



# WITHERED GAIA

## INVESTIGATING THE AESTHETIC VAULE OF HEMP WITHIN CONTEMPORARY MENSWEAR

The aim of this investigation is to experiment with the substrates of hemp fabric in order to challenge the aesthetic values of the material within contemporary menswear. Ultimately this investigation doesn't allude to a conclusive result, but rather a bridge to more extensive undertakings when discussing the integration of sustainable materials within the consumer market. Is it that the challenge to alter such consumer perceptions on hemp starts with the designers and manufacturers? If so, how can hemp be promoted in an out of the box way that presents itself in a new light. As written by Kate Fletcher "Today, all companies speak to their customers as consumers; barely any also speak to them as active citizens. Few give their customers the tools or the occasion to ask questions and build knowledge about an ecosystem's carrying capacity or resource cycles." (2012: 157)

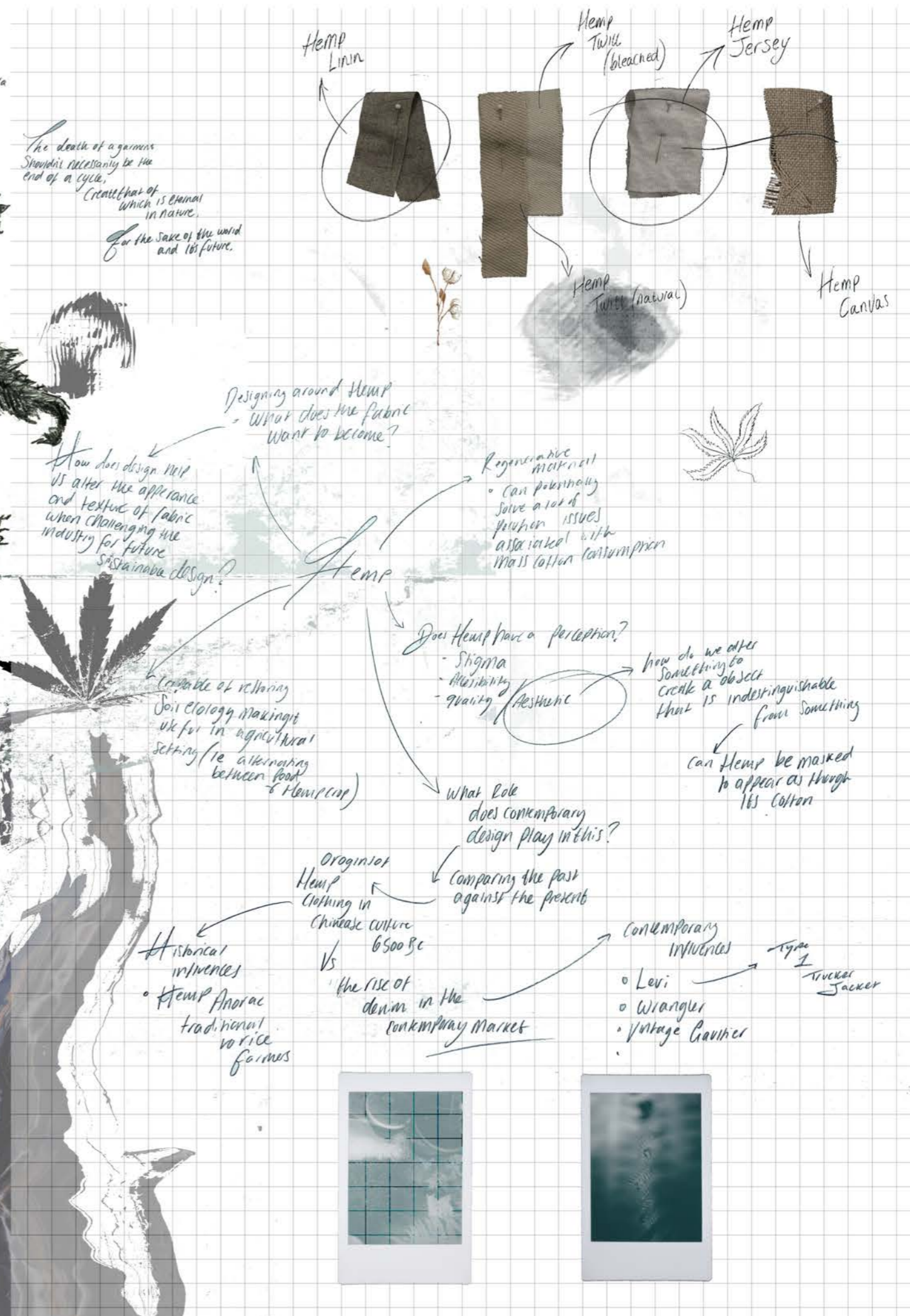
Therefore, it can be interpreted that the role of sustainable advocator comes from the designer. In this investigation, object-based and ethnographic research Mida (2015) Yeseung (2015) Jense (2016) will act as the catalyst that enables the reflective experimentation when altering the sensory experiences of hemp. I.E how does the experience influence the product. Because of the reflective nature of this research, it's important to know that the values associated with such methods would suggest that the challenges of promoting hemp within contemporary fashion fall between a perception of the fibre, and the personal connections to such materials. Potential barriers to hems uptake could be linked to accessibility, quality, production, personal values or/and connotations related to the use of Hemp within the consumer market. The existence of Hemp fashion within the market is scarce and censored at best again referring to Kate Fletcher "for a fashion brand, ecology is far removed from a company's normal interface with the customer, for fashion is seen to connect customers to cultural systems not natural ones" (2012: 157)

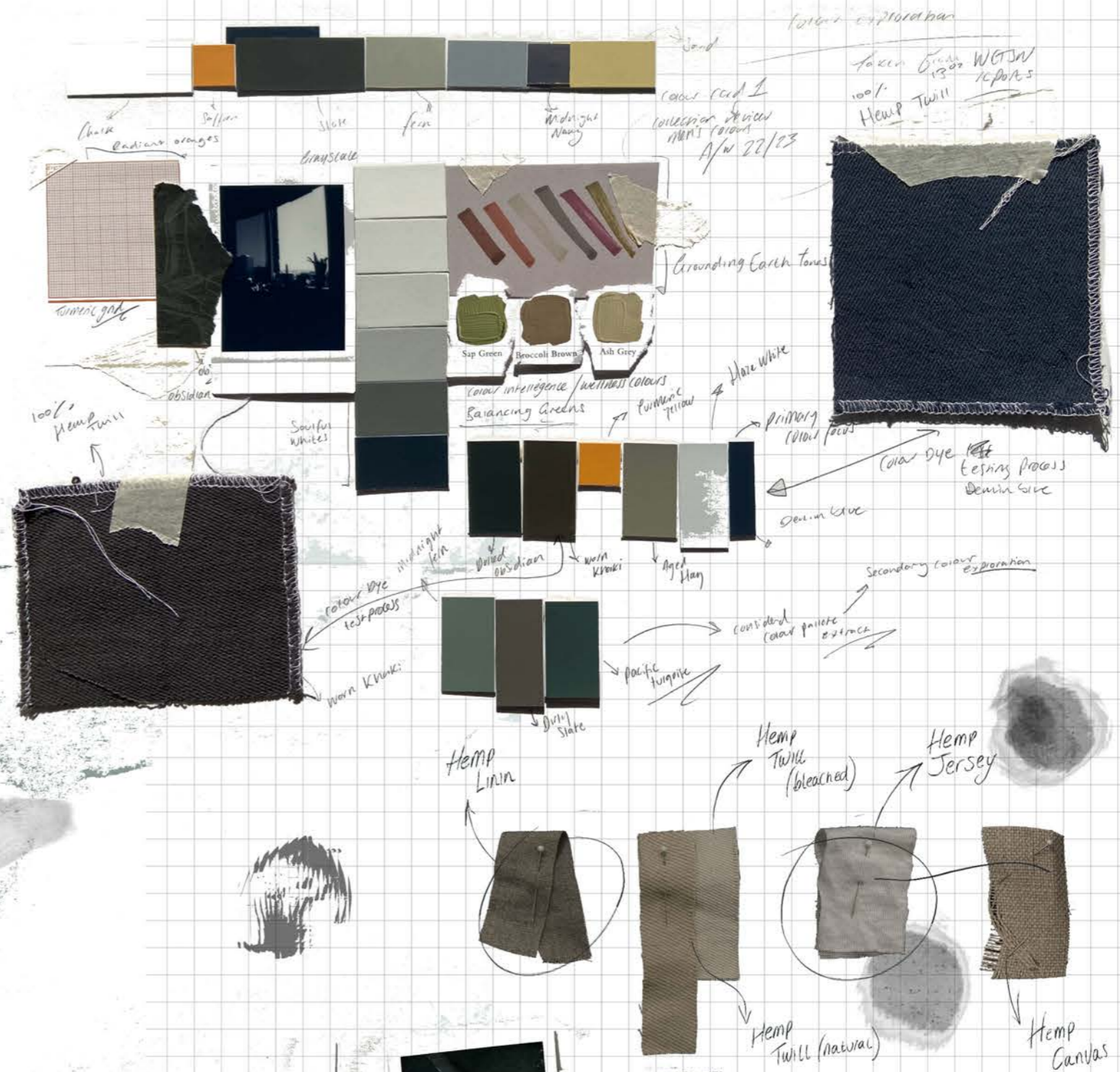
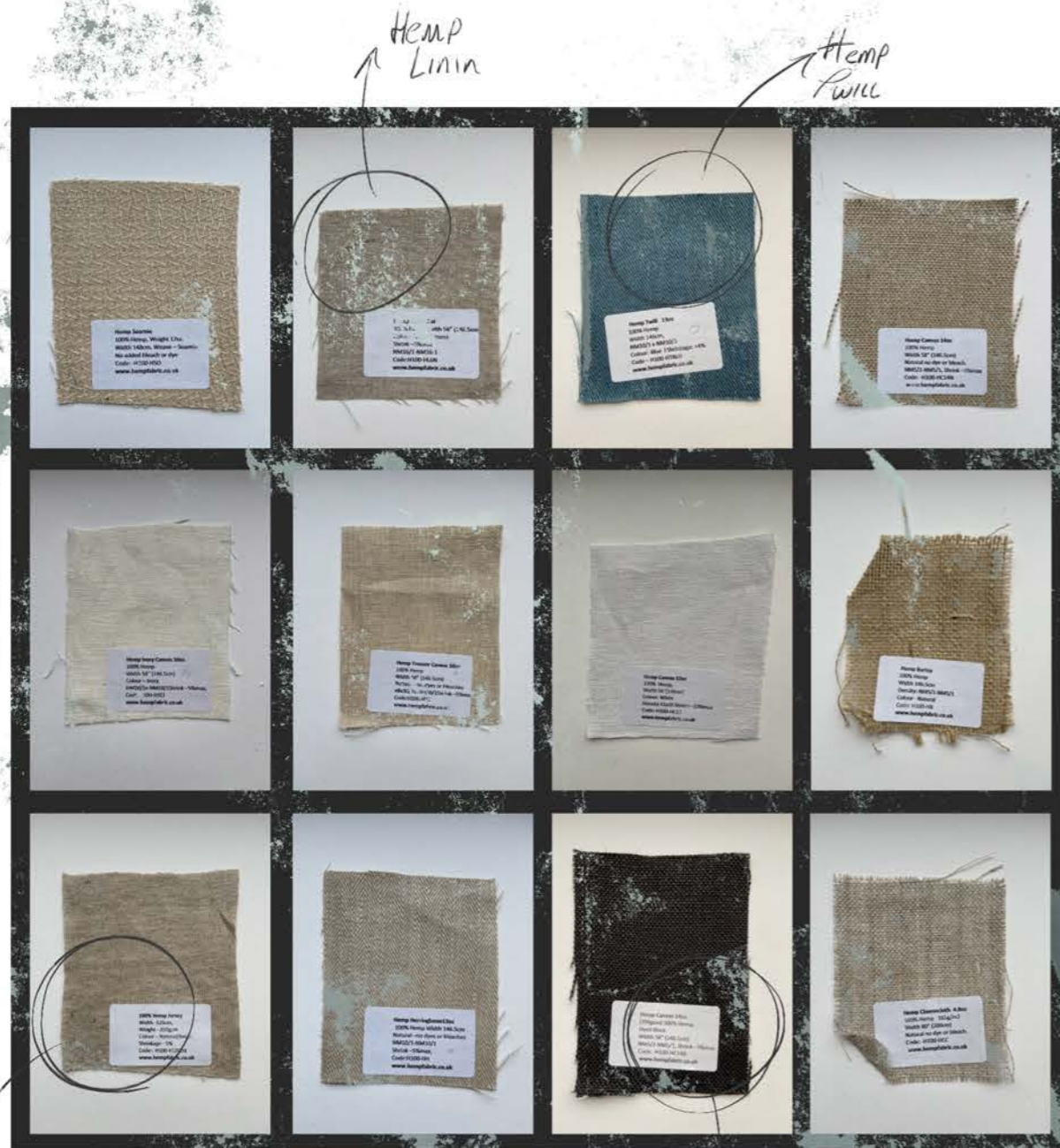


IDENTIFYING THE SUBSTRATE

# HEMP SUBSTRATE

The initial investigation into the chosen substrate that would support my project was centred around the use of hemp and its environmental benefits. Hemp is a renewable plant that restores soil ecology and effectively breaks down in the environment without leaving any chemical residue. Its fast growing and per hectare yield 2.5 times more cotton per harvest. In addition, hemp also requires far less water, per KG cotton requires 10,000 litres of water with hemp, at most, only requiring 20% as much (500 litres) in terms of natural fibres Hemp excels against its other plant counter parts, from its strength to diverse industrial applications.





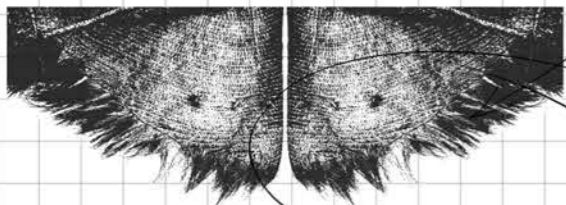
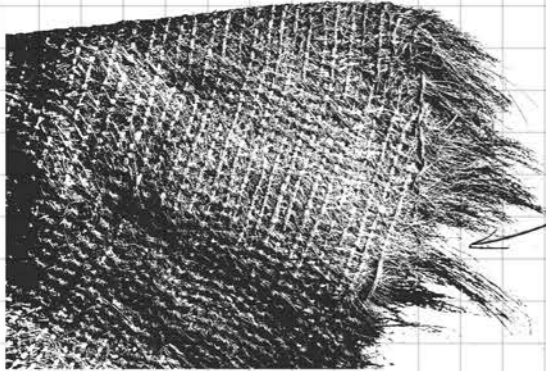
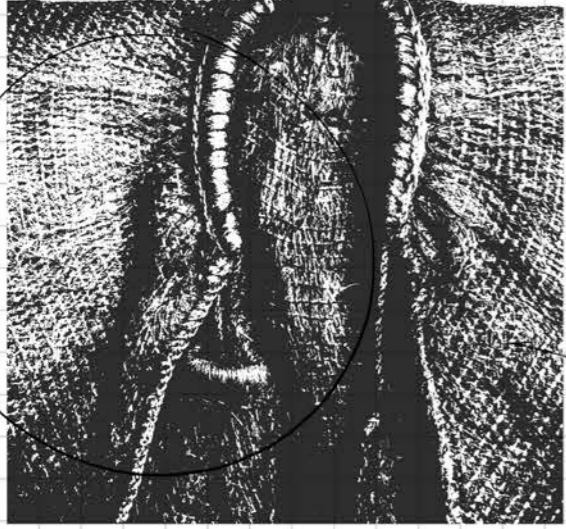
IDENTIFYING THE SUBSTRATE

# PRELIMINARY EXTRACT

Using HempFabricUK as the primary source of hemp fabrics required a reflective process which has helped refine a specific substrate within this hemp investigation. The use of 4 separate hemp fabrics all different weave, texture and weight will enable an in-depth analysis of how hemp can be aesthetically altered to meet the requirements of this investigation. As this board shows colour will play a key role in this investigation as hemp is known for being difficult to dye (this can be seen from the swatches present) samples of dye on hemp twill show an almost chalky faded look. Further to this investigation perhaps the vibrance of hemp colours will play a key role.



Hemp Historical Design Processes  
Ancient Chinese 5000 BC (middle east)



Texture breakdown  
- is there a way to  
mimic raw hemp texture  
in fabric compositions instead?  
- experiment with stitch  
structures



Junnan National Museum  
Jiao women's hemp cross stitch clothes



Can we use  
historical textures  
as a contemporary  
influence

The death of a garment  
depends essentially on the  
end of a cycle.  
(rest part of it cannot  
be done)  
The last of his world  
and his fate.



HISTORICAL  
INFLUENCES

# HISTORY OF HEMP

Early example of Hemp cultivation date back to 5000 BC in China. Hemp grew in the wild and it offered a strong, cheap alternative to animal skins for the poorer population to cloth themselves with. The illustrated example shown above is of a Hemp Palm anorak traditionally worn by farmers to protect themselves from the elements. You can see from the over exposed images on the right that the primitive weaving structures provide an interesting pattern that could be replicated to create a contemporary interpretation of such techniques using structure as a means of creating pattern.



SUBSTRATE  
EXPERIMENTATION

# PROCESS RESEARCH

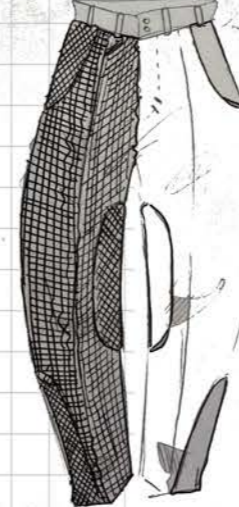
Testing how the process of experimentation will be conducted. Shown below are the areas of investigation for this project which has identified colour and weight as key issues to altering aesthetic values of hemp. This meant sampling colour on variable weights of hemp and stitch techniques that fuse to hemp fabrics together using organic cotton threads to avoid chemical adhesives to fuse the fibres. Cotton threads have been used as for this investigation as machine hemp threads aren't currently available on the market. This may differ in the future with new technological advancements in hemp refinement.



Hemp Jersey  
Double Bonded  
More sturdy  
less stretch  
better quality weight  
of the fabric  
feels like  
handies



Cover stitch  
double bonded  
look better on  
the cover stitch creating  
a more pleasing seam

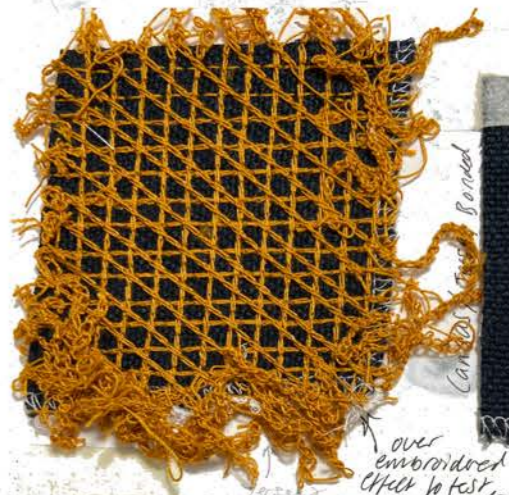


Cover stitch  
embroidered  
Hemp  
jersey  
gives  
a textured  
effect, loses  
some softness

Cover stitch  
no longer  
true  
hemp

Spin needle  
Cover stitch

Thread sank  
deep into the  
jersey giving  
a messy distorted  
look  
jersey is  
relatively light  
weight so may  
be an issue with  
needles being used



Cover  
stitch

Cover stitch

Cover stitch had a high  
quality feel to it/  
stitch was sturdy &  
didn't sink heavily into  
the fabric/would  
work well with the  
Hemp Jersey for  
level of stitch



over  
embroidered the fabric  
after to test  
wrapping / steam to  
the side  
with spin

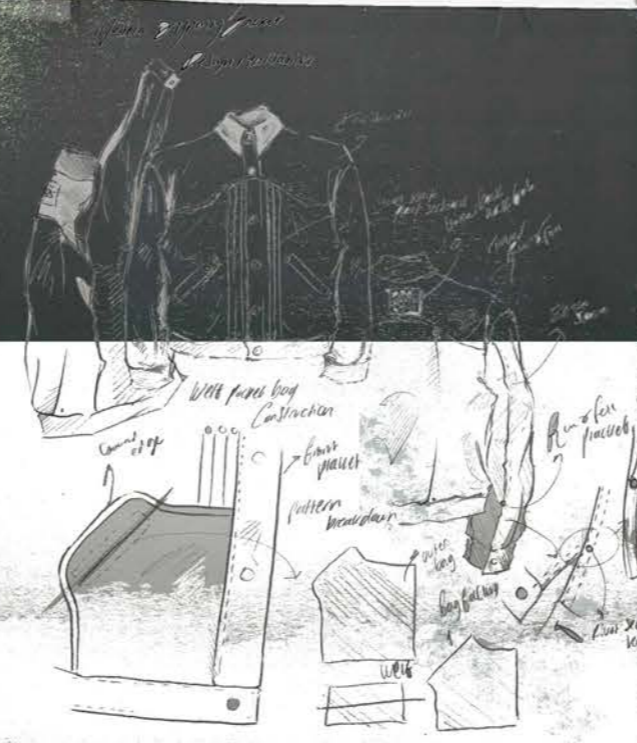
Suitable  
for heavier  
weight  
shirts

texture  
weight  
change  
makes the  
fabric feel a lot  
better  
takes  
away 15%  
with rough

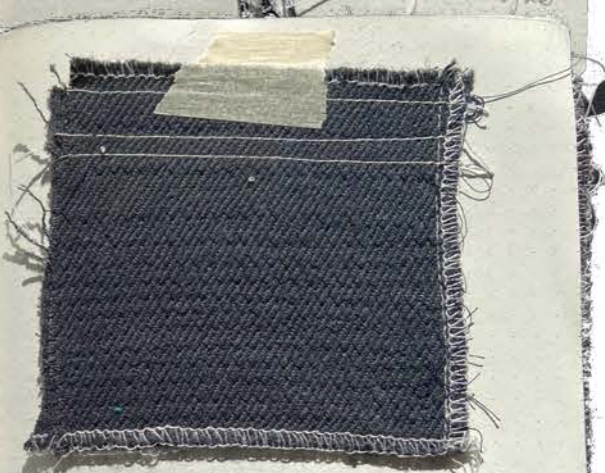
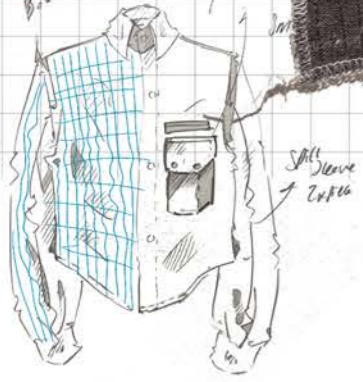
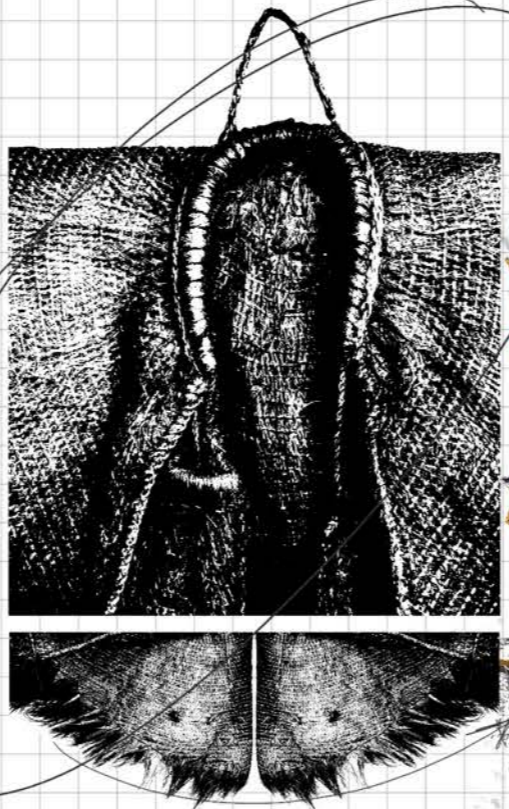


SUBSTRATE  
EXPERIMENTATION  
**PROCESS IN ACTION**

Exploration of stitch techniques to fuse fibres together has alluded to the effects of weight when conducted. An important factor to consider when fusing fabrics is how thick the fabric will be after its be altered. If the fabric is too thick the resulting garment made will be heavy and stiff depending on what is being used. Further to this the Hemp fabric has been ruled out of this investigation as its starting weight becomes too heavy when merged with any of the other fabrics being used.



Textile translation



Jersey / dyed woolen hemp twill  
plus ribe bonded shirt  
- light weight  
- color comes with  
you off white cotton thread  
works well  
- and aesthetic value  
- the fabric / ready like the color  
- further sampling required

Jersey bonded to Natural Twill  
Zig Zag stitch used to bind fibres  
together / stitch works creates a nice  
texture in the twill  
- heavier our fabric / Zig Zag stitch binds the  
fabric together / feels like a sturdy weight  
- garment the dyed fibres have softened  
with handle / the color sits well on the  
fibres

### SUBSTRATE EXPERIMENTATION

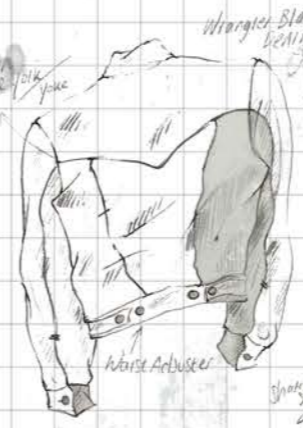
# PROCESS IN ACTION

Through stitch technique the fabrics shown replicate the weave structure of the hemp anorak. By raising the threshold of the fabrics and hemp anorak you can see similarities between the fabric structures and the weave structure. The weights now need to be tested on a larger scale to sample drape, manipulation and sewing capabilities.





Craig Green  
lace thore  
Jackets



Wrighter Black  
Denim  
Jacket  
Back



Janis  
Crawford  
Yellow  
Jacket



Janis  
Crawford  
Denim  
Jacket



Wrighter  
Arbuser



Shwartz



Wrighter  
Denim  
Jacket



Color  
in  
front  
signature  
of  
line  
work?

Contour  
Shirt

Contour  
shirt

Contour  
shirt

Slouched  
short  
sleeve

Head  
lines

Pattern  
placement  
continuity

Color  
within  
silhouette

Contour  
shirt

Color  
within  
silhouette

Contour  
shirt

Contour  
shirt

Contour  
shirt

Contour  
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Contour  
shirt

### CONTEMPORARY INFLUENCES

# MODERN CONTEMPORARY

Research of contemporary influences within the menswear market, designer such Craig Green and modern pieces from the Westminster archive all seem to show boxy shapes and functionality. The simplistic nature of these pieces retain value as their presence can be found all over the market, from high end design to second hand. Analysis of fits and construction have been circled on this board to show how these simplistic silhouettes have been adapted to make them more interesting.



Craig Green  
Spring 15

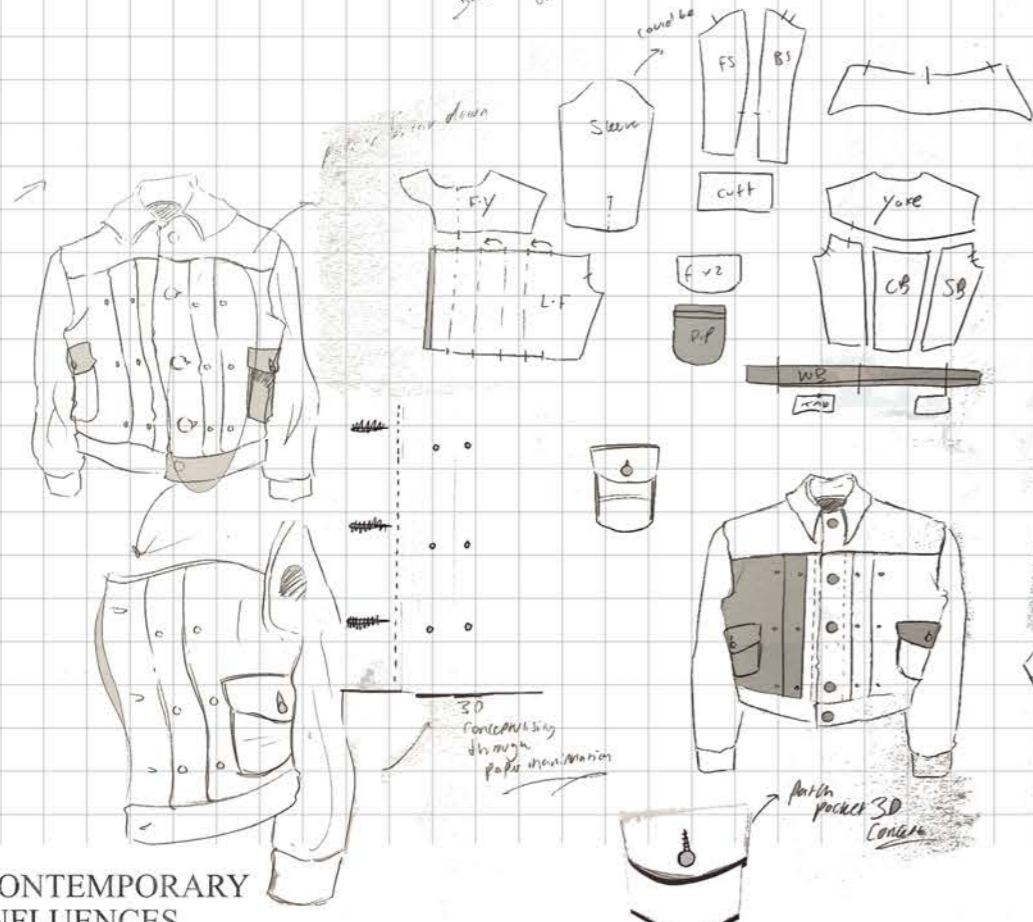
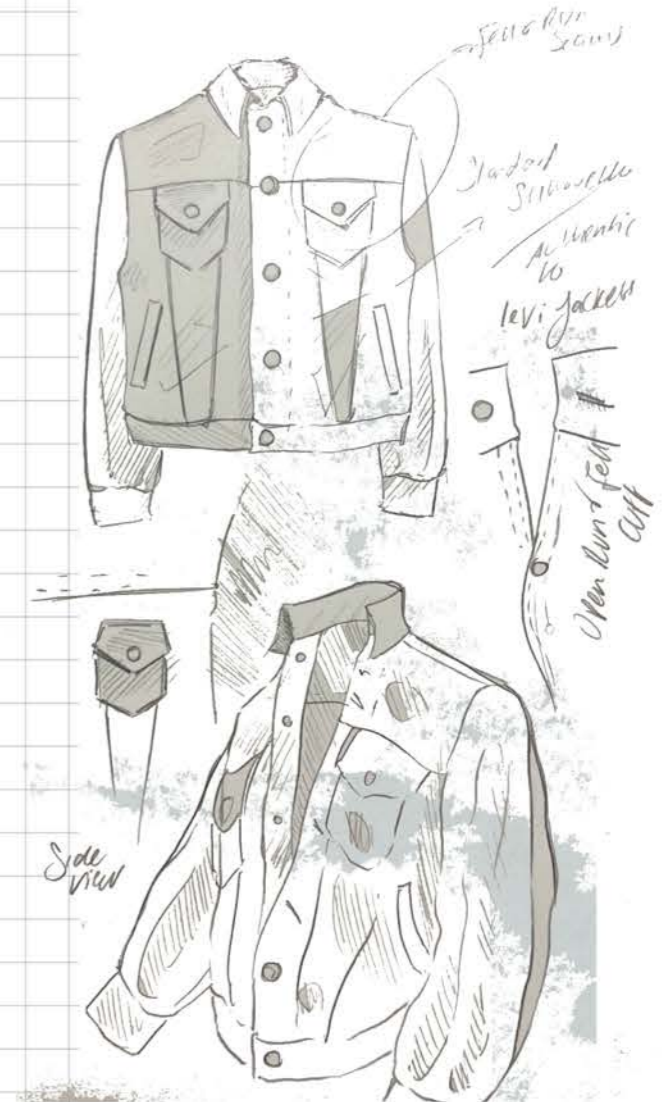


Craig  
Green  
Fall  
20

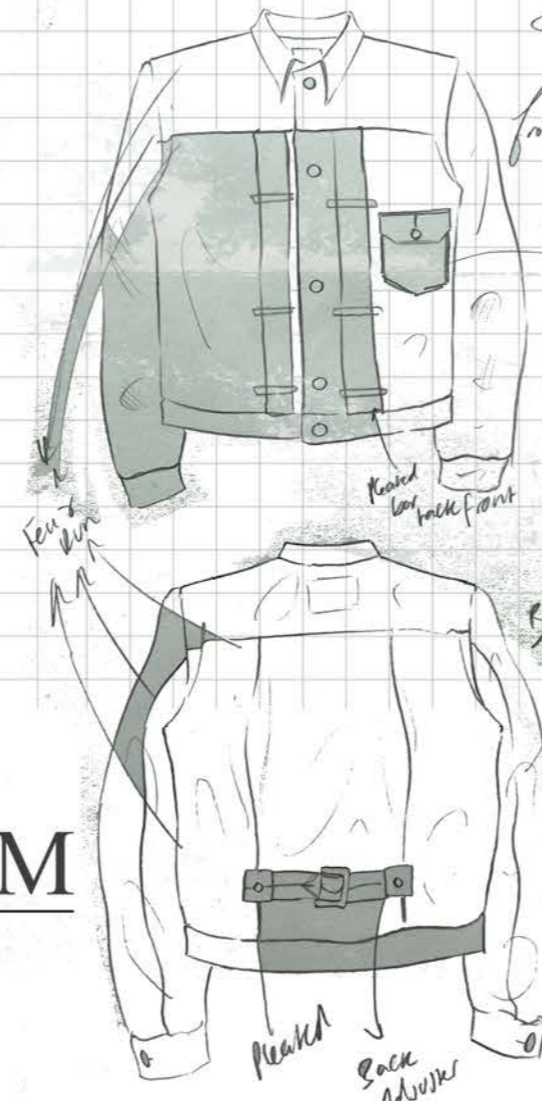




1936 Levi Type 1 Trucker Jacket



Levi's Vintage Clothing LVC 1936 Type 1 Trucker Jacket Kidgird L Japan Made



# CONTEMPORARY INFLUENCES

## CONTEMPORARY DENIM

Further research into contemporary influences has seen the focus shift into denim, specifically looking at staple denim pieces from brand such a Levi and wrangler. These brands have denim pieces that have remained the same throughout their long history of production yet still find a place in the market that is both thriving and relevant. It could be said that Levi and Wrangler have remained popular in the market because they're designs are still viewed as contemporary pieces, you only need to look at the high street to see its presence.

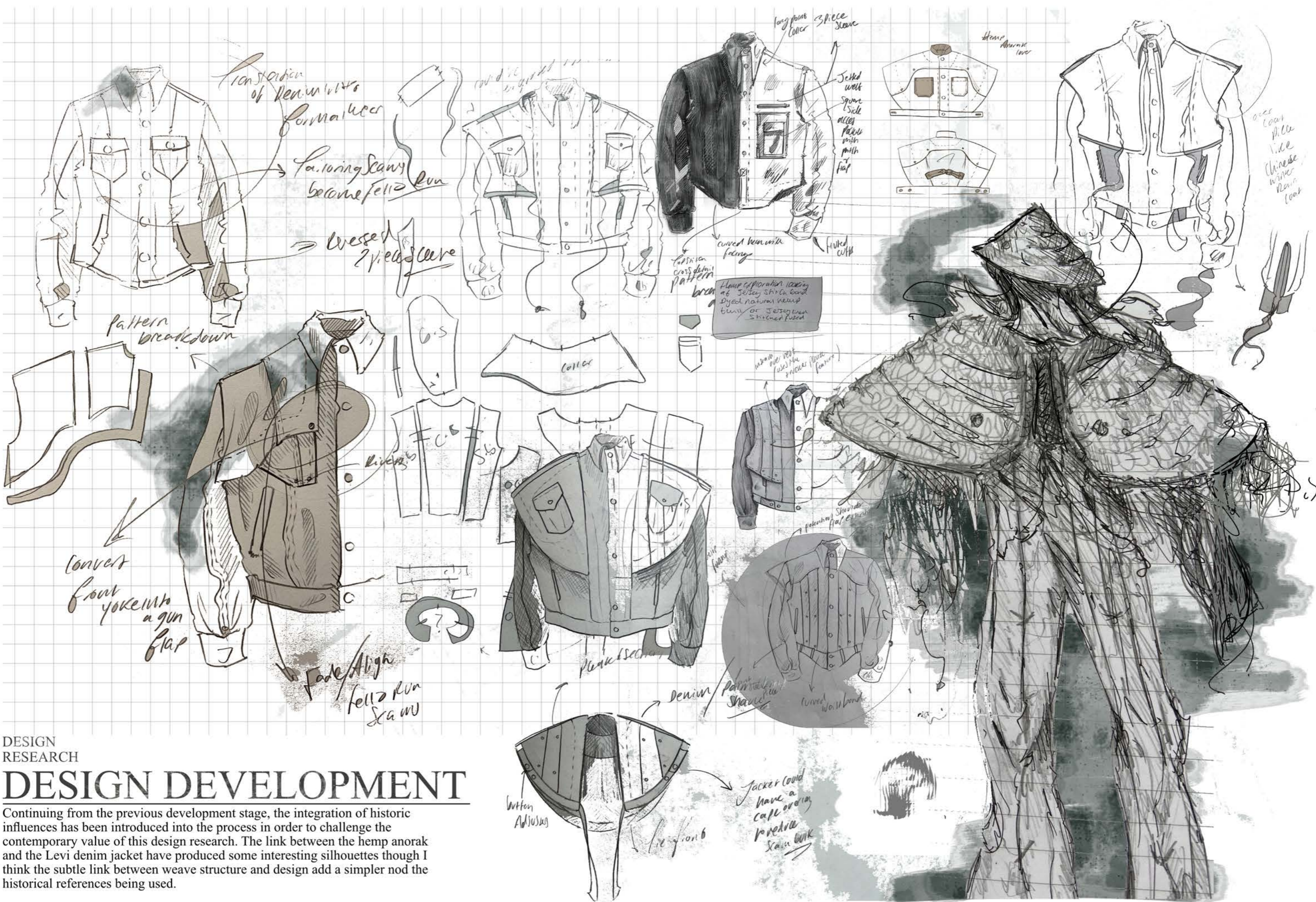
Design Modifying the Wrangler Denim Jacket



DESIGN RESEARCH

**INITIAL DESIGN RESEARCH**

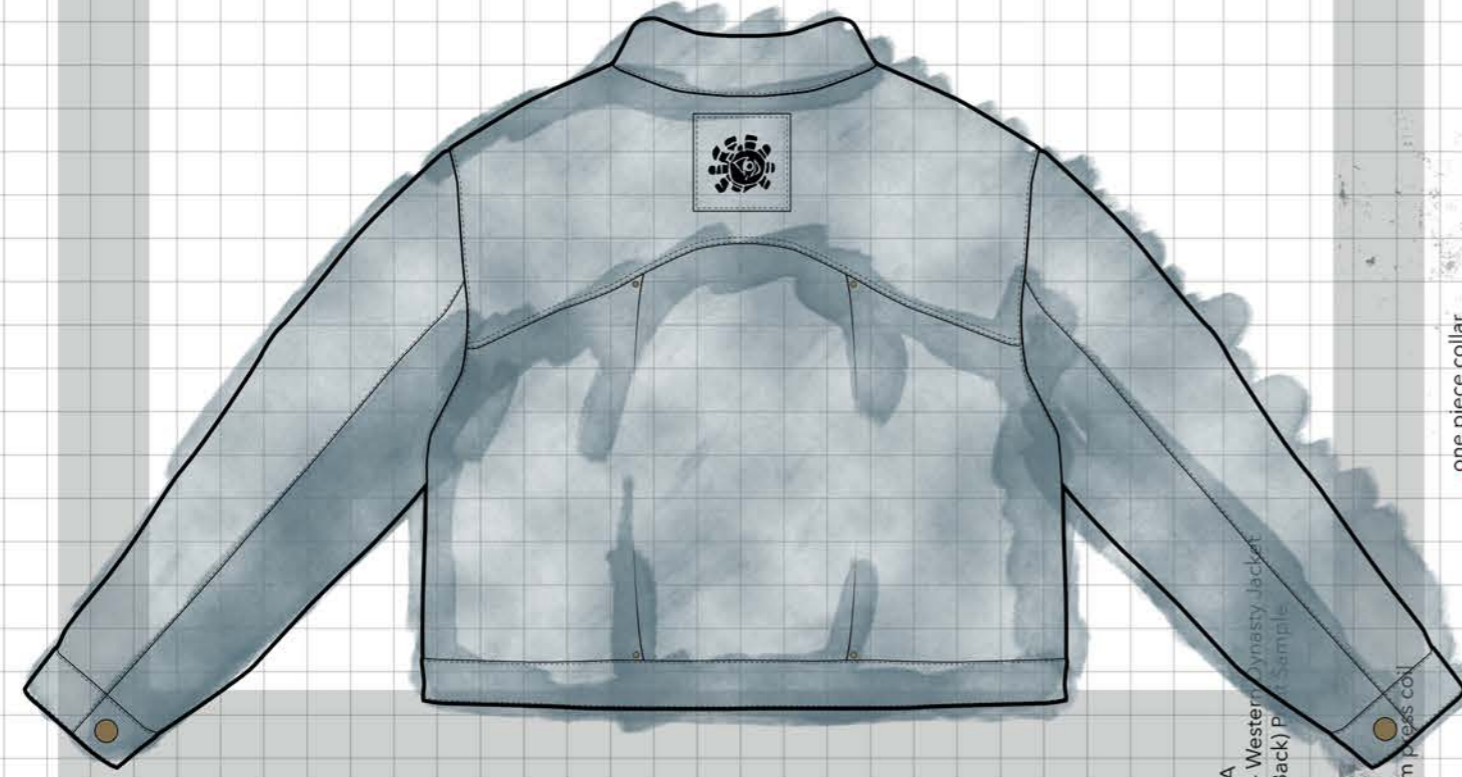
Initial design developments look at how the contemporary silhouettes of Levi can be adapted and made to retain their value but look more interesting. The point of using simple silhouettes and a contemporary design vehicle is to allow for the fabric to speak for itself. The development of a customer hemp fabric should remain the focus of this investigation and should present itself in its clearest form in order to challenge appeal.



DESIGN RESEARCH

# DESIGN DEVELOPMENT

Continuing from the previous development stage, the integration of historic influences has been introduced into the process in order to challenge the contemporary value of this design research. The link between the hemp anorak and the Levi denim jacket have produced some interesting silhouettes though I think the subtle link between weave structure and design add a simpler nod the historical references being used.



Back neck tag,  
Brass rivots

Print type:  
(Lonely Golem)

Carpenter loop

one piece collar

Corozo Button 32L

Bartack  
Sunken welt  
Cuff  
opening

32L cozo button

Fell & Run seams

Knife pleat

Thora Archive  
-Withered Gaia MA  
-Jacket concept 1- Western Synesty Jacket  
-Line CAD (Fron, Back) P

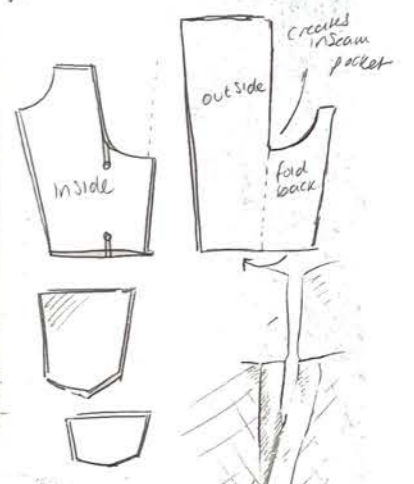
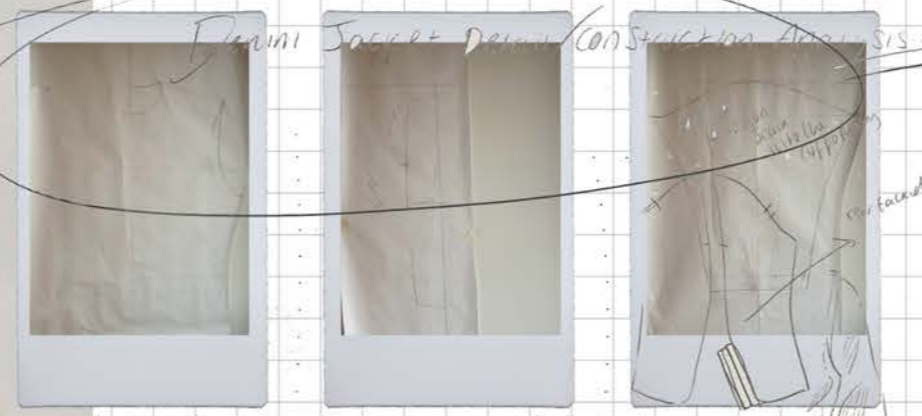


Fit Notes:  
-5 CM Waist extension for torso  
-Cuff opening 1.5cm extension for torso  
-Bartack on collar tips and welt pocket side sections  
-front bodice knife pleate have 3 section rivots to hold in place, back pleats can adjust  
-All visible seams are fell and run, front placket has a zig zag topstitch on lower section

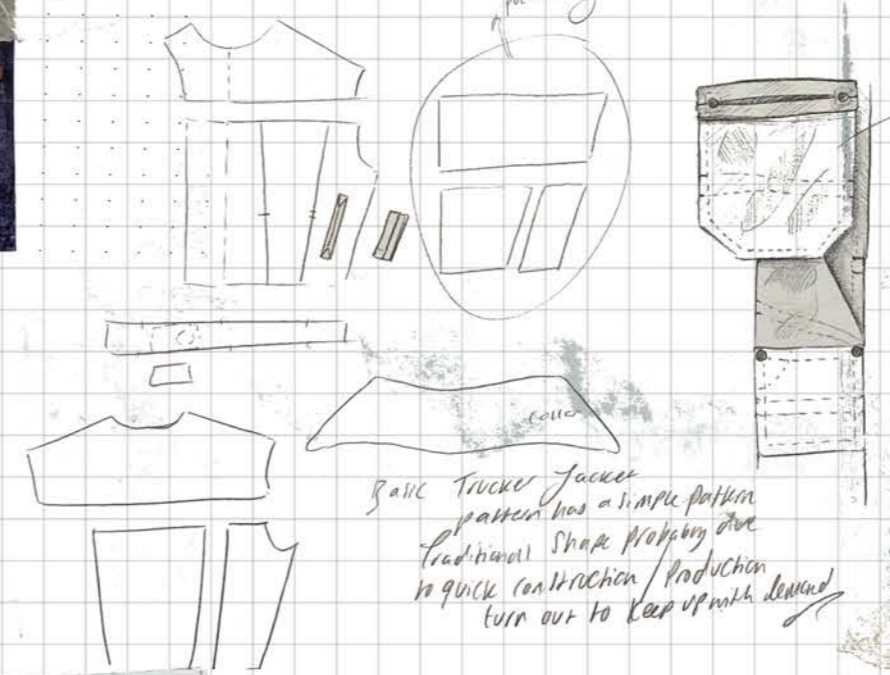
DIGITAL  
PROCESS

# 2D CONCEPT REALISATION

Form design process undertaken this page shows the 2D concept realised for better context of design choice and proposed 3D realisation outcome. It demonstrates a clearer vision for the jacket and demonstrates technical ability when approaching 3D making processes.



Pattern break down



*Vintage Wrangler Object-based research*

File notes

- Sample fell 2cm from seam from seam thickness
- Extend pocket by 5cm
- Inter peak peaks (seam width)
- Add bottom position
- Extend collar by 3cm to curve
- Collar by 0.5cm
- Extend collar notches to neck a CF
- position well pocket
- add a seam waistband 17cm (waist band may need casing)
- (all fell on seams)
- have 0.5cm from base neck cuff
- Add a 1.5 Extension to pocket



## SAMPLING PROCESS

# INITIAL TOILE PROCESS

Using a vintage wrangler jacket as a dress artefact, the research into garment tracing to draft an initial block/silhouette it was interesting, seeing how the effects of long wear on a garment can alter the fit and the dynamic of such garments, notably how seams warp over time, the key differences in the quality of seams really shows on this garment. The fell and run seams in this garment aged significantly better than those that had been overlapped, the overlapped seams with time and wear rolled back making the process of garment tracing more difficult.



SAMPLING  
PROCESS

# PATTERN EXPERIMENTATION

After the initial block sample was performed, refinement of fit and shape was conducted which then allowed for the alteration of patterns. Sampling of seams and fit lead to the development of a balloon sleeve silhouette and pleats like that of the Levi Type 1 trucker jacket and be seen in the pattern lay plan on the left.



*Measure Armhole Against*  
*Re-Do Sleeve*  
*Arise back*  
*Seam*

*Fit notes (updated)*

- Sleeves
  - Sleeve Shape need altering (dont pivot/exaggerate front sleeve)
  - Add a 2.5cm ext to cuff closure
  - Add More articulation to back Sleeve Seam
- Collar
  - Add 1cm to tip (Shorten them)
  - bring collar in by 3cm (back neck)
  - Move front to Centre-Front
- Body (Front)
  - More pleats in there 1cm between the pleater & the pleate
  - Main 3cm pleat width
  - Add welt pockets
  - Soften front Yoke curve (back)
  - Soften back yoke, Add Coat hook
  - Add back adjuster



SAMPLING PROCESS

CUT / TOILE SAMPLING

Further development of block produced some issues with the fit and silhouette. It can be said that the simpler the block the more visible problems are. For this investigation the refinement of cut is crucial to the outcome of the project. The result should reflect the capabilities of the hemp and if there are issues present in the block moving into the final stages it could affect the feedback during the focus group stages. Moving forward more attention to cut needs to be applied.

*(Chinese) Apron*

*front yoke curve*

*low warm*

*back dent*

*pivot sleeve*

*Ward*

*Kedran*

*looking for styles/garments to produce a full look prototype*

*Arrefalt*

*Yakawa part*



**Pattern Theory**

20th June  
Nick pinned alteration

- 4 yam's patterns
- from Neck to high can make collar a string
- How does the front? compare to standard

String length of the side seam

String length of the side seam

fall relation variation to fit the sleeve head

When the fabric is draped on the side, splice the paper can help see how the hole works to fit the pattern form

splice fabric from full shoulder to chest at this stage to find

will push the pin & take front bod out

piecing in to section 1 & 2

Reduce the gap fitting the neck

Stitch close to neck as it comes around inside the collar

collar stand seam - to cut major looking

splice in part 2 seam panel allows by length in a row the cross

- 1 SHOULDER LINE - ADJUST SO IT TOUCHES SHOULDER AS IT WAS (AS PINNED)
- 2 RESHAPE NECK (ADD 3MM AT CURVE TO FULL IN AT FRONT) (BACK NECK AS MARKED)
- 3 SHOULDER AT SLEEVE HEAD REMOVE PINNED AREA
- 4 SLEEVE HEAD - SPIT SLEEVE & TAKE OUT EXCESS EASE ~~FOR~~ PLUS LENGTH LOST FROM NO 3

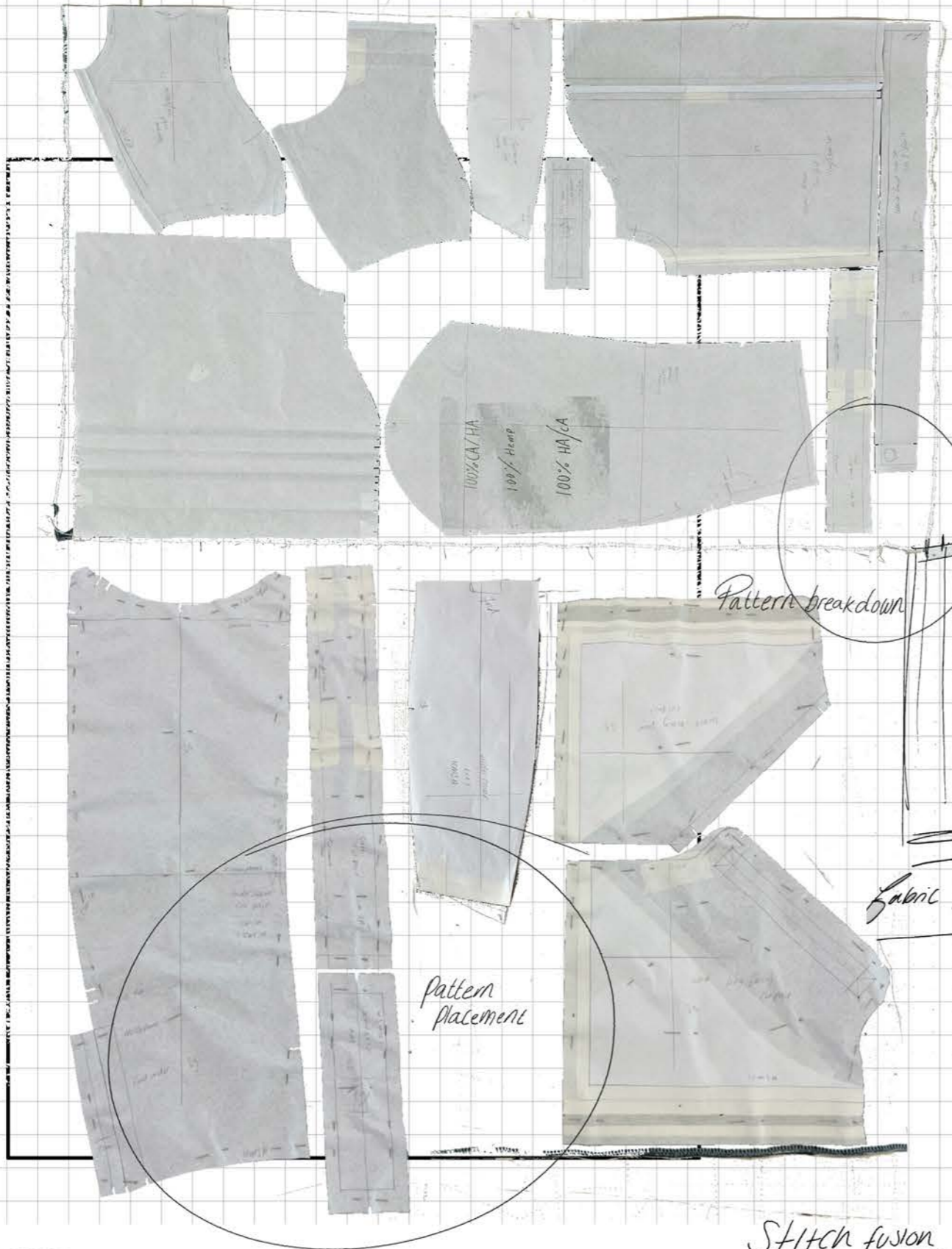


MAKING PROCESS

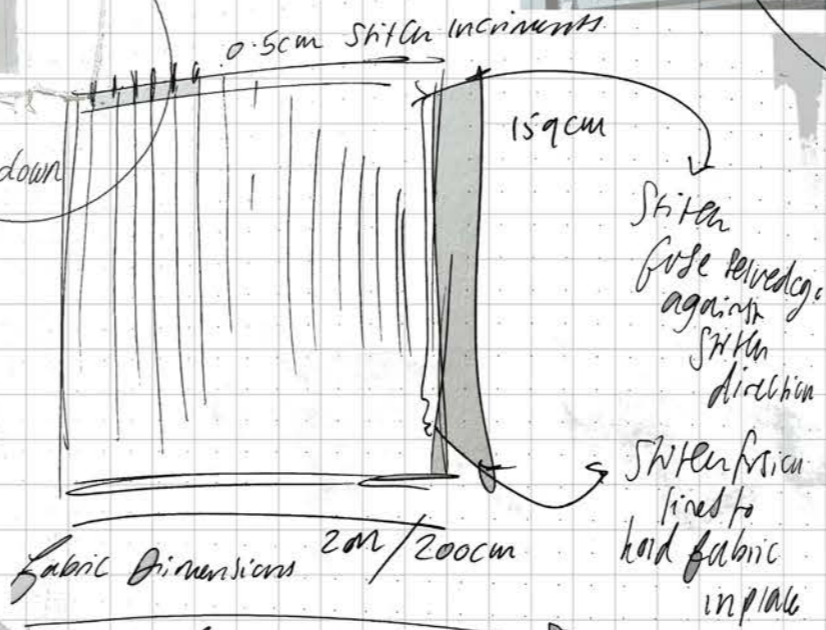
REFINED PATTERN

Following on from the toile sampling process refinement was required to improve the fit and silhouette of the jacket. This page illustrates the methods used in order to achieve the designed shape and design. Using pinch and pin methods to remove excess fabric the goal was to improve the fit of the toile and then splice it and trace the new pattern from the sample.





Wash & Dye process



Pattern Placement

fabric needs to be stitched lined in place in order to fabric.

Stitch fusion process



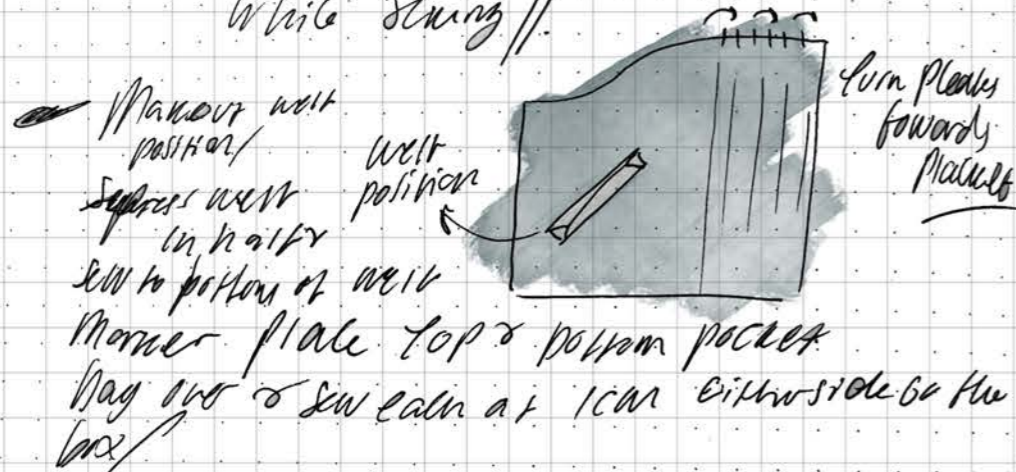
MAKING PROCESS

# HEMP MODIFICATION

Illustrated on this page is the process undertaken in order to create the final fabric, as shown on the right the process undertaken required to stitching of 200cm by 159cm jersey and linen which utilised a 0.5cm stitch increment in order to bind the fabric together. This process took 16 hours to complete. The new fabric then needed to be dyed, pre-washed and pressed to seal the colour into the fibre.

## Construction Method

- Connect run & fell seams  
outfront & back of  
jacket bodice.
- add a retaining stitch to pleated section  
in order to hold the seams in place  
while sewing.



- press pocket back on self & notch hem  
top in order to close the collar section ready for  
attachment later

- bind edge of pocket bag &  
then sew plainer into place  
sliding the pocket bag into  
the pocket seam & closing main  
section off

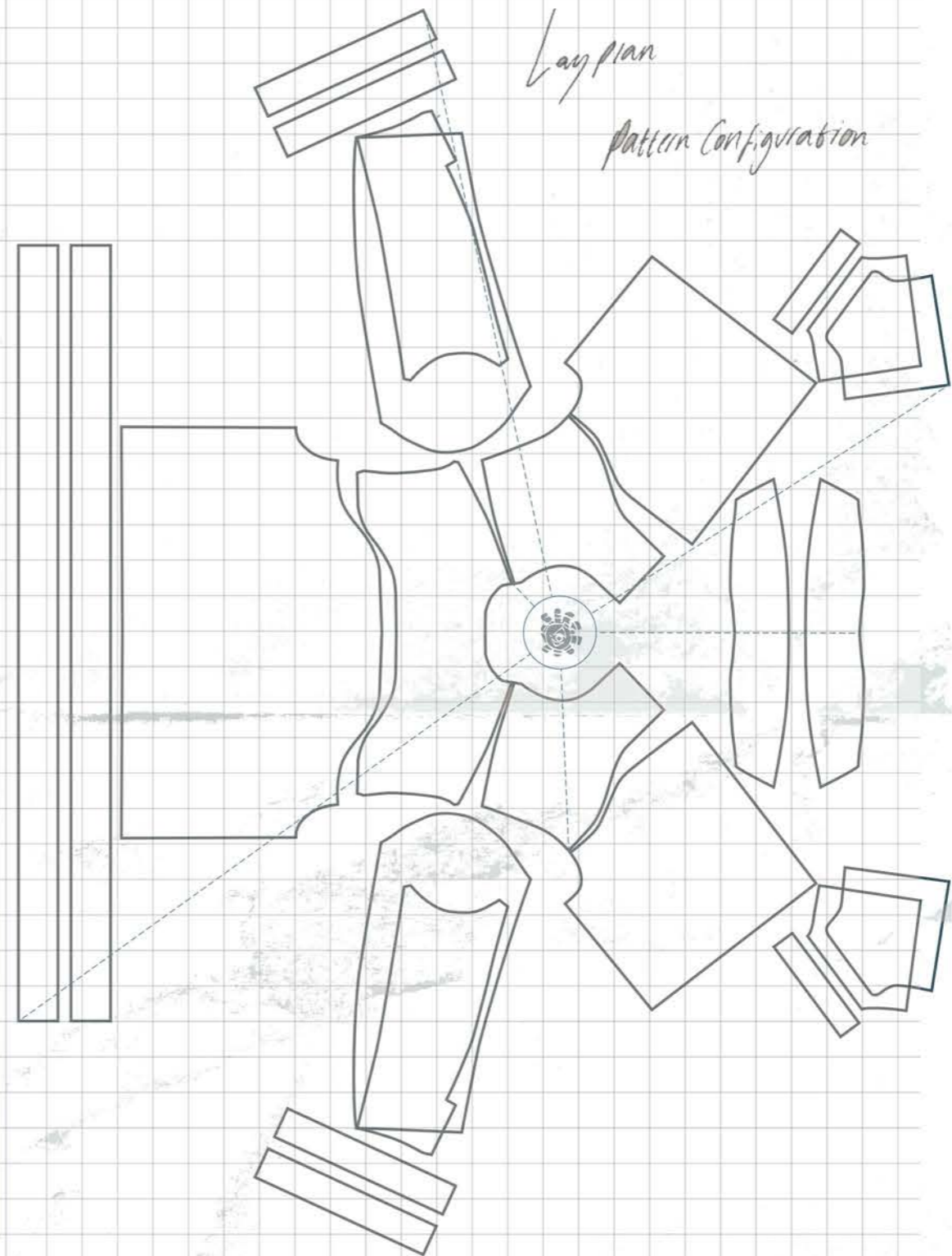


MAKING  
PROCESS

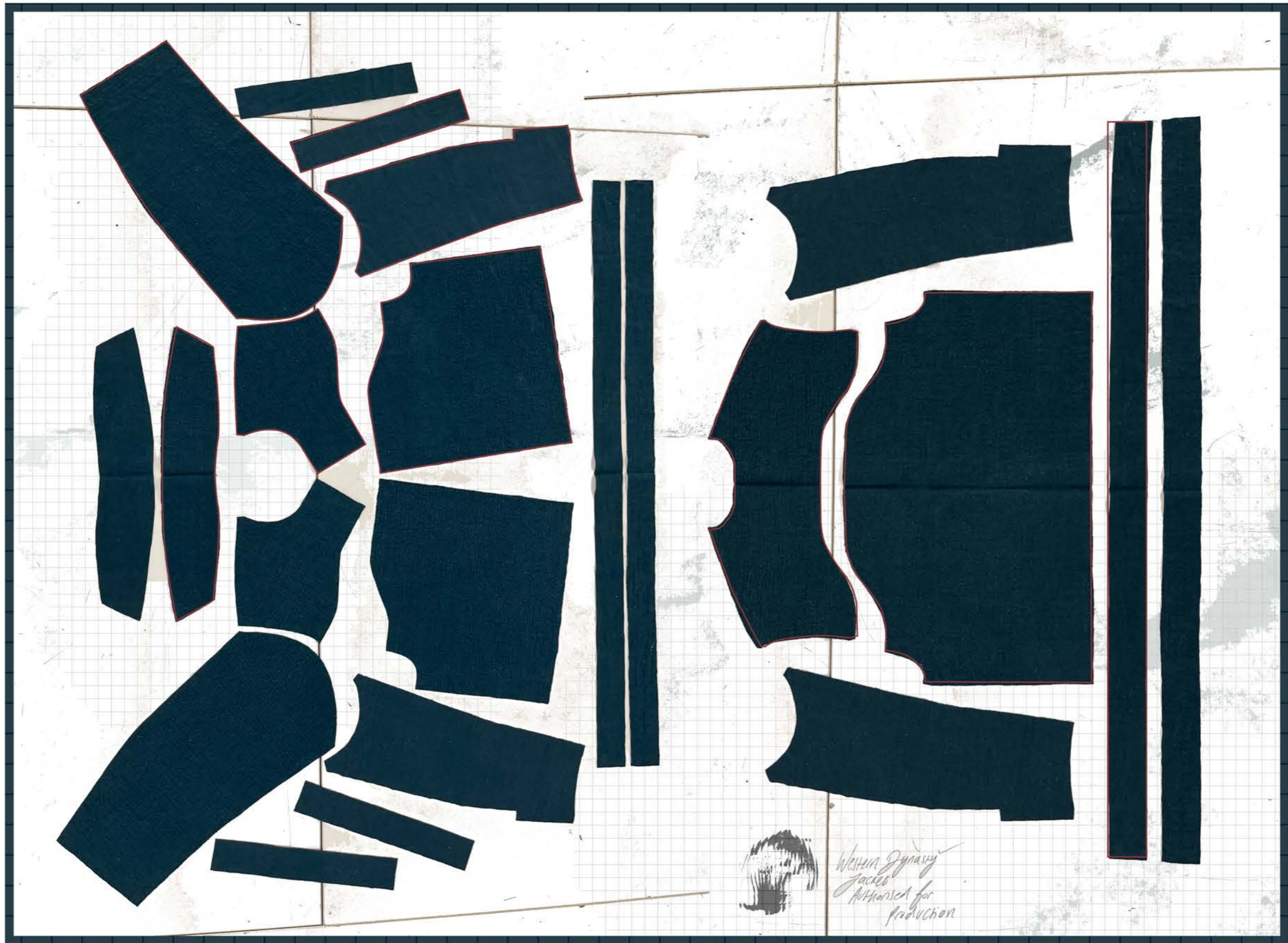
# GARMENT CONSTRUCTION

Following on from the dye and cut stage construction then followed. The process undertaken required a thinner backing fabric against areas such as the cuff, collars and pocket bag. Linen was used to fill this role. On the right you can see a pattern breakdown of the jacket in its raw form and on the left, you can see the construction notes and the sewing process. This specifically shows the welt construction as this was the trickiest part of the garment.

FINAL  
GARMENT







*Western Dynasty  
Jacket  
Patterned for  
Production*

*100% Hemp*