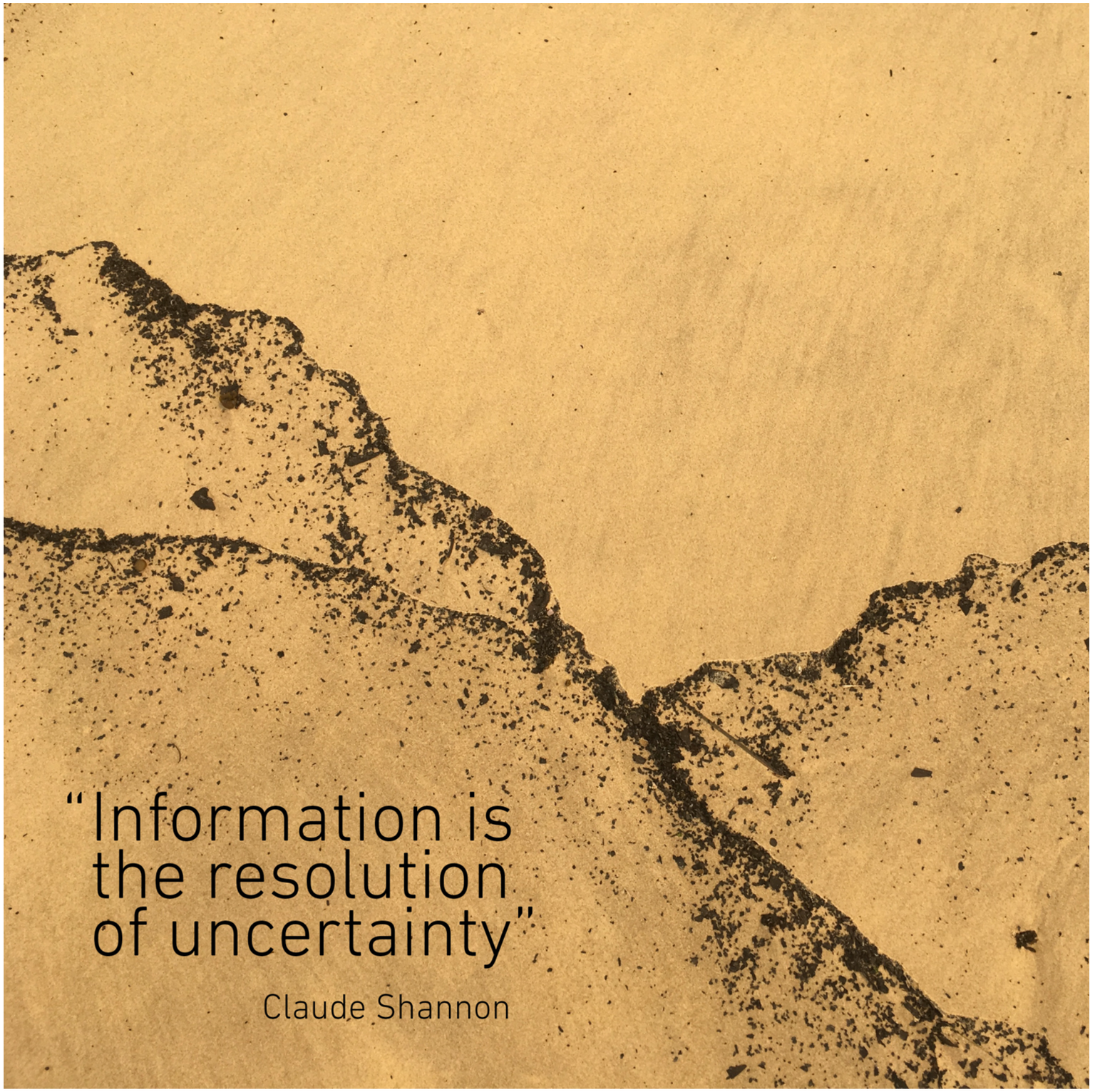
WORKSHOP GOALS

- To explain the process of rebuilding your home
- To increase the disaster resilience of the community
- To encourage a thoughtful recovery that will result in a stronger community and sense of place



THE REBUILDING PROCESS

Collective of like minded building industry professionals and members of advisory bodies with connections to the local community





- Site and client specific design
- Buildings and landscapes that enhance lives and positively impact the community
- The importance of understanding the local area and variety of site conditions with their inherent peculiarities, cultural differences and social variation

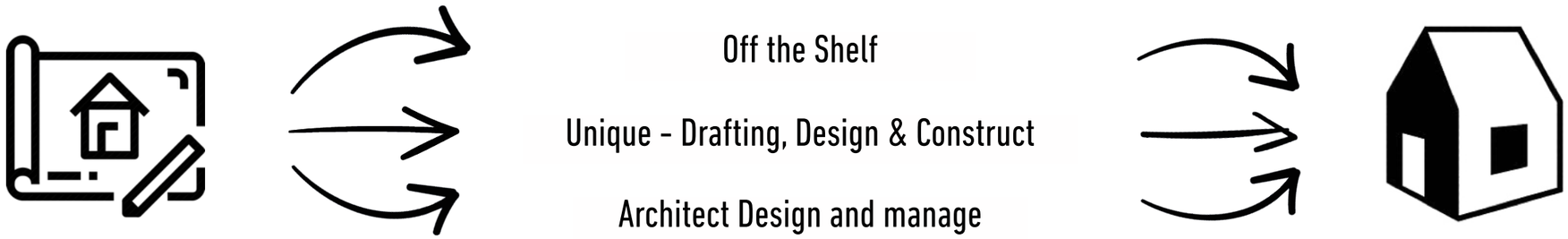
WHO WE ARE

DESIGN

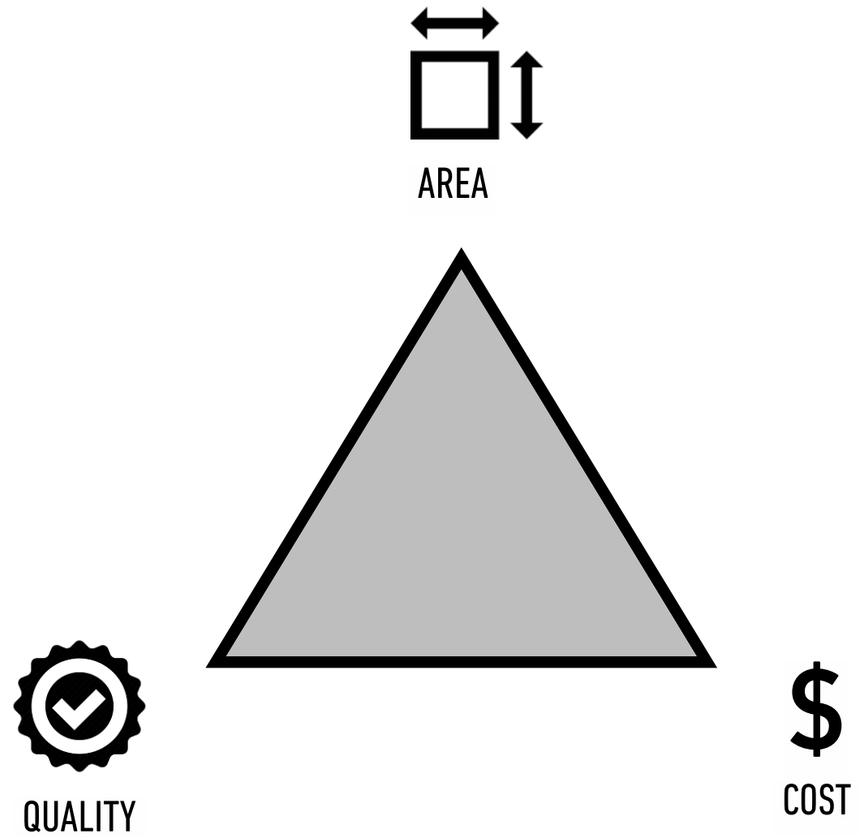
APPROVAL

CONSTRUCTION

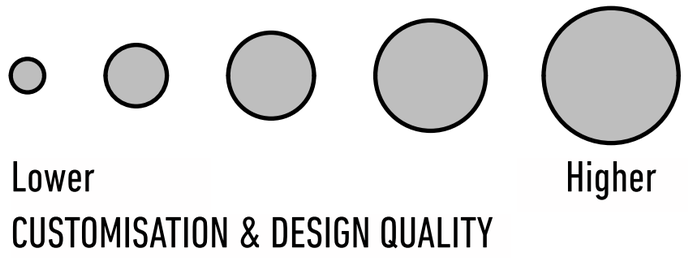
PROCESS

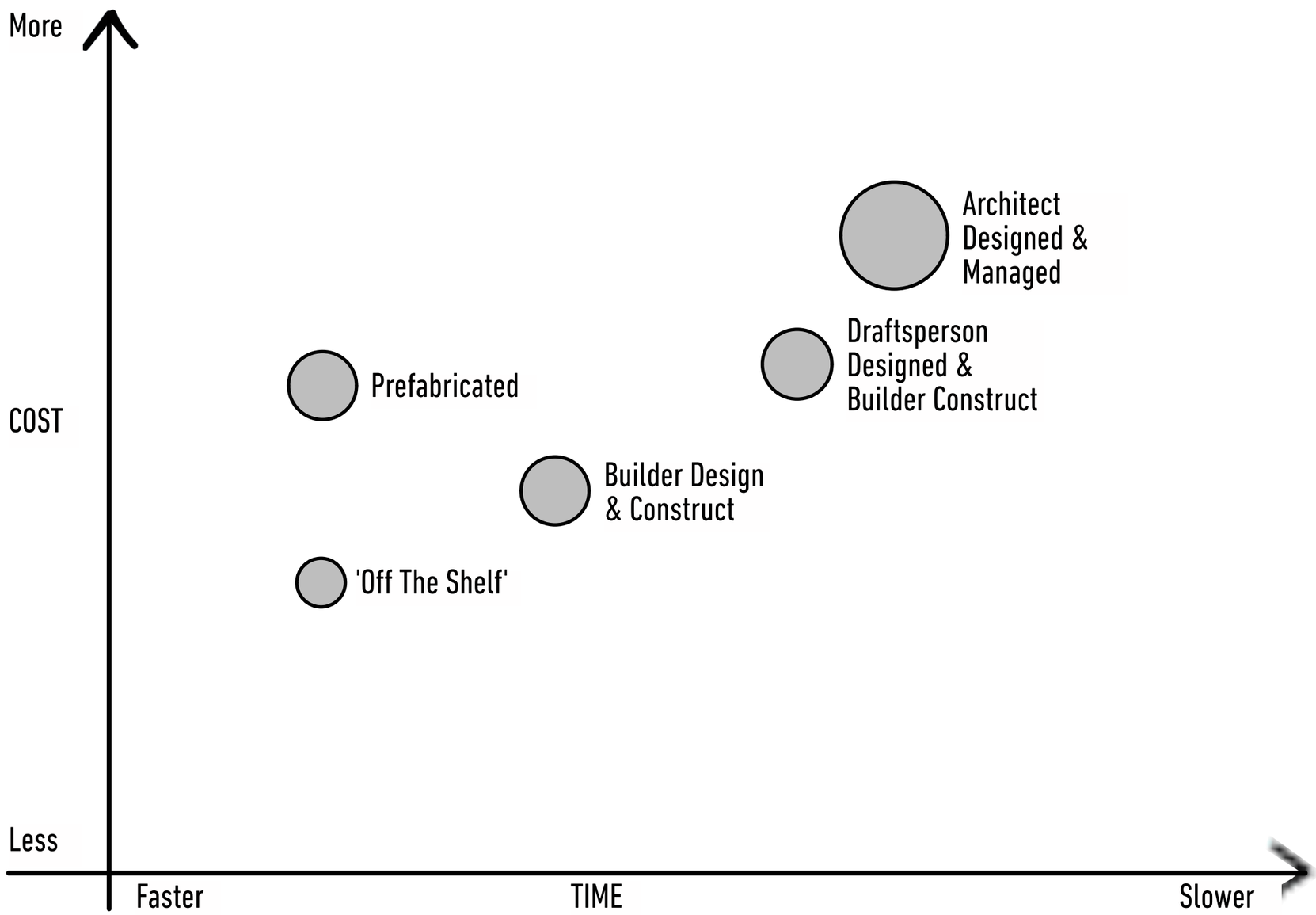

Off the Shelf
Unique - Drafting, Design & Construct
Architect Design and manage

PATHWAYS



PRIORITIES


Lower
Higher
CUSTOMISATION & DESIGN QUALITY


More
COST
Less
DIFFERENCES
Faster
TIME
Slower
Architect Designed & Managed
Draftsperson Designed & Builder Construct
Prefabricated
Builder Design & Construct
'Off The Shelf'

DESIGN

APPROVAL

CONSTRUCTION

PROCESS

DESIGN

Budget
Brief
Controls
Site Analysis

Concept Design
Developed Design

APPROVAL

CONSTRUCTION

PROCESS

DESIGN

Budget

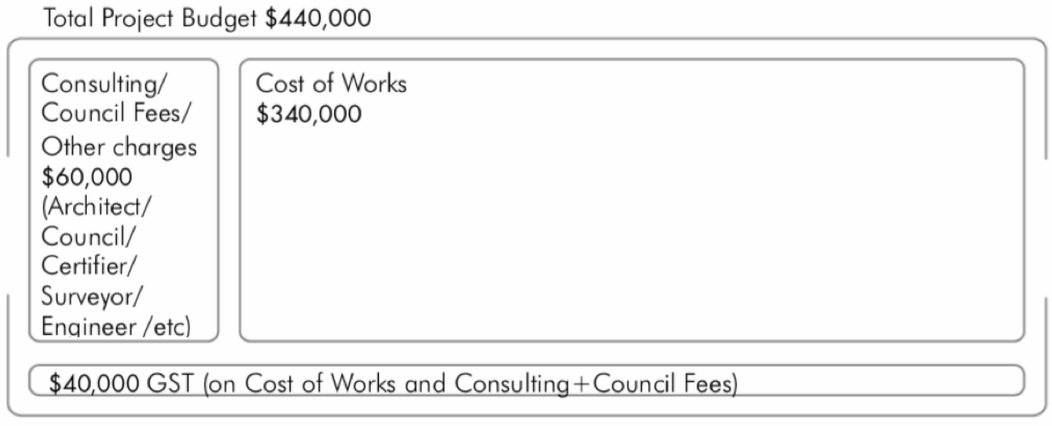
Brief

Controls

Site Analysis

Concept Design

Developed Design



COST OF WORKS

Construction Cost Table

All prices below are per square metre (SQM) and quoted exclusive of GST.

Construction Type	Level of Finish		
Cost to build a house	**Low**	**Medium**	**High**
3BR weatherboard project home, level block, single level,shelf design	$1,324	$1,484	$1,834
3BR brick veneer project home, level block, single level, shelf design	$1,414	$1,574	$1,879
3BR full brick project home, level block, single level, shelf design	$1,409	$1,569	$1,949
4BR weatherboard home, level block, single level, unique design	$1,879	$1,989	$2,484
4BR brick veneer home, level block, single level, unique design	$1,979	$2,074	$2,609
4BR full brick home, level block, single level, unique design	$2,246	$2,566	$2,786
3BR brick veneer project home, level block, two level, shelf design	$1,474	$1,629	$2,009
3BR full brick project home, level block, two level, shelf design	$1,529	$1,719	$2,109
4BR brick veneer home, level block, two level, unique design	$2,069	$2,339	$2,714
4BR full brick home, level block, two level, unique design	$2,286	$2,626	$2,866
Architecturally designed executive residence	$3,035	$3,885	$5,435

COST | CONSTRUCTION

CURRENT CONSTRUCTION COSTS

DESIGN

Budget
Brief
Controls
Site Analysis

Concept Design
Developed Design

BAL 12.5-29	→	$16,000 - $56,000
BAL 40	→	$19,000 - $73,000
BAL FZ	→	$65,000 - $277,000

BUSHFIRE RATING IMPACT ON CONSTRUCTION COSTS - AVERAGE HOUSE

Source: AAMI home insurance

Gaps - 70-80% of houses are destroyed through ember attack
Combustible material next to home (BBQ, wood pile etc)
Vegetation next to home
Pine decking
Gutters
Roof cavity

PRIMARY WEAK SPOTS

COST | BUSHFIRE RESILIENCE

Landscape Improvements	$
APZ Maintenance	$
Ember Proofing	$$
Mesh screening	$$$
Bushfire Shutters	$$$$
Sprinkler Systems	$$$$

BUSHFIRE RESILIENCE MEASURES

DESIGN

3 bedrooms	1 Master + 1 Kids room + 1 Guest (Could be study too?)
Kitchen	Compact kitchen
Living	Space for family + guests - near dining
Dining	6 seater table (can be combined with outdoor table for Christmas
Study	Used in the evenings - never when guests over
Laundry	Close to sunny hanging space outside, wetsuit hangers
...	

FUNCTIONAL BRIEF

Love living with all the doors open but sometimes need to have
an outdoor enclosed place protected from mozzies.
Have always dreamed of an outdoor shower after the beach.
Love natural finishes and materials.
Listen to Jazz a lot while cooking.

POETIC BRIEF

Imagining living without
How little can I live with?
If I don't have to clean then what else could I be doing?
What makes holidays in cabins or camping so fun?
More time for living with less living rooms?

BRIEF | HOW MUCH DO I NEED?

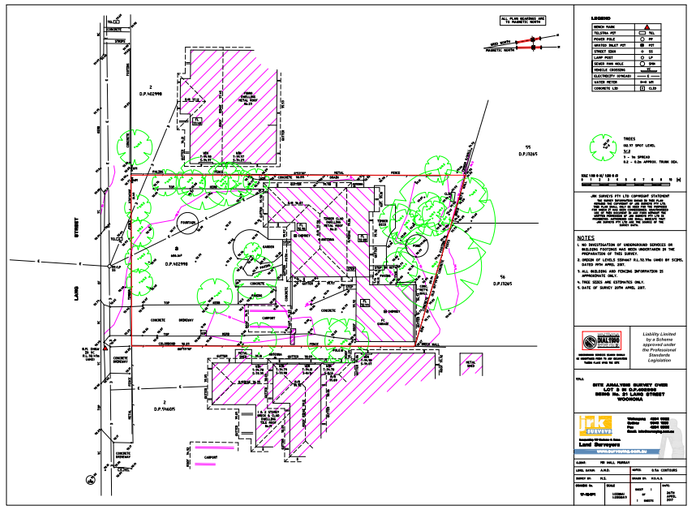
PRIORITIES

DESIGN

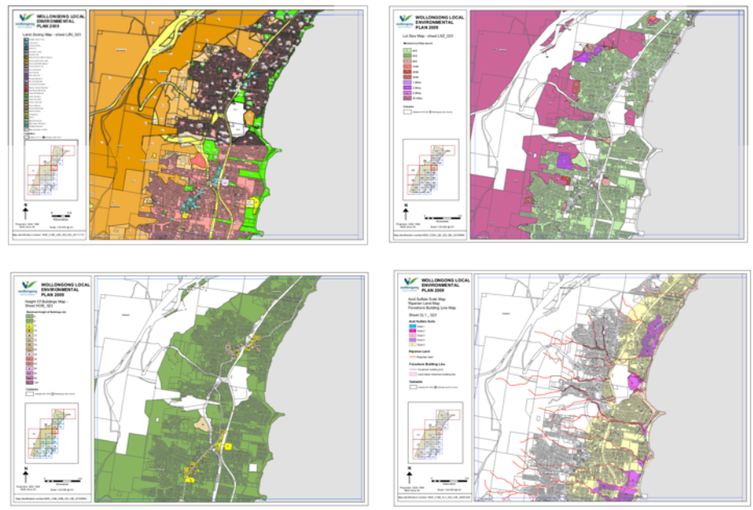
Budget
Brief
Controls
Site Analysis

Concept Design
Developed Design

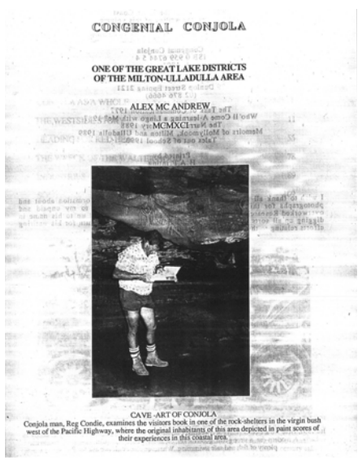
SITE SPECIFICS

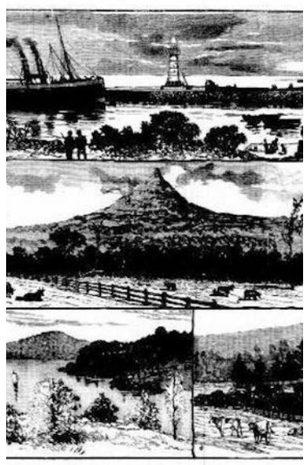


SITE SURVEY
> Boundary
> Contours
> Services | Dial Before You Dig
> Neighbouring structures

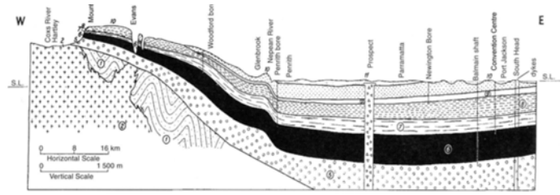


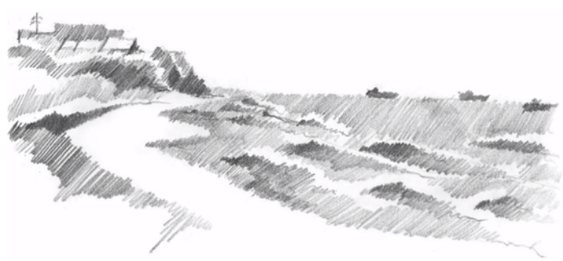
PLANNING CONSTRAINTS
> Planning Certificate 10.7.
> Zoning
> LEP controls
> DCP controls





HISTORY | CONTEXT
> Local History
> Built History
> Community Character
> Aboriginal History



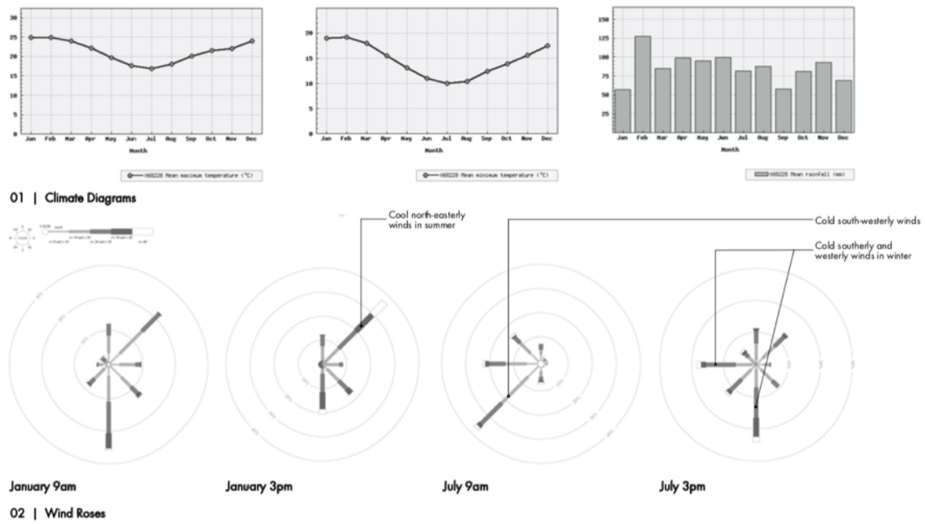


ENVIRONMENT
> Topography
> Geology
> Hydrology
> Flora & Fauna

DESIGN

Budget
Brief
Controls
Site Analysis

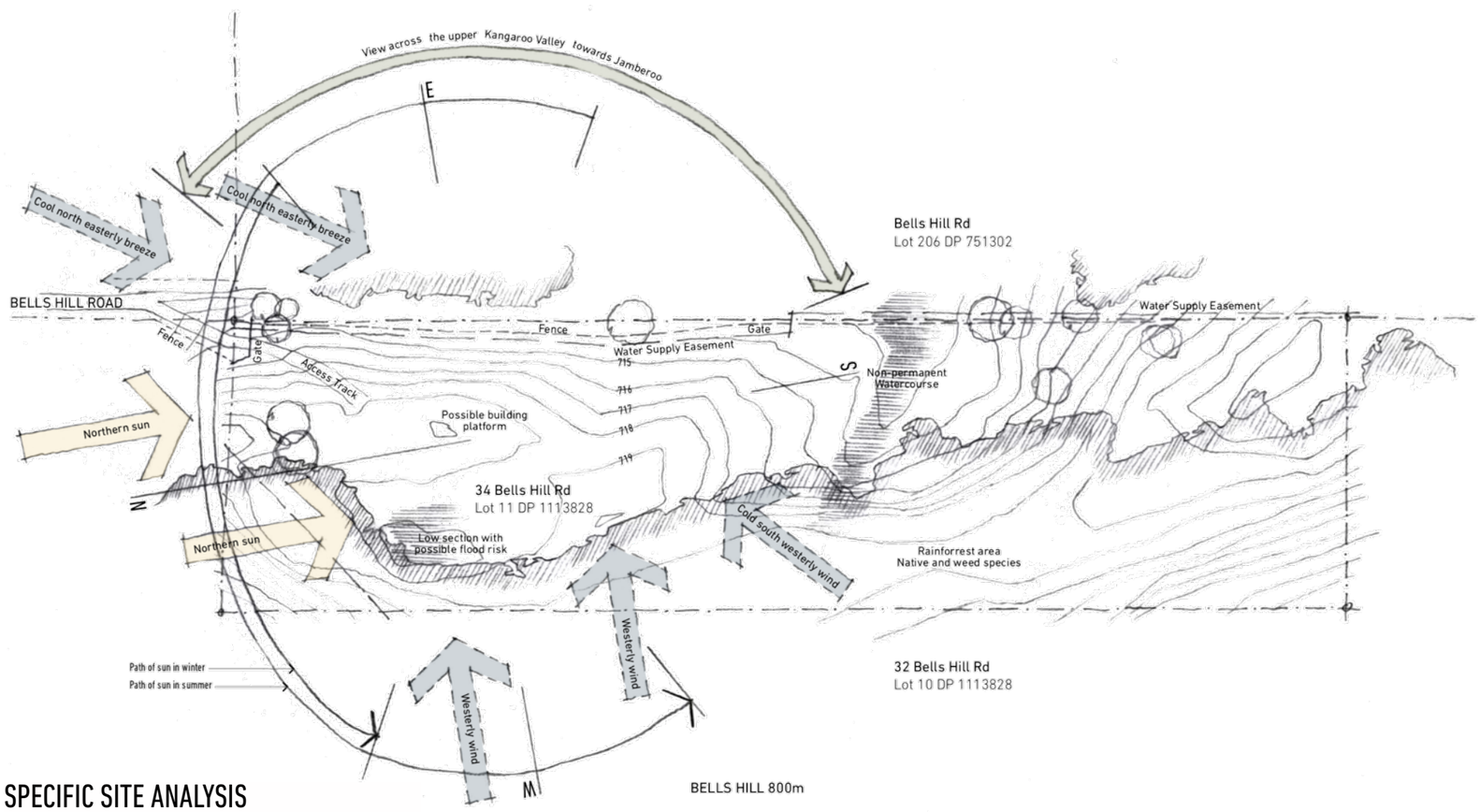
Concept Design
Developed Design



01 | Climate Diagrams

02 | Wind Roses

LOCAL CLIMATE



SPECIFIC SITE ANALYSIS

DESIGN

Budget

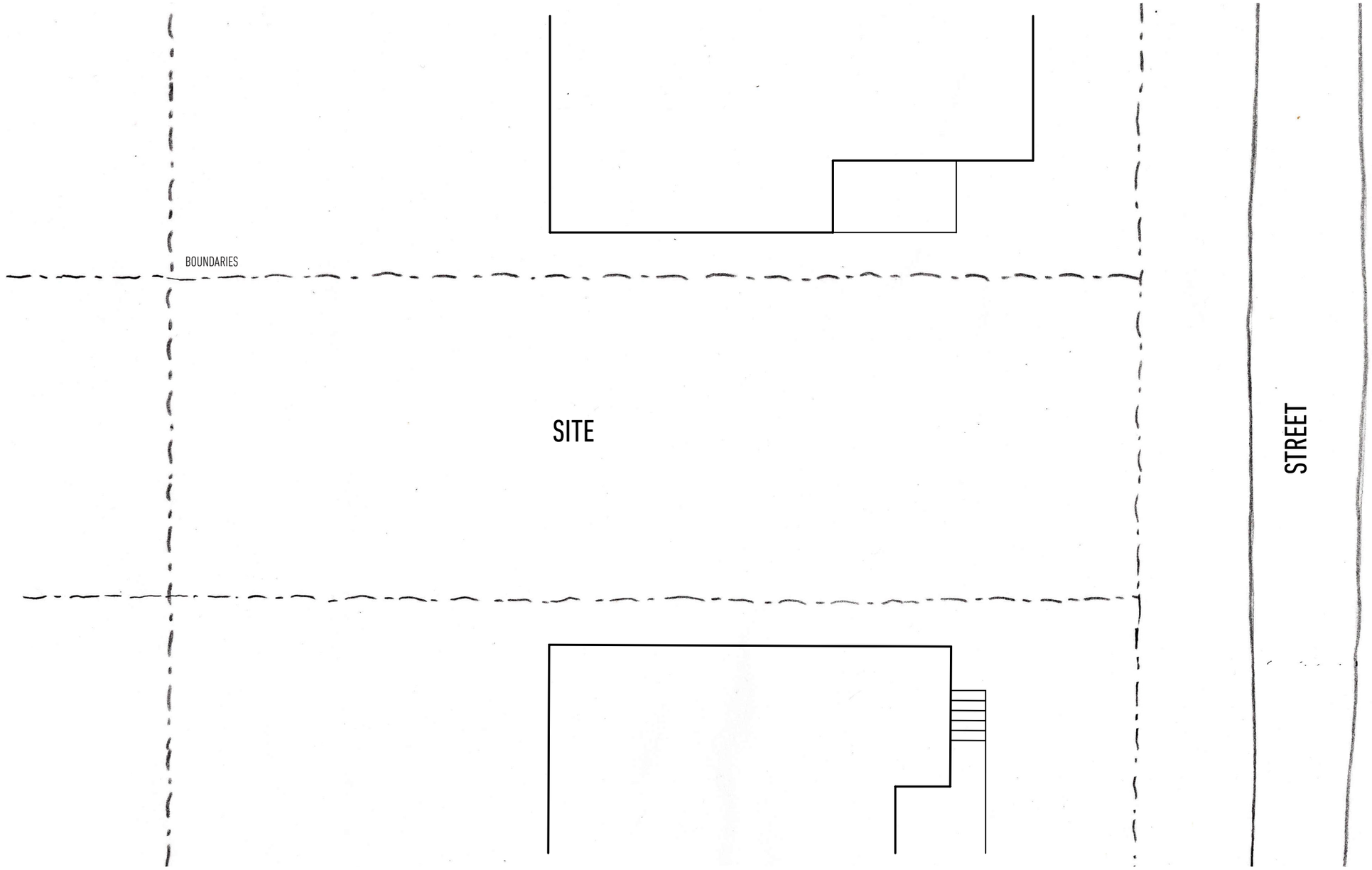
Brief

Controls

Site Analysis

Concept Design

Developed Design



DESIGN

Budget
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Controls
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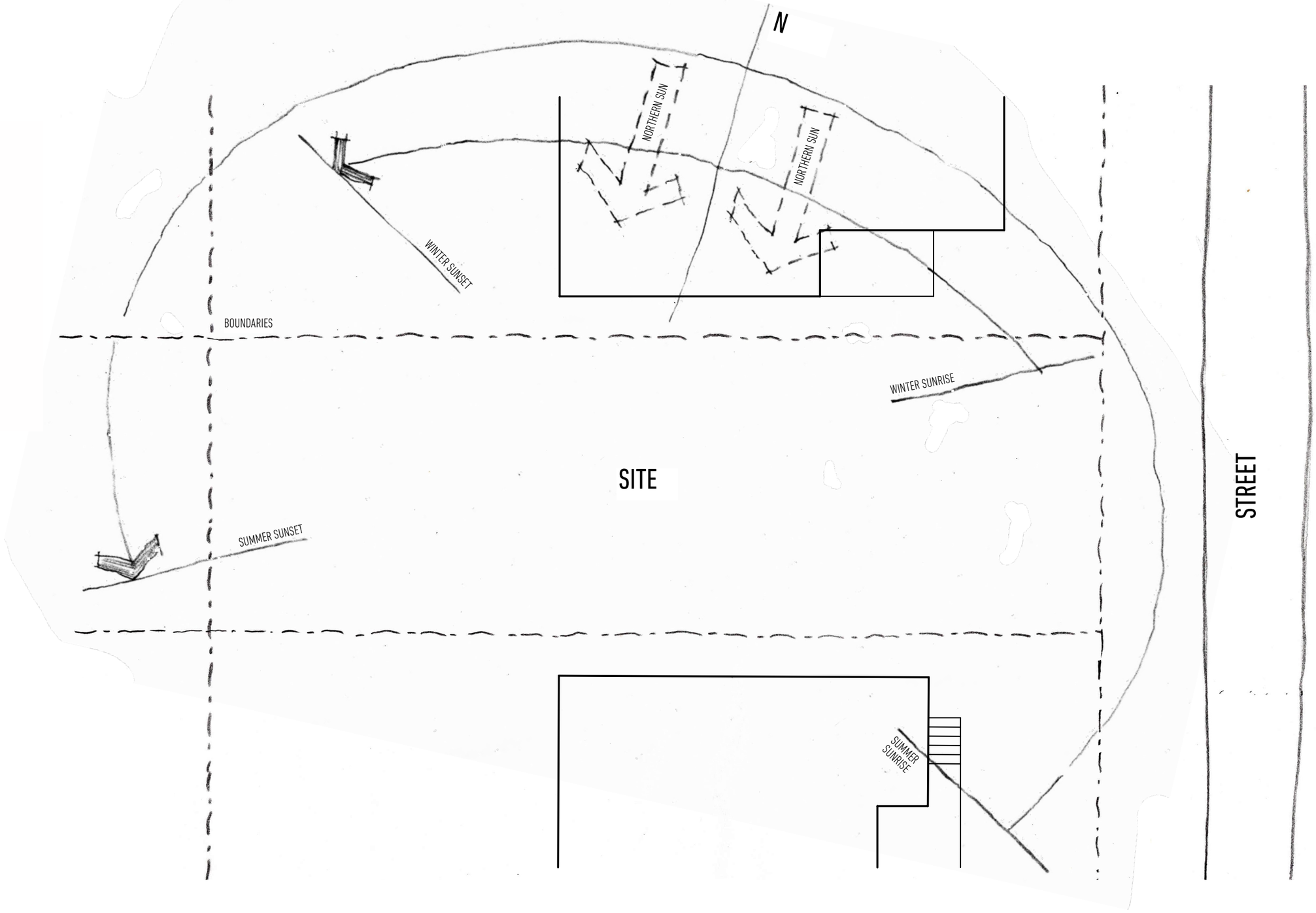
Developed Design

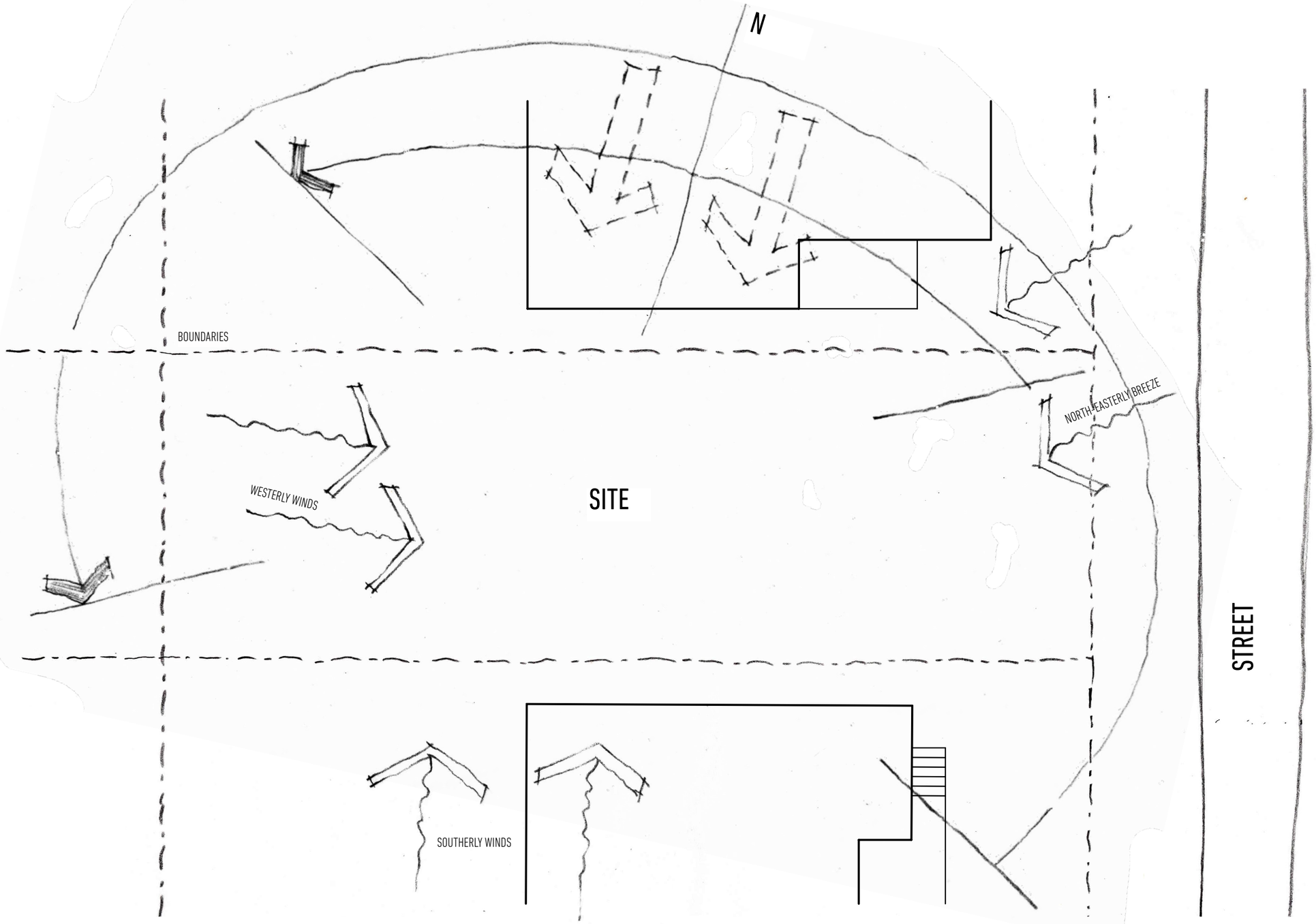


SUN ANALYSIS

DESIGN

Budget
Brief
Controls
Site Analysis

Concept Design
Developed Design

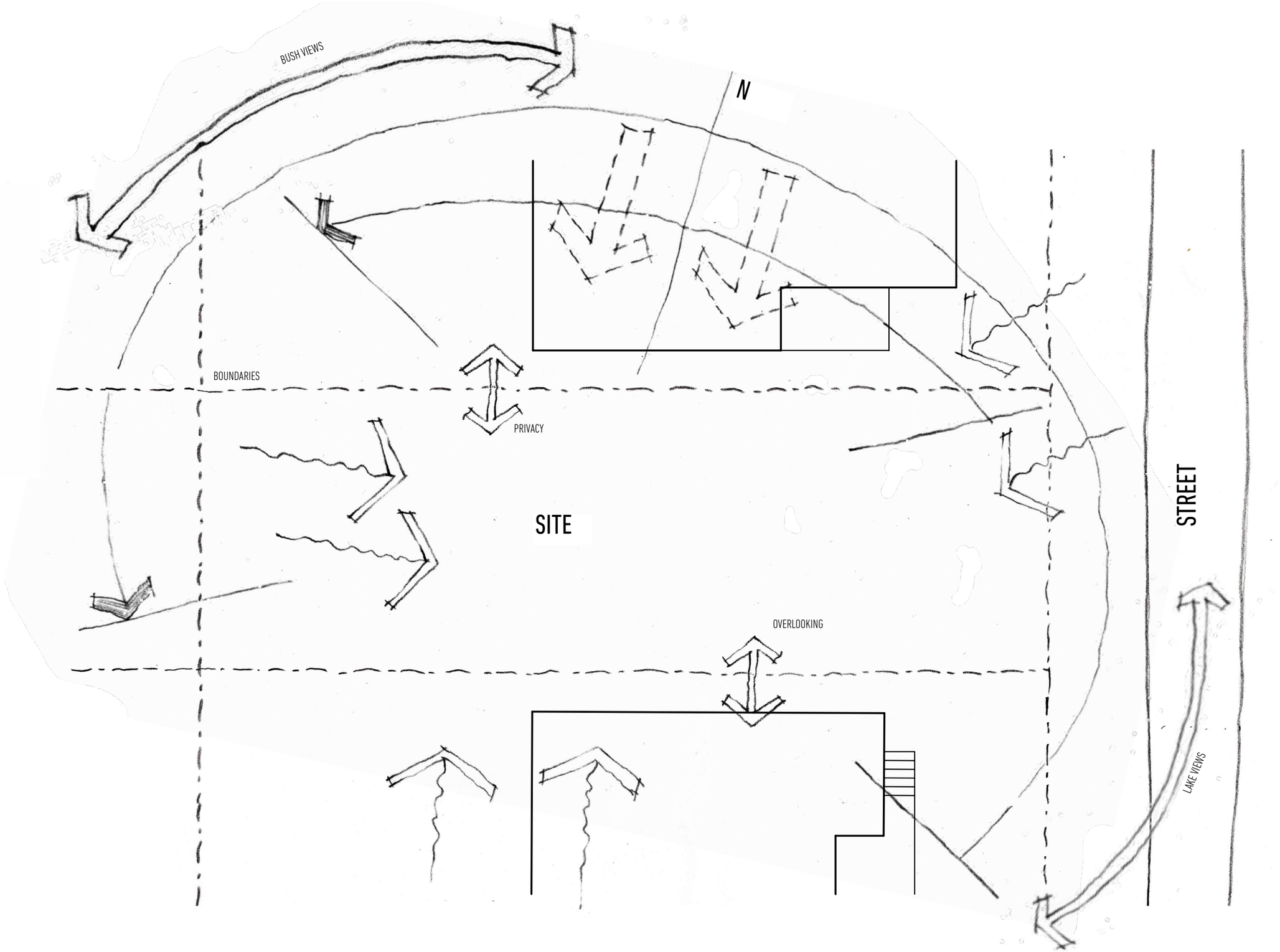


WIND ANALYSIS

DESIGN

Budget
Brief
Controls
Site Analysis

Concept Design
Developed Design

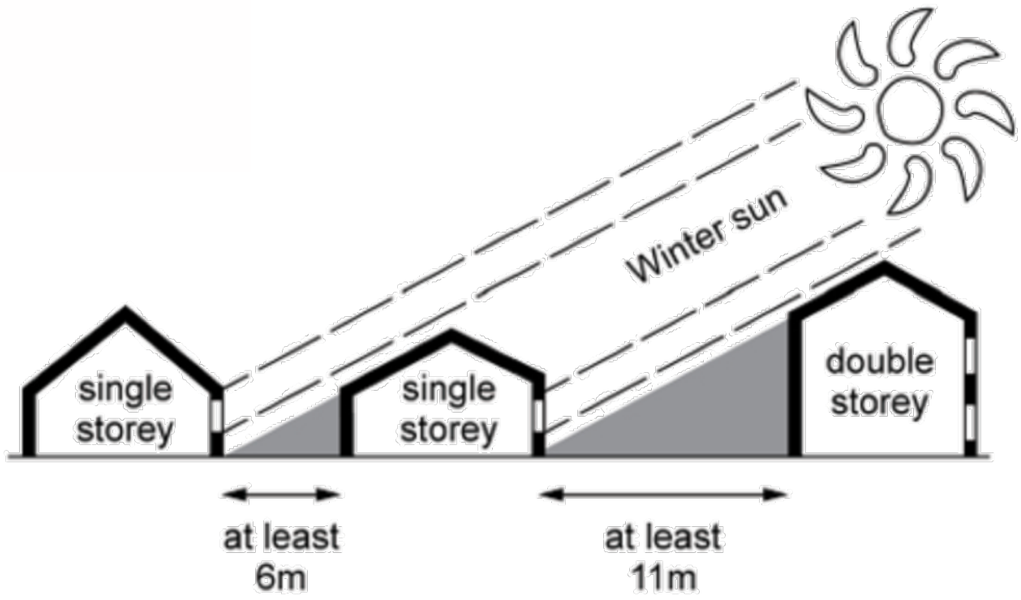


VIEWS / PRIVACY

DESIGN

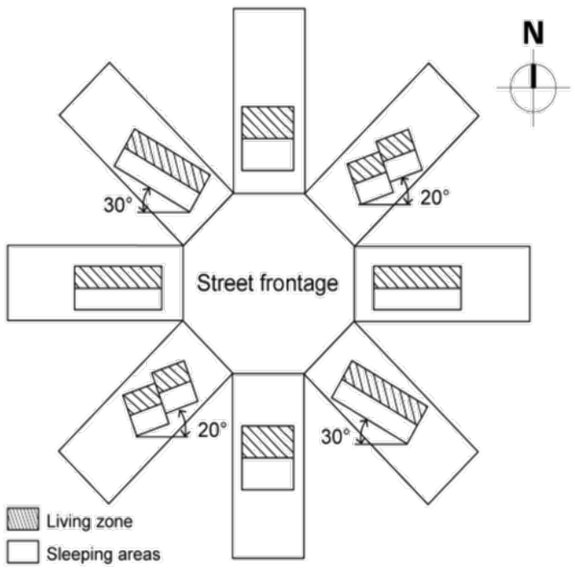
Budget
Brief
Controls
Site Analysis

Concept Design
Developed Design

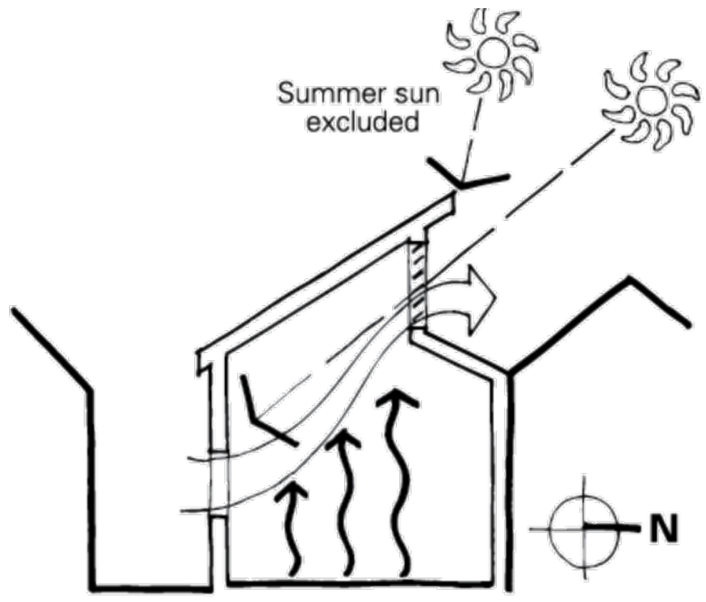


OVERSHADOWING

www.yourhome.gov.au



STREET ORIENTATION



SUN EXPOSURE

PASSIVE DESIGN

DESIGN

Budget
Brief
Controls
Site Analysis

Concept Design
Developed Design

Bushfire Rating (by Bushfire Consultant)
influenced by vegetation, slope and climate

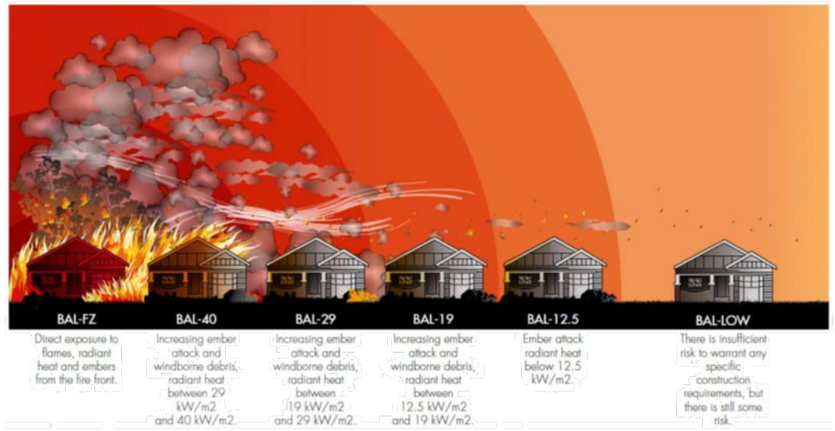
↓

Minimum Construction Requirements

↓

APZ Requirements

BUSHFIRE RATING ROLE



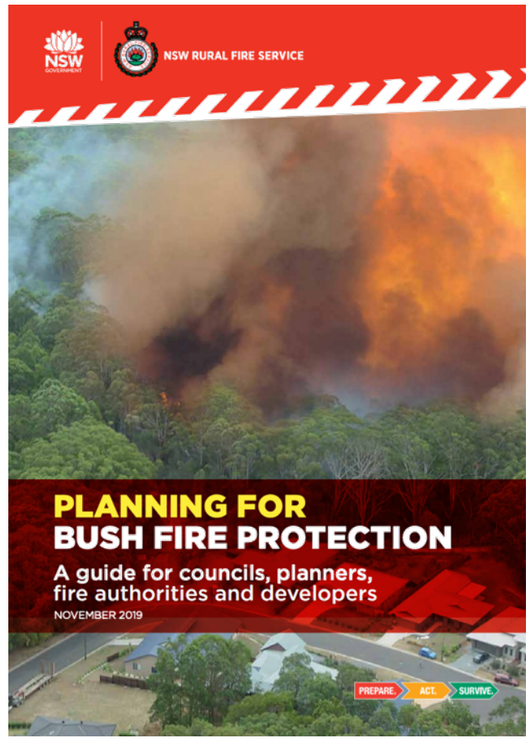
BUSHFIRE ATTACK LEVELS (BAL)

BAL Low	> No particular requirements
BAL 12.5 kw/m2	> Minimum impact, mainly ember proofing
BAL 19 kw/m2	> Small impact, glazing modifications
BAL 29 kw/m2	> Medium impact, glazing & material modifications
BAL 40 kw/m2	> High impact
BAL Flame Zone	> Very high impact and requirements

BUSHFIRE RATING IMPACT

1 kw/m2	> Maximum for exposed skin
2 kw/m2	> Pain after 1min of exposure
10 kw/m2	> Pain after 3sec of exposure Maximum for fire fighters with protective equipment
12.5 kw/m2	Float glass fails

RADIANT HEAT EFFECT



PLANNING FOR BUSHFIRE PROTECTION 2019

www.rfs.nsw.gov.au/plan-and-prepare/building-in-a-bush-fire-area/planning-for-bush-fire-protection

BUSHFIRE CONSTRUCTION

DESIGN

Budget
Brief
Controls
Site Analysis

Concept Design
Developed Design

EMBER PROOFING

SIMPLE SHAPES ARE MORE EASILY DEFENDABLE

PLAN FOR SUFFICIENT WATER SUPPLY

THINK ABOUT THE LANDSCAPING

CREATE GROUND PLANE FIRE BREAKS

CREATE WIND BREAKS

MAINTAIN AREAS AROUND THE HOME

NO VEGETATION TOUCHING THE HOME

ENSURE ACCESS

BUSHFIRE RESILIENCE

CONSIDERATIONS BEYOND CONSTRUCTION REQUIREMENTS

DESIGN

Budget
Brief
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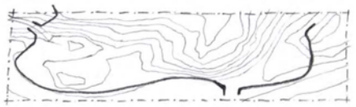
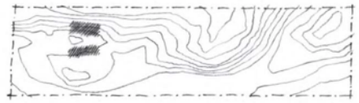
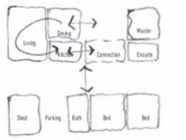
Developed Design



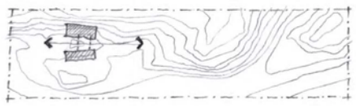
Place Making | Landscape wall defines site



Edge | Inhabit edge of crest to create usable outdoor space

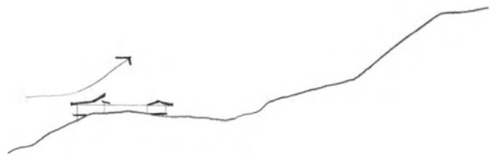


Program | Connect and separate spaces



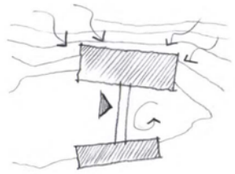
Connection | Allow experience of site landscape through built form

Verge | Inhabit perimeter to create outdoor space on crest

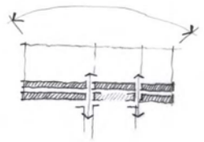


Profile | Roof contour echoes landscape

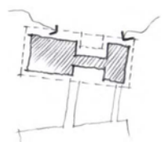
Illuminate | Create skylight to admit north-western sun



Surround | Create courtyard protected from winds and entry



Spine | Establish services and utilities backbone

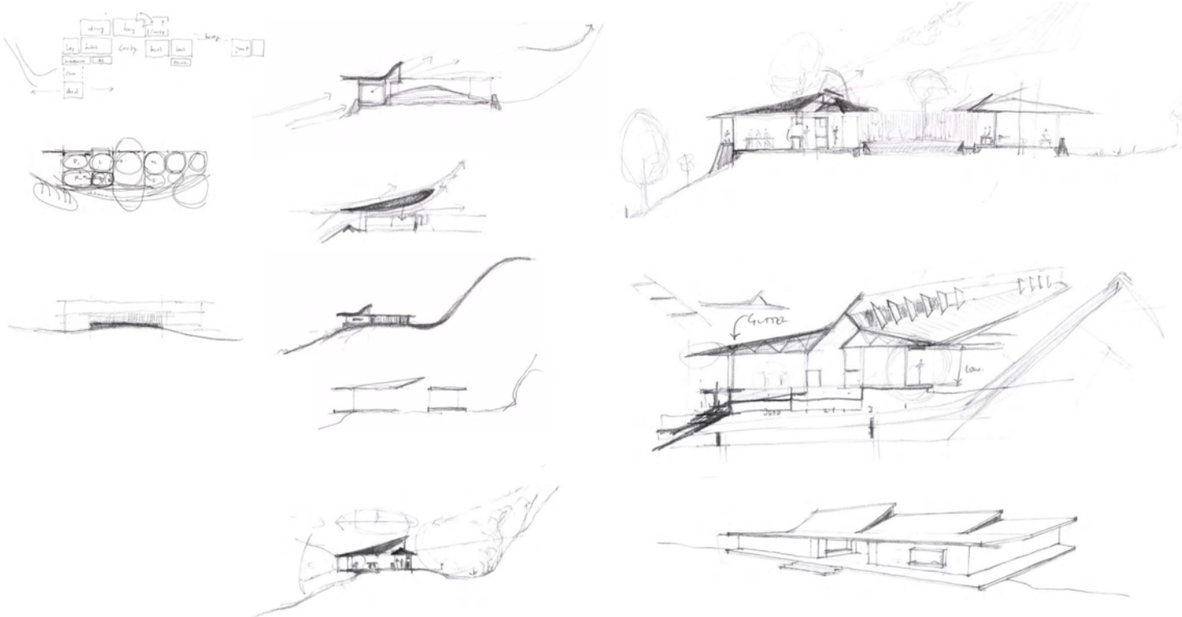


Protect | Incisions form protected outdoor space

Horizon | Create horizontal spaces between floor and ceiling plates

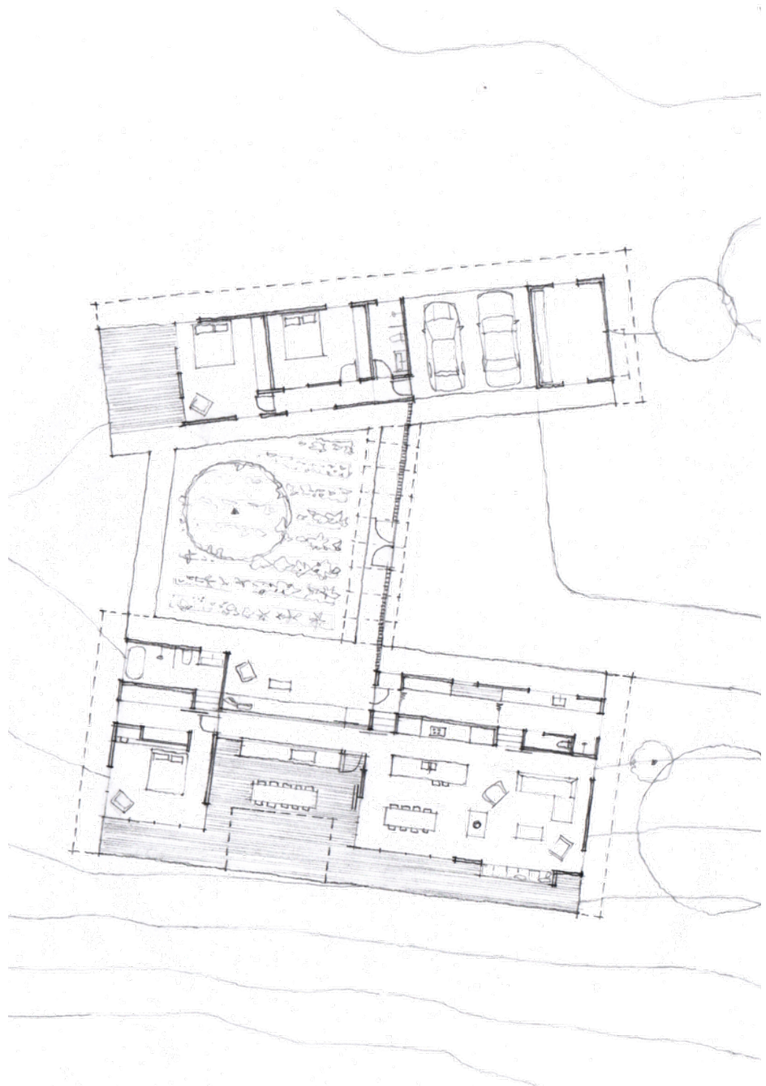
Split | Level change allows for higher spaces

SITE RESPONSE DIAGRAMS



FORM + CONFIGURATION DIAGRAMS

- > Changes here are low cost
- > Understand how the design responds to the research

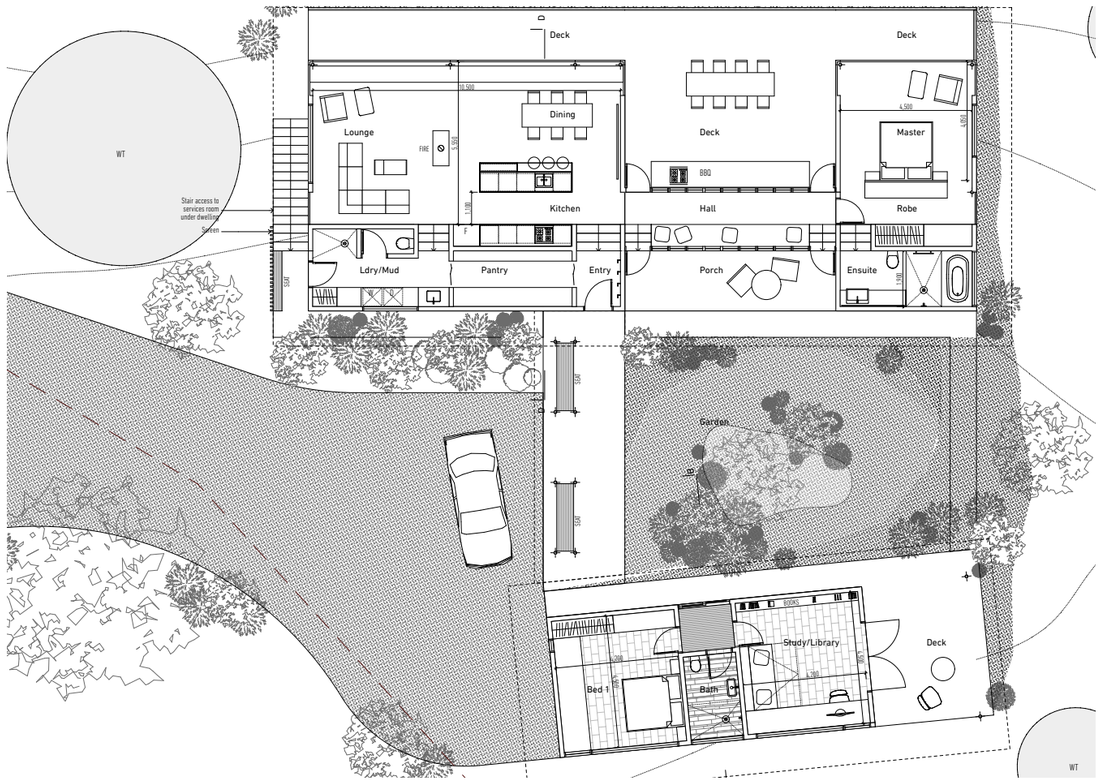


FLOOR PLAN

DESIGN

Budget
Brief
Controls
Site Analysis

Concept Design
Developed Design



- Drawings almost ready for approval
  3D visualisations possible
- Visit other houses to see materials proposed
- Talk to prospective builders re costing
- Get a pre DA cost opinion - keep a contingency

DESIGN → APPROVAL → CONSTRUCTION

Pathways
Rebuild As Was
Complying Development
Development Application
Consultants

PROCESS

APPROVAL

Pathways

Rebuild As Was

Complying Development

Development Application

Consultants

REBUILD AS WAS

COMPLYING DEVELOPMENT

DEVELOPMENT APPLICATION

All require:

- > Documentation
- > Compliance with BCA and Standards
- > Compliance with BASIX
- > Compliance with Bushfire Construction Requirements

APPROVAL

Pathways

Rebuild As Was

Complying Development

Development Application

Consultants

REBUILD AS WAS

> An approved home was destroyed and you wish to rebuild as it was

> Development approval still in place

> Request plans and new construction certificate from Council

> May require upgrades to current building standards including bushfire protection

APPROVAL

Pathways
Rebuild As Was
Complying Development
Development Application
Consultants

COMPLYING DEVELOPMENT

> New home conforms with State Legislation Complying Development Standards (Regulating privacy, setbacks and amenity impacts)

> Approach Private Certifier or Council to receive a Complying Development Certificate

> CDC = Construction Certificate

> Simplified Shortened Process

APPROVAL

Pathways
Rebuild As Was
Complying Development
Development Application
Consultants

DEVELOPMENT APPLICATION

> Design home with design professional

> Apply for Development Consent with Council (Greater requirements for consultant input and design drawings)

> Notification and Approval

> Apply for Construction Certificate with Council or Private Certifier

> Construction

APPROVAL

Consultants

Complying Development
Development Application
Construction Certificate

Lead Consultant

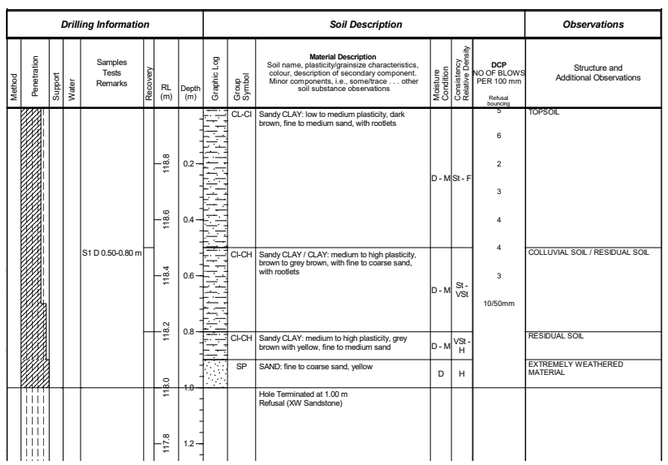
Architect, Building Design Professionals

TABLE 3 APZ AND BAL DETERMINATION

	NORTH	SOUTH	EAST	WEST
Effective Slope	Upslope	Downslope 15-20˚	Downslope 0-5˚	Downslope 10-15˚
Vegetation	Forest	Forest	Forest	Forest
Distance between facade and vegetation	20 m	48 m	25 m	39 m
AS3959 2009 BAL 29 Setback	20-<29 m	48 <64 m	25-<35 M	39 <52 m
BAL Required	**BAL 29**	**BAL 29**	**BAL 29**	**BAL 29**

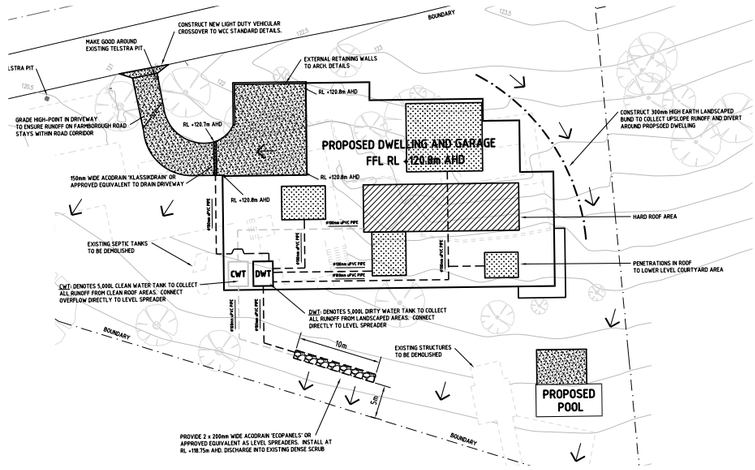
Bushfire Consultant

> BAL Determination
> Management of Vegetation
> Terrain risks
> Asset Protection Zones (APZ)



Geo-technical Engineer

> Land Instability
> Land Bearing Capabilties



Hydraulic Engineer

> Flood Planning
> Fluid Movement Design

Additional Consultants

> Arborist
> Acoustic
> Hazardous Material
> Structural Engineer
> Landscape Architect
> BASIX / NatHERs

DESIGN → APPROVAL → CONSTRUCTION

Methods of Engaging a Builder

PROCESS

CONSTRUCTION

Methods of engaging a builder

TENDER / NEGOTIATED CONTRACT

PRE ARRANGED CONTRACT

OWNER BUILDER

All require:

> Documentation
> Compliance with BCA and Standards
> Compliance with BASIX
> Compliance with Bushfire Construction Requirements

Considerations:

> Quality control
> Completion procedures OC
> Budget management
> Inclusions + Exclusions
> Timelines
> Relationship management

ARCHITECT DESIGNED SMALL SCALE HOUSES / GRANNY FLATS - Takt

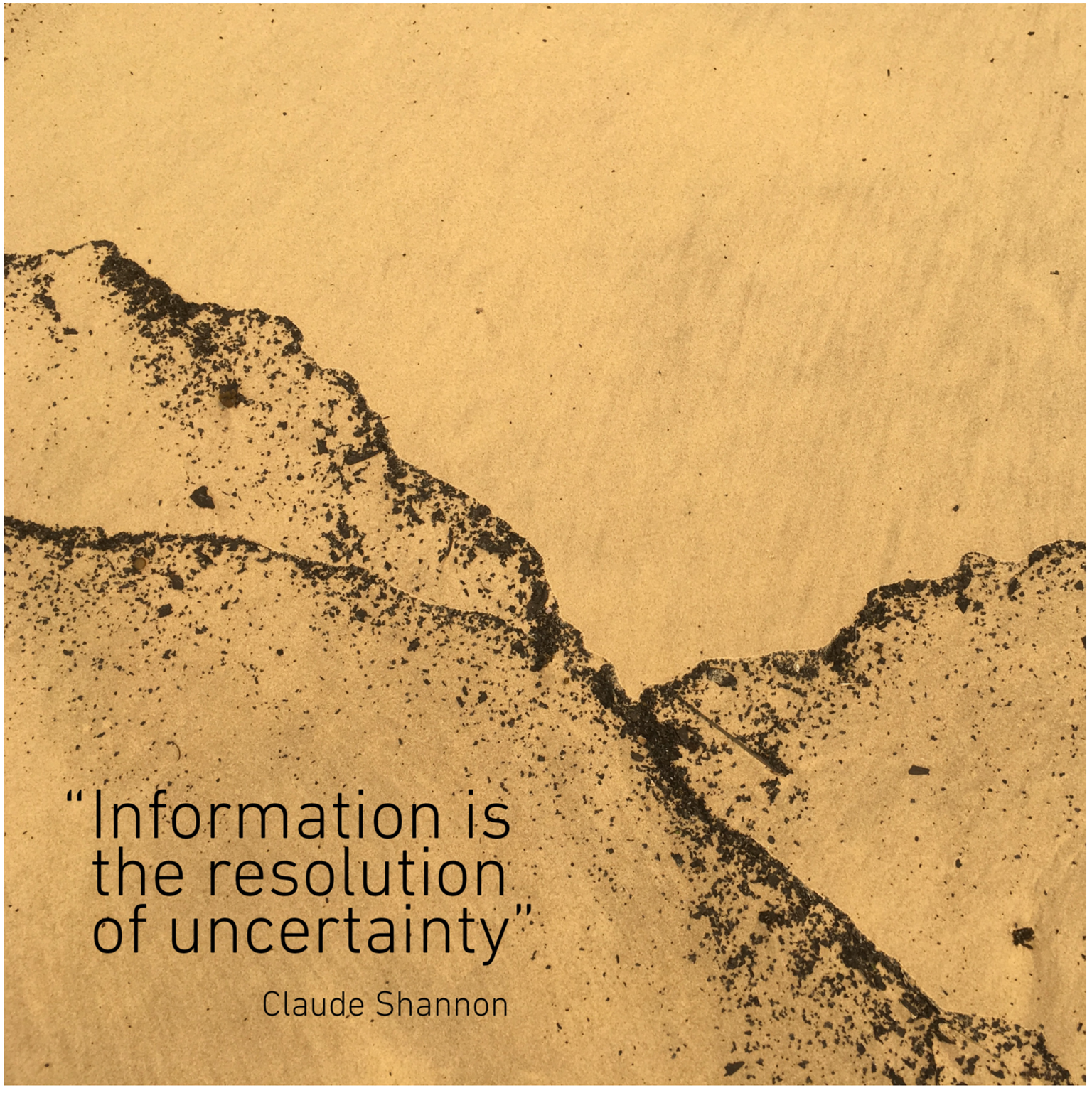
ARCHITECT DESIGNED HOME - Takt

ARCHITECT DESIGNED PROJECT HOME - Mirvac

MODULAR / PREFABRICATED HOME - Modscape

DESIGN BUILD AFFORDABLE HOME BAL 19 - Milton

ARCHITECT DESIGNED HOME - Fergus Scott - Bawley Point


“Information is
the resolution
of uncertainty”
Claude Shannon

Q + A