

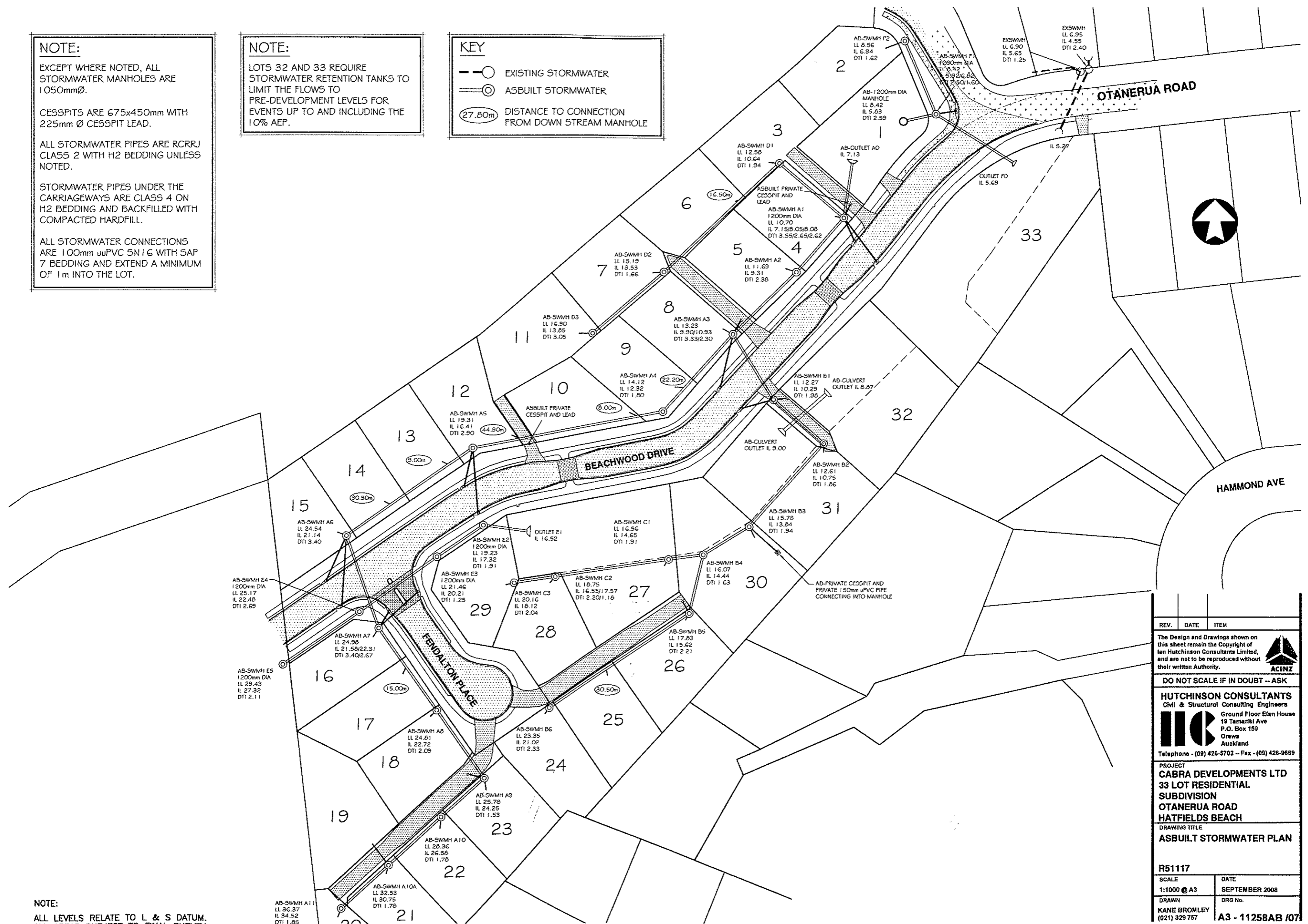
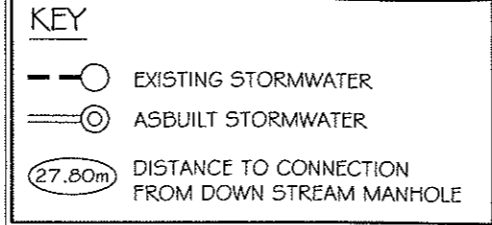


NOTE:  
 ALL LEVELS RELATE TO L & S DATUM.  
 ALL AREAS SUBJECT TO FINAL SURVEY

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<p><b>HUTCHINSON CONSULTANTS</b>          Civil &amp; Structural Consulting Engineers</p> 		
<p>Ground Floor Elan House          19 Tamariki Ave          P.O. Box 150          Orewa          Auckland          Telephone - (09) 426-5702 - Fax - (09) 426-9669</p>		
<p>PROJECT  <b>CABRA DEVELOPMENTS LTD</b>  <b>33 LOT RESIDENTIAL</b>  <b>SUBDIVISION</b>  <b>OTANERUA ROAD</b>  <b>HATFIELDS BEACH</b></p>		
<p>DRAWING TITLE  <b>ASBUILT CONTOUR PLAN</b></p>		
<p><b>R51117</b></p>		
SCALE	DATE	
1:1500 @ A3	SEPTEMBER 2008	
DRAWN	DRG No.	
KANE BROMLEY (021) 329 757 kane@hc.co.nz	<b>A3 - 11258AB /03</b>	

**NOTE:**  
 EXCEPT WHERE NOTED, ALL STORMWATER MANHOLES ARE 1050mmØ.  
 CESSPITS ARE 675x450mm WITH 225mm Ø CESSPIT LEAD.  
 ALL STORMWATER PIPES ARE RCRRJ CLASS 2 WITH H2 BEDDING UNLESS NOTED.  
 STORMWATER PIPES UNDER THE CARRIAGEWAYS ARE CLASS 4 ON H2 BEDDING AND BACKFILLED WITH COMPACTED HARDFILL.  
 ALL STORMWATER CONNECTIONS ARE 100mm uPVC SN 16 WITH SAP 7 BEDDING AND EXTEND A MINIMUM OF 1m INTO THE LOT.

**NOTE:**  
 LOTS 32 AND 33 REQUIRE STORMWATER RETENTION TANKS TO LIMIT THE FLOWS TO PRE-DEVELOPMENT LEVELS FOR EVENTS UP TO AND INCLUDING THE 10% AEP.



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Ground Floor Eton House 19 Tamariki Ave P.O. Box 150 Orua Auckland Telephone - (09) 426-5702 - Fax - (09) 426-9669		
<b>PROJECT</b> <b>CABRA DEVELOPMENTS LTD</b> <b>33 LOT RESIDENTIAL</b> <b>SUBDIVISION</b> <b>OTANERUA ROAD</b> <b>HATFIELDS BEACH</b>		
<b>DRAWING TITLE</b> <b>ASBUILT STORMWATER PLAN</b>		
<b>R51117</b>		
SCALE	DATE	
1:1000 @ A3	SEPTEMBER 2008	
DRAWN	DRG No.	
KANE BROMLEY (021) 329 757	A3 - 11258AB /07	




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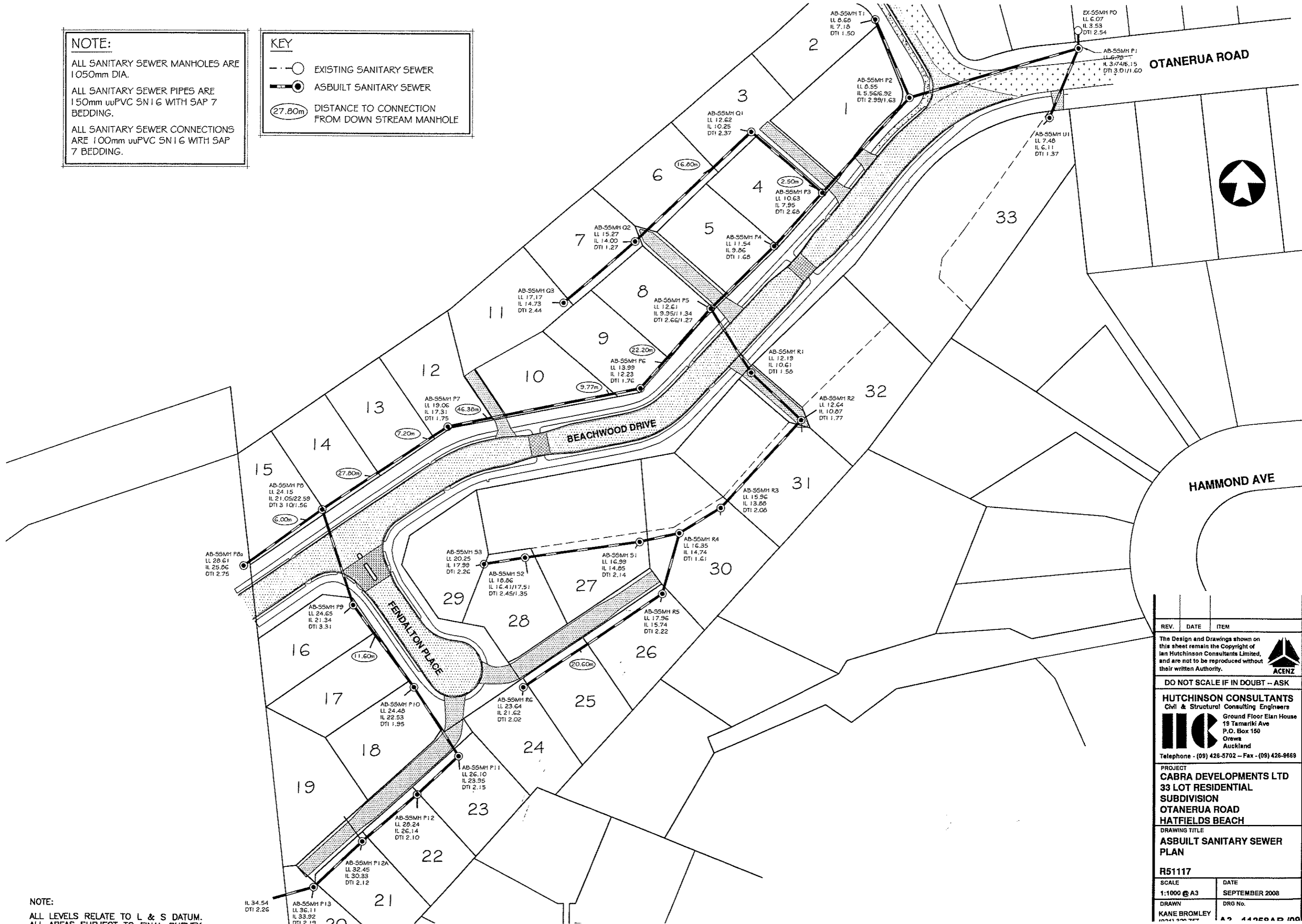
ALL SANITARY SEWER MANHOLES ARE 1050mm DIA.

ALL SANITARY SEWER PIPES ARE 150mm uuPVC SNI 6 WITH SAP 7 BEDDING.

ALL SANITARY SEWER CONNECTIONS ARE 100mm uuPVC SNI 6 WITH SAP 7 BEDDING.

**KEY**

-  EXISTING SANITARY SEWER
-  ASBUILT SANITARY SEWER
-  DISTANCE TO CONNECTION FROM DOWN STREAM MANHOLE



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**HC** Ground Floor Elan House  
19 Tamariki Ave  
P.O. Box 150  
Orewa  
Auckland  
Telephone - (09) 426-5702 - Fax - (09) 426-9669

**PROJECT**  
CABRA DEVELOPMENTS LTD  
33 LOT RESIDENTIAL SUBDIVISION  
OTANERUA ROAD  
HATFIELDS BEACH

**DRAWING TITLE**  
ASBUILT SANITARY SEWER PLAN

**R51117**

<b>SCALE</b> 1:1000 @ A3	<b>DATE</b> SEPTEMBER 2008
<b>DRAWN</b> KANE BROMLEY	<b>DRG No.</b> A3 4495AD /A0

**LEGEND:**



CONSENT NOTICE AREA FOR  
STORMWATER AND SANITARY  
SEWER SERVICES.

**NOTE:**

THE CONSENT NOTICE AREA INDICATES THE  
LOCATION AND EXTENT OF ZONES OF INFLUENCE  
OF SW & SS SERVICES. BUILDING WITHIN THIS  
ZONE WILL REQUIRE SPECIFIC ENGINEERING.



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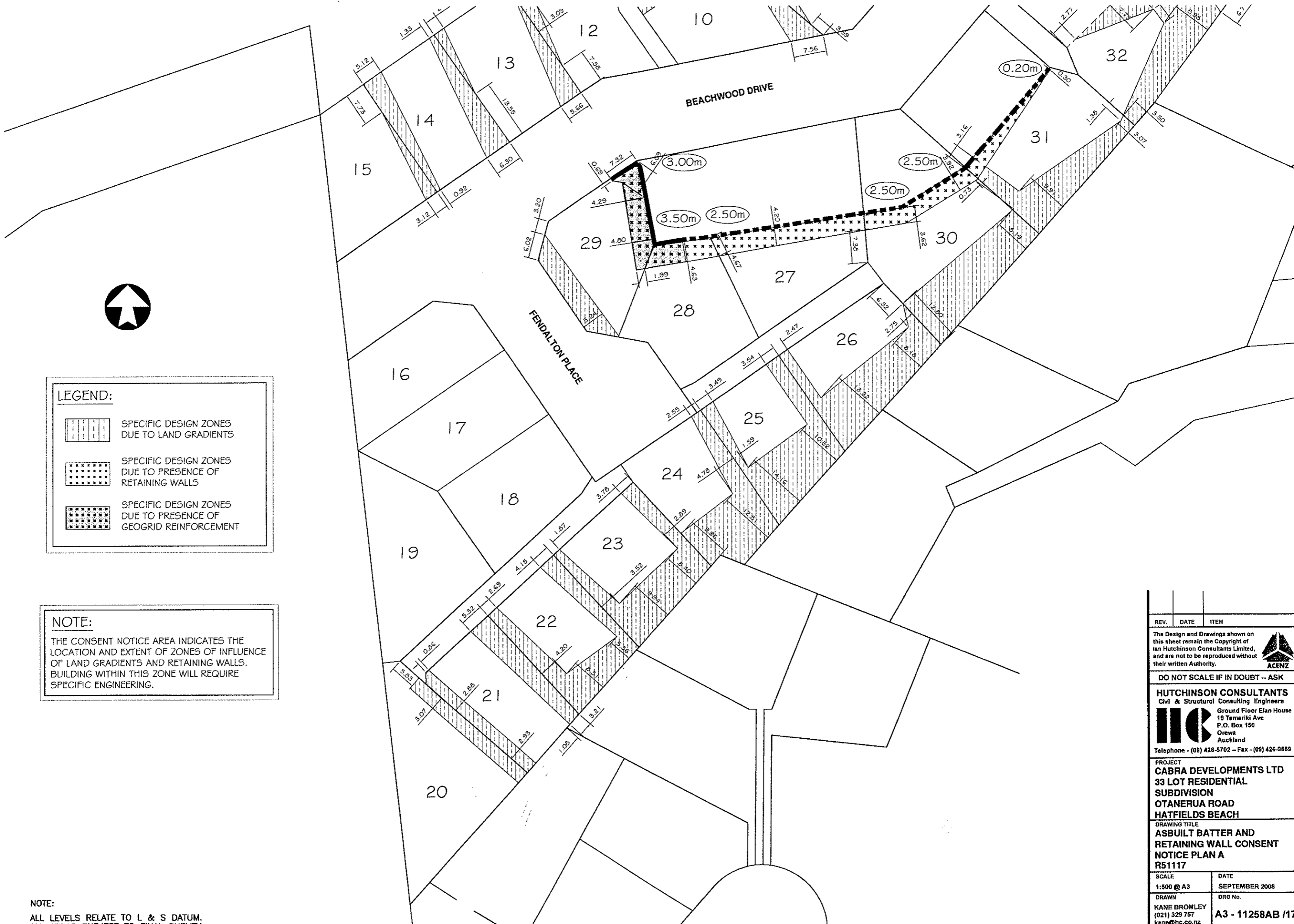
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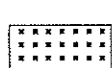

PROJECT  
**CABRA DEVELOPMENTS LTD**  
33 LOT RESIDENTIAL  
SUBDIVISION  
OTANERUA ROAD  
HATFIELDS BEACH

DRAWING TITLE  
**ASBUILT STORMWATER AND  
SANITARY SEWER CONSENT  
NOTICE PLAN**  
R51117

SCALE 1:1000 @ A3	DATE SEPTEMBER 2008
DRAWN KANE BROMLEY (021) 328 757 kane@hc.co.nz	DRG No. <b>A3 - 11258AB /16</b>



**LEGEND:**

-  SPECIFIC DESIGN ZONES DUE TO LAND GRADIENTS
-  SPECIFIC DESIGN ZONES DUE TO PRESENCE OF RETAINING WALLS
-  SPECIFIC DESIGN ZONES DUE TO PRESENCE OF GEOGRID REINFORCEMENT




**NOTE:**

THE CONSENT NOTICE AREA INDICATES THE LOCATION AND EXTENT OF ZONES OF INFLUENCE OF LAND GRADIENTS AND RETAINING WALLS. BUILDING WITHIN THIS ZONE WILL REQUIRE SPECIFIC ENGINEERING.

NOTE:  
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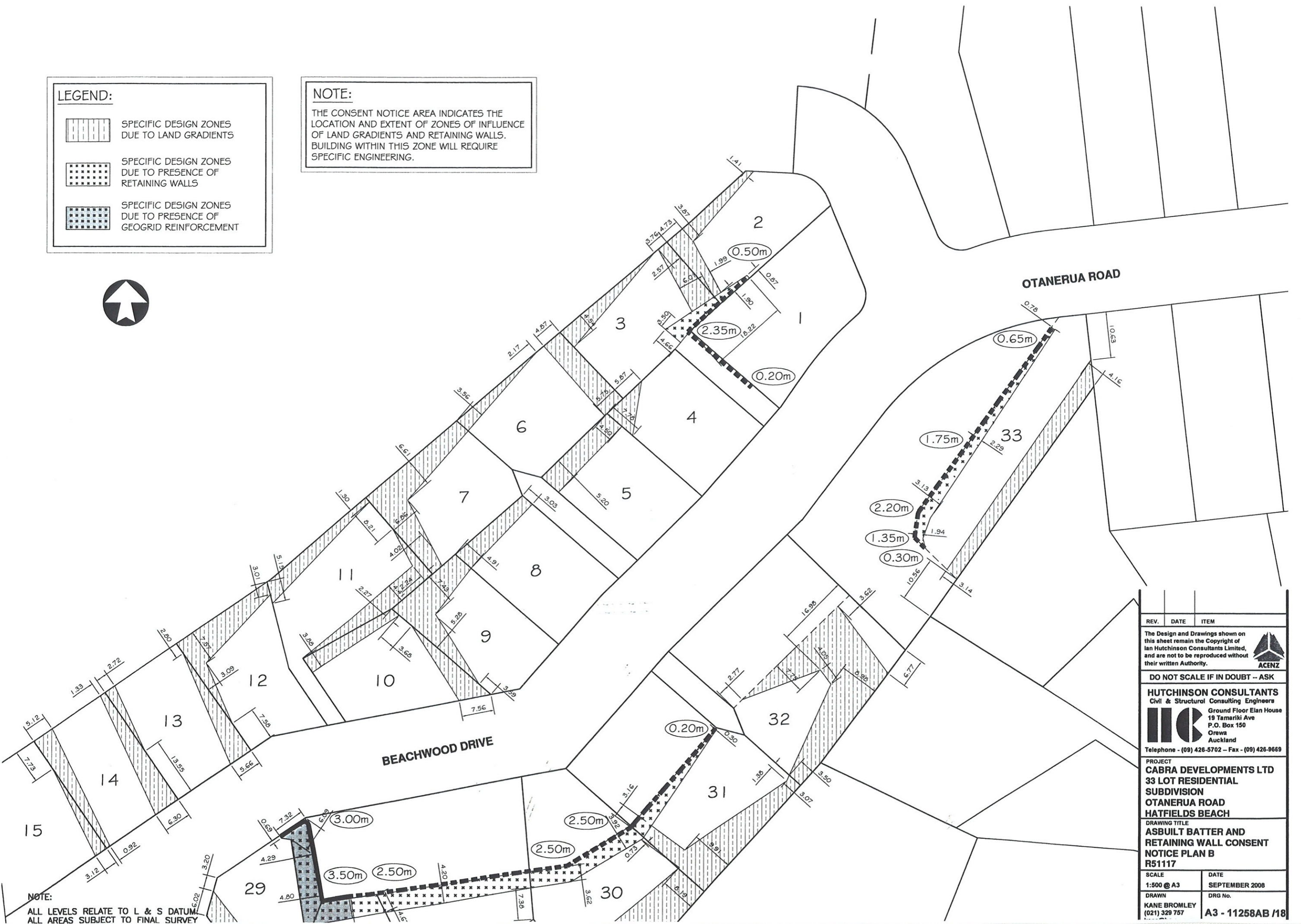
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<p>PROJECT <b>CABRA DEVELOPMENTS LTD</b> 33 LOT RESIDENTIAL SUBDIVISION OTANERUA ROAD HATFIELDS BEACH</p>		
<p>DRAWING TITLE <b>ASBUILT BATTER AND RETAINING WALL CONSENT NOTICE PLAN A</b> R51117</p>		
SCALE	DATE	
1:500 @ A3	SEPTEMBER 2008	
DRAWN	DRG No.	
KANE BROMLEY (021) 329 757 kane@hc.co.nz	A3 - 11258AB /17	

**LEGEND:**

-  SPECIFIC DESIGN ZONES DUE TO LAND GRADIENTS
-  SPECIFIC DESIGN ZONES DUE TO PRESENCE OF RETAINING WALLS
-  SPECIFIC DESIGN ZONES DUE TO PRESENCE OF GEOGRID REINFORCEMENT

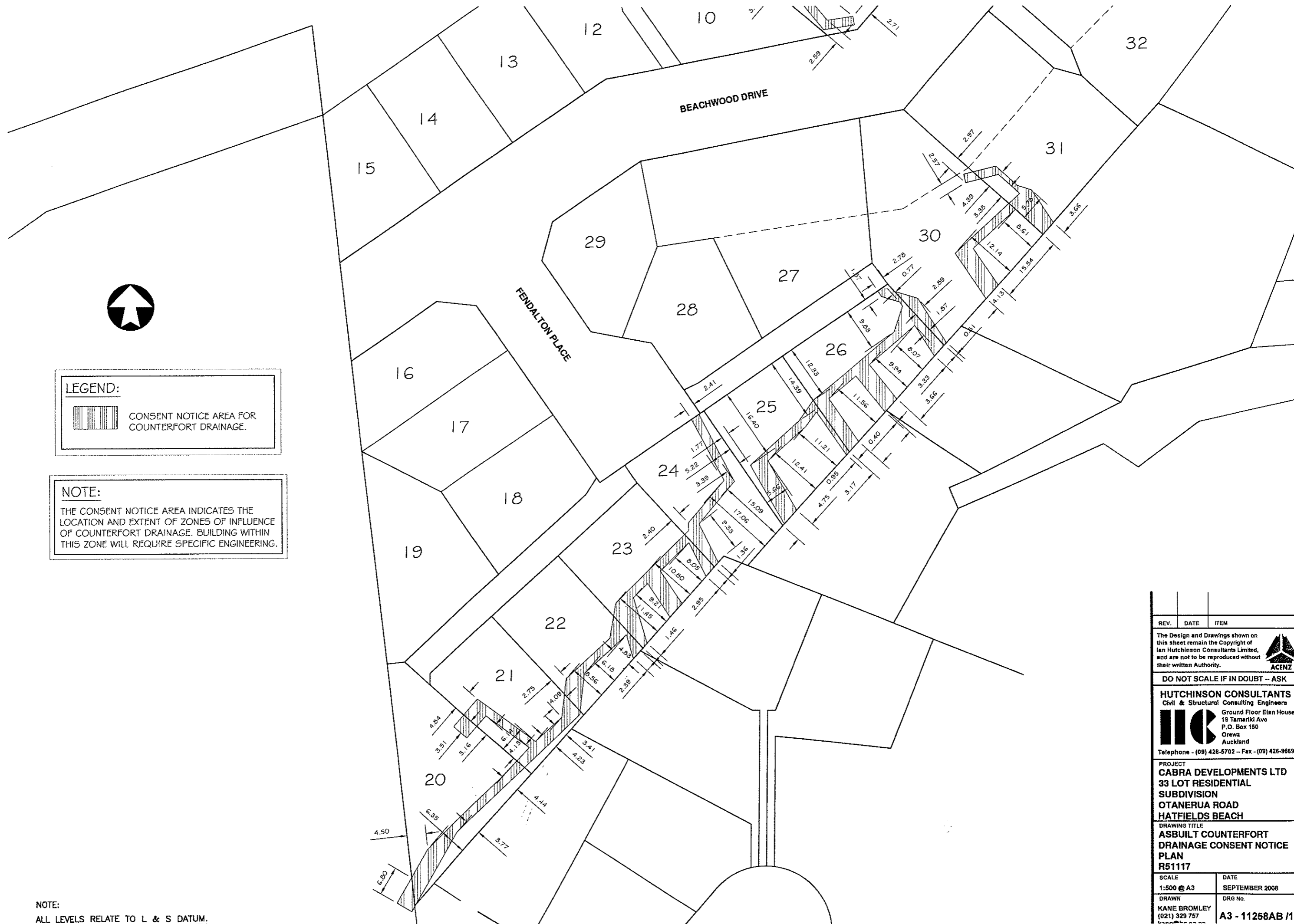
**NOTE:**

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<p>PROJECT <b>CABRA DEVELOPMENTS LTD</b> 33 LOT RESIDENTIAL SUBDIVISION OTANERUA ROAD HATFIELDS BEACH</p>		
<p>DRAWING TITLE <b>ASBUILT BATTER AND RETAINING WALL CONSENT NOTICE PLAN B</b> R51117</p>		
SCALE	DATE	
1:500 @ A3	SEPTEMBER 2008	
DRAWN	DRG No.	
KANE BROMLEY (021) 329 757		
		<b>A3 - 11258AB /18</b>



**LEGEND:**

 CONSENT NOTICE AREA FOR COUNTERFORT DRAINAGE.

**NOTE:**

THE CONSENT NOTICE AREA INDICATES THE LOCATION AND EXTENT OF ZONES OF INFLUENCE OF COUNTERFORT DRAINAGE. BUILDING WITHIN THIS ZONE WILL REQUIRE SPECIFIC ENGINEERING.

**NOTE:**

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<p>PROJECT <b>CABRA DEVELOPMENTS LTD</b> <b>33 LOT RESIDENTIAL</b> <b>SUBDIVISION</b> <b>OTANERUA ROAD</b> <b>HATFIELDS BEACH</b></p>		
<p>DRAWING TITLE <b>ASBULT COUNTERFORT</b> <b>DRAINAGE CONSENT NOTICE</b> <b>PLAN</b> <b>R51117</b></p>		
SCALE	DATE	
1:500 @ A3	SEPTEMBER 2008	
DRAWN	DRG No.	
KANE BROMLEY (021) 329 757	A3 - 11258AB /19	

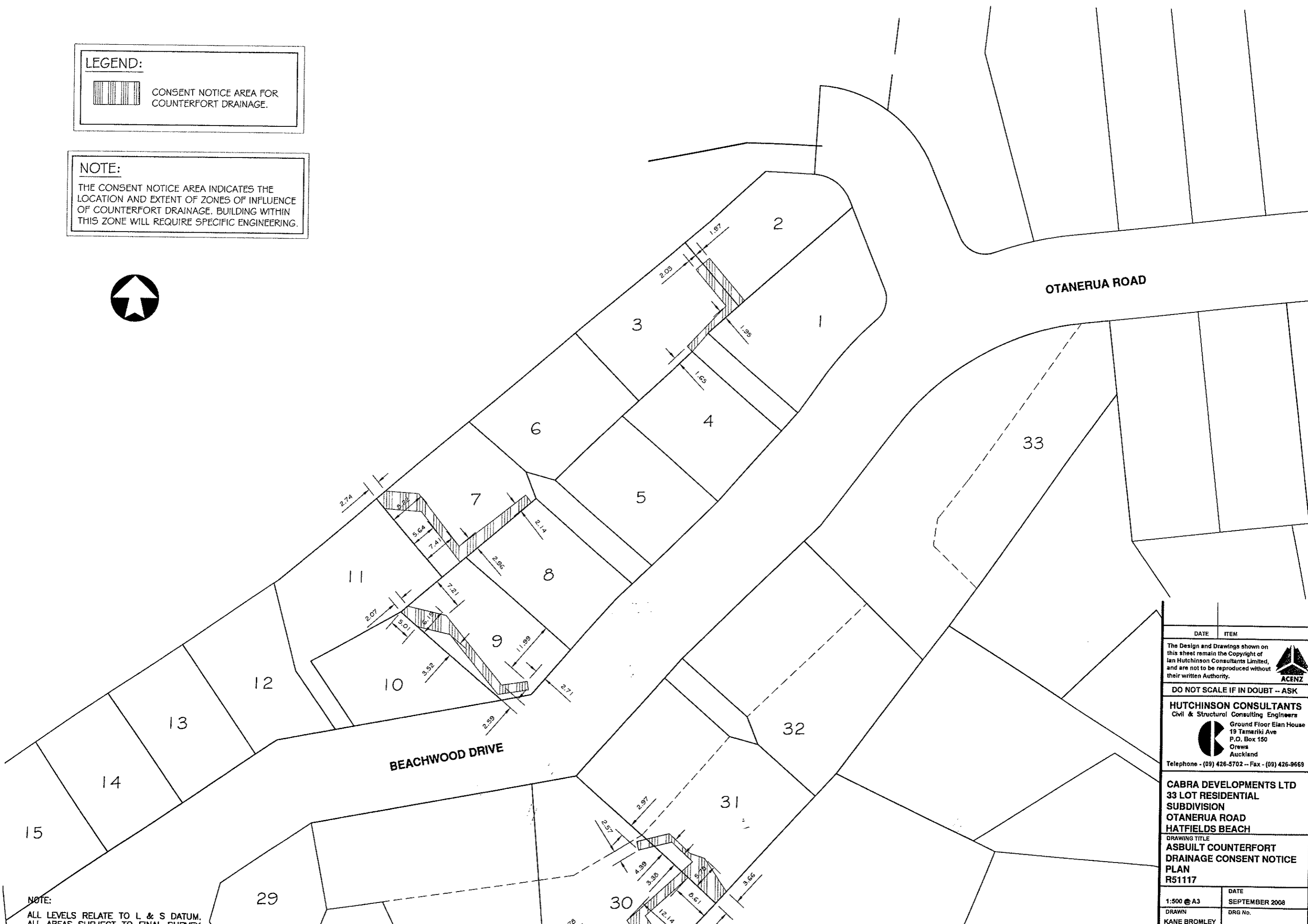
**LEGEND:**





CONSENT NOTICE AREA FOR COUNTERFORT DRAINAGE.

**NOTE:**

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<b>CABRA DEVELOPMENTS LTD</b> 33 LOT RESIDENTIAL SUBDIVISION OTANERUA ROAD HATFIELDS BEACH	
DRAWING TITLE <b>ASBUILT COUNTERFORT                      DRAINAGE CONSENT NOTICE                      PLAN</b> R51117	
1:500 @ A3	DATE SEPTEMBER 2008
DRAWN KANE BROMLEY	DRG No.