanuit die lugfoto van die gebied sal blyk is feitlik alle plantegroei wat op die suidelike gedeelte van die erf voorgekom het verwyder. Die versteurde gedeelte van die eiendom vorm die kern van die ontwikkelingsvoorstel met 29 Algemene Residensiële Sone I erwe wat op die gedeelte ontwikkel staan te word. Gedeelte 46 sal as funksionele privaat oopruimtes vir gebruik deur die eienaars van die erwe ontwikkel sal word. Gedeeltes 4 en 13 word voorsien om voorsiening te maak vir die wegdoening van stormwater afkomstig vanaf die 10 meter interne straat wat op die suidelike gedeelte van die erf ontwikkel staan te word.

Die ontwikkelingsvoorstel is dus in aggenome die hellingsanalise en sensitiwiteitsplan wat vanaf Cape EAPrac ontvang is, opgestel. Die sensitiewe plantegroei wat op die erf voorkom is dus deeglik in aggeneem met die opstel van die onderverdelingsplan.

8.2.4 Dreineringspatroon

Soos vanuit die kontoere op die onderverdelingsplan blyk kom daar ‘n natuurlike laagtepunt, wat vanaf die noord-oostelike hoek tot die suid-westelike hoek van die erf strek, op die eiendom voor. Die laagte punt dien as dreineringskanaal vir reënwater en stormwater afkomstig vanaf die hoër liggende noordelike eiendomme. Die natuurlike dreineringslaagtepunt word binne die onderverdelingsgebied geakkommodeer met die voorgestelde noordelike 12 Algemene Residensiële Sone I erwe wat natuurlik na hierdie laagtepunt dreineer.

Die 29 Algemene Residensiële Sone I erwe wat op die suidelike gedeelte van die Restant van Erf 2833 Groot Brakrivier voorgestel word sal suidwaarts in die rigting van Sandhoogteweg dreineer.

8.2.5 Vloedlyn

Die kontoere op die onderverdelingsplan toon aan dat daar ‘n natuurlike laagte punt, wat vanaf die noord-oostelike hoek tot die suid-westelike hoek van die erf strek, op die eiendom voorkom. Die laagte punt vorm die natuurlike dreineringsroete van reënwater en stormwater afkomstig vanaf hoër liggende noordelike eiendomme wat aan die Restant van Erf 2833 Groot Brakrivier grens. Geen natuurlike watervloei kom in die laagtepunt voor nie. Ten einde die laagte punt nie te versteur nie en die vloei van reënwater en stormwater te akkommodeer word daar in die uitleg vir ‘n 32 meter terugsetlyn langs die laagtepunt voorsiening gemaak met geen ontwikkeling wat binne 32 meter vanaf die middelpunt van die laagtepunt voorgestel word nie. Geen vloedlyn is dus ter sprake nie.

8.2.6 Samevattend

Vanuit ‘n fisiese terreingesteldheid oogpunt is daar geen rede waarom die aansoek nie ondersteun kan word nie.

8.3 Hoof grondgebruike wat voorgestel word

In terme van die ontwikkelings voorstel word die volgende hoof grondgebruike voorgestel:

- Groepbehuising
- Nutssone
- Privaat oopruimte
- Privaat strate
- Openbare straat

Die detail wat met elk van die grondgebruike gevisualiseer word is reeds in punt 2 hierbo bespreek en gaan nie weer herhaal word nie.

8.4 Digthede wat in terme van die Onderverdelingsgebied voorgestel word

In terme van die ontwikkelingsvoorstel word 41 Algemene Residensiële Sone I erwe voorgestel. Die Restant van Erf 2833 Groot Brakrivier beskik oor ‘n oppervlakte van 6.0372 hektaar. Op grond van hierdie oppervlakte alleen sal die ontwikkeling oor ‘n gemiddelde digtheid van ongeveer 7 wooneenhede per hektaar beskik.

8.5 Versoenbaarheid van voorstel met bestaande beplanningsdokumentasie en beleide

8.5.1 Inleiding

Verskeie beplanningsdokumente is op hierdie aansoek van toepassing en die wenslikheid/versoenbaarheid van die ontwikkelingsvoorstelle ten opsigte van elk van hierdie dokumente sal vervolgens bespreek word.

8.5.2 “Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013) (SPLUMA)”

Artikel 7 van die “Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013)” lys 5 ontwikkelingsbeginsels op grond waarvan enige ontwikkelingsaansoek ge-evalueer moet word. Die beginsels waarna verwys word is as volg:

- Ruimtelike geregtigheid
- Ruimtelike volhoubaarheid

- Ruimtelike doeltreffendheid
- Ruimtelike veerkragtigheid
- Goeie administrasie

Verskillende ontwikkelingsbeginsels word onder elk van die punte geidentifiseer waaraan ‘n aansoek ge-evalueer moet word. Die voorgestelde aansoek om hersonering en onderverdeling van die Restant van Erf 2833 Groot Brakrivier gaan vervolgens aan elk van die beginsels ge-evalueer word.

Ruimtelike geregtigheid		
Kriteria	**Nakoming**	**Beplanningsimplikasies**
Ruimtelike en ander ontwikkelingswanbalanse uit die verlede moet reggestel word deur verbeterde toegang tot en gebruik van grond.	Word aan voldoen.	Onontwikkelde grond gaan by wyse van hierdie aansoek gediens en in residensiële erwe onderverdeel word. Die ontwikkeling wat deur middel van hierdie aansoek voorgestel word se teikenmark is die middel tot hoër inkomste groepe.
Ruimtelike ontwikkelingsraamwerke en beleid by alle regeringsfere moet die insluiting van persone en gebiede wat voorheen uitgesluit was aanspreek, met klem op informele nedersettings, voormalige tuislande en gebiede wat gekenmerk word deur wydverspreide armoede en ontneming.	Word aan voldoen.	Die Mosselbaai Munisipaliteit het ‘n Ruimtelike Ontwikkelingsraamwerk vir die Groter Mosselbaai Munisipale gebied opgestel en goedgekeur wat ontwikkelingsvoorstelle insluit wat gerig is op die verbetering van die lewensgehalte van elke inwoner van die Groter Mosselbaai Munisipale gebied. Die ontwikkeling wat voorgestel word is in ooreenstemming met die bepalings en voorstelle vervat in die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022. Deur middel van hierdie ontwikkeling gaan ‘n groot aantal tydelike en permanente werksgeleenthede geskep word. Verder gaan die ontwikkeling die geleentheid aan die Mosselbaai Munisipaliteit bied om addisionele inkomste te gegeneer

		wat vir dienslewering aangewend kan word wat tot die verbetering van die lewensgehalte van die inwoner van Mosselbaai sal bydra. Die ontwikkeling sal dus ‘n positiewe bydrae maak tot die verbetering van die lewensgehalte van elke inwoner van Mosselbaai.
Ruimtelike beplanningsmeganismes, met inbegrip van grondgebruikskemas, moet bepalings inkorporeer wat regstelling verleen in toegang tot grond deur benadeelde gemeenskappe en persone.	Word gedeeltelik aan voldoen.	Die Mosselbaai Munisipaliteit het in die Geïntegreerde Soneringskema Verordening wat vir die Mosselbaai Munisipaliteit gebied goedgekeur is beplanningsmeganismes geinkorporeer wat ontwikkeling op erwe in besit van voorheen benadeelde gemeenskappe vergemaklik. ‘n Spesiale residensiële sonering is in die verordening geskep waarby dit vir die benadeelde gemeenskap moontlik is om skuilings en huiswinkels op die tipe gesoneerde erwe op te rig. Verder is minder beperkende grondgebruikbeperkings ook op die tipe gesoneerde erwe van toepassing gemaak. Die Mosselbaai Munisipaliteit se soneringskema bevat dus bepalings wat die ontwikkeling van grond wat aan benadeelde persone behoort moontlik maak en vergemaklik. As gevolg van die hoë infrastruktuur koste om erwe in die omgewing van die Restant van Erf 2833 Groot Brakrivier te diens is dit onvermydelik dat die Restant van Erf 2833 Groot Brakrivier geoogmerk word vir ontwikkel wat gerig is op die middel tot hoër inkomste groep.
Grondgebruikbestuurstelsels moet alle gebiede van ‘n munisipaliteit insluit en moet spesifieke bepalings insluit wat buigsaam en toepaslik is vir die bestuur van benadeelde gebiede, informele nedersettings en voormalige tuislande.	Word aan voldoen.	Die Mosselbaai Munisipaliteit het in die Geïntegreerde Soneringskema Verordening wat vir die Mosselbaai Munisipaliteit gebied in 2021 goedgekeur is beplanningsmeganismes geinkorporeer wat ontwikkeling op

		erwe in besit van voorheen benadeelde gemeenskappe vergemaklik. 'n Spesiale residensiële sonering is in die verordening geskep waarby dit vir die benadeelde gemeenskap moontlik is om skuilings en huiswinkels op die tipe gesoneerde erwe op te rig. Verder is minder beperkende grondgebruikbeperkings ook op die tipe gesoneerde erwe van toepassing gemaak. Die Mosselbaai Munisipaliteit se soneringskema bevat dus bepalings wat die ontwikkeling van grond wat aan benadeelde persone behoort moontlik maak en vergemaklik. As gevolg van die hoë infrastruktuur koste om erwe in die omgewing van die Restant van Erf 2833 Groot Brakrivier te diens is dit onvermydelik dat die Restant van Erf 2833 Groot Brakrivier geoogmerk word vir ontwikkel wat gerig is op die middel tot hoër inkomste groep. Die bepaling is egter nie op hierdie aansoek van toepassing nie.
Grondontwikkelingsprosedures moet bepalings insluit wat toegang tot sekerheid van verblyfreg en die stapsgewyse opgradering van informele gebiede akkommodeer.	N.v.t.	Die bepaling is nie op hierdie aansoek van toepassing nie.
'n Munisipale Beplanningstribunaal, wanneer 'n aansoek voor hom gebring word, mag nie belemmer of beperk word in die uitoefening van sy diskresie op grond daarvan dat die waarde van die grond of eiendom deur die uitslag van die aansoek geraak sal word nie.	Word aan voldoen.	Sover bekend word die Eden Gesamentlike Beplanningstribunaal – Mosselbaai Munisipaliteit se diskresie tydens oorweging van aansoeke nie beïnvloed deur die waarde van grond of eiendom nie. Besluitneming word sover bekend gebaseer op die beginsels, soos vermeld in Afdeling 7 van die Wet op Ruimtelike Beplanning en Grondgebruik, 2013 (Wet 16 van 2013).
Ruimtelike volhoubaarheid		

Kriteria	Nakoming	Beplanningsimplikasies
Bevorder grondontwikkeling wat binne die fiskale, institusionele en administratiewe vermoëns van die Republiek val.	Word aan voldoen.	Die ontwikkelingsvoorstel wat die onderwerp van die aansoek vorm is binne die stedelike rand van Mosselbaai geleë en word in terme van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 vir residensiële ontwikkeling geoogmerk.
Verseker dat spesiale oorweging geskenk word aan die beskerming van voorste en unieke landbougrond.	Word aan voldoen.	Alhoewel die Restant van Erf 2833 Groot Brakriver Landbousone I gesoneer is, is dit binne die stedelike rand van die Mosselbaai Munisipaliteit geleë. Die bepalings van die Wet op die Onderverdeling van Landbougrond, 1970 (Wet 70 van 1970) is dus nie op die aansoek van toepassing nie.
Handhaaf konsekwentheid van grondgebruikmaatreëls ooreenkomstig omgewingsbestuurbeginsels.	Word aan voldoen.	Die voorgestelde ontwikkeling aktiveer sekere aktiwiteite wat in terme van regulasies uitgevaardig in terme van die Wet op Nasionale Omgewingsbestuur, 1998 (Wet 107 van 1998) as gelysde aktiwiteite beskou word en waarvoor daar omgewingsgoedkeuring benodig word. 'n Omgewingsgoedkeuring vir 'n vorige ontwikkelingsvoorstel vir die Restant van Erf 2833 Groot Brakrivier is op 3 Augustus 2010 deur die Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering uitgereik. Vir volledigheidsonthalwe word die goedkeuring hierby as **Bylaag "K"** aangeheg. Die goedkeuring is op 18 Junie 2013 vir 5 jaar vanaf die oorspronklike goedkeuringsdatum deur die Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering verleng. Die

		skrywe ter bevestiging van die verlenging van die goedkeuringstydperk is hierby as **Bylaag "L"** aangeheg. Die goedkeuring is daarna op 24 Augustus 2015 vir 'n verdere 2 jaar verleng. 'n Skrywe ter bevestiging van die verlenging van die goedkeuringstydperk is hierby as **Bylaag "M"** aangeheg. Die goedkeuring het egter intussen verval en die ontwikkelaar het Cape EAPrac aangestel om die nodige omgewingsaansoek vir die voorgestelde ontwikkeling soos aangetoon op die onderverdelingsplan wat hierby as **Bylaag "A"** aangeheg is by die Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering vir oorweging in te dien. Die proses het reeds 'n aanvang geneem.
Bevorder en stimuleer doelmatige en billike funksionering van grondmarkte.	Word aan voldoen.	Die voorgestelde ontwikkeling is in lyn met die toekomstige grondgebruik karakter van die gebied waarbinne die ontwikkeling geleë sal wees. Die totale ontwikkeling sal teen 'n beraamde koste van ongeveer R100 miljoen ontwikkel word met eiendomme wat geskep gaan word wat aan die behoeftes van die middelklas sal voldoen. Die voorstel sal nie die eiendomswaarde van die aanliggende eiendomme negatief beinvloed nie. Die ontwikkeling van hierdie eiendom gaan inderwaarheid 'n bydrae tot die opheffing van die gebied maak wat uiteindelik daartoe gaan bydra dat eiendomswaardes in die omgewing gaan verhoog.
Oorweeg alle huidige en toekomstige kostes aan alle partye vir die voorsiening van	Word aan voldoen.	Siviele en elektriese diensteverslae sal deur Raadgewende Ingenieurs opgestel word. Alle siviele en

infrastruktuur en maatskaplike dienste in grondontwikkelings.		elektriese dienste wat vir die voorgestelde ontwikkeling voorsien moet word sal op koste van die ontwikkelaar voorsien word. Geen eksterne party sal dus vanuit 'n finansiële oogpunt 'n dienstebydrae tot die voorgestelde ontwikkeling hoef te maak nie.
Bevorder grondontwikkeling in plekke wat volhoubaar is en stadskruip beperk.	Word aan voldoen.	Die eiendom is in terme van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 binne die stedelike rand van die Mosselbaai Munisipale gebied geleë en word in terme van die raamwerk vir stedelike ontwikkeling geoogmerk. Die voorstel gaan dus nie tot stadskruip aanleiding gee nie.
Lei tot lewensvatbare gemeenskappe.	Word aan voldoen.	Die voorgestelde ontwikkeling van die eiendom gaan 'n positiewe effek op die ekonomie van Mosselbaai uitoefen en daartoe bydra dat die Mosselbaai Munisipaliteit addisionele inkomste uit die ontwikkeling kan genereer, inkomste wat aangewend kan word tot die verbetering van die lewensgehalte van elke inwoner van Mosselbaai.
Ruimtelike doeltreffendheid		
Kriteria	**Nakoming**	**Beplanningsimplikasies**
Grondontwikkeling moet die gebruik van bestaande hulpbronne en infrastruktuur optimaliseer.	Word aan voldoen.	Die eiendom is binne 'n gebied geleë wat vir residensiële ontwikkeling geoogmerk word. Dienste meesterbeplanning is deur die Mosselbaai Munisipaliteit vir die gebied onderneem en die ontwikkeling sal binne die bepalings en riglyne vervat in die meesterbeplanning ontwikkel word.
Ontwerp besluitnemingsprosedures om negatiewe finansiële,	Word aan voldoen.	Die punt verwys na prosedures wat deur die Mosselbaai Munisipaliteit daargestel moet word. Daar word

maatskaplike, ekonomiese of omgewingsinvloede te minimaliseer.		aanvaar dat die Mosselbaai Munisipaliteit die besluitnemingsprosedures in plek het. Uit die inhoud van hierdie motiveringsverslag is dit duidelik dat die voorgestelde ontwikkeling geen negatiewe finansiële, sosiale, ekonomiese of omgewingsimpak sal uitoefen nie.
Ontwikkelingtoepassingsprosedures doeltreffende en vaartbelyn is en alle partye by tydraamwerke hou.	Word aan voldoen.	Die punt verwys na prosedures wat deur die Mosselbaai Munisipaliteit daargestel moet word. Daar word aanvaar dat die Mosselbaai Munisipaliteit se Ontwikkelingtoepassingsprosedures doeltreffend en vaartbelyn is en dat die Mosselbaai Munisipaliteit by tydraamwerke hou.
Ruimtelike veerkragtigheid		
Kriteria	**Nakoming**	**Beplanningsimplikasies**
Buigsaamheid in ruimtelike planne, beleid en grondgebruikstelsels geakkommodeer word om volhoubare heenkomes te verseker in gemeenskappe wat die kwesbaarste is vir die invloed van ekonomiese en omgewingskokke.	Word aan voldoen.	Die ontwikkeling wat die onderwerp van die aansoek vorm is binne die stedelike rand van Mosselbaai geleë en die eiendom word in terme van die Ruimtelike Ontwikkelingsraamwerk vir Mosselbaai, 2022 vir residensiële ontwikkeling geoogmerk.
Goeie administrasie		
Kriteria	**Nakoming**	**Beplanningsimplikasies**
Alle regeringsfere 'n geïntegreerde benadering tot grondgebruik en grondontwikkeling verseker wat gelê word deur die ruimtelike beplannings- en grondgebruikbestuurstelsel soos in hierdie Wet beliggaam.	Dit is algemene beginsels waaraan die munisipaliteit moet voldoen.	Insette is van alle regeringsfere ontvang toe die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 opgestel is. 'n Geïntegreerde benadering, gelei deur die ruimtelike beplanning en grondgebruikbestuurstelsels soos

		vervat in hierdie Wet, is gevolg in die voorbereiding van die raamwerk.
Alle regeringsdepartemente moet hul sektorinsette voorsien en enige ander voorgeskrewe vereistes nakom tydens die voorbereiding of wysiging van ruimtelike ontwikkelingsraamwerke.	Dit is algemene beginsels waaraan die munisipaliteit moet voldoen.	Insette is van alle regeringsfere ontvang toe die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 opgestel is. 'n Geïntegreerde benadering, gelei deur die ruimtelike beplanning en grondgebruikbestuurstelsels soos vervat in hierdie Wet, is gevolg in die voorbereiding van die raamwerk.
Die vereistes van enige wetsbepaling betreffende grondontwikkeling en grondgebruik tydig aan voldoen word.	Dit is algemene beginsels waaraan die munisipaliteit moet voldoen.	Die Mosselbaai Munisipaliteit het die Mosselbaai Munisipaliteit: Verordening op Grondgebruikbeplanning, 2021 aangeneem wat prosedures en tydsraamwerke voorskryf waaraan ontwikkelaars moet voldoen wanneer hulle aansoeke vir grondgebruik indien, en wat amptenare in ag moet neem by die oorweging van aansoeke. Hierdie aansoek is opgestel ooreenkomstig die bepalings van die Verordening en die aansoek sal dus ooreenkomstig die tydsraamwerke soos voorgeskryf hanteer en oorweeg word.
Die voorbereiding en wysiging van ruimtelike planne, beleid, grondgebruikskemas, asook prosedures vir ontwikkelingsaansoeke, sluit deursigtige prosesse van openbare deelname in wat alle partye die geleentheid gun om insette oor aangeleenthede wat hul raak, te gee.	Dit is algemene beginsels waaraan die munisipaliteit moet voldoen.	Hierdie aansoek sal in ooreenstemming met die bepalings soos vervat in die Mosselbaai Munisipaliteit: Verordening op Grondgebruikbeplanning, 2021 geadverteer word. Alle partye sal dus die geleentheid kry om deel te neem aan die publieke deelname proses en sal die geleentheid kry om insette op die aansoek te lewer.
Beleid, wetgewing en prosedures moet duidelik gestel word ten einde lede van die publiek in te lig en te bemagtig.	Dit is algemene beginsels waaraan die munisipaliteit moet voldoen.	Die Mosselbaai Munisipaliteit: Verordening op Grondgebruikbeplanning, 2021 bevat duidelike prosedures wat ingestel is om lede van die publiek in te lig en te bemagtig. Hierdie aansoek sal aan hierdie prosedures onderwerp word.

Soos vanuit bostaande tabel blyk kan daar geargumenteer word dat die voorstel wel as versoenbaar met die 5 ontwikkelingsbeginsels van SPLUMA beskou kan word.

8.5.3 "Land Use Planning Act, 2014 (Act 3 of 2014) (LUPA)"

In terme van bogenoemde wet word dit van 'n munisipaliteit verwag om bo en behalwe die 5 ontwikkelings beginsels soos vervat in SPLUMA ook oorweging aan die versoenbaarheid van die voorstel met bestaande provinsiale en munisipale ruimtelike raamwerke en meer detail plaaslike ruimtelike raamwerke te skenk. In die opsig word daar Na Artikel 19(1) en 19(2) van die "Land Use Planning Act, 2014 (Act 3 of 2014) (LUPA)"verwys wat as volg lees:

"19(1) If a spatial development framework or structure plan specifically provides for the utilization or development of land as proposed in a land use application or a land development application, the proposed utilization or development is regarded as ***complying*** *with that spatial development framework or structure plan.*

19(2) If a spatial development framework or structure plan does not specifically provides for the utilization or development of land as proposed in a land use application or a land development application, but the proposed utilization does not conflict with the purpose of the relevant designation in the spatial development framework or structure plan, the utilization or development is regarded as being ***consistent*** *with that spatial development framework or structure plan."*

Die versoenbaarheid van die aansoek met bestaande oorhoofse ruimtelike raamwerke wat op die erwe van toepassing is word in punte 8.5.4 tot 8.5.9 aangespreek.

Sover dit die ontwikkelingsbeginsels waarna daar in Artikel 59 van LUPA verwys word aanbetref en wat ook in ag geneem moet word, stem dit direk ooreen met die beginsels van SPLUMA wat in detail in punt 8.5.2 hierbo bespreek is en is dus net so van toepassing op hierdie punt.

8.5.4 Wes-Kaap Provinsiale Ruimtelike Ontwikkelingsraamwerk (WC-PSDF)

8.5.4.1 Inleiding

Die Wes-Kaap Provinsiale Ruimtelike Ontwikkelingsraamwerk (WC-PSDF) maak nie net alleenlik voorsiening vir ‘n nuwe ruimtelike ontwikkelingspatroon vir die Provinsie nie maar wys ook duidelik uit waar ontwikkeling wel mag plaasvind en waar dit nie mag plaasvind nie.

In terme van die raamwerk word daar melding gemaak van ‘n aantal beginsels naamlik ruimtelike geregtigheid, ruimtelike volhoubaarheid, ruimtelike veerkragtigheid, ruimtelike doeltreffendheid, toeganklikheid en lewenskwaliteit en goeie administrasie waaraan ruimtelike beplanning moet voldoen. Voldoen. Die impak van die aansoek op ruimtelike geregtigheid, ruimtelike volhoubaarheid, ruimtelike veerkragtigheid, ruimtelike doeltreffendheid, is reeds volledig in Section 5 hierbo bespreek en is daar aangetoon dat die voorgestelde ontwikkeling aan die genoemde beginsels voldoen.

‘n Aantal beleidstellings word ook in terme van die WC-PSDF uitgelig wat spesifiek met die genoemde beginsels moet korreleer. Van die beleidstellings wat relevant tot hierdie stadsbeplanningsaansoek is sal in die volgende punte aangespreek word.

8.5.4.2 Beskerming van landbougrond

In terme van die WC-PSDF word dit uitgewys dat landbougrond beskerm moet word. Alhoewel die Restant van Erf 2833 Groot Brakrivier Landbousone I gesoneer is, is dit binne die stedelike rand van die Mosselbaai Munisipaliteit geleë. Die bepalings van die Wet op die Onderverdeling van Landbougrond, 1970 (Wet 70 van 1970) is dus nie op die aansoek van toepassing nie. Die eiendom word tans ook nie vir landboudoeleindes aangewend nie en die betrokke doelwit van die WC-PSDF is dus nie relevant tot hierdie aansoek nie.

8.5.4.3 “Sense of Place”

Die gebied waarbinne die voorgestelde ontwikkeling geleë is se karakter is besig om geleidelik van ‘n landelike gebied na ‘n stedelike gebied te verander met die Munisipaliteit van Mosselbaai wat residensiële ontwikkelings in die gebied aanmoedig. Die gebied is dus besig om geleidelik ‘n residensiële karakter te ontwikkel.

Die “sense of place” van die spesifieke gebied is dus besig om geleidelik ‘n residensiële karakter aan te neem. Die voorgestelde ontwikkeling wat op die Restant van Erf 2833 Groot Brakrivier gevisualiseer word gaan by hierdie karakter inskakel.

8.5.4.4 Verdigting

In terme van die WC-PSDF moet hoër digthede en meer kompakte stede geskep word. Volgens die raamwerk word daar aanbeveel dat dorpe moet verdig tot ‘n gemiddelde digtheid van 25 eenhede per hektaar met ontwikkelingsdigthede van 3 tot 6 eenhede per hektaar op die rand van ‘n dorp en digthede van tussen 40 tot 60 eenhede per hektaar in die kern van die stedelike gebied.

In die raamwerk word dit uitgelig dat daar op die digtheid besluit is na aanleiding van studies wat onderneem is en wat aangetoon het *“that this is the minimum density at which urban settlements begin to significantly improve their urban performance.”*

Volgens die raamwerk skep die voorgestelde digtheid die volgende voordele:

- *The ability to walk to a number of different destinations on foot.*
- *Improve surveillance and security.*
- *Employment and retail opportunities within easy distance.*
- *Vibrant and active street scape.*

Die raamwerk stel dit verder dat *“the figure of an average gross density of 25 du/ha should be seen as a hurdle below which urban settlements will not perform adequately, and above which a number of positive opportunities begin to be achievable.”*

Verhoogde digthede word volgens die raamwerk die beste toegepas in dorpe wat onder ontwikkelingsdruk verkeer en verhoogde digthede is volgens die raamwerk ‘n belangrike stuk gereedskap om stadsverspreiding (“*urban sprawl”)* teen te werk. Alhoewel Mosselbaai nie op hierdie stadium onder hoë ontwikkelingsdruk onderworpe is nie en stadsverspreiding nie op hierdie stadium ‘n probleem is nie kan ‘n aansoek van hierdie aard wel in die toekoms tot die beperking van stadsverspreiding bydra.

Volgens die raamwerk kan die verhoogde digtheid en die bekamping van stadsverspreiding deur middel van verskeie ontwikkelingsmoontlikhede bereik word. Onderverdelings van eiendomme, die ontwikkeling van addisionele wooneenhede asook deeltitel ontwikkelings, sloping en herontwikkeling, hoë digtheid woongebiede, woonstelblokke en invulling word as moontlike middele voorgehou waardeur hoër digthede bereik kan word.

Die opsie om onontwikkelde eiendomme wat binne die stedelike rand van ‘n dorp geleë is en wat in terme van ‘n goedgekeurde ruimtelike ontwikkelingsraamwerk vir residensiële ontwikkeling geoogmerk word, te ontwikkel word as ‘n manier uitgewys om die verhoogde digtheid te bereik en stadsverspreiding teen te werk. Hierdie spesifieke voorstel behels die hersonering en onderverdeling van ‘n Landbousone I gesoneerde eiendom wat binne die stedelike rand van Mosselbaai geleë is en in terme van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 vir residensiële ontwikkeling geoogmerk word. Hierdie ontwikkelingsvoorstel wat teen ‘n gemiddelde digtheid van ongeveer 7 eenhede per hektaar ontwikkel gaan word, gaan daartoe bydra dat die digtheid wat deur die raamwerk voorgeskryf word uiteindelik bereik sal kan word en dat stadsverspreiding beperk word.

Dit is egter belangrik om uit te wys dat verdigting binne aanvaarbare gebiede moet plaasvind en dat dit nie moet afbreuk doen aan die omgewing waarbinne die verdigting voorgestel word nie. Hierdie onderverdeling vind binne die stedelike rand van Mosselbaai plaas asook in ‘n omgewing wat in terme van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 vir residensiële ontwikkeling geoogmerk word. Die doelwitte soos voorgeskryf in die ontwikkelingsraamwerk word dus bereik met hierdie aansoek.

8.5.4.5 Self onderhoudendheid

Volgens die raamwerk moet enige ontwikkeling self onderhoudend wees. Dit impliseer dus dat *“the development needs of the present generations should be met without the ability of future generations to meet their own needs, being compromised.”* Die ontwikkeling wat met hierdie aansoek voorgestel word sal self onderhoudend wees en geen las op die toekomstige inwoners van Mosselbaai plaas nie. Alle siviele en elektriese dienste wat vir die voorgestelde ontwikkeling voorsien moet word sal op koste van die ontwikkelaar voorsien word. Geen eksterne party sal

dus vanuit ‘n finansiële oogpunt ‘n dienste bydrae tot die voorgestelde ontwikkeling hoef te maak nie.

Die ontwikkeling sal inderwaarheid ‘n positiewe bydrae lewer tot die verbetering van die lewensgehalte van die inwoners van Mosselbaai deurdat dit ‘n aansienlike bydrae tot die eiendomsbelasting struktuur van die Munisipaliteit van Mosselbaai gaan maak en ook groot getalle permanente werksgeleenthede gaan skep.

8.5.4.6 Samevattend

Vanuit die inhoud van hierdie punt blyk dit duidelik dat die aansoek wel as versoenbaar met die WC-PSDF beskou kan word.

8.5.5 “Southern Cape Regional Spatial Implementation Framework, 2019 (RSIF)”

Die “Southern Cape Regional Spatial Implementation Framework, 2019 (RSIF)” spreek slegs oorhoofse beginsels, beleide en riglyne aan waarbinne plaaslike ruimtelike ontwikkelingsraamwerke opgestel moet word. Die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 omskryf, ondersteun en is gebaseer op die beginsels, beleide en riglyne vervat in die RSIF.

Soos vanuit punt 8.5.9 hieronder sal blyk is die ontwikkelingsvoorstel versoenbaar met die bepalings van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022. Daar word dus aangevoer dat die ontwikkelingsvoorstel dus versoenbaar sal wees met die beginsels, beleide en riglyne soos vervat in die RSIF.

8.5.6 “Garden Route District Municipality Integrated Development Plan, 2022 (IDP)”

Die Garden Route District Municipality Integrated Development Plan, 2022 (IDP) verwys na die Eden District Spatial Development Framework, 2017 (DSDF) en die beplanningsbeginsels waarna in die DSDF verwys word. Geen detail word voorsien wat werklik op die vlak van hierdie aansoek relevant is nie.

8.5.7 "Eden District Spatial Development Framework, 2017 (DSDF)"

Die Eden District Spatial Development Framework, 2017 (DSDF) spreek slegs oorhoofse beginsels, beleide en riglyne aan waarbinne ruimtelike ontwikkeling binne munisipale gebiede moet voldoen. Die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 omskryf, ondersteun en is gebaseer op die beginsels, beleide en riglyne vervat in die DSDF.

Soos vanuit punt 8.5.9 sal blyk is die ontwikkelingsvoorstel versoenbaar met die bepalings van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022. Daar word dus aangevoer dat die ontwikkelingsvoorstel dus versoenbaar sal wees met die beginsels, beleide en riglyne soos vervat in die DSDF.

8.5.8 Mosselbaai Geintegreerde Ontwikkelingsplan, 2022 tot 2027

In terme van die Mosselbaai Geintegreerde Ontwikkelingsplan, 2022 tot 2027 word agt strategieë geformuleer om die ruimtelike beplanningsbenadering en ruimtelike dryfvere te ondersteun, om sodoende ontwikkeling in die Groter Mosselbaai-gebied en die stedelike omgewing te rig en te bestuur. Elke strategie word ondersteun deur 'n stel beleide en beleidsriglyne waarop besluite gebaseer moet word en waarop aksies geneem kan word en waarvoor begroot kan word.

Strategie 4 handel spesifiek rondom stedelike groei en die herstrukturering van die stedelike vorm om in die Mosselbaai Gemeenskap se behoeftes te voorsien. Die strategie is spesifiek op hierdie aansoek van toepassing.

In terme van die strategie word die volgende beleidsriglyne neergelê waaraan ontwikkelingsaansoeke moet voldoen, naamlik

- *"Policy 4A - Future urban form design is to be based on future scenario planning in the SDF"*

  Die ontwikkeling wat vir die Restant van Erf 2833 Groot Brakrivier voorgestel word is binne 'n gebied geleë wat in terme van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 vir stedelike ontwikkeling geoogmerk word. Die aansoek is dus gebaseer op die

ontwikkelingsvoorstelle soos vervat in die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022.

- *"Policy 4B - Prioritize efficient urban form"*

  Die ontwikkelingsvoorstel vorm 'n sinvolle logiese ontwikkelingsvoorstel met die vorm van die uitleg wat rondom die fisiese beperkings van toepassing op die erf opgestel is.

- *"Policy 4C - Creation of an Open Space/Conservation network"*

  Die Restant van Erf 2833 Groot Brakrivier word gekenmerk deur 'n laagtepunt ("ravine") wat vanaf die noord-oostelike hoek na die suid-westelike hoek van die eiendom oor die erf strek. Die "ravine" is op die onderverdelingsplan geidentifiseer (Gedeelte 45) en word met 'n 32 meter breë strook aan weerskante van die "ravine" beskerm. Geen ontwikkeling sal binne die gedeelte plaasvind nie en enige indringer plantegroei wat op die gedeeltes voorkom sal verwyder word. Dit is die voorneme om die gedeelte tot sy natuurlike staat te rehabiliteer.

- *"Policy 4D - Implementation of biodiversity offsets as a tool for an efficient and sustainable urban form"*

  Aangesien die bestaande omgewingsgoedkeuring verval het en die ontwikkeling beslis gelysde aktiwiteite soos per omgewingswetgewing aktiveer het die ontwikkelaar Cape EAPrac aangestel om weereens 'n omgewingsaansoek in terme van die Wet op Nasionale Omgewingsbestuur, 1998 (Wet 107 van 1998) op te stel en by die Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering vir oorweging in te dien. Die proses het reeds 'n aanvang geneem. Daar word aanvaar dat mitigerende maatreëls en voorwaardes in enige nuwe omgewingsgoedkeuring vervat sal word om te verseker dat 'n effektiewe en volhoubare omgewing deur die ontwikkelingsvoorstel daargestel word.

- *"Policy 4E - Maintain a compact settlement form to facilitate inclusion and integration and improved service delivery"*

Die Restant van Erf 2833 Groot Brakrivier is binne die stedelike rand van Mosselbaai Munisipale Gebied geleë. Die voorstel sal dus nie tot stadsverspreiding aanleiding gee nie en sal dus tot ‘n meer kompakte stedelike gebied aanleiding gee.

- “*Policy 4F - Provide places of residence closer to places of work”*

  Die Restant van Erf 2833 Groot Brakrivier is binne die stedelike rand van Mosselbaai Munisipale Gebied geleë, dus ‘n gebied waarbinne werksgeleenthede voorkom en voorsien kan word.

- *“Policy 4G - Direct public investment (public facilities, amenities and services), commercial activity and residential densification towards the urban core and priority nodes”*

  Die Restant van Erf 2833 Groot Brakrivier is binne die stedelike rand van Mosselbaai Munisipale Gebied geleë. Daar word aanvaar dat daar met die opstel van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 oorweging aan hierdie aspek verleen is toe die posisie van die stedelike rand vir die Groot Brakrivier munisipale gebied bepaal is. Die Stadsbeplanningsafdeling van die Mosselbaai Munisipaliteit is dus duidelik van oordeel dat die ligging van die Restant van Erf 2833 Groot Brakrivier van so ‘n aard is dat die ligging van die erf wel aan hierdie beleidsriglyn voldoen.

- *“Policy 4H - Apply densification in existing settlements and neighbourhoods to a more compact urban pattern and to reduce cost of services to households”*

  Die Restant van Erf 2833 Groot Brakrivier is binne die stedelike rand van Mosselbaai Munisipale Gebied geleë. Die ontwikkelingsvoorstel maak vir verdigting voorsiening en gaan dus tot ‘n meer kompakte stedelike gebied aanleiding gee.

In terme van die Ontwikkelingsplan word daar moontlike langtermyn stedelike uitbreiding scenarios vir verskeie gedeeltes van die Mosselbaai Munisipale Gebied uitgestippel. Die gedeelte van die Restant van Erf 2833 Groot Brakrivier is in terme van die stedelike uitbreiding

scenario Groot Brakrivier in ‘n gebied geleë wat vir medium tot hoë digtheid residensiële ontwikkeling geoogmerk word.

Die voorstel is dus in ooreenstemming met die voorstelle vervat in die Mosselbaai Geintegreerde Ontwikkelingsplan vir die tydperk 2022 tot 2027.

8.5.9 Mosselbaai Ruimtelike Ontwikkelingsraamwerk (MROR), 2022

Die Restant van Erf 2833 Groot Brakrivier is binne die studiegebied van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 geleë. Volgens die MROR word die erf vir stedelike ontwikkeling geoogmerk. Hierdie aansoek maak steeds vir stedelike ontwikkeling voorsiening en daar kan dus aangevoer word dat die voorstel wel versoenbaar is met die bepalings van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022.

8.5.10 Stedelike rand

In terme van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 is die Restant van Erf 2833 Groot Brakrivier binne die stedelike rand van Mosselbaai geleë.

8.5.11 Mosselbaai Munisipaliteit: Geïntegreerde Soneringskema Verordening, 2018

Ingevolge die Mosselbaai Munisipaliteit: Geïntegreerde Soneringskema Verordening, 2021 is ‘n Landbousone I sonering aan die Restant van Erf 2833 Groot Brakrivier toegeken.

Die huidige sonering van die eiendom maak nie daarvoor voorsiening dat die gedeelte vir die ontwikkeling soos voorgestel, aangewend mag word nie. Ten einde die eiendom ooreenkomstig die ontwikkelingsvoorstel soos aangetoon op die onderverdelingsplan wat as **Bylaag “A”** aangeheg is, te ontwikkel moet die eiendom gehersoneer en onderverdeel word ooreenkomstig die aansoeke soos uiteengesit in punt 1 van hierdie Motiveringsverslag.

In terme van die ontwikkelingsvoorstel word Algemene Residensiële Sone I erwe voorgestel. Die erwe sal binne die grondgebruikbeperkings soos van toepassing op die sonering ontwikkel word.

Soos ook vroeër in die aansoek uitgewys sal die wooneenhede wat op die erwe opgerig gaan word aan Argitektoniese Riglyne onderwerp word. Beheermaatreëls sal dus in plek gestel word om te verseker dat die ontwikkeling aan die standaarde en vereistes soos per die Mosselbaai Munisipaliteit: Geïntegreerde Soneringskema Verordening, 2021 voldoen.

8.5.12 Titelakte

Ofskoon die titelakte van ‘n eiendom nie ‘n beplanningsdokument is nie bevat dit tog soms voorwaardes wat ‘n wesentlike impak op die ontwikkelingspotensiaal van ‘n eiendom uitoefen.

‘n Afskrif van die Aktebesorgersertifikaat ten opsigte van die Restant van Erf 2833 Groot Brakrivier is hierby as **Bylaag “H”** aangeheg. Die Aktebesorgersertifikaat bevestig dat daar, met die uitsondering van die 20 meter reg van weg serwituut ten gunste van Erf 2832 Groot Brakrivier, geen ander voorwaardes in die titelakte van die Restant van Erf 2833 Groot Brakrivier voorkom wat die goedkeuring van die aansoek verhinder nie.

Soos reeds in hierdie verslag uitgewys word die 20 meter reg van weg serwituut in die aansoek geakkommodeer.

Die titelakte van die erf plaas dus geen beperking op die ontwikkelingsvoorstel nie.

8.5.13 Samevattend

Soos vanuit bogenoemde blyk kan die aansoeke in terme van bestaande beplanningsdokumentasie as wenslik beskou word.

8.6 Ander Wetgewing

8.6.1 Wet op Nasionale Omgewingsbestuur, 1998 (Wet 107 van 1998)

Die voorgestelde ontwikkeling aktiveer sekere aktiwiteite wat in terme van regulasies uitgevaardig in terme van die Wet op Nasionale Omgewingsbestuur, 1998 (Wet 107 van 1998) as gelysde aktiwiteite beskou word en waarvoor daar omgewingsgoedkeuring benodig word.

'n Omgewingsgoedkeuring vir 'n vorige ontwikkelingsvoorstel vir die Restant van Erf 2833 Groot Brakrivier is op 3 Augustus 2010 deur die Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering uitgereik. Vir volledigheidsonthalwe word die goedkeuring hierby as **Bylaag "K"** aangeheg. Die goedkeuring is op 18 Junie 2013 vir 5 jaar vanaf die oorspronklike goedkeuringsdatum deur die Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering verleng. Die skrywe ter bevestiging van die verlenging van die goedkeuringstydperk is hierby as **Bylaag "L"** aangeheg. Die goedkeuring is daarna op 24 Augustus 2015 vir 'n verdere 2 jaar verleng. 'n Skrywe ter bevestiging van die verlenging van die goedkeuringstydperk is hierby as **Bylaag "M"** aangeheg.

Die goedkeuring het egter intussen verval en die ontwikkelaar het Cape EAPrac aangestel om die nodige omgewingsaansoek vir die voorgestelde ontwikkeling soos aangetoon op die onderverdelingsplan wat hierby as **Bylaag "A"** aangeheg is by die Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering vir oorweging in te dien. Die proses het reeds 'n aanvang geneem. Die munisipaliteit sal van die besluit van die betrokke departement in kennis getsel word sodra dit ontvang word.

8.6.2 Wet op Nasionale Erfenishulpbronne, 1999 (Wet 25 van 1999)

'n Erfenis impakstudie vorm 'n integrale deel van enige omgewingsproses. Daar word dus aanvaar dat die nodige toestemming in terme van Wet 25 van 1999 tot die ontwikkeling van die Restant van Erf 2833 Groot Brakrivier tydens die oorspronklike omgewingsproses waarna daar in punt 8.6.1 hierbo verwys word verkry is. Indien dit egter nie die geval is nie sal die nodige aansoek om toestemming van Erfenis We-Kaap as deel van die huidige omgewingsproses verkry word. Indien 'n goedkeuring van Erfenis We-Kaap verkry moet word sal die munisipaliteit van die nodige goedkeuring voorsien word sodra dit ontvang word.

8.6.3 Wet op die Onderverdeling van Landbougrond, 1970 (Wet 70 van 1970)

Alhoewel die erf Landbousone I gesoneer is, is die Wet op die Onderverdeling van Landbougrond, 1970 (Wet 70 van 1970) nie op die erf van toepassing nie aangesien die erf binne die stedelike rand van Mosselbaai Munisipaliteit geleë is.

8.7 Versoenbaarheid van voorstel met die karakter van die omgewing waarbinne dit geleë is

Die Restant van Erf 2833 Groot Brakrivier is op die suid-westelike grens van Groot Brakrivier geleë met die Avondrus ontwikkeling wat noord-oos van die erf geleë is. Die Groenkloof ontwikkeling is suid- wes van die erf geleë. Die gebied waarbinne die erf geleë is word in terme van die Mosselbaai Ruimtelike ontwikkelingsraamwerk, 2022 vir residensiële uitbreiding geoogmerk en alles dui daarop dat daar van owerheidskant aanvaar word dat die gebied uiteindelik oor ‘n stedelike karakter gaan beskik.

Die ontwikkeling van die erf soos voorgestel gaan verdere stukrag verleen aan die stedelike karakter wat besig is om in die gedeelte van Groot Brakrivier te ontwikkel.

8.8 Toegang tot die ontwikkeling

Die ontwikkeling sal via ‘n toegang vanaf Sandhoogteweg, ‘n ondergeskikte straat wat direk met Hoofpad 344 (R102) verbind is, verkry. Sandhoogteweg is reeds gekonstrueer en die siglyne in Sandhoogteweg waar die privaat straat van die voorgestelde ontwikkeling by Sandhoogteweg aansluit is goed. Geen toegang probleme word dus na die voorgestelde ontwikkeling voorsien nie.

8.9 Toeganklikheid van die ontwikkeling

Sandhoogteweg is direk met Hoofpad 344 (R102) verbind. Hoofpad 344(102) vorm die hoof toegangsroete vir Groot Brakrivier vanaf die N2 Nasionale Pad wat dus beteken dat die ontwikkeling uiters toeganklik sal wees.

8.10 Verkeersimpakstudie

‘n Verkeeersimpakstudie vir die voorgestelde ontwikkeling op die Restant van Erf 2833 Groot Brakrivier is deur Urban Engineering onderneem. Die onderskeie komponente van die verkeersondersoek word as volg in die verslag opgesom:

1. *"It is the client's intention to subdivide erf 2833, Great Brak River in order to create a new residential development consisting of the following land uses:*

   - *41 x General Residential Zone I erven*

2. *The latest SDF (2022) made provision for the moving of the Urban Edge to include the proposed site.*
3. *The site is situated next to DR1583/Sandhoogte Road. However, the portion of DR1583/Sandhoogte between +-0km and +-1.6km falls under the authority of Mossel Bay Municipality, and PGWC authority only starts at +-1.6km onwards. DR1583 is classified as a Class4 Rural Collector on the PGWC's RNIS Website.*
4. *SDP makes provision for site accesses via an existing servitude road along the western property boundary.*
5. *The combined estimated trip generation potential of the site has been calculated as follows:*

   a. *Weekday AM = 35 Trips (IN and OUT)*
   b. *Weekday PM = 35 Trips (IN and OUT)*

6. *12 Hour traffic counts recorded at three positions along DR1583 on Wednesday 05 May 2023. The total volumes counted at the three intersections are summarised below:*

	DR1578/DR1583	***DR1583 (at the Site)***	***DR1583/MR0349***
Total vehicles Counted	*2374*	*704*	*7423*
Light Vehicles (% of total)	*1977 (83%)*	*685 (97%)*	*7172 (97%)*
Heavy Vehicles (% of total)	*397 (17%)*	*19 (3%)*	*251 (3%)*

7. *Based on operating speed, road width and type of vehicle, a minimum Shoulder Sight Distance of 125m is required. SSD in excess of 125m were measured in both directions at the existing servitude road intersection.*
8. *Both the DR1578/DR1583 and DR1583/MR0348 intersections were analysed in SDIRA. Analysis revealed acceptable LOS for both the Status Quo and Future (2028) "NO-GO" Scenarios.*

9. *SIDRA analysis of the future operational (2028 Background + Generated Traffic) scenario, indicated that the inclusion of the additional trips, are not expected to have a noticeable impact on the overall LOS of the affected intersections.*
10. *The proposed site access is classified as a high-volume driveway.*
11. *The proposed SDP does not make provision for any type of access control."*

Na aanleiding van die opsomming word die volgende aanbevelings in die Verkeersimpakstudie gemaak:

"Based on the findings of this report, the proposed rezoning and subdivision of Erf 2833, Great Brak River is supported from a traffic and transportation point of view, subject to the following conditions:

1.1 The minor timber structure obscuring SSD at the current Servitude Road/DR1583 junction (refer to Paragraph 8.4.1), should be moved to a new position where it does not affect SSD.

1.2 Road Widths :

1.2.1 Tarentaal Street (the existing servitude road) should be widened from 3m to 6.4m, in order to accommodate two clearly defined 3,4m wide lanes.

1.2.2 Due to the small number of vehicles expected to make use of them, the width of Kwikstertjie- , Geelvink - and Laksman Street, can be reduced to an absolute minimum of 5.5m (2x2.75m wide lanes).

1.3 Vegetation and shrubbery within the road reserve that could have a negative future impact on the SSD (towards DR1578) should be kept in a neat and trimmed condition by the developer.

1.4 To protect mobility at the DR1583/Servitude Road intersection, it is proposed that the ingress movement along Tarentaal Street receives priority.

1.5 Due to the steep gradient along Tarentaal Street, the following safety improvements are proposed:

1.5.1 No vehicle (especially construction vehicles) of more than 8 tonne per axle should be allowed to drive past (higher than) the Tarentaal/Kwikstertjie Street intersection.

1.5.2 No articulated vehicle should be allowed to drive past (higher than) the Tarentaal/Kwikstertjie Street intersection.

1.5.3 The possibility of installing vehicle arrestor beds on the downhill approach to the Tarentaal/Kwikstertjie Street intersection, should be considered. Arrester beds are long trenches filled with small round gravel particles that are designed to stop runaway vehicles. The vehicle is stopped by drag and friction as the vehicle sinks into the gravel in the bed. It is however important to note that arrestor beds require regular maintenance ("fluffing" or de-compaction) to ensure effectiveness.

1.6 The proposed SDP does not make provision for any type of access control. Should this be retrofitted at a later stage, the exact position must be determined in order to allow for sufficient stacking distance between the ingress gate and Tarentaal Street.

1.7 All Geometric and Pavement designs within the Road reserve should be according to the standards of the road authority and must be undertaken by a professionally registered Civil Engineer."

Vanuit bogenoemde opsomming en aanbevelings blyk dit duidelik dat die ontwikkeling vanuit 'n verkeersoogpunt, onderhewig aan sekere voorwaardes, ondersteun kan word. Die aspek plaas dus geen beperking op die ontwikkelingsvoorstel nie.

Die volledige Verkeersimpakstudie is hierby as **Bylaag "N"** aangeheg.

8.11 Dienste voorsiening

8.11.1 Siviele dienste

Urban Engineering Raadgewende Siviele Ingenieurs is aangestel om na die siviele dienste vereisets van die voorgestelde ontwikkeling om te sien. Die volledige Siviele Diensteverslag is hierby as **Bylaag "O"** aangeheg.

In terme van die Siviele Diensteverslag word die volgende afleidings en aanbevelings gemaak:

"The purpose of this report is to assess the existing municipal engineering services and the extent thereof that will be affected by the proposed residential development in Groot Brak. The impact of the proposed development is summarised below:

SUMMARY OF IMPACT	***VALUE***
DOMESTIC WATER DEMAND (AADD)(From GLS Report)	*22,5kℓ/day*
SEWERAGE DAILY DRY WEATHER FLOW (ADDWF)	*20,25kℓ/day*
SEWERAGE PEAK DAILY DRY WEATHER FLOW (PDDWF)	*50.62kℓ/day*
SEWERAGE PEAK DAILY WET WEATHER FLOW (PDWWF)	*58.21kℓ/day*
SOLID WASTE GENERATED	*50.8 tonnes/annum*

Existing civil services near the proposed development were identified by the Mossel Bay Municipality from their GIS database, and the following preliminary proposals were made regarding the required services and feasible connection points to the existing infrastructure:

WATER

*Based on the investigation done by GLS Consulting (**ANNEXURE C**), there is sufficient capacity in the existing water reticulation system to accommodate the proposed development. The minimum requirements to accommodate the proposed development on Erf 2833 in the existing water system is the implementation of link service items 1 & 2 to connect to the existing water system and regulate high static water pressures, as shown on Figure 1 in **ANNEXURE C**.*

SEWER

A waterborne sewer reticulation system is proposed for the development. Until such time as the issues with the Long Street sewer pumps station have been resolved, sewer to gravity feed down to a conservancy tank situated on erf 5 (Utility Zoned). This tank will need to be cleaned out by vacuum truck once full and the truck shall then deliver its contents to the Great Brak Waste Water Treatment Plant. Once the problems with the Long Street sewer pumps station have been resolved, the conservancy tank should be removed and the sewer line should be extended to connect into the existing Municipal sewer main approximately 300m east from the proposed development, running parallel to Sandhoogte Road. It is envisaged that the tank should have

sufficient capacity to only need to be cleaned once every 7 days, resulting in a 5mx10mx 3m deep tank.

STORMWATER

The proposed development will only harden approximately 18% of the total site footprint. 82% of the site will remain undeveloped and permeable, resulting in large areas available for ground water infiltration. The existing main drainage lines will remain unchanged, but it is expected that the introduction of flat lawns, soft landscaped beds, rainwater harvesting tanks and roads that cut across the general fall of the site, will increase the length of the longest water course, which leads to an increase in time of concentration and subsequent reduction in Peak Flow Volumes.

TRAFFIC IMPACT

The development accessed from the existing servitude road perpendicular to Sandhoogte Road, running along the western boundary of Erf 2833. Alterations or widening of the road may be required. A detailed Traffic Impact Assessment (Report 23-041_TIA) was prepared by Urban Engineering and can be referenced for more detail."

Vanuit bogenoemde gevolgtrekkings en aanbevelings blyk dit dat siviele dienste onderhewig aan die nakoming van sekere voorwaardes, voorsien sal kan word.

'n Dienste ooreenkoms sal na goedkeuring van die aansoek met die Mosselbaai Munisipaliteit onderteken word.

50.8.1 Elektriese dienste

Clinkscales Maughan-Brown (South) (Pty) Ltd Raadgewende Elektriese Ingenieurs is aangestel word om ondersoek in te stel na die beskikbaarheid/kapasiteit/voorsiening van elektriese dienste vir die voorgestelde ontwikkeling. Die volledige Elektriese Diensteverslag is hierby as **Bylaag "P"** aangeheg.

'n Dienste ooreenkoms sal na goedkeuring van die aansoek met die Mosselbaai Munisipaliteit onderteken word.

50.8.2 Vuilisverwydering

In terme van die ontwikkelingsvoorstel word daar 'n Nutssone erf (Gedeelte 15) voorgestel waarop daar ook 'n vuilisverwyderingsarea vir die 41 erwe wat uit die voorstel voorspruit voorsien staan te word. Dit sal van die inwoners verwag word om hul vuilis op op vuilisverwyderingsdae na die vuilisverwyderingsarea te neem van waar die vuilis deur die munisipale vuilisverwyderingsdiens verwyder sal word. Toegang tot die Gedeelte 5 sal via die ingangbeheerpunt aan die munisipaliteit se vuilisverwydering vragmotors verleen word. Die gedeelte van die terrein is relatief gelyk en is dus toeganklik vir enige vuilisverwyderingsvragmotor.

50.8.3 Samevattend

Soos uit die inhoud van bogenoemde paragrawe blyk skep die voorsiening van dienste geen probleme nie en is daar vanuit die oogpunt dus geen rede waarom die aansoek nie goedgekeur kan word nie.

9. SAMEVATTING

In terme van die aansoek word 'n ontwikkelingsvoorstel vir die Restant van Erf 2833 Groot Brakrivier voorgestel wat vir die volgende gebruike voorsiening maak:

- 41 Algemene Residensiële Sone I erwe (Gedeeltes 1 tot 3, 6 tot 12 en 14 tot 44);
- 1 Nutssone erf (Gedeelte 5)
- 4 Oopruimtesone II erwe (Gedeeltes 4, 13, 45 en 46);
- 1 Vervoersone III (Privaat straat) erf (Gedeeltes 47), en
- 1 Vervoersone II (Publieke straat) erf (Gedeelte 48).

Daar word in die voorgaande verslag aangedui dat die ontwikkelingsvoorstel versoenbaar is met die bestaande beplanningsdokumente, struktuurplanne, wetgewing en beleidsdokumente wat

van toepassing is op die aansoek en dat daar as sulks ook geen rede bestaan waarom die voorgestelde ontwikkeling nie goedgekeur kan word nie.

Die voorstel sal nie die ontwikkeling van die omgewing nadelig beïnvloed nie, sal nie ’n nadelige invloed op omliggende fasiliteite hê nie, sal ook nie ’n nadelige invloed op die verkeersbeweging in die omgewing hê nie en sal inskakel by die bestaande munisipale dienste in die omgewing.

Volgens die inhoud van hierdie verslag kan die aansoeke dus as wenslik beskou word en bestaan daar na mening geen rede waarom die aansoeke nie goedgekeur kan word nie.

Die aansoekproses voldoen verder aan die voorskrifte en word ingevolge die betrokke bepalings van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 vir oorweging voorgelê.

Bylaag “A”: Onderverdelingsplan

AANSOEK:

- Aansoek word in terme van Artikel 15(2)(a) van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 gedoen vir die hersonering van die Restant van Erf 2833 Groot Brakrivier vanaf Landbousone I na 'n Onderverdelingsgebied bestaande uit Algemene Residensiële Sone I erwe (± 1.11 hektaar), 1 Nutssone erf (± 0, 03 hektaar), 4 Oopruimtesone II erwe (± 3, 56 hektaar), 'n Vervoersone III erf (Privaat straat) (± 0, 99 hektaar) en 'n Vervoersone II erf (Publieke straat) (± 0, 35 hektaar).
- Aansoek word in terme van Artikel 15(2)(d) van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 gedoen vir die onderverdeling van die Onderverdelingsgebied in die volgende erwe:
  - i. 41 Algemene Residensiële Sone I erwe (Gedeeltes 1 tot 3, 6 tot 12 en 14 tot 44);
  - ii. 4 Oopruimtesone II erf (Gedeeltes 4, 13, 45 en 46);
  - iii. 1 Nutssone erf (Gedeelte 5);
  - iv. 1 Vervoersone III (Privaat Straat) erf (Gedeelte 47), en
  - v. 1 Vervoersone II (Publieke Straat) erf (Gedeelte 48).

NOTA

Serwituut: Reg van Weg (Landmeter Generaal Diagram Nommer 5859/2003), 20 meter wyd. Serwituut word gehandhaaf om vrye toegang tot Erf 2832 Groot Brakrivier te verseker.

TABEL 1: GRONDGEBRUIKE

Gedeelte No	Sonering verwysing	Sonering	Oppervlakte (ha)	% van totaal
1 tot 3, 6 tot 12 en 14 tot 44		Algemene Residensiële Sone I	1.11	19.00
5		Nutsone	0.03	0.05
4, 13, 45 en 46		Oopruimtesone II	3.56	58.77
47		Vervoersone III (Privaat straat)	0.99	16.39
48		Vervoersone II (Publieke straat)	0.35	5.79
TOTAAL			6.04	100

cell: 082 464 7871 | email: janvrolijk@vodmail.co.za

PROJECT

VOORGESTELDE HERSONERING EN ONDER-VERDELING: RESTANT VAN ERF 2833 GROOT BRAKRIVIER

DRAWING TITLE

HERSONERING EN ONDERVERDELINGSPLAN

PROJECT No.	DWG No.	REVISION No.	DATE OF PRINT
ERF 2833 G BRAK		4	25.04.2024
SCALE	**PROJECT DATE**	**DRAWN BY**	**CHECKED BY**
NTS	SEPT 2023		JV

JAN VROLIJK TOWN PLANNER • STADSBEPLANNER

Bylaag “B”: Munisipale aansoekvorm

Tel No: +27(44) 606 5000
Fax No: +27(44) 606 5062
E-mail: admin@mosselbay.gov.za
Web: https://www.mosselbay.gov.za/
PO Box 25
Mossel Bay
6500

FOR OFFICE USE ONLY Municipal stamp (RECORDS): SCAN/COLLAB/FILE NO:

Application for:

_____

_____

_____

_____

_____ NeoLMS Ref: _____

LAND USE PLANNING APPLICATION FORM

in terms of section 15(2) of the Mossel Bay By-law on Municipal Land Use Planning, 2021

PLEASE READ THE FOLLOWING IMPORTANT INFORMATION PRIOR TO SUBMITTING THE LAND USE PLANNING APPLICATION:

- The complete application form together with all the required information and documentation as listed in **Part F** of the application form must be submitted in **duplicate (2 hard copies) and a Word format** of the completed application form must be emailed to **dtruter@mosselbay.gov.za**
- The Applicant will be issued with an invoice and banking details for payment of the application fees after the application was checked for completeness.
- Application fees are non-refundable and must be paid within 7 days from the issue date of the invoice.
- For the purpose of this land use planning application process the receipting date of the application fees will be known as the date on which the application is received.
- The space provided in this application form is only a guide and may be increased or decreased by the Applicant as required.

PART A: APPLICANT DETAILS					
Full name & Surname:	**Johannes George Vrolijk**				
SACPLAN registration number:	**A/1386/2010**	Is the applicant authorised to submit this application?		**Y**	N
Company Name (if applicable) & Postal Address:	**Jan Vrolijk Tow Planner / Stadsbeplanner**				
	Posbus 710, George		Postal Code:	**6530**	
Email: **janvrolijk@vodamail.co.za**		Cell: **082 464 7871**	Tel: **044 873 3011**		

PART B: PROPERTY DETAILS		
Erf No / Farm & Portion No	Address (Street name & number & Town) / Farm Name & District	Registered owner(s)
Restant van Erf 2833 Groot Brakrivier	**Sandhoogteweg, Groot Brakrivier**	**Newcare Innovations (Pty) Ltd Registrasienommer 2018/053092/07**

PART C: LIST OF APPLICATIONS (TICK APPLICABLE)

Tick	Section	Type of application	Cost
X	15(2)(a)	**rezoning** of land;	R2500.00
	15(2)(b)	**permanent departure** from the development parameters of the zoning scheme	R1780.00 (R900.00 = building line relaxation)
	15(2)(c)	**departure granted on a temporary basis** to utilize land for a purpose not permitted in terms of the primary rights of the zoning applicable to the land	R1370.00 (R1150.00 = house shop)
X	15(2)(d)	**subdivision** of land that is not exempted in terms of section 24, including the registration of a servitude or lease agreement	R1780.00 (+ R74 per erf above 10 erven)
	15(2)(e)	**consolidation** of land that is not exempted in terms of section 24	R1780.00
	15(2)(f)	**removal, suspension or amendment of restrictive conditions** in respect of a land unit	R2500.00
	15(2)(g)	**permission required** in terms of the zoning scheme	R840.00
	15(2)(h)	**amendment of an existing approval or the amendment, deletion or imposition of conditions** in respect of an existing approval	R2500.00
	15(2)(i)	**extension of the validity** period of an approval	R1250.00
	15(2)(j)	**permission required in terms of a condition of approval**	R840.00
	15(2)(k)	**determination of a zoning**	R1400.00
	15(2)(l)	**closure of a public place** or part thereof	R1400.00
	15(2)(m)	**consent use** contemplated in the zoning scheme	R1400.00 (R1150.00 = house shop)
	15(2)(n)	**occasional use** of land	R690.00
	15(2)(o)	**disestablish a home owner's association**	R690.00
	15(2)(p)	**rectify a failure by a home owner's association to meet its obligations** in respect of the control over or maintenance of services	R1400.00
	15(2)(q)	**permission required for the reconstruction of an existing building that constitutes a non-conforming use** that is destroyed or damaged to the extent that it is necessary to demolish a substantial part of the building	R690.00
Fees for financial year 2022/2023		**TOTAL:**	**R**

PART D: APPLICATION DESCRIPTION

Application for **Hersonering en onderverdeling**

in terms of Section(s) 15(2) **(a) en (d)** of the Mossel Bay By-law on Municipal Land Use Planning, 2021

in order to **Hersoneer die Restant van Erf 2833 Groot Brakrivier na 'n Onderverdelingsgebied en die onderverdeling van die Onderverdelingsgebied in 41 Algemene Residensiële Sone I erwe, 1 Nutssone erf, 4 Oopruimtesone II erwe, 1 Vervoersone III (Privaat straat) erf en 1 Vervoersone II (Publieke straat) erf.**

PART E: MOTIVATION SUMMARY

KINDLY NOTE: The motivation summary is divided into different relevant **sections** to be completed by the Applicant. A separate written motivation must still be submitted with the application.

SECTION 1: PROPERTY DETAIL

Erf Number(s) & Town or Farm & Portion Number(s) & District (as per Title Deed)	**Restant van Erf 2833 Groot Brakrivier**		Title Deed No & date	**T10193/2022**	Extent (m^2/ha)	**6.0372 hektaar**
Any restrictive title conditions applicable?	Y	**N**	If Yes, list condition number(s):	**N.v.t.**		
Locality:	**Noordekant van Sandhoogteweg in die suid-westelike gedeelte van Groot Brakriver**					
Current zoning(s):	**Landbousone I**					
Current land use(s):	**Vakant**					
Physical characteristics, e.g. topography & vegetation:	**1. Topografie** **Die Restant van Erf 2833 Groot Brakrivier word gekenmerk deur 'n laagtepunt wat vanaf die noord-oostelike hoek na die suid-westelike hoek van die eiendom oor die erf strek.** **Die gedeelte ten noorde van die laagtepunt het 'n redelike steil afwaartse helling in die rigting van die laagtepunt. Vanuit die hellingsanalise wat onderneem is kom daar egter wel gedeeltes op hierdie noordelike gedeelte van die eiendom voor wat oor 'n helling van 1:4 en groter beskik wat dus wel ontwikkelbaar is. Gedeeltes 33 tot 44 word binne die gebied voorgestel.** **Die hellingsanalise toon dat 'n klein gedeelte van die erf direk ten noorde van Erf 5131 Groot Brakrivier en ten suide van bogenoemde laagtepunt ook oor ontwikkelbare gedeelte beskik. As gevolg van die feit dat dit nie moontlik is om toegang tot die gedeelte te verkry nie, is daar besluit om die gedeelte by die privaat oopruimte te inkorporeer.** **Die helling oor die suidelike gedeelte van die erf is van so aard dat dit ten geen beperking op die ontwikkeling van die gedeelte van die erf plaas nie. Gedeeltes 1 tot 3, 6 tot 12 en 14 tot 32 word dan ook binne die gedeelte van die ontwikkelingsgebied voorgestel.** **Vanuit bogenoemde blyk dit dus dat sekere gedeeltes van die erf wel in terme van die topografie van die erf ontwikkelbaar is. Die uitlegplan is dan ook binne die beperkings opgestel.** **Die topografie van die erf is dus deeglik in ag geneem met die opstel van die onderverdelingsplan.** **2. Bodemtoestande**					

Weinig inligting is rakende die grondtoestande wat op die erf voorkom bekend. Geen opvullings kom egter op die erf voor nie en die bodemstoestand is dus natuurlik en stabiel.

Grondtoetse sal egter wel gedoen word alvorens daar met enige konstruksiewerk op die erf 'n aanvang geneem sal word ten einde te verseker dat die grondtoestande verstaan en in ag geneem word in die ontwerp en konstruksiefase van die ontwikkeling.

3. Plantegroei

In terme van die ontwikkelingsvoorstel word 12 Algemene Residensiële Sone I erwe op die noordelike gedeelte van die erf voorgestel. Die grenslyne van die 12 voorgestelde erwe is na aanleiding van 'n 1:4 hellingsanalise wat vir die groter erf onderneem is bepaal asook met in agneming van 'n sensitiwiteitsplan wat vanaf Cape EAPrac ontvang is. Die "ravine" is op die onderverdelingsplan geidentifiseer en word met 'n 32 meter breë strook aan weerskante van die "ravine" beskerm. Die "ravine" vorm deel van die privaat oopruimte (Gedeelte 45) wat voorgestel word. Geen ontwikkeling sal binne Gedeelte 45 plaasvind nie en enige indringer plantegroei wat op die gedeelte voorkom sal verwyder word. Dit is die voorneme om die gedeelte tot sy natuurlike staat te rehabiliteer.

Soos verder ook vanuit die lugfoto van die gebied sal blyk is feitlik alle plantegroei wat op die suidelike gedeelte van die erf voorgekom het verwyder. Die versteurde gedeelte van die eiendom vorm die kern van die ontwikkelingsvoorstel met 29 Algemene Residensiële Sone I erwe wat op die gedeelte ontwikkel staan te word. Gedeelte 46 sal as funksionele privaat oopruimtes vir gebruik deur die eienaars van die erwe ontwikkel sal word. Gedeeltes 4 en 13 word voorsien om voorsiening te maak vir die wegdoening van stormwater afkomstig vanaf die 10 meter interne straat wat op die suidelike gedeelte van die erf ontwikkel staan te word.

Die ontwikkelingsvoorstel is dus in aggenome die hellingsanalise en sensitiwiteitsplan wat vanaf Cape EAPrac ontvang is, opgestel. Die sensitiewe plantegroei wat op die erf voorkom is dus deeglik in aggeneem met die opstel van die onderverdelingsplan.

4. Dreineringspatroon

Soos vanuit die kontoere op die onderverdelingsplan blyk kom daar 'n natuurlike laagtepunt, wat vanaf die noord-oostelike hoek tot die suid-westelike hoek van die erf strek, op die eiendom voor. Die laagte punt dien as dreineringskanaal vir reënwater en stormwater afkomstig vanaf die hoër liggende noordelike eiendomme. Die natuurlike dreineringslaagtepunt word binne die onderverdelingsgebied geakkommodeer met die voorgestelde noordelike 12 Algemene Residensiële Sone I erwe wat natuurlik na hierdie laagtepunt dreineer.

Die 29 Algemene Residensiële Sone I erwe wat op die suidelike gedeelte van die Restant van Erf 2833 Groot Brakrivier voorgestel word sal suidwaarts in die rigting van Sandhoogteweg dreineer.

5. Vloedlyn

Die kontoere op die onderverdelingsplan toon aan dat daar 'n natuurlike laagte punt, wat vanaf die noord-oostelike hoek tot die suid-westelike hoek van die erf

	strek, op die eiendom voorkom. Die laagte punt vorm die natuurlike dreineringsroete van reënwater en stormwater afkomstig vanaf hoër liggende noordelike eiendomme wat aan die Restant van Erf 2833 Groot Brakrivier grens. Geen natuurlike watervloei kom in die laagtepunt voor nie. Ten einde die laagte punt nie te versteur nie en die vloei van reënwater en stormwater te akkommodeer word daar in die uitleg vir 'n 32 meter terugsetlyn langs die laagtepunt voorsiening gemaak met geen ontwikkeling wat binne 32 meter vanaf die middelpunt van die laagtepunt voorgestel word nie. Geen vloedlyn is dus ter sprake nie. **6. Samevattend** **Vanuit 'n fisiese terreingesteldheid oogpunt is daar geen rede waarom die aansoek nie ondersteun kan word nie.**

Are there existing buildings on the property(ies)?	Y	**N**	If Yes, specify:	
Any unauthorised land use/building work?	Y	**N**	If Yes, specify:	
Any third party conditions applicable?	Y	**N**	If Yes, specify:	
Are there any restrictions, e.g. servitudes or flood lines?	**Y**	N	If Yes, specify:	**Ja, 20 meter reg van weg serwituut ten gunste van Erwe 2832 en 4650 Groot Brakrivier**
Are the subject property(ies) located within 1km of the high watermark of the sea or a tidal river?	Y	**N**	If Yes, specify:	
Do the subject property(ies) border railway lines, Provincial or National Roads?	Y	**N**	If Yes, specify:	
Are the subject property(ies) located in a Heritage Precinct?	Y	**N**	If Yes, specify:	
Are there any structures on the property older than 60 years?	Y	**N**	If Yes, specify:	
Any other circumstances pertaining to the subject property(ies) that should be noted (e.g. identified as a landslip area, previously utilised for mining purposes or as a landfill site or are there registered land claims or located within a blast zone, pollution zone or 500m from a cemetery)?	Y	**N**	If Yes, specify:	

SECTION 2: BACKGROUND & HISTORY

Provide a brief history that led to the submission of the land use planning application:		
Die eiendom is in 2022 deur Newcare Innovations (Pty) Ltd Registrasienommer 2018/053092/07 aangekoop met die doel om dit te ontwikkel ooreenkomstig die voorgestelde onderverdelingsplan.		
Has a pre-application consultation been undertaken?	**Y**	N
If yes, attach the pre-application consultation minutes and provide a brief summary of the minutes:		

- **In the past year the Municipality experienced an ongoing trend of smallholding erven being poorly managed /unsustainable, resulting in property owners submitting additional Land Use applications (i.e. subdivision applications).**
- **It is advisable to establish a private road & register a servitude that will be maintained by a HOA. The private road/servitude is to be addressed in the motivation report along with the accessibility of Erven 2832 &4650, Great Brak River, the refuse removal and functionality of the development.**
- **Clearance of vegetation may trigger a listed activity in terms of NEMA (please consult an environmental specialist).**
- **Footprint and /or clearing must be indicated in developable areas on SDP. Footprint and clearing must be surveyed prior to development.**
- **Services to be installed by developer in line with Services Agreement between the Municipality and developer if required.**
- **Comments from the Planning & Environmental Departments (DEA&DP) and the Department of Forestry will be required.**
- **Please consult the proposed draft SDP for future development potential of the property.**

Die notule van die vooraf vergadering gedateer 25 Maart 2022 is tot die Motiveringsverslag aangeheg.

SECTION 3: PROPOSAL DETAIL

Provide a brief description of what is proposed (detail and scale of the proposal):

1. Aansoek detail

- **Aansoek word in terme van Artikel 15(2)(a) van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 gedoen vir die hersonering van die Restant van Erf 2833 Groot Brakrivier vanaf Landbousone I na 'n Onderverdelingsgebied bestaande uit Algemene Residensiële Sone I erwe (± 1.11 hektaar), 'n Nutssone erf (± 0.03 hektaar), Oopruimtesone II erwe (± 3.56 hektaar), 'n Vervoersone III erwe (Privaat straat) (± 0.99 hektaar) en 'n Vervoersone II erf (Publieke straat) (± 0.35 hektaar).**
- **Aansoek word in terme van Artikel 15 (2)(d) van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 gedoen vir die onderverdeling van die Onderverdelingsgebied in die volgende erwe:**
    - **41 Algemene Residensiële Sone I erwe (Gedeeltes 1 tot 3, 6 tot 12 en 14 tot 44);**
    - **1 Nutssone erf (Gedeelte 5)**
    - **4 Oopruimtesone II erwe (Gedeeltes 4, 13, 45 en 46);**
    - **1 Vervoersone III (Privaat straat) erf (Gedeeltes 47), en**
    - **1 Vervoersone II (Publieke straat) erf (Gedeelte 48).**

2. ONTWIKKELINGSVOORSTEL

2.1 Inleiding

Dit word bevestig dat die Ontwikkelaar aansoek doen vir die regte soos uiteengesit in hierdie aansoek. Die voorneme van die Ontwikkelaar word vervolgens in meer detail in die onderstaande paragrawe uiteengesit.

Erf 2833 Groot Brakrivier sal in 5 hoof grondgebruike onderverdeel word soos aangetoon op die onderverdelingsplan wat by die aansoek aangeheg is.

Die vyf voorgestelde hoof grondgebruike is as volg:

- **41 Algemene Residensiële Sone I erwe (Gedeeltes 1 tot 3, 6 tot 12 en 14 tot 44);**
- **1 Nutssone erf (Gedeelte 5)**
- **4 Oopruimtesone II erwe (Gedeeltes 4, 13, 45 en 46);**
- **1 Vervoersone III (Privaat straat) erf (Gedeeltes 47), en**
- **1 Vervoersone II (Publieke straat) erf (Gedeelte 48).**

Die verskillende hoof grondgebruike sal vervolgens verder toegelig word.

2.2 Algemene Residensiële Sone I erwe (Gedeeltes 1 tot 3, 6 tot 12 en 14 tot 44)

Die voorgestelde ontwikkeling maak vir 41 individuele Algemene Residensiële Sone I erwe (Gedeeltes 1 tot 3, 6 tot 12 en 14 tot 44) voorsiening. Die 41 Algemene Residensiële Sone I erwe beskik oor 'n gesamentlike oppervlakte van ongeveer 1.11 hektaar wat neerkom op 'n gemiddelde grootte van ongveer 270.73m² per groepserf. Die gedeelte van die erf wat vir groepbehuising aangewend word, insluitende die privaat strate wat toegang tot die onderskeie groepserwe verleen, beskik oor 'n oppervlakte van ongeveer 2.1 hektaar. Die groepbehuising ontwikkeling sal dus oor 'n digtheid van ongeveer 19.53 eenhede per hektaar beskik.

Die grenslyne van die 41 voorgestelde Algemene Residensiële Sone I erwe is na aanleiding van 'n 1:4 hellingsanalise wat vir die erf gedoen is, bepaal. Die hellingsanalise is aangevul met 'n sensitiwiteitsplan wat vanaf Cape EAPrac ontvang is. Die helling van die 41 erwe is binne die 1:4 beperking met geen oorskreidings wat binne die geidentifiseerde sensitiewe areas plaasvind nie.

Argitektoniese riglyne sal vir die groepbehuising ontwikkeling opgestel word met die groepshuise wat aan die bepalings van die Argitektoniese riglyne moet voldoen. Die groepshuise sal deur die ontwikkelaar as voltooide eenhede vervreem word.

2.3 Nutssone erf (Gedeelte 5)

In terme van die ontwikkelingvoorstel word 'n water gedrewe rioolverwyderingstelsel vir die 41 erwe voorgestel. As gevolg van gebrekkige kapasiteit by die Langstraat-rioolpompstasie kan die riool afkomstig van die 41 erwe nie na die pompstasie afgevoer word tot tyd en wyl die pompstasie opgegradeer is nie.

Aangesien dit egter nog 'n geruime tyd gaan duur alvorens die probleem aangespreek is het die ontwikkelaar besluit om die riool afkomstig vanaf die 41 erwe by wyse van swaartekrag af te voer na 'n bewaringstenk wat op die lae deel van die terrein geleë sal wees. Gedeelte 5 is as 'n aanvaarbare laagte punt geidentifiseer en is daar is as sulks besluit om die erf vir die doel aan te wend, derhalwe die voorstel om 'n Nutssone sonering aan die erf toe te ken. Meer detail rakende die bewaringstenk word in die Siviele Diensteverslag waarna daar later in hierdie Motiveringsverslag verwys word, verskaf.

Dit is ook die voorneme om 'n vuilisverwyderingsarea vir die 41 erwe op die gedeelte te ontwikkel van waar die vuilis deur die Mosselbaai Munisipalitei se vuilisverwyderingsdiens verwyder sal word.

Ten einde egter te verseker dat die ontwikkeling wat op die erf voorgestel word nie negatief op die ontwikkeling sal impakteer nie gaan die erf behoorlik gelandskapeer word om die impak daarvan op die omliggende erwe te versag.

2.4 Vervoersone III erf (Privaat straat) (Gedeelte 47)

Alle strate binne die ontwikkeling sal as privaat strate geregistreer word. Toegang tot die ontwikkeling word vanuit Sandhoogteweg voorgestel.

Die toegangspunt tot Sandhoogteweg stem ooreen met die bestaande 20 meter reg van weg serwituut wat oor die Restant van Erf 2833 Groot Brakrivier ten gunste van Erf 2832 Groot Brakrivier en Erf 4650 Groot Brakrivier geregistreer is. Die reg van weg serwituut sal as toegangpad tot die noordelike 12 Algemene Residensiële Sone I erwe (Gedeeltes 33 tot 44) dien. Die oorblywende 29 Algemene Residensiële Sone I erwe wat op die suidelike gedeelte van die erf ontwikkel staan te word sal via 10 meter interne strate toegang via die genoemde reg van weg serwituut toegang vanaf Sandhoogteweg verkry.

'n Verkeersimpakstudie is deur Urban Engineering onderneem met die wenslikheid van die toegang wat in die Verkeersimpakstudie verder bespreek word. Die inhoud en aanbevelings van die Verkeersimpakstudie word verder in punt 8.10 van die Motiveringsverslag aangespreek.

'n Elektriese gekontroleerde skuifbare toegangshek sal by die ttoegang tot die ontwikkeling opgerig word van waar verkeer wat in en uit die ontwikkeling beweeg gekontroleer en beheer sal word. Dit is belangrik om daarop te wys dat die erf sodanig geleë is dat daar nie 'n behoefte aan 'n deurpad deur hierdie erf na enige aanliggende eiendom bestaan nie. Erwe 2832 en 4650 Groot Brakrivier se bestaande reg van weg toegang sal behou word en die twee erwe sal ook via die voorgestelde westelike elektries gekontroleerde skuifbare toegangshek toegang verkry. Die ontwikkeling van die erf as 'n geslote sekuriteitsontwikkeling gaan dus nie toegang tot enige ander aanliggende eiendom beperk nie. Daar is vir genoegsame ruimte vir die elektriese gekontroleerde skuifbare toegangshek, vanwaar toegangsbeheer tot die ontwikkeling toegepas sal word.

Die privaat strate en toegangshek sal nadat dit ontwikkel is, aan 'n te gestigte Huiseienaarsvereniging oorgedra word, wat daarna bestuurs- en onderhoudsverantwoordelik van die privaat strate en die toegangshekke sal aanvaar.

2.5 Oopruimtesone II erf (Gedeelte 4, 13 45 en 46)

In terme van die voorstel word daar 4 Oopruimte Sone II erwe (Gedeeltes 4, 13, 45 en 46) binne die ontwikkeling voorsien. Die oopruimte erwe beskik oor 'n oppervlakte van ongeveer 3.56 hektaar of anders gestel omvat ongeveer 59% van die ontwikkelingsgebied. In terme van die ontwikkelingsvoorstel word daar in totaal 41 wooneenhede beplan wat neerkom op 'n oopruimte ratio van ongeveer 868m^2 eksterne oopruimte per wooneenheid.

Die natuurlike plantegroei wat op die Gedeelte 45 voorkom sal behou word en enige indringer plantegroei wat op die gedeeltes voorkom sal ooreenkomstig 'n Omgewingsbestuursplan verwyder word sodat slegs uit inheemse plantegroei uiteindelik op die privaat oopruimtes aangetref word, terwyl Gedeeltes 46 as 'n funksionele privaat oopruimtes vir gebruik deur die eienaars van die erwe ontwikkel sal word. Gedeeltes 4 en 13 word voorsien om voorsiening te maak vir die wegdoening van stormwater afkomstig vanaf die 10 meter interne straat wat op die suidelike gedeelte van die erf ontwikkel staan te word.

Die privaat oopruimtes binne die ontwikkeling sal aan 'n te gestigte Huiseienaarsvereniging oorgedra word wat daarna bestuurs- en onderhoudsverantwoordelik vir die drie privaat oopruimtes sal aanvaar.

2.6 Vervoersone II erf (Publieke straat) (Gedeelte 48)

Soos vanuit die onderverdelingsplan blyk wat hierby as Bylaag "A" aangeheg is vorm Sandhoogteweg deel van die Restant van Erf 2833 Groot Brakrivier. Aangesien Sandhoogteweg nie deel van die ontwikkeling gaan vorm nie, word dit van die ontwikkeling afgesny.

2.7 Sekuriteit

Die ontwikkeling word as 'n sekuriteitskompleks beplan. Die volgende sekuriteitsmaatreëls gaan deur die ontwikkelaar geimplementeer word:

- **die ontwikkeling sal met 'n permanente sekuriteitsheining omhein word soos goedgekeur deur die Munisipaliteit van Mosselbaai.**
- **'n elektriese gekontroleerde skuifbare toegangshek sal by die ingang tot die ontwikkeling opgerig word.**

2.8 Voorgestelde Huiseienaarsvereniging Konstitusie

Die voorgestelde konstitusie van die te gestigte Huiseienaarsvereniging van die voorgestelde ontwikkeling sal na goedkeuring van die aansoek om hersonering en onderverdeling aan die Mosselbaai Munisipaliteit vir goedkeuring voorgelê word.

2.9 Argitektoniese riglyne

Die voorgestelde argitektoniese riglyne waaraan die woonhuise en groepshuise moet voldoen, sal na goedkeuring van die aansoek om hersonering en onderverdeling aan die Mosselbaai Munisipaliteit vir goedkeuring voorgelê word.

2.10 Straatname

Voorgestelde straatname vir alle strate binne die ontwikkeling is op die onderverdelingsplan aangetoon.

Die volgende straatname word voorgestel:

- **Tarentaalstraat**
- **Laksmansstraat**
- **Kwikstertjiestraat**
- **Geelvinkstraat**

3 FASERING VAN ONTWIKKELINGSVOORSTEL

As gevolg van die grootte en omvang van die ontwikkeling word dit voorsien dat die ontwikkeling op Erf 2833 Groot Brakrivier as 'n enkele fase ontwikkel sal word.

Discuss the proposed access and parking:

Die ontwikkeling sal toegang vanaf Sandhoogteweg, 'n ondergeskikte straat wat direk met Hoofpad 344 (R102) verbind is, verkry. Sandhoogteweg is reeds gekonstrueer en die siglyne in Sandhoogteweg waar die privaat straat van die voorgestelde ontwikkeling by Sandhoogteweg aansluit is goed. Geen toegang probleme word dus na die voorgestelde ontwikkeling voorsien nie.

If there is any foreseeable potential source of nuisance that may be generated by the proposal, discuss how it will be mitigated:

In terme van die ontwikkelingsvoorstel word 'n residensiële woonbuurt voorgestel. Die voorstel sal in skakel by die karakter van die gebied soos gevisualiseer in terme van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022.

Indicate if any mitigating conditions are proposed:

N.v.t.

SECTION 4: ZONING/LAND USE COMPARISONS

If an application is made for a **rezoning or consent use** please provide a comparison between the existing and proposed development parameters as stipulated in the Mossel Bay Municipality Zoning Scheme By-Law:

Existing land use &/ zoning:	**Proposed** land use &/ zoning:
Vakant - Landbousone I	o **41 Algemene Residensiële Sone I erwe** o **1 Nutssone erf** o **4 Oopruimtesone II erwe** o **1 Vervoersone III (Privaat straat) erf** o **1 Vervoersone II (Publieke straat) erf**
Existing development parameters:	Development parameters of **proposed land use**:
Soos per die Mosselbaai Munisipaliteit: Geintegreerde Soneringskema Verordening, 2021	**Soos per die Mosselbaai Munisipaliteit: Geintegreerde Soneringskema Verordening, 2021**

SECTION 5: SPATIAL PLANNING AND LAND USE MANAGEMENT ACT, 2013 (ACT 16 OF 2013) (SPLUMA)

Is the proposal in line with the **development principles** as referred to in Chapter 2 of the **SPLUMA**? Please elaborate below:

Spatial Justice:

Ruimtelike geregtigheid		
Kriteria	**Nakoming**	**Beplanningsimplikasies**
Ruimtelike en ander ontwikkelingswanbalanse uit die verlede moet reggestel word deur verbeterde toegang tot en gebruik van grond.	**Word aan voldoen.**	**Onontwikkelde grond gaan by wyse van hierdie aansoek gediens en in residensiële erwe onderverdeel word. Die ontwikkeling wat deur middel van hierdie aansoek voorgestel word se teikenmark is die middel tot hoër inkomste groepe.**
Ruimtelike ontwikkelingsraamwerke en beleid by alle regeringsfere moet die insluiting van persone en gebiede wat voorheen uitgesluit was aanspreek, met klem op informele nedersettings, voormalige tuislande en gebiede wat gekenmerk word deur wydverspreide armoede en ontneming.	**Word aan voldoen.**	**Die Mosselbaai Munisipaliteit het 'n Ruimtelike Ontwikkelingsraamwerk vir die Groter Mosselbaai Munisipale gebied opgestel en goedgekeur wat ontwikkelingsvoorstelle insluit wat gerig is op die verbetering van die lewensgehalte van elke inwoner van die Groter Mosselbaai Munisipale gebied. Die ontwikkeling wat voorgestel word is in ooreenstemming met die bepalings en voorstelle vervat in die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022. Deur middel van hierdie ontwikkeling gaan 'n groot aantal tydelike en permanente werksgeleenthede geskep word. Verder gaan die ontwikkeling die geleentheid aan die Mosselbaai**

		Munisipaliteit bied om addisionele inkomste te gegeneer wat vir dienslewering aangewend kan word wat tot die verbetering van die lewensgehalte van die inwoner van Mosselbaai sal bydra. Die ontwikkeling sal dus 'n positiewe bydrae maak tot die verbetering van die lewensgehalte van elke inwoner van Mosselbaai.
Ruimtelike beplanningsmeganismes, met inbegrip van grondgebruikskemas, moet bepalings inkorporeer wat regstelling verleen in toegang tot grond deur benadeelde gemeenskappe en persone.	**Word gedeeltelik aan voldoen.**	**Die Mosselbaai Munisipaliteit het in die Geïntegreerde Soneringskema Verordening wat vir die Mosselbaai Munisipaliteit gebied goedgekeur is beplanningsmeganismes geinkorporeer wat ontwikkeling op erwe in besit van voorheen benadeelde gemeenskappe vergemaklik. 'n Spesiale residensiële sonering is in die verordening geskep waarby dit vir die benadeelde gemeenskap moontlik is om skuilings en huiswinkels op die tipe gesoneerde erwe op te rig. Verder is minder beperkende grondgebruikbeperkings ook op die tipe gesoneerde erwe van toepassing gemaak. Die Mosselbaai Munisipaliteit se soneringskema bevat dus bepalings wat die ontwikkeling van grond wat aan benadeelde persone behoort moontlik maak en vergemaklik. As gevolg van die hoë infrastruktuur koste om erwe in die omgewing van die Restant van Erf 2833 Groot Brakrivier te diens is dit onvermydelik dat die Restant van Erf 2833 Groot Brakrivier geoogmerk word vir ontwikkel wat gerig is op die middel tot hoër inkomste groep.**
Grondgebruikbestuurstelsels moet alle gebiede van 'n munisipaliteit insluit en moet spesifieke bepalings insluit wat buigsaam en toepaslik is vir die bestuur van benadeelde gebiede, informele	**Word aan voldoen.**	**Die Mosselbaai Munisipaliteit het in die Geïntegreerde Soneringskema Verordening wat vir die Mosselbaai Munisipaliteit gebied in 2022 goedgekeur is beplanningsmeganismes geinkorporeer wat ontwikkeling**

nedersettings en voormalige tuislande.		**op erwe in besit van voorheen benadeelde gemeenskappe vergemaklik. 'n Spesiale residensiële sonering is in die verordening geskep waarby dit vir die benadeelde gemeenskap moontlik is om skuilings en huiswinkels op die tipe gesoneerde erwe op te rig. Verder is minder beperkende grondgebruikbeperkings ook op die tipe gesoneerde erwe van toepassing gemaak. Die Mosselbaai Munisipaliteit se soneringskema bevat dus bepalings wat die ontwikkeling van grond wat aan benadeelde persone behoort moontlik maak en vergemaklik. As gevolg van die hoë infrastruktuur koste om erwe in die omgewing van die Restant van Erf 2833 Groot Brakrivier te diens is dit onvermydelik dat die Restant van Erf 2833 Groot Brakrivier geoogmerk word vir ontwikkel wat gerig is op die middel tot hoër inkomste groep. Die bepaling is egter nie op hierdie aansoek van toepassing nie.**
Grondontwikkelingsprosedures moet bepalings insluit wat toegang tot sekerheid van verblyfreg en die stapsgewyse opgradering van informele gebiede akkommodeer.	**N.v.t.**	**Die bepaling is nie op hierdie aansoek van toepassing nie.**
'n Munisipale Beplanningstribunaal, wanneer 'n aansoek voor hom gebring word, mag nie belemmer of beperk word in die uitoefening van sy diskresie op grond daarvan dat die waarde van die grond of eiendom deur die uitslag van die aansoek geraak sal word nie.	**Word aan voldoen.**	**Sover bekend word die Eden Gesamentlike Beplanningstribunaal – Mosselbaai Munisipaliteit se diskresie tydens oorweging van aansoeke nie beïnvloed deur die waarde van grond of eiendom nie. Besluitneming word sover bekend gebaseer op die beginsels, soos vermeld in Afdeling 7 van die Wet op Ruimtelike Beplanning en Grondgebruik, 2013 (Wet 16 van 2013).**

Principle of Spatial Sustainability:

Ruimtelike volhoubaarheid		
Kriteria	**Nakoming**	**Beplanningsimplikasies**
Bevorder grondontwikkeling wat binne die fiskale, institusionele en administratiewe vermoëns van die Republiek val.	**Word aan voldoen.**	**Die ontwikkelingsvoorstel wat die onderwerp van die aansoek vorm is binne die stedelike rand van Mosselbaai geleë en word in terme van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 vir residensiële ontwikkeling geoogmerk.**
Verseker dat spesiale oorweging geskenk word aan die beskerming van voorste en unieke landbougrond.	**Word aan voldoen.**	**Alhoewel die Restant van Erf 2833 Groot Brakriver Landbousone I gesoneer is, is dit binne die stedelike rand van die Mosselbaai Munisipaliteit geleë. Die bepalings van die Wet op die Onderverdeling van Landbougrond, 1970 (Wet 70 van 1970) is dus nie op die aansoek van toepassing nie.**
Handhaaf konsekwentheid van grondgebruikmaatreëls ooreenkomstig omgewingsbestuurbeginsels.	**Word aan voldoen.**	**Die voorgestelde ontwikkeling aktiveer sekere aktiwiteite wat in terme van regulasies uitgevaardig in terme van die Wet op Nasionale Omgewingsbestuur, 1998 (Wet 107 van 1998) as gelysde aktiwiteite beskou word en waarvoor daar omgewingsgoedkeuring benodig word. 'n Omgewingsgoedkeuring vir 'n vorige ontwikkelingsvoorstel vir die Restant van Erf 2833 Groot Brakrivier is op 3 Augustus 2010 deur die Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering uitgereik. Vir volledigheidsonthalwe word die goedkeuring hierby aangeheg. Die goedkeuring is op 18 Junie 2013 vir 5 jaar vanaf die oorsponklike goedkeuringsdatum deur die Departement van Omgewingsake en Ontwikkelingsbeplanning van die**

		Wes-Kaapse Regering verleng. Die skrywe ter bevestiging van die verlenging van die goedkeuringstydperk is hierby aangeheg. Die goedkeuring is daarna op 24 Augustus 2015 vir 'n verdere 2 jaar verleng. 'n Skrywe ter bevestiging van die verlenging van die goedkeuringstydperk is aangeheg. Die goedkeuring het egter intussen verval en die ontwikkelaar het Cape EAPrac aangestel om die nodige omgewingsaansoek vir die voorgestelde ontwikkeling soos aangetoon op die onderverdelingsplan wat hierby aangeheg is by die Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering vir oorweging in te dien. Die proses het reeds 'n aanvang geneem.
Bevorder en stimuleer doelmatige en billike funksionering van grondmarkte.	**Word aan voldoen.**	**Die voorgestelde ontwikkeling is in lyn met die toekomstige grondgebruik karakter van die gebied waarbinne die ontwikkeling geleë sal wees. Die totale ontwikkeling sal teen 'n beraamde koste van ongeveer R100 miljoen ontwikkel word met eiendomme wat geskep gaan word wat aan die behoeftes van die middelklas sal voldoen. Die voorstel sal nie die eiendomswaarde van die aanliggende eiendomme negatief beinvloed nie. Die ontwikkeling van hierdie eiendom gaan inderwaarheid 'n bydrae tot die opheffing van die gebied maak wat uiteindelik daartoe gaan bydra dat eiendomswaardes in die omgewing gaan verhoog.**
Oorweeg alle huidige en toekomstige kostes aan alle partye vir die voorsiening van infrastruktuur en maatskaplike dienste in grondontwikkelings.	**Word aan voldoen.**	**Siviele en elektriese diensteverslae sal deur Raadgewende Ingenieurs opgestel word. Alle siviele en elektriese dienste wat vir die voorgestelde ontwikkeling voorsien moet word sal op koste**

		van die ontwikkelaar voorsien word. Geen eksterne party sal dus vanuit 'n finansiële oogpunt 'n dienstebydrae tot die voorgestelde ontwikkeling hoef te maak nie.
Bevorder grondontwikkeling in plekke wat volhoubaar is en stadskruip beperk.	**Word aan voldoen.**	**Die eiendom is in terme van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 binne die stedelike rand van die Mosselbaai Munisipale gebied geleë en word in terme van die raamwerk vir stedelike ontwikkeling geoogmerk. Die voorstel gaan dus nie tot stadskruip aanleiding gee nie.**
Lei tot lewensvatbare gemeenskappe.	**Word aan voldoen.**	**Die voorgestelde ontwikkeling van die eiendom gaan 'n positiewe effek op die ekonomie van Mosselbaai uitoefen en daartoe bydra dat die Mosselbaai Munisipaliteit addisionele inkomste uit die ontwikkeling kan genereer, inkomste wat aangewend kan word tot die verbetering van die lewensgehalte van elke inwoner van Mosselbaai.**

Principle of efficiency:

Ruimtelike doeltreffendheid		
Kriteria	**Nakoming**	**Beplanningsimplikasies**
Grondontwikkeling moet die gebruik van bestaande hulpbronne en infrastruktuur optimaliseer.	**Word aan voldoen.**	**Die eiendom is binne 'n gebied geleë wat vir residensiële ontwikkeling geoogmerk word. Dienste meesterbeplanning is deur die Mosselbaai Munisipaliteit vir die gebied onderneem en die ontwikkeling sal binne die bepalings en riglyne vervat in die meesterbeplanning ontwikkel word.**
Ontwerp besluitnemingsprosedures om negatiewe finansiële, maatskaplike, ekonomiese of omgewingsinvloede te minimaliseer.	**Word aan voldoen.**	**Die punt verwys na prosedures wat deur die Mosselbaai Munisipaliteit daargestel moet word. Daar word aanvaar dat die Mosselbaai Munisipaliteit die**

		besluitnemingsprosedures in plek het. Uit die inhoud van hierdie motiveringsverslag is dit duidelik dat die voorgestelde ontwikkeling geen negatiewe finansiële, sosiale, ekonomiese of omgewingsimpak sal uitoefen nie.
Ontwikkelingtoepassingsprosedures doeltreffende en vaartbelyn is en alle partye by tydraamwerke hou.	**Word aan voldoen.**	**Die punt verwys na prosedures wat deur die Mosselbaai Munisipaliteit daargestel moet word. Daar word aanvaar dat die Mosselbaai Munisipaliteit se Ontwikkelingtoepassingsprosedures doeltreffend en vaartbelyn is en dat die Mosselbaai Munisipaliteit by tydraamwerke hou.**

Spatial Resilience:

Ruimtelike veerkragtigheid		
Kriteria	**Nakoming**	**Beplanningsimplikasies**
Buigsaamheid in ruimtelike planne, beleid en grondgebruikstelsels geakkommodeer word om volhoubare heenkomes te verseker in gemeenskappe wat die kwesbaarste is vir die invloed van ekonomiese en omgewingskokke.	**Word aan voldoen.**	**Die ontwikkeling wat die onderwerp van die aansoek vorm is binne die stedelike rand van Mosselbaai geleë en die eiendom word in terme van die Ruimtelike Ontwikkelingsraamwerk vir Mosselbaai, 2022 vir residensiële ontwikkeling geoogmerk.**

Principle of Good Administration:

Goeie administrasie		
Kriteria	**Nakoming**	**Beplanningsimplikasies**
Alle regeringsfere 'n geïntegreerde benadering tot grondgebruik en grondontwikkeling verseker wat gelê word deur die ruimtelike beplannings- en	**Dit is algemene beginsels waaraan die munisipaliteit moet voldoen.**	**Insette is van alle regeringsfere ontvang toe die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 opgestel is. 'n Geïntegreerde benadering, gelei deur die**

grondgebruikbestuurstelsel soos in hierdie Wet beliggaam.		**ruimtelike beplanning en grondgebruikbestuurstelsels soos vervat in hierdie Wet, is gevolg in die voorbereiding van die raamwerk.**
Alle regeringsdepartemente moet hul sektorinsette voorsien en enige ander voorgeskrewe vereistes nakom tydens die voorbereiding of wysiging van ruimtelike ontwikkelingsraamwerke.	**Dit is algemene beginsels waaraan die munisipaliteit moet voldoen.**	**Insette is van alle regeringsfere ontvang toe die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 opgestel is. 'n Geïntegreerde benadering, gelei deur die ruimtelike beplanning en grondgebruikbestuurstelsels soos vervat in hierdie Wet, is gevolg in die voorbereiding van die raamwerk.**
Die vereistes van enige wetsbepaling betreffende grondontwikkeling en grondgebruik tydig aan voldoen word.	**Dit is algemene beginsels waaraan die munisipaliteit moet voldoen.**	**Die Mosselbaai Munisipaliteit het die Mosselbaai Munisipaliteit: Verordening op Grondgebruikbeplanning, 2021 aangeneem wat prosedures en tydsraamwerke voorskryf waaraan ontwikkelaars moet voldoen wanneer hulle aansoeke vir grondgebruik indien, en wat amptenare in ag moet neem by die oorweging van aansoeke. Hierdie aansoek is opgestel ooreenkomstig die bepalings van die Verordening en die aansoek sal dus ooreenkomstig die tydsraamwerke soos voorgeskryf hanteer en oorweeg word.**
Die voorbereiding en wysiging van ruimtelike planne, beleid, grondgebruikskemas, asook prosedures vir ontwikkelingsaansoeke, sluit deursigtige prosesse van openbare deelname in wat alle partye die geleentheid gun om insette oor aangeleenthede wat hul raak, te gee.	**Dit is algemene beginsels waaraan die munisipaliteit moet voldoen.**	**Hierdie aansoek sal in ooreenstemming met die bepalings soos vervat in die Mosselbaai Munisipaliteit: Verordening op Grondgebruikbeplanning, 2021 geadverteer word. Alle partye sal dus die geleentheid kry om deel te neem aan die publieke deelname proses en sal die geleentheid kry om insette op die aansoek te lewer.**
Beleid, wetgewing en prosedures moet duidelik gestel word ten einde lede van die publiek in te lig en te bemagtig.	**Dit is algemene beginsels waaraan die munisipaliteit moet voldoen.**	**Die Mosselbaai Munisipaliteit: Verordening op Grondgebruikbeplanning, 2021 bevat duidelike prosedures wat ingestel is om lede van die publiek in te lig en te bemagtig. Hierdie aansoek sal aan hierdie prosedures onderwerp word.**

SECTION 6: WESTERN CAPE LAND USE PLANNING ACT, 2014 (ACT 3 OF 2014) (LUPA), GUIDELINES PREPARED BY THE PROVINCIAL MINISTER & PROVINCIAL SPATIAL DEVELOPMENT FRAMEWORK (PSDF)

The land use planning principles in Chapter VI of the LUPA also address the development principles in Chapter 2 of the SPLUMA mentioned above. However, the Provincial Minister may prescribe further land use planning principles. If there are any **land use planning principles prescribed by the Provincial Minister** that are applicable to the land use planning application, please elaborate below:

In terme van die "Land Use Planning Act, 2014 (Act 3 of 2014) (LUPA)" word dit van 'n munisipaliteit verwag om bo en behalwe die 5 ontwikkelings beginsels soos vervat in SPLUMA ook oorweging aan die versoenbaarheid van die voorstel met bestaande provinsiale en munisipale ruimtelike raamwerke en meer detail plaaslike ruimtelike raamwerke te skenk. In die opsig word daar na Artikel 19(1) en 19(2) van die "Land Use Planning Act, 2014 (Act 3 of 2014) (LUPA)"verwys wat as volg lees:

"19(1) If a spatial development framework or structure plan specifically provides for the utilization or development of land as proposed in a land use application or a land development application, the proposed utilization or development is regarded as complying with that spatial development framework or structure plan.

19(2) If a spatial development framework or structure plan does not specifically provides for the utilization or development of land as proposed in a land use application or a land development application, but the proposed utilization does not conflict with the purpose of the relevant designation in the spatial development framework or structure plan, the utilization or development is regarded as being consistent with that spatial development framework or structure plan."

Die versoenbaarheid van die aansoek met bestaande oorhoofse ruimtelike raamwerke wat op die ontwikkeling van toepassing is word in verskeie punte in hierdie aansoekvorm aangespreek.

Sover dit die ontwikkelingsbeginsels waarna daar in Artikel 59 van LUPA verwys word aanbetref, en wat ook in ag geneem moet word, stem dit direk ooreen met die beginsels van SPLUMA wat in detail hierbo bespreek is en is dus net so van toepassing op hierdie punt.

If there are any **guidelines prepared by the Provincial Minister** that are applicable to the land use planning application, please elaborate below:

N.v.t.

The PSDF is an important spatial planning and land use management tool that graphically portrays the Western Cape's spatial agenda. It coordinates, integrates and aligns Provincial plans and development strategies with policies of National Government; the plans, policies and development strategies of Provincial Departments; and the plans, policies and development strategies of municipalities. Is the proposal consistent with the **PSDF**? Please elaborate below:

1. Inleiding

Die Wes-Kaap Provinsiale Ruimtelike Ontwikkelingsraamwerk (WC-PSDF) maak nie net alleenlik voorsiening vir 'n nuwe ruimtelike ontwikkelingspatroon vir die Provinsie nie maar wys ook duidelik uit waar ontwikkeling wel mag plaasvind en waar dit nie mag plaasvind nie.

In terme van die raamwerk word daar melding gemaak van 'n aantal beginsels naamlik ruimtelike geregtigheid, ruimtelike volhoubaarheid, ruimtelike veerkragtigheid, ruimtelike doeltreffendheid, toeganklikheid en lewenskwaliteit en goeie administrasie waaraan ruimtelike beplanning moet voldoen. voldoen. Die impak van die aansoek op ruimtelike geregtigheid, ruimtelike volhoubaarheid, ruimtelike veerkragtigheid, ruimtelike doeltreffendheid, is reeds volledig in Section 5 hierbo bespreek en is daar aangetoon dat die voorgestelde ontwikkeling aan die genoemde beginsels voldoen.

'n Aantal beleidstellings word ook in terme van die WC-PSDF uitgelig wat spesifiek met die genoemde beginsels moet korreleer. Van die beleidstellings wat relevant tot hierdie stadsbeplanningsaansoek is sal in die volgende punte aangespreek word.

2. Beskerming van landbougrond

In terme van die WC-PSDF word dit uitgewys dat landbougrond beskerm moet word. Alhoewel die Restant van Erf 2833 Groot Brakrivier Landbousone I gesoneer is, is dit binne die stedelike rand van die Mosselbaai Munisipaliteit geleë. Die bepalings van die Wet op die Onderverdeling van Landbougrond, 1970 (Wet 70 van 1970) is dus nie op die aansoek van toepassing nie. Die eiendom word tans ook nie vir landboudoeleindes aangewend nie en die betrokke doelwit van die WC-PSDF is dus nie relevant tot hierdie aansoek nie.

3. "Sense of Place"

Die gebied waarbinne die voorgestelde ontwikkeling geleë is se karakter is besig om geleidelik van 'n landelike gebied na 'n stedelike gebied te verander met die Munisipaliteit van Mosselbaai wat residensiële ontwikkelings in die gebied aanmoedig. Die gebied is dus besig om geleidelik 'n residensiële karakter te ontwikkel.

Die "sense of place" van die spesifieke gebied is dus besig om geleidelik 'n residensiële karakter aan te neem. Die voorgestelde ontwikkeling wat op die Restant van Erf 2833 Groot Brakrivier gevisualiseer word gaan by hierdie karakter inskakel.

4. Verdigting

In terme van die WC-PSDF moet hoër digthede en meer kompakte stede geskep word. Volgens die raamwerk word daar aanbeveel dat dorpe moet verdig tot 'n gemiddelde digtheid van 25 eenhede per hektaar met ontwikkelingsdigthede van 3 tot 6 eenhede per hektaar op die rand van 'n dorp en digthede van tussen 40 tot 60 eenhede per hektaar in die kern van die stedelike gebied.

In die raamwerk word dit uitgelig dat daar op die digtheid besluit is na aanleiding van studies wat onderneem is en wat aangetoon het *"that this is the minimum density at which urban settlements begin to significantly improve their urban performance."*

Volgens die raamwerk skep die voorgestelde digtheid die volgende voordele:

- ***The ability to walk to a number of different destinations on foot.***
- ***Improve surveillance and security.***
- ***Employment and retail opportunities within easy distance.***
- ***Vibrant and active street scape.***

Die raamwerk stel dit verder dat *"the figure of an average gross density of 25 du/ha should be seen as a hurdle below which urban settlements will not perform adequately, and above which a number of positive opportunities begin to be achievable."*

Verhoogde digthede word volgens die raamwerk die beste toegepas in dorpe wat onder ontwikkelingsdruk verkeer en verhoogde digthede is volgens die raamwerk 'n belangrike stuk gereedskap om stadsverspreiding (*"urban sprawl")* teen te werk. Alhoewel Mosselbaai nie op hierdie stadium onder hoë ontwikkelingsdruk onderworpe is nie en stadsverspreiding nie op hierdie stadium 'n probleem is nie kan 'n aansoek van hierdie aard wel in die toekoms tot die beperking van stadsverspreiding bydra.

Volgens die raamwerk kan die verhoogde digtheid en die bekamping van stadsverspreiding deur middel van verskeie ontwikkelingsmoontlikhede bereik word. Onderverdelings van eiendomme, die ontwikkeling van addisionele wooneenhede asook deeltitel ontwikkelings, sloping en herontwikkeling, hoë digtheid woongebiede, woonstelblokke en invulling word as moontlike middele voorgehou waardeur hoër digthede bereik kan word.

Die opsie om onontwikkelde eiendomme wat binne die stedelike rand van 'n dorp geleë is en wat in terme van 'n goedgekeurde ruimtelike ontwikkelingsraamwerk vir residensiële ontwikkeling geoogmerk word, te ontwikkel word as 'n manier uitgewys om die verhoogde digtheid te bereik en stadsverspreiding teen te werk. Hierdie spesifieke voorstel behels die hersonering en onderverdeling van 'n Landbousone I gesoneerde eiendom wat binne die stedelike rand van Mosselbaai geleë is en in terme van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 vir residensiële ontwikkeling geoogmerk word. Hierdie ontwikkelingsvoorstel wat teen 'n gemiddelde digtheid van ongeveer 7 eenhede per hektaar ontwikkel gaan word, gaan daartoe bydra dat die digtheid wat deur die raamwerk voorgeskryf word uiteindelik bereik sal kan word en dat stadsverspreiding beperk word.

Dit is egter belangrik om uit te wys dat verdigting binne aanvaarbare gebiede moet plaasvind en dat dit nie moet afbreuk doen aan die omgewing waarbinne die verdigting voorgestel word nie. Hierdie onderverdeling vind binne die stedelike rand van Mosselbaai plaas asook in 'n omgewing wat in terme van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 vir residensiële ontwikkeling geoogmerk word. Die doelwitte soos voorgeskryf in die ontwikkelingsraamwerk word dus bereik met hierdie aansoek.

5. Self onderhoudendheid

Volgens die raamwerk moet enige ontwikkeling self onderhoudend wees. Dit impliseer dus dat *"the development needs of the present generations should be met without the ability of future generations to meet their own needs, being compromised."* Die ontwikkeling wat met hierdie aansoek voorgestel word sal self onderhoudend wees en geen las op die toekomstige inwoners van Mosselbaai plaas nie. Alle siviele en elektriese dienste wat vir die voorgestelde ontwikkeling voorsien moet word sal op koste van die ontwikkelaar voorsien word. Geen eksterne party sal dus vanuit 'n finansiële oogpunt 'n dienste bydrae tot die voorgestelde ontwikkeling hoef te maak nie.

Die ontwikkeling sal inderwaarheid 'n positiewe bydrae lewer tot die verbetering van die lewensgehalte van die inwoners van Mosselbaai deurdat dit 'n aansienlike bydrae tot die eiendomsbelasting struktuur van die Munisipaliteit van Mosselbaai gaan maak en ook groot getalle permanente werksgeleenthede gaan skep.

6. Samevattend

Vanuit die inhoud van hierdie punt blyk dit duidelik dat die aansoek wel as versoenbaar met die WC-PSDF beskou kan word.

SECTION 7: SOUTHERN CAPE REGIONAL SPATIAL IMPLEMENTATION FRAMEWORK (RSIF)

The RSIF is a regional scale plan to stimulate inter-municipal growth and development opportunities and to better support an integrated, regional approach to sustainable development and urban and rural area management practices. Is the proposal consistent with the **RSIF**? Please elaborate below:

Die RSIF spreek slegs oorhoofse beginsels, beleide en riglyne aan waarbinne plaaslike ruimtelike ontwikkelingsraamwerke opgestel moet word. Die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 omskryf, ondersteun en is gebaseer op die beginsels, beleide en riglyne vervat in die RSIF.

Soos vanuit die opvolgende paragrawe in hierdie aansoekvorm sal blyk is die ontwikkelingsvoorstel versoenbaar met die bepalings van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022. Daar word dus aangevoer dat die ontwikkelingsvoorstel dus versoenbaar sal wees met die beginsels, beleide en riglyne soos vervat in die RSIF.

SECTION 8: GARDEN ROUTE DISTRICT MUNICIPALITY INTEGRATED DEVELOPMENT PLAN (IDP) & DISTRICT SPATIAL DEVELOPMENT FRAMEWORK (DSDF)

The District IDP is a super-plan for an area that gives an overall framework for development. It is used by municipalities as a tool to plan short- and long-term future development. Is the proposal consistent with the **District IDP**? Please elaborate below:

Die District IDP verwys na die DSDF en die beplanningsbeginsels waarna in die DSDF verwys word. Geen detail word voorsien wat werklik op die vlak van hierdie aansoek relevant is nie.

The District SDF provides guidance to local municipalities in the District regarding future spatial planning, strategic decision-making and regional integration. Is the proposal consistent with the **DSDF**? Please elaborate below:

Die DSDF spreek slegs oorhoofse beginsels, beleide en riglyne aan waarbinne ruimtelike ontwikkeling binne munisipale gebiede moet voldoen. Die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 omskryf, ondersteun en is gebaseer op die beginsels, beleide en riglyne vervat in die DSDF.

Soos vanuit die opvolgende paragrawe in hierdie aansoekvorm sal blyk is die ontwikkelingsvoorstel versoenbaar met die bepalings van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022. Daar word dus aangevoer dat die ontwikkelingsvoorstel dus versoenbaar sal wees met die beginsels, beleide en riglyne soos vervat in die DSDF.

SECTION 9: MOSSEL BAY MUNICIPALITY INTEGRATED DEVELOPMENT PLAN (IDP) & MUNICIPAL SPATIAL DEVELOPMENT FRAMEWORK (MSDF)

The IDP is the Municipality's principle strategic plan that deals with the most critical development needs of the Municipality as well as the most critical governance needs of the organisation. Is the proposal consistent with the **IDP**? Please elaborate below:

In terme van die Mosselbaai Geintegreerde Ontwikkelingsplan, 2022 tot 2027 word agt strategieë geformuleer om die ruimtelike beplanningsbenadering en ruimtelike dryfvere te ondersteun, om sodoende ontwikkeling in die Groter Mosselbaai-gebied en die stedelike omgewing te rig en te bestuur. Elke strategie word ondersteun deur 'n stel beleide en beleidsriglyne waarop besluite gebaseer moet word en waarop aksies geneem kan word en waarvoor begroot kan word.

Strategie 4 handel spesifiek rondom stedelike groei en die herstrukturering van die stedelike vorm om in die Mosselbaai Gemeenskap se behoeftes te voorsien. Die strategie is spesifiek op hierdie aansoek van toepassing.

In terme van die strategie word die volgende beleidsriglyne neergelê waaraan ontwikkelingsaansoeke moet voldoen, naamlik

- ***"Policy 4A - Future urban form design is to be based on future scenario planning in the SDF"***

Die ontwikkeling wat vir die Restant van Erf 2833 Groot Brakrivier voorgestel word is binne 'n gebied geleë wat in terme van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 vir stedelike ontwikkeling geoogmerk word. Die aansoek is dus gebaseer op die ontwikkelingsvoorstelle soos vervat in die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022.

- ***"Policy 4B - Prioritize efficient urban form"***

  Die ontwikkelingsvoorstel vorm 'n sinvolle logiese ontwikkelingsvoorstel met die vorm van die uitleg wat rondom die fisiese beperkings van toepassing op die erf opgestel is.

- ***"Policy 4C - Creation of an Open Space/Conservation network"***

  Die Restant van Erf 2833 Groot Brakrivier word gekenmerk deur 'n laagtepunt ("ravine") wat vanaf die noord-oostelike hoek na die suid-westelike hoek van die eiendom oor die erf strek. Die "ravine" is op die onderverdelingsplan geidentifiseer (Gedeelte 45) en word met 'n 32 meter breë strook aan weerskante van die "ravine" beskerm. Geen ontwikkeling sal binne die gedeelte plaasvind nie en enige indringer plantegroei wat op die gedeeltes voorkom sal verwyder word. Dit is die voorneme om die gedeelte tot sy natuurlike staat te rehabiliteer.

- ***"Policy 4D - Implementation of biodiversity offsets as a tool for an efficient and sustainable urban form"***

  Aangesien die bestaande omgewingsgoedkeuring verval het en die ontwikkeling beslis gelysde aktiwiteite soos per omgewingswetgewing aktiveer het die ontwikkelaar Cape EAPrac aangestel om weereens 'n omgewingsaansoek in terme van die Wet op Nasionale Omgewingsbestuur, 1998 (Wet 107 van 1998) op te stel en by die Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering vir oorweging in te dien. Die proses het reeds 'n aanvang geneem. Daar word aanvaar dat mitigerende maatreëls en voorwaardes in enige nuwe omgewingsgoedkeuring vervat sal word om te verseker dat 'n effektiewe en volhoubare omgewing deur die ontwikkelingsvoorstel daargestel word.

- ***"Policy 4E - Maintain a compact settlement form to facilitate inclusion and integration and improved service delivery"***

  Die Restant van Erf 2833 Groot Brakrivier is binne die stedelike rand van Mosselbaai Munisipale Gebied geleë. Die voorstel sal dus nie tot stadsverspreiding aanleiding gee nie en sal dus tot 'n meer kompakte stedelike gebied aanleiding gee.

- **"*Policy 4F - Provide places of residence closer to places of work"***

  Die Restant van Erf 2833 Groot Brakrivier is binne die stedelike rand van Mosselbaai Munisipale Gebied geleë, dus 'n gebied waarbinne werksgeleenthede voorkom en voorsien kan word.

- ***"Policy 4G - Direct public investment (public facilities, amenities and services), commercial activity and residential densification towards the urban core and priority nodes"***

  Die Restant van Erf 2833 Groot Brakrivier is binne die stedelike rand van Mosselbaai Munisipale Gebied geleë. Daar word aanvaar dat daar met die opstel van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 oorweging aan hierdie aspek verleen is toe die posisie van die stedelike rand vir die Groot Brakrivier munisipale gebied bepaal is. Die Stadsbeplanningsafdeling van die Mosselbaai Munisipaliteit is dus duidelik van oordeel dat die ligging van die Restant van Erf 2833 Groot Brakrivier van so 'n aard is dat die ligging van die erf wel aan hierdie beleidsriglyn voldoen.

- ***"Policy 4H - Apply densification in existing settlements and neighbourhoods to a more compact urban pattern and to reduce cost of services to households"***

  Die Restant van Erf 2833 Groot Brakrivier is binne die stedelike rand van Mosselbaai Munisipale Gebied geleë. Die ontwikkelingsvoorstel maak vir verdigting voorsiening en gaan dus tot 'n meer kompakte stedelike gebied aanleiding gee.

In terme van die Ontwikkelingsplan word daar moontlike langtermyn stedelike uitbreiding scenarios vir verskeie gedeeltes van die Mosselbaai Munisipale Gebied uitgestippel. Die gedeelte van die Restant van Erf 2833 Groot Brakrivier is in terme van die stedelike uitbreiding scenario Groot Brakrivier in 'n gebied geleë wat vir medium tot hoë digtheid residensiële ontwikkeling geoogmerk word.

Die voorstel is dus in ooreenstemming met die voorstelle vervat in die Mosselbaai Geintegreerde Ontwikkelingsplan vir die tydperk 2022 tot 2027.

The purpose of the MSDF is to provide a long-term forward planning document which spatially indicates the long-term growth and development path of the Municipality. Is the proposal consistent with the **MSDF**? Please elaborate below:

Die Restant van Erf 2833 Groot Brakrivier is binne die studiegebied van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 (MROR) geleë. Volgens die MROR word die erf vir stedelike ontwikkeling geoogmerk. Hierdie aansoek maak vir stedelike ontwikkeling voorsiening en daar kan dus aangevoer word dat die voorstel wel versoenbaar is met die bepalings van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022.

SECTION 10: MUNICIPAL PRECINCT PLANS & POLICIES RELATING TO LAND USE PLANNING MATTERS

If there are any **Precinct Plans and/or policies** relating to land use planning matters that are applicable to this land use planning application, please elaborate below:

N.v.t.

SECTION 11: MUNICIPAL ENGINEERING SERVICES

Were any engineering reports compiled for this land use planning application?	Y	**N**	If Yes, specify:	

Discuss the impact on/availability of Municipal engineering services:

Streets & Stormwater services:

Urban Engineering Raadgewende Siviele Ingenieurs is aangestel om na die siviele dienste vereisets van die voorgestelde ontwikkeling om te sien. Die volledige Siviele Diensteverslag is hierby aangeheg.

Vanuit die gevolgtrekkings en aanbevelings vervat in die Siviele Diensteverslag blyk dit dat siviele dienste onderhewig aan die nakoming van sekere voorwaardes, voorsien sal kan word.

'n Dienste ooreenkoms sal na goedkeuring van die aansoek met die Mosselbaai Munisipaliteit onderteken word.

Water & Sanitation services:

Urban Engineering Raadgewende Siviele Ingenieurs is aangestel om na die siviele dienste vereisets van die voorgestelde ontwikkeling om te sien. Die volledige Siviele Diensteverslag is hierby aangeheg.

Vanuit die gevolgtrekkings en aanbevelings vervat in die Siviele Diensteverslag blyk dit dat siviele dienste onderhewig aan die nakoming van sekere voorwaardes, voorsien sal kan word.

'n Dienste ooreenkoms sal na goedkeuring van die aansoek met die Mosselbaai Munisipaliteit onderteken word

Electrical services:

Clinkscales Maughan-Brown (South) (Pty) Ltd Raadgewende Elektriese Ingenieurs is aangestel word om ondersoek in te stel na die beskikbaarheid/kapasiteit/voorsiening van elektriese dienste vir die voorgestelde ontwikkeling. Die volledige Elektriese Diensteverslag is by die aansoek aangeheg.

'n Dienste ooreenkoms sal na goedkeuring van die aansoek met die Mosselbaai Munisipaliteit onderteken word.

Waste Management services:

Die ontwikkeling sal by die bestaande munisipale diens wat in die omgewing beskikbaar is en aangebied word, inskakel

SECTION 12: OTHER INVESTIGATIONS/LEGISLATION

If there were any investigations/applications in terms of other legislation [e.g. Environmental, Noise or Visual Impact Assessments, Water Use Licence Application (WULA), Heritage Impact Assessment or Notice of Intent to Develop (NID)] please specify and provide a summary of the outcome below:

1. Wet op Nasionale Omgewingsbestuur, 1998 (Wet 107 van 1998)

Die voorgestelde ontwikkeling aktiveer sekere aktiwiteite wat in terme van regulasies uitgevaardig in terme van die Wet op Nasionale Omgewingsbestuur, 1998 (Wet 107 van 1998) as gelysde aktiwiteite beskou word en waarvoor daar omgewingsgoedkeuring benodig word.

'n Omgewingsgoedkeuring vir 'n vorige ontwikkelingsvoorstel vir die Restant van Erf 2833 Groot Brakrivier is op 3 Augustus 2010 deur die Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering uitgereik. Vir volledigheidsonthalwe word die goedkeuring hierby aangeheg. Die goedkeuring is op 16 Junie 2013 vir 'n verdere 5 jaar deur die Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering verleng. Die skrywe ter bevestiging van die verlenging van die goedkeuringstydperk is hierby aangeheg. Die goedkeuring is daarna op 24 Augustus 2015 vir 'n verdere 2 jaar verleng. 'n Skrywe ter bevestiging van die verlenging van die goedkeuringstydperk is hierby aangeheg.

Die goedkeuring het egter intussen verval en die ontwikkelaar het Cape EAPrac aangestel om die nodige omgewingsaansoek vir die voorgestelde ontwikkeling soos aangetoon op die onderverdelingsplan wat hierby as aangeheg is by die Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering vir oorweging in te dien. Die proses het reeds 'n aanvang geneem. Die munisipaliteit sal van die besluit van die betrokke departement in kennis getsel word sodra dit ontvang word.

2. Wet op Nasionale Erfenishulpbronne, 1999 (Wet 25 van 1999)

'n Erfenis impakstudie vorm 'n integrale deel van enige omgewingsproses. Daar word dus aanvaar dat die nodige toestemming in terme van Wet 25 van 1999 tot die ontwikkeling van die Restant van Erf 2833 Groot Brakrivier tydens die oorspronklike omgewingsproses waarna daar in punt 8.6.1 hierbo verwys word verkry is. Indien dit egter nie die geval is nie sal die nodige aansoek om toestemming van Erfenis We-Kaap as deel van die huidige omgewingsproses verkry word. Indien 'n goedkeuring van Erfenis We-Kaap verkry moet word sal die munisipaliteit van die nodige goedkeuring voorsien word sodra dit ontvang word.

3. Wet op die Onderverdeling van Landbougrond, 1970 (Wet 70 van 1970)

Alhoewel die erf Landbousone I gesoneer is, is die Wet op die Onderverdeling van Landbougrond, 1970 (Wet 70 van 1970) nie op die erf van toepassing nie aangesien die erf binne die stedelike rand van Mosselbaai Munisipaliteit geleë is.

SECTION 13: DESIRABILITY

The criteria for decision-making are stipulated in Chapter V, Section 65 of the Mossel Bay By-law on Municipal Land Use Planning, 2021. When a land use planning application is considered it must have regard to the desirability of the proposal. Please elaborate below:

Influence of the proposal on the existing **character** of the area:

Die Restant van Erf 2833 Groot Brakrivier is op die suid-westelike grens van Groot Brakrivier geleë met die Avondrus ontwikkeling wat noord-oos van die erf geleë is. Die Groenkloof ontwikkeling is suid-wes van die erf geleë. Die gebied waarbinne die erf geleë is word in terme van die Mosselbaai Ruimtelike Ontwikkelingsraamwerk, 2022 vir residensiële uitbreiding geoogmerk en alles dui daarop dat daar van owerheidskant aanvaar word dat die gebied uiteindelik oor 'n stedelike karakter gaan beskik.

Die ontwikkeling van die erf soos voorgestel gaan verdere stukrag verleen aan die stedelike karakter wat besig is om in die gedeelte van Groot Brakrivier te ontwikkel.

Influence of the proposal on the **rights of residents** with regard to property values, privacy, view, sunlight:

Die voorgestelde ontwikkeling is in lyn met die toekomstige grondgebruik karakter van die gebied waarbinne die ontwikkeling geleë sal wees. Die totale ontwikkeling sal teen 'n beraamde koste van ongeveer R100 miljoen ontwikkel word met eiendomme wat geskep gaan word wat aan die behoeftes van die middelklas sal voldoen. Die voorstel sal nie die eiendomswaarde van die aanliggende eiendomme negatief beinvloed nie. Die ontwikkeling van hierdie eiendom gaan inderwaarheid 'n bydrae tot die opheffing van die gebied maak wat uiteindelik daartoe gaan bydra dat eiendomswaardes in die omgewing gaan verhoog.

Influence of the proposal on **traffic and parking** in the area:

'n Verkeersimpakstudie vir die voorgestelde ontwikkeling op die Restant van Erf 2833 Groot Brakrivier is deur Urban Engineering onderneem.

Vanuit die opsomming en aanbevelings in die Verkeersimpakstudie blyk dit duidelik dat die ontwikkeling vanuit 'n verkeersoogpunt, onderhewig aan sekere voorwaardes, ondersteun kan word. Die aspek plaas dus geen beperking op die ontwikkelingsvoorstel nie.

Influence of the proposal on **surrounding facilities** such as schools, open spaces and other community facilities if the application leads to an increase in the residents of the area:

Oopruimte met 'n totale oppervlakte van ongeveer 3.56 hektaar wat vir gebruik en benutting aan die inwoners van die ontwikkeling beskikbaar sal wees sal binne die ontwikkelingsgebied self voorsien word. Daar sal dus binne die ontwikkeling self aan die oopruimte behoeftes van die inwoners voldoen word.

Die ontwikkelingsgebied is binne maklike bereik van alle gemeenskapsfasiliteite in Groot Brakrivier. Die beskikbaarheid van gemeenskapsfasiliteite plaas dus nie 'n beperking op die ontwikkelingsvoorstel nie.

Daar kan verwag word dat 'n aantal van die wooneenhede deur 'n uitgebreide gesin met skoolgaande kinders bewoon sal word. Die omvang van die voorstel is egter sodanig dat die aantal skoolgaande kinders wat in die spesifieke ontwikkeling woonagtig sal wees nie van so 'n omvang sal wees dat dit druk op die bestaande skole wat die gebied bedien sal plaas nie.

SECTION 14: REMOVAL OF RESTRICTIONS

This section should only be completed if an application is made for the **removal, suspension or amendment of restrictive conditions** in respect of a land unit.

The financial or other value of the rights in terms of the restrictive condition enjoyed by a person or entity, irrespective of whether these rights are personal or vest in the person as the owner of a dominant tenement:
N.v.t.
The personal benefits which accrue to the holder of rights in terms of the restrictive condition and/or to the person seeking the removal:
N.v.t.
Social benefit of the restrictive condition remaining in place, and/or being removed/amended:
N.v.t.
Will the removal, suspension or amendment completely remove all rights enjoyed by the beneficiary or only some of those rights?
N.v.t.

SECTION 15: EXTENSION OF VALIDITY PERIOD OF APPROVAL

This section should only be completed if an application is made for an **extension of validity period of approval**.

Did the circumstances prevailing at the time of the original approval materially changed?
N.v.t.
Did legislative or policy requirements applicable to the approval from the time of the original approval materially changed?
N.v.t.
Is there a pending review application in court which may have an effect on the date of implementation?
N.v.t.

PART F: SUPPORTING INFORMATION AND DOCUMENTATION FOR LAND USE PLANNING APPLICATION

KINDLY NOTE:

- The following documentation must be attached to this application form, except when exempted.

- The Municipality may request any other information deemed necessary for the purpose of this application.
- The Municipality may at a pre-application consultation meeting add or remove any information or documents listed in section 38(1) of the of the Mossel Bay By-law on Municipal Land Use Planning, 2021.
- The Annexures listed below must strictly be referenced as indicated in **bold**.
- If any Annexures listed below is not attached do not rename Annexures.
- Incomplete applications will not be accepted by the Municipality.

ANNEXURES ATTACHED	**Tick**	
Pre-application feedback/Consultation Minutes TO BE ATTACHED AS **ANNEXURE A**	**Y**	
Written Motivation TO BE ATTACHED AS **ANNEXURE B**	**Y**	
Locality Plan TO BE ATTACHED AS **ANNEXURE C**	**Y**	
Layout Plan and any sketch plans TO BE ATTACHED AS **ANNEXURE D**	**Y**	
S.G. diagram / General Plan extract TO BE ATTACHED AS **ANNEXURE E**	**Y**	
Full copy of the title deed TO BE ATTACHED AS **ANNEXURE F**	**Y**	
Conveyancer's certificate TO BE ATTACHED AS **ANNEXURE G**	**Y**	N
Power of attorney if applicant is not owner TO BE ATTACHED AS **ANNEXURE H**	**Y**	N
Bondholder's consent (if applicable) TO BE ATTACHED AS **ANNEXURE I**	Y	**N**
Home Owner's Association consent / proof of failure of Home owner's association (if applicable) TO BE ATTACHED AS **ANNEXURE J**	Y	**N**
Copy of previous land use planning approval letter (if applicable) TO BE ATTACHED AS **ANNEXURE K**	Y	**N**
Any Engineering reports TO BE ATTACHED AS **ANNEXURE L**	**Y**	N
Any approvals from External Departments TO BE ATTACHED AS **ANNEXURE M**	**Y**	N
Any comments obtained from External Departments or Organisations TO BE ATTACHED AS **ANNEXURE N**	**Y**	N
Other additional documents or information not mentioned above, that were requested in the pre-application consultation minutes/feedback TO BE ATTACHED AS **ANNEXURE O**	Y	**N**
Other TO BE ATTACHED AS **ANNEXURE P** (please specify): **N.v.t.**	Y	**N**

PART G: DECLARATION

I hereby wish to confirm the following:

1. That the information contained in this application form and accompanying documentation is complete and correct.
2. I'm aware that it is an offense in terms of section 86(1)(d) to supply particulars, information or answers knowing the particulars, information or answers to be false, incorrect or misleading or not believing them to be correct.
3. I am properly authorized to make this application on behalf of the owner and (where applicable) that a copy of the relevant power of attorney or consent are attached hereto.
4. Where an agent is appointed to submit this application on the owner's behalf, it is accepted that correspondence from and notifications by the Municipality in terms of the By-law will be sent only to the agent and that the owner will regularly consult with the agent in this regard.
5. That this submission includes all necessary land use planning applications required to enable the development proposed herein.
6. I confirm that the relevant title deed(s) have been read and that there are no restrictive title deed restrictions, that impact on this application, or alternatively an application for removal/suspension or amendment forms part of this submission.
7. I am aware that development charges to the Municipality in respect of the provision and installation of external engineering services are payable by the applicant/developer as a result of the proposed development.
8. I am aware that I am fully responsible for ensuring that the Public Participation Process is carried out in accordance with the How-to Guide for Public Participation Process and that I will bear all related costs.

Applicant's signature:  Date**: 21 Mei 2024**

Full name: **Johannes George Vrolijk**

Bylaag “C”: Vooraf konsultasie vergadering notule

Mossel Bay
6500

e-mail: admin@mosselbay.gov.za
www.mosselbaymun.co.za

LAND USE PLANNING PRE-APPLICATION CONSULTATION MINUTES

KINDLY NOTE: Please note that a pre-application consultation is an advisory session and does not in any way pre-empt the process and/or outcome of any future application which may be submitted to the Municipality.

Applicant Name	Formaplan
Property Description	Erf 2833, Great Brak River
Proposed application	Rezoning & Subdivision
Meeting Date & Time	25/03/2022 @ 10:00
Place	4th floor, committee room (town planning)

ATTENDANCE REGISTER

Name & Surname	Company/ Department	Email address	Phone/ Cell	Signature/ Via Teams
Dr W. H. DE VILLIERS	NEWCARE	whdevilliers@gmail.com	0834164476	[signature]
Philip Theron	Formaplan	philip@formaplan.co.za	0627709066	[signature]
Ruan le Roux	MBM	rleroux@mosselbay.gov.za	044 606 5077	[signature]
Raimo Fernandez	MBM	rfernandez@mosselbay.gov.za	044 606 5012	[signature]
Olga le Roux	MBM	oleroux@mosselbay.gov.za	044 606 5074	[signature]
Eddie Kruger	MBM	ekruger@mosselbay.gov.za	044 606 5070	[signature]
Evan Jacobs	MBM	ejacobs@mosselbay.gov.za	044 606 5000 (ext. 6315)	[signature]
Samelangolwazi Mbunge	MBM	smbunge@mosselbay.gov.za	044 606 5000 (ext. 6316)	[signature]

NOTES

- In the past years the Municipality experienced an ongoing trend of smallholding erven being poorly managed/unsustainable, resulting in property owners submitting additional Land Use applications (i.e. subdivision applications).
- It is advisable to establish a private road & register a servitude that will be maintained by a HOA. This private road/servitude is to be addressed in the motivation report along with the accessibility of Erven 2832 & 4650, Great Brak River, the refuse removal, and functionality of the development.
- Clearance of vegetation may trigger a listed activity in terms of NEMA (please consult an environmental specialist).
- Footprint and/or clearing must be indicated in developable areas on SDP. Footprint and clearing must be surveyed prior to development.
- Services to be installed by developer in line with a Services Agreement between the Municipality and developer if required.
- Comments from the Planning & Environmental Departments (DEA&DP) and the Department of Forestry will be required.
- Please consult the proposed draft SDF for future development potential of the property.

Is a **Conveyancer's Certificate** required for this application?	YES

Minuted by: Samelangolwazi Mbunge **Signature:**

Bylaag “D”: Titelakte

171

Hennie Van Rooyen Attorneys
Ou Kollege Building
35 Church Street
Stellenbosch
7600

Prepared by me,

CONVEYANCER
HENDRIK VAN ROOYEN
LPCM 58349

Deeds Office Registration fees as per Act 47 of 1937		
	Amount	Office Fee
Purchase Price	R 2 700 000,00	R 1778,00
All other		
Reason for exemption	Category Exemption	Exemption I.t.o. Sec/Reg Act/Proc

T 000010193 / 2022

DEED OF TRANSFER

BE IT HEREBY MADE KNOWN:

THAT ANNECKE LOUW (80989)

appeared before me, REGISTRAR OF DEEDS **at CAPE TOWN**, he/she, the said Appearer, being duly authorised thereto by a Power of Attorney granted to him/her by

SECTOR FIVE TRADING 76 PROPRIETARY LIMITED

Registration Number 2003/016618/07

dated 28 January 2022

and signed at STELLENBOSCH

DATA VERIFY
18-03-2022
PENELOPE NOGWAN

AND the said Appearer declared that his/her principal had on **20 November 2021** truly and legally sold by Private Treaty and that he/she, the said Appearer in his/her capacity aforesaid, did, by these presents cede and transfer to and on behalf of:

NEWCARE INNOVATIONS PROPRIETARY LIMITED
Registration Number 2018/053092/07

its successors in title or assigns in full and free property:

REMAINDER ERF 2833 GREAT BRAK RIVER
IN THE MUNICIPALITY AND DIVISION MOSSEL BAY
WESTERN CAPE PROVINCE

IN EXTENT: 6,0372 (SIX COMMA ZERO THREE SEVEN TWO) HECTARES

FIRST TRANSFERRED by Deed of Transfer Number T50845/2004 with Diagram LG No 5859/2003 relating thereto and held by Deed of Transfer Number T69814/2005

I. **AS INDICATED** by the figure AxDEFGHJ on Diagram LG 5859/2003:

A. **SUBJECT** to the conditions referred to in Deed of Transfer Number T21752/1975.

B. **ENTITLED** to the benefit of the conditions contained in Deeds of Transfers Nos T7046/1913, T7047/1913, T7408/1913 and T7049/1913 which refer to a right of way over the properties thereby transferred.

II. **AS INDICATED** by the figure xBCD on Diagram LG No 5859/2003.

A. **SUBJECT** to the conditions referred to in Deed of Transfer Number T22636/1977.

B. **SUBJECT** to the terms of the following endorsement dated 22nd February 1952 endorsed on Deed of Transfer Number T6317/1935:

"Registration of Servitude:

By Deed of Transfer Number 2281/1952 dd this day the Remdr of Cedar Villa – 8,2956 morg held under Para 1 hereof is entitled to a right of way over Portion 81 1,001 mgn thereby transferred along the road 20' in width marked on the boundary AE of Diagram 4719/1950 of Portion 81 thereto annexed as will more fully appear on reference to the said Deed of Transfer."

III. **IN RESPECT OF THE WHOLE PROPERTY**

A. **SUBJECT** to a servitude road 20 metres wide the western boundary of which is indicated by the line AH on Diagram LG No 5859/2003 in favour of the remainder of portion 124 of the farm Wolwedans No 129 extent 7,9467 hectares held by Certificate of Consolidated Title Number T74618/1989.

WHEREFORE the Appearer, renouncing all the right, title and interest which the said

SECTOR FIVE TRADING 76 PROPRIETARY LIMITED

heretofore had to the premises, did, in consequence also acknowledge him, to be entirely dispossessed of, and disentitled to, the same; and that, by virtue of these presents, the said

NEWCARE INNOVATIONS PROPRIETARY LIMITED,

its successors in title or assigns now is and henceforth shall be entitled thereto, conformably to local custom, the State, however, reserving its rights, and finally acknowledging the purchase price of the property hereby transferred to be the sum of

R2 700 000,00 (TWO MILLION SEVEN HUNDRED THOUSAND RAND).

IN WITNESS WHEREOF I, the said Registrar of Deeds together with the Appearer, have subscribed to these presents, and have caused the Seal of Office to be affixed thereto.

THUS DONE AND EXECUTED at the Office of the REGISTRAR OF DEEDS **at CAPE TOWN** on 15 March 2022

q.q. Signature of Appearer

In my presence:

Registrar of Deeds

Bylaag “E”: Volmag

Volmag

Hiermee verleen ek

Willem Hermanus De Villiers

in my hoedanigheid as die gevolmagtigde Direkteur van

Newcare Inovations (Pty) Ltd Registrasienommer 2018/053092/07

magtiging aan

Jan Vrolijk Town Planner / Stadsbeplanner

om die volgende aansoeke te loods en alle relevante dokumentasie te onderteken:

- 'n Aansoek in terme van Artikel 15(2)(a) van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 vir die hersonering van Erf 2833 Groot Brakrivier vanaf Landbousone I na 'n Onderverdelingsgebied bestaande uit Enkel Residensiële Sone I erwe (± 1.44 hektaar), Algemene Residensiële Sone I erwe (± 0.83 hektaar), Oopruimtesone II erwe (± 2.28 hektaar), 'n Vervoersone III erf (Privaat straat) (± 1.44 hektaar) en 'n Vervoersone II erf (Publieke straat) (± 0.35 hektaar).
- 'n Aansoek in terme van Artikel 15 (2)(d) van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 vir die onderverdeling van die Onderverdelingsgebied in die volgende erwe:

    - 14 Enkel Residensiële Sone I erwe (Gedeeltes 38 tot 51);
    - 37 Algemene Residensiële Sone I erwe (Gedeeltes 1 tot 37)
    - 3 Oopruimtesone II erwe (Gedeeltes 52 tot 54);
    - 1 Vervoersone III (Privaat straat) erf (Gedeelte 55), en
    - 1 Vervoersone II (Publieke straat) erf (Gedeelte 56).

Geteken te George op 4 November 2022.

Willem Hermanus De Villiers

Bylaag “F”: Resolusie

BESLUIT GENEEM TYDENS 'N VERGADERING VAN DIE DIREKTEURE VAN NEWCARE INNOVATIONS (PTY) LTD REGISTRASIENOMMER 2018/053092/07 GEHOU OP 4 NOVEMBER 2022 TE GEORGE

BESLUIT DAT

Willem Hermanus de Villiers in sy kapasiteit as 'n Direkteur van Newcare Innovations (Pty) Ltd Registrasienommer 2018/053092/07 gemagtig word om Jan Vrolijk Town Planner/Stadsbeplanner aan te stel om die volgende aansoeke te loods en alle relevante dokumentasie te onderteken:

- 'n Aansoek in terme van Artikel 15(2)(a) van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 vir die hersonering van Erf 2833 Groot Brakrivier vanaf Landbousone I na 'n Onderverdelingsgebied bestaande uit Enkel Residensiële Sone I erwe (± 1.44 hektaar), Algemene Residensiële Sone I erwe (± 0.83 hektaar), Oopruimtesone II erwe (± 2.28 hektaar), 'n Vervoersone III erf (Privaat straat) (± 1.44 hektaar) en 'n Vervoersone II erf (Publieke straat) (± 0.35 hektaar).
- 'n Aansoek in terme van Artikel 15(2)(d) van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 vir die onderverdeling van die Onderverdelingsgebied in die volgende erwe:

    - 14 Enkel Residensiële Sone I erwe (Gedeeltes 38 tot 51);
    - 37 Algemene Residensiële Sone I erwe (Gedeeltes 1 tot 37)
    - 3 Oopruimtesone II erwe (Gedeeltes 52 tot 54);
    - 1 Vervoersone III (Privaat straat) erf (Gedeelte 55), en
    - 1 Vervoersone II (Publieke straat) erf (Gedeelte 56).

LEDE HANDTEKENINGE

Willem Hermanus de Villiers

Emmarentia de Villiers

DE VILLIERS

Bylaag “G”: Maatskappy dokument

Company
NEWCARE INNOVATIONS, K2018/053092/07

Lexis® WinDeed

This report is compiled exclusively from the very latest data directly supplied to WinDeed by the Companies and Intellectual Property Commission (CIPC).

Any personal information obtained from this search will only be used as per the Terms and Conditions agreed to and in accordance with applicable data protection laws including the Protection of Personal Information Act, 2013 (POPI), and shall not be used for marketing purposes.

SEARCH CRITERIA

Search Date	2022/11/04 08:35	Registration Number	201805309207
Reference	-	Information Source	COMPANIES AND INTELLECTUAL PROPERTY COMMISSION
Report Print Date	2022/11/04 08:36		

COMPANY SUMMARY

Name	NEWCARE INNOVATIONS	Status	IN BUSINESS
Registration Number	2018/053092/07	Registration Date	2018/02/05

DIRECTORS AND OTHER SUMMARY (5)

ACTIVE

Name	ID/Reg. Number	Type	Status
DE VILLIERS, EMMARENTIA	6706140120086	DIRECTOR	ACTIVE
DE VILLIERS, WILLEM HERMANUS	5212215051083	DIRECTOR	ACTIVE

INACTIVE

Name	ID/Reg. Number	Type	Status
GOUWS, CHRISTIAN	5908285147087	DIRECTOR	RESIGNED
PRETORIUS, DANIËL JOHANNES JACOBUS	7603155009081	DIRECTOR	RESIGNED
TAYLOR, VICTOR VAN ZYL	6610245183082	DIRECTOR	RESIGNED

AUDITOR SUMMARY

No auditor summary to display

COMPANY INFORMATION

Enterprise Name	NEWCARE INNOVATIONS	Status	IN BUSINESS
Registration Number	2018/053092/07	Enterprise Type	PRIVATE COMPANY
Tax Number	9178598232	Business Start Date	2018/02/05
Short Name	-	Registration Date	2018/02/05
Translated Name	-	Financial Year End	2
Old Registration Number	-	Financial Effective Date	-
Conv. Enterprise Number	-	CK Date Received	-

Region	-	CK Date	-
Country	SOUTH AFRICA	Date of Type	2018/02/05
Country of Origin	-		
Issued Shares	-		
Issued Capital	-		
Authorized Shares	4 000		
Authorized Capital	-		
Industry Code	-		
Industry	-		
Principal Business	BUSINESS ACTIVITIES NOT RESTRICTED.		
Registered Address	PLAAS DIEPEKLOOF NR 226 SINKSABRUG DISTRIK GEORGE WESTERN CAPE 6535	Postal Address	POSBUS 4984 GEORGE-OOS GEORGE-OOS WESTERN CAPE 6539

DIRECTORS AND OTHER (5)

DE VILLIERS, EMMARENTIA — 1 of 5 Directors

Name	EMMARENTIA	Status	ACTIVE
Surname	DE VILLIERS	Type	DIRECTOR
Initials	E	Appointment Date	2018/02/05
ID/Passport Number	6706140120086	Resignation Date	-
Date of Birth	1967/06/14	Member Size (%)	-
Profession	-	Member Contribution (R)	-
Country of Residence	SOUTH AFRICA		
Residential Address	43 1 GOUWS AVENUE RASLOUW CENTURION GAUTENG 0157		
Postal Address	P O BOX 8844 CENTURION CENTURION GAUTENG 0046		

DE VILLIERS, WILLEM HERMANUS — 2 of 5 Directors

Name	WILLEM HERMANUS	Status	ACTIVE
Surname	DE VILLIERS	Type	DIRECTOR
Initials	W	Appointment Date	2018/02/05
ID/Passport Number	5212215051083	Resignation Date	-
Date of Birth	1952/12/21	Member Size (%)	-
Profession	-	Member Contribution (R)	-
Country of Residence	SOUTH AFRICA		

Residential Address	43 1 GOUWS AVENUE RASLOUW CENTURION GAUTENG 0157		
Postal Address	P O NOC 8844 CENTURION CENTURION GAUTENG 0046		

GOUWS, CHRISTIAN — 3 of 5 Directors

Name	CHRISTIAN	Status	RESIGNED
Surname	GOUWS	Type	DIRECTOR
Initials	C	Appointment Date	2018/02/05
ID/Passport Number	5908285147087	Resignation Date	2018/02/05
Date of Birth	1959/08/28	Member Size (%)	-
Profession	-	Member Contribution (R)	-
Country of Residence	SOUTH AFRICA		
Residential Address	329 ANCHELLA STREET FAERIE GLEN PRETORIA GAUTENG 0043		
Postal Address	P O BOX 35465 MENLO PARK PRETORIA GAUTENG 0102		

PRETORIUS, DANIËL JOHANNES JACOBUS — 4 of 5 Directors

Name	DANIËL JOHANNES JACOBUS	Status	RESIGNED
Surname	PRETORIUS	Type	DIRECTOR
Initials	D	Appointment Date	2018/02/05
ID/Passport Number	7603155009081	Resignation Date	2018/11/05
Date of Birth	1976/03/15	Member Size (%)	-
Profession	-	Member Contribution (R)	-
Country of Residence	SOUTH AFRICA		
Residential Address	653 CAMILE STREET GARSFONTEIN GARSFONTEIN GAUTENG 0043		
Postal Address	653 CAMILE STREET GARSFONTEIN GARSFONTEIN GAUTENG 0043		

TAYLOR, VICTOR VAN ZYL — 5 of 5 Directors

Name	VICTOR VAN ZYL	Status	RESIGNED
Surname	TAYLOR	Type	DIRECTOR
Initials	V	Appointment Date	2018/02/05
ID/Passport Number	6610245183082	Resignation Date	2018/11/05
Date of Birth	1966/10/24	Member Size (%)	-
Profession	-	Member Contribution (R)	-
Country of Residence	SOUTH AFRICA		
Residential Address	96 LINDFIELD ROAD LYNNWOOD MANOR PRETORIA GAUTENG 0081		
Postal Address	96 LINDFIELD ROAD LYNNWOOD MANOR PRETORIA GAUTENG 0081		

SECRETARY COMPANIES AND CCS

No secretary companies and CCS to display

COMPANY SECRETARY NATURAL PERSONS

No company secretary natural persons to display

BOTH DIRECTOR / OFFICERS

No both director / officers to display

ALTERNATIVE DIRECTORS

No alternative directors to display

OFFICERS

No officers to display

LOCAL MANAGERS

No local managers to display

TRUSTS

No trusts to display

AUDITOR

No auditor to display

CAPITAL INFORMATION (1)				
Type	No of Shares	Parri Value	Capital Amount (R)	Capital Premium
AUTHORIZED ORDINARY	1 000	1	-	-

HISTORY (16)	
Effective Date	Change Type
2022/03/25	CO/CC ANNUAL RETURN (COMPANY / CLOSE CORPORATION AR FILING - WEB SERVICES : REF NO. : 5363038128)
2021/04/12	CO/CC ANNUAL RETURN (COMPANY / CLOSE CORPORATION AR FILING - WEB SERVICES : REF NO. : 5344479020)
2020/12/23	REGISTERED ADDRESS CHANGE (PLAAS DIEPEKLOOF NR 226 SINKSABRUG DISTRIK GEORGE WESTERN CAPE6535)
2020/12/15	RE-INSTATE APPLICATION (COMPANY / CLOSE CORPORATION AR FILING - WEB SERVICES : REF NO. : 5330903429)
2020/09/12	AR IN DEREGISTRATION (ANNUAL RETURN NON COMPLIANCE - IN PROCESS OF DEREGISTRATION NO PAYMENT HAVE BEEN MADE.)
2018/11/15	DIRECTOR/MEMBER/SECRETARY/TRUST/BOTH DIRECTOR AND OFFICER (DIRECTOR VICTOR VAN ZYL TAYLOR DETAILS WAS CHANGED)
2018/11/15	DIRECTOR/MEMBER/SECRETARY/TRUST/BOTH DIRECTOR AND OFFICER (DIRECTOR DANIËL JOHANNES JACOBUS PRETORIUS DETAILS WAS CHANGED)
2018/11/15	DIRECTOR/MEMBER/SECRETARY/TRUST/BOTH DIRECTOR AND OFFICER (DIRECTOR EMMARENTIA DE VILLIERS DETAILS WAS CHANGED)
2018/11/15	DIRECTOR/MEMBER/SECRETARY/TRUST/BOTH DIRECTOR AND OFFICER (DIRECTOR WILLEM HERMANUS DE VILLIERS DETAILS WAS CHANGED)
2018/03/31	REGISTERED ADDRESS CHANGE (43 1 GOUWS AVENUE RASLOUW CENTURION GAUTENG0157)
2018/03/28	DIRECTOR/MEMBER/SECRETARY/TRUST/BOTH DIRECTOR AND OFFICER (DIRECTOR CHRISTIAN GOUWS DETAILS WAS CHANGED)
2018/03/28	DIRECTOR/MEMBER/SECRETARY/TRUST/BOTH DIRECTOR AND OFFICER (DIRECTOR VICTOR VAN ZYL TAYLOR WAS ADDED)
2018/03/28	DIRECTOR/MEMBER/SECRETARY/TRUST/BOTH DIRECTOR AND OFFICER

	(DIRECTOR DANIËL JOHANNES JACOBUS PRETORIUS WAS ADDED)
2018/03/28	DIRECTOR/MEMBER/SECRETARY/TRUST/BOTH DIRECTOR AND OFFICER (DIRECTOR EMMARENTIA DE VILLIERS WAS ADDED)
2018/03/28	DIRECTOR/MEMBER/SECRETARY/TRUST/BOTH DIRECTOR AND OFFICER (DIRECTOR WILLEM HERMANUS DE VILLIERS WAS ADDED)
2018/03/27	NAME CHANGE (VILASIGN)

Bylaag “H”: Aktebesorgersertifikaat

CONVEYANCER'S CERTIFICATE

IN TERMS OF SECTION 38(1)(n) OF THE MOSSEL BAY MUNICIPALITY: LAND USE PLANNING BY LAW, 2021

REMAINDER OF ERF 2833 GREAT BRAK RIVER

APPLICATION DETAILS

1. An application in terms of section 15(2)(a) of the Land Use Planning By-law for Mossel Bay Municipality, 2021 for the rezoning of the Remainder of Erf 2833 Groot Brakrivier from Agricultural Zone I to a Subdivision Area consisting of Single Residential Zone I erven (± 1.44 hectares), General Residential Zone I erven (± 0.83 hectares), Open Space Zone II erven (± 2.28 hectares), a Transport Zone III erf (Private street) (± 1.44 hectares) and a Transport Zone II erf (Public street) (± 0.35 hectares).
2. An application in terms of section 15(2)(d) of the Land Use Planning By-law for Mossel Bay Municipality, 2021 for the subdivision of the Subdivision Area into the following erven:

    - 14 Single Residential Zone I erven (Portions 38 to 51);
    - 37 General Residential Zone I erven (Portions 1 to 37);
    - 3 Open Space Zone II erven (Portions 52 to 54);
    - 1 Transport Zone III (Private street) erf (Portion 55), and
    - 1 Transport Zone II (Public street) erf (Portion 56).

APPLICATION DATE

November 2022

I, the undersigned

Francois Scholtz Bruwer a duly qualified and admitted Conveyancer, practicing at Scholtz Bruwer Attorneys / Conveyancers Incorporated, Millwood Building, cnr York & Victoria Streets, George

do hereby certify as follows:

1. I have perused the following title Deed/s and conducted a search behind the pivot of the said title deed/s at the Deeds Office, Cape Town:

    T10193/2022 (current Title Deed)

    in respect of:

    REMAINDER OF ERF 2833 GREAT BRAK RIVER
    IN THE MUNICIPALITY AND DIVISION OF MOSSEL BAY WESTERN CAPE PROVINCE

IN EXTENT: 6,0372 (SIX COMMA ONE THREE SEVEN TWO) HECTARE

HELD BY DEED OF TRANSFER NUMBER T10193/2022

REGISTERED in the name of

NEWCARE INNOVATIONS (PTY) LTD REGISTRATION NUMBER 2018/053092/07

2. I have appraised myself with the details of the abovementioned Land Development Application.

3. The abovementioned Title Deed contains no conditions restricting the contemplated Land Use in terms of the abovementioned Land Development Application.

4. Note must be taken of condition II. B.

   SUBJECT to the terms of the following endorsement dated 22nd February 1952 endorsed on Deed of Transfer Number T6317/1935:

   "Registration of Servitude:

   By Deed of Transfer Number 2281/1952 dd this day the Remdr of Cedar Villa – 8,2956 morg held under Para 1 hereof is entitled to a right of way over Portion 81 1,001mgn thereby transferred along the road 20' in width marked on the boundary SE of Diagram 4719/1950 of Portion 81 thereto annexed as will more fully appear on reference to the said Deed of Transfer."

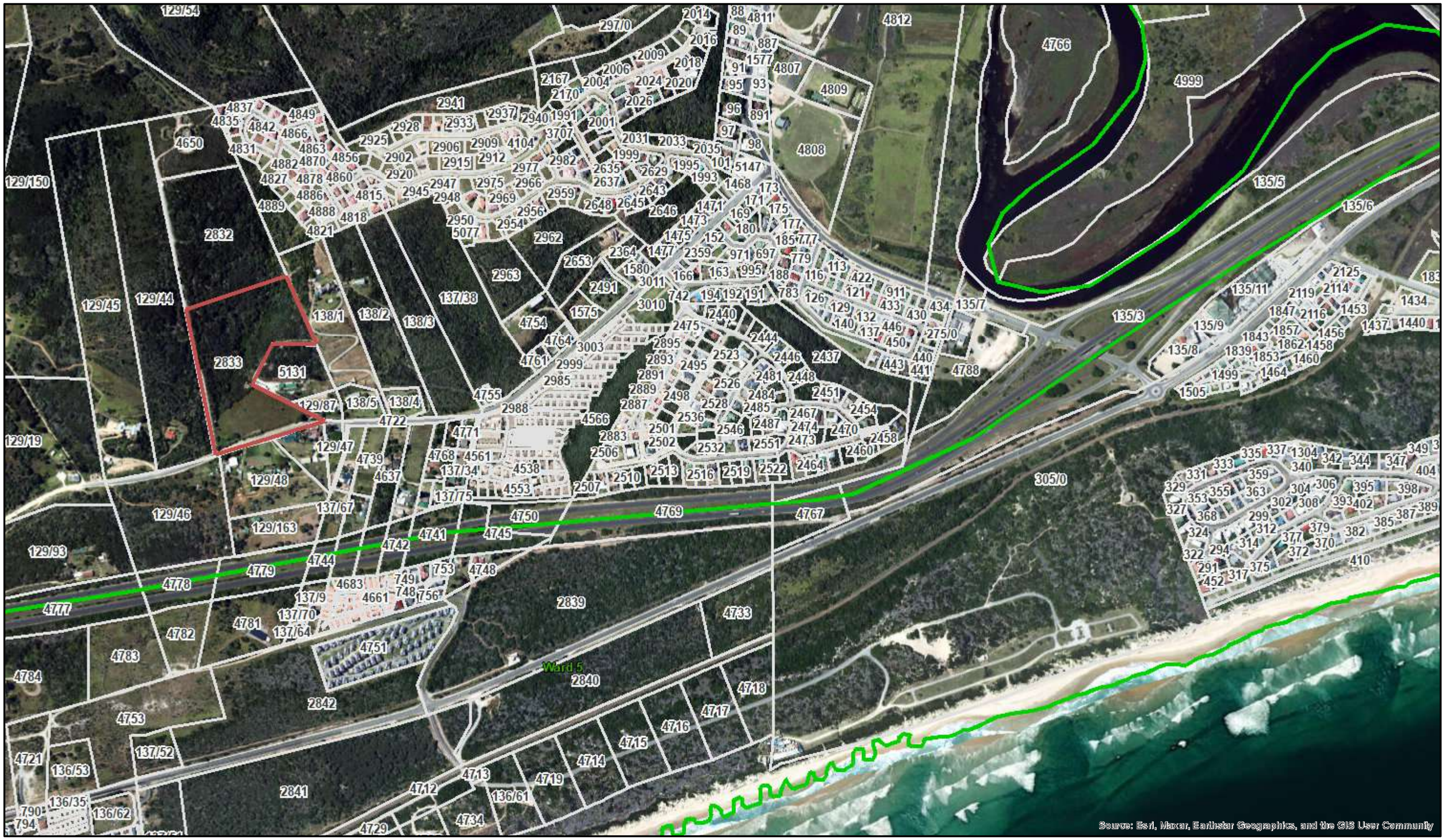
5. There is no bond registered over the property.

SIGNED at GEORGE on 14 November 2022

CONVEYANCER

Bylaag “I”: Liggingsplan

Erf 2833 Groot Brakrivier



0 0,325 0,65 1,3 km

1:9 028

Date: 2022/10/05

Disclaimer:
The Mossel Bay Municipality accepts no responsibility for and will not be liable for any errors or ommisions contained herein.

N

Bylaag “J”: Landmeter Generaal Diagram

GOOSEN, CLOUGH & LOUW
LANDMETERS — GEORGE

	SYE Meter	RIGTINGS -HOEKE		KOÖRDINATE Y Stelsel	Alles plus Lo 23° X
		Konstante		0,00	3 700 000,00
AB	222,53	251 12 40	A	73 707,23	69 966,69
BC	238,53	335 54 ~~40~~ 30	B	73 496,56	69 895,02
CD	167,28	88 29 00	C	73 399,19	70 112,78
DE	168,57	296 41 10	D	73 566,41	70 117,20
EF	114,70	70 04 10	E	73 415,80	70 192,91
FG	61,08	73 40 40	F	73 523,63	70 232,01
GH	63,63	69 01 40	G	73 582,25	70 249,17
HA	312,21	167 52 40	H	73 641,66	70 271,95
HJ	15,82	167 52 40	J	73 644,99	70 256,48
		(135) Geo 23	Δ	70 262,85	68 186,22
		(137) Geo 25	Δ	72 369,85	66 377,47

Serwituutnota

Die lyn A H stel voor die Westelike grens van 'n serwituutpad 20,00 meter wyd , soos aangetoon

Die figuur A B C D E F G H stel voor

stel voor 7,0379 hektaar grond, synde
Erf 2833, Groot Brakrivier

gelee in die Munisipaliteit en Administratiewe Distrik
Mosselbaai Provinsie Wes Kaap

Opgemeet in Februarie 2002 - Desember 2003
deur my.

O.J.A. GOOSEN (0220) Professionele Landmeter

Hierdie kaart is geheg aan	Die oorspronklike kaart is	Lêer Nr. Mos.B.129 Vol.4
T 50845/2004		M.S. Nr. E2659/2003
Nr.	Nr. 2695/89 geheg aan	Komp. AL-1ABD (3576)
gedateer	Transport/~~Grondbrief~~	
t.g.v.	Nr. 1989. .74618	LPI C0270011
Registrateur van Aktes	Plaas 129/124	

FOR ENDORSEMENTS SEE BACK OF DIAGRAM

VRYGESTEL VAN DIE BEPALINGS VAN WET 70 VAN 1970 ARTIKEL 1(a)

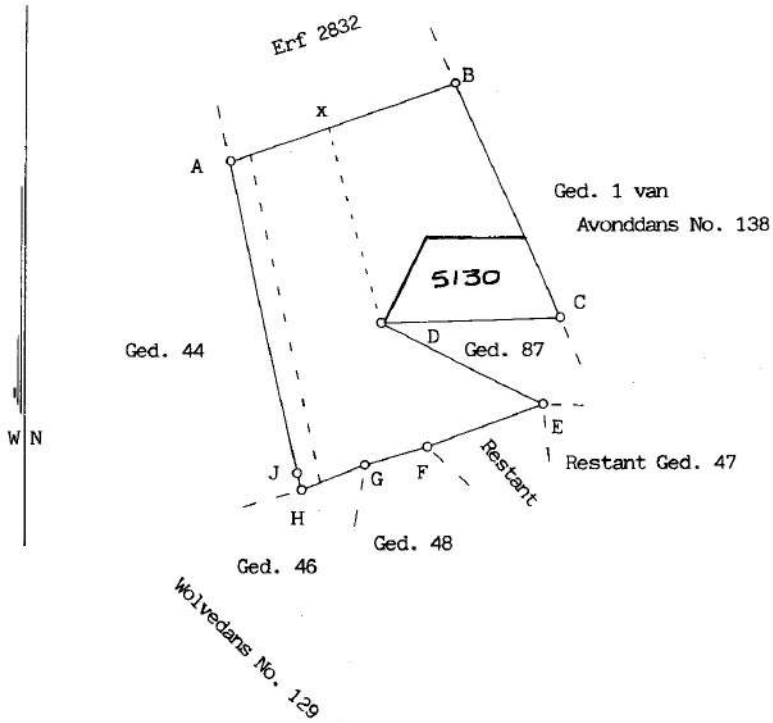
GOEDGEKEUR KRAGTENS ART. 25 VAN ORD. 15/1985
VERWYSING 15/4/34/2 T0/129/24/129
DATUM 2003-11-26

KANTOORAFSKRIF

L.G.Nr. 5859/2003
Goedgekeur
nms Landmeter-generaal
2004·01·22

Bakenbeskrywing

A,B,D,E,F,J	16mm ysterpen
C	ysterbout in beton
G,H	Nie gebaken



Skaal 1:5000

Bylaag “K”: Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering – Rekord van Besluit – 3 Augustus 2010

Verwysing
Reference
Isalathiso EG12/2/3/1-D6/16-392/08

Navrae
Enquiries
Imibuzo D Swanepoel

Datum
Date
Umhla Of issue:
2018 -08- 03

Departement van Omgewingsake en Ontwikkelingsbeplanning
Department of Environmental Affairs and Development Planning
ISebe leMicimbi yeNdalo esiNggongileyo noCwangciso loPhuhliso

The Director
Sector 5 Trading 76 (Pty) Ltd.
PO Box 6353
Uniedal
7612

Attention: Mr Francois Klomp

Tel : 021 886 6895
Fax: 021 882 8207

Dear Sir

APPLICATION: PROPOSED RESIDENTIAL DEVELOPMENT ON PLOT 2833, GREAT BRAK RIVER

With reference to your application, find below the environmental authorisation including exemption notice, hereinafter referred to as "the environmental authorisation" in respect of this application.

ENVIRONMENTAL AUTHORISATION

A. DESCRIPTION OF ACTIVITY:

The proposed development entails the establishment of a residential area consisting of approximately 35 residential erven, a group housing site for approximately 15 units, private open space that incorporates a natural drainage line through the property and associated infrastructure on Plot 2833, Great Brak River, proximate to layout plan Drawing No. 2833/Dev4/01. Access will be off the existing Sandhoogte Road. The main internal road will have a road reserve of 13 metres, with a permanent surface of 6 metres wide, while the other internal roads will have a reserve of 10 metres and a "blacktop" width of at least 5 metres. Water supply will link up to the existing Municipal water supply system, sewage will link to the existing sewerage network for Great Brak River and electricity will be provided from the existing electricity grid.

The following activities are identified in Government Notice No. R386 of 21 April 2006:

Government Notice R386

Activity Number 1(k): The construction of facilities or infrastructure, including associated structures or infrastructure, for –the bulk transportation of sewage and water, including storm water, in pipelines with -

(i) an internal diameter of 0,36 metres or more; or
(ii) a peak throughput of 120 litres per second or more;

Activity Number 1(m): The construction of facilities or infrastructure, including associated structures or infrastructure, for – any purpose in the one in ten year flood line of a river or stream, or within 32 metres from the bank of a river or stream where the flood line is unknown, excluding purposes associated with existing residential use, but including -

(iii) canals;
(iv) channels;
(v) bridges;
(vi) dams; and
(v) weirs;

Activity Number 12: The transformation or removal of indigenous vegetation of 3 hectares or more or of any size where the transformation or removal would occur within a critically endangered or an endangered ecosystem listed in terms of section 52 of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004);

Activity Number 15: The construction of a road that is wider than 4 metres or that has a reserve wider than 6 metres, excluding roads that fall within the ambit of another listed activity or which are access roads of less than 30 metres long;

and

Activity Number 16: The transformation of undeveloped, vacant or derelict land to –

(a) establish infill development covering an area of 5 hectares or more, but less than 20 hectares; or
(b) residential, mixed, retail, commercial, industrial or institutional use where such development does not constitute infill and where the total area to be transformed is bigger than 1 hectare.

hereinafter referred to as "the activities"

B. LOCATION:

Plot 2833, Great Brak River is approximately 7ha in extent and borders on other residential and smallholding developments on the south-western border of Great Brak Rive, as indicated on the locality map included as Appendix A in the revised Basic Assessment Report by Ecobound;

Co-ordinates: 34° 03' 15" South & 22° 12' 10" East;

hereinafter referred to as "the property"

C. APPLICANT:

The Director
c/o Mr Francois Klomp
Sector 5 Trading 76 (Pty) Ltd.
PO Box 6353
Uniedal
7612

Tel: 021 886 6895
Fax: 021 882 8207

D. ENVIRONMENTAL ASSESSMENT PRACTITIONER:

Ecobound Environmental & Tourism Agency
c/o Mr Wikus van der Walt
PO Box 10274
George
6530

Tel: 044 871 4455
Fax: 044 871 2274

E. SITE VISIT(S):

Date: 7 November 2008
Persons Present: Mr D Swanepoel of the Department of Environmental Affairs & Development Planning ("DEA&DP")

F. DECISION:

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the Environmental Impact Assessment Regulations, 2006 the Department hereby authorises the activities described above and grants exemption from the provisions of the regulations specified below.

- Regulation 56 (2) (b)(iii) – "giving written notice to the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represents the community in the area"
- *Regulation 56 (2) (c)(ii)* – "placing an advertisement in any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations"; *and*
- *Regulation 56 (2) (d)* – "placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation (c)(ii)".

The granting of this environmental authorisation is subject to the conditions set out below.

G. CONDITIONS OF AUTHORISATION:

1. The activity, including site preparation, may not commence within 20 (twenty) days after receipt of this environmental authorisation. In the event that an appeal notice and subsequent appeal is lodged with the competent authority, the effect of this environmental authorisation will be suspended until such time as the appeal is decided.

2. One week's notice, in writing, must be given to the Directorate: Integrated Environmental Management (Region A), (hereinafter referred to as "this Directorate"), before commencement of construction activities.

   2.1 Such notice shall make clear reference to the site location details and reference number given above.

   2.2 The said notice must also include proof of compliance with the following conditions described herein:

   Conditions: 1, 8, 11 & 14

3. One week's notice, in writing, must be given to the Directorate: Integrated Environmental Management (Region A), (hereinafter referred to as "this Directorate"), before commencement of operation activities.

   3.1 Such notice shall make clear reference to the site location details and reference number given above.

   3.2 The said notice must also include proof of compliance with the following conditions described herein:

   Conditions: 13

4. An integrated waste management approach must be used that is based on waste minimisation and must incorporate reduction, recycling, re-use and disposal where appropriate.

5. Any solid waste shall be disposed of at a landfill licensed in terms of section 20 of the Environment Conservation Act, 1989 (Act No. 73 of 1989) or in terms of the National Environmental Management: Waste Act, 2008, (Act No. 59 of 2008).

6. The mitigation/rehabilitation measures and recommendations as detailed in the revised Basic Assessment Report dated 17 may 2009 compiled by Mr Wikus van der Walt of Ecobound Environmental & Tourism Agency, and the Traffic Statement by ICE Group, must be adopted and implemented.

7. Road must be constructed and maintained by filling from the top and not by digging out (to avoid the disturbance of the current drainage regime).

8. The property must be cleared of all invasive alien vegetation before earth works and construction commence.

9. Earth works and vegetation clearing must be monitored by an archaeologist. Deeper excavations, exposing approximately 3 metres or more of vertical section, must be inspected by a palaeontologist. Should any heritage remains be exposed during excavations, these must immediately be reported to the Provincial Heritage Resources Authority of the Western Cape, Heritage Western Cape (in terms of the National Heritage Resources Act, 1999 (Act No. 25 of 1999)). Heritage remains uncovered or disturbed during earthworks

must not be disturbed further until the necessary approval has been obtained from Heritage Western Cape.

9.1. If any archaeological remains (including but not limited to fossil bones and fossil shells, coins, indigenous and/or colonial ceramics, any articles of value or antiquity, marine shell heaps, stone artefacts and bone remains, structures and other built features, rock art and rock engravings) are discovered during construction they must immediately be reported to Heritage Western Cape and must not be disturbed further until the necessary approval has been obtained from Heritage Western Cape..

9.2. If any graves or unmarked human burials are discovered, they must be treated with respect and SAHRA must be notified immediately and must not be disturbed further until the necessary approval has been obtained from SAHRA. An archaeologist must be contracted to remove the remains at the expense of the developer.

10. The Environmental Management Plan/Programme ("EMP") submitted as part of the application for environmental authorisation must be implemented.

11. The holder of the authorisation must appoint a suitably experienced Environment Control Officer for the construction phase of the development before commencement of any land clearing or construction activities to ensure that the mitigation/rehabilitation measures and recommendations referred to in this authorisation are implemented and to ensure compliance with the provisions of the EMP.

12. The following Resource Conservation Measures must be implemented and included the Architectural and Landscape Design Manual and in the all sales agreements:

    12.1 Rainwater from roofs must be collected and stored in rainwater tanks.

    12.2 All houses must be fitted with and use low flow showerheads and double flush toilets.

    12.3 Power saving measures, i.e. gas stoves, solar geysers and energy efficient lighting must be utilised in all the houses as far as possible.

13. The holder of the authorisation must submit an Environmental Audit Report, ("audit report") to this Directorate (six months) after construction has been completed and also one year after the commencement of operation.

    13.1 The audit report must indicate the date on which the construction was completed, and detail compliance with the conditions of this authorisation, and the status of the rehabilitation programme.

    13.2 This Directorate may require remedial action should the audit report reflect that rehabilitation is inadequate.

    13.3 If the audit report is not submitted, this Directorate may give 30 days written notice and may have such an audit undertaken at the expense of the applicant and may authorise any person to take such measures necessary for this purpose.

14. The applicant must, in writing, within 10 (ten) calendar days of receiving notice of the Department's decision –

14.1 notify all registered interested and affected parties of the decision and the reasons for the decision; and –

14.2 specify the date on which the authorisation was issued;

14.3 inform all registered interested and affected parties of the appeal procedure provided for in Chapter 7 of the regulations; and

14.4 advise all registered interested and affected parties that should they wish to appeal that they must lodge a notice of intention to appeal with the Minister, within 10 days of receiving notice of the Department's decision and, must submit their appeal within 30 days of the lodging of their notice of intention to appeal, by means of one of the following methods:

By post: Provincial Minister for Local Government, Environmental Affairs and Development Planning
Private Bag X9186
Cape Town
8000

By facsimile: (021) 483 4174; or

By hand: 9th floor Utilitas Building
For Attention: Mr Jaap de Villiers
1 Dorp Street
Cape Town
8001

14.5 inform all registered interested and affected parties that a signed Appeal form obtainable from the Minister's office at tel (021) 483 3721/3195, email jedevill@pgwc.gov.za or URL http://www.capegateway.gov.za/eadp; must accompany the appeal.

14.6 inform all registered interested and affected parties that should they wish to appeal, the appellant must serve on the applicant a copy of the notice of intention to appeal as well as a notice indicating where and for what period the appeal submission will be available for inspection by the applicant.

14.7 If the applicant should decide to appeal, the applicant must –

- lodge a notice of intention to appeal with the Minister, within 10 days of receiving notice of this decision and,
- serve a copy of the notice of intention to appeal on all registered interested and affected parties as well as a notice indicating where and for what period the appeal submission will be available for inspection and,
- submit the appeal within 30 days of the lodging of the notice of intention to appeal.

15. The holder of the authorisation shall be responsible for ensuring compliance with the conditions by any person acting on his behalf, including but not limited to, an agent, sub-contractor, employee or any person rendering a service to the holder of the authorisation.

16. Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further authorisation in terms of the regulations.

17. The holder of the authorisation must notify this Directorate and any other relevant authority, in writing, within 24 hours thereof if any condition of this authorisation is not adhered to.

18. A copy of this authorisation must be kept at the property where the activities will be undertaken. The authorisation must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.

19. Where any of the applicant's contact details change, including the name of the responsible person, the physical or postal address and/ or telephonic details, the applicant must notify the Department as soon as the new details become known to the applicant.

20. Non-compliance with a condition of this authorisation may result in the withdrawal of the authorisation and may render the holder liable for criminal prosecution.

21. This Department must be notified, within 30 days thereof, of any change of ownership and/or project developer. A request for the transfer of the rights and obligations contained in this environmental authorisation must be submitted in the following way:
(i) The current holder of the environmental authorisation must submit an original signed letter to the Department stating that he/she wish the rights and obligations contained in this environmental authorisation to be transferred, provide the Department with (a) confirmation that the environmental authorisation is still in force (i.e. validity period have not yet expired or the activities was lawfully commenced with), (b) the contact details of the person to whom the rights and obligations are to be transferred, and (c) the reasons for the requested transfer.
(ii) The person to whom the rights and obligations are to be transferred must also submit an original signed letter to the Department (a) accepting the rights and obligations contained in this environmental authorisation and (b) must indicate that he/she has the ability to implement the mitigation measures and to comply with the conditions of authorisation.

    If the transfer is found to be appropriate by the Department, the Department will issue a letter confirming the transfer of the rights and obligations contained in this environmental authorisation.

22. Departmental officials shall be given access to the property referred to in B above for the purpose of assessing and/or monitoring compliance with the conditions contained in this environmental authorisation, at all reasonable times.

23. The activities which are authorised may only be carried out at the property indicated above.

24. Notwithstanding this authorisation, the holder of the authorisation must still comply with any other statutory requirements that may be applicable to the undertaking of the activity.

25. This activities must commence within a period of three (3) years from the date of issue. If commencement of the activities does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.

H. REASONS FOR THE DECISION:

All the following information that was available to the Department was taken into account in the Department's consideration of the application -

a) The information contained in the application form and revised Basic Assessment Report by Ecobound Environmental & Tourism Agency dated 17 May 2009;
b) The information contained in the Addendum to the revised Basic Assessment Report Ecobound Environmental & Tourism Agency dated February 2010);
c) The comments received from interested and affected parties as included in the revised basic assessment report;
d) Relevant information contained in the Departmental information base including the Mossel Bay / Riversdale Regional Structure Plan. The draft Mossel Bay Spatial Development Framework;
e) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act No. 107 of 1998).

A summary of the issues which, in the Department's view, were of the most significance is set out below.

Exemption:
The applicant has applied for and is exempted from:

- giving notice to the ward councillor because sufficient notice was given to the Municipality;
- advertising in an official gazette as there is no gazette specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations; and
- placing an advertisement in at least one provincial newspaper or national newspaper because the proposed development will not have an impact beyond the boundaries of the local municipality.

Biodiversity / Ecology:
A botanical assessment was done by MM. Zietsman of Marzle Ecological Services. The vegetation of the site is described as Great Brak Dune Strandveld. According to the South African National Spatial Biodiversity Assessment (2004), this vegetation type is an endangered, unprotected vegetation type with a very high conservation priority. The botanical assessment has divided the vegetation on site into three different plant communities: Shrubland vegetation, ravine vegetation and low forest vegetation. The Shrubland community is heavily invaded by alien invader plant infestation, but will recover if the alien vegetation is removed. The report states that it can be used for development, but in accordance to the suggested mitigation measures, which includes footprint developments and building on stilts, to avoid the disturbance of the current

drainage regime, which will largely influence the vegetation of the lower parts of the site. It further recommends that it be burnt every 12 to 15 years to maintain biodiversity of the plant community. The Closed Woodland community on the banks of the ravine has a very high conservation priority and should not be used for development at all, but included in the conservation area. The report recommends that the part of the community infested by alien vegetation could be used for development in accordance with the mitigation measures, but the rest of the community must be conserved. Mr Ken Coetzee of Conservation Management Services agrees that no development should be allowed in the Closed Woodland (thicket) community on the edge of the ravine and recommended that no disturbance of any kind should be allowed within 8m of the edge of the thicket. Mr Coetzee is of the opinion that a sensitively and footprint-constructed brick and mortar house is acceptable option to wooden houses on stilts proposed by Ms M.M. Zietsman. He also added that they will need expert advice about burning the veld. A Fire Management Plan for Erf 2833 was prepared by Christiaan Pool *et.al.* from NMMU, Saasveld, which suggests that houses should not be built on wooden stilts as this endangers the entire structure of collapse should a fire burn the wooden supports. The plan further makes provision for a 10m wide fire belt on the western boundary of Erf 2833 as this property is situated in the urban fringe and borders on open veld on its western boundary. The optimal preparation method would be to slash above ground and care should be given to erosion mitigation measures should erosion occur. The fire management plan does not identify internal fire belts due to the two closed woodland (ravine) and low forest vegetation bearing little fire danger. The applicant has confirmed that he will become a member of the local fire protection association.

Soil & landform:
A study of the Soil-Landform resources was done by Dr Theo van Rooyen. This study has identified sensitive areas as a result of steep slopes, high water erosion susceptibility and high swell-shrink potential of the dominant soils. He recommends that these areas should preferable be excluded from any development while it is still well stabilized with predominantly natural vegetation. It is recommended rather to improve the vegetation cover by removing invading aliens selectively. This is the best mitigation measure (prevention is better than cure) for the project area. He recommends that only four soil-landform units should be considered for residential development purposes, which comprises approximately 1.7ha of the project area. These areas are mainly located in the south-western corner of the property and correspond more or less with the 26 erven indicated on the alternative layout. However, Dr. Van Rooyen has confirmed that the proposed erf layout for the proposed development (drawings 2833/Dev4/01 and 2833/Dev4/02) are acceptable in terms of the soil-landform study conducted by him.

Archaeological:
Heritage Western Cape required that a desktop palaeontological impact assessment (PIA) be done. A PIA was done by Mr John Pether of Geological and Palaeontological Consultant. Erf 2833 is situated on the flanks of a hill comprised of Kirkwood Formation sediments. The Kirkwood Formation forms part of the late Jurassic and early Cretaceous Uitenhage Group, comprised of sediments deposited between about 155 Ma and 134 Ma (Ma – million years ago). Overall, the paleontological sensitivity of the Kirkwood formation is rated as high. The Kirkwood Formation is the most palaeontologically interesting unit in southern

Africa that yields terrestrial biotas of Cretaceous age. The fossils include vascular plants, tetrapods (notably dinosaurs) and freshwater invertebrates, among others. Recent palaeontological research as yielded a number of new dinosaur taxa, for the most part from the Algoa Basin to the northeast of Port Elizabeth, but also from the Oudtshoorn Basin of the Little Karoo. Although not specifically mapped in the vicinity of Erf 2833, it is nevertheless possible that remnants of Mio-Pliocene marine deposits of the De Hoopvlei Formation are locally preserved on the flanks and tops of the coastal hills formed on the Uitenhage Group sequence. Although cemented remnants could occur on Erf 2833, this is regarded as unlikely. However, it is recommended that deeper excavations be inspected by a palaeontologist.

Storm water:
Storm water management was raised during the public participation process as a major issue, as storm water systems in the Sandhoogte road area were insufficient to control regular storm water run-off. The Mossel Bay Municipal Council resolved, in February 2005 (Resolution T22-02/2005) that no further subdivision of erven along this road be approved, until such time as the storm water problems have been addressed. The storm water channel in the Sandhoogte Road area has recently been upgraded and the Mossel Bay Municipality requires that all infrastructure as defined in the Storm Water Master Plan (third revision) must be installed. The proposed development also includes a retention dam. Two off-stream storm water retention dams will be built on Erf 2833 that will relay existing storm water runoff from the Avonddans development during peak floods. These retention dams will be built during phase 1 of the development and will have a storage capacity of 377m^3. A storm water channel alongside Sandhoogte road between Erf 2833 and the existing channel will be constructed. The proposed residential dwellings on the proposed development will also be fitted with rainwater tanks of at least 5000l capacity to reduce storm water runoff.

The proposed development allows for storm water from the proposed development and from Avonddans that runs down the existing natural drainage line through the property, to be piped through the lower section (most southerly part) of the proposed development. In times of extreme flood events this may result in flooding of the lower lying parts of the proposed development. However, KCWC Consulting Engineers and Project Managers has calculated the 1:50 years peak flood to be 1.9m3/s and is of the opinion that the proposed infrastructure would be able to handle 1:100 year flood events.

Cultural historic:
The Great Brak River Museum Association stated that the original wagon trail out of Great Brak River on the way to Mossel Bay runs below the erf in the Sandhoogte valley (now Sandhoogte Road), but no remains of the wagon trail were found.

Traffic:
A Traffic Statement was done by ICE Group (Pty) Ltd. Found that the intersection of Sandhoogte Road and Lang Street should continue to operate at existing service levels with the addition of Erf 2833 traffic without any geometric improvements being required, but found that existing access spacings on Sandhoogte Road are not ideal. It recommends that an effort should be made to reduce the number of access points by combining some accesses where new

development applications are submitted. The proposed entrance will be located approximately 30 metres from the western erf boundary, where the gradient is most level. The existing entrance to the property just west of Erf 2833 is located right on the erf boundary. The two access points will thus be approximately 35 metres apart. The proposed Erf 2833 access will also serve as access point to the property directly to its east. The existing access to that property will only be used as a service entrance. The Mossel Bay Municipality has confirmed that the TIA is acceptable and that all the recommendations in the TIA must be conformed to.

Policy: Regional/planning context:
The site is designated for "urban development" in terms of the Mossel Bay / Riversdale Regional Structure Plan. The draft Mossel Bay Spatial Development Framework includes the site within the urban edge for Great Brak River. The site is visible from the N2 tourist route, but an architectural guideline document was drawn up to minimize the visual impacts of the proposed development.

Cumulative effects of the activity:
The Mossel Bay Municipality confirmed that Erf 2833 is situated within the urban edge of Great Brak River and confirmed the availability of services for the proposed development, including assurance of adequate water supply to the proposed development for up to 50 equivalent housing units, the capacity to accommodate effluent from this development and stated that all infrastructure as defined in the Storm Water Master Plan (third revision) as well as the Traffic Impact Assessment must be installed to the satisfaction of the Director: Technical Services.

Alternatives:
No other site alternatives have been considered, due to the site being owned by the applicant. A layout alternative consisting of 26 erven limited to the most southern part of the property and five small holdings on the remainder of the property, was also considered. Although the alternative layout will involve fewer units than the preferred alternative, it includes areas identified as environmentally sensitive and steep within the proposed smallholding plots. The proposed long narrow shaped portions of the smallholding plots may also lead to further road construction and further applications for subdivisions. The preferred development entails the establishment of 50 residential plots (5 group housing erven (24 units) and 26 single residential erven. The recommendations of the specialists have been incorporated in this layout. The most sensitive and steep areas of the property will be included in public open space areas.

Public Participation
A number of concerns and issues were raised during the public participation process, as discussed above. Outeniqualand Trust, who initially objected to the proposed development, indicated that they are satisfied that all the issued have been adequately addressed.

CapeNature raised a number of issues, including fire management and indicated that they do not support any development below the 1:100 year flood line of streams, rivers and drainage lines. The proposed development makes provision for water from the drainage line to be piped underneath the proposed residential dwellings to the Sandhoogte Storm water channel. The applicant, who is also Director of KCWC consulting engineers and project managers, has stated that the

proposed pipe underneath the proposed development will have sufficient capacity and that no erven in the proposed development will be affected by the 1:100 year flood line. The Department of Health has no objection to the proposed development.

In view of the above, this Directorate is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the proposed activity will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and that any potentially detrimental environmental impacts resulting from the proposed activity can be mitigated to acceptable levels. The application is accordingly granted.

I. APPEAL:

Appeals must comply with the provisions as outlined in Chapter 7 of the regulations.

Any person, who wishes to appeal against this environmental authorisation, must lodge a notice of intention to appeal with the Minister, within 10 days of receiving notice of this decision and, must submit the appeal within 30 days of the lodging of the notice of intention to appeal, by means of one of the following methods:

By post: Provincial Minister for Local Government, Environmental Affairs and Development Planning
Private Bag X9186
Cape Town
8000

By facsimile: (021) 483 4174; or

By hand: 9th floor Utilitas Building
For Attention: Mr Jaap de Villiers
1 Dorp Street
Cape Town
8001

A signed Appeal form, obtainable from the Minister's office at tel (021) 483 3721/3195, email jedevill@pgwc.gov.za or URL http://www.capegateway.gov.za/eadp must accompany the appeal.

All interested and affected parties that wish to appeal must serve on the applicant a copy of their notice of intention to appeal as well as a notice indicating where and for what period the appeal submission will be available for inspection by the applicant.

If the applicant should decide to appeal, the applicant must serve a copy of the notice of intention to appeal on all registered interested and affected parties as well as a notice indicating where and for what period the appeal submission will be available for inspection.

Provincial Government, Local Authority or committees appointed in terms of the conditions of the application or any other public authority or organisation shall not be held responsible for any damages or losses suffered by the developer or his successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the developer with the conditions of authorisation as set out in this document or any other subsequent document emanating from these conditions of authorisation.

Your interest in the future of our environment is greatly appreciated.

Yours faithfully

AYUB MOHAMED
DIRECTOR: INTEGRATED ENVIRONMENTAL MANAGEMENT (REGION A)

DATE OF DECISION: 02/08/2010

Copies to: (1) Mr Dries Cilliers (Mossel Bay Municipality) Fax: 044 606 5059
(2) Mr Wikus van der Walt (Ecobound) Fax: 044 871 2274
(3) DEA&DP George Office Fax: 044 874 2423

Bylaag “L”: Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering – Rekord van Besluit – 18 Junie 2013

Western Cape Government
Environmental Affairs and Development Planning

Directorate: Land Management
Region 3

EIA REFERENCE NUMBER: 16/3/1/5/D6/17/0009/13
ENQUIRIES: Mr S. Jokazi
DATE OF ISSUE: 2013 -06- 18

The Director
Sector 5 trading 76 (Pty) Ltd.
PO Box 6353
UNIEDAL
7612

Attention: Mr F. Klomp

Tel: (021) 886 6895
Fax: (021) 886 8207

Dear Sir

APPLICATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT AMENDMENT REGULATIONS, 2010 FOR THE AMENDMENT OF THE ENVIRONMENTAL AUTHORISATION ISSUED ON 3 AUGUST 2010: THE PROPOSED CONSTRUCTION OF RESIDENTIAL HOUSING PROJECT ON ERF 2833, GREAT BRAK RIVER.

With reference to your application for the abovementioned, find below the amendment to the Environmental Authorisation with respect to this application.

ADDENDUM TO ENVIRONMENTAL AUTHORISATION

A. DECISION

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act No. 107 of 1998, as amended) and the Environmental Impact Assessment Regulations, 2010, ("NEMA EIA Regulations") the competent authority herewith grants the amendment of the Environmental Authorisation issued on 3 August 2010 (Ref. no. EG12/2/3/1-D6/16-392/06).

The Environmental Authorisation is amended as set out below:

1. Condition 25, in Section G of the Environmental Authorisation is substituted with the following:

*"This environmental authorisation is valid for a period of **five (5) years** from the date of issue. The holder must commence with all the listed activities within the said period or this environmental authorisation lapses and a new application for environmental authorisation must be submitted to the competent authority, unless the holder has lodged a valid application for the amendment of the validity period of this environmental authorisation, before the expiry of this environmental authorisation. In such instances, the validity period will be automatically extended ("the period of administrative extension") from the day before this environmental authorisation would otherwise have lapsed, until the amendment application for the extension of the validity period is decided. The listed activities, including site preparation, may not commence during the period of administrative extension."*

All other conditions contained in the Environmental Authorisation issued on 3 August 2010 (Reference Number EG 12/2/3/1/D6/16/392/06) for Erf 2833, Great Brak River, still remain unchanged and in force.

B. REASONS FOR THE DECISION

In reaching its decision, the Department took, *inter alia*, the following into consideration:

1. The application is for a non-substantive amendment to the Environmental Authorisation.

2. The environment and the rights and interests of other parties are not likely to be adversely affected by this decision to amend the Environmental Authorisation.

3. The Department accepts the applicant's motivation that the project had not yet commenced within the validity period due to the unforeseen worldwide recession which weakened the property market.

C. CONDITIONS

1. The applicant must, in writing, within **12 (twelve)** calendar days from the date of the Department's decision –
   - 1.1 notify all registered interested and affected parties of –
     - 1.1.1 the outcome of the application;
     - 1.1.2 the reasons for the decision;
     - 1.1.3 the date of the decision; and
     - 1.1.4 the date of issue of the decision;
   - 1.2 draw the attention of all registered interested and affected parties to the fact that an appeal may be lodged against the decision in terms of Chapter 7 of the Environmental Impact Assessment Amendment Regulations, 2010 detailed in section D below;
   - 1.3 draw the attention of all registered interested and affected parties to the manner in which they may access the decision, and

1.4 publish a notice in the newspapers contemplated in regulation 54(2)(c) and (d), and which newspaper was used for the placing of advertisements as part of the Public Participation Process, that –

1.4.1 informs all interested and affected parties of the decision;
1.4.2 informs all interested and affected parties where the decision can be accessed; and
1.4.3 informs all interested and affected parties that an appeal may be lodged against the decision in terms of Chapter 7 of the Regulations;

2. The holder of the environmental authorisation must submit a written notice to the competent authority containing proof of compliance with Condition 1 described in this Addendum to the Environmental Authorisation. The written notice must be submitted **within 30 (thirty) calendar days** of the date of issue of this environmental authorisation.

D. APPEALS

Appeals must comply with the provisions contained in Chapter 7 of the Environmental Impact Assessment Regulations, 2010.

1. An appellant must –

1.1. submit a notice of intention to appeal to the Minister, within 20 (twenty) calendar days of the date of the decision;

1.2. submit the appeal within 30 (thirty) calendar days after the lapsing of the 20 (twenty) calendar days contemplated in regulation 60(1), for the submission of the notice of intention to appeal; and

1.3. within 10 (ten) calendar days of having lodged the notice of intention to appeal, provide each person and organ of state registered as an interested and affected party in respect of the application, or the applicant, with –

1.3.1. a copy of the notice of intention to appeal form; and

1.3.2. a notice indicating where and for what period the appeal submission will be made available for inspection by such person, organ of state, or applicant, on the day of lodging it with the Minister, and that a responding statement may be made on the appeal within 30 (thirty) calendar days from the date the appeal submission was lodged with the Minister.

2. A person, organ of state or applicant who submits a responding or answering statement in terms of regulation 63 must within 10 (ten) calendar days of having submitted the responding or answering statement, serve a copy of the statement on the other party.
3. If the person, organ of state or applicant fails to meet a timeframe with respect to the requirements as detailed above, the person, organ of state or applicant must immediately submit a written explanation to the Ministry providing a concise explanation for the non-compliance.

4. All notice of intention to appeal and appeal forms must be submitted by means of one of the following methods:

By post:	Western Cape Ministry of Local Government, Environmental Affairs and Development Planning Private Bag X9186 CAPE TOWN 8000
By facsimile:	(021) 483 4174; or
By hand:	Attention: Mr J. de Villiers Room 305 A 3rd Floor Leeusig Building (Entrance at: Utilitas Building, 1 Dorp Street, Cape Town, 8001)

5. A prescribed notice of intention to appeal form and appeal form as well as assistance regarding the appeal processes is obtainable from the office of the Minister at: Tel. (021) 483 3721, E-mail Jaap.DeVilliers@westerncape.gov.za or URL http://www.westerncape.gov.za/eadp.

E. DISCLAIMER

The Western Cape Government, the Local Authority, committees or any other public authority or organisation appointed in terms of the conditions of this Addendum to the Environmental Authorisation shall not be responsible for any damages or losses suffered by the holder, developer or his/her successor in any instance where construction or operation subsequent to construction is temporarily or permanently stopped for reasons of non-compliance with the conditions as set out herein or any other subsequent document or legal action emanating from this decision.

Your interest in the future of our environment is appreciated.

Yours faithfully

MR. KOBUS MUNRO
DIRECTOR: LAND MANAGEMENT (REGION 3)

DATE OF DECISION: 19 · 6 · 2013

Copied to: (1) Mr. Wikus van der Walt (EAP) EcoBound Environmental Agency Fax: (044) 871 4455

FOR OFFICIAL USE ONLY:	
EIA REFERENCE NUMBER:	**EG12/2/3/1/D6/16/392/06**
ADDENDUM 1:	
EIA REFERENCE NUMBER:	**16/3/1/5/D6/17/0009/13**
NEAS EIA REFERENCE NUMBER:	**WCP/EIA/AMEND/0000256/2013**

Bylaag “M”: Departement van Omgewingsake en Ontwikkelingsbeplanning van die Wes-Kaapse Regering – Rekord van Besluit – 24 Augustus 2015

Western Cape Government
Environmental Affairs and Development Planning
BETTER TOGETHER.

Directorate: Development Management
(Region 3)

REFERENCE: 16/3/3/5/D6/17/0015/15
ENQUIRIES: Ms. Jessica Christie
DATE OF ISSUE: 2015 -08- 24

The Director
Sector Five Trading 76 (Pty) Ltd
P.O. Box 6353
STELLENBOSCH
7612

Attention: Mr. Francois Klomp

Tel: 021 886 6895
Fax: 021 886 8207

Dear Sir

APPLICATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT AMENDMENT REGULATIONS, 2010 FOR THE AMENDMENT OF THE ENVIRONMENTAL AUTHORISATION ISSUED ON03 AUGUST 2010: THE PROPOSED RESIDENTIAL HOUSING DEVELOPMENT ON ERF 2833, GREAT BRAK RIVER, MOSSEL BAY MUNICIPALITY

With reference to your application for the abovementioned, find below the amendment to the Environmental Authorisation (hereinafter referred to as an "Environmental Authorisation") with respect to this application.

ADDENDUM TO ENVIRONMENTAL AUTHORISATION

A. DECISION

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act No. 107 of 1998, as amended) and the Environmental Impact Assessment Regulations, 2010, ("NEMA EIA Regulations") the competent authority herewith **grants** the amendment of the Environmental Authorisation issued on 3 August 2010.

The Environmental Authorisation is amended as set out below:

1. Section G : 20 of the Environmental Authorisation is substituted for the following:

> *"Non-compliance with a condition of this environmental authorisation or EMP is an offence in terms of Section 49A(1)(c) of the National Environmental Management Act, 1998 (Act no. 107 of 1998, as amended) and will render the holder liable for criminal prosecution. "*

2. Condition 25, in Section G of the Environmental Authorisation is substituted with the following:

"The holder must commence with, and conclude, all the listed activities within the stipulated validity period which this environmental authorisation is granted for, or this Environmental Authorisation shall lapse and a new application for Environmental Authorisation must be submitted to the Competent Authority.

This environmental authorisation is granted for a period of ***seven (7) years****, from the date of issue of the original Environmental Authorisation (viz until 3 August 2017), during which period the holder must commence with the authorised listed activities.*

Note: *Failure to lodge an application for amendment of an environmental authorisation at least three months prior to expiry may result in the competent authority not being able to process the application for amendment in time; and in the lapsing of the environmental authorisation. "*

All other conditions contained in the Environmental Authorisation issued on 20 September 2010 still remain unchanged and in force.

B. REASONS FOR THE DECISION

In reaching its decision, the Competent Autyhority took, *inter alia*, the following into consideration:

1. The application is for a non-substantive amendment to the Environmental Authorisation.

2. The environment and the rights and interests of other parties are not likely to be adversely affected by this decision to amend the Environmental Authorisation.

3. Editorial changes have been made to Condition 20 and Condition 25 of the Environmental Authorisation to comply with current legislative requirements.

4. The Competent Authority has considered the applicant's motivation that the economic decline has had a negative effect on the selling of serviced erven in Great Brak River, and this has influenced the project.

5. The holder of the Environmental Authorisation has already been granted an extension on the validity period in June 2013. Based on the date the original Environmental Authorisation was issued, a seven (7) year period within which commencement must occur has now been granted.

   It must be noted that the current legislative framework provides that the validity period for an Environmental Authorisation should be determined by a date in which period the holder must commence with the authorised listed activities and this should not exceed a 10-year period, and by a second date during which period the authorised activities must be concluded.

   The motivation that has been provided has shown that the development will commence within the 10-year period and the proposal will be developed in three phases, of which the first phase will be developed in 2016/2017.

The holder will be required to follow the process contemplated in the Environmental Impact Assessment Regulations, 2014 (or applicable regulations) for any further extension of the validity period, and may be required to specify the period within which the activities must be concluded. The onus is however on the holder to confirm the legislative process requirements for the above scenarios at that time.

C. APPEALS

Any appeal against this decision must comply with the provisions contained in the National Appeal Regulations 2014 (refer to Government Notice R.993 of 08 December 2014).

1. An appellant must –
   1.1. submit an appeal in accordance with Regulation 4 to the appeal administrator, within 20 (twenty) calendar days from the date the applicant notified registered I&APs of this decision.

   NOTE: When a period of days must be reckoned in terms of the National Appeal Regulations 2014, the period must be reckoned as from the start of the day following that particular day to the end of the last day of the period, but if the last day of the period falls on a Saturday, Sunday or public holiday, that period must be extended to the end of the next day which is not a Saturday, Sunday or public holiday, and the period of 15 December to 5 January must be excluded from the reckoning of days (where applicable).

   1.2. if the appellant is the applicant, provide any registered I&AP, any Organ of State and the decision-maker with a copy of the appeal lodged with the appeal administrator;

   1.3. if the appellant is a person other than the applicant, provide any registered I&AP, any Organ of State and the decision-maker with a copy of the appeal lodged with the appeal administrator;

2. The applicant (if not the appellant) the decision-maker, I&APs and Organ of State must submit their responding statement, if any, to the appeal authority and the appellant within 20 days from the date of receipt of the appeal submission.

3. The appeal form/s must be submitted by means of one of the following methods:

By post:	Attention: Jaap de Villiers Western Cape Ministry of Local Government, Environmental Affairs and Development Planning Private Bag X9186 CAPE TOWN 8000
By facsimile:	(021) 483 4174; or
By hand:	Attention: Mr J. de Villiers (Tel: 021 483 3721) Room 809 8th Floor Utilitas Building, 1 Dorp Street, Cape Town, 8001

By e-mail: Jaap.DeVilliers@westerncape.gov.za

4. A prescribed appeal form, as well as assistance regarding the appeal processes is obtainable from the office of the appeal authority/ at: Tel. (021) 483 3721, E-mail Jaap.deVilliers@westerncape.gov.za or URL http://www.westerncape.gov.za/eadp.

D. DISCLAIMER

The Western Cape Government, the Local Authority, committees or any other public authority or organisation appointed in terms of the conditions of this Addendum to the Environmental Authorisation shall not be responsible for any damages or losses suffered by the holder, developer or his/her successor in any instance where construction or operation subsequent to construction is temporarily or permanently stopped for reasons of non-compliance with the conditions as set out herein or any other subsequent document or legal action emanating from this decision.

Your interest in the future of our environment is appreciated.

Yours faithfully

MR. GAVIN BENJAMIN
DIRECTOR: DEVELOPMENT MANAGEMENT (REGION 3)

DATE OF DECISION: 24/03/2015

Copied to: (1) Siân Holder (EAP) Fax: 044 874 0432
(2) Director of Development and Planning (Mossel Bay Municipality) Fax: 044 606 5062

FOR OFFICIAL USE ONLY:

EIA REFERENCE NUMBER: **EG12/2/3/1-D6/16 - 392/06**

EA ADDENDUM #1 REFERENCE NUMBER: **16/3/1/5/D6/17/0009/13**
NEAS EXEMPTION REFERENCE NUMBER: **WCP/EIA/AMEND/0000256/2013**

EA ADDENDUM #2 REFERENCE NUMBER: **16/3/3/5/D6/17/0015/15**
NEAS EXEMPTION REFERENCE NUMBER: **WCP/EIA/AMEND/0000019/2015**

END

Bylaag “N”: Verkeersimpakstudie

URBAN ENGINEERING CONSULTANTS
CONSULTING CIVIL AND STRUCTURAL ENGINEERS

TRAFFIC IMPACT ASSESSMENT

PROPOSED REZONING AND SUBDIVISION: REMAINDER OF ERF 2833 GREAT BRAK RIVER, MOSSEL BAY

Report Number 23-041_TIA

Date: May 2024 Revision 4

URBAN ENGINEERING
CONSULTING CIVIL AND STRUCTURAL ENGINEERS

COVER LETTER

It is herewith certified that this Traffic Impact Investigation has been prepared according to requirements of the TMH 16 (Committee Draft 2.0 – May 2018) South African Traffic Impact and Site Traffic Assessment Manual.

This Traffic Assessment was undertaken by:

Name:	Frans Rudolf van Aardt
Telephone number:	044 204 6834
Address:	18 Varing Avenue, Dormehlsdrift George 6529
ECSA registration:	Professional Engineer (Pr.Eng)
ECSA Registration Number:	20090271
Academic Qualifications:	B. Ing (RAU 2002) M. Ing (UJ 2011)

QUALITY ASSURANCE DATA

Report Title:	PROPOSED REZONING AND SUBDIVISION: REMAINDER OF ERF 2833 GREAT BRAK RIVER, MOSSEL BAY
Client:	New Care Innovations (Pty) Ltd
Report Number:	23-041_TIA
Revision Number	Revision 4

Revision History

Date	Rev	Written By	Issued to		Distribution	Format
			Name	Institution		
10 June 2023	0	Frans v Aardt	Joe Bezuidenhout	New Care Innovations (Pty) Ltd	Email	.pdf
			Jan Vrolijk	Jan Vrolijk Town Planners	Email	.pdf
04 Oct 2023	1	Frans v Aardt	Joe Bezuidenhout	New Care Innovations (Pty) Ltd	Email	.pdf
			Jan Vrolijk	Jan Vrolijk Town Planners	Email	.pdf
			Mariska Nicholson	Cape EAPrac	Email	.pdf
Jan 2024	2	Frans v Aardt	Joe Bezuidenhout	New Care Innovations (Pty) Ltd	Email	.pdf
			Jan Vrolijk	Jan Vrolijk Town Planners	Email	.pdf
			Mariska Nicholson	Cape EAPrac	Email	.pdf
April 2024	3	Frans v Aardt	Joe Bezuidenhout	New Care Innovations (Pty) Ltd	Email	.pdf
			Jan Vrolijk	Jan Vrolijk Town Planners	Email	.pdf
			Mariska Nicholson	Cape EAPrac	Email	.pdf
May 2024	4	Frans v Aardt	Joe Bezuidenhout	New Cape Innovations (Pty) Ltd	Email	.pdf
			Fred Wait	Fred Wait Consulting Engineers	Email	.pdf
			Mariska Nicholson	Cape EAPrac	Email	.pdf
			Jan Vrolijk	Jan Vrolijk Town Planners	Email	.pdf

Prepared by:

Digitally signed by Frans v Aardt
Date: 2024.05.14 16:43:54 +02'00'

Frans Rudolf van Aardt (B.Ing, M.Ing, Pr.Eng)
(on behalf of Urban Engineering (Pty) Ltd)

TABLE OF CONTENTS

LIST OF ANNEXURES

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

TIA	Traffic Impact Assessment
SANRAL	South African National Roads Agency SOC Limited
RNIS	Road Networks Information System
PGWC	Provincial Government of the Western Cape
AMP	Access Management Plan
AMG	Access Management Guidelines (2016)
RAG	Road Access Guidelines (2002)
RDE	Roadside Development Environment
GLA	Gross Leasable Area
SATGRM	South African Trip Generation Rates Manual
LOS	Level of Service
DoT	Department of Transport
RDE	Roadside Development Environment
MR	Main Road
DR	Divisional Road
RNIS	Road Network Information System
GRZ1	General Residential Zone 1
SRZ1	Single Residential Zone 1
BZIII	Business Zone 3

1 INTRODUCTION

Urban Engineering (Pty) Ltd was appointed by New Care Innovations (Pty) Ltd to undertake a Transportation Investigation pertaining to the proposed rezoning and subdivision of Remainder Erf 2833, Great Brak River in Mossel Bay, Western Cape.

1.1 PROJECT BENEFIT AND CONTEXT

New Care Innovations (Pty) Ltd want to rezone and subdivide REM 2833, Great Brak River in Mossel Bay to create a residential development with Residential zoned erven. This is to satisfy the demand / opportunity that the client has recognized for this type of development in the Great Brak River area.

1.2 TERMS OF REFERENCE

Transportation investigations essentially need to be undertaken in accordance with the following guidelines:

- National Land Transport Act, 2009 (Government Gazette No. 32110)
- South African Traffic Impact & Site Traffic Assessment Manual (TMH 16 Volume 1, COTO)
- Access Management Guidelines (WCG Dept. Transport and Public Works, 2020)
- Manual for Traffic Impact Studies RR 93/635 (DoT, 1995)

To better align with the recommendations of the TMH16, the Access Management Guidelines recommends that when a development is likely to generate a minimum of 50 additional vehicular trips in a highest hour of its traffic generation, (including passer-by trips) a TIA is required.

1.3 PRIMARY OBJECTIVES OF THIS REPORT

This study will look at the effect of the additional traffic generated by the proposed operation on the surrounding road network. Where necessary, the report will aim to introduce mitigation measures to reduce this impact at the site, as well as on the surrounding transportation network.

1.4 STUDY OBJECTIVES

The study objectives are:

i. Assess the traffic conditions on the existing road network.
ii. Assess the traffic generation effects of the proposal (if any)
iii. Assess the interface conditions between the road network and the proposed development
iv. Highlight any traffic concerns resulting from the proposed development (including parking and non-motorised transport)
v. Make recommendations.

1.5 SITE INVESTIGATION

The site was visited by Frans van Aardt of Urban Engineering (Pty) Ltd on 23 May 2023. Relevant measures and inspections were taken during the site visit. A record of some of the photos taken during the site visit has been attached as **ANNEXURE A** to this report.

2 LOCALITY

RE2833 is approximately 6ha in extent. The site is situated north of National Road 2 (N2) along DR1583 (Sandhoogte Rd). Access to the site is via DR1583. The site centre has approximate WGS 84 coordinates of 34° 3'17.88"S and 22°12'10.22"E. A basic locality plan has been included as Figure 2-1.

Figure 2-1 - Basic Locality Plan

3 STATUS QUO

RE2833 is currently undeveloped and covered in vegetation as indicated in the photo below.

Figure 3-1 - Status Quo Photo

The site is currently zoned Agriculture Zone I as indicated in the extract of Mossel Bay Municipality's GIS database.

Figure 3-2 - Current Zoning

Site is positioned within the Urban Edge with the latest SDF (2022) identifying the site for "Urban Expansion" (refer to Figure 3-3)

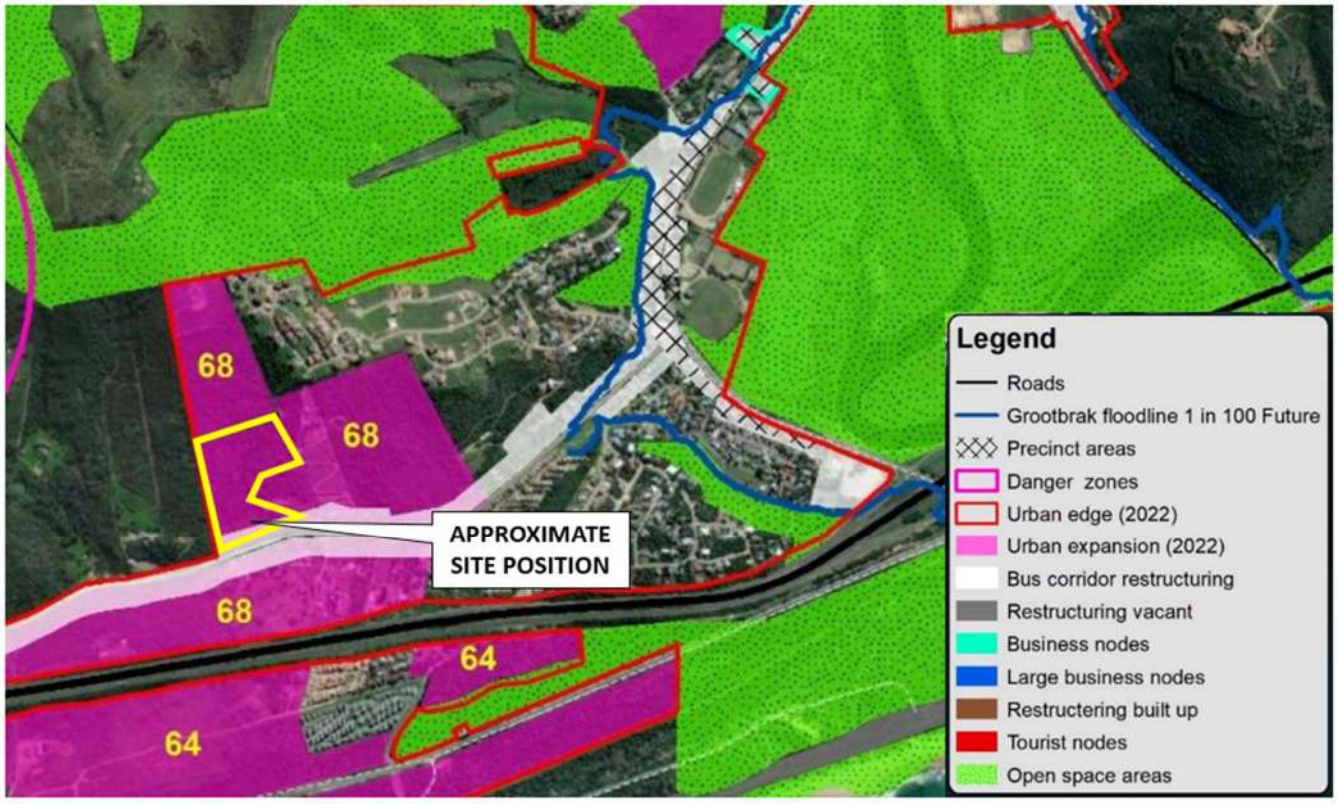


Figure 3-3 – Extract of Local Spatial Development Framework (2022)

4 PROPOSED DEVELOPMENT PARTICULARS

It is the intention of the landowner to sub-divide the land portion into the following residential erven:

- 41 x General Residential Zone I erven

A subdivision plan was prepared by Jan Vrolijk Town Planners and has been attached as **ANNEXURE B** to this report. For ease of reference, an extract of the SDP has been included as Figure 4-1 below.

Figure 4-1 - Proposed Site Development Plan

5 SURROUNDING ROAD NETWORK

Depending on which guidelines is being used, the nomenclature used in road classification varies slightly. The differences between the terms used in the 2006 Department of Transport (DoT) Guidelines and those specified in the South African Road Classification and Access Management Manual (COTO TRH 26, May 2018), are listed below:

Road Class	Function	DoT 2006 Guidelines	COTO 2012 (TRH 26 Manual)
Class 1	Mobility	Primary Distributor	Principal Arterial
Class 2		Regional Distributor	Major Arterial
Class 3		District Distributor	Minor Arterial
Class 4	Access	District Collector	Collector
Class 5		Access Road	Local Street
Class 6		Non-motorised access way	Walkway

Table 5-1 - Road Classification Nomenclature

Roadways are classified by function on the basis of the priority given to land access versus through-traffic movement. Class 1 and 2 arterial roads provide a predominantly “mobility” function and Classes 4 and 5 roads perform a collector and local “access” function.

The functions of “mobility” and “access” overlap on minor arterials (Class 3 roads). This relationship between access and mobility has been indicated schematically in Figure 5-1.

Access Management is particularly important along Principal, Major and Minor Arterials and other primary roads that are expected to provide safe and efficient movement of traffic as well as limited access to property. However, Access Management is also necessary on lower-order roadways, such as Collector Streets and Local Streets, to address safety considerations, such as sight distance and corner clearance.

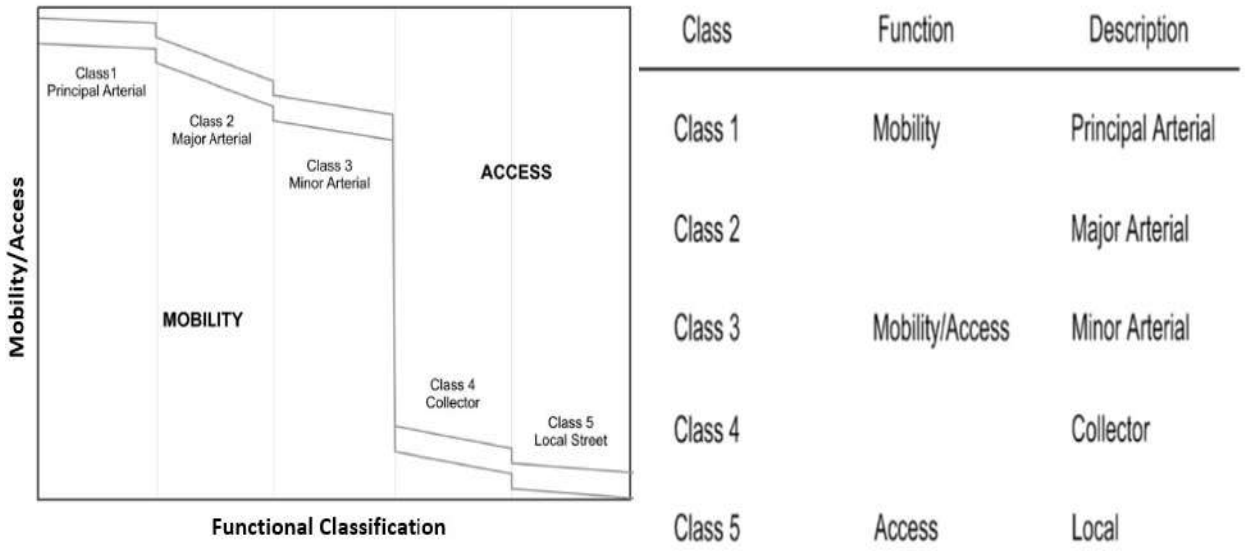


Figure 5-1 - Relationship Between Access and Mobility

5.1 DR1583 (SANDHOOGTE ROAD)

DR1583 runs predominantly east/west. It acts as transportation link between DR1578 in the West and MR348 in the east.

The relevant section of DR1583 consists of a 7m wide asphalt surfaced road which was recently upgraded as part of the MR344/DR1578 upgrade. It has a posted speed limit of 60km/h.

Figure 5-2 - DR1578 Characteristics

According to the RNIS website, DR1583 has the following attributes:

- Road Reserve width = 20m
- Length = 6.95km
- Road Classification = Residential Access Collector
- Functional Classification = Level 4 (Tertiary) road
- RCAM classification = Rural Class 4 (a)

Western Cape Government

Western Cape Provincial Administration
Road Log Report

SUMMARY PAGES

Road Number : **DR01583 (DR1583)** Start Description: **Jct. MR348 Groot Brak River** End Description: **Jct. DR1578 Klip Heuvel**

ROAD CATEGORY

Start Km	End Km	Category
1.60	6.95	RESIDENTIAL ACCESS COLLECTORS

FUNCTIONAL CLASS

Start Km	End Km	Class
1.60	6.95	LEVEL4 (TERTIARY)

RCAM CLASSIFICATION

Start Km	End Km	Class
1.60	6.95	R4a

STATUTORY WIDTH

Start Km	End Km	Width
1.60	6.95	20.00

ROAD NAME

Start Km	End Km	Road Name
1.60	6.95	SANDHOOGTE

Figure 5-3 - Extract of DR1583 Road Log (RNIS)

As indicated in Figure 5-3 above, the PGWC's authority over DR1583 start at +-1.60km. This means that Mossel Bay Municipality is the road authority for the section of DR1583 situated between +-0km and +-1,.60km. The position of the relevant kilometer markers are indicated schematically in Figure 5-4 below

Figure 5-4 - Provincial vs Municipal Authority

The TRH 26 manual makes a clear distinction between rural and urban areas. Roads in rural and urban areas have the same six functional classes but at different scales and standards. Rural roads have longer reaches of connectivity and therefore require higher levels of mobility than urban roads. The TRH26 classification system therefore differentiates between rural and urban areas.

The TRH 26 continues to specify that when a rural road enters an urban area, it automatically becomes an urban road, preferably of the same class. If the urban area is on one side of the road only, it should be classified as urban if vehicle or pedestrian access is possible. If not, the rural road continues until the first access point. Hence a Throughway or Bypass remains rural in function if it does not provide convenient access to an urban area.

Where an urban road leaves the urban area, it automatically becomes a rural road, preferably with a class not lower than that of the urban area. Short sections of "rural" roads between urban areas can sensibly be treated as urban.

The urban/rural road classification changes at the boundary of the urban area but the road design should be adjusted some distance in advance of the urban area to provide a transition area and to give motorists time to slow down.

The TRH 26 defines Class R4 (Rural) collector roads as follows:

These roads form the link to local destinations. They do not carry through traffic but only traffic with an origin or destination along or near the road. A collector road must never be quicker to use to pass through an area than the alternative mobility road.

These roads would typically give access to smaller rural settlemesingnts, tourist areas, mines, game and nature parks and heritage sites. The roads can also provide direct access to large farms. Collector roads can also be provided within larger rural settlements to provide a collector function in such settlements.

The length of these roads would mostly be shorter than 10 km. Traffic volumes should not be more than about 1 000 vehicles per day.

The TRH 26 defines Class U4 (Urban) collector roads as follows:

Collector streets are used to penetrate local neighbourhoods with the purpose of collecting (and distributing) traffic between local streets and the arterial system. The streets are mainly intended to serve an access function with limited mobility and traffic volumes; trip lengths and continuity must be limited.

They should ideally not carry any through traffic but only traffic with an origin or destination along or near to the street. The majority of the traffic using the collector street will have a destination in the street itself or in a local street leading off the collector. A collector street must not be quicker to use to pass through an area than a mobility road although it is recognized that in the absence of a mobility route, collectors must allow for some through traffic, albeit at low speeds.

Class 4a major collectors may also be used in preference to arterials when "mixed" through and local traffic is unavoidable, such as when arterials pass commercial centres with no alternative access. In this case, the local access traffic must be favoured at the expense of the mobility function.

From the TRH26 guidelines, it follows that the position of the urban edge is critical in road classification. Based on the 2022 Spatial Development Framework, (see Figure 5-5), the urban edge has recently moved out to include Erf 2833. The section of DR1583 next to Erf2833 is therefore situated with the urban area.

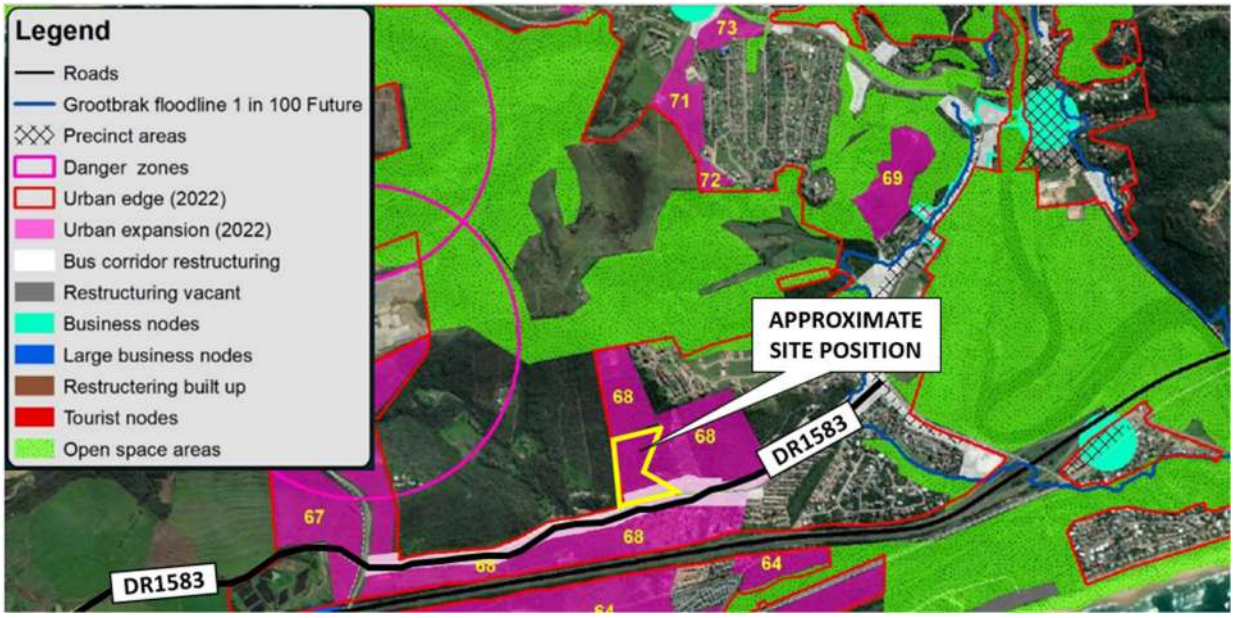


Figure 5-5 - Updated Urban Edge Position on 2022 SDF

5.2 EXISTING TRAFFIC VOLUMES

To determine the existing (background) traffic volumes in the vicinity of the site, classified traffic counts were recorded at three positions along DR1583 on Wednesday 05 May 2023. Counts were recorded over a 12-hour (06:00 to 18:00) period and vehicles were classified as either light or heavy. The counts took place at the following positions:

- Count 1 – Intersection of DR1578 and DR1583.
- Count 2 – On DR1583, in front of the site.
- Count 3 – Intersection of DR1583 and MR0348.

The traffic count intersections are indicated in Figure 5-6 below:

Figure 5-6 - Traffic Count Positions

The raw traffic count data has been attached as **ANNEXURE C** to this report. The data was analysed and the flow profiles extracted for the various approaches as indicated in the following graphs.

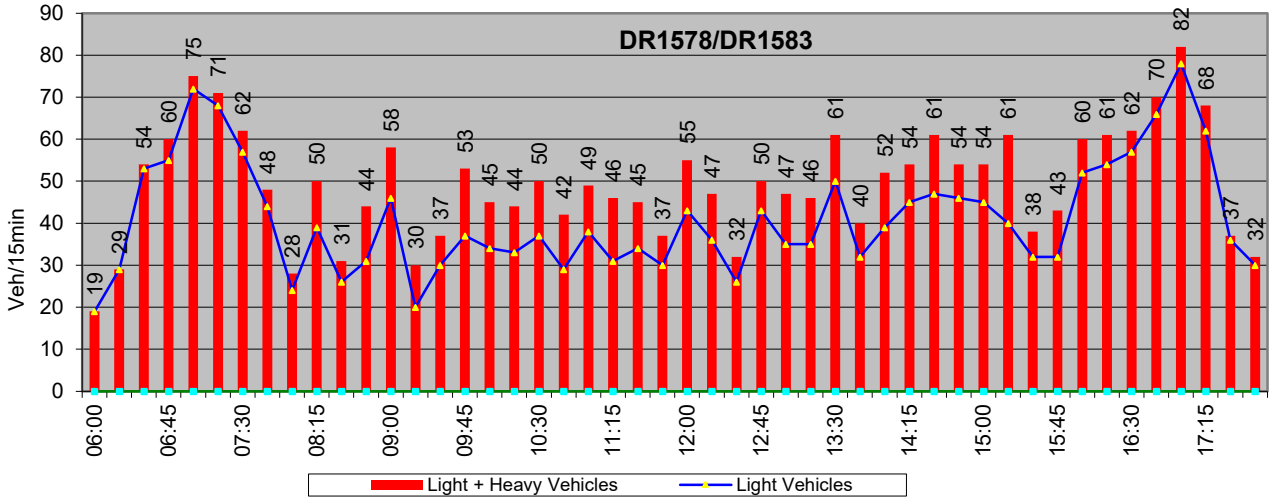


Figure 5-7 - Traffic Flow Analysis - DR1578/DR1583 Intersection

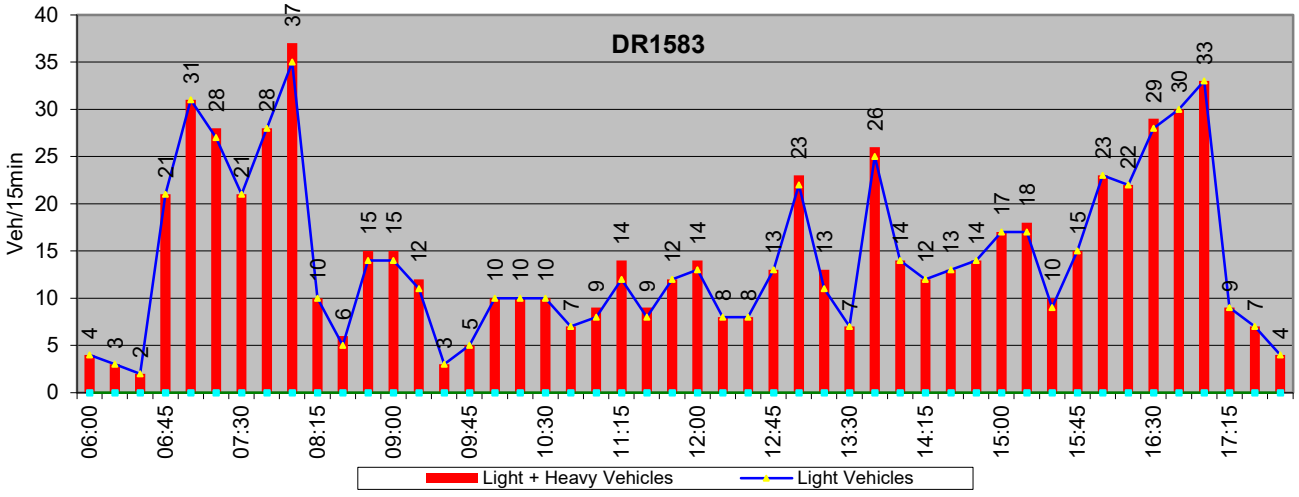


Figure 5-8 - Traffic Flow Analysis - DR1583 at Site Position

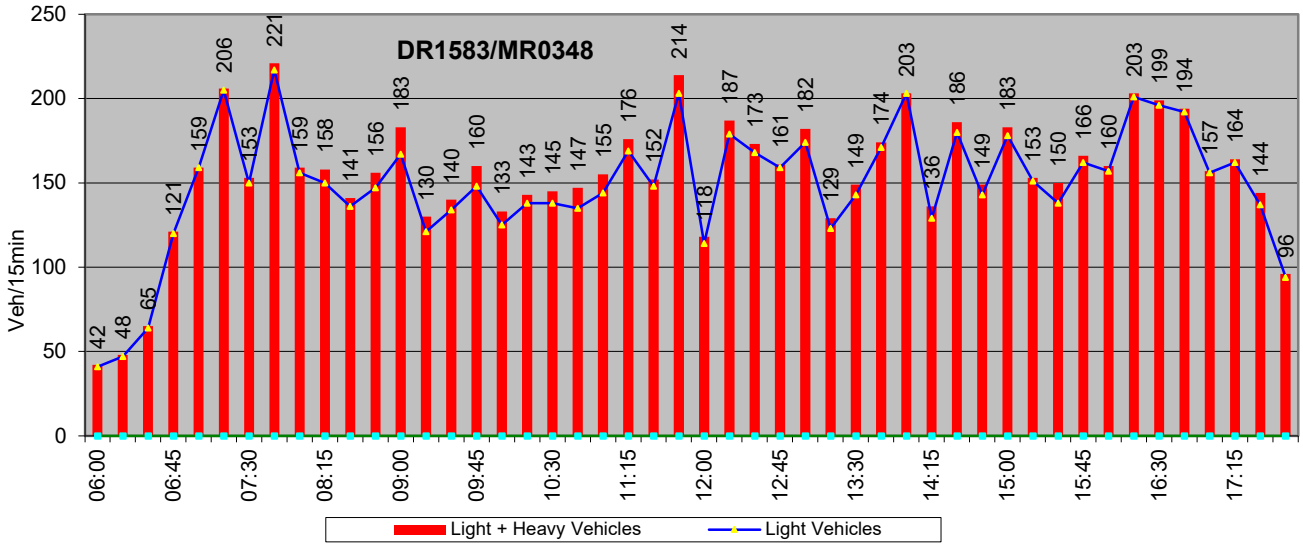


Figure 5-9 - Traffic Flow Analysis - DR1583/MR0348 Intersection

The traffic count revealed the following at the three intersections:

	DR1578/DR1583	DR1583 (at the Site)	DR1583/MR0349
Total vehicles Counted	2374	704	7423
Light Vehicles (% of total)	1977 (83%)	685 (97%)	7172 (97%)
Heavy Vehicles (% of total)	397 (17%)	19 (3%)	251 (3%)

Table 5-2 - Summary of Traffic Volumes

6 TRIP GENERATION POTENTIAL

Based on the SDP attached as ANNEXURE B, the development proposal consists of General Residential Zone I (GRZI) erven.

6.1 TRIP GENERATION

The trip generation potential of the site has been calculated based on the guidelines published in TMH 17 (South African Trip Data Manual, COTO May 2018).

General Residential Zone I

Based on the Mossel Bay Municipality Integrated Zoning Scheme By-Law, General Residential Zoning is mainly used for **town housing developments** and is defined as follows:

"The objective of this zone is to encourage residential development of a greater density than for General Residential Zone II, while retaining the emphasis on design coordination and a modest scale in terms of height. This zone has particular location requirements, including proximity to transport and amenities, and should not be randomly located without due consideration of the availability of open space and community facilities. Town housing may be located in and around central business areas, near high density nodes and along activity axis including railway lines and main traffic routes, where flats are often found."

The TMH land-uses that best fit the ethos of the proposed development is that of "Townhouses". The relevant TMH 17 definition of the land use is listed below:

231 Townhouses (Simplexes and Duplexes) Dwelling Units

Dwelling Units typically provided in clusters or in complexes. Units can be detached or provided within one building structure. Parking is often provided within a communal area.

The trip generation potential of townhouses are indicated in the table below.

231 Townhouses					**1D/Unit**
Description	AM Peak	PM Peak	Friday PM	Saturday	Sunday
Trip Rate	0.85	0.85	0	0.45	0.45
IN/OUT	25:75	70:30	0	50:50	50:50

The trip generation potential of the total development can therefore be estimated as indicated in Table 6-1.

Description	**Size**	**Weekday AM**		**Weekday PM**		**Saturday**	
		In	**Out**	**In**	**Out**	**In**	**Out**
GRZI Erven	41 Units	9	26	25	10	9	9
Total		35		35		18	

Table 6-1 - Trip Generation Values

6.2 TRAFFIC DISTRIBUTION

Traffic distribution has been determined based on the actual traffic volumes counted at the various intersections. The AM and PM peak hour distributions and volume calculations have been indicated schematically in Figure A and Figure B in **ANNEXURE D**

7 INTERSECTION OPERATIONAL ANALYSES

The operational analysis was done with the "SIDRA INTERSECTION 9.1" (version 9.1.3) computer aided software that is developed specifically for traffic engineering capacity analysis. When elements of a road network such as intersections are analysed, their operating conditions are described in terms of Level of Service (LOS). The six letters from A to F are used to indicate different LOS. LOS A indicates very low traffic flows with correspondingly low delays. LOS E reflects capacity conditions, with high delays and unstable flow. LOS F reflects conditions where traffic demand exceeds capacity and traffic experiences congestion and delays. Generally, LOS A to D is considered acceptable in accordance with international standards. LOS E and F on the other hand are considered to be unacceptable.

The Average Delay is the delay (in seconds) that a motorist is likely to experience on an approach to the junction, while waiting for the junction to clear or other vehicles to maneuver. A further measure of the operating conditions at any point in a road network is the volume to capacity ratio (v/c). As the name implies it is the traffic demand volume divided by the available capacity of the road element. Generally, ratios of up to approximately 0.9 are internationally considered acceptable. Values exceeding 1.0 implies saturation of the facility.

It is important to note that trip reduction or SIDRA calibration factors were not applied to help improve the LOS of any of the analysed intersections. Vehicle Movement Data for heavy and light vehicles were left as per the default SDIRA default setting indicated in Figure 7-1 below.

From South to Exit:	W	N	E
	L2	T1	R2
Queue Space	7,0 m	7,0 m	7,0 m
Vehicle Length	4,5 m	4,5 m	4,5 m
Vehicle Occupancy (pers/veh)	1,2	1,2	1,2
Extra Midblock Delay			
Turning Vehicle Effect	Factor	Factor	Factor
Turning Vehicle Factor	1,05	1,0	1,05
Turn Radius			
Gap Acceptance Factor	1,0	1,0	1,0
Opposing Vehicle Factor	1,0	1,0	1,0
Prac. Deg. of Saturation	Program	Program	Program

CALIBRATION FACTORS - LIGHT VEHICLES

From South to Exit:	W	N	E
	L2	T1	R2
Queue Space	13,0 m	13,0 m	13,0 m
Vehicle Length	10,0 m	10,0 m	10,0 m
Vehicle Occupancy (pers/veh)	1,2	1,2	1,2
Extra Midblock Delay			
Turning Vehicle Effect	Factor	Factor	Factor
Turning Vehicle Factor	1,09	1,0	1,09
Turn Radius			
Gap Acceptance Factor	1,5	1,5	1,5
Opposing Vehicle Factor	1,5	1,5	1,5
Prac. Deg. of Saturation	Program	Program	Program

CALIBRATION FACTORS - HEAVY VEHICLES

Figure 7-1 - SDIRA Default Calibration Settings

The SIDRA analysis was performed for the following scenarios:

- **Status Quo:** The background traffic volumes were determined by means of manual traffic counting. These represent the actual volumes that are present on the road network.

- **No-Go Scenario:** A growth factor was applied to account for regional growth and the volumes were escalated up to the year 2028. This analysis indicates the traffic situation 5 years from now, but without the inclusion of the proposed development.
- **Operational Traffic** were estimated for the proposed development. The operational traffic volumes were added to the 2028 future traffic volumes to form the basis of the analysis, should the development be allowed to continue. Seven (7) additional trips were included in the total operational traffic volumes.

The intersections were linked in SIDRA to create a network layout as indicated in Figure 7-2.

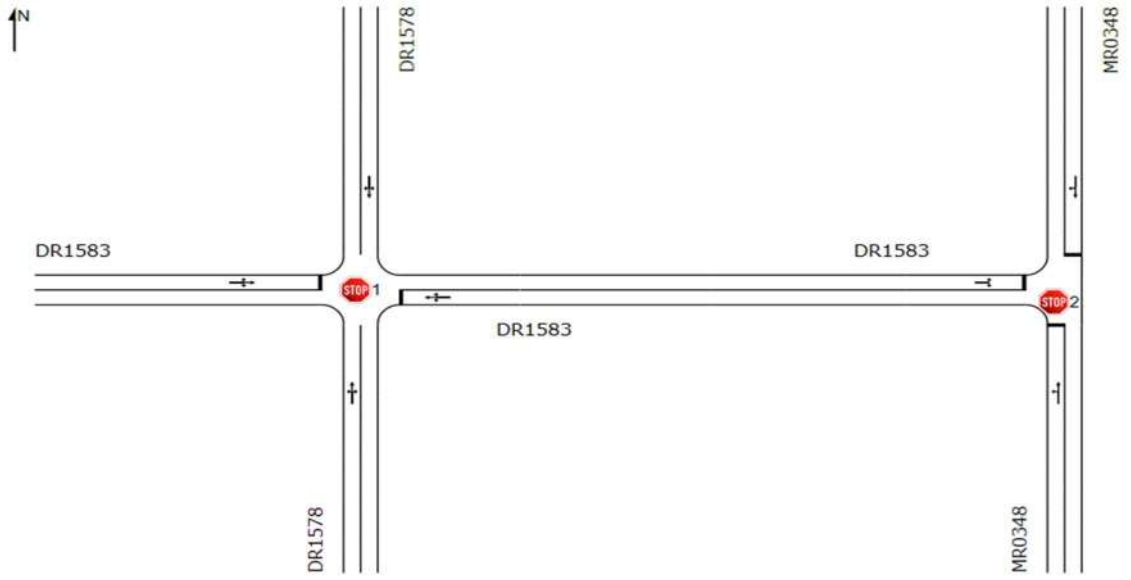


Figure 7-2 - Schematic Network Layout

7.1 STATUS QUO

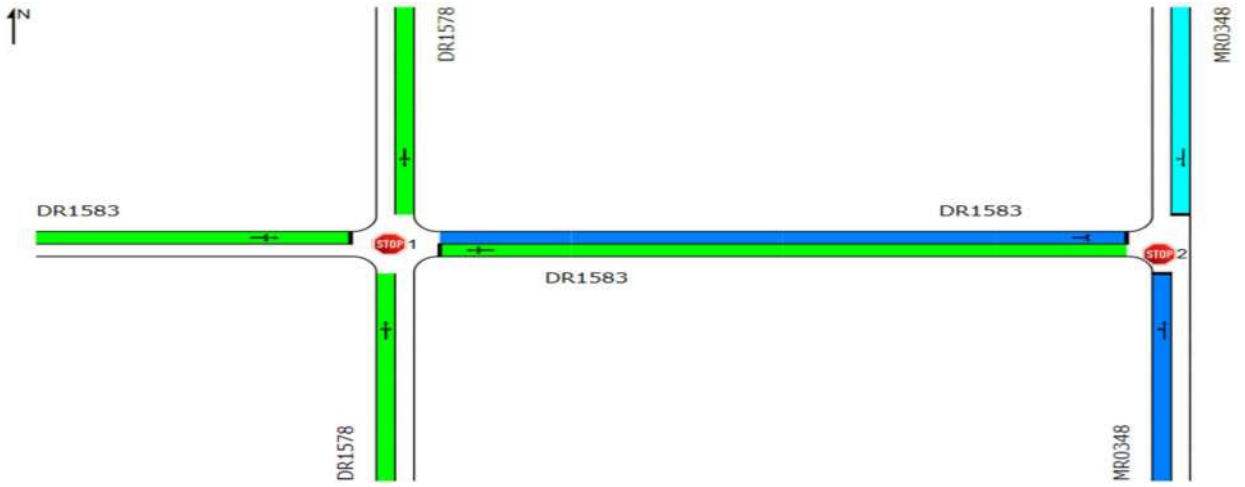
The current Weekday AM and PM Peak hour traffic volumes were used to calculate the Status Quo operational analysis. The results of the SIDRA Analysis have been attached as **ANNEXURE E** to this report, but has been summarised in the tables below:

INTERSECTION	APPROACH	MOVEMENT	2023 WEEKDAY AM				2023 WEEKDAY PM			
			LEVEL OF SERVICE (LOS)	AVE DELAY (seconds)	V / C RATIO	AVE QUEUE (veh)	LEVEL OF SERVICE (LOS)	AVE DELAY (seconds)	V / C RATIO	AVE QUEUE (veh)
DR1578/DR1583	DR1578 (Southern Approach)	Left	A	6.1	0.070	0.2	A	5.5	0.081	0.2
		Through	A	0.0			A	0.0		
		Right	A	6.2			A	6.4		
	DR1583 (Eastern Approach)	Left	A	8.3	0.023	0.1	A	8.4	0.029	0.1
		Through	A	8.7			A	9.0		
		Right	A	8.8			A	9.0		
	DR1578 (Northern Approach)	Left	A	5.5	0.053	0.0	A	5.5	0.063	0.0
		Through	A	0.0			A	0.0		
		Right	A	5.7			A	6.0		
	DR1583 (Western Approach)	Left	A	8.3	0.008	0.0	A	9.0	0.089	0.3
		Through	A	8.7			A	9.0		
		Right	A	8.8			A	9.2		

Table 7-1 - DR1578/DR1583 LOS (Status Quo)

INTERSECTION	APPROACH	MOVEMENT	2023 WEEKDAY AM				2023 WEEKDAY PM			
			LEVEL OF SERVICE (LOS)	AVE DELAY (seconds)	V / C RATIO	AVE QUEUE (veh)	LEVEL OF SERVICE (LOS)	AVE DELAY (seconds)	V / C RATIO	AVE QUEUE (veh)
DR1583/MR0348	MR0348 (Southern Approach)	Left	C	18.1	0.468	2.1	C	16.2	0.471	2.1
		Through	C	17.7			C	15.9		
	MR0348 (Northern Approach)	Through	B	14.2	0.399	1.6	B	12.4	0.345	1.3
		Right	B	13.9			B	12.5		
	DR1583 (Western Approach)	Left	C	19.9	0.449	2.0	C	19.8	0.387	1.6
		Right	C	19.2			C	19.2		

Table 7-2 - DR1583/MR0348 LOS (Status Quo)



7.2 NO GO SCENARIO (ESCALATED 2028 TRAFFIC VOLUMES)

In order to estimate the future (2028) traffic volumes for the No-Go Scenario, the 2023 Status Quo Peak Hour traffic volumes were further increased with an annual growth factor. Reference is made to the South African Department of Transport's Manual for Traffic Impact Studies (DoT, October 1995) which provides a table with typical growth rates. This document recognises that the method for determining traffic growth is important, but also states that there are a number of factors which influence the traffic growth rate. The approach is therefore to classify the study area with a low, average, high or extremely high growth rate. The typical growth rates are indicated in Table 7-3.

Category	Yearly Growth Rate (%)
Low	0-2.5
Average	2.5-3.5
High	3.5-6
Exceptionally high	>6

Table 7-3 - Typical Traffic Growth Rates

Based on the growth within the Western Cape region, it was decided to apply a fairly conservative 3% annual growth rate to the Status Quo traffic volumes.

The estimated 2028 traffic volumes (for the No-Go Scenario) were calculated according to the equation below:

$$F = P \times (1 + i)^n$$

Where: F = Future Trips
P = Present Trips
n = 5 years
i = 3% Growth

The escalated (2028) background traffic volumes have been attached as **Figure C** in **ANNEXURE D**. This scenario was tested and analyzed in SIDRA to determine the Level of Service (both AM and PM peak hour periods) of the various intersections, should the proposed development not take place. The results of the analyses have been attached as **ANNEXURE E**, but a summary of the findings has been included in Table 7-4 and Table 7-5.

INTERSECTION	APPROACH	MOVEMENT	2028 WEEKDAY AM				2028 WEEKDAY PM			
			LEVEL OF SERVICE (LOS)	AVE DELAY (seconds)	V / C RATIO	AVE QUEUE (veh)	LEVEL OF SERVICE (LOS)	AVE DELAY (seconds)	V / C RATIO	AVE QUEUE (veh)
DR1578/DR1583	DR1578 (Southern Approach)	Left	A	6.1	0.091	0.2	A	5.5	0.095	0.2
		Through	A	0.0			A	0.0		
		Right	A	6.4			A	6.5		
	DR1583 (Eastern Approach)	Left	A	8.4	0.030	0.1	A	8.5	0.036	0.1
		Through	A	9.1			A	9.2		
		Right	A	9.3			A	9.3		
	DR1578 (Northern Approach)	Left	A	5.5	0.067	0.0	A	5.5	0.079	0.0
		Through	A	0.0			A	0.0		
		Right	A	5.8			A	6.3		
	DR1583 (Western Approach)	Left	A	8.4	0.010	0.0	A	9.1	0.109	0.4
		Through	A	9.1			A	9.3		
		Right	A	8.9			A	9.6		

Table 7-4 - DR1578/DR1583 LOS (2028 NO-GO)

INTERSECTION	APPROACH	MOVEMENT	2028 WEEKDAY AM				2028 WEEKDAY PM			
			LEVEL OF SERVICE (LOS)	AVE DELAY (seconds)	V / C RATIO	AVE QUEUE (veh)	LEVEL OF SERVICE (LOS)	AVE DELAY (seconds)	V / C RATIO	AVE QUEUE (veh)
DR1583/MR0348	**MR0348** (Southern Approach)	Left	C	20.0	0.542	2.8	C	17.7	0.543	2.7
		Through	C	19.6			C	17.5		
	MR0348 (Northern Approach)	Through	C	15.2	0.461	2.0	B	13.1	0.399	1.6
		Right	B	14.8			B	13.1		
	DR1583 (Western Approach)	Left	C	21.9	0.520	2.6	C	21.1	0.447	2.0
		Right	C	21.1			C	20.6		

Table 7-5 - DR1583/MR0348 LOS (2028 NO-GO)

The above results have been represented schematically in the network LOS Lane Display for the (AM peak hour period) in Figure 7-3.

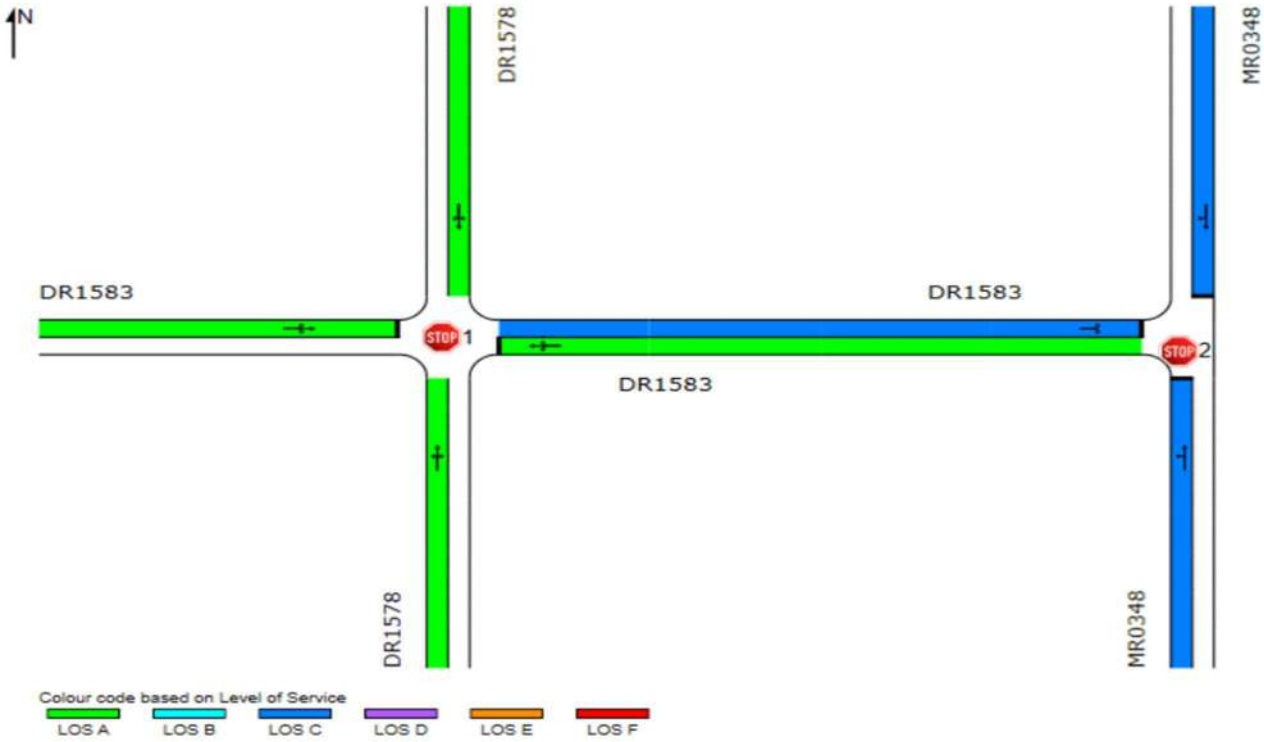


Figure 7-3 - Lane LOS Display for 2028 AM Scenario

7.3 OPERATIONAL PHASE TRAFFIC

In order to determine the impact of the proposed development on the surrounding road network, the trip generation potential of the proposed development was added to the future 2028 background traffic volumes. The final traffic volumes can be seen in **Figure E** in **ANNEXURE D**. The results of the SIDRA analysis have been summarized in Table 7-6.

INTERSECTION	APPROACH	MOVEMENT	2028 + DEV WEEKDAY AM				2028 + DEV WEEKDAY PM			
			LEVEL OF SERVICE (LOS)	AVE DELAY (seconds)	V / C RATIO	AVE QUEUE (veh)	LEVEL OF SERVICE (LOS)	AVE DELAY (seconds)	V / C RATIO	AVE QUEUE (veh)
DR1578/DR1583	DR1578 (Southern Approach)	Left	A	6.1	0.092	0.2	A	5.5	0.098	0.3
		Through	A	0.0			A	0.0		
		Right	A	6.4			A	6.5		
	DR1583 (Eastern Approach)	Left	A	8.4	0.035	0.1	A	8.5	0.038	0.1
		Through	A	9.1			A	9.3		
		Right	A	9.3			A	9.3		
	DR1578 (Northern Approach)	Left	A	5.5	0.068	0.0	A	5.5	0.074	0.0
		Through	A	0.0			A	0.0		
		Right	A	5.8			A	6.3		
	DR1583 (Western Approach)	Left	A	8.4	0.010	0.0	A	9.1	0.110	0.4
		Through	A	9.1			A	9.4		
		Right	A	9.3			A	9.7		

Table 7-6 - DR1578/DR1583 LOS (Development + Escalated 2028 Volumes)

INTERSECTION	APPROACH	MOVEMENT	2023 WEEKDAY AM				2023 WEEKDAY PM			
			LEVEL OF SERVICE (LOS)	AVE DELAY (seconds)	V / C RATIO	AVE QUEUE (veh)	LEVEL OF SERVICE (LOS)	AVE DELAY (seconds)	V / C RATIO	AVE QUEUE (veh)
DR1583/MR0348	MR0348 (Southern Approach)	Left	C	21.3	0.568	3.0	C	18.6	0.568	3.0
		Through	C	20.9			C	18.3		
	MR0348 (Northern Approach)	Through	C	15.6	0.476	2.2	B	13.2	0.412	1.7
		Right	C	15.3			B	13.2		
	DR1583 (Western Approach)	Left	C	22.4	0.551	2.9	C	21.6	0.465	2.2
		Right	C	21.6			C	21.0		

Table 7-7 - DR1583/MR03483 LOS (Development + Escalated 2028 Volumes)

7.4 SUMMARY OF ANALYSIS

Status Quo

Intersection analysis based on the status quo traffic count revealed that both intersections operate at acceptable Level of Service during both the AM and PM Peak Hour Periods. The worst LOS is experienced at the MR348/DR1583 intersection where delays of 19.9s are experienced on the DR1578 approach to the intersection.

No Go

The No-Go Scenario was simulated by increasing the Status Quo volumes with a fairly conservative 3% growth rate over a 5-year period. Analysis of the scenario indicates LOS of both intersections remain at an acceptable LOS, but once again the worst LOS is experienced at the MR348/DR1583 intersection where delays increased from 19.9s to 21.9s on the DR1578 approach to the intersection.

Operational Phase

The operational phase analysis made provision for the increase in traffic volumes generated by the proposed development. Since the proposed development is seen as a fairly low trip generator (35 trips during the peak hour period), the addition of the new generated traffic to the future background volumes, does not have a major impact on the LOS of the affected intersection. The worst LOS remains on the DR1578 approach to the MR0348 intersection, where delays are expected to increase from 21.9s to 22.4s. is expected for the right turn movement of the DR1578 Northern approach to the intersection.

Comparing the 2028 No-Go to the 2028 Operational (2028 background + development traffic), it is easy to see from Figure 7-4 that the additional traffic expected to the generated by the development is not expected to have a noticeable impact on the Level of Service of either of the two intersections.

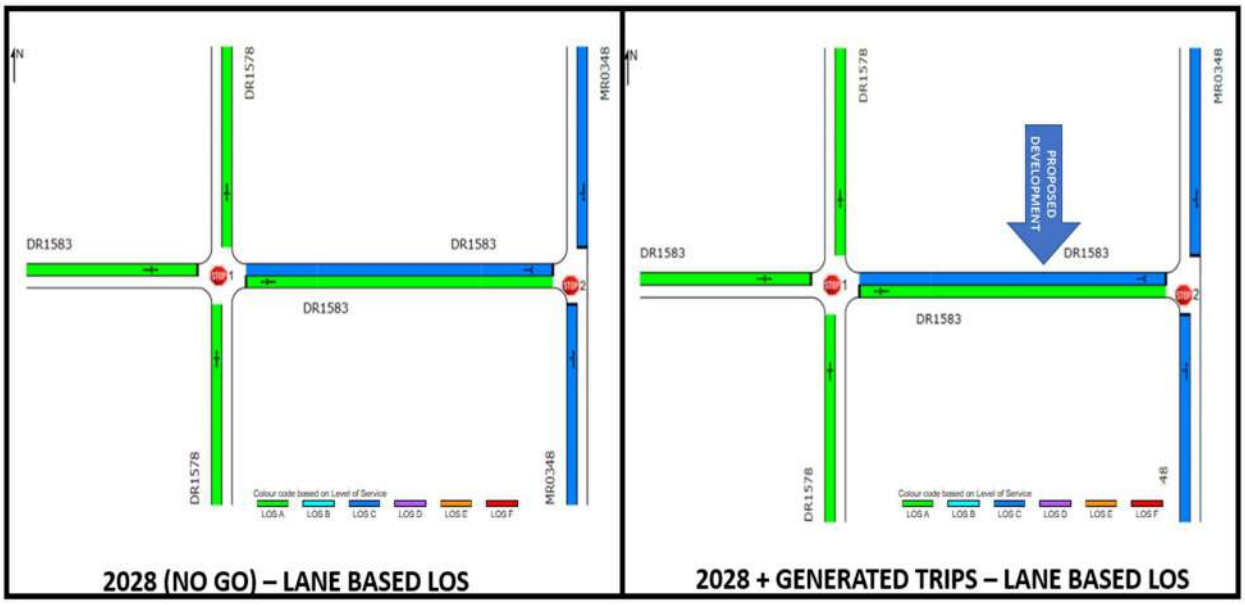


Figure 7-4 - Comparison between NO-GO and Operational LOS

8 GEOMETRIC CONSTRAINTS

8.1 DRIVEWAY CLASSIFICATION

According to the PGWC's Road Access Guidelines (2020), "the term "driveway" describes the intersecting roadway giving direct access to a privately-owned property adjacent to the road where such intersecting roadway is not a public road or street.

A driveway is usually the only access point to the property, although it is possible that connections could be made between adjacent properties through connecting roads provided by agreement between property owners or via a servitude registered for a road access. Larger developments may take access through more than one driveway from more than one road.

*"**Conventional driveways**" are defined in these Guidelines as domestic equivalent driveways, low-volume driveways and high-volume driveways, with high-volume driveways being regarded as having an equivalent status to a Class 5 road".*

*"**Equivalent driveways**" of a higher order than high-volume driveways may be equivalent to Classes 2, 3 or 4 public road intersections"*

The 2020 AMG lists the three categories of "conventional driveways", defined by the number of vehicular trips generated per hour that use or are projected to use a driveway, as follows:

***"Domestic equivalent driveways** are driveways giving vehicular access to private homes, micro businesses and farms which attract very small traffic volumes. In residential areas with small plot sizes the vehicle using the driveway may have to back into the through road when leaving the property.*

Domestic equivalent driveways have a small impact on the through road but can result in conflicts where reversing manoeuvres take place into the through road. For this reason, domestic equivalent driveways are acceptable on Class 5 roads, but should be discouraged on Class 4 roads except where special provision is made for access to properties within the road reserve. This requires that there is sufficient space clear of the through traffic lanes for a vehicle reversing out of a property to manoeuvre within the road reserve so as to enter the traffic stream safely.

In rural areas, low-volume farm driveways generating less than five vehicles per day are regarded as domestic equivalent driveways.

***Low-volume driveways** may carry larger traffic volumes than domestic equivalent driveways and are expected to serve larger developments. The lower volume driveway categories (domestic equivalent driveways and low-volume driveways) have no class equivalent as they generally carry lower volumes than the traffic volume carried by any class of public road."*

In rural areas, farm accesses combined with small-scale developments such as farm stalls or stand-alone retail outlets may be low-volume driveways depending on the traffic volumes generated.

***High-volume driveways** are equivalent to Class 5 local roads and are expected to carry larger traffic volumes than low-volume driveways.*

Based on the expected trip generation (refer to Section 6.1), the proposed site access classifies as a **High Volumes** driveway, as indicated in Figure 8-1.

Driveway category	Class equivalent	Roadside development environment				
		CBD	Intermediate	Suburban	Semi-rural	Rural
		Vehicles per hour				v.p.day
Domestic equivalent		< 5	< 5	< 5	< 5	< 5
Low-volume		5–30	5–30	5–30	5–30	5–30
High-volume	5	30–150	30–100	30–60	30–50	30–50
Equivalent collector	4	150–750	100–625	60–500	50–250	50–500

Figure 8-1 - Driveway Classification

The WCG Access Management Guidelines (2020) provides guidelines on where driveways should be allowed for a given combination of road class and roadside development environment. The table shows that both high and low volume driveways are permitted on Class 4 roads.

Roadside development environment	Class 2 Major	Class 3 Minor			Class 4 Collector			Class 5 Local		
	LVD+HVD	DED	LVD	HVD	DED	LVD	HVD	DED	LVD	HVD
CBD										
Intermediate										
Suburban										
Semi-rural										
Rural										

Figure 8-2 - AMG Guidelines for Allowing Driveways

8.2 MOSSEL BAY MUNICIPALITY SPECIFICATIONS REGARDING VEHICLE ENTRANCES

The Mossel Bay Municipality Integrated Zoning Scheme By-Law specifies the following with regards to vehicle entrance and exit ways to and from a property:

a) motor vehicle carriageway crossings must be limited to one per site per public street or road abutting the site;

b) despite paragraph *(a)*, where the total length of any street boundary of a site exceeds 30 metres in length, one additional carriageway crossing may be permitted,

c) provided that no two carriageway crossings are closer than 12 metres to each other;

d) the minimum and maximum widths of motor vehicle carriageway crossings must be in accordance with the table, titled "Width of motor vehicle carriageway crossings"; and

e) the minimum width of a panhandle access may not be less than 3 metres wide.

Width of vehicle Carriageway Crossings		
Type of Carriageway Crossing	**Minimum Width**	**Maximum Width**
Single entrance or exit way	2,7meters	4,0 meters
Combined entrance and exit way	5,0meters	8,0 meters

8.3 DRIVEWAY GRADE AND SPEED DIFFERENTIAL

Along older urban arterial streets, it is common to find steep driveways with grades (or slopes) of 5–10% or more. Driveways with steep grades were often constructed to allow the driveway and connecting parking lots to drain more efficiently and to save earth-moving costs. On the other hand, more recently constructed arterials typically feature very gentle driveway grades. Driveway grade is an important, yet often overlooked, safety consideration.

The maximum practical grade for driveways varies between 8–14 % for low-volume driveways and five percent for high-volume driveways. Furthermore, the maximum practical change in grade is about 10%. Above this value, many vehicles will scrape their bumpers or other low-hanging parts on the driveway, potentially causing damage to the vehicle and driveway or roadway surface. The PGWC's book of standard geometric road plans specifies the following with regards to the slope of two intersecting roads:

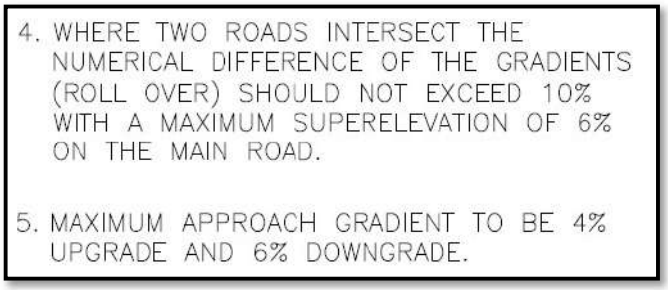


Figure 8-3 - PGWC Standard Plan book

Why is driveway grade important?

Driveway grade is important because it affects *speed differential*. Turning vehicles must slow appreciably to enter a driveway. The steeper the driveway, the greater the reduction in speed required to prevent "bottoming out." The following table shows typical driveway entry speeds for varying degrees of driveway grade.

Driveway Grade Change	Typical Driveway Entry Speed
Greater than 15%	Less than 13km/h
14-15%	13km/h
12-13%	15km/h
10-11%	16km/h
8-9%	18km/h
6-7%	19km/h

Table 8-1 - Driveway entry Speeds (Oregon State University)

Speed differential is the difference between the speed of vehicles that are continuing along the main roadway versus that of those that are turning into or out of the driveway. For instance, if through traffic generally moves at 60 km per hour and cars have to slow to 20 km per hour to enter a driveway, the speed differential at that driveway is 40 km per hour. A speed differential above 30 km per hour begins to present safety concerns. When the speed differential becomes greater than 50 to 60 km per hour, the likelihood of crashes involving fast moving through vehicles and turning vehicles increases very quickly. Rear-end collisions are very common on roads and streets with large driveway speed differentials and a high density of commercial driveways. When the speed differential is high, it is also more likely that crashes will be more severe, cause greater property damage, and have a greater chance of injury or fatalities. Keeping the speed differential low is very important for safety reasons.

8.4 EXISTING 20M WIDE ROAD SERVITUDE

An existing 20m wide road servitude provides access to Erf4650, Erf 2833 and Remainder of 2832 as indicated in Figure 8-4.

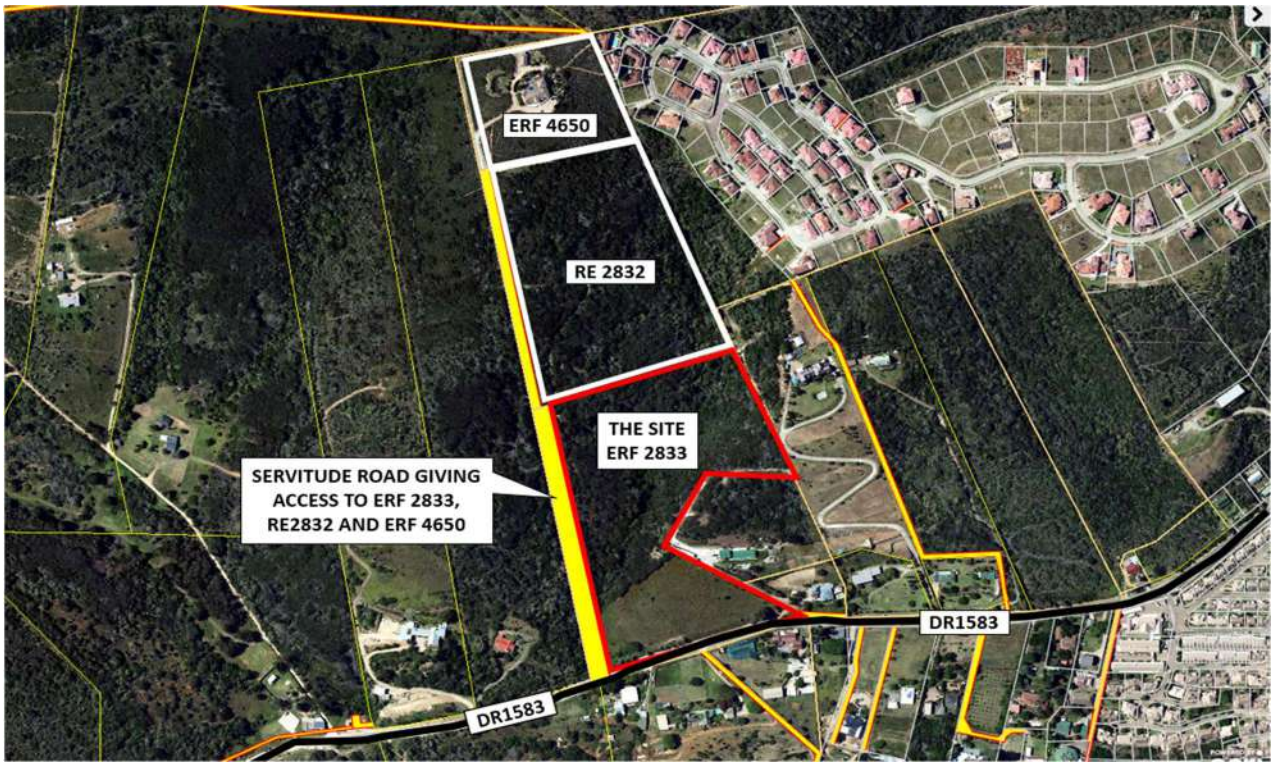


Figure 8-4 - 20m Wide Road Servitude

A 3m wide, interlocking block paving road is currently situated within the 20m wide road reserve. This road is used on a daily basis by the resident staying on Erf 4650 at the end of the road.

Figure 8-5 - Existing Servitude Road

Based on the proposed SDP, the existing servitude road will be used to provide access to all erven.

8.4.1 SIGHT LINES FOR EXISTING SERVITUDE ROAD.

Based on the 60km/h posted speed limit (refer to Section 5.1 of this report), a Shoulder Sight Distance of 125m is required for passenger vehicles entering a 7.5m wide road.

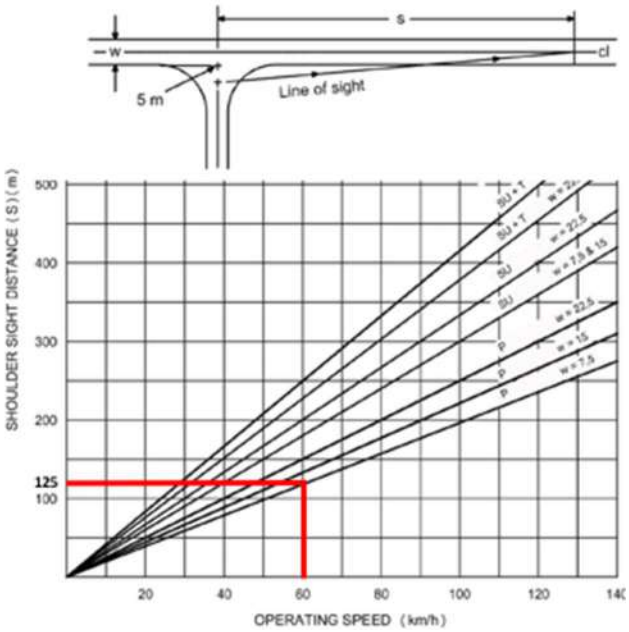


Figure 8-6 - Shoulder Sight Distance for Stop Condition

From Figure 8-7 and Figure 8-8, it follows that SSD in excess of 125m was measured in both directions from the existing servitude road. (Note the minor timber structure currently obscuring sight lines towards the DR1578)

Figure 8-7 - SSD towards DR1578

Figure 8-8 - SSD towards MR0348

9 THROAT LENGTHS

The proposed SDP does not make provision for access control and hence throat length calculations are not applicable. The position of the secondary road parallel to Sandhoogte Road, is however situated approximately 40m away from Sandhoogte road edge, ensuring that the two intersections are not situated within each other's envelope.

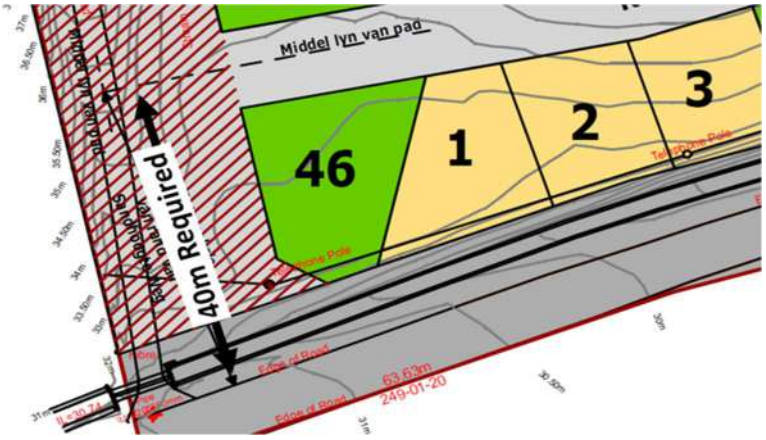


Figure 9-1 - Throat Length Requirement

10 SUMMARY

The various components of this Transportation Investigation can be summarised as follows:

1. It is the client's intention to subdivide erf 2833, Great Brak River in order to create a new residential development consisting of the following land uses:
    - 41 x General Residential Zone I erven
2. The latest SDF (2022) made provision for the moving of the Urban Edge to include the proposed site.
3. The site is situated next to DR1583/Sandhoogte Road. However, the portion of DR1583/Sandhoogte between +-0km and +-1.6km falls under the authority of Mossel Bay Municipality, and PGWC authority only starts at +-1.6km onwards. DR1583 is classified as a Class4 Rural Collector on the PGWC's RNIS Website.
4. SDP makes provision for site accesses via an existing servitude road along the western property boundary.
5. The combined estimated trip generation potential of the site has been calculated as follows:
    a. Weekday AM = 35 Trips (IN and OUT)
    b. Weekday PM = 35 Trips (IN and OUT)
6. 12 Hour traffic counts recorded at three positions along DR1583 on Wednesday 05 May 2023. The total volumes counted at the three intersections are summarised below:

	DR1578/DR1583	DR1583 (at the Site)	DR1583/MR0349
Total Vehicles Counted	2374	704	7423
Light Vehicles (% of total)	1977 (83%)	685 (97%)	7172 (97%)
Heavy Vehicles (% of total)	397 (17%)	19 (3%)	251 (3%)

7. Based on operating speed, road width and type of vehicle, a minimum Shoulder Sight Distance of 125m is required. SSD in excess of 125m were measured in both directions at the existing servitude road intersection.

8. Both the DR1578/DR1583 and DR1583/MR0348 intersections were analysed in SDIRA. Analysis revealed acceptable LOS for both the Status Quo and Future (2028) "*NO-GO*" Scenarios.
9. SIDRA analysis of the future operational (2028 Background + Generated Traffic) scenario, indicated that the inclusion of the additional trips, are not expected to have a noticeable impact on the overall LOS of the affected intersections.
10. The proposed site access is classified as a high-volume driveway.
11. The proposed SDP does not make provision for any type of access control.

11 RECOMMENDATIONS

Based on the findings of this report, the proposed rezoning and subdivision of Erf 2833, Great Brak River is supported from a traffic and transportation point of view, subject to the following conditions:

1.1. The minor timber structure obscuring SSD at the current Servitude Road/DR1583 junction (refer to Paragraph 8.4.1), should be moved to a new position where it does not affect SSD.

1.2. Road Widths :

1.2.1. Tarentaal Street (the existing servitude road) should be widened from 3m to 6.4m, in order to accommodate two clearly defined 3,4m wide lanes.

1.2.2. Due to the small number of vehicles expected to make use of them, the width of Kwikstertjie- , Geelvink - and Laksman Street, can be reduced to an absolute minimum of 5.5m (2x2.75m wide lanes).

1.3. Vegetation and shrubbery within the road reserve that could have a negative future impact on the SSD (towards DR1578) should be kept in a neat and trimmed condition by the developer.

1.4. To protect mobility at the DR1583/Servitude Road intersection, it is proposed that the ingress movement along Tarentaal Street receives priority.

1.5. Due to the steep gradient along Tarentaal Street, the following safety improvements are proposed:

1.5.1. No vehicle (especially construction vehicles) of more than 8 tonne per axle should be allowed to drive past (higher than) the Tarentaal/Kwikstertjie Street intersection.

1.5.2. No articulated vehicle should be allowed to drive past (higher than) the Tarentaal/Kwikstertjie Street intersection.

1.5.3. The possibility of installing vehicle arrestor beds on the downhill approach to the Tarentaal/Kwikstertjie Street intersection, should be considered. Arrester beds are long trenches filled with small round gravel particles that are designed to stop runaway vehicles. The vehicle is stopped by drag and friction as the vehicle sinks into the gravel in the bed. It is however important to note that arrestor beds require regular maintenance ("fluffing" or de-compaction) to ensure effectiveness.

1.6. The proposed SDP does not make provision for any type of access control. Should this be retrofitted at a later stage, the exact position must be determined in order to allow for sufficient stacking distance between the ingress gate and Tarentaal Street.

1.7. All Geometric and Pavement designs within the Road reserve should be according to the standards of the road authority and must be undertaken by a professionally registered Civil Engineer.

ANNEXURE A

SITE PHOTOGRAPHS

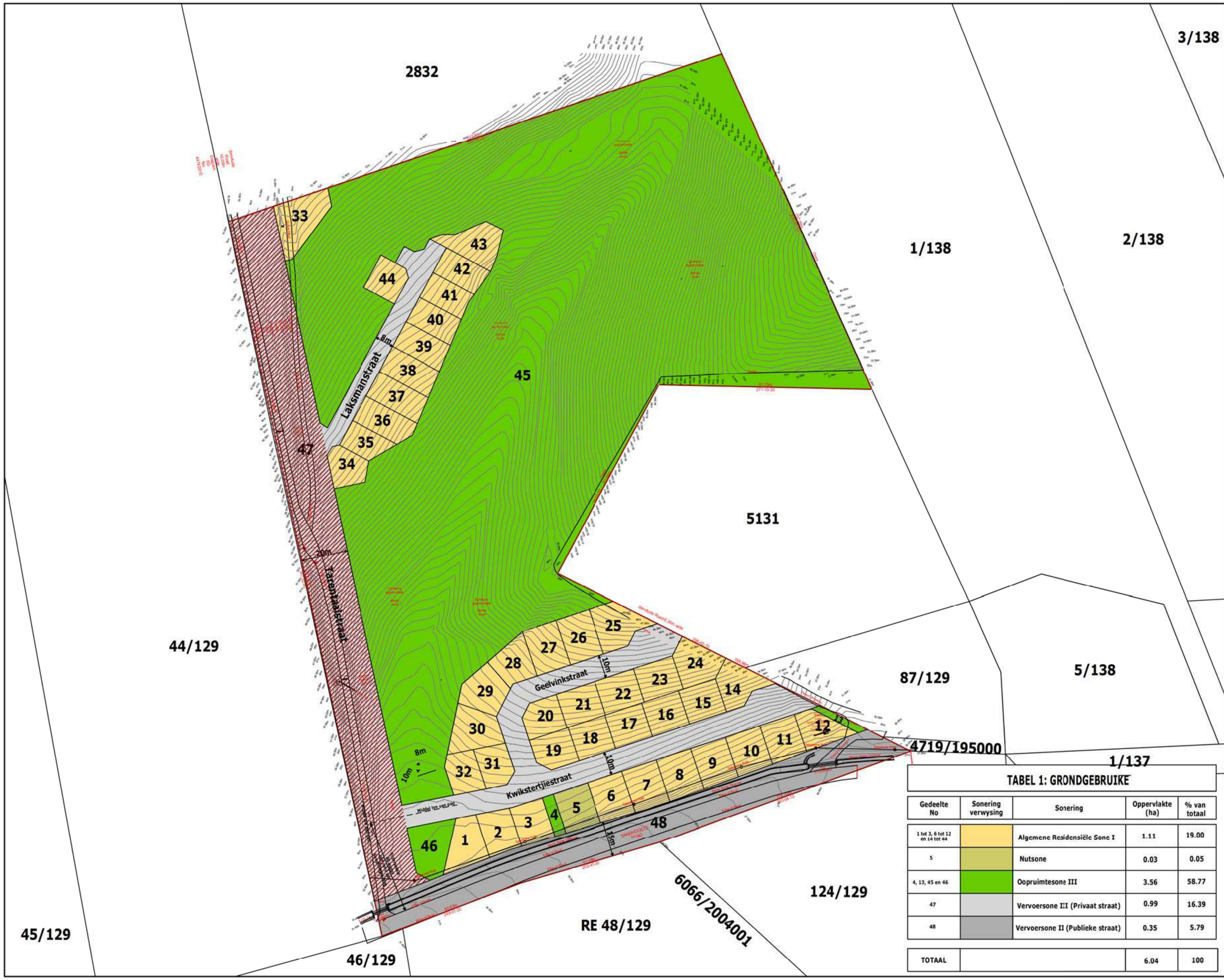

METERS
cm
0 1 3 1


METERS
cm
0 0 0 7


SANDHOOGTE

ANNEXURE B

SITE DEVELOPMENT PLAN



AANSOEK:

- Aansoek word in terme van Artikel 15(2)(a) van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 gedoen vir die hersonering van die Restant van Erf 2833 Groot Brakrivier vanaf Landbousone I na 'n Onderverdelingsgebied bestaande uit Algemene Residensiële Sone I erwe (± 1.11 hektaar), 1 Nutssone erf (± 0, 03 hektaar), 4 Oopruimtesone II erwe (± 3, 56 hektaar), 'n Vervoersone III erf (Privaat straat) (± 0, 99 hektaar) en 'n Vervoersone II erf (Publieke straat) (± 0, 35 hektaar).
- Aansoek word in terme van Artikel 15(2)(d) van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 gedoen vir die onderverdeling van die Onderverdelingsgebied in die volgende erwe:
  - i. 41 Algemene Residensiële Sone I erwe (Gedeeltes 1 tot 3, 6 tot 12 en 14 tot 44);
  - ii. 4 Oopruimtesone II erf (Gedeeltes 4, 13, 45 en 46);
  - iii. 1 Nutssone erf (Gedeelte 5);
  - iv. 1 Vervoersone III (Privaat Straat) erf (Gedeelte 47), en
  - v. 1 Vervoersone II (Publieke Straat) erf (Gedeelte 48).

NOTA

Serwituut: Reg van Weg (Landmeter Generaal Diagram Nommer 5859/2003), 20 meter wyd. Serwituut word gehandhaaf om vrye toegang tot Erf 2832 Groot Brakrivier te verseker.

TABEL 1: GRONDGEBRUIKE

Gedeelte No	Sonering verwysing	Sonering	Oppervlakte (ha)	% van totaal
1 tot 3, 6 tot 12 en 14 tot 44		Algemene Residensiële Sone I	1.11	19.00
5		Nutsone	0.03	0.05
4, 13, 45 en 46		Oopruimtesone III	3.56	58.77
47		Vervoersone III (Privaat straat)	0.99	16.39
48		Vervoersone II (Publieke straat)	0.35	5.79
TOTAAL			6.04	100

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PROJECT
VOORGESTELDE HERSONERING EN ONDERVERDELING: RESTANT VAN ERF 2833 GROOT BRAKRIVIER

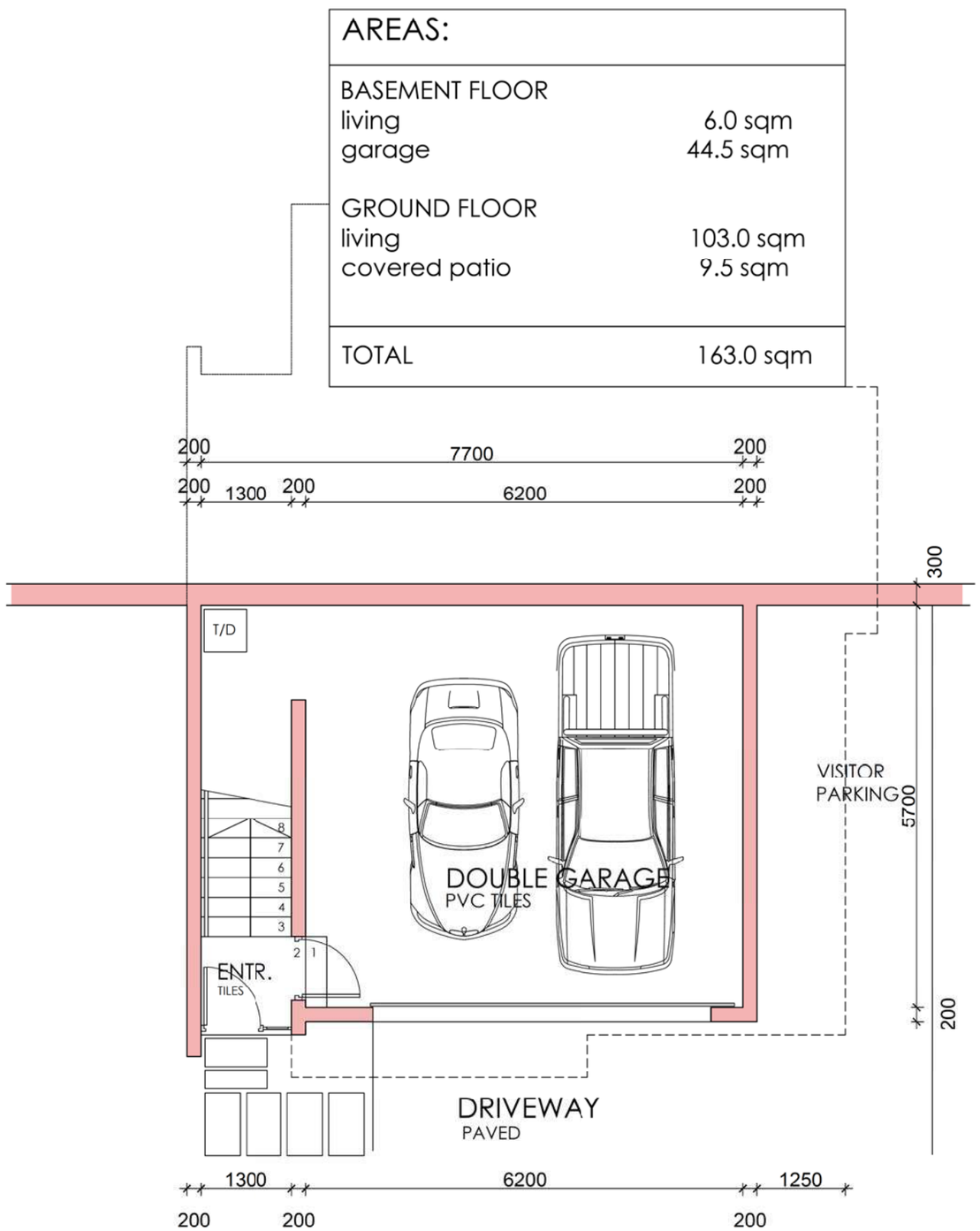
DRAWING TITLE
HERSONERING EN ONDERVERDELINGSPLAN

PROJECT No.	DWG No.	REVISION No.	DATE OF PRINT
ERF 2833 G BRAK		4	25.04.2024
SCALE	**PROJECT DATE**	**DRAWN BY**	**CHECKED BY**
NTS	SEPT 2023		JV

JAN VROLIJK TOWN PLANNER • STADSBEPLANNER

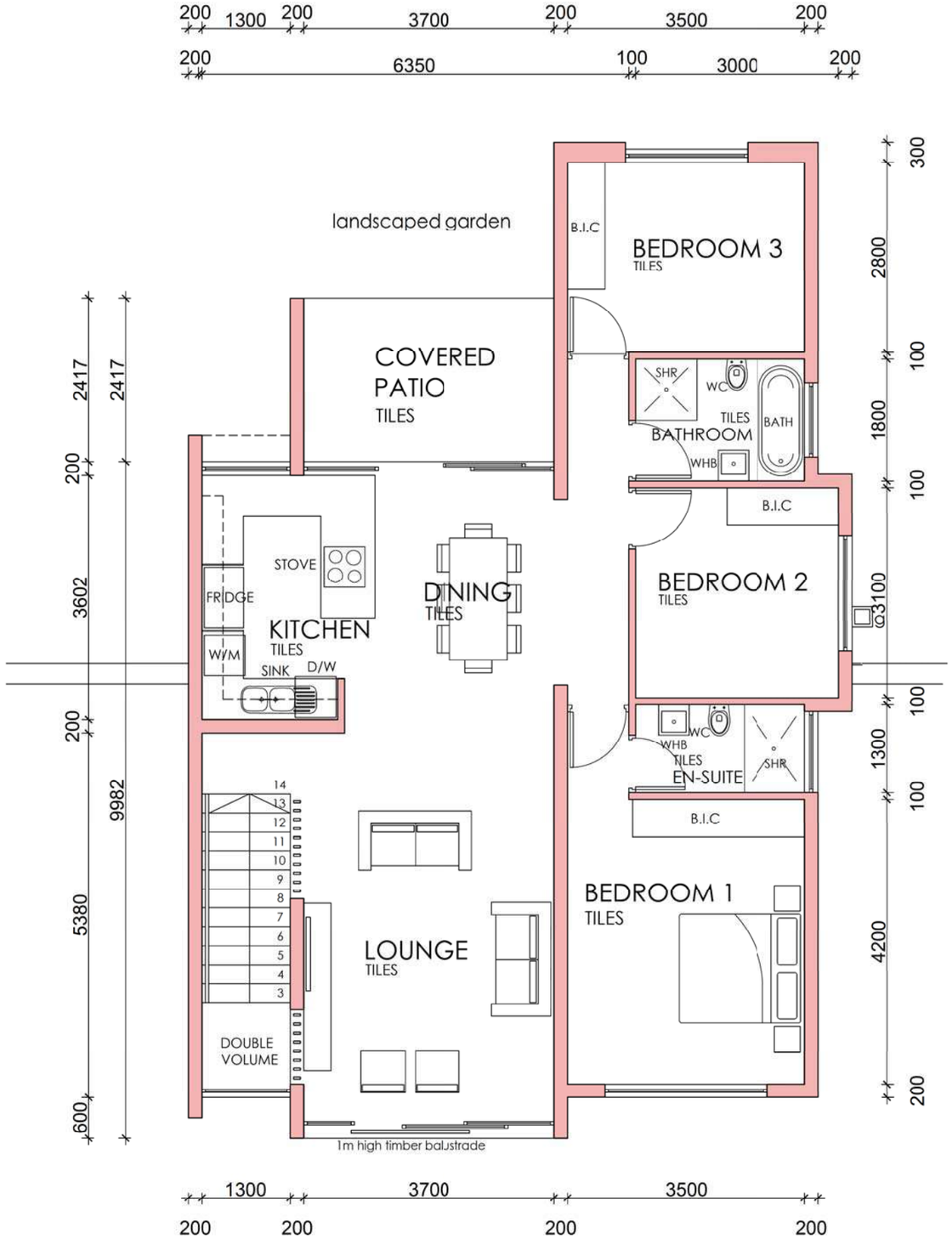
TYPICAL 3 BEDROOM UNIT

AREAS:	
BASEMENT FLOOR	
living	6.0 sqm
garage	44.5 sqm
GROUND FLOOR	
living	103.0 sqm
covered patio	9.5 sqm
TOTAL	163.0 sqm



Lower Ground Floor Plan

SCALE 1:100



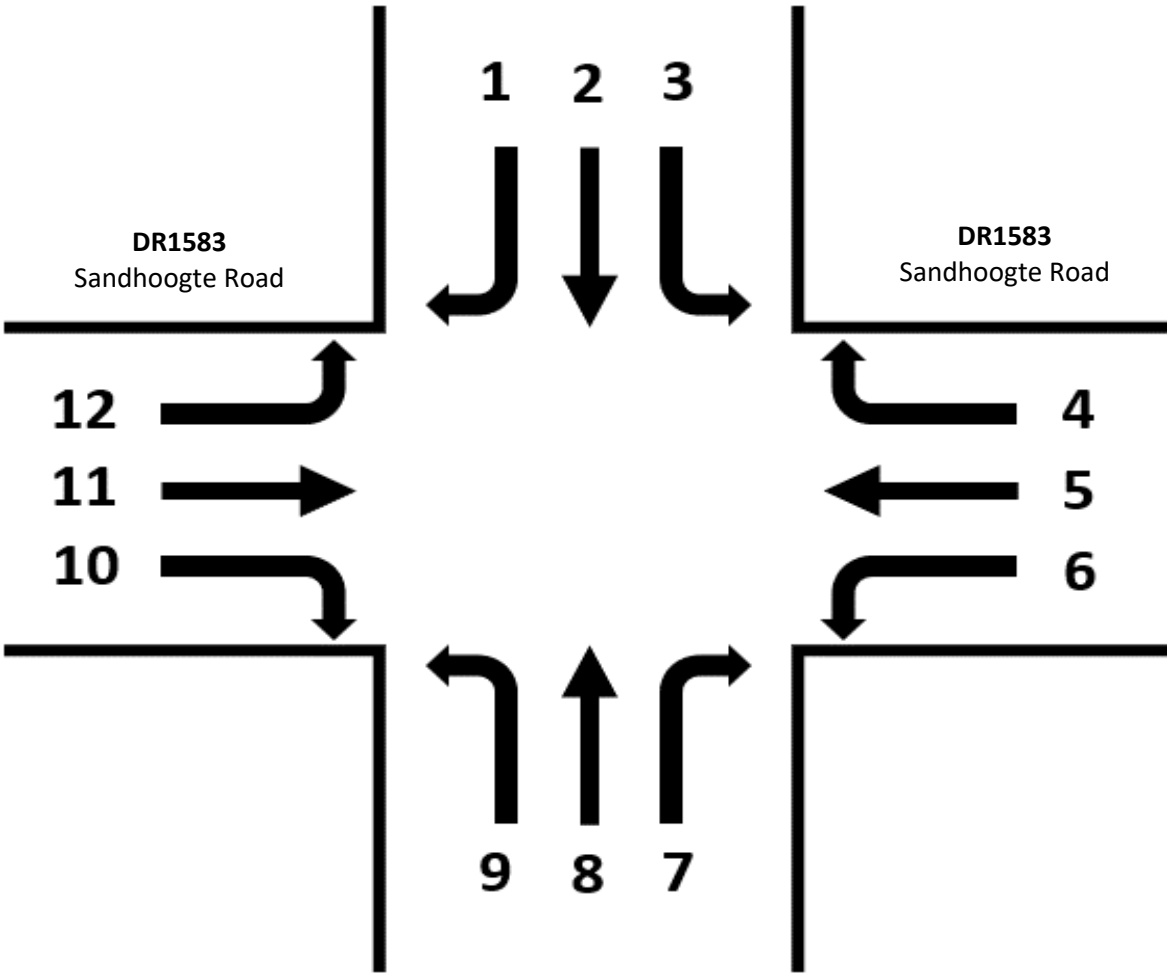
Ground Floor Plan

SCALE 1:100

ANNEXURE C

TRAFFIC VOLUMES

DR1578 from Friemersheim



DR1578 from Tergniet

Verkeerstelling/Traffic Count

Projek Naam: TIA Transand
Plek/Location: Grootbrak River: Sandhoogte Rd
Datum/Date: 10/05/2023
Teller/Counter: JE Giewelaar

URBAN ENGINEERING

Tyd	DR1578 (From Friemersheim)						DR1583 (from Great Brak River)					
	1		2		3		4		5		6	
	L	S	L	S	L	S	L	S	L	S	L	S
06:00 - 06:15	0	0	13	0	1	0	0	0	0	0	1	0
06:15 - 06:30	0	0	29	0	1	0	0	0	1	0	1	0
06:30 - 06:45	3	0	58	1	1	0	3	0	1	0	1	0
06:45 - 07:00	3	0	80	5	5	0	6	0	2	0	2	0
07:00 - 07:15	4	0	107	6	5	0	8	0	3	0	5	0
07:15 - 07:30	4	0	132	7	6	0	8	0	3	0	9	0
07:30 - 07:45	5	0	150	9	9	0	10	0	4	0	15	0
07:45 - 08:00	5	0	165	10	10	1	11	0	4	0	19	0
08:00 - 08:15	6	0	173	11	10	1	12	0	4	0	21	0
08:15 - 08:30	6	0	187	13	11	1	12	0	4	0	24	0
08:30 - 08:45	6	0	196	14	11	1	13	0	4	0	25	0
08:45 - 09:00	9	1	207	18	13	1	13	0	4	0	27	0
09:00 - 09:15	9	2	219	22	17	1	14	0	5	0	30	1
09:15 - 09:30	10	2	227	29	17	1	14	0	5	1	33	1
09:30 - 09:45	10	2	240	30	17	1	15	0	5	1	35	1
09:45 - 10:00	10	2	250	34	17	1	16	0	5	1	39	1
10:00 - 10:15	11	2	262	38	17	1	16	0	5	1	41	1
10:15 - 10:30	14	2	271	43	19	1	17	0	8	1	43	1
10:30 - 10:45	15	2	281	49	20	1	20	0	9	1	46	1
10:45 - 11:00	15	2	295	53	20	1	21	0	9	2	46	1
11:00 - 11:15	16	2	307	56	20	1	22	0	9	3	56	1
11:15 - 11:30	18	2	320	62	20	1	23	0	9	3	57	1
11:30 - 11:45	18	3	330	67	21	1	24	0	9	4	58	2
11:45 - 12:00	19	3	343	72	23	1	24	0	9	4	60	2
12:00 - 12:15	20	3	360	74	26	1	24	0	10	4	63	2
12:15 - 12:30	24	3	375	78	26	1	24	0	10	4	63	2
12:30 - 12:45	25	3	380	80	26	1	25	0	11	4	66	2
12:45 - 13:00	27	3	400	84	26	1	27	0	11	4	69	2
13:00 - 13:15	28	4	413	85	26	1	28	0	12	5	72	2

13:15 - 13:30	28	5	430	86	26	1	28	0	12	5	74	2
13:30 - 13:45	28	5	451	91	26	1	30	0	16	6	76	2
13:45 - 14:00	29	5	460	96	26	1	31	0	17	6	77	2
14:00 - 14:15	29	5	477	102	27	2	31	0	18	6	80	2
14:15 - 14:30	30	5	494	105	27	2	33	0	18	6	81	2
14:30 - 14:45	31	5	508	113	29	2	34	0	19	6	81	2
14:45 - 15:00	33	5	525	117	30	2	35	0	19	6	87	2
15:00 - 15:15	33	5	539	121	31	2	35	0	19	6	88	2
15:15 - 15:30	34	5	549	130	33	2	36	0	21	7	89	2
15:30 - 15:45	35	5	563	132	33	2	37	0	22	7	93	2
15:45 - 16:00	36	5	567	138	35	2	37	0	23	7	94	2
16:00 - 16:15	36	5	581	143	36	2	37	0	23	7	103	2
16:15 - 16:30	36	5	598	146	36	2	40	0	24	7	110	2
16:30 - 16:45	38	5	619	151	39	2	44	0	26	7	115	2
16:45 - 17:00	38	5	635	151	40	2	45	0	27	7	123	2
17:00 - 17:15	39	5	669	154	44	2	45	0	28	7	129	2
17:15 - 17:30	40	5	691	155	45	2	46	0	28	7	132	2
17:30 - 17:45	40	5	706	156	47	2	46	0	28	7	137	2
17:45 - 18:00	40	5	710	157	47	2	47	0	28	7	140	2

Verkeerstelling/Traffic Count

Projek Naam: TIA Transand
Plek/Location: Grootbrak River: Sandhoogte Rd
Datum/Date: 10/05/2023
Teller/Counter: JE Giewelaar

URBAN ENGINEERING

Tyd	DR1578 (From Tergniet)						DR1583 (From Hartenbos)					
	7		8		9		10		11		12	
	L	S	L	S	L	S	L	S	L	S	L	S
06:00 - 06:15	0	0	3	0	0	0	0	0	1	0	0	0
06:15 - 06:30	1	0	14	0	0	0	0	0	1	0	0	0
06:30 - 06:45	2	0	31	0	0	0	0	0	1	0	0	0
06:45 - 07:00	5	0	49	1	0	0	1	0	2	0	1	0
07:00 - 07:15	13	1	78	2	0	0	1	0	3	0	1	0
07:15 - 07:30	24	1	101	3	1	1	1	0	5	0	2	0
07:30 - 07:45	31	1	119	6	1	1	1	0	5	0	3	0
07:45 - 08:00	35	1	135	6	1	1	1	1	5	0	6	1
08:00 - 08:15	36	2	146	8	1	1	1	1	5	0	6	1
08:15 - 08:30	37	2	166	15	1	3	1	1	5	0	6	1
08:30 - 08:45	39	2	178	17	2	3	1	2	5	1	6	1
08:45 - 09:00	42	3	185	23	2	3	2	2	5	1	8	2
09:00 - 09:15	46	3	205	28	2	3	2	3	6	1	8	2
09:15 - 09:30	48	3	210	28	2	5	3	3	6	1	8	2
09:30 - 09:45	52	3	216	31	3	6	3	5	6	1	11	2
09:45 - 10:00	56	3	231	39	4	7	3	6	6	2	13	3
10:00 - 10:15	59	3	245	44	4	8	3	7	6	2	15	3
10:15 - 10:30	60	3	255	48	4	9	3	8	7	2	16	3
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11:00 - 11:15	68	3	289	65	5	11	3	10	10	2	16	4
11:15 - 11:30	71	4	298	69	5	12	4	11	10	3	17	5
11:30 - 11:45	72	4	314	70	6	12	4	13	10	3	20	5
11:45 - 12:00	74	4	320	72	6	12	4	13	11	3	23	5
12:00 - 12:15	77	4	333	78	6	15	5	13	11	4	24	5
12:15 - 12:30	77	4	349	82	6	16	5	15	12	4	24	5

12:30 - 12:45	81	4	357	85	6	16	6	16	12	4	26	5
12:45 - 13:00	83	4	369	87	6	17	6	16	13	4	27	5
13:00 - 13:15	89	4	379	91	6	19	6	17	13	5	27	6
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13:45 - 14:00	102	4	416	104	8	19	6	19	14	6	30	7
14:00 - 14:15	106	4	428	109	8	19	6	20	14	6	31	7
14:15 - 14:30	111	4	444	114	8	20	8	20	14	6	32	7
14:30 - 14:45	115	4	467	118	8	20	8	21	15	6	32	8
14:45 - 15:00	119	4	480	122	8	20	8	21	16	6	33	8
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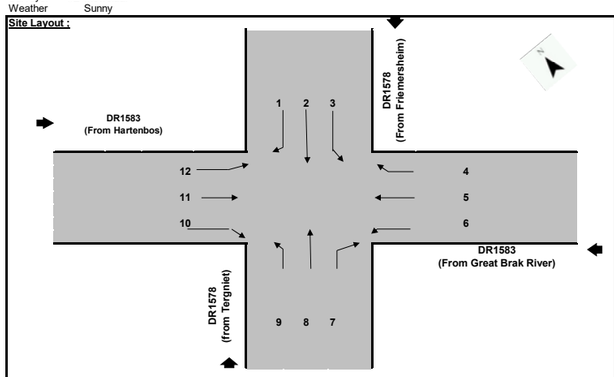
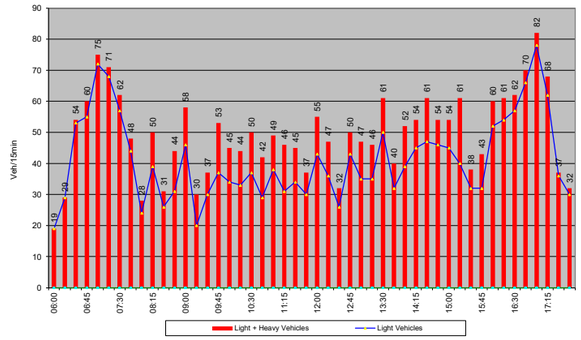
16:30 - 16:45	151	4	596	151	10	21	10	22	19	6	38	9
16:45 - 17:00	159	4	625	154	10	21	10	22	21	6	38	10
17:00 - 17:15	165	4	647	155	10	21	10	22	21	6	42	10
17:15 - 17:30	170	4	674	160	10	21	10	22	21	6	44	10
17:30 - 17:45	172	4	687	160	10	21	10	22	21	6	45	10
17:45 - 18:00	174	4	707	161	10	21	10	22	21	6	45	10

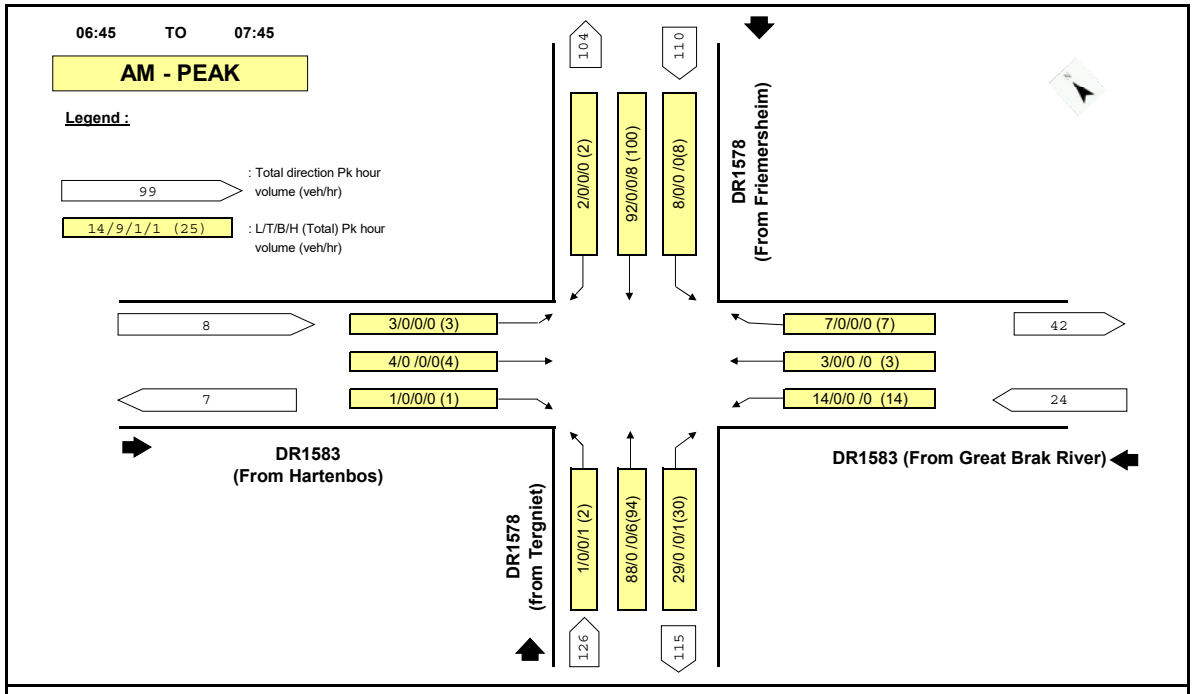
Site Grootbrak River: Sandhoogte Rd
Date 10/05/2023
Surveyor JE Giewelaar
Weather Sunny

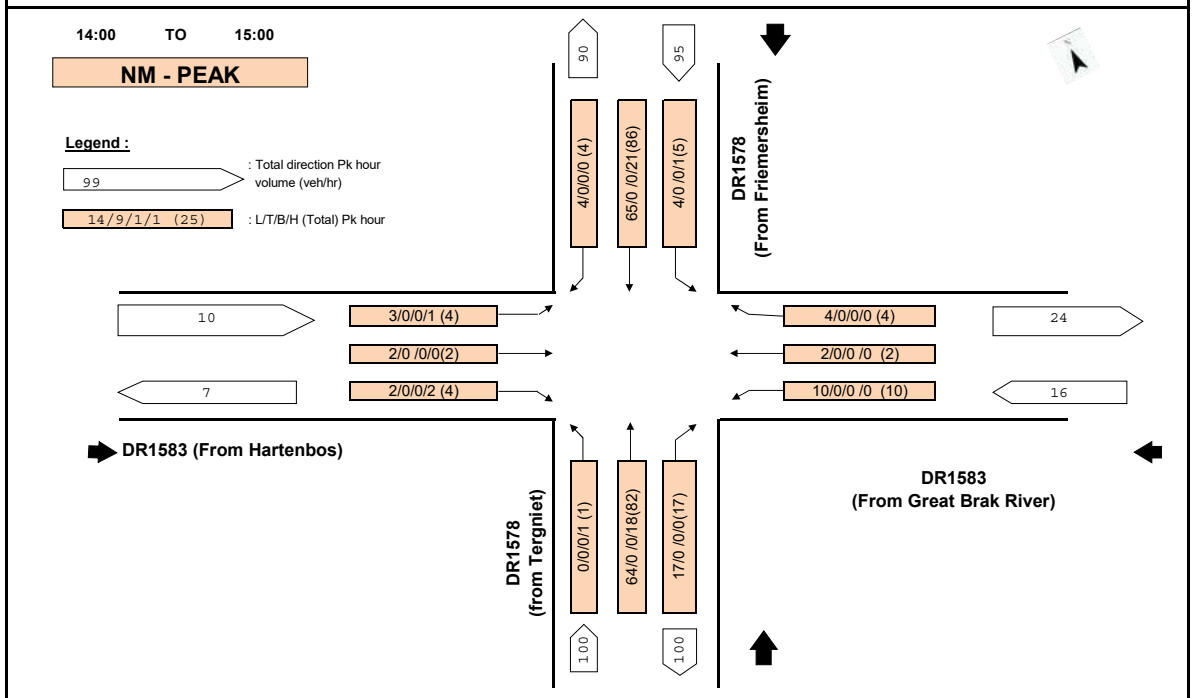
Site Layout :

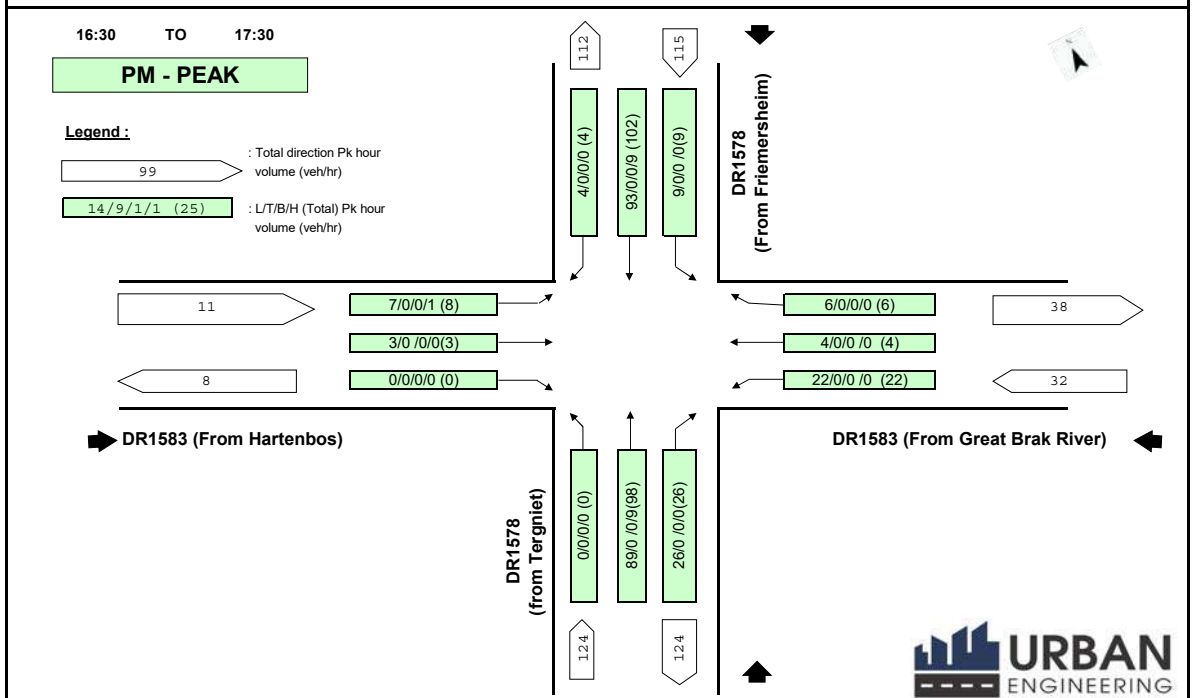


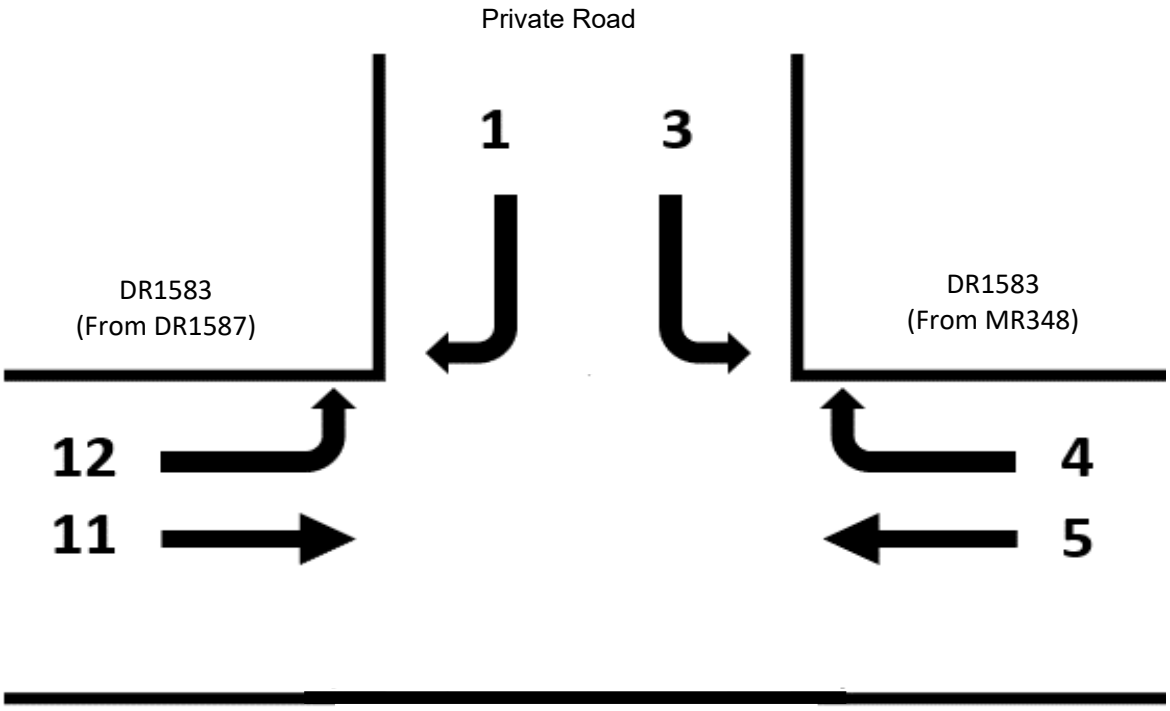


Time Period			Light Vehicles													Taxis/Minibus-taxis													Bus													Heavy Vehicles												
Start	End	Total	1	2	3	4	5	6	7	8	9	10	11	12	Total	1	2	3	4	5	6	7	8	9	10	11	12	Total	1	2	3	4	5	6	7	8	9	10	11	12	Total	1	2	3	4	5	6	7	8	9	10	11	12	Total
06:00	06:15	**19**	0	13	1	0	0	1	0	3	0	0	1	0	**19**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
06:15	06:30	**29**	0	16	0	0	1	0	1	11	0	0	0	0	**29**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
06:30	06:45	**54**	3	29	0	3	0	0	1	17	0	0	0	0	**53**													**0**													**0**	0	1	0	0	0	0	0	0	0	0	0	0	**1**
06:45	07:00	**60**	0	22	4	3	1	1	3	18	0	1	1	1	**55**													**0**													**0**	0	4	0	0	0	0	0	1	0	0	0	0	**5**
07:00	07:15	**75**	1	27	0	2	1	3	8	29	0	0	1	0	**72**													**0**													**0**	0	1	0	0	0	0	1	1	0	0	0	0	**3**
07:15	07:30	**71**	0	25	1	0	0	4	11	23	1	0	2	1	**68**													**0**													**0**	0	1	0	0	0	0	0	1	1	0	0	0	**3**
07:30	07:45	**62**	1	18	3	2	1	6	7	18	0	0	0	1	**57**													**0**													**0**	0	2	0	0	0	0	0	3	0	0	0	0	**5**
07:45	08:00	**48**	0	15	1	1	0	4	4	16	0	0	0	3	**44**													**0**													**0**	0	1	1	0	0	0	0	0	0	1	0	1	**4**
08:00	08:15	**28**	1	8	0	1	0	2	1	11	0	0	0	0	**24**													**0**													**0**	0	1	0	0	0	0	1	2	0	0	0	0	**4**
08:15	08:30	**50**	0	14	1	0	0	3	1	20	0	0	0	0	**39**													**0**													**0**	0	2	0	0	0	0	0	7	2	0	0	0	**11**
08:30	08:45	**31**	0	9	0	1	0	1	2	12	1	0	0	0	**26**													**0**													**0**	0	1	0	0	0	0	0	2	0	1	1	0	**5**
08:45	09:00	**44**	3	11	2	0	0	2	3	7	0	1	0	2	**31**													**0**													**0**	1	4	0	0	0	0	1	6	0	0	0	1	**13**
09:00	09:15	**58**	0	12	4	1	1	3	4	20	0	0	1	0	**46**													**0**													**0**	1	4	0	0	0	1	0	5	0	1	0	0	**12**
09:15	09:30	**30**	1	8	0	0	0	3	2	5	0	1	0	0	**20**													**0**													**0**	0	7	0	0	1	0	0	0	2	0	0	0	**10**
09:30	09:45	**37**	0	13	0	1	0	2	4	6	1	0	0	3	**30**													**0**													**0**	0	1	0	0	0	0	0	3	1	2	0	0	**7**
09:45	10:00	**53**	0	10	0	1	0	4	4	15	1	0	0	2	**37**													**0**													**0**	0	4	0	0	0	0	0	8	1	1	1	1	**16**
10:00	10:15	**45**	1	12	0	0	0	2	3	14	0	0	0	2	**34**													**0**													**0**	0	4	0	0	0	0	0	5	1	1	0	0	**11**
10:15	10:30	**44**	3	9	2	1	3	2	1	10	0	0	1	1	**33**													**0**													**0**	0	5	0	0	0	0	0	4	1	1	0	0	**11**
10:30	10:45	**50**	1	10	1	3	1	3	2	14	1	0	1	0	**37**													**0**													**0**	0	6	0	0	0	0	0	4	2	1	0	0	**13**
10:45	11:00	**42**	0	14	0	1	0	0	3	9	0	0	2	0	**29**													**0**													**0**	0	4	0	0	1	0	0	6	0	1	0	1	**13**
11:00	11:15	**49**	1	12	0	1	0	10	3	11	0	0	0	0	**38**													**0**													**0**	0	3	0	0	1	0	0	7	0	0	0	0	**11**
11:15	11:30	**46**	2	13	0	1	0	1	3	9	0	1	0	1	**31**													**0**													**0**	0	6	0	0	0	0	1	4	1	1	1	1	**15**
11:30	11:45	**45**	0	10	1	1	0	1	1	16	1	0	0	3	**34**													**0**													**0**	1	5	0	0	1	1	0	1	0	2	0	0	**11**
11:45	12:00	**37**	1	13	2	0	0	2	2	6	0	0	1	3	**30**													**0**													**0**	0	5	0	0	0	0	0	2	0	0	0	0	**7**
12:00	12:15	**55**	1	17	3	0	1	3	3	13	0	1	0	1	**43**													**0**													**0**	0	2	0	0	0	0	0	6	3	0	1	0	**12**
12:15	12:30	**47**	4	15	0	0	0	0	0	16	0	0	1	0	**36**													**0**													**0**	0	4	0	0	0	0	0	4	1	2	0	0	**11**
12:30	12:45	**32**	1	5	0	1	1	3	4	8	0	1	0	2	**26**													**0**													**0**	0	2	0	0	0	0	0	3	0	1	0	0	**6**
12:45	13:00	**50**	2	20	0	2	0	3	2	12	0	0	1	1	**43**													**0**													**0**	0	4	0	0	0	0	0	2	1	0	0	0	**7**
13:00	13:15	**47**	1	13	0	1	1	3	6	10	0	0	0	0	**35**													**0**													**0**	1	1	0	0	1	0	0	4	2	1	1	1	**12**
13:15	13:30	**46**	0	17	0	0	0	2	3	12	0	0	0	1	**35**													**0**													**0**	1	1	0	0	0	0	0	7	0	1	1	0	**11**
13:30	13:45	**61**	0	21	0	2	4	2	3	15	1	0	0	2	**50**													**0**													**0**	0	5	0	0	1	0	0	3	0	1	0	1	**11**
13:45	14:00	**40**	1	9	0	1	1	1	7	10	1	0	1	0	**32**													**0**													**0**	0	5	0	0	0	0	0	3	0	0	0	0	**8**
14:00	14:15	**52**	0	17	1	0	1	3	4	12	0	0	0	1	**39**													**0**													**0**	0	6	1	0	0	0	0	5	0	1	0	0	**13**
14:15	14:30	**54**	1	17	0	2	0	1	5	16	0	2	0	1	**45**													**0**													**0**	0	3	0	0	0	0	0	5	1	0	0	0	**9**
14:30	14:45	**61**	1	14	2	1	1	0	4	23	0	0	1	0	**47**													**0**													**0**	0	8	0	0	0	0	0	4	0	1	0	1	**14**
14:45	15:00	**54**	2	17	1	1	0	6	4	13	0	0	1	1	**46**													**0**													**0**	0	4	0	0	0	0	0	4	0	0	0	0	**8**
15:00	15:15	**54**	0	14	1	0	0	1	5	20	2	0	1	1	**45**													**0**													**0**	0	4	0	0	0	0	0	3	1	0	0	1	**9**
15:15	15:30	**61**	1	10	2	1	2	1	2	20	0	0	1	0	**40**													**0**													**0**	0	9	0	0	1	0	0	10	0	1	0	0	**21**
15:30	15:45	**38**	1	14	0	1	1	4	3	6	0	1	0	1	**32**													**0**													**0**	0	2	0	0	0	0	0	4	0	0	0	0	**6**
15:45	16:00	**43**	1	4	2	0	1	1	4	17	0	1	0	1	**32**													**0**													**0**	0	6	0	0	0	0	0	5	0	0	0	0	**11**
16:00	16:15	**60**	0	14	1	0	0	9	6	22	0	0	0	0	**52**													**0**													**0**	0	5	0	0	0	0	0	3	0	0	0	0	**8**
16:15	16:30	**61**	0	17	0	3	1	7	5	20	0	0	0	1	**54**													**0**													**0**	0	3	0	0	0	0	0	4	0	0	0	0	**7**
16:30	16:45	**62**	2	21	3	4	2	5	7	11	0	0	1	1	**57**													**0**													**0**	0	5	0	0	0	0	0	0	0	0	0	0	**5**
16:45	17:00	**70**	0	16	1	1	1	8	8	29	0	0	2	0	**66**													**0**													**0**	0	0	0	0	0	0	0	3	0	0	0	1	**4**
17:00	17:15	**82**	1	34	4	0	1	6	6	22	0	0	0	4	**78**													**0**													**0**	0	3	0	0	0	0	0	1	0	0	0	0	**4**
17:15	17:30	**68**	1	22	1	1	0	3	5	27	0	0	0	2	**62**													**0**													**0**	0	1	0	0	0	0	0	5	0	0	0	0	**6**
17:30	17:45	**37**	0	15	0	0	0	5	2	13	0	0	0	1	**36**													**0**													**0**	0	1	0	0	0	0	0	0	0	0	0	0	**1**
17:45	18:00	**32**	0	4	0	1	0	3	2	20	0	0	0	0	**30**													**0**													**0**	0	1	0	0	0	0	0	1	0	0	0	0	**2**
Total (5-19)		**2374**	**40**	**710**	**45**	**47**	**28**	**140**	**174**	**707**	**10**	**10**	**21**	**45**	**1977**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**157**	**2**	**0**	**7**	**2**	**4**	**161**	**21**	**22**	**6**	**10**	**397**
AM Pk hour vol		268	2	92	8	7	3	14	29	88	1	1	4	3	252	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	1	6	1	0	0	0	16
06:45	to 07:45													**Total AM Pk hour vol (Light + Heavy)**		**2**	**92**	**8**	**7**	**3**	**14**	**29**	**88**	**1**	**1**	**4**	**3**	**252**	**2**	**92**	**8**	**7**	**3**	**14**	**29**	**88**	**1**	**1**	**4**	**3**	**252**	**2**	**100**	**8**	**7**	**3**	**14**	**30**	**94**	**2**	**1**	**4**	**3**	**268**
NM Pk hour vol		221	4	65	4	4	2	10	17	64	0	2	2	3	177	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	1	0	0	0	0	18	1	2	0	1	44
14:00	to 15:00													**Typical NM Pk hour vol (Light + Heavy)**		**4**	**65**	**4**	**4**	**2**	**10**	**17**	**64**	**0**	**2**	**2**	**3**	**177**	**4**	**65**	**4**	**4**	**2**	**10**	**17**	**64**	**0**	**2**	**2**	**3**	**177**	**4**	**86**	**5**	**4**	**2**	**10**	**17**	**82**	**1**	**4**	**2**	**4**	**221**
PM Pk hour vol		282	4	93	9	6	4	22	26	89	0	0	3	7	263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9	0	0	0	1	19
16:30	to 17:30													**Total PM Pk hour vol (Light + Heavy)**		**4**	**93**	**9**	**6**	**4**	**22**	**26**	**89**	**0**	**0**	**3**	**7**	**263**	**4**	**93**	**9**	**6**	**4**	**22**	**26**	**89**	**0**	**0**	**3**	**7**	**263**	**4**	**102**	**9**	**6**	**4**	**22**	**26**	**98**	**0**	**0**	**3**	**8**	**282**


06:45 TO 07:45
AM - PEAK
Legend :
99
: Total direction Pk hour volume (veh/hr)
14/9/1/1 (25)
: L/T/B/H (Total) Pk hour volume (veh/hr)
104
110
2/0/0/0 (2)
92/0/0/8 (100)
8/0/0 /0(8)
DR1578 (From Friemersheim)
8
3/0/0/0 (3)
4/0 /0/0(4)
7
1/0/0/0 (1)
7/0/0/0 (7)
3/0/0 /0 (3)
14/0/0 /0 (14)
42
24
DR1583 (From Hartenbos)
DR1583 (From Great Brak River)
DR1578 (from Tergniet)
1/0/0/1 (2)
88/0 /0/6(94)
29/0 /0/1(30)
126
115


14:00 TO 15:00
NM - PEAK
Legend :
99
: Total direction Pk hour volume (veh/hr)
14/9/1/1 (25)
: L/T/B/H (Total) Pk hour
90
95
4/0/0/0 (4)
65/0 /0/21(86)
4/0 /0/1(5)
DR1578 (From Friemersheim)
10
3/0/0/1 (4)
2/0 /0/0(2)
7
2/0/0/2 (4)
4/0/0/0 (4)
2/0/0 /0 (2)
10/0/0 /0 (10)
24
16
DR1583 (From Hartenbos)
DR1583 (From Great Brak River)
DR1578 (from Tergniet)
0/0/0/1 (1)
64/0 /0/18(82)
17/0 /0/0(17)
100
100


16:30 TO 17:30
PM - PEAK
Legend :
99
: Total direction Pk hour volume (veh/hr)
14/9/1/1 (25)
: L/T/B/H (Total) Pk hour volume (veh/hr)
112
115
4/0/0/0 (4)
93/0/0/9 (102)
9/0/0 /0(9)
DR1578 (From Friemersheim)
11
7/0/0/1 (8)
3/0 /0/0(3)
8
0/0/0/0 (0)
6/0/0/0 (6)
4/0/0 /0 (4)
22/0/0 /0 (22)
38
32
DR1583 (From Hartenbos)
DR1583 (From Great Brak River)
DR1578 (from Tergniet)
0/0/0/0 (0)
89/0 /0/9(98)
26/0 /0/0(26)
124
124
URBAN ENGINEERING


Private Road
1
3
DR1583
(From DR1587)
DR1583
(From MR348)
12
11
4
5

Verkeerstelling/Traffic Count

Projek Naam: TIA Transand
Plek/Location: Grootbrak River: Sandhoogte Rd / Private Rd
Datum/Date: 10/05/2023
Teller/Counter: JE Giewelaar

URBAN ENGINEERING

Tyd	Private Road						DR1583 (from MR348)					
	1		2		3		4		5		6	
	L	S	L	S	L	S	L	S	L	S	L	S
06:00 - 06:15	0	0	0	0	0	0	0	0	2	0	0	0
06:15 - 06:30	0	0	0	0	0	0	0	0	3	0	0	0
06:30 - 06:45	0	0	0	0	0	0	0	0	5	0	0	0
06:45 - 07:00	0	0	0	0	0	0	0	0	17	0	0	0
07:00 - 07:15	0	0	0	0	0	0	0	0	30	0	0	0
07:15 - 07:30	0	0	0	0	0	0	0	0	39	0	0	0
07:30 - 07:45	0	0	0	0	0	0	0	0	48	0	0	0
07:45 - 08:00	0	0	0	0	0	0	0	0	62	0	0	0
08:00 - 08:15	0	0	0	0	1	0	1	0	76	0	0	0
08:15 - 08:30	0	0	0	0	1	0	1	0	80	0	0	0
08:30 - 08:45	0	0	0	0	2	0	1	0	82	0	0	0
08:45 - 09:00	0	0	0	0	2	0	1	0	89	0	0	0
09:00 - 09:15	0	0	0	0	2	0	1	0	94	1	0	0
09:15 - 09:30	0	0	0	0	2	0	1	0	100	2	0	0
09:30 - 09:45	0	0	0	0	2	0	1	0	101	2	0	0
09:45 - 10:00	0	0	0	0	2	0	1	0	104	2	0	0
10:00 - 10:15	0	0	0	0	2	0	1	0	109	2	0	0
10:15 - 10:30	0	0	0	0	2	0	1	0	115	2	0	0
10:30 - 10:45	0	0	0	0	2	0	1	0	118	2	0	0
10:45 - 11:00	0	0	0	0	2	0	1	0	120	2	0	0
11:00 - 11:15	0	0	0	0	2	0	1	0	128	3	0	0
11:15 - 11:30	0	0	0	0	2	0	1	0	135	3	0	0
11:30 - 11:45	0	0	0	0	2	0	1	0	138	4	0	0
11:45 - 12:00	0	0	0	0	2	0	2	0	142	4	0	0
12:00 - 12:15	0	0	0	0	2	0	2	0	147	4	0	0
12:15 - 12:30	0	0	0	0	2	0	2	0	151	4	0	0
12:30 - 12:45	0	0	0	0	2	0	2	0	154	4	0	0
12:45 - 13:00	0	0	0	0	2	0	3	0	164	4	0	0
13:00 - 13:15	0	0	0	0	3	0	3	0	177	5	0	0

13:15 - 13:30	0	0	0	0	3	0	3	0	181	6	0	0
13:30 - 13:45	0	0	0	0	3	0	4	0	184	6	0	0
13:45 - 14:00	0	0	0	0	4	0	4	0	195	6	0	0
14:00 - 14:15	0	0	0	0	4	0	4	0	203	6	0	0
14:15 - 14:30	0	0	0	0	4	0	4	0	207	6	0	0
14:30 - 14:45	0	0	0	0	4	0	4	0	211	6	0	0
14:45 - 15:00	0	0	0	0	4	0	4	0	220	6	0	0
15:00 - 15:15	0	0	0	0	4	0	4	0	226	6	0	0
15:15 - 15:30	0	0	0	0	4	0	4	0	234	7	0	0
15:30 - 15:45	0	0	0	0	4	0	4	0	240	8	0	0
15:45 - 16:00	0	0	0	0	4	0	4	0	248	8	0	0
16:00 - 16:15	0	0	0	0	4	0	4	0	260	8	0	0
16:15 - 16:30	0	0	0	0	4	0	4	0	273	8	0	0
16:30 - 16:45	0	0	0	0	4	0	4	0	287	8	0	0
16:45 - 17:00	0	0	0	0	4	0	4	0	303	8	0	0
17:00 - 17:15	0	0	0	0	4	0	4	0	316	8	0	0
17:15 - 17:30	0	0	0	0	4	0	4	0	320	8	0	0
17:30 - 17:45	0	0	0	0	4	0	4	0	324	8	0	0
17:45 - 18:00	0	0	0	0	4	0	4	0	328	8	0	0

Verkeerstelling/Traffic Count

Projek Naam: TIA Transand
Plek/Location: Grootbrak River: Sandhoogte Rd / Private Rd
Datum/Date: 10/05/2023
Teller/Counter: JE Giewelaar

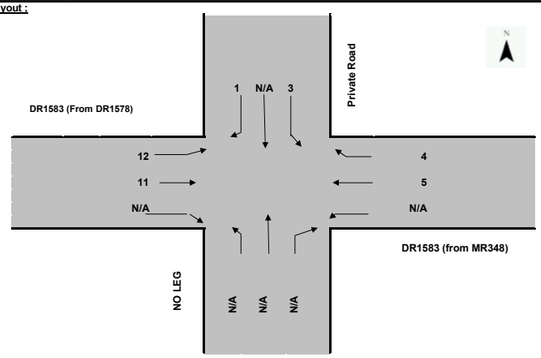
URBAN ENGINEERING

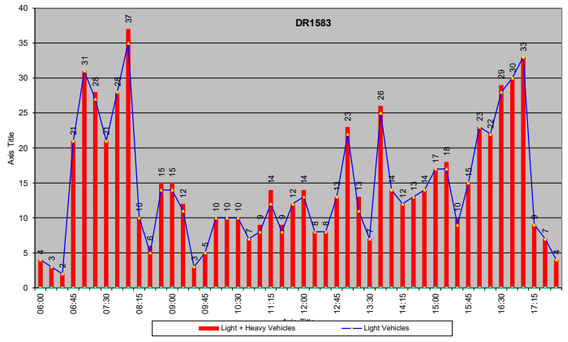
Tyd	DR1583 (from DR1578)											
	7		8		9		10		11		12	
	L	S	L	S	L	S	L	S	L	S	L	S
06:00 - 06:15	0	0	0	0	0	0	0	0	2	0	0	0
06:15 - 06:30	0	0	0	0	0	0	0	0	4	0	0	0
06:30 - 06:45	0	0	0	0	0	0	0	0	4	0	0	0
06:45 - 07:00	0	0	0	0	0	0	0	0	13	0	0	0
07:00 - 07:15	0	0	0	0	0	0	0	0	31	0	0	0
07:15 - 07:30	0	0	0	0	0	0	0	0	49	1	0	0
07:30 - 07:45	0	0	0	0	0	0	0	0	61	1	0	0
07:45 - 08:00	0	0	0	0	0	0	0	0	75	1	0	0
08:00 - 08:15	0	0	0	0	0	0	0	0	94	3	0	0
08:15 - 08:30	0	0	0	0	0	0	0	0	100	3	0	0
08:30 - 08:45	0	0	0	0	0	0	0	0	102	4	0	0
08:45 - 09:00	0	0	0	0	0	0	0	0	109	5	0	0
09:00 - 09:15	0	0	0	0	0	0	0	0	118	5	0	0
09:15 - 09:30	0	0	0	0	0	0	0	0	123	5	0	0
09:30 - 09:45	0	0	0	0	0	0	0	0	125	5	0	0
09:45 - 10:00	0	0	0	0	0	0	0	0	127	5	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	132	5	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	136	5	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	143	5	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	148	5	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	148	5	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	153	7	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	157	7	1	0
11:45 - 12:00	0	0	0	0	0	0	0	0	164	7	1	0
12:00 - 12:15	0	0	0	0	0	0	0	0	172	8	1	0
12:15 - 12:30	0	0	0	0	0	0	0	0	176	8	1	0

12:30 - 12:45	0	0	0	0	0	0	0	0	181	8	1	0
12:45 - 13:00	0	0	0	0	0	0	0	0	183	8	1	0
13:00 - 13:15	0	0	0	0	0	0	0	0	191	8	1	0
13:15 - 13:30	0	0	0	0	0	0	0	0	198	9	1	0
13:30 - 13:45	0	0	0	0	0	0	0	0	201	9	1	0
13:45 - 14:00	0	0	0	0	0	0	0	0	214	10	1	0
14:00 - 14:15	0	0	0	0	0	0	0	0	220	10	1	0
14:15 - 14:30	0	0	0	0	0	0	0	0	228	10	1	0
14:30 - 14:45	0	0	0	0	0	0	0	0	237	10	1	0
14:45 - 15:00	0	0	0	0	0	0	0	0	241	10	2	0
15:00 - 15:15	0	0	0	0	0	0	0	0	252	10	2	0
15:15 - 15:30	0	0	0	0	0	0	0	0	261	10	2	0
15:30 - 15:45	0	0	0	0	0	0	0	0	264	10	2	0
15:45 - 16:00	0	0	0	0	0	0	0	0	271	10	2	0
16:00 - 16:15	0	0	0	0	0	0	0	0	282	10	2	0
16:15 - 16:30	0	0	0	0	0	0	0	0	291	10	2	0
16:30 - 16:45	0	0	0	0	0	0	0	0	305	11	2	0
16:45 - 17:00	0	0	0	0	0	0	0	0	319	11	2	0
17:00 - 17:15	0	0	0	0	0	0	0	0	339	11	2	0
17:15 - 17:30	0	0	0	0	0	0	0	0	344	11	2	0
17:30 - 17:45	0	0	0	0	0	0	0	0	347	11	2	0
17:45 - 18:00	0	0	0	0	0	0	0	0	347	11	2	0

Site Brootbrak River: Sandhoogte Rd / Private R
Date 10/05/2023
Surveyor JE Giewelaar
Weather Sunny

Site Layout :





Time Period			Light Vehicles													Taxis/Minibus-taxis													Bus													Heavy Vehicles												
Start	End	Total	1	2	3	4	5	6	7	8	9	10	11	12	Total	1	2	3	4	5	6	7	8	9	10	11	12	Total	1	2	3	4	5	6	7	8	9	10	11	12	Total	1	2	3	4	5	6	7	8	9	10	11	12	Total
06:00	06:15	**4**	0	0	0	0	2	0	0	0	0	0	2	0	**4**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
06:15	06:30	**3**	0	0	0	0	1	0	0	0	0	0	2	0	**3**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
06:30	06:45	**2**	0	0	0	0	2	0	0	0	0	0	0	0	**2**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
06:45	07:00	**21**	0	0	0	0	12	0	0	0	0	0	9	0	**21**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
07:00	07:15	**31**	0	0	0	0	13	0	0	0	0	0	18	0	**31**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
07:15	07:30	**28**	0	0	0	0	9	0	0	0	0	0	18	0	**27**													**0**													**0**	0	0	0	0	0	0	0	0	0	1	0	**1**
07:30	07:45	**21**	0	0	0	0	9	0	0	0	0	0	12	0	**21**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
07:45	08:00	**28**	0	0	0	0	14	0	0	0	0	0	14	0	**28**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
08:00	08:15	**37**	0	0	1	1	14	0	0	0	0	0	19	0	**35**													**0**													**0**	0	0	0	0	0	0	0	0	0	2	0	**2**
08:15	08:30	**10**	0	0	0	0	4	0	0	0	0	0	6	0	**10**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
08:30	08:45	**6**	0	0	1	0	2	0	0	0	0	0	2	0	**5**													**0**													**0**	0	0	0	0	0	0	0	0	0	1	0	**1**
08:45	09:00	**15**	0	0	0	0	7	0	0	0	0	0	7	0	**14**													**0**													**0**	0	0	0	0	0	0	0	0	0	1	0	**1**
09:00	09:15	**15**	0	0	0	0	5	0	0	0	0	0	9	0	**14**													**0**													**0**	0	0	0	0	1	0	0	0	0	0	0	**1**
09:15	09:30	**12**	0	0	0	0	6	0	0	0	0	0	5	0	**11**													**0**													**0**	0	0	0	0	1	0	0	0	0	0	0	**1**
09:30	09:45	**3**	0	0	0	0	1	0	0	0	0	0	2	0	**3**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
09:45	10:00	**5**	0	0	0	0	3	0	0	0	0	0	2	0	**5**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
10:00	10:15	**10**	0	0	0	0	5	0	0	0	0	0	5	0	**10**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
10:15	10:30	**10**	0	0	0	0	6	0	0	0	0	0	4	0	**10**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
10:30	10:45	**10**	0	0	0	0	3	0	0	0	0	0	7	0	**10**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
10:45	11:00	**7**	0	0	0	0	2	0	0	0	0	0	5	0	**7**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
11:00	11:15	**9**	0	0	0	0	8	0	0	0	0	0	0	0	**8**													**0**													**0**	0	0	0	0	1	0	0	0	0	0	0	**1**
11:15	11:30	**14**	0	0	0	0	7	0	0	0	0	0	5	0	**12**													**0**													**0**	0	0	0	0	0	0	0	0	0	2	0	**2**
11:30	11:45	**9**	0	0	0	0	3	0	0	0	0	0	4	1	**8**													**0**													**0**	0	0	0	0	1	0	0	0	0	0	0	**1**
11:45	12:00	**12**	0	0	0	1	4	0	0	0	0	0	7	0	**12**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
12:00	12:15	**14**	0	0	0	0	5	0	0	0	0	0	8	0	**13**													**0**													**0**	0	0	0	0	0	0	0	0	0	1	0	**1**
12:15	12:30	**8**	0	0	0	0	4	0	0	0	0	0	4	0	**8**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
12:30	12:45	**8**	0	0	0	0	3	0	0	0	0	0	5	0	**8**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
12:45	13:00	**13**	0	0	0	1	10	0	0	0	0	0	2	0	**13**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
13:00	13:15	**23**	0	0	1	0	13	0	0	0	0	0	8	0	**22**													**0**													**0**	0	0	0	0	1	0	0	0	0	0	0	**1**
13:15	13:30	**13**	0	0	0	0	4	0	0	0	0	0	7	0	**11**													**0**													**0**	0	0	0	0	1	0	0	0	0	1	0	**2**
13:30	13:45	**7**	0	0	0	1	3	0	0	0	0	0	3	0	**7**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
13:45	14:00	**26**	0	0	1	0	11	0	0	0	0	0	13	0	**25**													**0**													**0**	0	0	0	0	0	0	0	0	0	1	0	**1**
14:00	14:15	**14**	0	0	0	0	8	0	0	0	0	0	6	0	**14**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
14:15	14:30	**12**	0	0	0	0	4	0	0	0	0	0	8	0	**12**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
14:30	14:45	**13**	0	0	0	0	4	0	0	0	0	0	9	0	**13**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
14:45	15:00	**14**	0	0	0	0	9	0	0	0	0	0	4	1	**14**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
15:00	15:15	**17**	0	0	0	0	6	0	0	0	0	0	11	0	**17**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
15:15	15:30	**18**	0	0	0	0	8	0	0	0	0	0	9	0	**17**													**0**													**0**	0	0	0	0	1	0	0	0	0	0	0	**1**
15:30	15:45	**10**	0	0	0	0	6	0	0	0	0	0	3	0	**9**													**0**													**0**	0	0	0	0	1	0	0	0	0	0	0	**1**
15:45	16:00	**15**	0	0	0	0	8	0	0	0	0	0	7	0	**15**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
16:00	16:15	**23**	0	0	0	0	12	0	0	0	0	0	11	0	**23**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
16:15	16:30	**22**	0	0	0	0	13	0	0	0	0	0	9	0	**22**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
16:30	16:45	**29**	0	0	0	0	14	0	0	0	0	0	14	0	**28**													**0**													**0**	0	0	0	0	0	0	0	0	0	1	0	**1**
16:45	17:00	**30**	0	0	0	0	16	0	0	0	0	0	14	0	**30**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
17:00	17:15	**33**	0	0	0	0	13	0	0	0	0	0	20	0	**33**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
17:15	17:30	**9**	0	0	0	0	4	0	0	0	0	0	5	0	**9**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
17:30	17:45	**7**	0	0	0	0	4	0	0	0	0	0	3	0	**7**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
17:45	18:00	**4**	0	0	0	0	4	0	0	0	0	0	0	0	**4**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	**0**
Total (5-19)		**704**	**0**	**0**	**4**	**4**	**328**	**0**	**0**	**0**	**0**	**0**	**347**	**2**	**685**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**19**
AM Pk hour vol		114	0	0	1	1	46	0	0	0	0	0	63	0	111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
07:15	to 08:15													**Total AM Pk hour vol (Light + Heavy)**		**0**	**0**	**1**	**1**	**46**	**0**	**0**	**0**	**0**	**0**	**63**	**0**	**111**	**0**	**0**	**1**	**1**	**46**	**0**	**0**	**0**	**0**	**0**	**63**	**0**	**111**	**0**	**0**	**1**	**1**	**46**	**0**	**0**	**0**	**0**	**0**	**66**	**0**	**114**
NM Pk hour vol		69	0	0	2	1	31	0	0	0	0	0	31	0	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	4
13:00	to 14:00													**Typical NM Pk hour vol (Light + Heavy)**		**0**	**0**	**2**	**1**	**31**	**0**	**0**	**0**	**0**	**0**	**31**	**0**	**65**	**0**	**0**	**2**	**1**	**31**	**0**	**0**	**0**	**0**	**0**	**31**	**0**	**65**	**0**	**0**	**2**	**1**	**33**	**0**	**0**	**0**	**0**	**0**	**33**	**0**	**69**
PM Pk hour vol		114	0	0	0	0	56	0	0	0	0	0	57	0	113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
16:15	to 17:15													**Total PM Pk hour vol (Light + Heavy)**		**0**	**0**	**0**	**0**	**56**	**0**	**0**	**0**	**0**	**0**	**57**	**0**	**113**	**0**	**0**	**0**	**0**	**56**	**0**	**0**	**0**	**0**	**0**	**57**	**0**	**113**	**0**	**0**	**0**	**0**	**56**	**0**	**0**	**0**	**0**	**0**	**58**	**0**	**114**

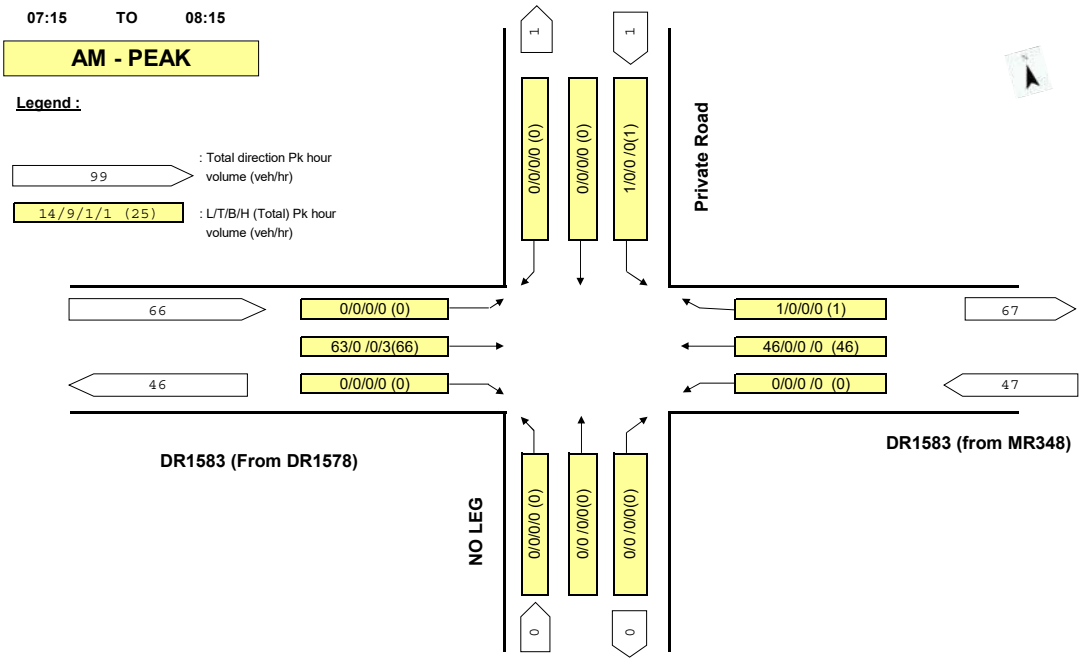
07:15 TO 08:15

AM - PEAK

Legend :

99 : Total direction Pk hour volume (veh/hr)

14/9/1/1 (25) : L/T/B/H (Total) Pk hour volume (veh/hr)



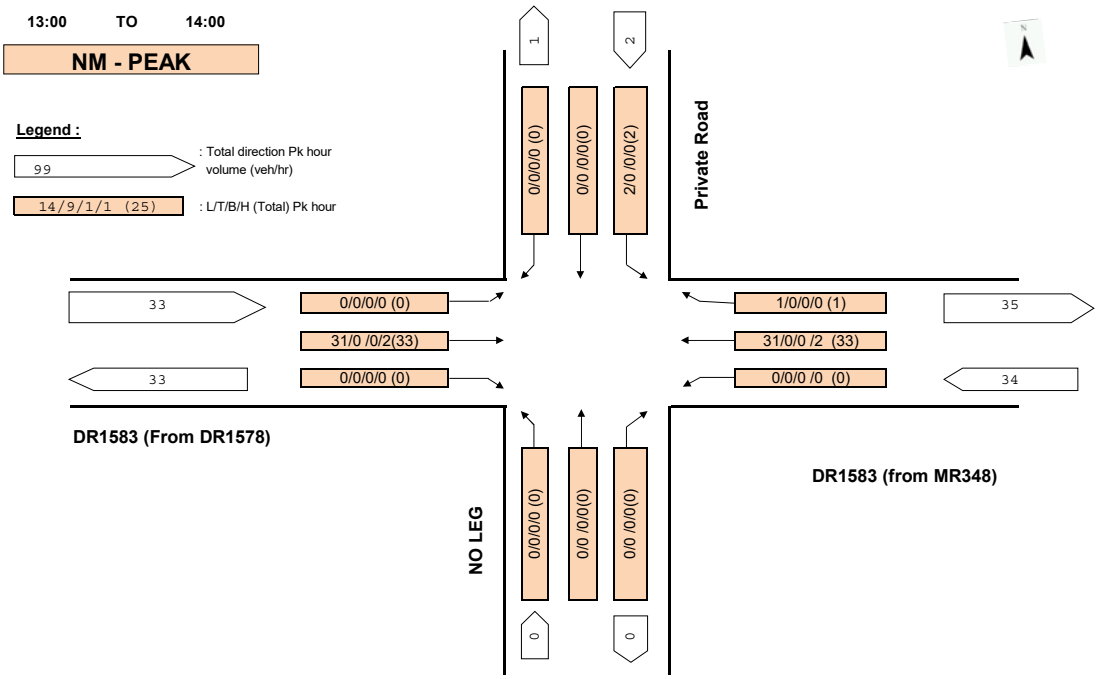
13:00 TO 14:00

NM - PEAK

Legend :

99 : Total direction Pk hour volume (veh/hr)

14/9/1/1 (25) : L/T/B/H (Total) Pk hour



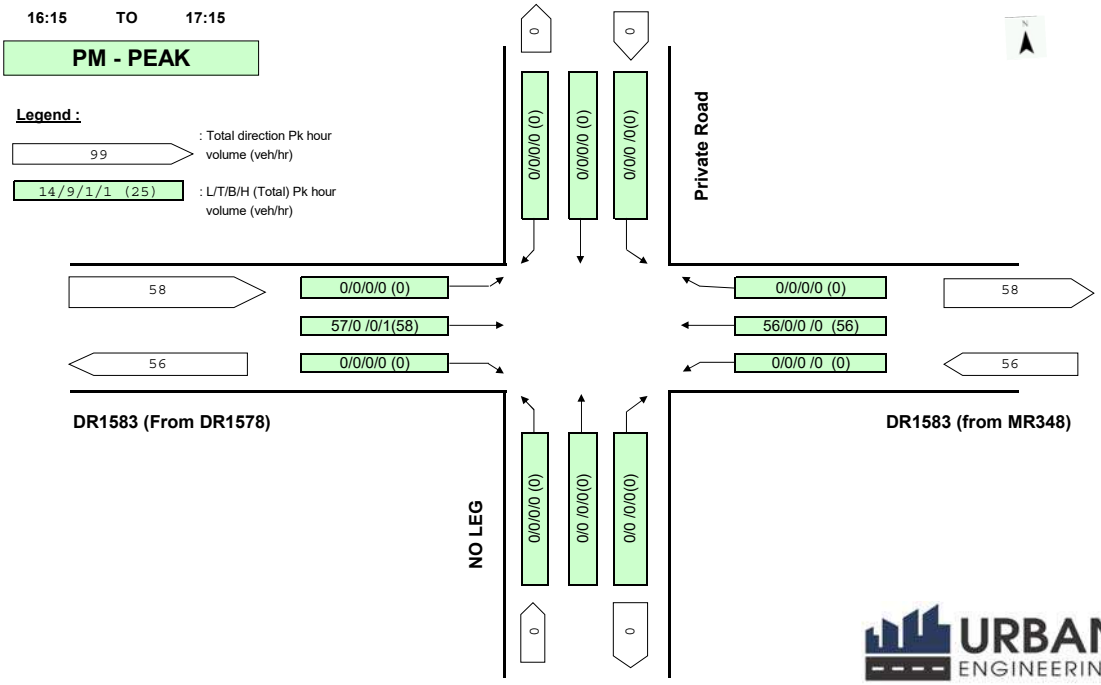
16:15 TO 17:15

PM - PEAK

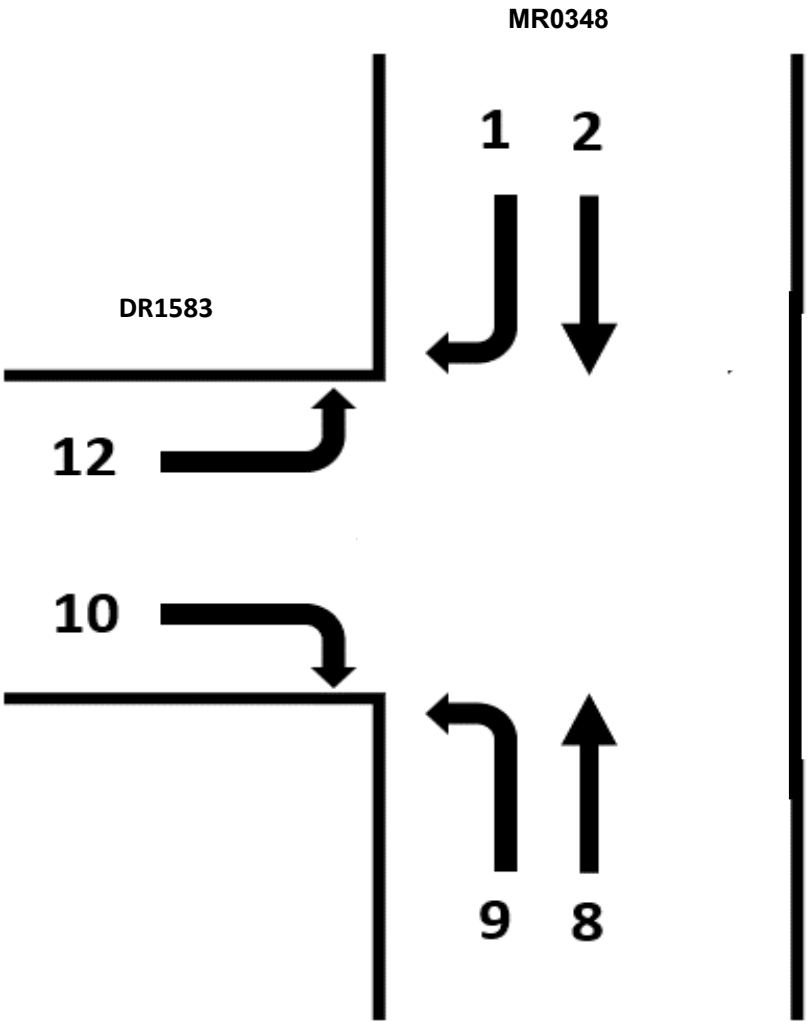
Legend :

99 : Total direction Pk hour volume (veh/hr)

14/9/1/1 (25) : L/T/B/H (Total) Pk hour volume (veh/hr)



URBAN ENGINEERING


MR0348
1
2
DR1583
12
10
9
8
MR0348

Verkeerstelling/Traffic Count

Projek Naam: TIA Transand
Plek/Location: Grootbrak River: Sandhoogte Rd / Lang St
Datum/Date: 10/05/2023
Teller/Counter: JE Giewelaar

URBAN ENGINEERING

Tyd	MR0348											
	1		2		3		4		5		6	
	L	S	L	S	L	S	L	S	L	S	L	S
06:00 - 06:15	1	0	19	0	0	0	0	0	0	0	0	0
06:15 - 06:30	3	0	34	0	0	0	0	0	0	0	0	0
06:30 - 06:45	7	0	54	0	0	0	0	0	0	0	0	0
06:45 - 07:00	23	0	87	0	0	0	0	0	0	0	0	0
07:00 - 07:15	37	0	130	0	0	0	0	0	0	0	0	0
07:15 - 07:30	54	0	188	0	0	0	0	0	0	0	0	0
07:30 - 07:45	68	0	240	0	0	0	0	0	0	0	0	0
07:45 - 08:00	99	0	288	2	0	0	0	0	0	0	0	0
08:00 - 08:15	115	0	327	3	0	0	0	0	0	0	0	0
08:15 - 08:30	127	0	360	5	0	0	0	0	0	0	0	0
08:30 - 08:45	140	0	400	5	0	0	0	0	0	0	0	0
08:45 - 09:00	154	0	436	7	0	0	0	0	0	0	0	0
09:00 - 09:15	164	2	484	11	0	0	0	0	0	0	0	0
09:15 - 09:30	176	3	517	14	0	0	0	0	0	0	0	0
09:30 - 09:45	184	3	553	16	0	0	0	0	0	0	0	0
09:45 - 10:00	195	4	598	20	0	0	0	0	0	0	0	0
10:00 - 10:15	203	4	632	21	0	0	0	0	0	0	0	0
10:15 - 10:30	222	5	680	22	0	0	0	0	0	0	0	0
10:30 - 10:45	231	6	729	24	0	0	0	0	0	0	0	0
10:45 - 11:00	240	6	767	30	0	0	0	0	0	0	0	0
11:00 - 11:15	249	7	807	34	0	0	0	0	0	0	0	0
11:15 - 11:30	262	7	864	34	0	0	0	0	0	0	0	0
11:30 - 11:45	272	8	926	35	0	0	0	0	0	0	0	0
11:45 - 12:00	288	9	988	38	0	0	0	0	0	0	0	0
12:00 - 12:15	300	9	1017	40	0	0	0	0	0	0	0	0
12:15 - 12:30	312	10	1069	43	0	0	0	0	0	0	0	0
12:30 - 12:45	327	10	1111	43	0	0	0	0	0	0	0	0
12:45 - 13:00	338	10	1160	43	0	0	0	0	0	0	0	0
13:00 - 13:15	359	11	1223	47	0	0	0	0	0	0	0	0

13:15 - 13:30	362	12	1272	50	0	0	0	0	0	0	0	0
13:30 - 13:45	380	13	1319	53	0	0	0	0	0	0	0	0
13:45 - 14:00	393	14	1368	55	0	0	0	0	0	0	0	0
14:00 - 14:15	409	14	1437	55	0	0	0	0	0	0	0	0
14:15 - 14:30	419	14	1474	57	0	0	0	0	0	0	0	0
14:30 - 14:45	429	14	1525	58	0	0	0	0	0	0	0	0
14:45 - 15:00	452	14	1574	60	0	0	0	0	0	0	0	0
15:00 - 15:15	462	15	1628	62	0	0	0	0	0	0	0	0
15:15 - 15:30	472	16	1672	63	0	0	0	0	0	0	0	0
15:30 - 15:45	485	18	1707	69	0	0	0	0	0	0	0	0
15:45 - 16:00	501	18	1753	69	0	0	0	0	0	0	0	0
16:00 - 16:15	512	18	1794	69	0	0	0	0	0	0	0	0
16:15 - 16:30	534	18	1854	69	0	0	0	0	0	0	0	0
16:30 - 16:45	557	18	1902	70	0	0	0	0	0	0	0	0
16:45 - 17:00	579	18	1950	72	0	0	0	0	0	0	0	0
17:00 - 17:15	596	18	2005	72	0	0	0	0	0	0	0	0
17:15 - 17:30	615	18	2042	73	0	0	0	0	0	0	0	0
17:30 - 17:45	629	18	2079	78	0	0	0	0	0	0	0	0
17:45 - 18:00	637	19	2100	78	0	0	0	0	0	0	0	0

Verkeerstelling/Traffic Count

Projek Naam: TIA Transand
Plek/Location: Grootbrak River: Sandhoogte Rd / Lang St
Datum/Date: 10/05/2023
Teller/Counter: JE Giewelaar

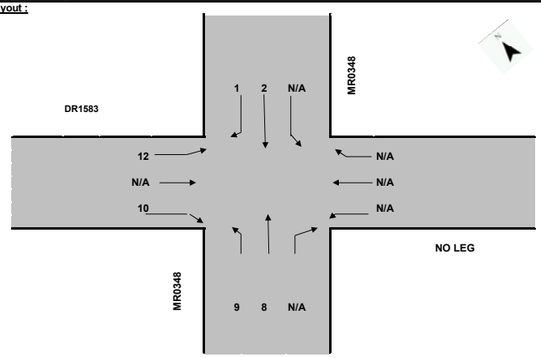
URBAN ENGINEERING

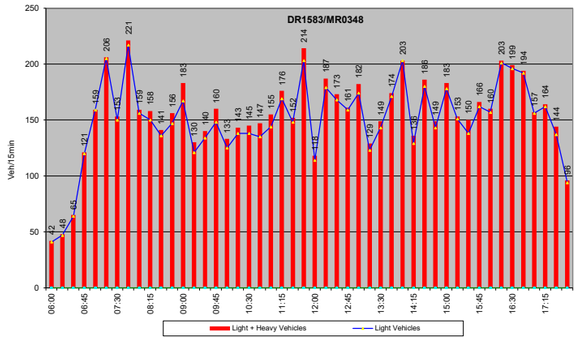
Tyd	MR0348						DR1583					
	7		8		9		10		11		12	
	L	S	L	S	L	S	L	S	L	S	L	S
06:00 - 06:15	0	0	7	1	3	0	8	0	0	0	3	0
06:15 - 06:30	0	0	18	2	7	0	18	0	0	0	8	0
06:30 - 06:45	0	0	31	3	11	0	36	0	0	0	13	0
06:45 - 07:00	0	0	60	4	20	0	62	0	0	0	20	0
07:00 - 07:15	0	0	109	4	34	0	86	0	0	0	35	0
07:15 - 07:30	0	0	160	4	47	0	129	0	0	0	58	1
07:30 - 07:45	0	0	190	5	59	1	156	0	0	0	73	2
07:45 - 08:00	0	0	251	7	79	1	184	0	0	0	102	2
08:00 - 08:15	0	0	286	8	100	2	213	0	0	0	118	2
08:15 - 08:30	0	0	337	10	119	3	227	3	0	0	139	2
08:30 - 08:45	0	0	378	12	130	4	250	4	0	0	147	3
08:45 - 09:00	0	0	420	15	147	6	272	6	0	0	163	3
09:00 - 09:15	0	0	456	21	167	7	300	7	0	0	188	5
09:15 - 09:30	0	0	495	22	181	8	313	9	0	0	198	6
09:30 - 09:45	0	0	539	24	198	10	336	9	0	0	204	6
09:45 - 10:00	0	0	579	26	212	11	363	10	0	0	215	9
10:00 - 10:15	0	0	625	30	230	12	373	12	0	0	224	9
10:15 - 10:30	0	0	657	32	241	12	392	12	0	0	233	10
10:30 - 10:45	0	0	691	34	257	13	412	13	0	0	243	10
10:45 - 11:00	0	0	727	37	274	14	429	15	0	0	261	10
11:00 - 11:15	0	0	778	40	287	17	452	15	0	0	269	10
11:15 - 11:30	0	0	831	44	306	17	468	17	0	0	280	11
11:30 - 11:45	0	0	868	45	325	18	481	17	0	0	287	11
11:45 - 12:00	0	0	931	49	351	18	507	20	0	0	297	11
12:00 - 12:15	0	0	963	51	363	18	526	20	0	0	307	11
12:15 - 12:30	0	0	1014	53	393	19	545	20	0	0	322	12

12:30 - 12:45	0	0	1065	55	416	19	569	21	0	0	335	14
12:45 - 13:00	0	0	1115	56	433	19	588	22	0	0	348	14
13:00 - 13:15	0	0	1156	57	455	20	598	22	0	0	365	15
13:15 - 13:30	0	0	1187	58	466	20	616	22	0	0	376	16
13:30 - 13:45	0	0	1227	59	482	20	625	23	0	0	389	16
13:45 - 14:00	0	0	1278	59	505	20	649	23	0	0	400	16
14:00 - 14:15	0	0	1338	59	526	20	671	23	0	0	415	16
14:15 - 14:30	0	0	1377	63	543	21	685	23	0	0	427	16
14:30 - 14:45	0	0	1430	67	567	22	711	23	0	0	443	16
14:45 - 15:00	0	0	1463	70	582	22	724	24	0	0	453	16
15:00 - 15:15	0	0	1507	71	613	22	750	24	0	0	466	17
15:15 - 15:30	0	0	1542	71	641	22	769	24	0	0	481	17
15:30 - 15:45	0	0	1577	74	661	23	787	24	0	0	498	17
15:45 - 16:00	0	0	1615	75	684	23	810	25	0	0	514	19
16:00 - 16:15	0	0	1660	77	705	23	828	25	0	0	535	20
16:15 - 16:30	0	0	1713	78	726	23	851	26	0	0	557	20
16:30 - 16:45	0	0	1773	79	756	24	873	26	0	0	570	20
16:45 - 17:00	0	0	1820	79	787	24	895	26	0	0	592	20
17:00 - 17:15	0	0	1843	80	815	24	917	26	0	0	603	20
17:15 - 17:30	0	0	1886	81	850	24	933	26	0	0	615	20
17:30 - 17:45	0	0	1930	82	872	24	949	27	0	0	619	20
17:45 - 18:00	0	0	1961	83	891	24	960	27	0	0	623	20

Site Grootbrak River: Sandhoogte Rd / Lang St
Date 10/05/2023
Surveyor JE Giewelaar
Weather Sunny

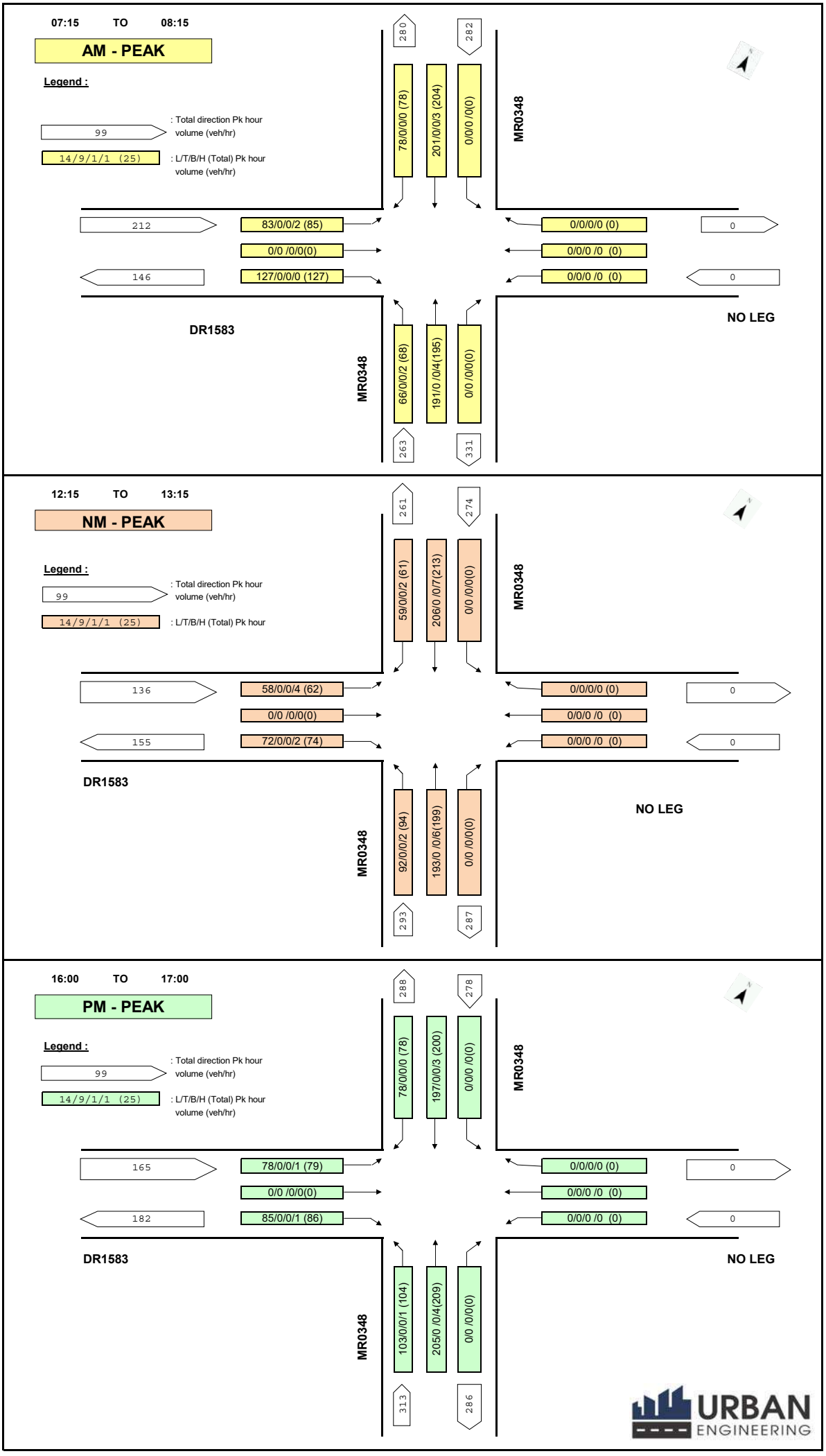
Site Layout :





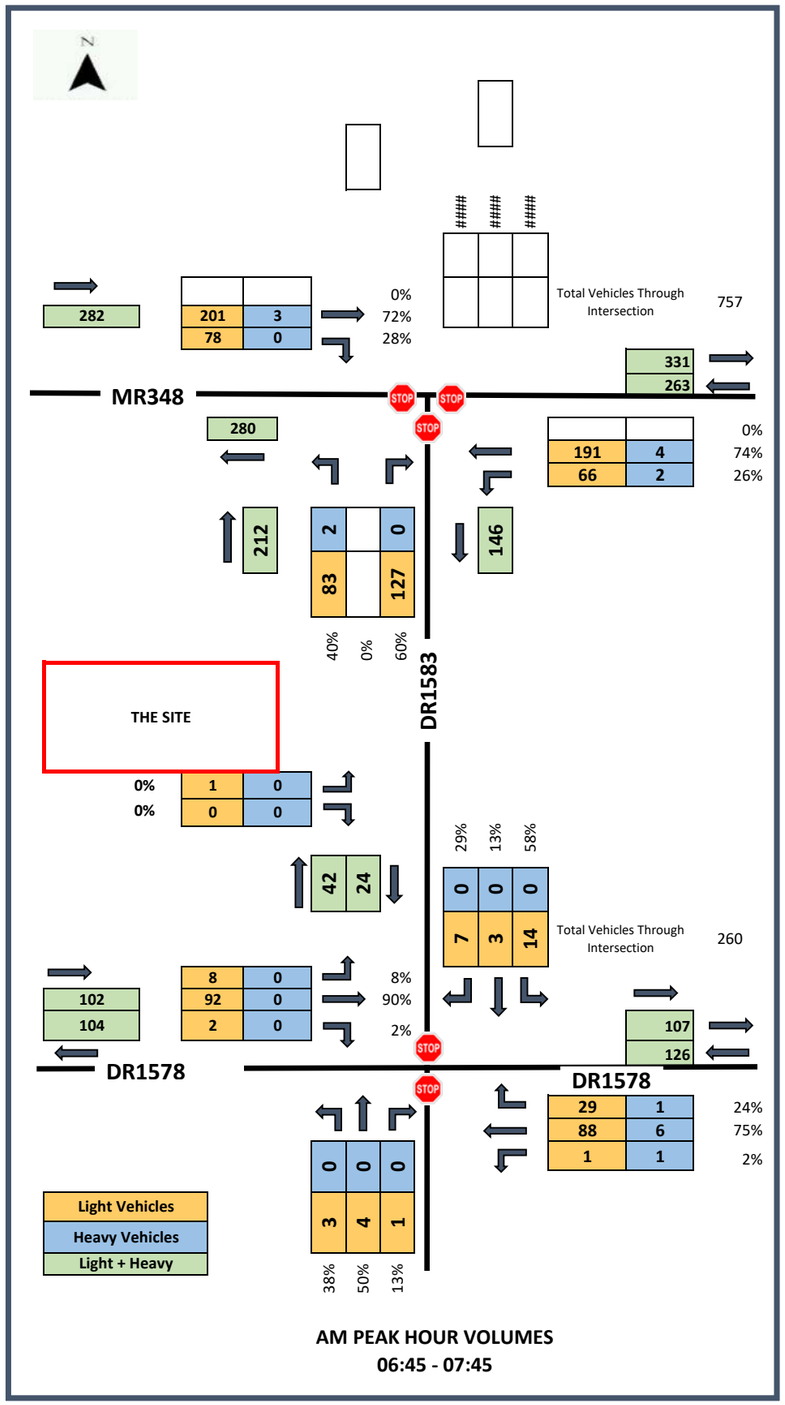
URBAN ENGINEERING

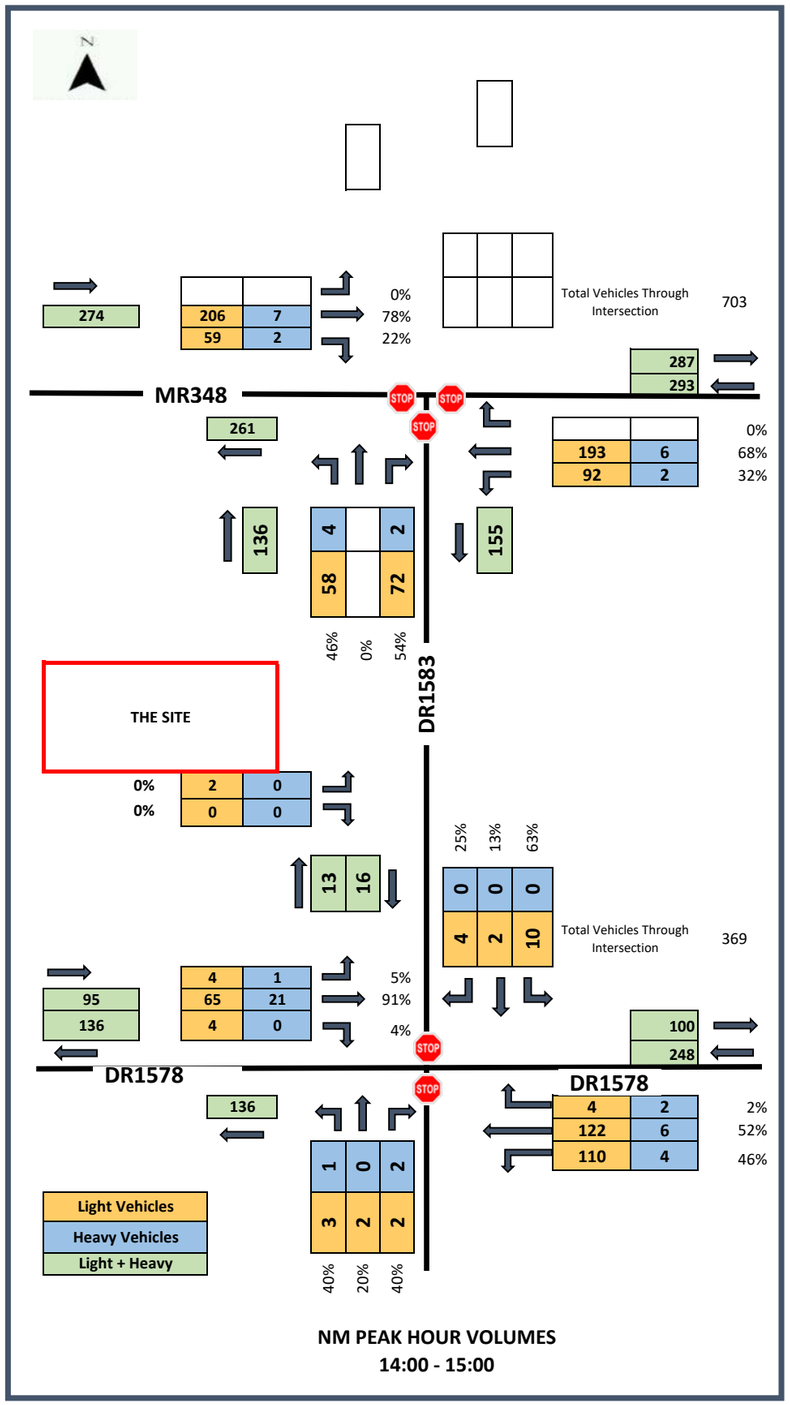
Time Period			Light Vehicles													Taxis/Minibus-taxis													Bus													Heavy Vehicles												
Start	End	Total	1	2	3	4	5	6	7	8	9	10	11	12	Total	1	2	3	4	5	6	7	8	9	10	11	12	Total	1	2	3	4	5	6	7	8	9	10	11	12	Total	1	2	3	4	5	6	7	8	9	10	11	12	Total
06:00	06:15	**42**	1	19	0	0	0	0	0	7	3	8	0	3	**41**													**0**													**0**	0	0	0	0	0	0	0	1	0	0	0	0	**1**
06:15	06:30	**48**	2	15	0	0	0	0	0	11	4	10	0	5	**47**													**0**													**0**	0	0	0	0	0	0	0	1	0	0	0	0	**1**
06:30	06:45	**65**	4	20	0	0	0	0	0	13	4	18	0	5	**64**													**0**													**0**	0	0	0	0	0	0	0	1	0	0	0	0	**1**
06:45	07:00	**121**	16	33	0	0	0	0	0	29	9	26	0	7	**120**													**0**													**0**	0	0	0	0	0	0	0	1	0	0	0	0	**1**
07:00	07:15	**159**	14	43	0	0	0	0	0	49	14	24	0	15	**159**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
07:15	07:30	**206**	17	58	0	0	0	0	0	51	13	43	0	23	**205**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	1	**1**
07:30	07:45	**153**	14	52	0	0	0	0	0	30	12	27	0	15	**150**													**0**													**0**	0	0	0	0	0	0	0	1	1	0	0	1	**3**
07:45	08:00	**221**	31	48	0	0	0	0	0	61	20	28	0	29	**217**													**0**													**0**	0	2	0	0	0	0	0	2	0	0	0	0	**4**
08:00	08:15	**159**	16	39	0	0	0	0	0	35	21	29	0	16	**156**													**0**													**0**	0	1	0	0	0	0	0	1	1	0	0	0	**3**
08:15	08:30	**158**	12	33	0	0	0	0	0	51	19	14	0	21	**150**													**0**													**0**	0	2	0	0	0	0	0	2	1	3	0	0	**8**
08:30	08:45	**141**	13	40	0	0	0	0	0	41	11	23	0	8	**136**													**0**													**0**	0	0	0	0	0	0	0	2	1	1	0	1	**5**
08:45	09:00	**156**	14	36	0	0	0	0	0	42	17	22	0	16	**147**													**0**													**0**	0	2	0	0	0	0	0	3	2	2	0	0	**9**
09:00	09:15	**183**	10	48	0	0	0	0	0	36	20	28	0	25	**167**													**0**													**0**	2	4	0	0	0	0	0	6	1	1	0	2	**16**
09:15	09:30	**130**	12	33	0	0	0	0	0	39	14	13	0	10	**121**													**0**													**0**	1	3	0	0	0	0	0	1	1	2	0	1	**9**
09:30	09:45	**140**	8	36	0	0	0	0	0	44	17	23	0	6	**134**													**0**													**0**	0	2	0	0	0	0	0	2	2	0	0	0	**6**
09:45	10:00	**160**	11	45	0	0	0	0	0	40	14	27	0	11	**148**													**0**													**0**	1	4	0	0	0	0	0	2	1	1	0	3	**12**
10:00	10:15	**133**	8	34	0	0	0	0	0	46	18	10	0	9	**125**													**0**													**0**	0	1	0	0	0	0	0	4	1	2	0	0	**8**
10:15	10:30	**143**	19	48	0	0	0	0	0	32	11	19	0	9	**138**													**0**													**0**	1	1	0	0	0	0	0	2	0	0	0	1	**5**
10:30	10:45	**145**	9	49	0	0	0	0	0	34	16	20	0	10	**138**													**0**													**0**	1	2	0	0	0	0	0	2	1	1	0	0	**7**
10:45	11:00	**147**	9	38	0	0	0	0	0	36	17	17	0	18	**135**													**0**													**0**	0	6	0	0	0	0	0	3	1	2	0	0	**12**
11:00	11:15	**155**	9	40	0	0	0	0	0	51	13	23	0	8	**144**													**0**													**0**	1	4	0	0	0	0	0	3	3	0	0	0	**11**
11:15	11:30	**176**	13	57	0	0	0	0	0	53	19	16	0	11	**169**													**0**													**0**	0	0	0	0	0	0	0	4	0	2	0	1	**7**
11:30	11:45	**152**	10	62	0	0	0	0	0	37	19	13	0	7	**148**													**0**													**0**	1	1	0	0	0	0	0	1	1	0	0	0	**4**
11:45	12:00	**214**	16	62	0	0	0	0	0	63	26	26	0	10	**203**													**0**													**0**	1	3	0	0	0	0	0	4	0	3	0	0	**11**
12:00	12:15	**118**	12	29	0	0	0	0	0	32	12	19	0	10	**114**													**0**													**0**	0	2	0	0	0	0	0	2	0	0	0	0	**4**
12:15	12:30	**187**	12	52	0	0	0	0	0	51	30	19	0	15	**179**													**0**													**0**	1	3	0	0	0	0	0	2	1	0	0	1	**8**
12:30	12:45	**173**	15	42	0	0	0	0	0	51	23	24	0	13	**168**													**0**													**0**	0	0	0	0	0	0	0	2	0	1	0	2	**5**
12:45	13:00	**161**	11	49	0	0	0	0	0	50	17	19	0	13	**159**													**0**													**0**	0	0	0	0	0	0	0	1	0	1	0	0	**2**
13:00	13:15	**182**	21	63	0	0	0	0	0	41	22	10	0	17	**174**													**0**													**0**	1	4	0	0	0	0	0	1	1	0	0	1	**8**
13:15	13:30	**129**	3	49	0	0	0	0	0	31	11	18	0	11	**123**													**0**													**0**	1	3	0	0	0	0	0	1	0	0	0	1	**6**
13:30	13:45	**149**	18	47	0	0	0	0	0	40	16	9	0	13	**143**													**0**													**0**	1	3	0	0	0	0	0	1	0	1	0	0	**6**
13:45	14:00	**174**	13	49	0	0	0	0	0	51	23	24	0	11	**171**													**0**													**0**	1	2	0	0	0	0	0	0	0	0	0	0	**3**
14:00	14:15	**203**	16	69	0	0	0	0	0	60	21	22	0	15	**203**													**0**													**0**	0	0	0	0	0	0	0	0	0	0	0	0	**0**
14:15	14:30	**136**	10	37	0	0	0	0	0	39	17	14	0	12	**129**													**0**													**0**	0	2	0	0	0	0	0	4	1	0	0	0	**7**
14:30	14:45	**186**	10	51	0	0	0	0	0	53	24	26	0	16	**180**													**0**													**0**	0	1	0	0	0	0	0	4	1	0	0	0	**6**
14:45	15:00	**149**	23	49	0	0	0	0	0	33	15	13	0	10	**143**													**0**													**0**	0	2	0	0	0	0	0	3	0	1	0	0	**6**
15:00	15:15	**183**	10	54	0	0	0	0	0	44	31	26	0	13	**178**													**0**													**0**	1	2	0	0	0	0	0	1	0	0	0	1	**5**
15:15	15:30	**153**	10	44	0	0	0	0	0	35	28	19	0	15	**151**													**0**													**0**	1	1	0	0	0	0	0	0	0	0	0	0	**2**
15:30	15:45	**150**	13	35	0	0	0	0	0	35	20	18	0	17	**138**													**0**													**0**	2	6	0	0	0	0	0	3	1	0	0	0	**12**
15:45	16:00	**166**	16	46	0	0	0	0	0	38	23	23	0	16	**162**													**0**													**0**	0	0	0	0	0	0	0	1	0	1	0	2	**4**
16:00	16:15	**160**	11	41	0	0	0	0	0	45	21	18	0	21	**157**													**0**													**0**	0	0	0	0	0	0	0	2	0	0	0	1	**3**
16:15	16:30	**203**	22	60	0	0	0	0	0	53	21	23	0	22	**201**													**0**													**0**	0	0	0	0	0	0	0	1	0	1	0	0	**2**
16:30	16:45	**199**	23	48	0	0	0	0	0	60	30	22	0	13	**196**													**0**													**0**	0	1	0	0	0	0	0	1	1	0	0	0	**3**
16:45	17:00	**194**	22	48	0	0	0	0	0	47	31	22	0	22	**192**													**0**													**0**	0	2	0	0	0	0	0	0	0	0	0	0	**2**
17:00	17:15	**157**	17	55	0	0	0	0	0	23	28	22	0	11	**156**													**0**													**0**	0	0	0	0	0	0	0	1	0	0	0	0	**1**
17:15	17:30	**164**	19	37	0	0	0	0	0	43	35	16	0	12	**162**													**0**													**0**	0	1	0	0	0	0	0	1	0	0	0	0	**2**
17:30	17:45	**144**	14	37	0	0	0	0	0	44	22	16	0	4	**137**													**0**													**0**	0	5	0	0	0	0	0	1	0	1	0	0	**7**
17:45	18:00	**96**	8	21	0	0	0	0	0	31	19	11	0	4	**94**													**0**													**0**	1	0	0	0	0	0	0	1	0	0	0	0	**2**
Total (5-19)		**7423**	**637**	**2100**	**0**	**0**	**0**	**0**	**0**	**1961**	**891**	**960**	**0**	**623**	**7172**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**78**	**0**	**0**	**0**	**0**	**0**	**83**	**24**	**27**	**0**	**20**	**251**
AM Pk hour vol		757	78	201	0	0	0	0	0	191	66	127	0	83	746	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0	3	0	0	0	0	0	4	2	0	0	2	11
07:15	to 08:15													**Total AM Pk hour vol (Light + Heavy)**		**78**	**201**	**0**	**0**	**0**	**0**	**0**	**191**	**66**	**127**	**0**	**83**	**746**	**78**	**201**	**0**	**0**	**0**	**0**	**0**	**191**	**66**	**127**	**0**	**83**	**746**	**78**	**204**	**0**	**0**	**0**	**0**	**0**	**195**	**68**	**127**	**0**	**85**	**757**
NM Pk hour vol		703	59	206	0	0	0	0	0	193	92	72	0	58	680	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	2	7	0	0	0	0	0	6	2	2	0	4	23
12:15	to 13:15													**Typical NM Pk hour vol (Light + Heavy)**		**59**	**206**	**0**	**0**	**0**	**0**	**0**	**193**	**92**	**72**	**0**	**58**	**680**	**59**	**206**	**0**	**0**	**0**	**0**	**0**	**193**	**92**	**72**	**0**	**58**	**680**	**61**	**213**	**0**	**0**	**0**	**0**	**0**	**199**	**94**	**74**	**0**	**62**	**703**
PM Pk hour vol		756	78	197	0	0	0	0	0	205	103	85	0	78	746	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	0	3	0	0	0	0	0	4	1	1	0	1	10
16:00	to 17:00													**Total PM Pk hour vol (Light + Heavy)**		**78**	**197**	**0**	**0**	**0**	**0**	**0**	**205**	**103**	**85**	**0**	**78**	**746**	**78**	**197**	**0**	**0**	**0**	**0**	**0**	**205**	**103**	**85**	**0**	**78**	**746**	**78**	**200**	**0**	**0**	**0**	**0**	**0**	**209**	**104**	**86**	**0**	**79**	**756**

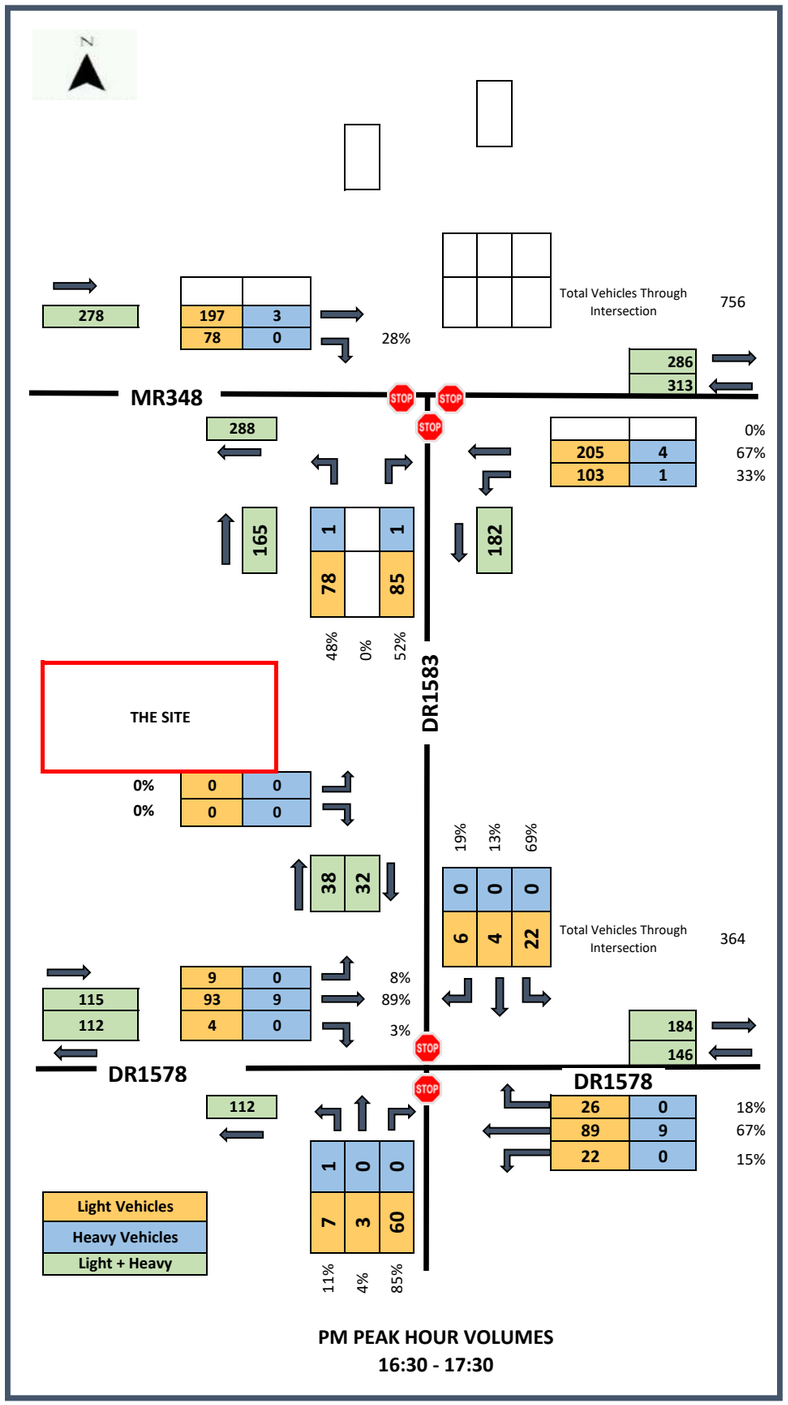

07:15 TO 08:15
AM - PEAK
Legend :
99
: Total direction Pk hour volume (veh/hr)
14/9/1/1 (25)
: L/T/B/H (Total) Pk hour volume (veh/hr)
280
282
78/0/0/0 (78)
201/0/0/3 (204)
0/0/0 /0(0)
MR0348
212
83/0/0/2 (85)
0/0 /0/0(0)
146
127/0/0/0 (127)
0/0/0/0 (0)
0/0/0 /0 (0)
0/0/0 /0 (0)
0
0
DR1583
NO LEG
MR0348
66/0/0/2 (68)
191/0 /0/4(195)
0/0 /0/0(0)
263
331
12:15 TO 13:15
NM - PEAK
Legend :
99
: Total direction Pk hour volume (veh/hr)
14/9/1/1 (25)
: L/T/B/H (Total) Pk hour
261
274
59/0/0/2 (61)
206/0 /0/7(213)
0/0 /0/0(0)
MR0348
136
58/0/0/4 (62)
0/0 /0/0(0)
155
72/0/0/2 (74)
0/0/0/0 (0)
0/0/0 /0 (0)
0/0/0 /0 (0)
0
0
DR1583
NO LEG
MR0348
92/0/0/2 (94)
193/0 /0/6(199)
0/0 /0/0(0)
293
287
16:00 TO 17:00
PM - PEAK
Legend :
99
: Total direction Pk hour volume (veh/hr)
14/9/1/1 (25)
: L/T/B/H (Total) Pk hour volume (veh/hr)
288
278
78/0/0/0 (78)
197/0/0/3 (200)
0/0/0 /0(0)
MR0348
165
78/0/0/1 (79)
0/0 /0/0(0)
182
85/0/0/1 (86)
0/0/0/0 (0)
0/0/0 /0 (0)
0/0/0 /0 (0)
0
0
DR1583
NO LEG
MR0348
103/0/0/1 (104)
205/0 /0/4(209)
0/0 /0/0(0)
313
286
URBAN
ENGINEERING

ANNEXURE D

TRIP DISTRIBUTION







URBAN ENGINEERING
CONSULTING CIVIL AND STRUCTURAL ENGINEERS

Project:

23-041 REM ERF 2833, GREAT BRAK RIVER

Description:

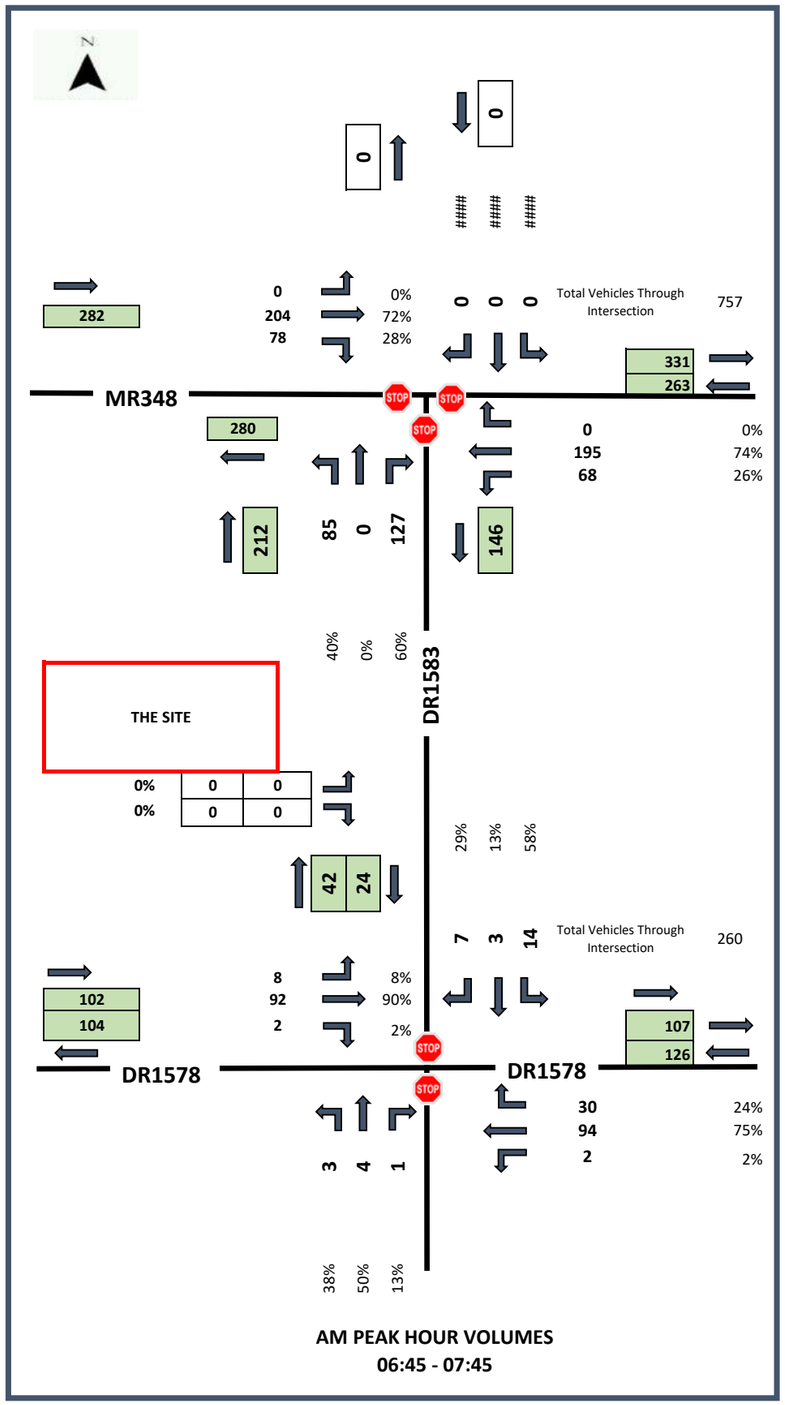
PEAK HOUR VOLUMES (WEDNESDAY 05 MAY 2023)

Legend

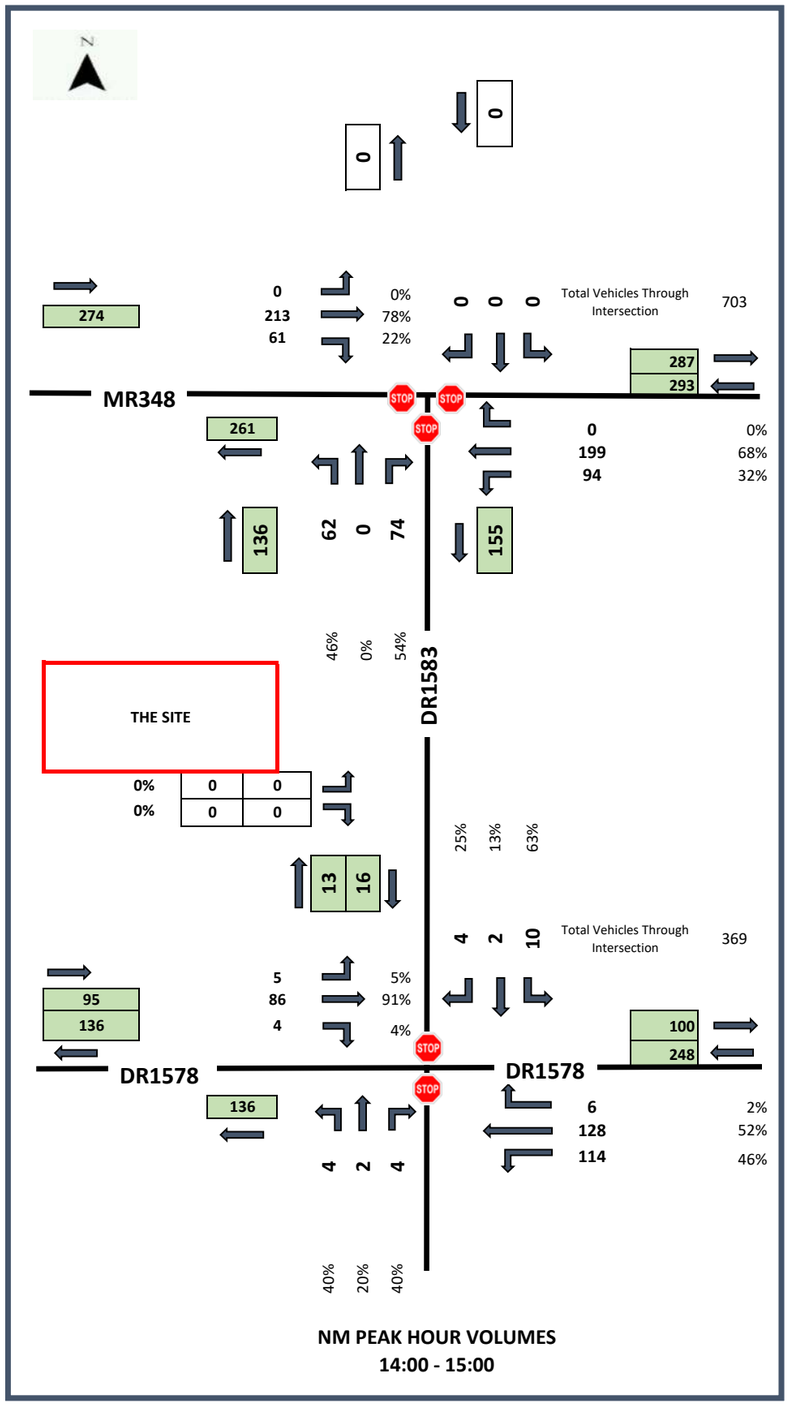
STOP CONTROLLED INTERSECTION

Title

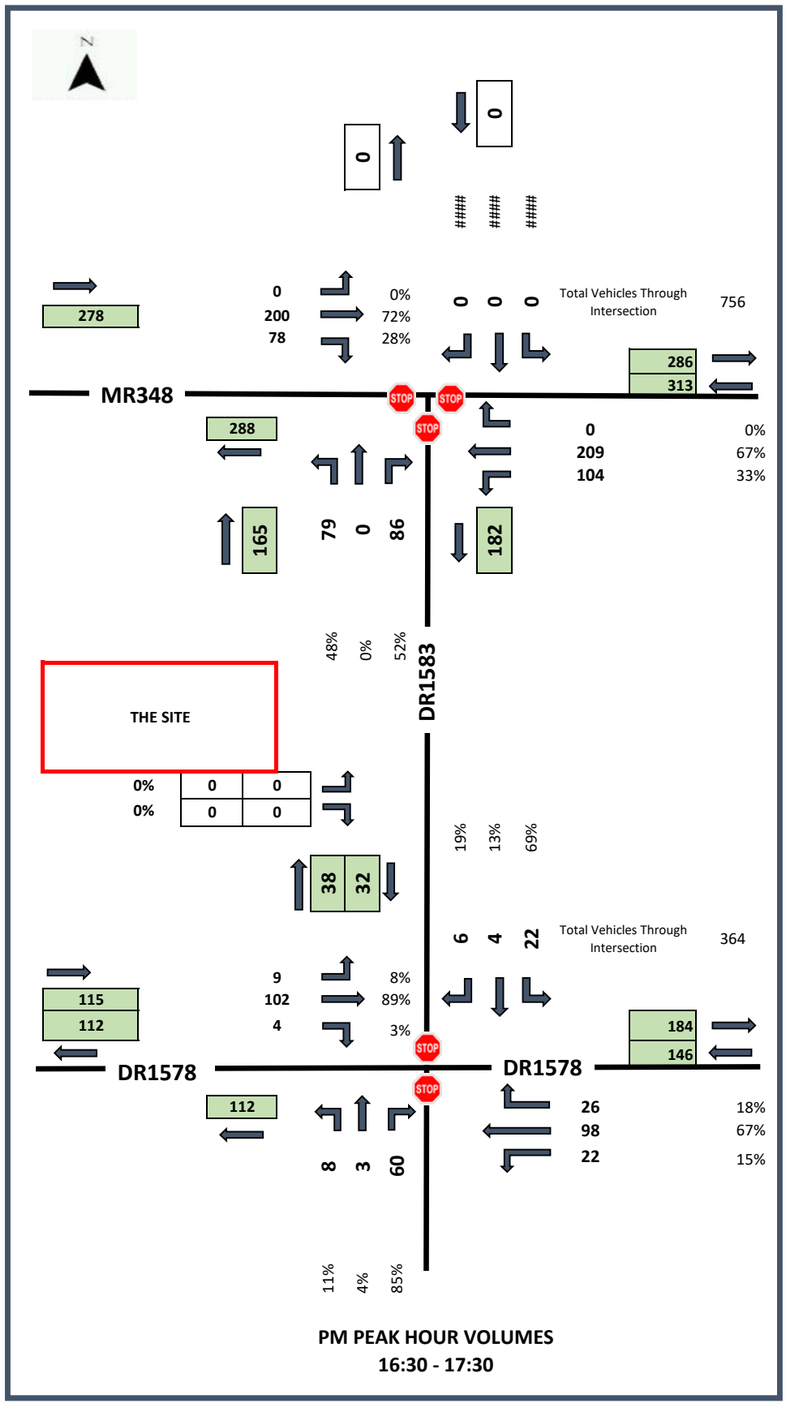
FIGURE A



AM PEAK HOUR VOLUMES
06:45 - 07:45



NM PEAK HOUR VOLUMES
14:00 - 15:00



PM PEAK HOUR VOLUMES
16:30 - 17:30

URBAN ENGINEERING
CONSULTING CIVIL AND STRUCTURAL ENGINEERS

Project:

23-041 REM ERF 2833, GREAT BRAK RIVER

Description:

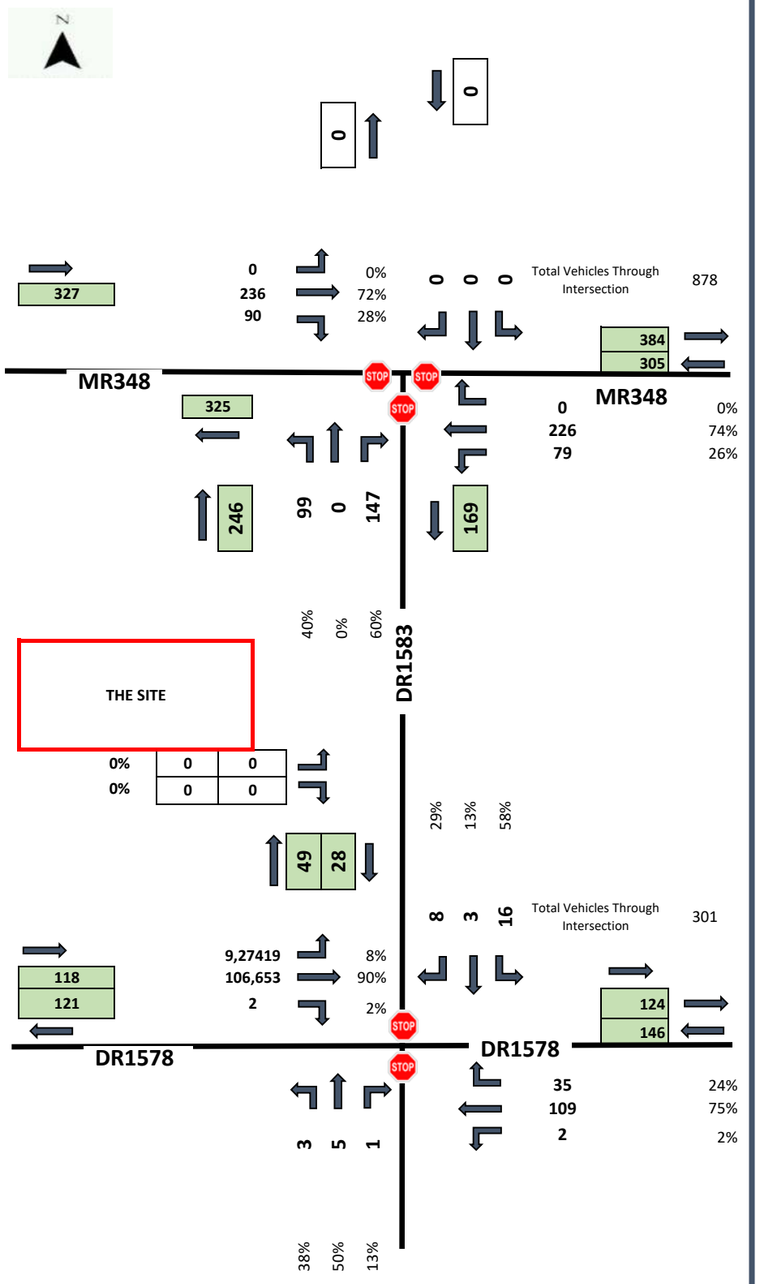
STATUS QUO PEAK HOUR VOLUMES (COMBINED)

Legend

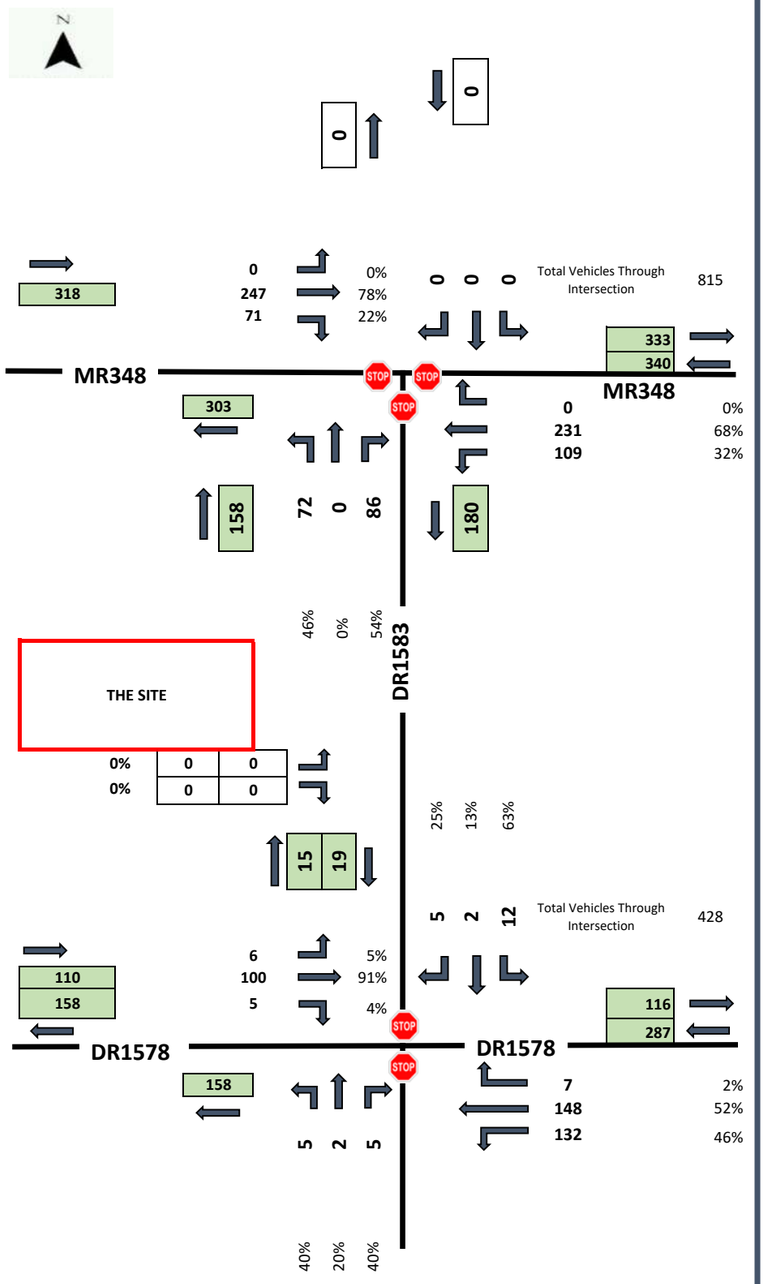
STOP — STOP CONTROLLED INTERSECTION

Title

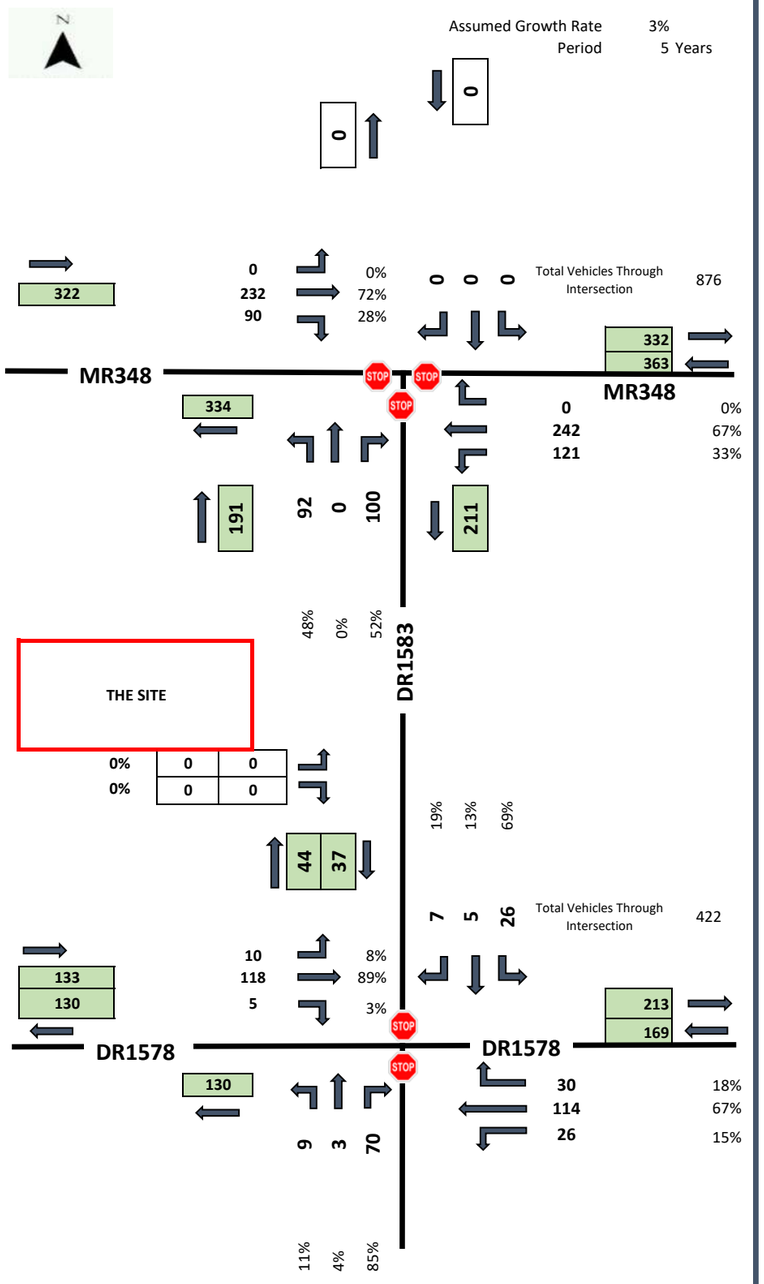
FIGURE B



AM PEAK HOUR VOLUMES
06:45 - 07:45



NM PEAK HOUR VOLUMES
14:00 - 15:00



PM PEAK HOUR VOLUMES
16:30 - 17:30

URBAN ENGINEERING
CONSULTING CIVIL AND STRUCTURAL ENGINEERS

Project:

23-041 REM ERF 2833, GREAT BRAK RIVER

Description:

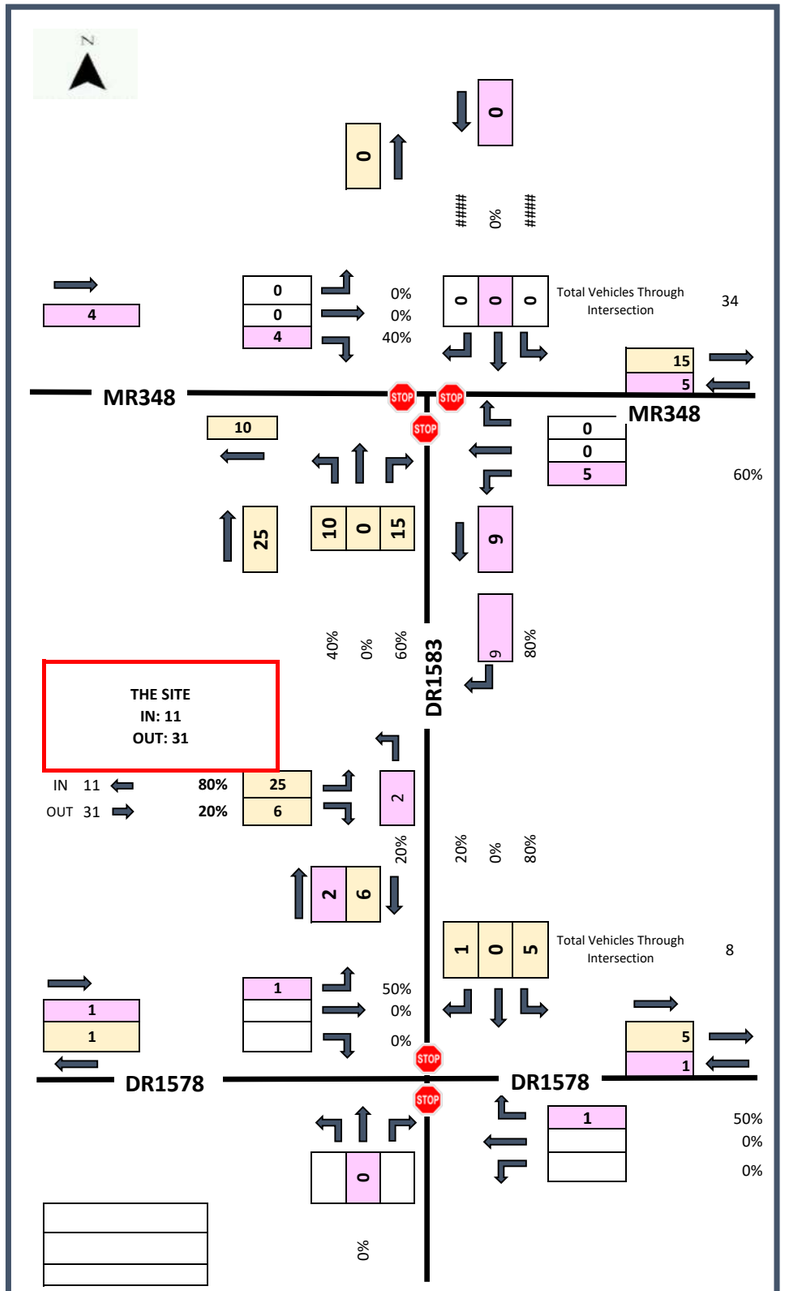
ESTIMATED 2028 BACKGROUND VOLUMES (3%, 5 YEARS)

Legend

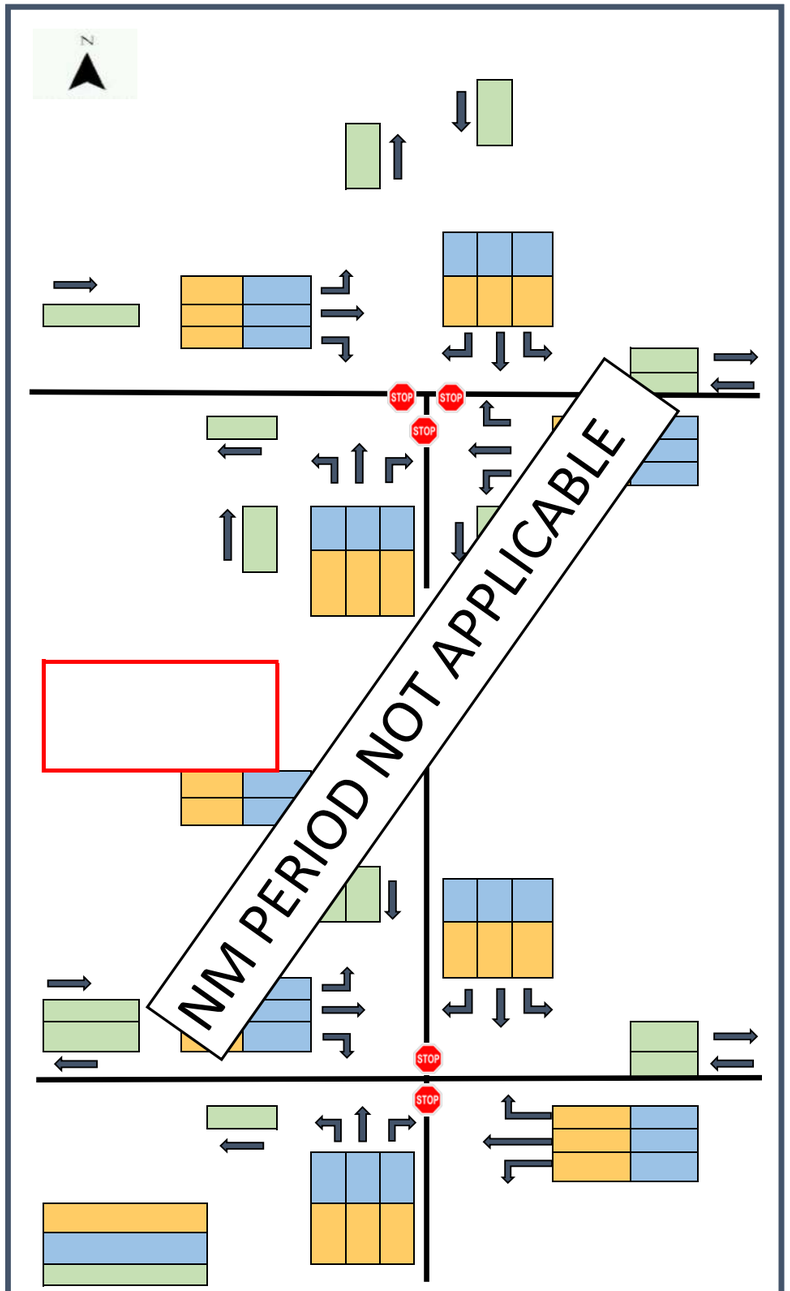
STOP **STOP CONTROLLED INTERSECTION**

Title

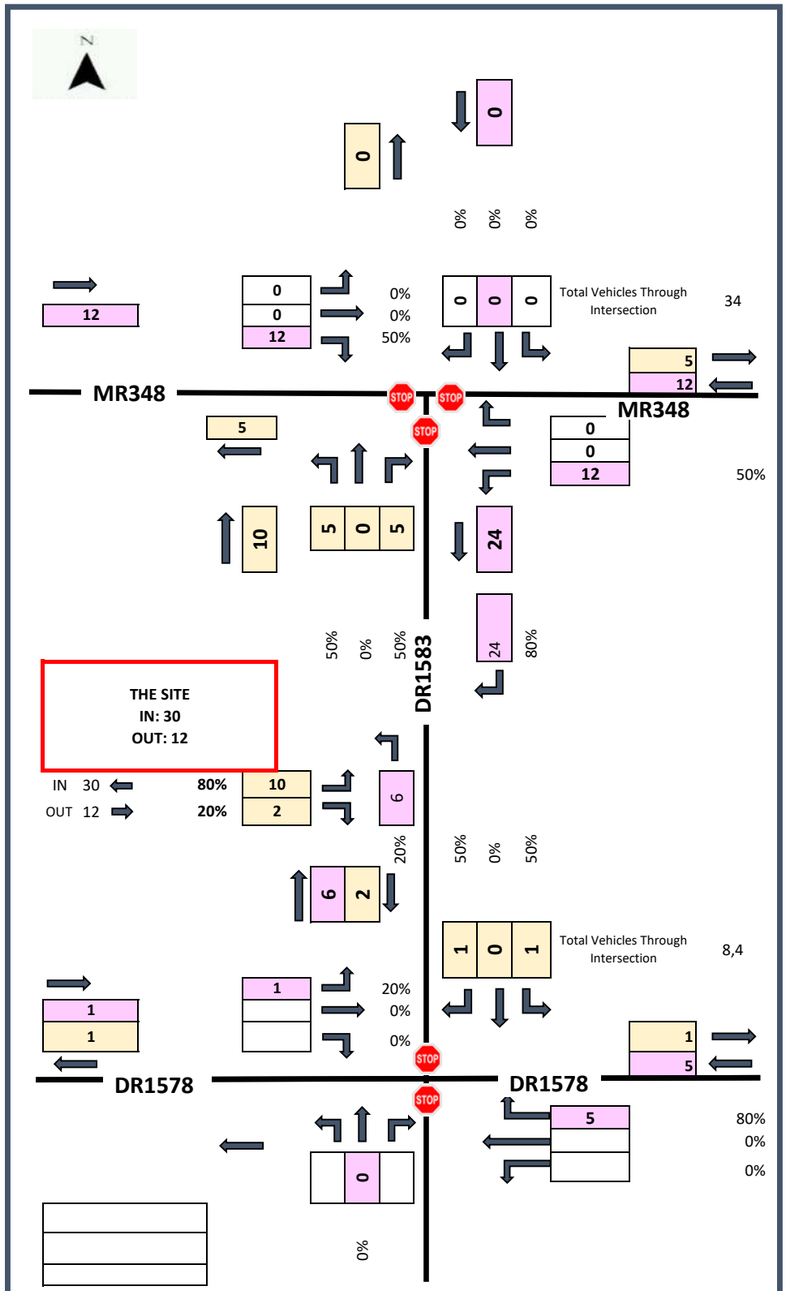
FIGURE C



AM PEAK HOUR VOLUMES
06:45 - 07:45



NM PEAK HOUR VOLUMES
14:00 - 15:00



PM PEAK HOUR VOLUMES
16:30 - 17:30

URBAN ENGINEERING
CONSULTING CIVIL AND STRUCTURAL ENGINEERS

Project:

23-041 REM ERF 2833, GREAT BRAK RIVER

Description:

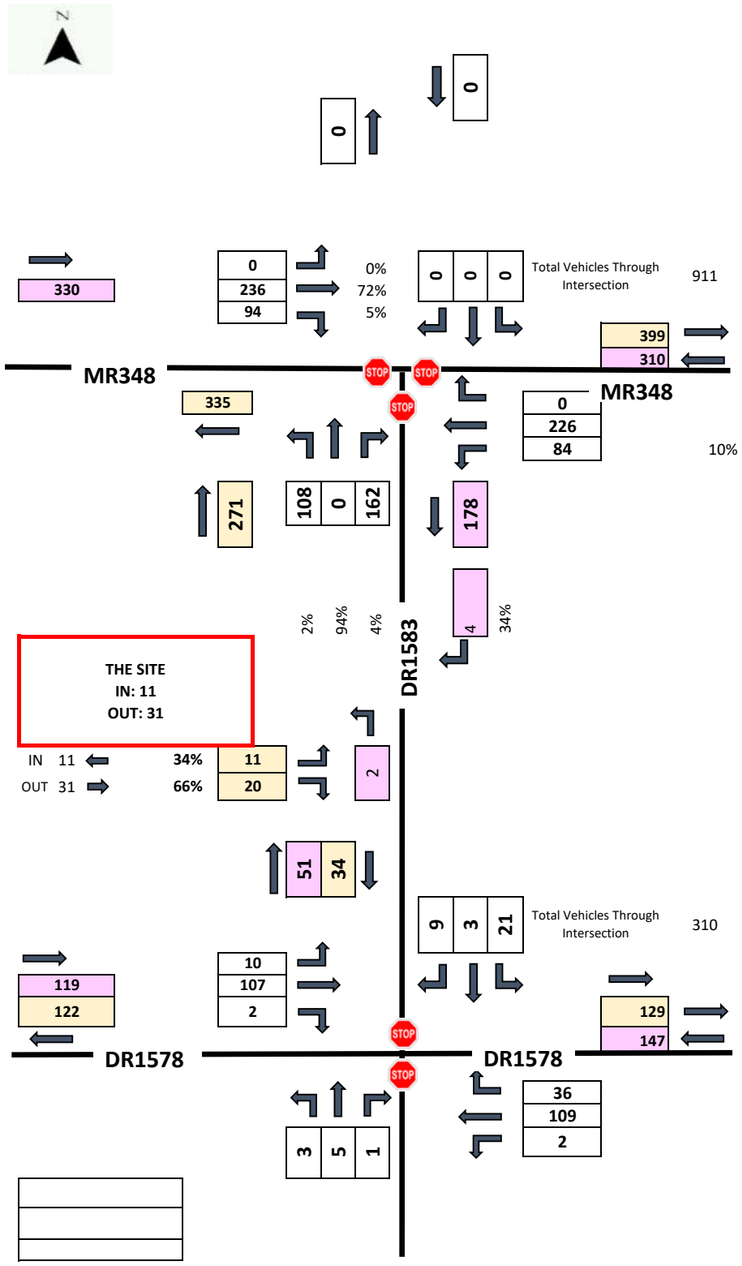
DEVELOPMENT TRIP GENERATION AND DISTRIBUTION

Legend

STOP CONTROLLED INTERSECTION

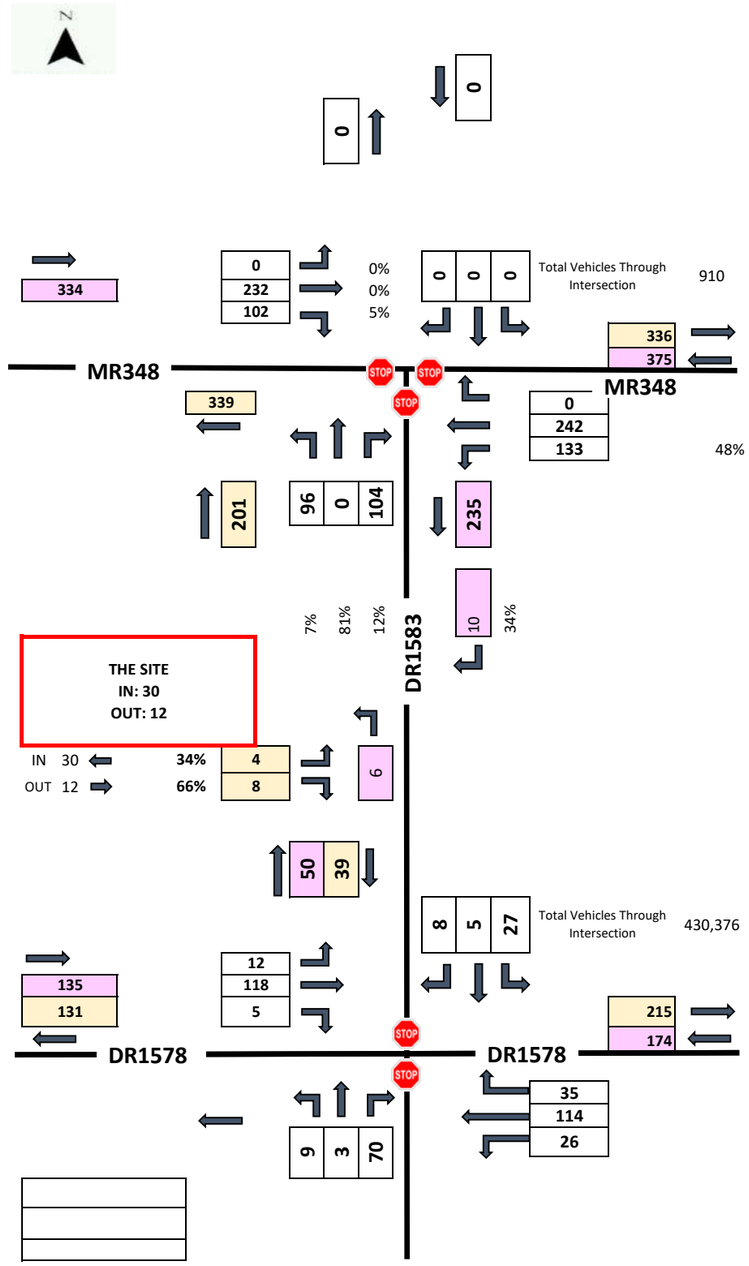
Title

FIGURE D



AM PEAK HOUR VOLUMES
06:45 - 07:45

NM PEAK HOUR VOLUMES
14:00 - 15:00



PM PEAK HOUR VOLUMES
16:30 - 17:30

URBAN ENGINEERING
CONSULTING CIVIL AND STRUCTURAL ENGINEERS

Project:

23-041 REM ERF 2833, GREAT BRAK RIVER

Description:

2028 BACKGROUND + DEVELOPMENT TRAFFIC

Legend

STOP CONTROLLED INTERSECTION

Title

FIGURE E

ANNEXURE E

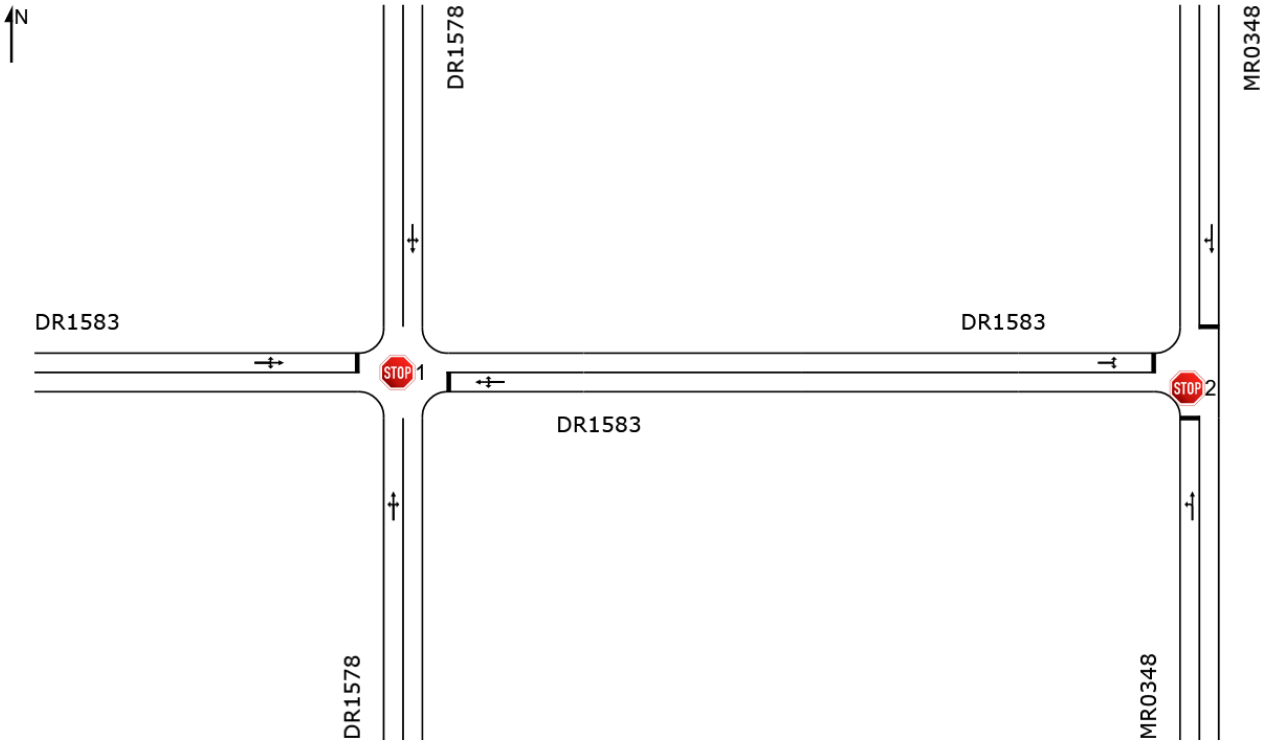
SIDRA RESULTS

NETWORK LAYOUT

Network: N101 [AM Status Quo (Network Folder: Status Quo)]

New Network
Network Category: (None)

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



SITES IN NETWORK		
Site ID	**CCG ID**	**Site Name**
1	NA	DR1578/DR1583 Status Quo AM
2	NA	DR1583/MR0348 Satus Quo AM

MOVEMENT SUMMARY

Site: 1 [DR1578/DR1583 Status Quo AM (Site Folder: Status Quo)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: DR1578															
1	L2	All MCs	2	50,0	2	50,0	0,070	6,1	LOS A	0,2	1,4	0,11	0,18	0,11	53,6
2	T1	All MCs	94	6,4	94	6,4	0,070	0,0	LOS A	0,2	1,4	0,11	0,18	0,11	58,2
3	R2	All MCs	30	3,3	30	3,3	0,070	6,2	LOS A	0,2	1,4	0,11	0,18	0,11	58,4
Approach			126	6,3	126	6,3	0,070	1,6	NA	0,2	1,4	0,11	0,18	0,11	58,3
East: DR1583															
4	L2	All MCs	14	0,0	14	0,0	0,023	8,3	LOS A	0,1	0,6	0,23	0,88	0,23	56,7
5	T1	All MCs	3	0,0	3	0,0	0,023	8,7	LOS A	0,1	0,6	0,23	0,88	0,23	56,7
6	R2	All MCs	7	0,0	7	0,0	0,023	8,8	LOS A	0,1	0,6	0,23	0,88	0,23	56,6
Approach			24	0,0	24	0,0	0,023	8,5	LOS A	0,1	0,6	0,23	0,88	0,23	56,7
North: DR1578															
7	L2	All MCs	8	0,0	8	0,0	0,053	5,5	LOS A	0,0	0,1	0,01	0,06	0,01	59,0
8	T1	All MCs	92	0,0	92	0,0	0,053	0,0	LOS A	0,0	0,1	0,01	0,06	0,01	59,4
9	R2	All MCs	2	0,0	2	0,0	0,053	5,7	LOS A	0,0	0,1	0,01	0,06	0,01	56,6
Approach			102	0,0	102	0,0	0,053	0,5	NA	0,0	0,1	0,01	0,06	0,01	59,3
West: DR1583															
10	L2	All MCs	3	0,0	3	0,0	0,008	8,3	LOS A	0,0	0,2	0,26	0,89	0,26	51,0
11	T1	All MCs	4	0,0	4	0,0	0,008	8,7	LOS A	0,0	0,2	0,26	0,89	0,26	56,7
12	R2	All MCs	1	0,0	1	0,0	0,008	8,8	LOS A	0,0	0,2	0,26	0,89	0,26	50,8
Approach			8	0,0	8	0,0	0,008	8,6	LOS A	0,0	0,2	0,26	0,89	0,26	55,2
All Vehicles			260	3,1	260	3,1	0,070	2,0	NA	0,2	1,4	0,09	0,22	0,09	58,1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 1 [DR1578/DR1583 Status Quo PM (Site Folder: Status Quo)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: DR1578															
1	L2	All MCs	22	0,0	22	0,0	0,081	5,5	LOS A	0,2	1,4	0,11	0,22	0,11	55,4
2	T1	All MCs	98	9,2	98	9,2	0,081	0,0	LOS A	0,2	1,4	0,11	0,22	0,11	57,7
3	R2	All MCs	26	0,0	26	0,0	0,081	6,4	LOS A	0,2	1,4	0,11	0,22	0,11	58,3
Approach			146	6,2	146	6,2	0,081	2,0	NA	0,2	1,4	0,11	0,22	0,11	57,7
East: DR1583															
4	L2	All MCs	22	0,0	22	0,0	0,029	8,4	LOS A	0,1	0,8	0,24	0,88	0,24	56,7
5	T1	All MCs	4	0,0	4	0,0	0,029	9,0	LOS A	0,1	0,8	0,24	0,88	0,24	56,7
6	R2	All MCs	6	0,0	6	0,0	0,029	9,0	LOS A	0,1	0,8	0,24	0,88	0,24	56,6
Approach			32	0,0	32	0,0	0,029	8,6	LOS A	0,1	0,8	0,24	0,88	0,24	56,7
North: DR1578															
7	L2	All MCs	9	0,0	9	0,0	0,063	5,5	LOS A	0,0	0,3	0,02	0,07	0,02	58,9
8	T1	All MCs	102	8,8	102	8,8	0,063	0,0	LOS A	0,0	0,3	0,02	0,07	0,02	59,2
9	R2	All MCs	4	0,0	4	0,0	0,063	6,0	LOS A	0,0	0,3	0,02	0,07	0,02	56,5
Approach			115	7,8	115	7,8	0,063	0,6	NA	0,0	0,3	0,02	0,07	0,02	59,1
West: DR1583															
10	L2	All MCs	8	12,5	8	12,5	0,089	9,0	LOS A	0,3	2,2	0,35	0,89	0,35	50,2
11	T1	All MCs	3	0,0	3	0,0	0,089	9,0	LOS A	0,3	2,2	0,35	0,89	0,35	56,6
12	R2	All MCs	60	0,0	60	0,0	0,089	9,2	LOS A	0,3	2,2	0,35	0,89	0,35	50,5
Approach			71	1,4	71	1,4	0,089	9,2	LOS A	0,3	2,2	0,35	0,89	0,35	51,1
All Vehicles			364	5,2	364	5,2	0,089	3,5	NA	0,3	2,2	0,14	0,36	0,14	56,7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 2 [DR1583/MR0348 Satus Quo AM (Site Folder: Status Quo)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (All-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: MR0348															
1	L2	All MCs	68	2,9	68	2,9	0,468	18,1	LOS C	2,1	15,3	0,89	1,35	2,74	54,5
2	T1	All MCs	195	2,1	195	2,1	0,468	17,7	LOS C	2,1	15,3	0,89	1,35	2,74	46,0
Approach			263	2,3	263	2,3	0,468	17,8	LOS C	2,1	15,3	0,89	1,35	2,74	50,0
North: MR0348															
8	T1	All MCs	204	1,5	204	1,5	0,399	14,2	LOS B	1,6	11,5	0,79	1,32	2,44	48,1
9	R2	All MCs	78	0,0	78	0,0	0,399	13,9	LOS B	1,6	11,5	0,79	1,32	2,44	55,4
Approach			282	1,1	282	1,1	0,399	14,1	LOS B	1,6	11,5	0,79	1,32	2,44	51,7
West: DR1583															
10	L2	All MCs	85	2,4	85	2,4	0,449	19,9	LOS C	2,0	14,4	0,92	1,32	2,71	54,0
12	R2	All MCs	127	0,0	127	0,0	0,449	19,2	LOS C	2,0	14,4	0,92	1,32	2,71	53,9
Approach			212	0,9	212	0,9	0,449	19,5	LOS C	2,0	14,4	0,92	1,32	2,71	54,0
All Vehicles			757	1,5	757	1,5	0,468	16,9	LOS C	2,1	15,3	0,86	1,33	2,62	52,2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 2 [DR1583/MR0348 Satus Quo PM (Site Folder: Status Quo)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (All-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: MR0348															
1	L2	All MCs	104	1,0	104	1,0	0,471	16,2	LOS C	2,1	15,1	0,84	1,36	2,71	55,0
2	T1	All MCs	209	1,9	209	1,9	0,471	15,9	LOS C	2,1	15,1	0,84	1,36	2,71	55,0
Approach			313	1,6	313	1,6	0,471	16,0	LOS C	2,1	15,1	0,84	1,36	2,71	55,0
North: MR0348															
8	T1	All MCs	197	0,0	197	0,0	0,345	12,4	LOS B	1,3	9,1	0,72	1,30	2,23	55,9
9	R2	All MCs	81	3,7	81	3,7	0,345	12,5	LOS B	1,3	9,1	0,72	1,30	2,23	48,7
Approach			278	1,1	278	1,1	0,345	12,4	LOS B	1,3	9,1	0,72	1,30	2,23	54,9
West: DR1583															
10	L2	All MCs	79	1,3	79	1,3	0,387	19,8	LOS C	1,6	11,6	0,92	1,28	2,53	45,0
12	R2	All MCs	86	1,2	86	1,2	0,387	19,2	LOS C	1,6	11,6	0,92	1,28	2,53	53,9
Approach			165	1,2	165	1,2	0,387	19,5	LOS C	1,6	11,6	0,92	1,28	2,53	51,5
All Vehicles			756	1,3	756	1,3	0,471	15,5	LOS C	2,1	15,1	0,81	1,32	2,50	54,3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

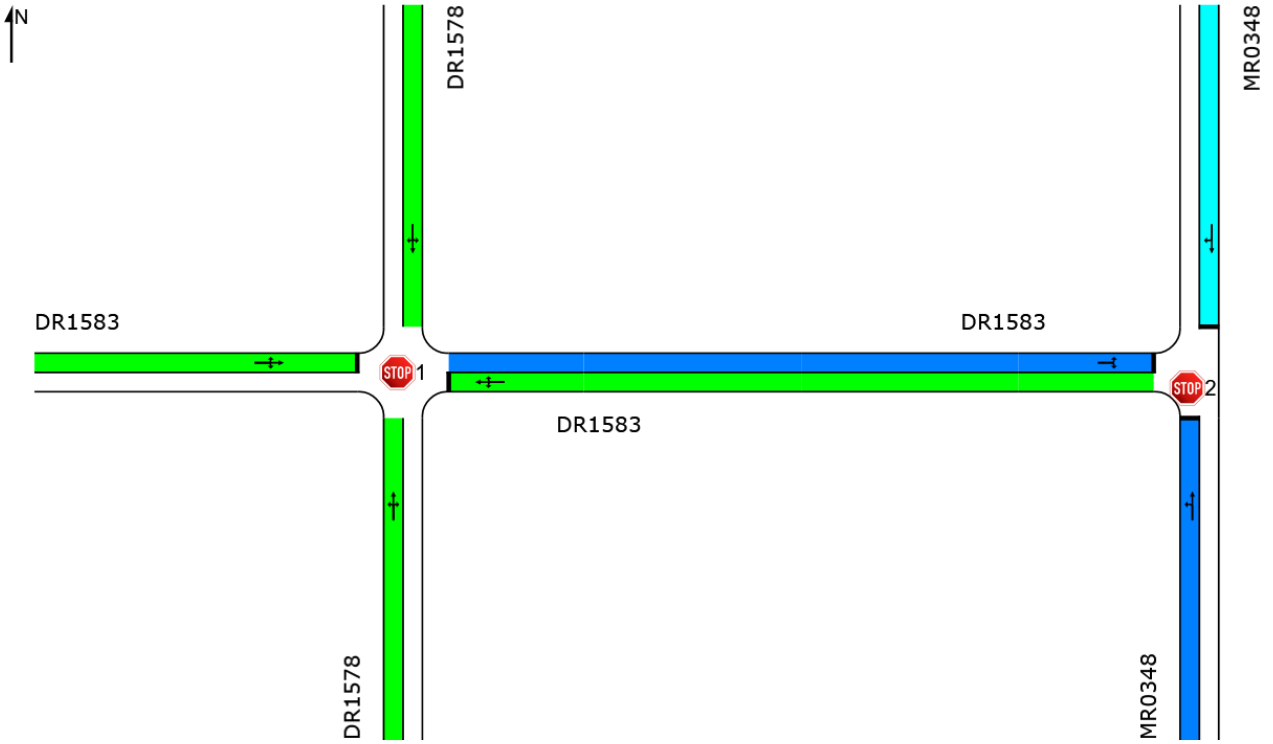
LEVEL OF SERVICE

Lane Level of Service

Network: N101 [AM Status Quo (Network Folder: Status Quo)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Network
Network Category: (None)



Colour code based on Level of Service

LOS A	LOS B	LOS C	LOS D	LOS E	LOS F

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

MOVEMENT SUMMARY

Site: 1 [DR1578/DR1583 2028 AM (Site Folder: Future 2028)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)
Design Life Analysis: Constant Number of Years = 5

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: DR1578															
1	L2	All MCs	2	50,0	2	50,0	0,091	6,1	LOS A	0,2	1,8	0,13	0,19	0,13	53,5
2	T1	All MCs	120	6,4	120	6,4	0,091	0,0	LOS A	0,2	1,8	0,13	0,19	0,13	58,1
3	R2	All MCs	39	3,3	39	3,3	0,091	6,4	LOS A	0,2	1,8	0,13	0,19	0,13	58,4
Approach			161	6,2	161	6,2	0,091	1,6	NA	0,2	1,8	0,13	0,19	0,13	58,2
East: DR1583															
4	L2	All MCs	18	0,0	18	0,0	0,030	8,4	LOS A	0,1	0,7	0,27	0,87	0,27	56,7
5	T1	All MCs	3	0,0	3	0,0	0,030	9,1	LOS A	0,1	0,7	0,27	0,87	0,27	56,7
6	R2	All MCs	9	0,0	9	0,0	0,030	9,3	LOS A	0,1	0,7	0,27	0,87	0,27	56,6
Approach			30	0,0	30	0,0	0,030	8,8	LOS A	0,1	0,7	0,27	0,87	0,27	56,6
North: DR1578															
7	L2	All MCs	10	0,0	10	0,0	0,067	5,5	LOS A	0,0	0,1	0,01	0,06	0,01	59,0
8	T1	All MCs	118	0,0	118	0,0	0,067	0,0	LOS A	0,0	0,1	0,01	0,06	0,01	59,4
9	R2	All MCs	2	0,0	2	0,0	0,067	5,8	LOS A	0,0	0,1	0,01	0,06	0,01	56,7
Approach			130	0,0	130	0,0	0,067	0,5	NA	0,0	0,1	0,01	0,06	0,01	59,3
West: DR1583															
10	L2	All MCs	3	0,0	3	0,0	0,010	8,4	LOS A	0,0	0,3	0,31	0,88	0,31	50,9
11	T1	All MCs	6	0,0	6	0,0	0,010	9,1	LOS A	0,0	0,3	0,31	0,88	0,31	56,7
12	R2	All MCs	1	0,0	1	0,0	0,010	9,3	LOS A	0,0	0,3	0,31	0,88	0,31	50,7
Approach			10	0,0	10	0,0	0,010	8,9	LOS A	0,0	0,3	0,31	0,88	0,31	55,3
All Vehicles			331	3,0	331	3,0	0,091	2,0	NA	0,2	1,8	0,10	0,22	0,10	58,1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 1 [DR1578/DR1583 2028 PM (Site Folder: Future 2028)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: DR1578															
1	L2	All MCs	26	0,0	26	0,0	0,095	5,5	LOS A	0,2	1,7	0,12	0,22	0,12	55,4
2	T1	All MCs	114	9,2	114	9,2	0,095	0,0	LOS A	0,2	1,7	0,12	0,22	0,12	57,7
3	R2	All MCs	30	0,0	30	0,0	0,095	6,5	LOS A	0,2	1,7	0,12	0,22	0,12	58,3
Approach			170	6,2	170	6,2	0,095	2,0	NA	0,2	1,7	0,12	0,22	0,12	57,7
East: DR1583															
4	L2	All MCs	26	0,0	26	0,0	0,036	8,5	LOS A	0,1	0,9	0,27	0,87	0,27	56,7
5	T1	All MCs	5	0,0	5	0,0	0,036	9,2	LOS A	0,1	0,9	0,27	0,87	0,27	56,7
6	R2	All MCs	7	0,0	7	0,0	0,036	9,3	LOS A	0,1	0,9	0,27	0,87	0,27	56,6
Approach			38	0,0	38	0,0	0,036	8,7	LOS A	0,1	0,9	0,27	0,87	0,27	56,6
North: DR1578															
7	L2	All MCs	10	0,0	10	0,0	0,073	5,5	LOS A	0,0	0,3	0,03	0,07	0,03	58,9
8	T1	All MCs	118	8,8	118	8,8	0,073	0,0	LOS A	0,0	0,3	0,03	0,07	0,03	59,2
9	R2	All MCs	5	0,0	5	0,0	0,073	6,3	LOS A	0,0	0,3	0,03	0,07	0,03	56,5
Approach			133	7,8	133	7,8	0,073	0,7	NA	0,0	0,3	0,03	0,07	0,03	59,1
West: DR1583															
10	L2	All MCs	9	12,5	9	12,5	0,109	9,1	LOS A	0,4	2,7	0,39	0,90	0,39	50,0
11	T1	All MCs	3	0,0	3	0,0	0,109	9,3	LOS A	0,4	2,7	0,39	0,90	0,39	56,5
12	R2	All MCs	70	0,0	70	0,0	0,109	9,6	LOS A	0,4	2,7	0,39	0,90	0,39	50,2
Approach			82	1,4	82	1,4	0,109	9,6	LOS A	0,4	2,7	0,39	0,90	0,39	50,8
All Vehicles			423	5,2	423	5,2	0,109	3,6	NA	0,4	2,7	0,15	0,37	0,15	56,7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 2 [DR1583/MR0348 2028 AM (Site Folder: Future 2028)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (All-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: MR0348															
1	L2	All MCs	79	2,9	79	2,9	0,542	20,0	LOS C	2,8	19,7	0,91	1,42	3,06	54,0
2	T1	All MCs	226	2,1	226	2,1	0,542	19,6	LOS C	2,8	19,7	0,91	1,42	3,06	45,0
Approach			305	2,3	305	2,3	0,542	19,7	LOS C	2,8	19,7	0,91	1,42	3,06	49,2
North: MR0348															
8	T1	All MCs	236	1,5	236	1,5	0,461	15,2	LOS C	2,0	14,5	0,82	1,36	2,65	47,5
9	R2	All MCs	90	0,0	90	0,0	0,461	14,8	LOS B	2,0	14,5	0,82	1,36	2,65	55,1
Approach			326	1,1	326	1,1	0,461	15,1	LOS C	2,0	14,5	0,82	1,36	2,65	51,3
West: DR1583															
10	L2	All MCs	99	2,4	99	2,4	0,520	21,9	LOS C	2,6	18,3	0,94	1,38	2,99	53,5
12	R2	All MCs	147	0,0	147	0,0	0,520	21,1	LOS C	2,6	18,3	0,94	1,38	2,99	53,4
Approach			246	0,9	246	0,9	0,520	21,4	LOS C	2,6	18,3	0,94	1,38	2,99	53,5
All Vehicles			877	1,5	877	1,5	0,542	18,5	LOS C	2,8	19,7	0,88	1,38	2,89	51,6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 2 [DR1583/MR0348 2028 PM (Site Folder: Future 2028)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (All-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: MR0348															
1	L2	All MCs	121	1,0	121	1,0	0,543	17,7	LOS C	2,7	19,5	0,87	1,42	3,02	54,6
2	T1	All MCs	242	1,9	242	1,9	0,543	17,5	LOS C	2,7	19,5	0,87	1,42	3,02	46,1
Approach			363	1,6	363	1,6	0,543	17,6	LOS C	2,7	19,5	0,87	1,42	3,02	50,9
North: MR0348															
8	T1	All MCs	232	0,0	232	0,0	0,399	13,1	LOS B	1,6	11,3	0,74	1,33	2,39	48,7
9	R2	All MCs	90	3,7	90	3,7	0,399	13,1	LOS B	1,6	11,3	0,74	1,33	2,39	55,6
Approach			322	1,0	322	1,0	0,399	13,1	LOS B	1,6	11,3	0,74	1,33	2,39	52,2
West: DR1583															
10	L2	All MCs	92	1,3	92	1,3	0,447	21,1	LOS C	2,0	14,4	0,94	1,32	2,72	53,7
12	R2	All MCs	100	1,2	100	1,2	0,447	20,6	LOS C	2,0	14,4	0,94	1,32	2,72	53,6
Approach			192	1,2	192	1,2	0,447	20,8	LOS C	2,0	14,4	0,94	1,32	2,72	53,6
All Vehicles			877	1,3	877	1,3	0,543	16,6	LOS C	2,7	19,5	0,84	1,37	2,73	52,2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

NETWORK SUMMARY

Network: N101 [AM Status Quo (Network Folder: Status Quo)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Network
Network Category: (None)

Network Performance - Hourly Values			
Performance Measure	**Vehicles:**	**All MCs**	**Persons**
Network Level of Service (LOS)		LOS B	
Speed Efficiency		0,86	
Travel Time Index		8,46	
Congestion Coefficient		1,16	
Travel Speed (Average)	km/h	51,7	51,7 km/h
Travel Distance (Total)	veh-km/h	1418,1	1701,7 pers-km/h
Travel Time (Total)	veh-h/h	27,4	32,9 pers-h/h
Desired Speed	km/h	60,0	
Demand Flows (Total for all Sites)	veh/h	1017	1220 pers/h
Arrival Flows (Total for all Sites)	veh/h	1017	1220 pers/h
Demand Flows (Entry Total)	veh/h	781	
Midblock Inflows (Total)	veh/h	170	
Midblock Outflows (Total)	veh/h	-122	
Percent Heavy Vehicles (Demand)	%	1,9	
Percent Heavy Vehicles (Arrival)	%	1,9	
Degree of Saturation		0,468	
Control Delay (Total)	veh-h/h	3,70	4,44 pers-h/h
Control Delay (Average)	sec	13,1	13,1 sec
Control Delay (Worst Lane by MC)	sec	19,5	
Control Delay (Worst Movement by MC)	sec	23,6	23,6 sec
Geometric Delay (Average)	sec	6,2	
Stop-Line Delay (Average)	sec	6,9	
Ave. Que Storage Ratio (Worst Lane)		0,02	
Effective Stops (Total)	veh/h	1065	1278 pers/h
Effective Stop Rate		1,05	1,05
Proportion Queued		0,66	0,66
Performance Index		45,6	45,6
Cost (Total) *	$/h	1252,64	1252,64 $/h
Fuel Consumption (Total)	L/h	112,8	
Fuel Economy	L/100km	8,0	
Carbon Dioxide (Total)	kg/h	266,0	
Hydrocarbons (Total)	kg/h	0,022	
Carbon Monoxide (Total)	kg/h	0,31	
NOx (Total)	kg/h	0,241	

Network Model Variability Index (Average value of largest changes in Lane Degrees of Saturation or Queue Storage Ratios from the third to the last Network Iterations): 0,0 %

Number of Iterations: 5 (Maximum: 30)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0,0% 0,0% 0,0%

Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Standard Left.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Network Performance - Annual Values			
Performance Measure	**Vehicles:**	**All MCs**	**Persons**
Demand Flows (Total for all Sites)	veh/y	488 160	585 792 pers/y
Delay (Total)	veh-h/y	1 776	2 131 pers-h/y
Effective Stops (Total)	veh/y	511 203	613 443 pers/y
Travel Distance (Total)	veh-km/y	680 675	816 811 pers-km/y
Travel Time (Total)	veh-h/y	13 169	15 803 pers-h/y
Cost (Total)	$/y	601 265	601 265 $/y

Fuel Consumption (Total)	L/y	54 121
Carbon Dioxide (Total)	kg/y	127 681
Hydrocarbons (Total)	kg/y	10
Carbon Monoxide (Total)	kg/y	151
NOx (Total)	kg/y	115

1 Hours per Year: 480 (Network)

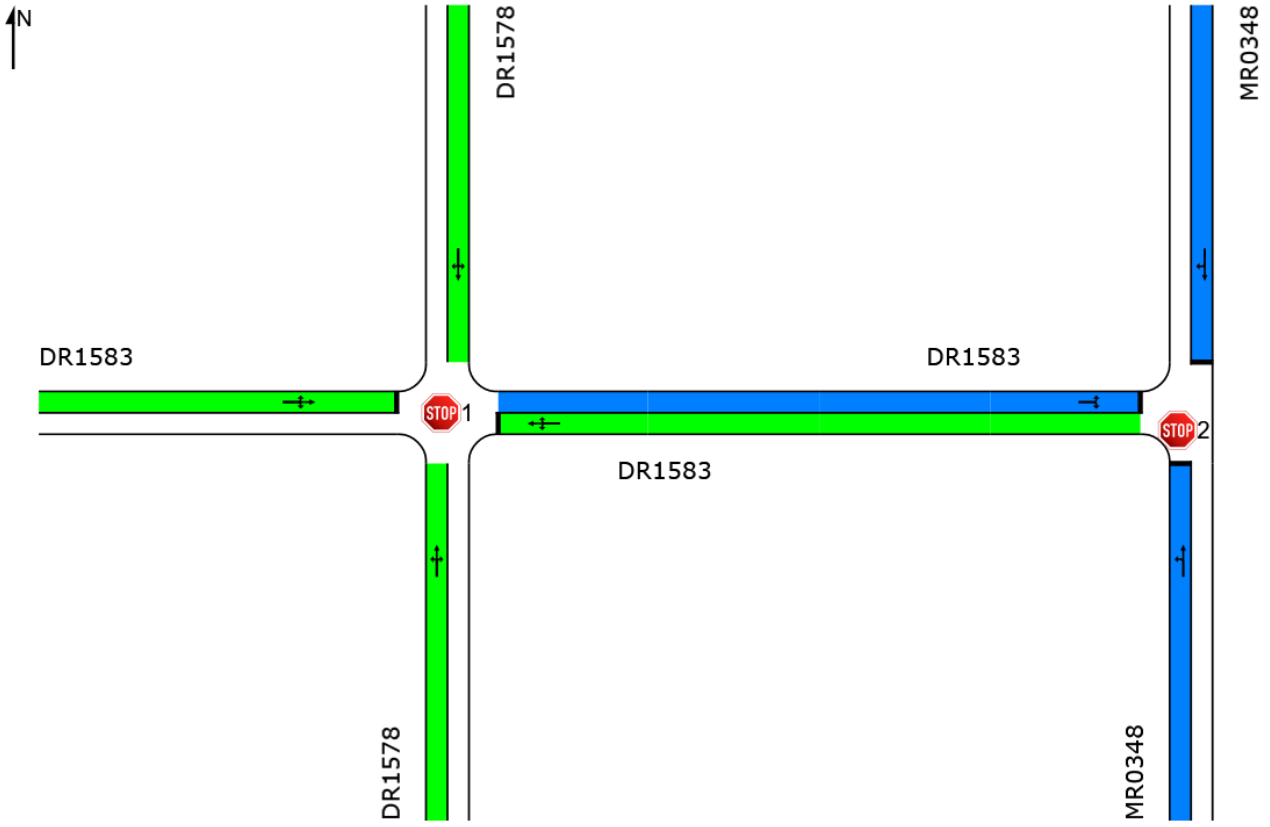
LEVEL OF SERVICE

Lane Level of Service

Network: N101 [2028 AM (Network Folder: 2028)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Network
Network Category: (None)



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

MOVEMENT SUMMARY

Site: 1 [DR1578/DR1583 2028 + Dev AM (Site Folder: Future 2028 + Dev)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)
Design Life Analysis: Constant Number of Years = 5

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: DR1578															
1	L2	All MCs	2	50,0	2	50,0	0,092	6,1	LOS A	0,3	1,9	0,13	0,19	0,13	53,5
2	T1	All MCs	120	6,4	120	6,4	0,092	0,0	LOS A	0,3	1,9	0,13	0,19	0,13	58,1
3	R2	All MCs	40	3,3	40	3,3	0,092	6,4	LOS A	0,3	1,9	0,13	0,19	0,13	58,4
Approach			162	6,2	162	6,2	0,092	1,6	NA	0,3	1,9	0,13	0,19	0,13	58,2
East: DR1583															
4	L2	All MCs	23	0,0	23	0,0	0,035	8,4	LOS A	0,1	0,9	0,27	0,87	0,27	56,7
5	T1	All MCs	3	0,0	3	0,0	0,035	9,1	LOS A	0,1	0,9	0,27	0,87	0,27	56,7
6	R2	All MCs	10	0,0	10	0,0	0,035	9,3	LOS A	0,1	0,9	0,27	0,87	0,27	56,6
Approach			36	0,0	36	0,0	0,035	8,7	LOS A	0,1	0,9	0,27	0,87	0,27	56,6
North: DR1578															
7	L2	All MCs	11	0,0	11	0,0	0,068	5,5	LOS A	0,0	0,1	0,01	0,06	0,01	59,0
8	T1	All MCs	118	0,0	118	0,0	0,068	0,0	LOS A	0,0	0,1	0,01	0,06	0,01	59,4
9	R2	All MCs	2	0,0	2	0,0	0,068	5,8	LOS A	0,0	0,1	0,01	0,06	0,01	56,6
Approach			131	0,0	131	0,0	0,068	0,6	NA	0,0	0,1	0,01	0,06	0,01	59,3
West: DR1583															
10	L2	All MCs	3	0,0	3	0,0	0,010	8,4	LOS A	0,0	0,3	0,31	0,88	0,31	50,9
11	T1	All MCs	6	0,0	6	0,0	0,010	9,1	LOS A	0,0	0,3	0,31	0,88	0,31	56,6
12	R2	All MCs	1	0,0	1	0,0	0,010	9,3	LOS A	0,0	0,3	0,31	0,88	0,31	50,6
Approach			10	0,0	10	0,0	0,010	8,9	LOS A	0,0	0,3	0,31	0,88	0,31	55,3
All Vehicles			340	3,0	340	3,0	0,092	2,2	NA	0,3	1,9	0,11	0,23	0,11	58,0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 1 [DR1578/DR1583 2028 + Dev PM (Site Folder: Future 2028 + Dev)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: DR1578															
1	L2	All MCs	26	0,0	26	0,0	0,098	5,5	LOS A	0,3	1,9	0,13	0,24	0,13	55,3
2	T1	All MCs	114	9,2	114	9,2	0,098	0,0	LOS A	0,3	1,9	0,13	0,24	0,13	57,6
3	R2	All MCs	35	0,0	35	0,0	0,098	6,5	LOS A	0,3	1,9	0,13	0,24	0,13	58,2
Approach			175	6,0	175	6,0	0,098	2,1	NA	0,3	1,9	0,13	0,24	0,13	57,6
East: DR1583															
4	L2	All MCs	27	0,0	27	0,0	0,038	8,5	LOS A	0,1	1,0	0,27	0,87	0,27	56,7
5	T1	All MCs	5	0,0	5	0,0	0,038	9,3	LOS A	0,1	1,0	0,27	0,87	0,27	56,7
6	R2	All MCs	8	0,0	8	0,0	0,038	9,3	LOS A	0,1	1,0	0,27	0,87	0,27	56,6
Approach			40	0,0	40	0,0	0,038	8,7	LOS A	0,1	1,0	0,27	0,87	0,27	56,6
North: DR1578															
7	L2	All MCs	12	0,0	12	0,0	0,074	5,5	LOS A	0,0	0,3	0,03	0,08	0,03	58,9
8	T1	All MCs	118	8,8	118	8,8	0,074	0,0	LOS A	0,0	0,3	0,03	0,08	0,03	59,1
9	R2	All MCs	5	0,0	5	0,0	0,074	6,3	LOS A	0,0	0,3	0,03	0,08	0,03	56,4
Approach			135	7,7	135	7,7	0,074	0,7	NA	0,0	0,3	0,03	0,08	0,03	59,0
West: DR1583															
10	L2	All MCs	9	12,5	9	12,5	0,110	9,1	LOS A	0,4	2,7	0,39	0,91	0,39	50,0
11	T1	All MCs	3	0,0	3	0,0	0,110	9,4	LOS A	0,4	2,7	0,39	0,91	0,39	56,5
12	R2	All MCs	70	0,0	70	0,0	0,110	9,7	LOS A	0,4	2,7	0,39	0,91	0,39	50,2
Approach			82	1,4	82	1,4	0,110	9,6	LOS A	0,4	2,7	0,39	0,91	0,39	50,8
All Vehicles			432	5,1	432	5,1	0,110	3,7	NA	0,4	2,7	0,16	0,37	0,16	56,7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 2 [DR1583/MR0348 2028 + Dev AM (Site Folder: Future 2028 + Dev)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (All-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: MR0348															
1	L2	All MCs	84	2,9	84	2,9	0,568	21,3	LOS C	3,0	21,7	0,93	1,44	3,20	53,7
2	T1	All MCs	226	2,1	226	2,1	0,568	20,9	LOS C	3,0	21,7	0,93	1,44	3,20	44,3
Approach			310	2,3	310	2,3	0,568	21,0	LOS C	3,0	21,7	0,93	1,44	3,20	48,8
North: MR0348															
8	T1	All MCs	236	1,5	236	1,5	0,476	15,6	LOS C	2,2	15,3	0,83	1,37	2,72	47,3
9	R2	All MCs	94	0,0	94	0,0	0,476	15,3	LOS C	2,2	15,3	0,83	1,37	2,72	55,0
Approach			330	1,1	330	1,1	0,476	15,5	LOS C	2,2	15,3	0,83	1,37	2,72	51,2
West: DR1583															
10	L2	All MCs	108	2,4	108	2,4	0,551	22,4	LOS C	2,9	20,4	0,94	1,41	3,13	53,4
12	R2	All MCs	162	0,0	162	0,0	0,551	21,6	LOS C	2,9	20,4	0,94	1,41	3,13	53,3
Approach			270	0,9	270	0,9	0,551	21,9	LOS C	2,9	20,4	0,94	1,41	3,13	53,3
All Vehicles			910	1,4	910	1,4	0,568	19,3	LOS C	3,0	21,7	0,90	1,41	3,00	51,5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

Site: 2 [DR1583/MR0348 2028 + Dev PM (Site Folder: Future 2028 + Dev)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Site
Site Category: (None)
Stop (All-Way)

Vehicle Movement Performance

Mov ID	Turn	Mov Class	Demand Flows [Total veh/h	HV] %	Arrival Flows [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% Back Of Queue [Veh. veh	Dist] m	Prop. Que	Eff. Stop Rate	Aver. No. of Cycles	Aver. Speed km/h
South: MR0348															
1	L2	All MCs	133	1,0	133	1,0	0,568	18,6	LOS C	3,0	21,3	0,88	1,45	3,16	54,4
2	T1	All MCs	242	1,9	242	1,9	0,568	18,3	LOS C	3,0	21,3	0,88	1,45	3,16	45,7
Approach			375	1,6	375	1,6	0,568	18,4	LOS C	3,0	21,3	0,88	1,45	3,16	50,7
North: MR0348															
8	T1	All MCs	232	0,0	232	0,0	0,412	13,2	LOS B	1,7	11,8	0,74	1,34	2,43	48,6
9	R2	All MCs	102	3,7	102	3,7	0,412	13,2	LOS B	1,7	11,8	0,74	1,34	2,43	55,6
Approach			334	1,1	334	1,1	0,412	13,2	LOS B	1,7	11,8	0,74	1,34	2,43	52,4
West: DR1583															
10	L2	All MCs	96	1,3	96	1,3	0,465	21,6	LOS C	2,2	15,3	0,94	1,33	2,78	53,5
12	R2	All MCs	104	1,2	104	1,2	0,465	21,0	LOS C	2,2	15,3	0,94	1,33	2,78	53,5
Approach			200	1,2	200	1,2	0,465	21,3	LOS C	2,2	15,3	0,94	1,33	2,78	53,5
All Vehicles			909	1,3	909	1,3	0,568	17,1	LOS C	3,0	21,3	0,84	1,38	2,81	52,1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

NETWORK SUMMARY

Network: N101 [2028 + Dev AM (Network Folder: 2028 + Dev)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Network
Network Category: (None)

Network Performance - Hourly Values				
Performance Measure	**Vehicles:**	**All MCs**	**Persons**	
Network Level of Service (LOS)		LOS B		
Speed Efficiency		0,84		
Travel Time Index		8,27		
Congestion Coefficient		1,18		
Travel Speed (Average)	km/h	50,7	50,7	km/h
Travel Distance (Total)	veh-km/h	1829,7	2195,7	pers-km/h
Travel Time (Total)	veh-h/h	36,1	43,3	pers-h/h
Desired Speed	km/h	60,0		
Demand Flows (Total for all Sites)	veh/h	1282	1539	pers/h
Arrival Flows (Total for all Sites)	veh/h	1282	1539	pers/h
Demand Flows (Entry Total)	veh/h	963		
Midblock Inflows (Total)	veh/h	231		
Midblock Outflows (Total)	veh/h	-153		
Percent Heavy Vehicles (Demand)	%	1,8		
Percent Heavy Vehicles (Arrival)	%	1,8		
Degree of Saturation		0,598		
Control Delay (Total)	veh-h/h	5,51	6,62	pers-h/h
Control Delay (Average)	sec	15,5	15,5	sec
Control Delay (Worst Lane by MC)	sec	22,8		
Control Delay (Worst Movement by MC)	sec	26,8	26,8	sec
Geometric Delay (Average)	sec	6,3		
Stop-Line Delay (Average)	sec	9,2		
Ave. Que Storage Ratio (Worst Lane)		0,03		
Effective Stops (Total)	veh/h	1441	1729	pers/h
Effective Stop Rate		1,12	1,12	
Proportion Queued		0,70	0,70	
Performance Index		62,6	62,6	
Cost (Total) *	$/h	1642,27	1642,27	$/h
Fuel Consumption (Total)	L/h	146,0		
Fuel Economy	L/100km	8,0		
Carbon Dioxide (Total)	kg/h	344,3		
Hydrocarbons (Total)	kg/h	0,028		
Carbon Monoxide (Total)	kg/h	0,41		
NOx (Total)	kg/h	0,305		

Network Model Variability Index (Average value of largest changes in Lane Degrees of Saturation or Queue Storage Ratios from the third to the last Network Iterations): 0,0 %

Number of Iterations: 5 (Maximum: 30)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0,0% 0,0% 0,0%

Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Standard Left.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Network Performance - Annual Values				
Performance Measure	**Vehicles:**	**All MCs**	**Persons**	
Demand Flows (Total for all Sites)	veh/y	615 411	738 493	pers/y
Delay (Total)	veh-h/y	2 647	3 177	pers-h/y
Effective Stops (Total)	veh/y	691 488	829 786	pers/y
Travel Distance (Total)	veh-km/y	878 262	1 053 915	pers-km/y
Travel Time (Total)	veh-h/y	17 336	20 803	pers-h/y
Cost (Total)	$/y	788 290	788 290	$/y
Fuel Consumption (Total)	L/y	70 064		

Carbon Dioxide (Total)	kg/y	165 265
Hydrocarbons (Total)	kg/y	14
Carbon Monoxide (Total)	kg/y	195
NOx (Total)	kg/y	146

1 Hours per Year: 480 (Network)

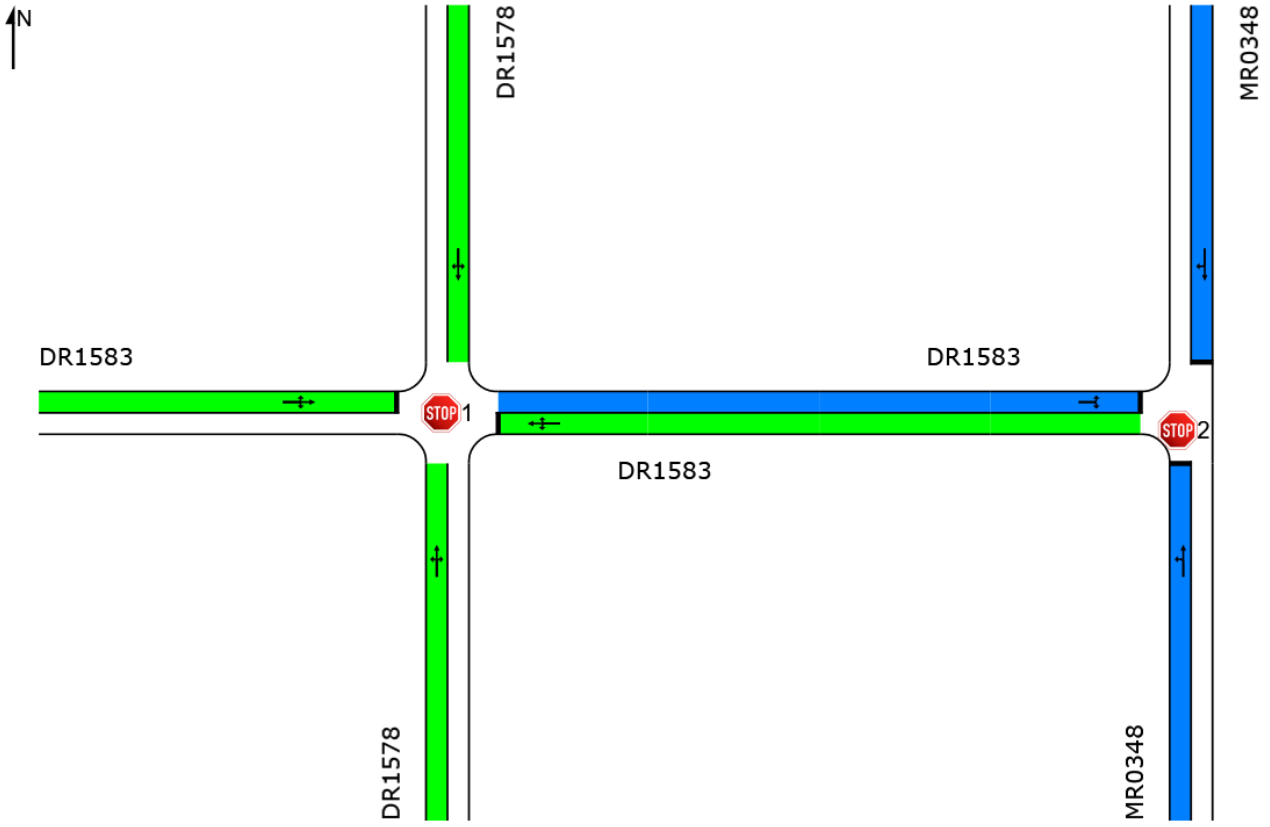
LEVEL OF SERVICE

Lane Level of Service

Network: N101 [2028 + Dev AM (Network Folder: 2028 + Dev)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Network
Network Category: (None)



Colour code based on Level of Service

LOS A | LOS B | LOS C | LOS D | LOS E | LOS F

Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).

Organisation: URBAN ENGINEERING (PTY) LTD | Licence: PLUS / 1PC | Processed: Saturday, 10 June 2023 04:24:45
Project: C:\Users\Frans van Aardt\Urban Engineering (Pty) Ltd\UE - Projects\23-041 Grootbrak Residential\3_Working\SIDRA\Grootbrak.sip9

NETWORK SUMMARY

Network: N101 [2028 AM (Network Folder: 2028)]

Output produced by SIDRA INTERSECTION Version: 9.1.3.210

New Network
Network Category: (None)

Network Performance - Hourly Values			
Performance Measure	**Vehicles:**	**All MCs**	**Persons**
Network Level of Service (LOS)		LOS B	
Speed Efficiency		0,85	
Travel Time Index		8,31	
Congestion Coefficient		1,18	
Travel Speed (Average)	km/h	50,9	50,9 km/h
Travel Distance (Total)	veh-km/h	1727,0	2072,5 pers-km/h
Travel Time (Total)	veh-h/h	34,0	40,7 pers-h/h
Desired Speed	km/h	60,0	
Demand Flows (Total for all Sites)	veh/h	1239	1487 pers/h
Arrival Flows (Total for all Sites)	veh/h	1239	1487 pers/h
Demand Flows (Entry Total)	veh/h	952	
Midblock Inflows (Total)	veh/h	207	
Midblock Outflows (Total)	veh/h	-149	
Percent Heavy Vehicles (Demand)	%	1,9	
Percent Heavy Vehicles (Arrival)	%	1,9	
Degree of Saturation		0,570	
Control Delay (Total)	veh-h/h	5,07	6,08 pers-h/h
Control Delay (Average)	sec	14,7	14,7 sec
Control Delay (Worst Lane by MC)	sec	22,2	
Control Delay (Worst Movement by MC)	sec	26,3	26,3 sec
Geometric Delay (Average)	sec	6,2	
Stop-Line Delay (Average)	sec	8,5	
Ave. Que Storage Ratio (Worst Lane)		0,03	
Effective Stops (Total)	veh/h	1362	1634 pers/h
Effective Stop Rate		1,10	1,10
Proportion Queued		0,69	0,69
Performance Index		58,4	58,4
Cost (Total) *	$/h	1546,75	1546,75 $/h
Fuel Consumption (Total)	L/h	138,2	
Fuel Economy	L/100km	8,0	
Carbon Dioxide (Total)	kg/h	326,0	
Hydrocarbons (Total)	kg/h	0,027	
Carbon Monoxide (Total)	kg/h	0,38	
NOx (Total)	kg/h	0,294	

Network Model Variability Index (Average value of largest changes in Lane Degrees of Saturation or Queue Storage Ratios from the third to the last Network Iterations): 0,0 %

Number of Iterations: 5 (Maximum: 30)

Largest change in Lane Degrees of Saturation or Queue Storage Ratios for the last three Network Iterations: 0,0% 0,0% 0,0%

Network Level of Service (LOS) Method: SIDRA Speed Efficiency.

Software Setup used: Standard Left.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Network Performance - Annual Values			
Performance Measure	**Vehicles:**	**All MCs**	**Persons**
Demand Flows (Total for all Sites)	veh/y	594 695	713 634 pers/y
Delay (Total)	veh-h/y	2 433	2 919 pers-h/y
Effective Stops (Total)	veh/y	653 702	784 442 pers/y
Travel Distance (Total)	veh-km/y	828 983	994 780 pers-km/y
Travel Time (Total)	veh-h/y	16 300	19 560 pers-h/y
Cost (Total)	$/y	742 442	742 442 $/y
Fuel Consumption (Total)	L/y	66 340	

Carbon Dioxide (Total)	kg/y	156 501
Hydrocarbons (Total)	kg/y	13
Carbon Monoxide (Total)	kg/y	184
NOx (Total)	kg/y	141

1 Hours per Year: 480 (Network)

Bylaag “O”: Siviele Diensteverslag

URBAN ENGINEERING CONSULTANTS
CONSULTING CIVIL AND STRUCTURAL ENGINEERS

ENGINEERING SERVICES REPORT

PROPOSED NEW RESIDENTIAL DEVELOPMENT ON ERF 2833, MOSSEL BAY MUNICIPALITY

Report Number 23-041_CES

Date: May 2024 Revision 5

QUALITY ASSURANCE DATA

Report Title:	PROPOSED NEW RESIDENTIAL DEVELOPMENT ON ERF 2833, MOSSEL BAY MUNICIPALITY
Client:	New Cape Innovations (Pty) Ltd
Report Number:	23-041_CES
Revision Number	Revision 5

Revision History

Date	Rev	Written By	Issued to		Distribution	Format
			Name	Institution		
June 2023	Rev 0	Corlia Rens	Morne Ungerer	New Cape Innovations (Pty) Ltd	Email	.pdf
August 2023	Rev 1	Corlia Rens	Joe Bezuidenhout	New Cape Innovations (Pty) Ltd	Email	.pdf
October 2023	Rev 2	Frans van Aardt	Joe Bezuidenhout	New Cape Innovations (Pty) Ltd	Email	.pdf
			Mariska Nicholson	Cape EAPrac	Email	.pdf
January 2024	Rev 3	Frans van Aardt	Joe Bezuidenhout	New Cape Innovations (Pty) Ltd	Email	.pdf
			Mariska Nicholson	Cape EAPrac	Email	.pdf
			Jan Vrolijk	Jan Vrolijk Town Planners	Email	.pdf
April 2024	Rev 4	Frans van Aardt	Joe Bezuidenhout	New Cape Innovations (Pty) Ltd	Email	.pdf
			Mariska Nicholson	Cape EAPrac	Email	.pdf
			Jan Vrolijk	Jan Vrolijk Town Planners	Email	.pdf
May 2024	Rev 5	Frans van Aardt	Joe Bezuidenhout	New Cape Innovations (Pty) Ltd	Email	.pdf
			Fred Wait	Fred Wait Consulting Engineers	Email	.pdf
			Mariska Nicholson	Cape EAPrac	Email	.pdf
			Jan Vrolijk	Jan Vrolijk Town Planners	Email	.pdf

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Frans v Aardt
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Frans van Aardt (B.Ing, M.Ing, Pr. Eng)
on behalf of Urban Engineering (Pty) Ltd

TABLE OF CONTENTS

LIST OF ANNEXURES

ANNEXURE A – SITE DEVELOPMENT PLANS
ANNEXURE B – INFORMATION RECEIVED FROM MOSSEL BAY MUNICIPALITY
ANNEXURE C - INFORMATION RECEIVED FROM GLS CONSULTING
ANNEXURE D – RATIONAL METHOD
ANNEXURE E– CONCEPTUAL LAYOUTS

LIST OF FIGURES

LIST OF TABLES

LIST OF TYPICAL ABBREVIATIONS

msl	Mean Sea Level
WCG	Western Cape Government
WGS	World Geodetic System
HDPE	High Density Polyethylene
uPVC	Unplasticised Polyvinyl Chloride
SDP	Site Development Plan
Mℓ	Mega Litre (1,000,000 litres)
NPDG	The Neighbourhood Planning and Design Guide
FAR	Floor Area Ratio

1 INTRODUCTION

Urban Engineering (Pty) Ltd was appointed by New Cape Innovations (Pty) Ltd to prepare a Civil Engineering Services Report pertaining to the proposed development of Erf 2833, Mossel Bay.

1.1 OBJECTIVE OF THIS REPORT

The purpose of this report is to determine the demand that the new proposed development will place on the existing municipal water, sewer and other services.

1.2 BACKGROUND

The site is currently zoned as Agricultural Zone I. The planning application proposal is to rezone and subdivide the erf for residential erven.

The Site Development Plan has been attached as **ANNEXURE A**, but for ease of reference an extract of the SDP has been included as **Figure 1-1** below.

Figure 1-1: Extract of Site Development Plan

1.3 DESCRIPTION OF THE DEVELOPMENT

Erf 2833 is approximately 6.04 ha in extend and the proposed development will consist of forty-one (41) General Residential Housing units, including utility zones, internal roads and open spaces. The total size of the residential erven equals 1.11ha, which translates to 19% of the site as a whole.

1.4 SITE DESCRIPTION

The approximate site centre has WGS 84 coordinates of 34° 3' 18" S and 22° 12' 11" E. The site is located north of Sandhoogte Road, Groot Brak River. The site currently consists of a single erf, is completely undeveloped and is predominantly bordered by undeveloped land. The site is currently covered with grasslands and large trees.

Figure 1-2: Locality Plan for Erf 2833, Groot Brak River

The typical soil classifications found in the vicinity of the proposed development are extracted from the BGIS Land Use Decision (LUDS) Tool:

- Soils with a marked clay accumulation, strongly structures with a reddish colour. They may occur associated with one or more of vertic, melanic and plinthic soils, and
- Greyish, sandy soils

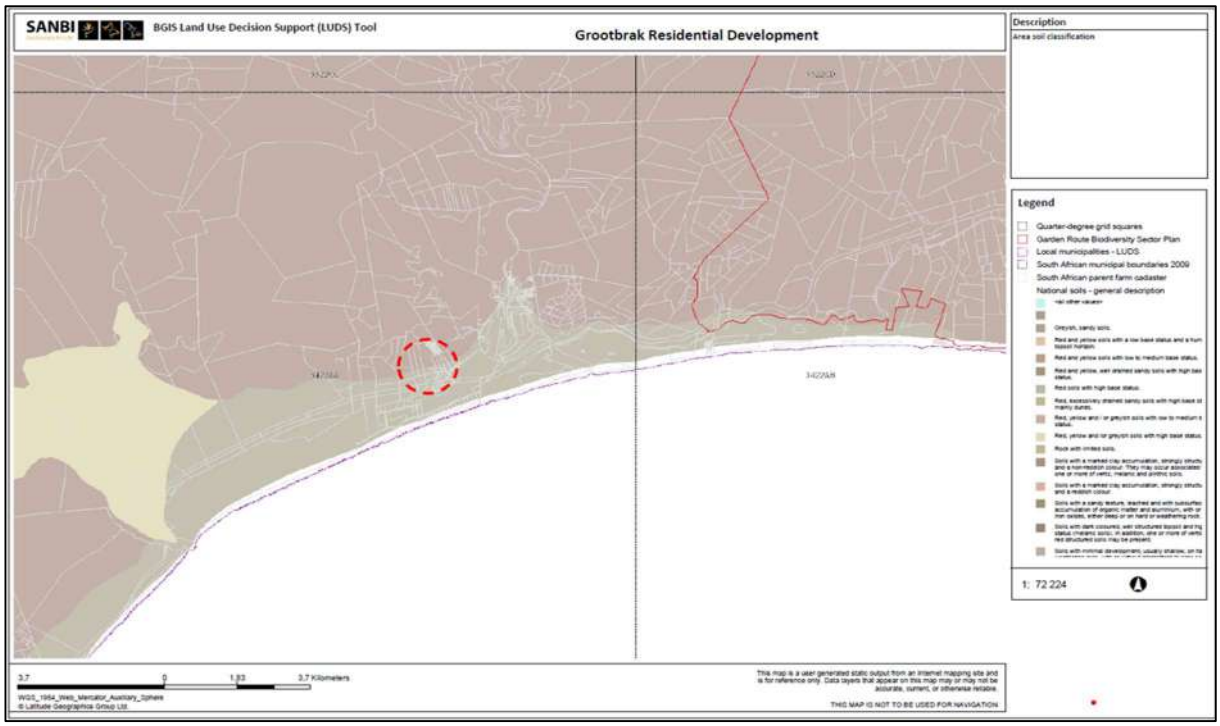


Figure 1-3: Typical Soil Classification (LUDS) Tool

This is a general soil classification map of Southern Africa, and only serves as an indication of the typical soil in the area.

The topography across the site is very steep, varying from approximately 1:6.5 (15%) to 1:2 (50%).

Figure 1-4: Local Topography of Erf 2833, Groot Brak River

2 EXISTING BULK SERVICES

Mossel Bay Municipality provided information pertaining to the existing bulk services in close proximity to the site. The information has been attached as **ANNEXURE B** to this report**.**

3 WATER

NOTE: Information pertaining to the water distribution system (Section 3 of this report) was copied directly from the report "**DEVELOPMENT ON ERF 2833, MOSSEL BAY: CAPACITY ANALYSIS OF THE BULK MUNICIPAL WATER SERVICES**" (dated 12 January 2024) prepared by GLS Consulting (Pty) Ltd. The full report has been attached as **ANNEXURE C** for ease of reference. It is important to note that the GLS report was based on 43 Residential Units, but subsequent revisions to the SDP reduced the development to 41 Residential units.

3.1 DISTRIBUTION ZONE

The proposed development is located on Erf 2833 in Great Brak. It is proposed that the development will be supplied from the Sandhoogte Water Treatment Plant (WTP) zone, with reservoir Top Water Level (TWL) = 150,3 m and a capacity of 9 200 kL (8 000 kL – Sandhoogte WTP to Great Brak & 1 200 kL – Sandhoogte WTP to Mossel Bay).

The development is situated inside the water priority area.

3.2 WATER DEMAND

No allowance was made in the original master planning for future development on Erf 2833 in the original water analysis. For this re-analysis of the water master plan, the total annual average daily demand (AADD) for the proposed development was calculated as follows:

- 43 Group/Cluster housing (Low Density) @ 0,5 kL/d/unit = 22,5 kL/d(1)
- Fire flow criteria (Medium Risk) – for Group/Cluster Housing = 25 L/s @ 10 m
- Fire flow criteria (Low Risk) - for Residential Stand 33 = 15 L/s @ 10 m

As per Table J.2 from Section J - Water Supply of "The Neighbourhood Planning and Design Guide" (so called "Red book").

The AADD for the existing stands (fully occupied) as well as the proposed development in the Sandhoogte WTP reservoir zone was calculated as follows:

• Sandhoogte WTP zone fully occupied (Great Brak)		=	1 040 kL/d
• Sandhoogte WTP zone fully occupied (Mossel Bay)		=	2 167 kL/d
• Proposed development		=	23 kL/d
	Total	=	3 230 kL/d

3.3 PRESENT SITUATION

3.3.1 RETICULATION NETWORK

The existing water reticulation network of the Sandhoogte WTP zone has sufficient capacity to accommodate the proposed development on Erf 2833.

The following link services items will however be required to connect the development to the existing 200 mm Ø pipe in Sandhoogte Road, and to manage high static pressure at the lower lying erven of the development:

Link service:

- Item 1: 300 m x 110 mm Ø new supple pipe R 262 000 *
- Item 2: PRV to manage high water pressures R 174 000 *

Total R 436 000 *

* Including P & G , Contingencies and Fees, but excluding VAT – Year 2023/24 Rand Value. (This is a rough estimate, which does not include major unforeseen costs).

The route for the proposed pipeline and position of the proposed PRV are schematically shown on Figure 1 (**ANNEXURE C**) but must be finalised after a detailed pipeline route and PRV position investigation.

3.3.2 RESERVOIR CAPACITY

The criteria for total reservoir volume used in the Mossel Bay Water Master Plan is 48 hours of the AADD (of the reservoir supply zone) for gravity and pumped supply to the reservoir.

According to the water master plan the fully occupied AADD of the Sandhoogte WTP distribution zone is currently approximately 3 230 kL/d. The current storage capacity of the existing Sandhoogte WTP reservoirs is 9 200 kL, which results in a current storage capacity of 68 hours of the AADD.

There is sufficient capacity in the existing Sandhoogte WTP reservoirs to accommodate the proposed development.

3.3.3 ADDITIONAL RESERVOIR CAPACITY FOR FIRE FIGHTING

According to “The Neighbourhood Planning and Design Guide” (so called “Red book”) it is not required to have additional reservoir capacity for typical firefighting volumes. In some cases where water is supplied by e.g. an elevated tank, additional storage is required.

It is proposed that no additional reservoir storage capacity is required for typical firefighting volumes on Erf 2833 in Great Brak.

There is sufficient capacity in the Sandhoogte WTP reservoirs to accommodate the duration of the design fire flow on Erf 2833.

3.4 CONCLUSION

The developer of Erf 2833 in Great Brak will be liable for the payment of a Development Contribution (as calculated by the Mossel Bay Municipality) for bulk water infrastructure as per Council Policy.

There is sufficient capacity in the existing water reticulation system to accommodate the proposed development.

The minimum requirements to accommodate the proposed development on Erf 2833 in the existing water system is the implementation of link service items 1 & 2 to connect to the existing water system and to regulate hight static water pressures, as shown on Figure 1 **(ANNEXURE C)**.

3.5 DESIGN PARAMETERS

The following specifications shall be applicable:

3.5.1 VALVES

- All valves shall be in accordance with SABS 1200 I SABS 664/1974 and approved by the relevant Department Head.
- All valves to be in accordance with SABS 1200, SABS 664/1974 and approved by the relevant department head.
- Valves to be approved and to exceed the specification of AVK resilient seal type.
- Valves shall be clockwise opening or anti-clockwise closing.
- Direction of opening to be clearly marked on valve body or spindle cap.
- All valves shall heavy duty, class 16 with non-rising spindle
- All valves shall be fitted with cast iron caps, secured with retaining bolts.
- All valves Belltobies shall be polymer concrete as per AV Moulding, concrete, recycled plastic or cast iron, depending on area and relevant condition.
- Only valves supplied with a minimum thickness of 225-micron Copon EP 2300 epoxy paint applied to all surfaces after it has been thoroughly cleaned by grit blasting to SA 1/2 finishes in compliance with the requirements of SIS 05 09 00 or valves with similar approved coatings, will be acceptable.

3.5.2 FIRE HYDRANTS

- All fire hydrants shall be in accordance with SANS 1200, comply with the Local Fire Department Standard Regulations and approved by the relevant department head.
- All fire hydrants shall be 110mm diameter (internal) and left hand closing.
- Outlets shall be London Round Thread with cast iron caps and securing chain.
- Hydrant covers shall be polymer concrete as per MV Moulding, concrete recycled plastic or cast iron, depending on area and relevant conditions.
- Hydrant covers shall be painted with a minimum of two coats oil paint, “Yellow”.

3.5.3 WATER SAVING

The development is in a water scarce area and the following general water saving practices are proposed:

- Dual flush toilets.
- Low flow (less than 7l/min) shower heads which make use of either aerators or pulse systems to reduce the flow without compromising the quality of the shower.
- Low flow (less than 10l/min) faucets in the bathrooms.
- Rainwater tanks – all houses should be fitted with rainwater collection tanks for irrigation and washing of vehicles.
- Geyser and pipe insulation. Homeowners must be required to install geyser and pipe insulation. This must be included in their building guidelines.

4 SEWAGE

Based on the information received for the existing sewage infrastructure (refer to **ANNEXURE B**), the proposed development falls within the Groot Brak Wastewater Treatment Works drainage area.

4.1 STATUS QUO

There is no existing sewer gravity main at the south of the proposed development. There is an existing 160mm diameter uPVC sewer gravity main approximately 300m from the proposed development, running parallel to Sandhoogte Road, conveying sewage to the Long Street sewage pump station in Groot Brak. It is then pumped via a rising main parallel to Sandhoogte Road to Wastewater Treatment Works to the East of the proposed development.

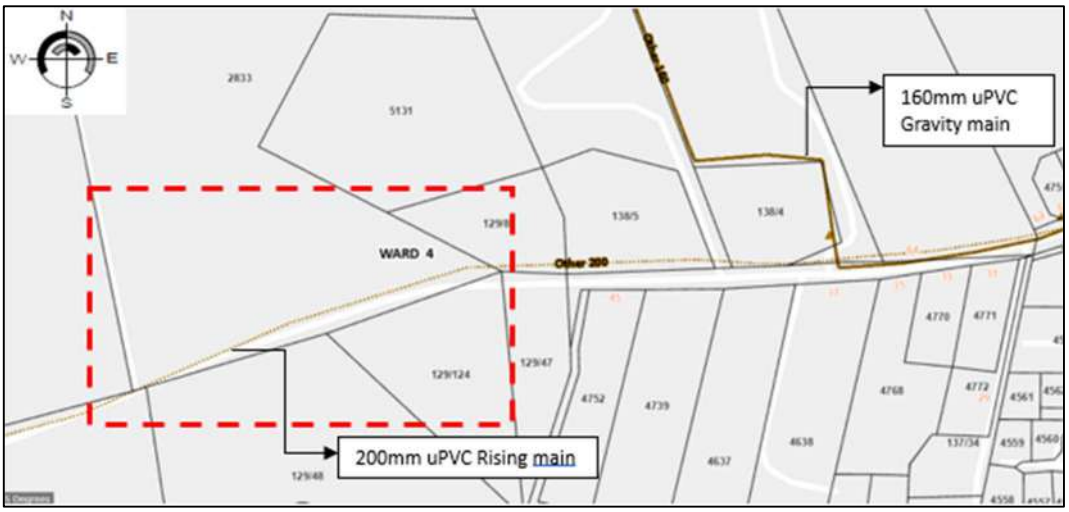


Figure 4-1: Existing sewage infrastructure

Due to the topography of the proposed development and the anticipated invert levels of the Municipal infrastructure, it is envisaged that the reticulation for the development be connected to the existing sewer gravity main discussed above. However, during discussions with officials from Mossel Bay Municipality officials, it became evident that the Long Street pump station is not operating at acceptable level of service. This is due to various reasons including lack of capacity and problems during load shedding. It became evident that no further development in the Mid-Brak area will be allowed before the pump station issue has been resolved.

It was therefore decided to install a conservancy tank on the site. Sewer from the development will gravity feed into the tank. When the tank is full, the sewer it will be pumped out by vacuum truck (Honey Sucker) and delivered to the Sewer Treatment Plant west of the DR1578.

The conservancy tank will be positioned on erf 5 (Utility Zone). Ideally the tank should be placed on the lowest point of the site (previous revision of the SDP had the tank on the border close to erf 12), but complaints received from neighbors during public participation stage necessitated that the tank be moved towards the middle of the site. It is envisaged that once the problems with the Long Street pump station have been resolved, the tank will become obsolete, and sewer will be gravity fed via a future connection to the Municipal gravity sewer line.

The proposed development area will generate a design peak flow as detailed in the following sections.

4.2 DEMAND CALCULATIONS

*(Once again demands are based on the GLS Report in **ANNEXURE C**, which was centered around 43 residential units and not the current reduced development consisting of only 41 units).*

In accordance with the *Neighborhood Planning and Design Guide*, the following:

1. From **Table K.4**:
    - Sewage flow is estimated to be 90% of the Average Annual Daily Demand (AADD) (As calculated in Section 3 of this report)
    - Average Dry Weather Flow (ADWF) = 90% x 22,5kℓ/day = 20.25kℓ/day

Land use		Density #1 units/ha	Stand size #2 m²	Unit of measure	Water demand (AADD)		Sewer flow (excl. infiltration) (Unit PDDWF) #4		
					kL/ ha/d	kL/ unit/d #3	% AADD	kL/ unit/d #3	Unit Hydro-graph (UH)
Group/ cluster housing	High density	60 to 40	130 to 200	kL/unit	21	0.40 to 0.45	95% to 90%	0.38 to 0.41	UH5
	Medium density	40 to 30	200 to 270	kL/unit	17	0.45 to 0.50	90% to 85%	0.41 to 0.43	UH5
	Low density	30 to 20	270 to 400	kL/unit	14	0.50 to 0.60	85% to 80%	0.43 to 0.48	UH5

Table 4-1: Recommended Sewage Flow

2. From **Table K.8**:
    - Peak factor = 2.5 (Residential)
    - Peak Dry Weather Flow (PDWF) = 20.25 x 2.5 = 50,625kℓ/day

Land use	Peak factor
Residential – see Figure K.16	1.8 to 2.5
Business/commercial	1.3 to 1.5
Industrial – light	2.5 to 4.0
Industrial – heavy	2.0 to 3.0
Clinics, restaurants, laundromats and hotels	1.8 to 2.5

Table 4-2: Recommended Peak Factor

3. Add 15% infiltration to make provision for stormwater ingress into the sewage system:
    - Peak Wet Weather Flow (PWWF) = 1.15 x 50,6 = 58.21kℓ/day = 0.659ℓ/s

4.3 PROPOSED RETICULATION

A minimum pipe size of 160mm diameter is proposed for the gravity main for the new development to accommodate the anticipated sewage flows that will be generated, with 110mm diameter connections from the erven:

- The total estimated sewage flow for the proposed development is 0.659ℓ/s.
- As per the *Neighborhood Planning and Design Guide*, the optimum flow velocity is between 0.6 – 2.5m/s. The maximum velocity of 4m/s is acceptable for short pipe lengths.

- For the estimated flow of 0.659ℓ/s, at a flow velocity of 1.5m/s, a minimum diameter of 75mm is required. However, the minimum pipe diameter for sewer pipes is 160mm by industry guidelines.
- Assuming the conservancy tank will only be pumped out every 7 days, the size of the tank can be calculated as follows:

  Required Tank Capacity = 7 days x ADWF = 7 x 20.25kℓ/day = 141.75 kℓ
  Tank dimensions required = 5m x 10m x 3m deep

4.4 DESIGN PARAMETERS AND STANDARDS

The following design criteria must be followed:

- Pipe diameter: uPVC Class 34, SANS 791, 160mm diameter solid wall for main lines and 110mm diameter solid wall for individual unit connections.
- Mossel Bay Municipality's Standard Details shall be used.
- A minimum self-cleansing velocity of 0,7m/s.
- A maximum velocity of 3.5m/s to prevent segregation of solid and liquids.
- All design slopes of gravity mains must be in line with applicable design standards.
- Prefabricated fibre cement shafts or concrete manhole rings to be used for concrete manholes where required.
- Manhole covers to be Polymer concrete or similar approved.

5 STORMWATER

5.1 INTRODUCTION

The proposed development makes provision for a total of 41 residential units, comprising a mixture of 2-and 3 bedroom units (refer to **ANNEXURE A** for typical unit layouts). The two-bedroom unit has a floor area (including garage and covered patio) of approximately 141m^2 while the three bedroom unit has a footprint of approximately 163m^2.Assuming that each unit includes a further 47m^2 of paving (driveways and back of house areas) it can be argued that for a worst-case scenario, the total impervious area can be calculated as follows:

- 41 x 210m^2 = 8,610m^2 of hard surfacing, paving, roofs etc. (limited to inside of erven)

The total length of roads within the proposed development is equal to 700m. It is important to note that the 305m long servitude road is existing and already surfaced with interlocking paving blocks. There are therefore only 395m of new surfaced roads that need to be built as part of this development. Assuming (worst case scenario) that all the new roads will consist of a 6m wide surfaced area, the total area of new road surfaces can be calculated as follows:

- 395m x 6m = 2,370m^2

From the above it follows that the total proposed development has the potential to create 10,980m^2 of new impervious area. Since the size of Erf 2833 is approximately 60,400m^2 in extend, it follows that only roughly 18.2% of the erf will be hardened as a result of the proposed development.

5.2 STATUS QUO

The site generally drains towards an existing drainage line running from the northeastern corner towards the southwestern corner. (refer to the flow line analysis included as Figure 5-1.)

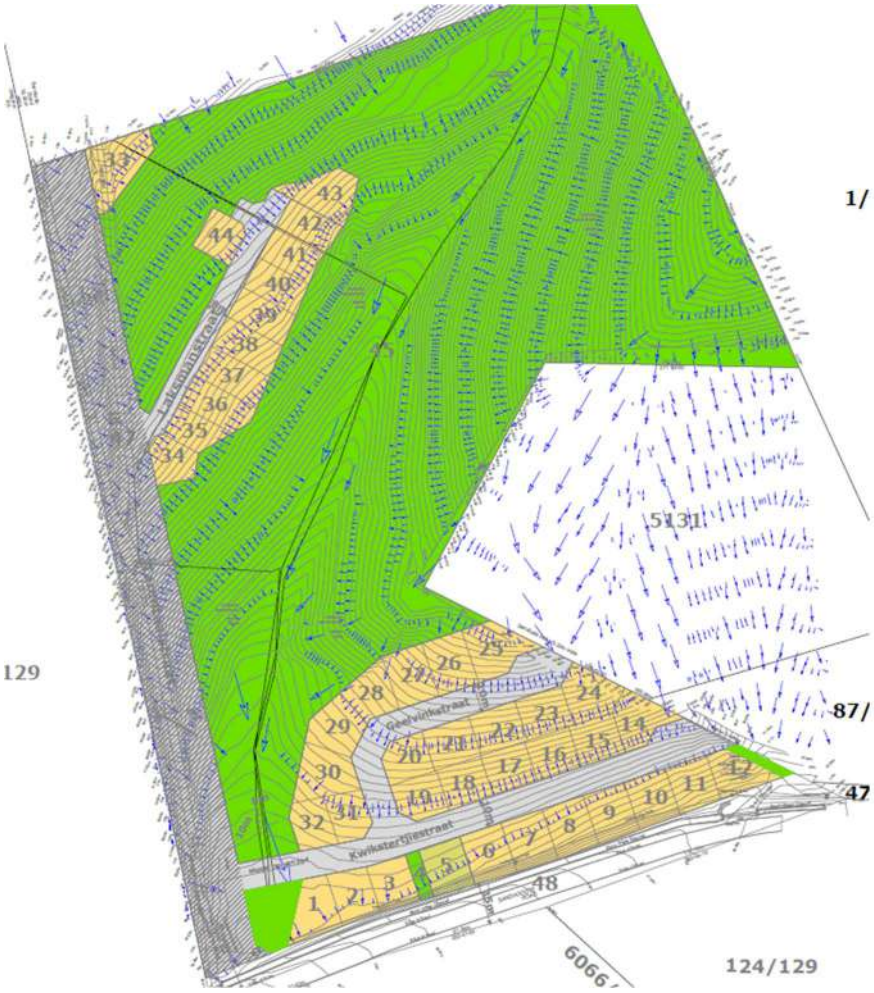


Figure 5-1 - Current Flow Line Analyses

From the lowest point, water drains overland towards an existing stormwater trapezoidal channel running parallel along the northern edge of Sandhoogte Road.

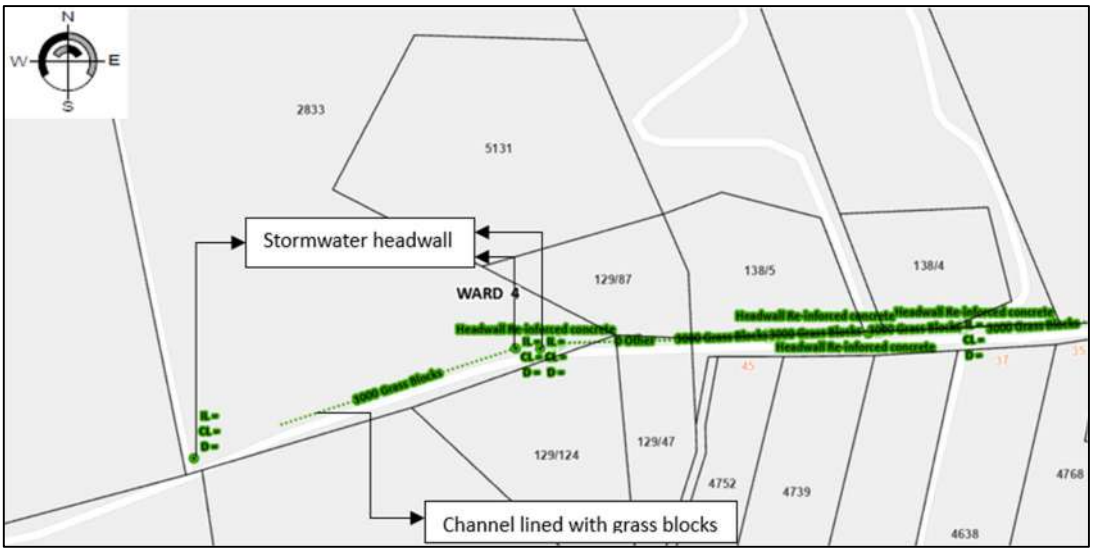


Figure 5-2: Existing stormwater infrastructure

5.3 PROPOSED STORMWATER MANAGEMENT

Due to the large undeveloped areas, ideal site topography and environmental benefits, it is proposed that the stormwater generated by the proposed development be managed by a Sustainable Urban Drainage System (SUDS) approach. The principle of the SUDS approach is to mimic natural hydrological cycles, which prevents erosion of natural channels, siltation of water bodies and pollution, reducing environmental degradation.

SUDS embraces several options that are arranged in treatment trains, which helps to improve the efficiency and the resiliency of the system. There are three stages in the treatment train, each having slightly different combinations of SUDS options to control the stormwater:

1. ”Source Controls” manage stormwater runoff as close to its source as possible, typically on site. Typical SUDS options include green roofs, rainwater harvesting, permeable pavements and soak-aways.
2. ”Local Controls” manage stormwater runoff in the local area, typically within the road reserves. Typical SUDS options include bio-retention areas, filter strips, infiltration trenches, sand filters and swales.
3. ”Regional Controls” manage the combined stormwater runoff from several developments. Typical SUDS options include constructed wetlands, detention and retention ponds.

The following approach to stormwater management for the proposed development is therefore proposed:

1. “Source Controls” - Reduce runoff by means of rainwater harvesting tanks which collect and store water from building roofs. Emergency overflows will be included in the design to allow controlled discharge of water during major storms. Harvested water can be used for general purposes such as irrigation of landscaped gardens as well as washing and general maintenance of facilities. Harvested water can also be used as part of a dual plumbing system in the water borne Sewer Reticulation Network, greatly reducing the development’s potable water demand.
2. “Local controls” – Divert excess water toward the existing grass lined stormwater channel currently situated on the erf. If required, the capacity of the channel can be increased by improving the permeability of the channel. Creation of natural cavities or area of increased permeability created along the drainage channel flow line, will help reduce speeds and improve soil infiltration
3. Reducing the hardened surface area of the development to a maximum of 60% will ensure that the post-development runoff generated is limited and that it can be discharged overland to the natural surroundings without causing erosion and damaging the natural environment. In the case of the proposed development, hardened areas comprise only approximately 18% of the total area of the erf.

5.3.1 PEAK FLOW CALCULATION

The Rational Method was used to determine a high-level estimate of the expected stormwater run-off for minor (1:5 Year) and major (1:50 Year) storms for the expected catchment area. The Rational Method is sufficient for calculating the runoff, as the catchment area is smaller than 15km².

1. The run-off factors were determined for the pre- and the post-development of the catchment area, by taking into consideration the size, slope and land surface coverage of the catchment areas.

2. The peak run-off was determined by taking into account the run-off factor, the Mean Annual Precipitation of Mossel Bay, the time of concentration of the catchment area, the return period, and the rainfall intensity expected.

The catchment area was delineated manually using Google Earth imagery and levels. The pre- and post-development runoffs were calculated manually using the following parameters:

	Pre-development	Post-development
MAP	420mm	420mm
Total Catchment Area	60,400m^2	60,400m^2
Total watercourse length	0,365km	0.388km
Time of Concentration	24.5min	25.6min
Run-off Coefficient	0.354	0.123

Table 5-1 - Rational Method Parameters

The detailed rational method calculation has been attached as **ANNEXURE D**, but for ease of reference the pre- and post-development peak flows have been summarized in Table 5-2 below.

Return Period	Pre-Development	Post Development
$Q_{1:2}$	0,0693	0,064
$Q_{1:5}$	0,1003	0,089
$Q_{1:10}$	0,1348	0,117
$Q_{1:20}$	0,1853	0,152
$Q_{1:50}$	0,3021	0,212
$Q_{1:100}$	0,4482	0,274
$Q_{1:200}$	0,5518	0,338

Table 5-2 - Summary of Pre- and Post Development Peak Flow

5.4 DESIGN PARAMETERS AND STANDARDS

The following design criteria must be followed:

- Minor system: 5 Year return period.
- Major system: 20 Year return period.
- The minimum gradient for pipelines (if required) will give a minimum velocity of 0.7m/s. with the pipe flowing full.
- The maximum velocity used is 3.5m/s.
- Minimum pipe diameter is 450mm.
- Pipes to be reinforced concrete Class 100D spigot and socket pipes.

6 ROADS

6.1 STATUS QUO

The condition of the roads surrounding the proposed development is based on a visual desktop inspection:

- Sandhoogte Road runs along the southern boundary of Erf 2833 and the condition of the road can be classified as good.
- There is a 3m wide existing paved road in the right of way running along the western boundary of Erf 2833. The condition of the access road can be classified as good.

6.2 PROPOSED ACCESS

The development accessed from the existing servitude road perpendicular to Sandhoogte Road, running along the western boundary of Erf 2833. Alterations or widening of the road may be required.

A detailed Traffic Impact Assessment (Report 23-041_TIA) was prepared by Urban Engineering and can be referenced for more detail.

Access approval from the Municipal Road Authority will be required. The accesses will need to be constructed to a standard which allows for safe entry and exit of refuse removal trucks and Firefighting trucks to the site.

6.3 DESIGN PARAMETERS AND STANDARDS

The standard of roads to be provided are as follows:

- Where the road reserve is 8m, the access road within the development is proposed to be 5m wide, and 6m wide where the road reserve is 10m.
- The type of road surface to be discussed and agreed with the client.
- Sub-base and base materials to be imported.
- Sub-surface drainage, where applicable, will be installed.
- Barrier kerbs to be installed on bellmouths.
- Mountable kerbs and channels to be installed on the road edge, depending on the cross-fall of the road.

7 SOLID WASTE MANAGEMENT

The existing Municipal dump will be used for solid waste disposal. Removal of waste and management thereof will be handled by Mossel Bay Municipality as per the Services Agreement between the Mossel Bay Municipality and the Developer.

Refuse removal will be dealt with once a week as applicable to all the current residential areas in the Mossel Bay Municipal Area. As per the Municipal by-laws, the Mossel Bay Municipality may require the developer to install a refuse receptacle on the property, which will be located adjacent to a public street or in a position that will provide sufficient access to the refuse collection vehicle. The receptacle will also have to comply with other standard conditions or requirements that the Municipality may impose relating to the access, health, pollution control, recycling, safety or aesthetics thereof.

Solid waste for residential units is based on an estimated 0.85 kg/person/day (as per the *Neighborhood Planning and Design Guide*), with the assumption that the average household in the development will comprise of four persons.

1. Annual waste generation per household = 0.85 x 4 x 365 = 1241kg/household/annum = 1.241 tonnes/household/annum
2. Annual waste generation for the proposed development (41 residential units) = 1.241 x 41 = 50.881 tonnes/annum
3. Total volume waste generated for the proposed development (Assumption made based on average composition of municipal waste) = 50.881 x 0.75 = 38.16m^3/annum

8 FLOOD LINES

This proposed development is not directly affected by flood lines.

9 DEVELOPMENT CONDITIONS AND LAND REHABILITATION

The general terrain and the underlying geology of this site appears to be suitable for housing development. A specialist Geotechnical Investigation will need to be completed to confirm the suitability of the site.

10 AVAILABILITY OF SERVICES AND DEVELOPMENT CONTRIBUTIONS

Capital Contributions are the tariffs payable in respect of the water, electricity, sewerage, roads and solid waste removal infrastructure of the Municipality, relating to the capital and replacement costs and associated interest charges in respect thereof. The development costs for these capital contributions are to be determined by the Directors: Electrotechnical Services, Civil Engineering Services and Community Services in accordance with standard formulas & applicable road model.

11 CONCLUSION AND RECOMMENDATIONS

The purpose of this report is to assess the existing municipal engineering services and the extent thereof that will be affected by the proposed residential development in Groot Brak. The impact of the proposed development is summarised below:

SUMMARY OF IMPACT	VALUE
DOMESTIC WATER DEMAND (AADD) (From GLS Report for 43 units)	22,5kℓ/day
SEWERAGE DAILY DRY WEATHER FLOW (ADDWF)	20.25kℓ/day
SEWERAGE PEAK DAILY DRY WEATHER FLOW (PDDWF)	50.62kℓ/day
SEWERAGE PEAK DAILY WET WEATHER FLOW (PDWWF)	58.21kℓ/day
SOLID WASTE GENERATED	50.8 tonnes/annum

Table 11-1: Summary of proposed development's impact

Existing civil services near the proposed development were identified by the Mossel Bay Municipality from their GIS database, and the following preliminary proposals were made regarding the required services and feasible connection points to the existing infrastructure:

WATER

Based on the investigation done by GLS Consulting (**ANNEXURE C**), there is sufficient capacity in the existing water reticulation system to accommodate the proposed development.

The minimum requirements to accommodate the proposed development on Erf 2833 in the existing water system is the implementation of link service items 1 & 2 to connect to the existing water system and regulate high static water pressures, as shown on Figure 1 in **ANNEXURE C**.

SEWER

A waterborne sewer reticulation system is proposed for the development. Until such time as the issues with the Long Street sewer pumps station have been resolved, sewer to gravity feed down to a conservancy tank situated on erf 5 (Utility Zoned). This tank will need to be cleaned out by vacuum truck once full and the truck shall then deliver its contents to the Great Brak Waste Water Treatment Plant. Once the problems with the Long Street sewer pumps station have been resolved, the conservancy tank should be removed and the sewer line should be extended to connect into the existing Municipal sewer main approximately 300m east from the proposed development, running parallel to Sandhoogte Road. It is envisaged that the tank should have sufficient capacity to only need to be cleaned once every 7 days, resulting in a 5mx10mx 3m deep tank.

STORMWATER

The proposed development will only harden approximately 18% of the total site footprint. 82% of the site will remain undeveloped and permeable, resulting in large areas available for ground water infiltration. The existing main drainage lines will remain unchanged, but it is expected that the introduction of flat lawns, soft landscaped beds, rainwater harvesting tanks and roads that cut across the general fall of the site, will increase the length of the longest water course, which leads to an increase in time of concentration and subsequent reduction in Peak Flow Volumes.

TRAFFIC IMPACT

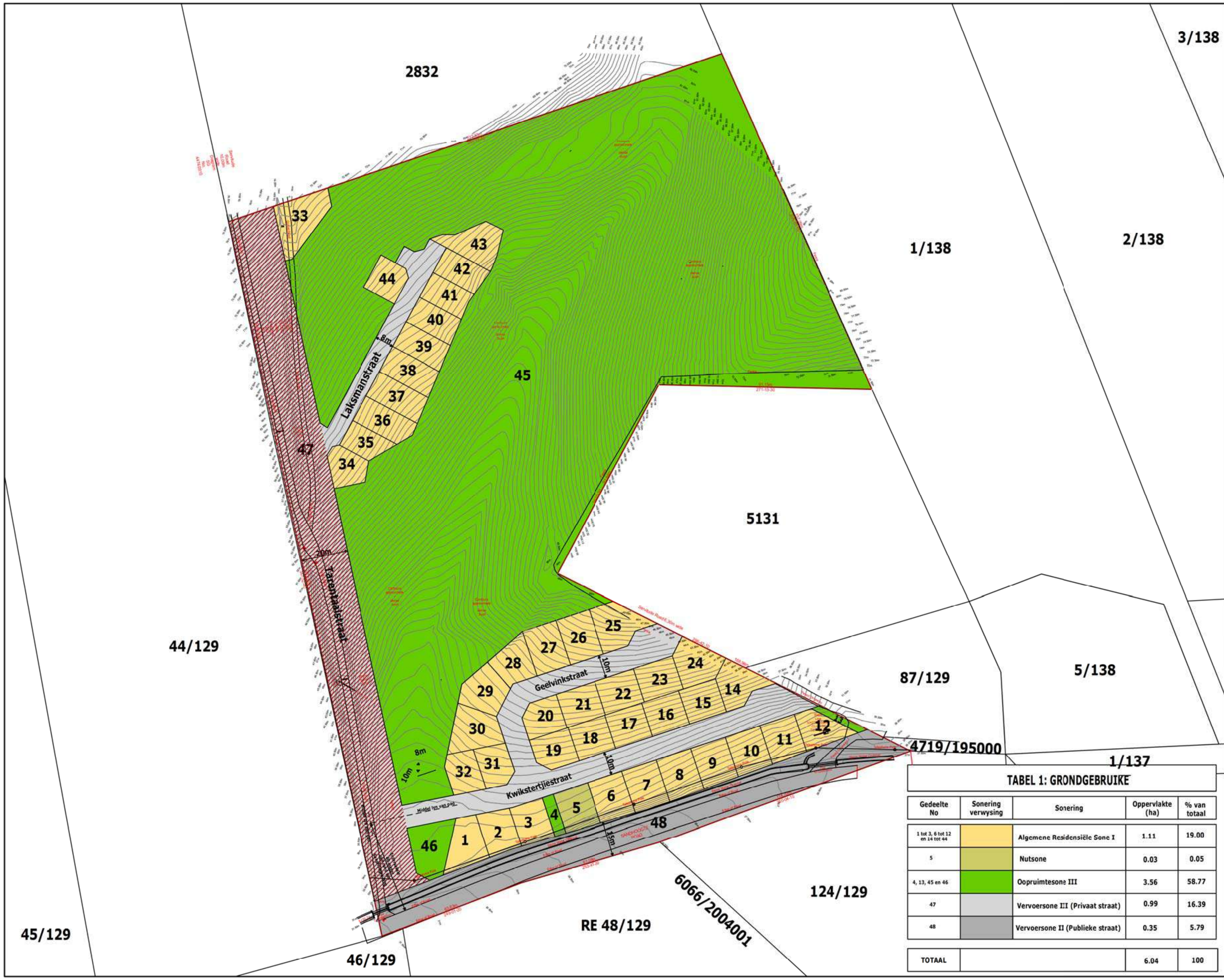
The development accessed from the existing servitude road perpendicular to Sandhoogte Road, running along the western boundary of Erf 2833. Alterations or widening of the road may be required.

A detailed Traffic Impact Assessment (Report 23-041_TIA) was prepared by Urban Engineering and can be referenced for more detail.

We trust that sufficient detail has been provided to decide on the way forward. if required, a detailed design of the proposed development's Civil Engineering Infrastructure based on the abovementioned report can be conducted by Urban Engineering (Pty) Ltd.

Should any additional information be required, or if you wish to discuss these recommendations with us, please do not hesitate to contact us.

ANNEXURE A
SITE DEVELOPMENT PLAN



AANSOEK:

- Aansoek word in terme van Artikel 15(2)(a) van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 gedoen vir die hersonering van die Restant van Erf 2833 Groot Brakrivier vanaf Landbousone I na 'n Onderverdelingsgebied bestaande uit Algemene Residensiële Sone I erwe (± 1.11 hektaar), 1 Nutssone erf (± 0, 03 hektaar), 4 Oopruimtesone II erwe (± 3, 56 hektaar), 'n Vervoersone III erf (Privaat straat) (± 0, 99 hektaar) en 'n Vervoersone II erf (Publieke straat) (± 0, 35 hektaar).
- Aansoek word in terme van Artikel 15(2)(d) van die Verordening op Grondgebruikbeplanning vir Mosselbaai Munisipaliteit, 2021 gedoen vir die onderverdeling van die Onderverdelingsgebied in die volgende erwe:

  i. 41 Algemene Residensiële Sone I erwe (Gedeeltes 1 tot 3, 6 tot 12 en 14 tot 44);
  ii. 4 Oopruimtesone II erf (Gedeeltes 4, 13, 45 en 46);
  iii. 1 Nutssone erf (Gedeelte 5);
  iv. 1 Vervoersone III (Privaat Straat) erf (Gedeelte 47), en
  v. 1 Vervoersone II (Publieke Straat) erf (Gedeelte 48).

NOTA

Serwituut: Reg van Weg (Landmeter Generaal Diagram Nommer 5859/2003), 20 meter wyd. Serwituut word gehandhaaf om vrye toegang tot Erf 2832 Groot Brakrivier te verseker.

TABEL 1: GRONDGEBRUIKE

Gedeelte No	Sonering verwysing	Sonering	Oppervlakte (ha)	% van totaal
1 tot 3, 6 tot 12 en 14 tot 44		Algemene Residensiële Sone I	1.11	19.00
5		Nutsone	0.03	0.05
4, 13, 45 en 46		Oopruimtesone III	3.56	58.77
47		Vervoersone III (Privaat straat)	0.99	16.39
48		Vervoersone II (Publieke straat)	0.35	5.79
TOTAAL			6.04	100

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PROJECT

VOORGESTELDE HERSONERING EN ONDER-VERDELING: RESTANT VAN ERF 2833 GROOT BRAKRIVIER

DRAWING TITLE

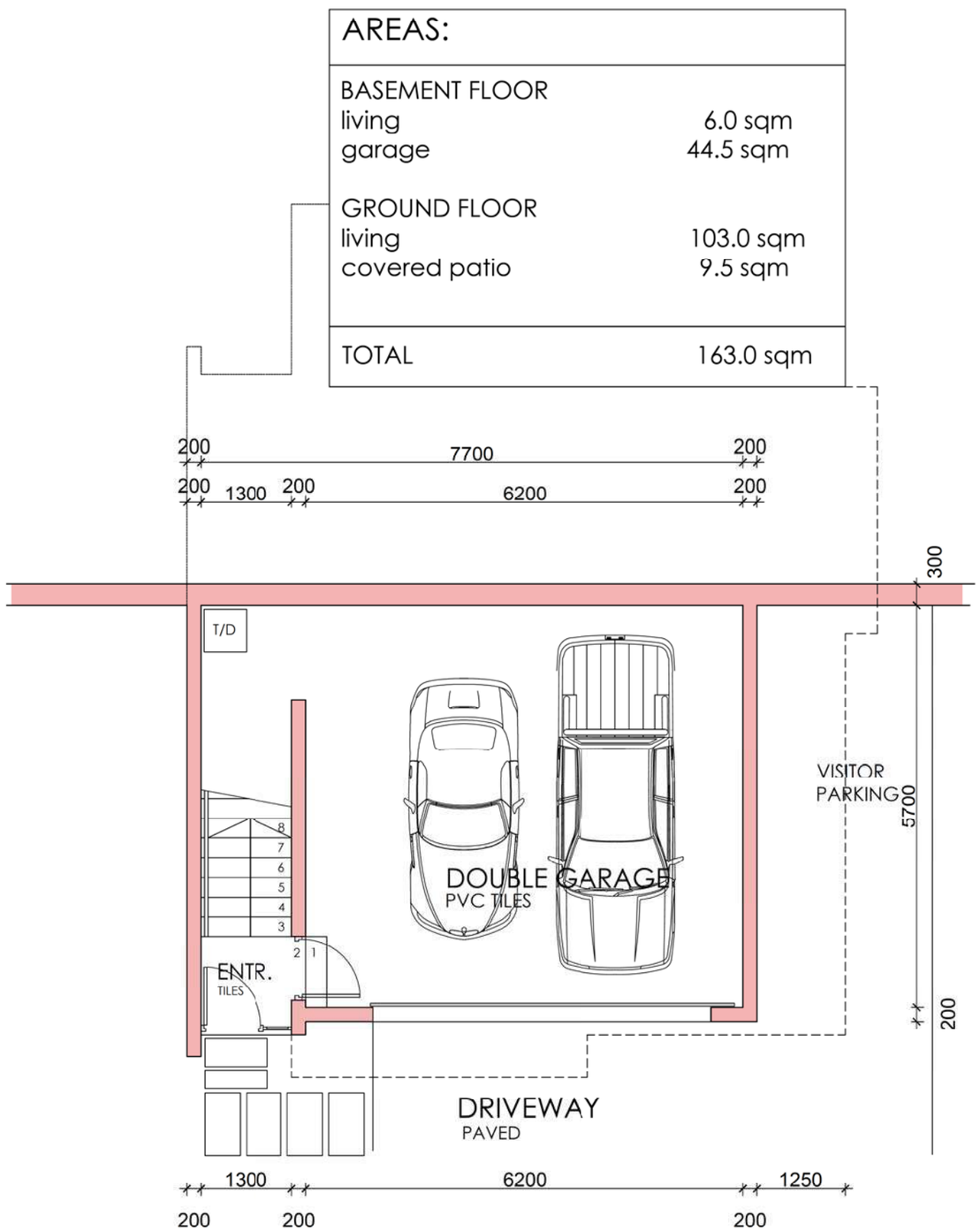
HERSONERING EN ONDERVERDELINGSPLAN

PROJECT No.	DWG No.	REVISION No.	DATE OF PRINT
ERF 2833 G BRAK		4	25.04.2024
SCALE	**PROJECT DATE**	**DRAWN BY**	**CHECKED BY**
NTS	SEPT 2023		JV

JAN VROLIJK TOWN PLANNER • STADSBEPLANNER

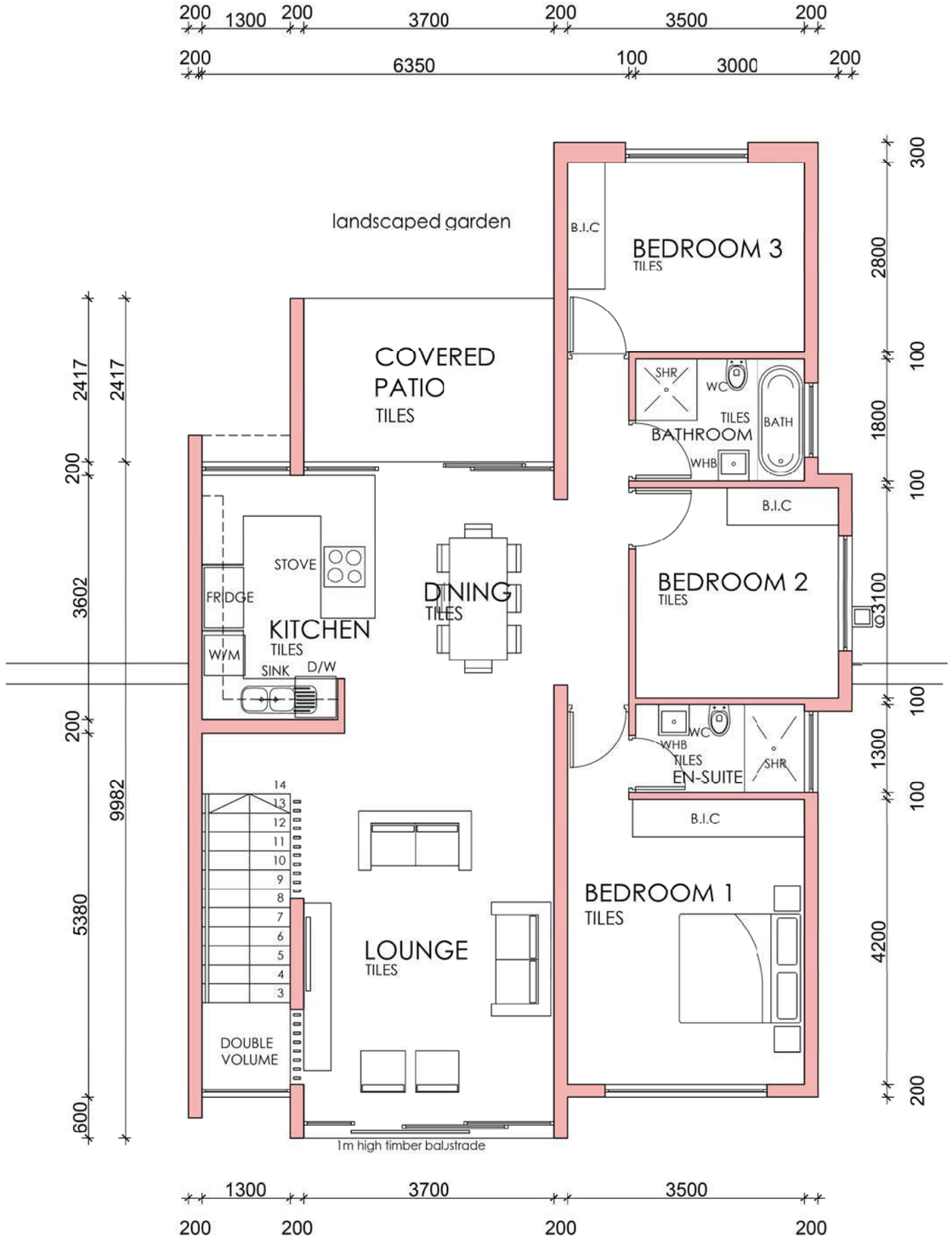
TYPICAL 3 BEDROOM UNIT

AREAS:	
BASEMENT FLOOR	
living	6.0 sqm
garage	44.5 sqm
GROUND FLOOR	
living	103.0 sqm
covered patio	9.5 sqm
TOTAL	163.0 sqm



Lower Ground Floor Plan

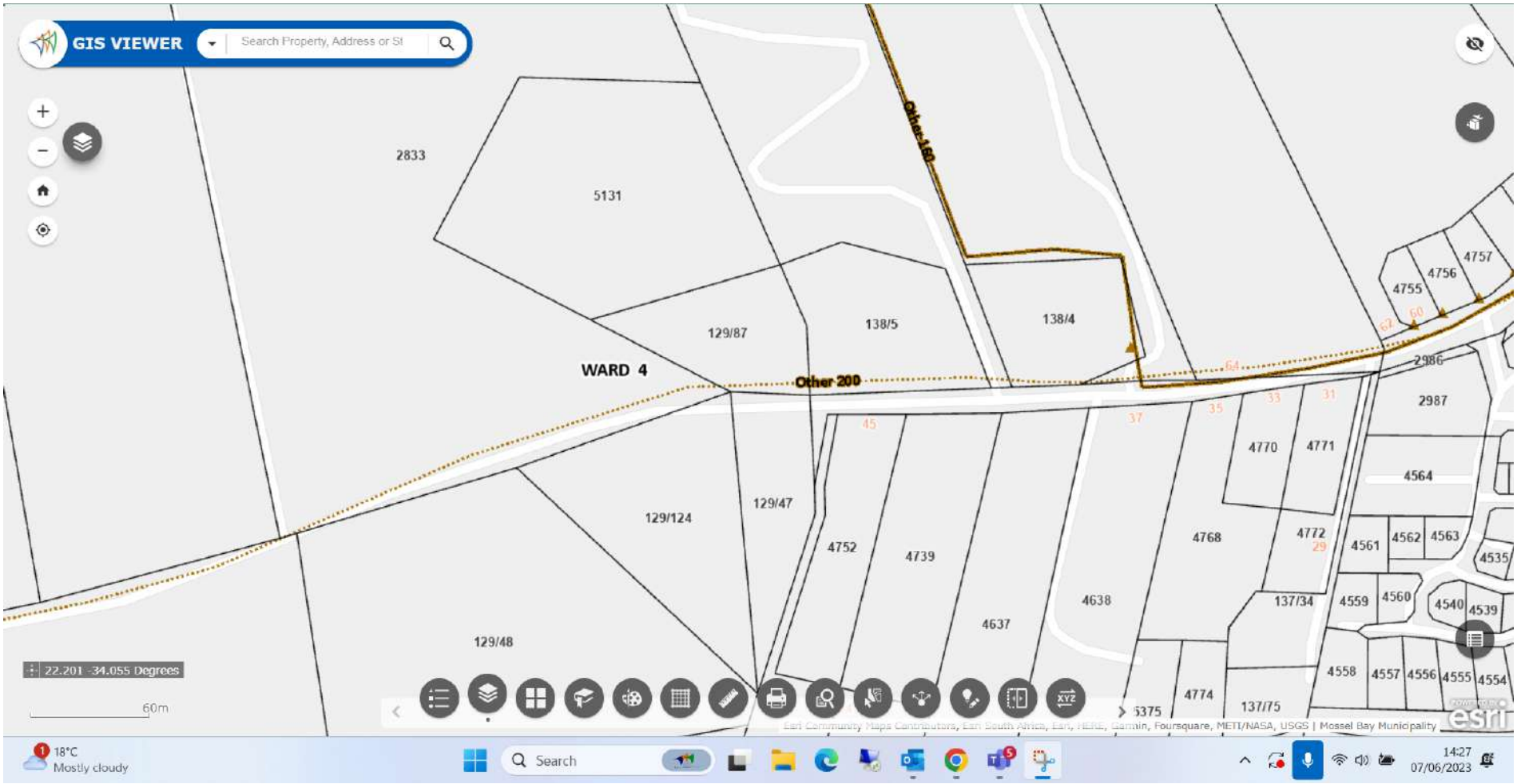
SCALE 1:100



Ground Floor Plan

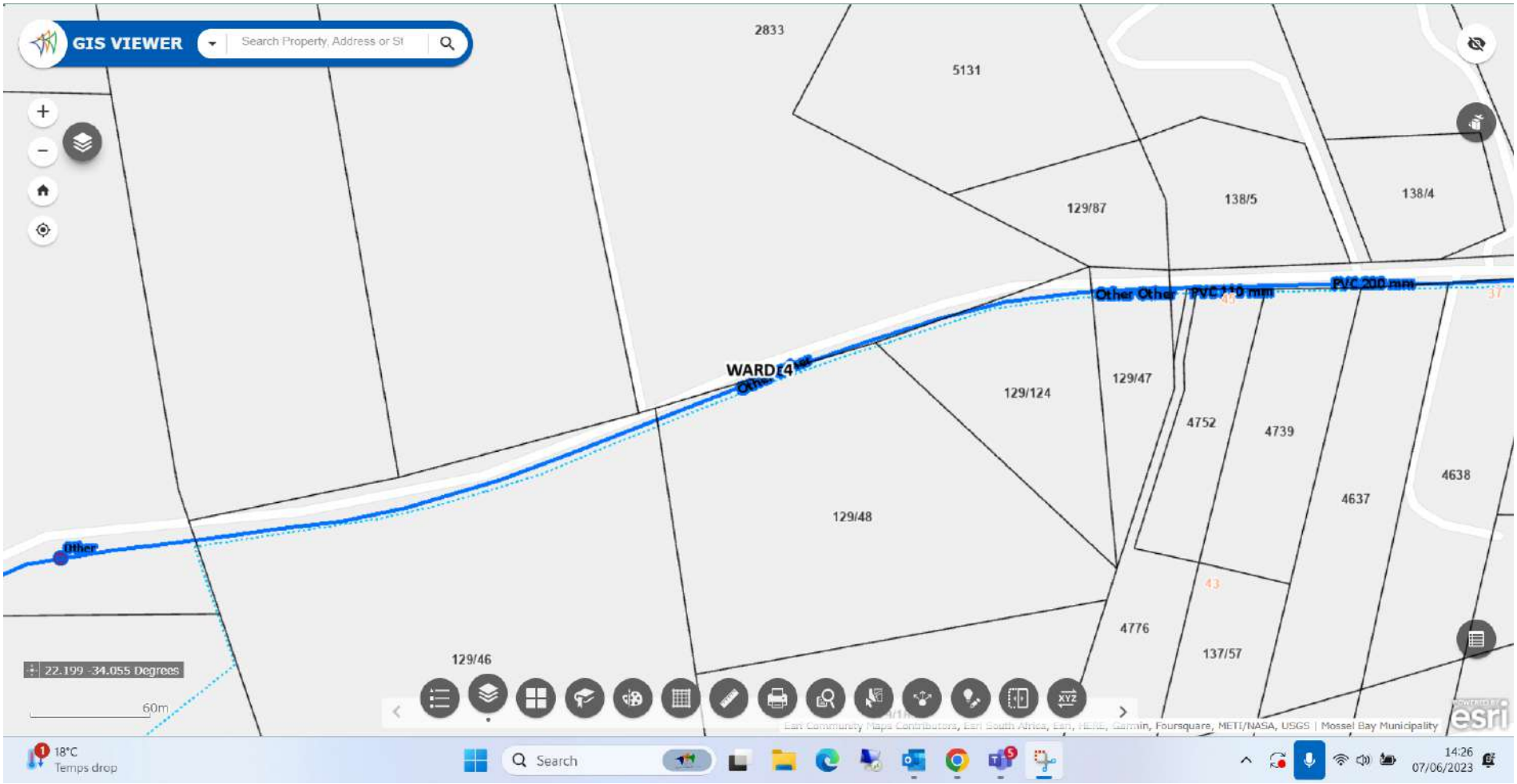
SCALE 1:100

ANNEXURE B
INFORMATION RECEIVED FROM MOSSEL BAY MUNICIPALITY



Existing Sewer Infrastructure

Existing Stormwater Infrastructure



Existing Water Infrastructure

ANNEXURE C
INFORMATION RECEIVED FROM GLS CONSULTING

GLS

Infrastructure planning

12 January 2024

Urban Engineering
18 Varing Avenue
George
6529

Attention: Mr. Frans van Aardt

Dear Sir

DEVELOPMENT ON ERF 2833, MOSSEL BAY: CAPACITY ANALYSIS OF THE BULK MUNICIPAL WATER SERVICES

The request by Mr Frans van Aardt of Urban Engineering regarding comments on the available municipal water supply for the proposed development (development of 43 Residential units), refers.

This document should inter alia be read in conjunction with the "Mossel Bay Municipality Water Master Plan" dated April 2017.

The proposed development on Erf 2833 was not taken into consideration for the master planning of the water network.

1. WATER DISTRIBUTION SYSTEM

1.1. Distribution zone

The proposed development is located on Erf 2833 in Great Brak. It is proposed that the development will be supplied from the Sandhoogte Water Treatment Plant (WTP) zone, with reservoir Top Water Level (TWL) = 150,3 m and a capacity of 9 200 kL (8 000 kL – Sandhoogte WTP to Great Brak & 1 200 kL – Sandhoogte WTP to Mossel Bay).

The development is situated inside the water priority area.

1.2. Water demand

No allowance was made in the original master planning for future development on Erf 2833 in the original water analysis.

For this re-analysis of the water master plan, the total annual average daily demand (AADD) for the proposed development was calculated as follows:

•	43 Group/Cluster housing (Low Density) @ 0,5 kL/d/unit	=	22,5	kL/d[(1)]
•	Fire flow criteria (Medium Risk) – for Group/Cluster Housing	=	25	L/s @ 10 m
•	Fire flow criteria (Low Risk) - for Residential Stand 33	=	15	L/s @ 10 m

[(1)] As per Table J.2 from Section J - Water Supply of "The Neighbourhood Planning and Design Guide" (so called "Red book").

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Reg no: 2007/003039/07
www.gls.co.za

Directors: Rebecca Pole, Marius de la Rey, Garreth Young

The AADD for the existing stands (fully occupied) as well as the proposed development in the Sandhoogte WTP reservoir zone was calculated as follows:

• Sandhoogte WTP zone fully occupied (Great Brak)		=	1 040	kL/d
• Sandhoogte WTP zone fully occupied (Mossel Bay)		=	2 167	kL/d
• Proposed development		=	23	kL/d
	Total	=	3 230	kL/d

1.3. Present situation

1.3.1. Reticulation network

The existing water reticulation network of the Sandhoogte WTP zone has sufficient capacity to accommodate the proposed development on Erf 2833.

The following link services items will however be required to connect the development to the existing 200 mm Ø pipe in Sandhoogte Road, and to manage high static pressure at the lower lying erven of the development:

Link service:

• Item 1:	300 m x 110 mm Ø new supple pipe		R	262 000 *
• Item 2:	PRV to manage high water pressures		R	174 000 *
		Total	R	436 000 *

* Including P & G , Contingencies and Fees, but excluding VAT – Year 2023/24 Rand Value. (This is a rough estimate, which does not include major unforeseen costs).

The route for the proposed pipeline and position of the proposed PRV are schematically shown on Figure 1 but must be finalised after a detailed pipeline route and PRV position investigation.

1.3.2. Reservoir capacity

The criteria for total reservoir volume used in the Mossel Bay Water Master Plan is 48 hours of the AADD (of the reservoir supply zone) for gravity and pumped supply to the reservoir.

According to the water master plan the fully occupied AADD of the Sandhoogte WTP distribution zone is currently approximately 3 230 kL/d. The current storage capacity of the existing Sandhoogte WTP reservoirs is 9 200 kL, which results in a current storage capacity of 68 hours of the AADD.

There is sufficient capacity in the existing Sandhoogte WTP reservoirs to accommodate the proposed development.

1.3.3. Additional reservoir capacity for fire fighting

According to “The Neighbourhood Planning and Design Guide” (so called “Red book”) it is not required to have additional reservoir capacity for typical firefighting volumes. In some cases where water is supplied by e.g. an elevated tank, additional storage is required.

It is proposed that no additional reservoir storage capacity is required for typical firefighting volumes on Erf 2833 in Great Brak.

There is sufficient capacity in the Sandhoogte WTP reservoirs to accommodate the duration of the design fire flow on Erf 2833.

2. CONCLUSION

The developer of Erf 2833 in Great Brak will be liable for the payment of a Development Contribution (as calculated by the Mossel Bay Municipality) for bulk water infrastructure as per Council Policy.

There is sufficient capacity in the existing water reticulation system to accommodate the proposed development.

The minimum requirements to accommodate the proposed development on Erf 2833 in the existing water system is the implementation of link service items 1 & 2 to connect to the existing water system and to regulate hight static water pressures, as shown on Figure 1.

We trust that you find this of value.

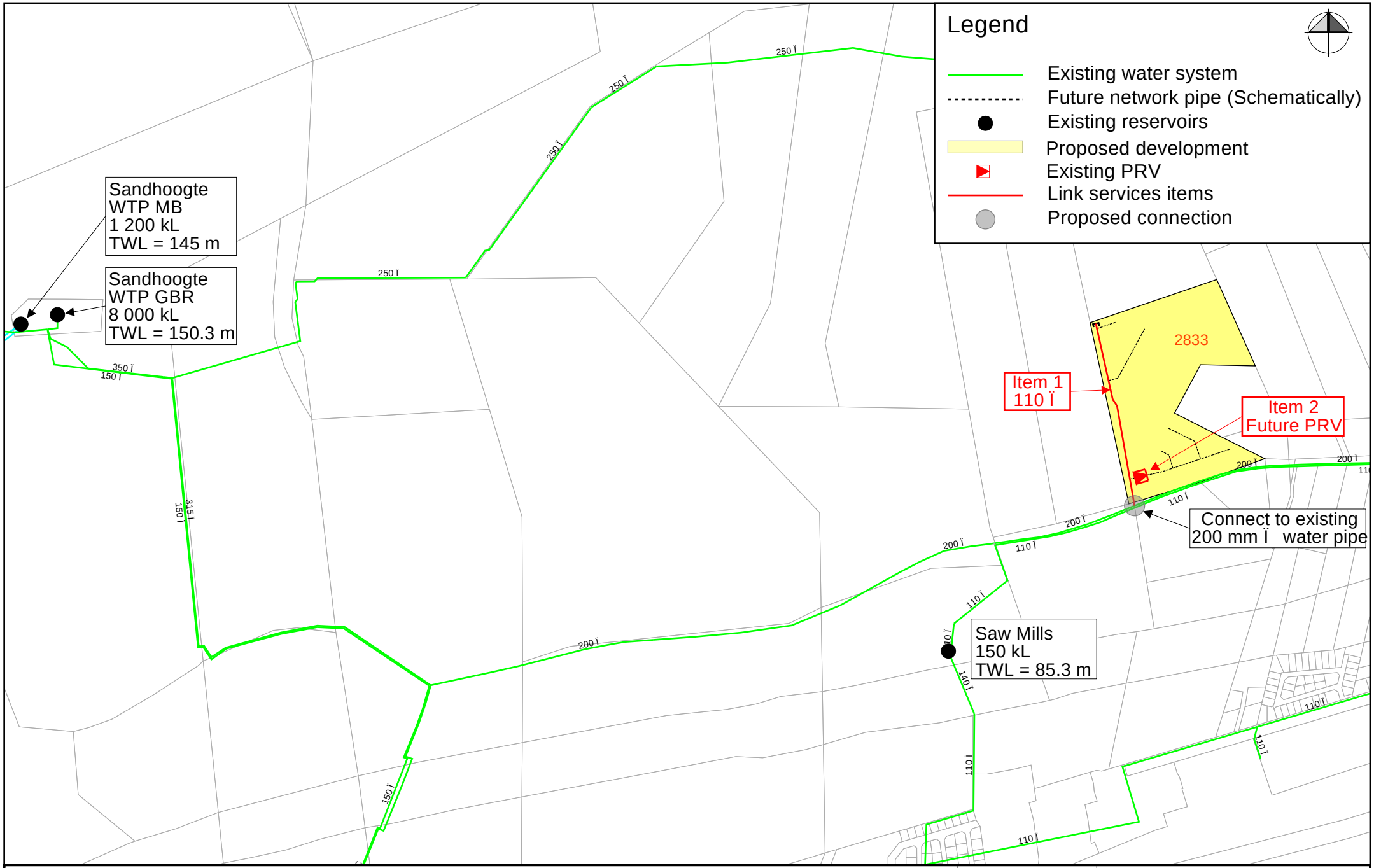
Yours sincerely,

GLS Consulting (Pty) Ltd
REG. NO.: 2007/003039/07

_____
Per: PT MALHERBE

cc. The Manager: Civil Engineering Services
Mossel Bay Municipality
Private Bag X29
MOSSEL BAY
6500

Attention: Mr. Eric Louw



January 2024

Proposed Development:
Erf 2833 Great Brak

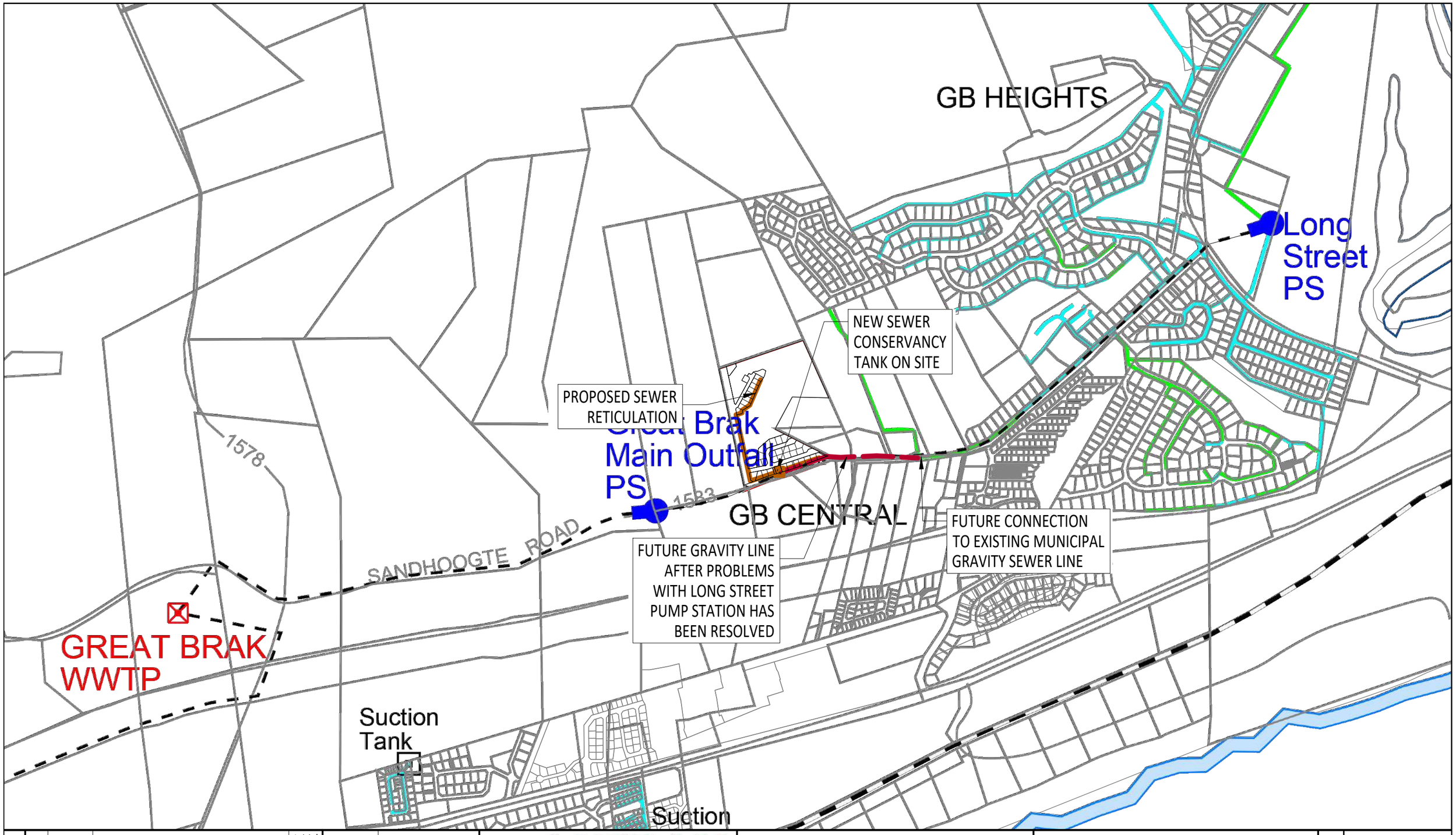
0 100 200 400 m

Scale 1:8000

GLS Infrastructure planning

Figure 1
Proposed Development
Mossel Bay - Erf 2833
Existing Water Reticulation

ANNEXURE D
CONCEPTUAL LAYOUTS



Revisions	No.	Date	Description	Initial
	A	AUG 23	CES REPORT REV 1	
	B	OCT 23	CES REPORT REV 2	
	C	MAY 24	CES REPORT REV 5	

Designed	F van AARDT (Pr Eng)
Checked	F van AARDT (Pr Eng)
Drawn	F van AARDT (Pr Eng)
Checked	F van AARDT (Pr Eng)

URBAN ENGINEERING CONSULTANTS
CONSULTING CIVIL AND STRUCTURAL ENGINEERS

GROOTBRAK RESIDENTIAL DEVELOPMENT

PROPOSED SEWER LAYOUT INCLUDING CONSERVANCY TANK AND FUTURE CONNECTIONS

A3 | Scale NTS

Drawing No. 23-041-00

Rev No. C

Bylaag “P”: Elektriese Diensteverslag

NEWCARE INNOVATIONS (Pty) Ltd

ELECTRICAL SERVICES REPORT

FOR

PROPOSED RESIDENTIAL DEVELOPMENT ON REMAINDER OF ERF 2833, GREAT BRAK RIVER

REPORT NO: G/19059/R1

Dated: 28 June 2023

Prepared by:
Clinkscales Maughan-Brown (South) (Pty) Ltd.
39 Victoria Street
GEORGE
6529
Contact: R. Steenekamp
Tel. No: 044-8741511

cmb
CLINKSCALES MAUGHAN-BROWN
CONSULTING MECHANICAL
& ELECTRICAL ENGINEERS

INDEX

1.0 INTRODUCTION

This report has been prepared by Clinkscales Maughan-Brown at their George office, who have been appointed by the Developer, Newcare Innovations (Pty) Ltd, as the Electrical Consultants for this project. The purpose of this report is to provide the necessary information on the proposed electrical services within the Development and the connection to the existing municipal network in the area in order to obtain all the necessary statutory approvals and to draw-up a services agreement.

2.0 LOCATION

The property to be developed is the remainder of Erf 2833 situated to the North of Sandkraal Road in Great Brak River, as indicated on Drawing No. 19059/E/01 which is attached as Annexure A. The erf is presently zoned as "Agricultural Zone 1". The proposed development consists of 12 single residential and 32 general residential erven which will be within a gated area.

3.0 SUPPLY AUTHORITY

The Supply Authority for the area is Mossel Bay Municipality, and therefore their Electricity Department were consulted on all matters relating to the electrical services.

4.0 BASIS OF REPORT

The report is based on the following:

(i) Site development Drawing No. P.2 Revision 2 dated 25.05.2023 prepared by Messrs Jan Vrolijk Townplanner.
(ii) Information obtained from Mossel Bay Municipality's Electrical Department during discussions on 21 and 22 June 2023.
(iii) E-mail from Mr. Petrus Harmse from Mossel Bay Municipality's Electrical Department on 28 June 2023.
(iv) General information received from the Client and other members of the professional team.

5.0 DEMAND

Based on the information presently available, the peak kVA demand of the Development has been calculated as follows:

44 residential erven @ 10.35kVA (45A 1Ø) each x 0.37 diversity = 168.5kVA
This would necessitate the installation of a 250A three phase tariff circuit breaker (standard size) which is equal to 173.2kVA.

The following objectives will be set to reduce the impact on the municipal network and national grid:

- Comply with SANS 10400.
- Energy efficient light fittings, air conditioning, mechanical ventilation, refrigeration and water heating installations, electric motors, etc.
- Use of LPG gas instead of electrical appliances for cooking where economically feasible.
- Use of energy efficient appliances.
- Building and plant load management systems to reduce power consumption.
- Installation of Photo Voltaic (PV) and other Small Scale Embedded Generators (SSEG), where it can be economically justified.

6.0 AVAILABILITY OF CAPACITY

Based on the present zoning of the erf, i.e. Agricultural Zone 1, 3 x 13.8kVA (60A) = 41.4kVA capacity should be available to the erf.

The new capacity is estimated at 173.2kVA. Thus, the additional capacity required is estimated at 131.8kVA. It is assumed that this capacity is available at the identified point of connection.

As part of the environmental approval process, a letter of confirmation on the availability of capacity is normally required from the Supply Authority.

7.0 BULK AND LINK SERVICES

The identified point of connection for this development is at the existing 120mm² Cu x 3 core 11kV cable running inside the Sandhoogte Road reserve on the southern side of the development, in the position as indicated on the drawing.

The Developer will not be required to install any bulk or link infrastructure upstream from the Point of Connection.

8.0 INTERNAL SERVICES

It is proposed that a new 400kVA (minimum standard size used by the Municipality) miniature substation be installed inside the Sandhoogte Road reserve in the approximate position as indicated.

It is proposed that a low voltage cable be installed from the new miniature substation to a LV bulk metering / distribution kiosk located on the erf boundary in the approximate position as indicated. This cable will have to cross Sandhoogte Road in a sleeve to be installed using the directional drilling method.

The Municipality's responsibility will end at the Point of Supply, i.e. load terminals of the new LV bulk meter to be installed. The Developer will have to enter into a supply agreement with the Municipality. The Developer will be responsible for operating and maintaining the internal network downstream from the meter.

The Developer will be responsible for metering of each individual residential unit's consumption, sending out accounts, debt collection, etc. The services of a metering agent could be employed to assist in this regard and using prepayment metering.

Any streetlights along private roads will not be taken-over, must be separately metered, and will have to be maintained by the Developer.

9.0 TECHNICAL PARTICULARS

All drawings and specifications of the network must comply with the Municipality's technical requirements and must be submitted to them for official approval before any construction can commence.

The distribution substation will be the fully enclosed miniature type housing a 11kV ring main unit similar or equal to the SF6 insulated Schneider Ringmaster or Lucy Aegis type, 11kV/420V transformer and low voltage (LV) distribution equipment and area lighting control equipment.

The LV bulk kWh/kVA consumption meter will be the SL7000 type and must have the ability to be remotely read from the electrical department's offices.

The Low Voltage (LV) network will be underground cables and ground mounted distribution kiosks. The LV cable type will be PVC insulated, PVC bedded, galvanised steel wire armoured 600/1000V with four copper or aluminium conductors. The LV distribution kiosks will be glass fibre or polyethylene type with doors both front and back, and will be installed to act as the distribution / metering point for the service connections.

Underground service cables will be installed from the kiosks up to 1 meter inside each individual erf boundary, for erven which are not immediately adjacent to the kiosk. At this point the cable end will be sealed and marked for future extension and connection by the Builder's Electrician.

The buildings' internal electrical installations and earthing will be the responsibility of the Builder's Electrician and must comply with the latest edition of SANS 10142-1: 2020. The earthing system will be the TN-C-S system in terms of SANS 10292:2013 Edition 2.

Private road lights will be the post top and / or bollard type to suit the architectural theme.

The internal network will be designed so that any internal faults do not cause nuisance tripping of the upstream municipal network.

No switching of supplies or work in close proximity of existing cables will be carried out without prior arrangement with the Municipality's electrical department. The Electrical Contractor will also be required to obtain wayleaves and liaise with the Municipality's civil department and telecommunication service provider to ensure that no damage is caused to existing underground piped services during construction.

10.0 ENVIRONMENTAL REQUIREMENTS

All work on site will comply in all respects with the environmental management requirements.

11.0 PROGRAMME

It is expected that construction of services will commence soon after all the necessary approvals have been received and the feasibility has been accepted.

It is expected that the electrical demand will grow slowly thereafter over a period of between 1 to 5 years, due to the residential nature of the development.

12.0 CAPITAL COSTS

The Developer will be responsible for the following:

(i) Supply, installation and commissioning of the complete internal installation as described above.

(ii) Standard municipal development contribution towards upstream bulk infrastructure. This amount is provisionally estimated at 131.8kVA x R5 800.00, incl. VAT per kVA = R764 440.00, incl. VAT.

All work will be done under the direction of the Developer's Electrical Consultant, i.e. Messrs Clinkscales Maughan-Brown, and by an Electrical Contractor to be approved by the Developer and the Municipality.

The municipal contributions payable must be agreed and finalised when the services agreement is compiled.

It is noted that the municipal contributions are normally payable before the network is taken-over by the Municipality, and are adjusted annually.

13.0 CONCLUSION

We trust that this information is sufficient to obtain the necessary statutory approvals for the development and to draw up the services agreement.

Please contact the writer should more information be required.

In order to speed-up the process, we will also forward a copy of this report directly to the Municipality's electrical department, for their approval and any further comments they may have.

R.L. Steenekamp Pr Eng Pr CPM
CLINKSCALES MAUGHAN-BROWN

---ooo0ooo---

ANNEXURE A

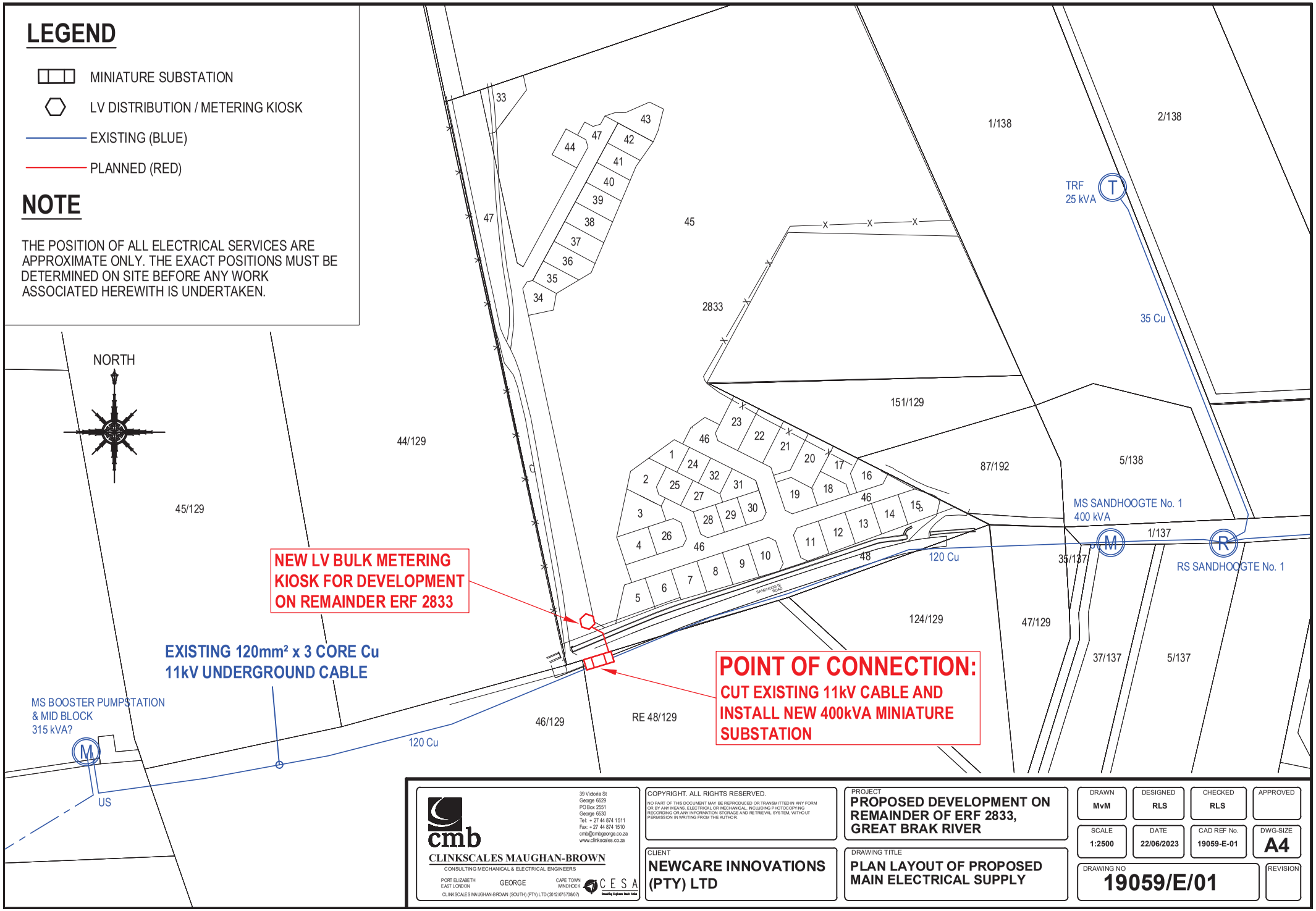
Drawing No. 19059/E/01

LEGEND

- MINIATURE SUBSTATION
- LV DISTRIBUTION / METERING KIOSK
- EXISTING (BLUE)
- PLANNED (RED)

NOTE

THE POSITION OF ALL ELECTRICAL SERVICES ARE APPROXIMATE ONLY. THE EXACT POSITIONS MUST BE DETERMINED ON SITE BEFORE ANY WORK ASSOCIATED HEREWITH IS UNDERTAKEN.



cmb
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PROJECT	PROPOSED DEVELOPMENT ON REMAINDER OF ERF 2833, GREAT BRAK RIVER
CLIENT	NEWCARE INNOVATIONS (PTY) LTD
DRAWING TITLE	PLAN LAYOUT OF PROPOSED MAIN ELECTRICAL SUPPLY

DRAWN	DESIGNED	CHECKED	APPROVED
MvM	RLS	RLS	

SCALE	DATE	CAD REF No.	DWG-SIZE
1:2500	22/06/2023	19059-E-01	A4

DRAWING NO	REVISION
19059/E/01	