TUGAS AKHIR (RC14-1501)

STUDI ANALISIS HUBUNGAN ANTARA JUMLAH KEBUTUHAN GEOTEXTILE SEBAGAI PERKUATAN TIMBUNAN DI ATAS TANAH LUNAK DENGAN VARIASI KETINGGIAN TIMBUNAN

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JURUSAN TEKNIK SIPIL
Fakultas Teknik Sipil dan Perencanaan
Institut Teknologi Sepuluh Nopember
Surabaya 2016

THESES (RC14-1501)

STUDY ANALYSIS OF THE CONNECTION BETWEEN THE NUMBER NEEDS OF GEOTEXTILE AS AN EMBANKMENT'S STRENGTHENING ABOVE SOFT SOIL WITH THE VARIATION OF EMBANKMENT LEVEL

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Program Studi S-1 JurusanTeknik Sipil
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ABSTRAK

Pelaksanaan konstruksi di atas tanah lunak dengan daya dukung yang tidak sesuai menjadi pilihan yang tidak dapat dihindari ketika ketersediaan lahan yang memadai berbanding terbalik dengan meningkatnya pelaksanaan konstruksi. Dalam pelaksanaan tahap penimbunan, timbunan badan jalan di atas tanah lunak akan mengalami penurunan yang besar dan kemungkinan runtuh akibat kurangnya daya dukung tanah lunak terhadap beban timbunan. Suatu cara untuk memperbaiki kondisi tersebut adalah dengan cara penggunaan geotextile yang berfungsi sebagai perkuatan.

Tugas akhir ini mengenai studi analisis jumlah kebutuhan geotextile sebagai perkuatan timbunan di atas tanah lunak. Analisis dilakukan dengan variasi ketinggian dan slope timbunan, serta Indeks Plastisitas dan kedalaman tanah dasar.

Hasil akhir dari Tugas Akhir ini adalah aturan berupa grafik jumlah kebutuhan geotextile untuk perkuatan timbunan di atas tanah lunak dengan kondisi tanah lunak dan timbunan yang bervariasi sebagai acuan dalam pelaksanaan konstruksi yang berlangsung di lapangan, sehingga kegiatan konstruksi dapat berjalan secara efisien dari segi biaya dan waktu.

Kata Kunci : ***Timbunan, Tanah Lunak, Geotextile, Codes.***

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STUDY ANALYSIS OF THE CONNECTION BETWEEN THE NUMBER NEEDS OF GEOTEXTILE AS AN EMBANKMENT'S STRENGTHENING ABOVE SOFT SOIL WITH THE VARIATION OF EMBANKMENT LEVEL

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ABSTRACT

Nowadays, the construction above unappropriate soft soil can't be avoided when the availability of adequate land is inversely related to the increasement of construction. In the implementation phase of backfilling, the road embankment above soft soil will experience a huge drop and collapse due to lack of soft soil bearing capacity of the embankment loads. A way to solve this condition is by using geotextile that serves as reinforcement.

This thesis is about study analysis of the number needs of geotextile as an embankment's strengthening above soft soil. The analysis was conducted with a height variation and the slope of embankment, as well as the plasticity index and the depth of soft soil.

The result of this thesis is the codes as a graph of the number needs geotextile for embankment's strengthening above soft soil with the variations in soft soil and embankment for the efficience of funds and time in every construction.

Key Words : Embankment, Soft Soil, Geotextile, Codes.

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KATA PENGANTAR

Puji syukur penulis panjatkan kepada Allah SWT atas berkat, rahmat dan karunia-Nya sehingga penulis dapat menyelesaikan Tugas Akhir dengan judul "Studi Analisis Hubungan Antara Jumlah Kebutuhan Geotextile Sebagai Perkuatan Timbunan di Atas Tanah Lunak dengan Variasi Ketinggian Timbunan". Penulis menyadari bahwa keberhasilan dalam menyelesaikan Tugas Akhir ini tidak lepas dari bantuan, bimbingan dan dorongan dari berbagai pihak baik secara langsung maupun tidak langsung. Oleh karena itu, penulis mengucapkan banyak terima kasih dan penghargaan yang setingi-tingginya kepada:

1. Prof. Ir. Indrasurya B. Mochtar, M.Sc., Ph.D. dan Putu Tantri Kumala Sari, S.T., M.T. selaku dosen konsultasi yang dengan sabar dan sepenuh hati membimbing, mengarahkan, dan memberikan saran untuk penulis.
2. Seluruh dosen pengajar di Jurusan Teknik Sipil ITS atas ilmu-ilmu yang berguna bagi penulis.
3. Keluarga yang selalu mendukung, membantu, mengingatkan dan mendoakan dalam berbagai hal.
4. Teman-teman angkatan 2012 yang selalu ada dan memberikan semangat, bantuan, serta dukungan selama ini.

Penulis menyadari bahwa Tugas Akhir ini masih jauh dari kesempurnaan. Penulis mengharapkan kritik dan saran yang membangun demi kesempurnaan Tugas Akhir ini. Akhir kata semoga Tugas Akhir ini bermanfaat bagi penulis dan orang lain.

Surabaya, Juni 2016

Penulis

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BAB I
PENDAHULUAN

1.1 Latar Belakang

Indonesia merupakan salah satu negara berkembang di dunia yang sedang menggencarkan proses pembangunan dalam menghadapi era globalisasi saat ini. Peningkatan proyek konstruksi, seperti pembangunan gedung-gedung perkantoran, perumahan, hingga ruas-ruas jalan tol sudah dapat dirasakan. Dalam proses pembangunan tersebut, keadaan dan kondisi tanah dasar yang tidak memadai merupakan permasalahan yang tak dapat diabaikan. Hal ini menyebabkan diperlukannya melakukan proses penimbunan dan perkuatan pada timbunan untuk meningkatkan daya dukung tanah dasar demi keamanan pembangunan yang dilaksanakan.

Dalam proses penimbunan, ketinggian timbunan yang direncanakan memiliki variasi yang beragam pada setiap proyek pembangunan sesuai dengan kebutuhan perencanaannya. Tidak hanya itu, adanya keberagaman kondisi tanah dasar pun menjadi kendala tersendiri dalam perencanaan perkuatan timbunan. Pemilihan geotextile sebagai salah satu bagian dari geosynthetic dalam perkuatan timbunan dikarenakan geotextile selain memiliki fungsi yang cukup baik dalam perkuatan timbunan. Selain itu, geotextile juga dapat berfungsi sebagai penyaring dan penahan partikel halus agar tidak terbawa aliran rembesan air, pemisah dua lapisan antara tanah dengan tanah ataupun tanah dengan air agar tidak tercampur satu dengan yang lain, kontrol erosi dan pelindung, serta sebagai pengalir air tanah. Oleh karena itu, dalam perencanaan diperlukan perhitungan untuk kebutuhan jumlah geotextile yang diperlukan sesuai dengan ketinggian timbunan dan kondisi tanah dasarnya.

Namun, tidak adanya *codes* (aturan) yang menjadi rujukan bagi para perencana menjadi hambatan tersendiri. Banyaknya waktu, tenaga, dan biaya yang dibutuhkan untuk merencanakan perkuatan timbunan yang sesuai dengan ketinggian timbunan dan kondisi tanah dasar yang ada pun menjadi meningkat. Hal ini dikarenakan untuk merencanakan perkuatan timbunan dengan ketinggian timbunan yang sama dan kondisi tanah dasar yang berbeda, begitu juga sebaliknya, dalam proyek pembangunan di lain tempat perlu dilakukan lagi dari awal. Hal ini dinilai sangat mengurangi tingkat keefektifan kerja dalam proses pembangunan.

Adanya *codes* yang berupa grafik dapat membantu meningkatkan keefektifan proses pembangunan yang berlangsung, khususnya dalam hal perencanaan perkuatan timbunan. Grafik ini dapat membantu untuk mengetahui jumlah kebutuhan perkuatan geotextile yang diperlukan sesuai dengan ketinggian timbunan yang direncanakan dan kondisi tanah dasar yang ada. Dengan begitu, perencana tidak perlu untuk merencanakan dari awal kebutuhan perkuatan geotextile yang akan digunakan. Cukup dengan merencanakan ketinggian timbunan yang diperlukan dan meninjau kondisi tanah dasar yang ada, maka jumlah geotextile yang diperlukan pun didapatkan.

1.2 Rumusan Masalah

Beberapa permasalahan yang akan dibahas dalam tugas akhir ini, antara lain :

1) Bagaimana menentukan variasi data tanah dasar yang sesuai untuk dianalisis?
2) Bagaimana pemodelan yang tepat untuk mencakup variasi ketinggian timbunan dan kedalaman tanah dasar yang digunakan?

3) Bagaimana variasi jumlah perkuatan geotextile terhadap seluruh variasi ketinggian timbunan dan kedalaman tanah dasar yang dianalisis?
4) Bagaimana perbandingan kondisi saat terjadi excess pore pressure dan saat tidak terjadi excess pore pressure?
5) Bagaimana hasil jumlah perkuatan geotextile yang dibutuhkan berdasarkan hasil analisis dari variasi ketinggian timbunan dan kedalaman tanah dasar yang berbeda?

1.3 Batasan Masalah

Dalam penyusunan tugas akhir ini, permasalahan dibatasi pada pokok-pokok pembahasan sebagai berikut:

1) Tanah dasar adalah dominan tanah kohesif.
2) Timbunan adalah timbunan jalan dengan material sirtu, bukan timbunan alami.
3) Variasi data tanah yang digunakan dari perumusan untuk tanah kohesif, yaitu berdasarkan nilai Indeks Plastisitas yang berbeda.
4) Analisis stabilitas timbunan dengan Limit Equilibrium Method Bishop.
5) Tidak meninjau gempa.
6) SF rencana 1.2 long term.

1.4 Tujuan

Tujuan yang ingin dicapai dalam penyusunan tugas akhir ini adalah :

1) Mengetahui variasi data tanah dasar yang sesuai untuk dianalisis.
2) Mengetahui pemodelan yang tepat untuk mencakup variasi ketinggian timbunan dan kedalaman tanah dasar yang digunakan.

Mengetahui variasi jumlah perkuatan geotextile terhadap seluruh variasi ketinggian timbunan dan kedalaman tanah dasar yang dianalisis.

BAB II
TINJAUAN PUSTAKA

2.1. Pengertian Geotextile

Seiring berkurangnya ketersediaan lahan yang sesuai untuk pelaksanaan konstruksi, maka diperlukan melakukan perkuatan pada tanah yang kurang baik agar konstruksi dapat tetap berjalan. Timbunan badan jalan diatas tanah lunak akan mengalami penurunan yang besar dan kemungkinan runtuh akibat kurangnya daya dukung tanah lunak terhadap beban timbunan. Suatu cara untuk memperbaiki kondisi tersebut adalah dengan cara penggunaan geotextile yang berfungsi sebagai perkuatan (*reinforcement*). Geotextile untuk perkuatan biasanya berhubungan dengan stabilisasi dan daya dukkung tanah. Perkuatan dalam kasus ini hanya bekerja sementara sampai dengan kuat dukung (*bearing capacity*) tanah lunak meningkat hingga cukup untuk mendukung beban diatasnya (Didiek Djarwadi, 2006).

Geotextile adalah bahan geosintetik tembus air yang terbuat dari serat sintetis, sehingga selain lentur juga tidak ada masalah penyusutan seperti pada material dari serat alam. Dalam penggunaannya, geotextile dapat berfungsi sebagai lapisan pemisah, drainase filtrasi dan perkuatan. Bila timbunan terletak pada tanah lunak, deformasi yang berlebihan menyebabkan timbunan menjadi melengkung ke bawah. Melengkungnya timbunan ini dapat merusak bangunan atau struktur di atasnya. Keuntungan penggunaan geotextile pada pelaksanaan konstruksi di atas tanah lunak adalah kecepatan dalam pelaksanaan dan biaya yang relatif lebih murah dibandingkan dengan metode lain (Ramot Ego Prasetia dan Rudi Iskandar, 2013).

Geotextile terdiri dari dua macam sebagai berikut:

a) Geotextile Woven

Tipe ini merupakan jenis geotextile teranyam. Bahan dasar untuk pembuatannya umumnya Polypropylene (PP). Fungsi geotextile woven yaitu sebagai bahan stabilisasi tanah dasar (terutama pada tanah dasar lunak), dikarenakan geotextile jenis ini memiliki tensile strength (kuat tarik) yang lebih tinggi daripada geotextile non woven (kurang lebih sekitar dua kali lipat untuk berat per m^2 yang sama).

b) Geotextile Non Woven

Sebaliknya, geotextile non woven tidak teranyam berbentuk seperti karpet kain. Bahan dasarnya terbuat dari bahan polimer Polyesther (PET) atau Polypropilene (PP). Fungsi geotextile sebagai separator atau pemisah, untuk mencegah tercampurnya lapisan material satu dengan material yang lain. Selain itu, geotextile ini juga berfungsi sebagai penyaring atau filter untuk mencegah terbawanya partikel-partikel tanah yang ada pada aliran air, dikarenakan geotextile non woven ini memiliki sifat permeable.

Pemilihan geotextile untuk perkuatan dipengaruhi oleh dua faktor, yaitu faktor internal dan eksternal. Faktor internal geotextile terdiri dari kuat tarik geotextile, sifat perpanjangan, struktur geotextile dan daya tahan terhadap faktor lingkungan. Sedangkan faktor eksternal adalah jenis bahan timbunan yang berinteraksi dengan geotextile. Struktur geotextile, yaitu jenis anyam (woven) atau nir-anyam (non woven) juga mempengaruhi pada pemilihan geotextile untuk perkuatan. Kondisi lingkungan juga memberikan reduksi terhadap kuat tarik geotextile karena reaksi kimia antara geotextile dengan

lingkungan di sekitarnya. Waktu pembebanan juga mengurangi kekuatan geotextile karena akan terjadi degradasi pada geotextile oleh faktor *fatigue* dan *aging*. Untuk menutupi kekurangan tersebut, tidak seluruh kuat tarik geotextile yang tersedia dapat dimanfaatkan dalam perencanaan konstruksi perkuatan (Didiek Djarwadi, 2006).

2.1.1 Perhitungan Jumlah Kebutuhan Geotextile

Tegangan ijin geotextile untuk perencanaan konstruksi perkuatan didefinisikan sebagai kuat tarik ultimate sesuai umur rencana konstruksi dibagi dengan faktor reduksi yang diperhitungkan. Perhitungan tersebut disampaikan dalam persamaan:

$$T_{all} = T_{ult}.\left(\frac{1}{FS_{id}.FS_{cr}.FS_{cd}.FS_{bd}}\right)$$

dengan:

T_{all} = tegangan ijin geotextile

T_{ult} = kuat tarik ultimate geotextile berdasarkan spesifikasi pabrik

FS_{id} = faktor reduksi karena kerusakan saat pemasangan (1.1-2.0)

FS_{cr} = faktor reduksi terhadap kerusakan akibat rangkak (2.0-3.0)

FS_{cd} = faktor reduksi terhadap kerusakan karena bahan-bahan kimia (1.1-1.5)

FS_{bd} = faktor reduksi terhadap kerusakan karena aktifitas biologi dalam tanah (1.1-1.3)

Mencari nilai momen dorong dengan persamaan:

$$\text{SF} = \frac{MR\ min}{M\ dorong}$$

$$\text{M}_{\text{dorong}} = \frac{MR\ min}{SF}$$

Angka keamanan yang digunakan dalam analisis ini adalah 1.2 . Kemudian mencari nilai momen rencana dengan persamaan:

$$M_{R\ rencana} = M_{\ dorong}\ x\ SF_{\ rencana}$$

Setelah itu, mencari nilai tambahan momen penahan dengan persamaan:

$$\Delta M_R = M_{R\ rencana} - M_{R\ min}$$

Untuk mendapatkan jumlah kebutuhan lembar geotextile dapat dihitung dengan persamaan:

$$M_{geotextile} = T_{\ allow}\ x\ T_i$$

Dimana:

Ti = jarak vertikal antara geotextile dengan pusat bidang longsor

Perhitungan dilakukan secara bertahap hingga mendapatkan jumlah momen yang lebih besar dari ΔM_R dengan persamaan:

$\sum Momen = M_{geotextile1} + M_{geotextile2} + ... + M_{\ geotextile\text{-}n} > \Delta M_R \rightarrow (OK)$

2.2. Analisa Stabilitas Timbunan

Analisa stabilitas tanah dasar dapat diselesaikan dengan dua metode, yaitu Metode Limit Equilibrium dan Metode Finite Element. Dalam perkembangan, metode Limit Equilibrium lebih sering digunakan dikarenakan lebih familiar daripada metode Finite Element. Beberapa metode Limit Equilibrium masih menggunakan metode yang sederhana yang dapat dihitung secara manual, tanpa menggunakan bantuan program komputer.

Nilai SF yang didapatkan dari analisis kegagalan timbunan berasal dari rasio antara kuat geser ultimate (gaya penahan) dengan tegangan geser (gaya dorong) dari bidang longsor. Ada beberapa formula untuk mendapatkan nilai SF. Formula yang digunakan adalah:

a) Momen Equilibrium

Pada umumnya digunakan pada analisis rotasi bidang longsor pada timbunan. Nilai SF pada asumsi ini adalah rasio dari m omen penahan dan momen dorong.

SF = Mr/Md

Dimana Mr adalah total momen penahan dan Md adalah total momen dorong. Untuk permukaan kegagalan yang melingkar, pusat lingkaran biasanya diambil sebagai titik momen pusat. Untuk permukaan kegagalan yang tidak melingkar, sebuah titik secara acak diambil sebagai momen yang dianalisis. Perlu diperhatikan, untuk metode yang tidak memenuhi force equilibrium horizontal (misalnya metode Bishop), *safety factor* tergantung pada pada pemilihan titik momen sebagai momen equilibrium. Sebenarnya, penggunaan persamaan momen equilibrium tanpa menggunakan force equilibrium tidak dapat menjamin kebenaran momen equilibrium.

b) Force Equilibrium

Biasanya digunakan pada translasi atau rotasi kelongsoran pada bidang longsor berbentuk planar atau poligon. Nilai SF adalah rasio antara gaya penahan dan gaya dorong.

$$SF = Fr/Fd$$

Dimana Fr adalah total gaya penahan dan Fd adalah total gaya dorong.

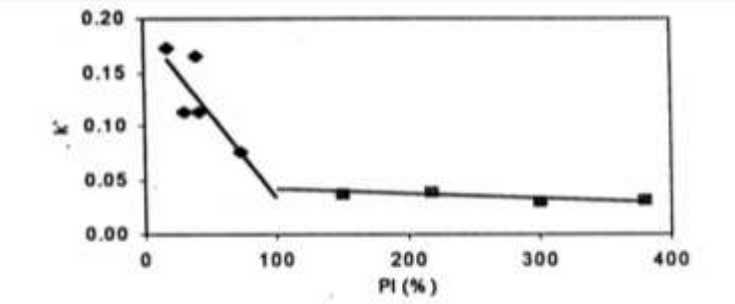
Tabel 2.1 Perbandingan Persamaan Safety Factor
(Sumber : Putu Tantri Kumala Sari dan Yudhi Lastiasih, 2014)

Metode	*Safety Factor* Berdasarkan	
	Momen Equilibrium	Force Equilibrium
Ordinary / Fellenius	x	
Simplified Bishop	x	
Spencer	x	x
Janbu's Simplified		x
Janbu's Rigorous		x
Morgenstren-Price	x	x

Berdasarkan metode yang sering digunakan, yaitu Ordinary / Fellenius dan Simplified Bishop adalah metode yang berdasarkan momen equilibrium, sementara itu metode yang dikembangkan oleh Janbu menggunakan metode force equilibrium. Spencer dan Morgenstren-Price menggunakan kedua metode dalam penelitiannya. Dengan demikian, studi analisis ini diselesaikan menggunakan metode Limit Equilibrium dengan metode Simplified Bishop.

2.2.1 Variasi Data Tanah

Dalam studi ini apabila tidak memiliki data tanah, analisis data tanah dasar untuk memvariasikan nilai Cu menggunakan rumusan Ardana dan Mochtar (1999), yaitu dengan korelasi berdasarkan nilai Indeks Plastisitas seperti yang ditunjukkan pada Gambar 3.2 di bawah ini.



Gambar 2.1 Korelasi Nilai Indeks Plastisitas (Ardana dan Mochtar, 1999)

- PI ≤ 100%
  Cu (kg/cm^2) = 0.0737 + (0.19 – 0.0016.PI).po'(kg/cm^2)
  Cu (kPa) = 7.37 + (0.19 – 0.0016.PI).po'(kPa)
- PI ≥ 100%

Cu (kg/cm^2) = 0.0737 + (0.0454 – 0.00004.PI).po'(kg/cm^2)
Cu (kPa) = 7.37 + (0.0454 – 0.00004.PI).po'(kPa)

Untuk mencari nilai Cu dari tanah dasar asli diperlukan nilai Po' (tegangan *overburden*) dari tanah dasar terlebih dahulu dengan perumusan:

$$Po_i' = \gamma' \times z_i$$

Dimana :

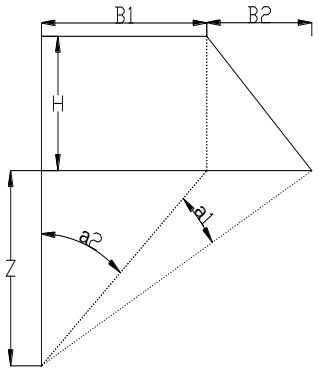
γ' = berat volume tanah efektif, yaitu $\gamma' = \gamma_{sat} - \gamma_w$

z_i = tebal lapisan tanah di atas nomor i yang berada di tengah-tengah lapisan.

Sedangkan untuk mendapatkan peningkatan nilai Cu, tetap digunakan perumusan Ardana dan Mochtar (1999), namun melewati beberapa tahapan perhitungan dan perlu untuk mencari besarnya *settlement* pada tanah dasar yang mengalami peningkatan nilai Cu dengan cara sebagai berikut:

- Mencari nilai ΔP

  ΔP adalah tambahan tegangan akibat pengaruh beban timbunan yang ditinjau di tengah-tengah lapisan. Sedangkan, diagram tegangan tanah akibat timbunan (Braja M. Das, 1986) ditunjukkan pada Gambar 3.3 sebagai berikut:



Gambar 2.2 Diagram Tegangan Tanah Akibat Timbunan

Cara mencari nilainya:

$\Delta P = qo/\pi[\{(B_1+B_2)/ B_2\}(\alpha_1+ \alpha_2) - B_1/ B_2(\alpha_2)]$

Dimana:

qo = beban timbunan (t/m^2) → $qo = \gamma_{timb} \times h_{timb}$

ΔP = besarnya tegangan akibat pengaruh beban timbunan ditinjau di tengah-tengah lapisan (t/m^2)

$\alpha_1 = \tan^{-1} \{(B_1+B_2)/z\} - \tan^{-1} (B_1/z)$ (radian)

$\alpha_2 = \tan^{-1} (B_1/z)$ (radian)

$B_1 = {}^1/_2$ lebar timbunan

B_2 = panjang proyeksi horizontal kemiringan timbunan

- Peningkatan σ'p

σ'p : tegangan tanah vertikal aktif (kg/cm^2)

Tanah yang sedang mengalami konsolidasi, harga σ'p berubah dengan waktu. Harga σ'p dapat dicari dengan perumusan:

$$\sigma'p = \left(\frac{p'_o+\Delta p'}{p'_o}\right)^U . p'_o$$

Kemudian dapat dicari peningkatan nilai Cu dengan perumusan Ardana dan Mochtar (1999) yang menggunakan harga σ'p, yaitu:

- PI < 120%
  Cu (kg/cm^2) = 0.0737 + (0.1899 – 0.0016.PI). σ'p
- PI > 120%
  Cu (kg/cm^2) = 0.0737 + (0.0454 – 0.00004.PI). σ'p

- Mencari nilai P'c (tegangan pra konsolidasi)
  Pc' = Po'+ΔP_f

ΔP_f = tambahan tegangan yang terjadi pada tanah akibat adanya beban di waktu lampau atau karena *fluktuasi muka air tanah*

- Menghitung *settlement* yang terjadi pada setiap lapisan tanah
  Beberapa perhitungan yang perlu dilakukan terlebih dulu, yaitu mencari nilai Cs dan Cc dengan menggunakan korelasi empiris Kosasih dan Mochtar (1997), yaitu:
  - Mencari nilai Cs
    Cs = 0.002LL + 0.02e0^2 – 0.05
  - Mencari nilai Cc
    Cc = 0.006LL + 0.13e0^2 – 0.13

  Perhitungan *settlement* pada tanah dibedakan menjadi dua, yaitu:

a. Jika (Po'+ΔP) ≤ Pc'
   $Sci = \left[\frac{Cs}{1+e_0}\log\frac{p'_o+\Delta p}{p'_o}\right] Hi$

b. Jika (Po'+ΔP) > Pc'
   $Sci = \left[\frac{Cs}{1+e_0}\log\frac{p'_c}{p'_0} + \frac{Cc}{1+e_0}\log\frac{p'_o+\Delta p}{p'_c}\right] Hi$

- Mencari *settlement* total

  Settlement total merupakan penjumlahan dari *settlement* dari setiap lapisan tanah hingga kedalaman total tanah dasar yang ditinjau.

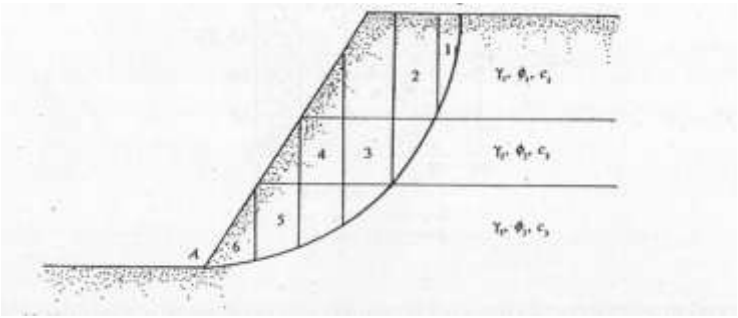
- Menentukan H inisial

  Penentuan H inisial dapat dicari dengan perumusan:

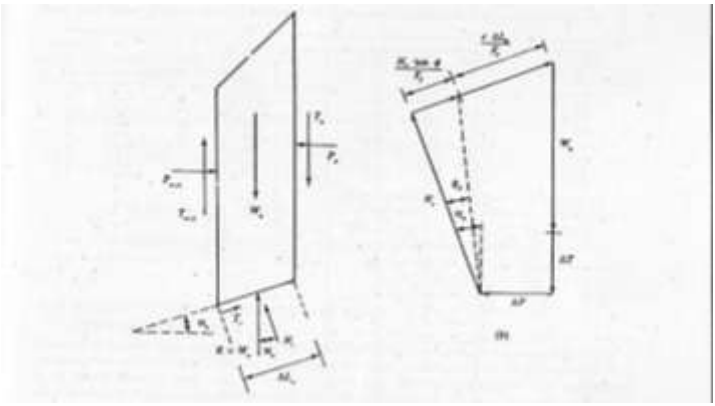
  H inisial = $\frac{q_{final}+(Sc.(\gamma_{timb}+\gamma_w-\gamma_{sat-timb}))}{\gamma_{timb}}$

2.3. Analisa Stabilitas Lereng

Teori dasar yang digunakan untuk analisa stabilitas lereng adalah menggunakan metode irisan bishop yang disederhanakan. Berikut dapat dilihat pada Gambar 2.3 sketsa analisa stabilitas lereng dengan metode irisan pada tanah berlapis.



Gambar 2.3 Sketsa Analisa Stabilitas Lereng dengan Metode Irisan pada Tanah Berlapis



Gambar 2.4 Gaya – Gaya yang Bekerja pada Irisan (a) ; Poligon Gaya Keseimbangan (b)

Dari Gambar 2.4 diperoleh persamaan:

$$T_r = N_r\,(\tan \emptyset_d) + c_{\ d}\Delta\, Ln = Nr\,\left(\frac{\tan \emptyset}{Fs}\right) + \frac{c\,\Delta Ln}{Fs} \quad \textbf{(1)}$$

Pada gambar (b) menunjukkan keseimbangan dari irisan nomor *n*. Kemudian, jumlahkan gaya dalam arah vertikal:

$$Wn + \Delta T = Nr\cos\alpha_n + \left[\frac{N_r \tan \emptyset}{Fs} + \frac{c\,\Delta L_n}{Fs}\right]\sin\alpha_n$$

Atau

$$N_r = \frac{c + \Delta T - \frac{c.\Delta L_n}{Fs}\sin\alpha_n}{\cos\alpha_n + \frac{\tan\emptyset.\sin\alpha_n}{Fs}} \quad \textbf{(2)}$$

Lalu, untuk keseimbangan blok ABC, ambil momen terhadap O menggunakan persamaan:

$$\sum_{n=1}^{n=p} w_n r \sin\alpha_n = \sum_{n=1}^{n=p} T_r r \quad \textbf{(3)}$$

Dengan: $T_r = \frac{1}{F_s}\,(\,c + \sigma \tan\emptyset)\;\Delta L_n$

$$= \frac{1}{F_s}\,(\,c.\Delta L_n + N_r \tan\emptyset) \quad \textbf{(4)}$$

Masukkan Persamaan (**2**) dan (**4**) ke persamaan (**3**), sehingga didapat:

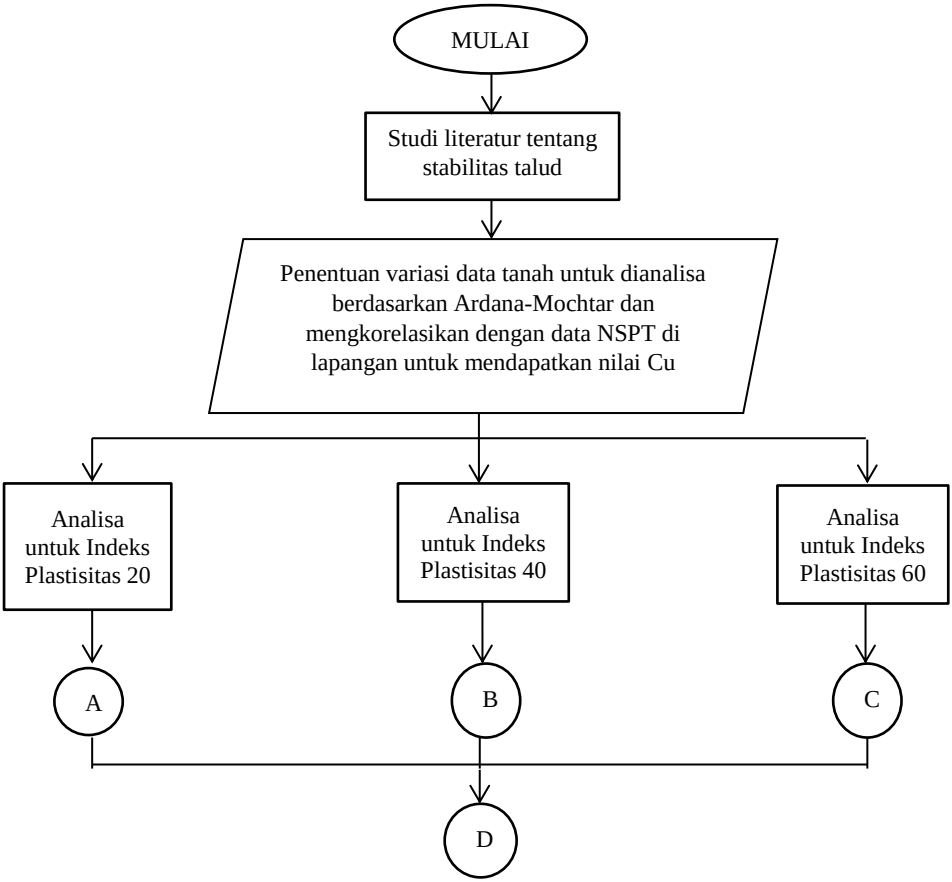
$$F_s = \frac{\sum_{n=1}^{n=p}(cb_n + W_n \tan \emptyset + \quad \Delta T \tan \emptyset)\ \frac{1}{m_{\alpha(n)}}}{\sum_{n=1}^{n=p} w_n \sin \alpha_n}$$

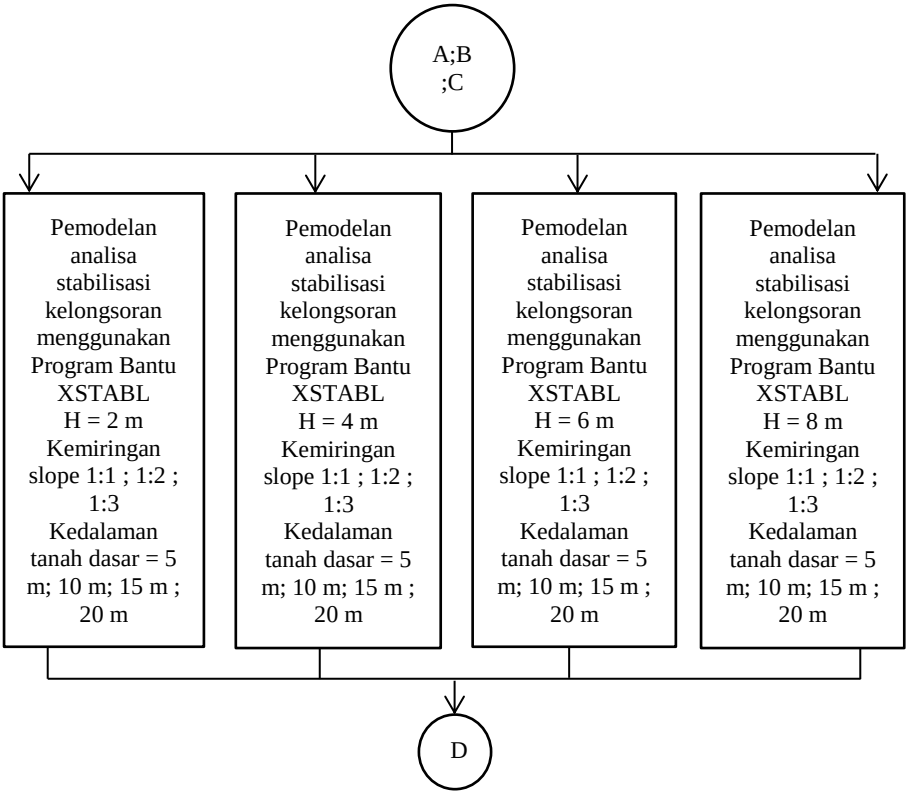
$$m_{\alpha(n)} = \cos \alpha_n + \frac{\tan \emptyset . \sin \alpha_n}{Fs}$$

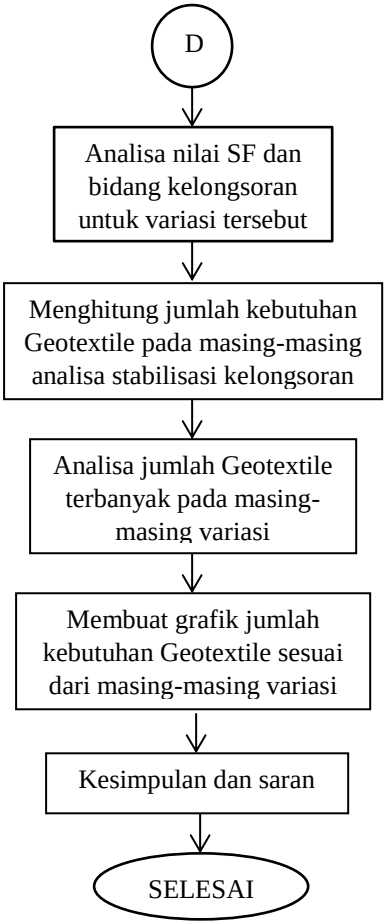
Nilai Fs harus dicoba keduanya denganTrial and Error.

BAB III
METODOLOGI

3.1 Bagan Alir Penyelesaian Tugas Akhir




A;B
;C
Pemodelan analisa stabilisasi kelongsoran menggunakan Program Bantu XSTABL H = 2 m Kemiringan slope 1:1 ; 1:2 ; 1:3 Kedalaman tanah dasar = 5 m; 10 m; 15 m ; 20 m
Pemodelan analisa stabilisasi kelongsoran menggunakan Program Bantu XSTABL H = 4 m Kemiringan slope 1:1 ; 1:2 ; 1:3 Kedalaman tanah dasar = 5 m; 10 m; 15 m ; 20 m
Pemodelan analisa stabilisasi kelongsoran menggunakan Program Bantu XSTABL H = 6 m Kemiringan slope 1:1 ; 1:2 ; 1:3 Kedalaman tanah dasar = 5 m; 10 m; 15 m ; 20 m
Pemodelan analisa stabilisasi kelongsoran menggunakan Program Bantu XSTABL H = 8 m Kemiringan slope 1:1 ; 1:2 ; 1:3 Kedalaman tanah dasar = 5 m; 10 m; 15 m ; 20 m
D



Gambar 3.1 Sistematika Metodologi Penulisan Tugas Akhir

3.2 Studi Literatur

Mencari literatur dan peraturan mengenai hubungan antara jumlah kebutuhan geotextile sebagai perkuatan timbunan di atas tanah lunak dengan variasi ketinggian timbunan, kemudian mempelajari literatur tersebut termasuk peraturan-peraturan yang berkaitan sehingga dapat mengerti, memahami dan akhirnya dapat mengerjakan tugas akhir yang berpedoman literatur dan peraturan.

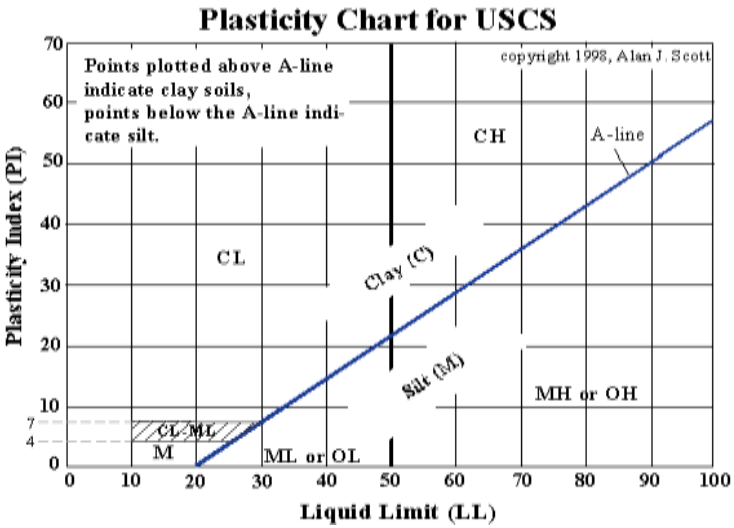
3.3 Penentuan Variasi Data Tanah

Variasi data tanah yang digunakan dari ketentuan Ardana-Mochtar, yaitu berdasarkan nilai Indeks Plastisitas yang berbeda, sehingga akan menghasilkan nilai Cu yang berbeda-beda yang nantinya akan dikorelasikan dengan data tanah di lapangan.

Dalam studi ini, analisis data tanah dasar untuk memvariasikan nilai Cu berdasarkan Ardana dan Mochtar (1999), yaitu dengan korelasi berdasarkan nilai Indeks Plastisitas yang dapat dilihat pada Sub bab 2.2.1. Selain itu, dalam studi ini juga dilakukan perhitungan dalam 2 kondisi, yaitu pada saat kondisi tanah asli (Cu asli) dan saat kondisi tanah dasar telah mengalami pemampatan akibat penggunaan PVD dan penimbunan bertahap (Cu meningkat).

3.4 Analisis untuk Indeks Plastisitas 20, 40, dan 60

Indeks Plastisitas yang dipilih untuk dianalisa adalah Indeks Plastisitas 20, 40, dan 60. Hal ini dikarenakan nilai Indeks Plastisitas tersebut termasuk Indeks Plastisitas rendah, sedang, dan tinggi.



Gambar 3.2. Grafik Plastisitas berdasarkan USCS

Berdasarkan grafik pada gambar 3.2 di atas:

- ✓ Tanah lempung anorganik plastisitas rendah: LL < 30%
- ✓ Tanah lempung anorganik plastisitas sedang: 30% ≤ LL ≤ 50%
- ✓ Tanah lempung anorganik plastisitas tinggi: LL > 50%

3.5 Pemodelan Analisa Stabilitas Kelongsoran

Melakukan pemodelan analisa stabilitas kelongsoran menggunakan Program Bantu XSTABL dengan melakukan pemodelan sebanyak ±20 kali untuk masing-masing variasi. Hal ini dikarenakan sudah mencakup kemungkinan semua bidang kelongsoran yang mungkin terjadi.

Analisis yang dilakukan dengan memvariasikan titik-titik initiation dan termination yang ditinjau.

Pemilihan titik-titik yang ditinjau dilakukan secara acak saat analisa awal, kemudian setelah mengetahui tren titik-titik mana yang menghasilkan jumlah perkuatan terbanyak dan SF terkritis, maka titik-titik tersebut dapat dimasukkan kembali pada analisa untuk variasi selanjutnya. Bila terjadi keanehan pada hasil analisa, maka dilakukan pengambilan initiation dan termination secara acak kembali dan tidak menutup kemungkinan hasil analisa jumlah geotextile terbanyak dan SF terkritis terdapat pada initiation dan termination dengan jarak yang cukup jauh.

3.6 Analisa SF dan Bidang Kelongsoran untuk Setiap Variasi

Melakukan analisa nilai SF dan mencari bidang kelongsoran yang paling kritis dari hasil pemodelan stabilisasi kelongsoran yang menggunakan Program Bantu XSTABL.

Analisa dengan metode limit equilibrium akan meninjau dua modus stabilitas konstruksi timbunan di atas tanah lunak, yaitu stabilitas internal dan stabilitas eksternal. Keamanan terhadap kelongsoran:

SF rencana = (Mr + ΔMr) / Md

ΔMr = (SF rencana x Md) – Mr

ΔMr = $\sum_{i=1}^{n} Ti.Yi$

Dimana:

T = kekuatan tarik ijin geotextile

Y = jarak antara geotextile dengan pusat bidang longsor

Keseimbangan batas pada stabilisasi internal, menunj ukkan bahwa untuk menghindarkan kerusakan pada konstruksi timbunan, kuat tarik geotextile harus lebih besar dari gaya lateral yang ditimbulkan oleh timbunan di atas tanah lunak.

3.7 Menghitung Jumlah Geotextile dan Analisis Jumlah Geotextile Terbanyak pada Setiap Variasi

Melakukan perhitungan untuk mendapatkan jumlah kebutuhan geotextile pada masing-masing hasil analisa stabilisasi kelongsoran yang menggunakan Program Bantu XSTABL.

Untuk medapatkan jumlah kebutuhan geotextile, dilakukan beberapa tahapan perhitungan. Kuat tarik ultimate geotextile yang digunakan dalam analisa ini, yaitu 52 kN/m dan 100 kN/m. Pemilihan ini didasarkan atas banyak tersedianya geotextile dengan kuat tarik ultimate 52 kN/m dan 100 kN/m yang diproduksi di Indonesia, sehingga dalam pelaksanaannya di lapangan tidak perlu mengimpor geotextile produksi asing, dengan begitu biaya yang dibutuhkan juga tidak terlalu besar. Untuk langkah perhitungan selanjutnya dapat dilihat pada Sub bab 2.1.1.

Setelah mendapatkan jumlah geotextile dari setiap hasil analisa running XSTABL di satu variasi, maka didapatkan juga jumlah geotextile terbanyak dari masing-masing hasil analisa running XSTABL untuk dianalisa lebih lanjut. Jumlah geotextile terbanyak tersebut didasarkan pada perhitungan dengan menggunakan SF geotextile terkecil dan terbesar, sesuai dengan faktor reduksi saat perhitungan tegangan ijin geotextile, sehingga terdapat dua macam jumlah terbanyak geotextile dari setiap kuat tarik ultimate geotextile yang dianalisis.

3.8 Membuat Grafik Jumlah Kebutuhan Geotextile

Menyimpulkan hasil analisa dari jumlah kebutuhan geotextile terbanyak pada masing-masing variasi data dalam bentuk grafik. Grafik-grafik yang dihasilkan dibedakan berdasarkan ketinggian timbunan dan indeks plastisitas tanah dasar.

Masing-masing variasi memiliki dua jenis grafik, yaitu jumlah geotextile berdasarkan perhitungan dengan SF geotextile terkecil dan jumlah geotextile berdasarkan perhitungan dengan SF geotextile terbesar. SF geotextile terkecil dan terbesar diambil dari hasil perhitungan tegangan ijin geotextile dengan faktor reduksinya, sehingga didapatkan dua grafik jumlah minimal dan maksimal geotextile yang diperlukan untuk setiap variasi.

BAB IV

PENENTUAN VARIASI DATA TANAH

4.1 Perhitungan Cu Asumsi Tanah Belum Memampat

Dalam studi ini, analisis data tanah dasar untuk memvariasikan nilai Cu berdasarkan Ardana dan Mochtar (1999), yaitu dengan korelasi berdasarkan nilai Indeks Plastisitas. Nilai Indeks Plastisitas yang dipilih untuk dianalisa adalah Indeks Plastisitas 20, 40, dan 60. Hal ini dikarenakan nilai Indeks Plastisitas tersebut termasuk Indeks Plastisitas rendah, sedang, dan tinggi.

Data yang akan dianalisis mencakup sebagai berikut:

- H timbunan = 2 meter, 4 meter, 6 meter, 8 meter
- ɣ timbunan = 1.8 t/m^3
- Slope = 1, 2, 3
- Kedalaman tanah dasar = 5 meter, 10 meter, 15 meter, 20 meter
- ɣsat tanah dasar = 1.6 t/m^3
- Lebar timbunan = 40 meter

4.1.1 Membagi Lapisan *Compressible*

Pembagian lapisan ini dilakukan tiap 1 meteran 2 meteran. Hal ini dimaksudkan untuk mendapatkan harga *settlement* yang lebih teliti.

4.1.2 Mencari Nilai Po' (Tegangan *Overburden*)

Dikarenakan ɣsat tanah dasar pada seluruh lapisan dianggap sama, yaitu 1.6 t/m^3, maka:

$Po_i' = ɣ' \times z_i$

Dimana :

ɣ' = berat volume tanah efektif, yaitu $ɣ' = ɣ_{sat} - ɣ_w$

z_i = tebal lapisan tanah di atas nomor i yang berada di tengah-tengah lapisan.

Contoh perhitungan:

Pada lapisan 1 meter pertama untuk Htimbunan = 4 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 20 meter :

z = 0.5 meter

γ_{sat} = 1.6 t/m^3

γ_w = 1.0 t/m^3

Po' = (1.6 – 1.0) 0.5 = 0.3 t/m^2 = 0.03 kg/cm^2

4.1.3 Mencari Nilai Cu Tanah Belum Memampat

Untuk mendapatkan nilai Cu tanah belum memampat, dalam studi ini menggunakan rumusan persamaan Ardana dan Mochtar (1999), yaitu dengan korelasi berdasarkan nilai Indeks Plastisitas. Karena Indeks Plastisitas yang digunakan dalam studi ini adalah Indeks Plastisitas 20, 40, dan 60, maka persamaan yang digunakan:

PI ≤ 100%

Cu (kg/cm^2) = 0.0737 + (0.19 – 0.0016.PI).po'(kg/cm^2)

Atau

Cu (kPa) = 7.37 + (0.19 – 0.0016.PI).po'(kPa)

Contoh perhitungan:

Pada lapisan 1 meter pertama untuk Htimbunan = 4 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 20 meter :

IP = 40%

Po' = 0.03 kg/cm^2

Cu = 0.0737 + (0.19 – 0.0016.PI).po'

= 0.0737 + (0.19 – 0.0016 . 40) 0.03

= 0.07748 kg/cm^2

= 7.748 kpa

Berikut merupakan tabel nilai Cu yang digunakan dalam analisa.

Tabel 4.1 Nilai Cu dengan IP 20% untuk Hfinal 2m dan 4m

H = 2 m	Ardhana dan Mochtar	
(1:1)	Cu lama (kpa)	Cu baru (kpa)
1	7.844	12.135
2	8.792	13.419
3	9.740	14.492
4	10.688	15.506
5	11.636	16.491
6	12.584	17.457
7	13.532	18.409
8	14.480	19.349
9	15.428	20.279
10	16.376	21.200
11	17.324	22.112
12	18.272	23.018
13	19.220	23.917
14	20.168	24.810
15	21.116	25.699
16	22.064	26.583
17	23.012	27.465
18	23.960	28.343
19	24.908	29.220
20	25.856	30.095

H = 4 m	Ardhana dan Mochtar	
(1:1)	Cu lama (kpa)	Cu baru (kpa)
1	7.844	15.953
2	8.792	17.636
3	9.740	18.887
4	10.688	20.009
5	11.636	21.066
6	12.584	22.080
7	13.532	23.064
8	14.480	24.022
9	15.428	24.958
10	16.376	25.876
11	17.324	26.776
12	18.272	27.662
13	19.220	28.534
14	20.168	29.394
15	21.116	30.243
16	22.064	31.084
17	23.012	31.917
18	23.960	32.743
19	24.908	33.565
20	25.856	34.382

H = 2 m	Ardhana dan Mochtar	
(1:2)	Cu lama (kpa)	Cu baru (kpa)
1	7.844	12.135
2	8.792	13.419
3	9.740	14.492
4	10.688	15.507
5	11.636	16.493
6	12.584	17.461
7	13.532	18.415
8	14.480	19.358
9	15.428	20.291
10	16.376	21.216
11	17.324	22.133
12	18.272	23.043
13	19.220	23.947
14	20.168	24.845
15	21.116	25.739
16	22.064	26.629
17	23.012	27.515
18	23.960	28.398
19	24.908	29.279
20	25.856	30.158

H = 4 m	Ardhana dan Mochtar	
(1:2)	Cu lama (kpa)	Cu baru (kpa)
1	7.844	15.953
2	8.792	17.636
3	9.740	18.889
4	10.688	20.012
5	11.636	21.072
6	12.584	22.091
7	13.532	23.081
8	14.480	24.048
9	15.428	24.995
10	16.376	25.924
11	17.324	26.838
12	18.272	27.738
13	19.220	28.625
14	20.168	29.501
15	21.116	30.367
16	22.064	31.225
17	23.012	32.074
18	23.960	32.917
19	24.908	33.755
20	25.856	34.588

H = 2 m	Ardhana dan Mochtar	
(1:3)	Cu lama (kpa)	Cu baru (kpa)
1	7.844	12.135
2	8.792	13.419
3	9.740	14.493
4	10.688	15.508
5	11.636	16.495
6	12.584	17.464
7	13.532	18.420
8	14.480	19.365
9	15.428	20.301
10	16.376	21.229
11	17.324	22.150
12	18.272	23.064
13	19.220	23.972
14	20.168	24.875
15	21.116	25.773
16	22.064	26.667
17	23.012	27.558
18	23.960	28.445
19	24.908	29.330
20	25.856	30.214

H = 4 m	Ardhana dan Mochtar	
(1:3)	Cu lama (kpa)	Cu baru (kpa)
1	7.844	15.953
2	8.792	17.636
3	9.740	18.889
4	10.688	20.014
5	11.636	21.076
6	12.584	22.099
7	13.532	23.094
8	14.480	24.066
9	15.428	25.020
10	16.376	25.958
11	17.324	26.882
12	18.272	27.793
13	19.220	28.692
14	20.168	29.581
15	21.116	30.460
16	22.064	31.331
17	23.012	32.194
18	23.960	33.051
19	24.908	33.902
20	25.856	34.748

Tabel 4.2 Nilai Cu dengan IP 20% untuk Hfinal 6m dan 8m

H = 6 m	Ardhana dan Mochtar	
(1:1)	Cu lama (kpa)	Cu baru (kpa)
1	7.844	19.585
2	8.792	21.663
3	9.740	23.100
4	10.688	24.338
5	11.636	25.477
6	12.584	26.550
7	13.532	27.576
8	14.480	28.564
9	15.428	29.519
10	16.376	30.446
11	17.324	31.347
12	18.272	32.226
13	19.220	33.084
14	20.168	33.924
15	21.116	34.748
16	22.064	35.558
17	23.012	36.356
18	23.960	37.144
19	24.908	37.923
20	25.856	38.695

H = 8 m	Ardhana dan Mochtar	
(1:1)	Cu lama (kpa)	Cu baru (kpa)
1	7.844	23.098
2	8.792	25.567
3	9.740	27.189
4	10.688	28.548
5	11.636	29.772
6	12.584	30.910
7	13.532	31.984
8	14.480	33.008
9	15.428	33.989
10	16.376	34.934
11	17.324	35.844
12	18.272	36.725
13	19.220	37.580
14	20.168	38.410
15	21.116	39.218
16	22.064	40.008
17	23.012	40.782
18	23.960	41.541
19	24.908	42.287
20	25.856	43.024

H = 6 m	Ardhana dan Mochtar	
(1:2)	Cu lama (kpa)	Cu baru (kpa)
1	7.844	19.585
2	8.792	21.664
3	9.740	23.101
4	10.688	24.343
5	11.636	25.487
6	12.584	26.568
7	13.532	27.606
8	14.480	28.608
9	15.428	29.581
10	16.376	30.528
11	17.324	31.453
12	18.272	32.358
13	19.220	33.245
14	20.168	34.114
15	21.116	34.969
16	22.064	35.811
17	23.012	36.641
18	23.960	37.461
19	24.908	38.272
20	25.856	39.075

H = 8 m	Ardhana dan Mochtar	
(1:2)	Cu lama (kpa)	Cu baru (kpa)
1	7.844	23.098
2	8.792	25.567
3	9.740	27.191
4	10.688	28.554
5	11.636	29.786
6	12.584	30.935
7	13.532	32.025
8	14.480	33.069
9	15.428	34.075
10	16.376	35.049
11	17.324	35.993
12	18.272	36.912
13	19.220	37.807
14	20.168	38.681
15	21.116	39.536
16	22.064	40.373
17	23.012	41.195
18	23.960	42.003
19	24.908	42.799
20	25.856	43.584

H = 6 m	Ardhana dan Mochtar	
(1:3)	Cu lama (kpa)	Cu baru (kpa)
1	7.844	19.585
2	8.792	21.664
3	9.740	23.102
4	10.688	24.346
5	11.636	25.493
6	12.584	26.580
7	13.532	27.624
8	14.480	28.636
9	15.428	29.620
10	16.376	30.581
11	17.324	31.522
12	18.272	32.445
13	19.220	33.350
14	20.168	34.241
15	21.116	35.118
16	22.064	35.983
17	23.012	36.837
18	23.960	37.681
19	24.908	38.516
20	25.856	39.343

H = 8 m	Ardhana dan Mochtar	
(1:3)	Cu lama (kpa)	Cu baru (kpa)
1	7.844	23.098
2	8.792	25.567
3	9.740	27.192
4	10.688	28.558
5	11.636	29.794
6	12.584	30.949
7	13.532	32.048
8	14.480	33.104
9	15.428	34.125
10	16.376	35.117
11	17.324	36.082
12	18.272	37.024
13	19.220	37.945
14	20.168	38.847
15	21.116	39.731
16	22.064	40.601
17	23.012	41.456
18	23.960	42.298
19	24.908	43.128
20	25.856	43.948

Tabel 4.3 Nilai Cu dengan IP 40% untuk Hfinal 2m dan 4m

H = 2 m	Ardhana dan Mochtar	
(1:1)	Cu lama (kpa)	Cu baru (kpa)
1	7.748	11.169
2	8.504	12.193
3	9.260	13.049
4	10.016	13.857
5	10.772	14.642
6	11.528	15.413
7	12.284	16.172
8	13.040	16.921
9	13.796	17.663
10	14.552	18.397
11	15.308	19.125
12	16.064	19.847
13	16.820	20.564
14	17.576	21.276
15	18.332	21.984
16	19.088	22.690
17	19.844	23.392
18	20.600	24.093
19	21.356	24.792
20	22.112	25.489

H = 4 m	Ardhana dan Mochtar	
(1:1)	Cu lama (kpa)	Cu baru (kpa)
1	7.748	14.214
2	8.504	15.555
3	9.260	16.553
4	10.016	17.448
5	10.772	18.290
6	11.528	19.099
7	12.284	19.883
8	13.040	20.647
9	13.796	21.394
10	14.552	22.126
11	15.308	22.844
12	16.064	23.550
13	16.820	24.245
14	17.576	24.930
15	18.332	25.608
16	19.088	26.278
17	19.844	26.942
18	20.600	27.601
19	21.356	28.256
20	22.112	28.908

H = 2 m	Ardhana dan Mochtar	
(1:2)	Cu lama (kpa)	Cu baru (kpa)
1	7.748	11.169
2	8.504	12.193
3	9.260	13.049
4	10.016	13.858
5	10.772	14.644
6	11.528	15.416
7	12.284	16.176
8	13.040	16.928
9	13.796	17.673
10	14.552	18.410
11	15.308	19.141
12	16.064	19.867
13	16.820	20.588
14	17.576	21.304
15	18.332	22.016
16	19.088	22.726
17	19.844	23.432
18	20.600	24.136
19	21.356	24.839
20	22.112	25.540

H = 4 m	Ardhana dan Mochtar	
(1:2)	Cu lama (kpa)	Cu baru (kpa)
1	7.748	14.214
2	8.504	15.556
3	9.260	16.554
4	10.016	17.450
5	10.772	18.295
6	11.528	19.108
7	12.284	19.897
8	13.040	20.668
9	13.796	21.423
10	14.552	22.164
11	15.308	22.893
12	16.064	23.610
13	16.820	24.318
14	17.576	25.016
15	18.332	25.707
16	19.088	26.390
17	19.844	27.068
18	20.600	27.740
19	21.356	28.408
20	22.112	29.072

H = 2 m	Ardhana dan Mochtar	
(1:3)	Cu lama (kpa)	Cu baru (kpa)
1	7.748	11.169
2	8.504	12.193
3	9.260	13.049
4	10.016	13.859
5	10.772	14.646
6	11.528	15.418
7	12.284	16.180
8	13.040	16.934
9	13.796	17.681
10	14.552	18.421
11	15.308	19.155
12	16.064	19.884
13	16.820	20.608
14	17.576	21.328
15	18.332	22.044
16	19.088	22.757
17	19.844	23.467
18	20.600	24.174
19	21.356	24.880
20	22.112	25.584

H = 4 m	Ardhana dan Mochtar	
(1:3)	Cu lama (kpa)	Cu baru (kpa)
1	7.748	14.214
2	8.504	15.556
3	9.260	16.555
4	10.016	17.452
5	10.772	18.299
6	11.528	19.114
7	12.284	19.907
8	13.040	20.683
9	13.796	21.443
10	14.552	22.191
11	15.308	22.928
12	16.064	23.654
13	16.820	24.371
14	17.576	25.080
15	18.332	25.781
16	19.088	26.475
17	19.844	27.163
18	20.600	27.847
19	21.356	28.525
20	22.112	29.200

Tabel 4.4 Nilai Cu dengan IP 40% untuk Hfinal 6m dan 8m

H = 6 m	Ardhana dan Mochtar	
(1:1)	Cu lama (kpa)	Cu baru (kpa)
1	7.748	17.109
2	8.504	18.767
3	9.260	19.912
4	10.016	20.900
5	10.772	21.807
6	11.528	22.663
7	12.284	23.481
8	13.040	24.269
9	13.796	25.030
10	14.552	25.769
11	15.308	26.488
12	16.064	27.189
13	16.820	27.873
14	17.576	28.543
15	18.332	29.200
16	19.088	29.846
17	19.844	30.482
18	20.600	31.110
19	21.356	31.731
20	22.112	32.347

H = 8 m	Ardhana dan Mochtar	
(1:1)	Cu lama (kpa)	Cu baru (kpa)
1	7.748	19.911
2	8.504	21.879
3	9.260	23.172
4	10.016	24.256
5	10.772	25.232
6	11.528	26.139
7	12.284	26.996
8	13.040	27.812
9	13.796	28.595
10	14.552	29.348
11	15.308	30.074
12	16.064	30.776
13	16.820	31.457
14	17.576	32.119
15	18.332	32.764
16	19.088	33.394
17	19.844	34.010
18	20.600	34.616
19	21.356	35.211
20	22.112	35.798

H = 6 m	Ardhana dan Mochtar	
(1:2)	Cu lama (kpa)	Cu baru (kpa)
1	7.748	17.109
2	8.504	18.767
3	9.260	19.913
4	10.016	20.903
5	10.772	21.815
6	11.528	22.678
7	12.284	23.505
8	13.040	24.304
9	13.796	25.080
10	14.552	25.835
11	15.308	26.573
12	16.064	27.294
13	16.820	28.001
14	17.576	28.694
15	18.332	29.376
16	19.088	30.047
17	19.844	30.709
18	20.600	31.363
19	21.356	32.009
20	22.112	32.649

H = 8 m	Ardhana dan Mochtar	
(1:2)	Cu lama (kpa)	Cu baru (kpa)
1	7.748	19.911
2	8.504	21.879
3	9.260	23.174
4	10.016	24.261
5	10.772	25.243
6	11.528	26.159
7	12.284	27.028
8	13.040	27.861
9	13.796	28.663
10	14.552	29.439
11	15.308	30.192
12	16.064	30.925
13	16.820	31.639
14	17.576	32.335
15	18.332	33.017
16	19.088	33.685
17	19.844	34.340
18	20.600	34.984
19	21.356	35.619
20	22.112	36.245

H = 6 m	Ardhana dan Mochtar	
(1:3)	Cu lama (kpa)	Cu baru (kpa)
1	7.748	17.109
2	8.504	18.767
3	9.260	19.914
4	10.016	20.906
5	10.772	21.820
6	11.528	22.687
7	12.284	23.520
8	13.040	24.326
9	13.796	25.111
10	14.552	25.877
11	15.308	26.627
12	16.064	27.363
13	16.820	28.085
14	17.576	28.795
15	18.332	29.495
16	19.088	30.184
17	19.844	30.865
18	20.600	31.538
19	21.356	32.204
20	22.112	32.864

H = 8 m	Ardhana dan Mochtar	
(1:3)	Cu lama (kpa)	Cu baru (kpa)
1	7.748	19.911
2	8.504	21.879
3	9.260	23.175
4	10.016	24.264
5	10.772	25.249
6	11.528	26.171
7	12.284	27.047
8	13.040	27.889
9	13.796	28.703
10	14.552	29.493
11	15.308	30.263
12	16.064	31.014
13	16.820	31.748
14	17.576	32.468
15	18.332	33.173
16	19.088	33.866
17	19.844	34.548
18	20.600	35.219
19	21.356	35.881
20	22.112	36.535

Tabel 4.5 Nilai Cu dengan IP 60% untuk Hfinal 2m dan 4m

H = 2 m	Ardhana dan Mochtar	
(1:1)	Cu lama (kpa)	Cu baru (kpa)
1	7.652	10.204
2	8.216	10.967
3	8.780	11.605
4	9.344	12.208
5	9.908	12.794
6	10.472	13.368
7	11.036	13.934
8	11.600	14.494
9	12.164	15.047
10	12.728	15.594
11	13.292	16.137
12	13.856	16.675
13	14.420	17.210
14	14.984	17.741
15	15.548	18.270
16	16.112	18.796
17	16.676	19.320
18	17.240	19.842
19	17.804	20.364
20	18.368	20.884

H = 4 m	Ardhana dan Mochtar	
(1:1)	Cu lama (kpa)	Cu baru (kpa)
1	7.652	12.474
2	8.216	13.475
3	8.780	14.219
4	9.344	14.886
5	9.908	15.515
6	10.472	16.118
7	11.036	16.703
8	11.600	17.273
9	12.164	17.829
10	12.728	18.375
11	13.292	18.911
12	13.856	19.437
13	14.420	19.956
14	14.984	20.467
15	15.548	20.972
16	16.112	21.472
17	16.676	21.967
18	17.240	22.459
19	17.804	22.948
20	18.368	23.434

H = 2 m	Ardhana dan Mochtar	
(1:2)	Cu lama (kpa)	Cu baru (kpa)
1	7.652	10.204
2	8.216	10.967
3	8.780	11.606
4	9.344	12.209
5	9.908	12.795
6	10.472	13.371
7	11.036	13.938
8	11.600	14.499
9	12.164	15.054
10	12.728	15.604
11	13.292	16.149
12	13.856	16.691
13	14.420	17.228
14	14.984	17.762
15	15.548	18.294
16	16.112	18.823
17	16.676	19.350
18	17.240	19.875
19	17.804	20.399
20	18.368	20.922

H = 4 m	Ardhana dan Mochtar	
(1:2)	Cu lama (kpa)	Cu baru (kpa)
1	7.652	12.474
2	8.216	13.475
3	8.780	14.220
4	9.344	14.888
5	9.908	15.518
6	10.472	16.124
7	11.036	16.713
8	11.600	17.288
9	12.164	17.851
10	12.728	18.404
11	13.292	18.947
12	13.856	19.482
13	14.420	20.010
14	14.984	20.531
15	15.548	21.046
16	16.112	21.556
17	16.676	22.061
18	17.240	22.562
19	17.804	23.061
20	18.368	23.556

H = 2 m	Ardhana dan Mochtar	
(1:3)	Cu lama (kpa)	Cu baru (kpa)
1	7.652	10.204
2	8.216	10.967
3	8.780	11.606
4	9.344	12.210
5	9.908	12.796
6	10.472	13.373
7	11.036	13.941
8	11.600	14.503
9	12.164	15.060
10	12.728	15.612
11	13.292	16.159
12	13.856	16.703
13	14.420	17.243
14	14.984	17.780
15	15.548	18.314
16	16.112	18.846
17	16.676	19.375
18	17.240	19.903
19	17.804	20.429
20	18.368	20.955

H = 4 m	Ardhana dan Mochtar	
(1:3)	Cu lama (kpa)	Cu baru (kpa)
1	7.652	12.474
2	8.216	13.475
3	8.780	14.220
4	9.344	14.889
5	9.908	15.521
6	10.472	16.129
7	11.036	16.721
8	11.600	17.299
9	12.164	17.866
10	12.728	18.424
11	13.292	18.974
12	13.856	19.515
13	14.420	20.050
14	14.984	20.578
15	15.548	21.101
16	16.112	21.619
17	16.676	22.133
18	17.240	22.642
19	17.804	23.148
20	18.368	23.651

Tabel 4.6 Nilai Cu dengan IP 60% untuk Hfinal 6m dan 8m

H = 6 m	Ardhana dan Mochtar	
(1:1)	Cu lama (kpa)	Cu baru (kpa)
1	7.652	14.634
2	8.216	15.870
3	8.780	16.724
4	9.344	17.461
5	9.908	18.138
6	10.472	18.776
7	11.036	19.386
8	11.600	19.974
9	12.164	20.542
10	12.728	21.093
11	13.292	21.629
12	13.856	22.151
13	14.420	22.662
14	14.984	23.161
15	15.548	23.651
16	16.112	24.133
17	16.676	24.608
18	17.240	25.076
19	17.804	25.539
20	18.368	25.999

H = 8 m	Ardhana dan Mochtar	
(1:1)	Cu lama (kpa)	Cu baru (kpa)
1	7.652	16.723
2	8.216	18.191
3	8.780	19.156
4	9.344	19.964
5	9.908	20.692
6	10.472	21.369
7	11.036	22.008
8	11.600	22.616
9	12.164	23.200
10	12.728	23.761
11	13.292	24.303
12	13.856	24.827
13	14.420	25.335
14	14.984	25.829
15	15.548	26.310
16	16.112	26.779
17	16.676	27.239
18	17.240	27.691
19	17.804	28.135
20	18.368	28.573

H = 6 m	Ardhana dan Mochtar	
(1:2)	Cu lama (kpa)	Cu baru (kpa)
1	7.652	14.634
2	8.216	15.870
3	8.780	16.725
4	9.344	17.464
5	9.908	18.144
6	10.472	18.787
7	11.036	19.404
8	11.600	20.000
9	12.164	20.578
10	12.728	21.142
11	13.292	21.692
12	13.856	22.230
13	14.420	22.757
14	14.984	23.274
15	15.548	23.783
16	16.112	24.283
17	16.676	24.777
18	17.240	25.264
19	17.804	25.747
20	18.368	26.224

H = 8 m	Ardhana dan Mochtar	
(1:2)	Cu lama (kpa)	Cu baru (kpa)
1	7.652	16.723
2	8.216	18.191
3	8.780	19.157
4	9.344	19.968
5	9.908	20.700
6	10.472	21.383
7	11.036	22.032
8	11.600	22.653
9	12.164	23.251
10	12.728	23.830
11	13.292	24.392
12	13.856	24.938
13	14.420	25.470
14	14.984	25.990
15	15.548	26.498
16	16.112	26.996
17	16.676	27.485
18	17.240	27.966
19	17.804	28.439
20	18.368	28.906

H = 6 m	Ardhana dan Mochtar	
(1:3)	Cu lama (kpa)	Cu baru (kpa)
1	7.652	14.634
2	8.216	15.870
3	8.780	16.726
4	9.344	17.465
5	9.908	18.147
6	10.472	18.794
7	11.036	19.415
8	11.600	20.016
9	12.164	20.602
10	12.728	21.173
11	13.292	21.733
12	13.856	22.281
13	14.420	22.820
14	14.984	23.350
15	15.548	23.871
16	16.112	24.386
17	16.676	24.893
18	17.240	25.395
19	17.804	25.892
20	18.368	26.384

H = 8 m	Ardhana dan Mochtar	
(1:3)	Cu lama (kpa)	Cu baru (kpa)
1	7.652	16.723
2	8.216	18.192
3	8.780	19.158
4	9.344	19.970
5	9.908	20.705
6	10.472	21.392
7	11.036	22.046
8	11.600	22.674
9	12.164	23.281
10	12.728	23.870
11	13.292	24.444
12	13.856	25.004
13	14.420	25.552
14	14.984	26.089
15	15.548	26.615
16	16.112	27.132
17	16.676	27.640
18	17.240	28.141
19	17.804	28.635
20	18.368	29.122

Hasil keseluruhan perhitungan Cu tanah asli dapat dilihat pada Lampiran 1.

4.2 Perhitungan Peningkatan Nilai Cu

Perhitungan peningkatan nilai Cu pada tanah dasar mengacu pada perumusan Ardana dan Mochtar (1999).

4.3.1 Mencari Nilai ΔP

Cara mencari nilainya:

$\Delta P = qo/\pi[\{B_1+B_2)/ B_2\}(\alpha_1+ \alpha_2) - B_1/ B_2(\alpha_2)]$

$= 2.I.q$

Contoh perhitungan:

Pada lapisan 1 meter pertama untuk Htimbunan = 4 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 20 meter :

- $q = \gamma_{timb}$ x Htimb
  $= 1.8 \times 4 = 7.2\ t/m^2$
- $\alpha_1 = \tan^{-1}\{(B_1+B_2)/z\} - \tan^{-1}(B_1/z)$
  $= \tan^{-1}\{(20+4)/0.5\} - \tan^{-1}(20/0.5)$
  $= 0.2386$ radian
- $\alpha_2 = \tan^{-1}(B_1/z)$
  $= \tan^{-1}(20/0.5) = 88.5679$ radian
- $I = [\{(B_1+B_2)/ B_2\}(\alpha_1+ \alpha_2) - B_1/ B_2(\alpha_2)]/\pi$
  $= [\{(20+4)/4\}(0.2386+88.5679) - 20/4 (88.5679)]/\pi$
  $= 0.499997$
- $\Delta P = 2.I.q$
  $= 2 \times 0.499997 \times 7.2$
  $= 7.19996\ t/m^2$

4.3.2 Mencari Nilai σ'p

Perumusan yang digunakan adalah:

$$\sigma'p = \left(\frac{p'_o+\Delta p'}{p'_o}\right)^U . p'_o$$

Contoh perhitungan:

Pada lapisan 1 meter pertama untuk Htimbunan = 4 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 20 meter :

$$\sigma'p = \left(\frac{p'_o + \Delta p'}{p'_o}\right)^U . p'_o$$

$$= \left(\frac{0.3 + 7.19996}{0.3}\right)^{0.9} x\ 0.3$$

$$= 5.4358\ t/m^2$$

$$= 0.54358\ kg/cm^2$$

4.3.3 Mencari Peningkatan Nilai Cu

Perhitungan peningkatan nilai Cu dengan perumusan Ardana dan Mochtar (1999) yang menggunakan harga σ'p, yaitu:

PI < 120%

Cu (kg/cm^2) = 0.0737 + (0.1899 – 0.0016.PI). σ'p

Contoh perhitungan:

Pada lapisan 1 meter pertama untuk Htimbunan = 4 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 20 meter :

Cu = 0.0737 + (0.1899 – 0.0016.PI). σ'p

= 0.0737 + (0.1899 – 0.0016.40) 0.54358

= 0.142137 kg/cm^2

= 14.214 kpa

Hasil keseluruhan perhitungan peningkatan nilai Cu dapat dilihat pada Lampiran 2.

4.3 Perhitungan Hinitial dan *Settlement* Tiap Lapisan Tanah Dasar

Selain mencari jumlah perkuatan geotextile saat keadaan tanah dasar asli, dalam studi ini juga menganalisis jumlah perkuatan geotextile saat tanah

dasar sudah memampat dan Cu meningkat akibat penimbunan bertahap hingga setinggi Hinitial.

4.3.1 Mencari Nilai Pc' (Tegangan Pra Konsolidasi)

Perumusan yang digunakan adalah:

$$Pc' = Po' + \Delta P_f$$

Contoh perhitungan:

Pada lapisan 1 meter pertama untuk Htimbunan = 4 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 20 meter :

$$Pc' = Po' + \Delta P_f$$
$$= 0.3 + 1.6$$
$$= 1.9\ t/m^2$$

4.3.2 Menghitung *Settlement* pada Setiap Lapisan Tanah Berdasarkan Hfinal

Perhitungan *settlement* pada tanah dibedakan menjadi dua, yaitu:

- Jika $(Po' + \Delta P) \leq Pc'$

  $$Sci = \left[\frac{Cs}{1+e_0} \log \frac{p'_o + \Delta p}{p'_o}\right] Hi$$

- Jika $(Po' + \Delta P) > Pc'$

  $$Sci = \left[\frac{Cs}{1+e_0} \log \frac{p'_c}{p'_0} + \frac{Cc}{1+e_0} \log \frac{p'_o + \Delta p}{p'_c}\right] Hi$$

Karena itu, perlu mencari nilai $Po' + \Delta P$ terlebih dahulu pada setiap lapisan.

Contoh perhitungan:

Pada lapisan 1 meter pertama untuk Htimbunan = 4 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 20 meter :

$$Po' + \Delta P = 0.3 + 7.2$$
$$= 7.5\ t/m^2$$

Dikarenakan nilai yang didapatkan pada lapisan yang ditinjau adalah (Po'+ΔP) > Pc' , maka perumusan yang digunakan adalah:

$$Sci = \left[\frac{Cs}{1+e_0}\log\frac{p'_c}{p'_0} + \frac{Cc}{1+e_0}\log\frac{p'_o+\Delta p}{p'_c}\right]Hi$$

Contoh perhitungan:

Pada lapisan 1 meter pertama untuk Hfinal = 4 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 20 meter :

Beberapa perhitungan yang perlu dilakukan terlebih dulu, yaitu mencari nilai Cs dan Cc dengan menggunakan korelasi empiris Kosasih dan Mochtar (1997).

- Mencari nilai Cs
  e0 = 1.1
  LL = 50%
  $Cs = 0.002LL + 0.02e0^2 - 0.05$
  $= (0.002 \times 50) + (0.02 \times 1.1^2) - 0.05$
  $= 0.0742$
- Mencari nilai Cc
  e0 = 1.1
  LL = 50%
  $Cc = 0.006LL + 0.13e0^2 - 0.13$
  $= (0.006 \times 50) + (0.13 \times 1.1^2) - 0.13$
  $= 0.3273$

Mencari besar *settlement* pada setiap lapisan tanah dasar:

$$Sc1 = \left[\frac{Cs}{1+e_0}\log\frac{p'_c}{p'_0} + \frac{Cc}{1+e_0}\log\frac{p'_o+\Delta p}{p'_c}\right]H1$$

$$= \left[\frac{0.0742}{1+1.1}\log\frac{1.9}{0.3} + \frac{0.3273}{1+1.1}\log\frac{7.5}{1.9}\right]1.0$$

$$= 0.121 \text{ meter}$$

Hasil keseluruhan perhitungan besar s*ettlement* pada setiap lapisan tanah dasar untuk Hfinal yang akan dianalisis dapat dilihat pada Lampiran 3.

4.3.3 Menghitung *Settlement* pada Setiap Lapisan Tanah untuk H Timbunan Variasi

Perhitungan *settlement* juga dilakukan untuk berbagai H timbunan. Perhitungan ini dimaksudkan untuk membuat grafik hubungan antara Hfinal dengan Hinisial dan grafik hubungan antara Hfinal dan Sc. Grafik inilah yang nantinya dapat digunakan untuk mencari Hinisial dan Sc yang akan digunakan untuk analisa pemodelan dengan program bantu XSTABL menggunakan peningkatan nilai Cu pada tanah dasarnya.

Perhitungan settlement dilakukan dengan langkah dan perumusan yang sama dengan sebelumnya, hanya saja H timbunan yang digunakan bervariasi. Pada studi ini, analisa yang dilakukan untuk Hfinal 4 meter menggunakan H timbunan 5 meter, 6 meter, dan 7 meter.

Hasil keseluruhan perhitungan besar settlement pada setiap lapisan tanah dasar untuk Htimbunan variasi yang akan dianalisis dapat dilihat pada Lampiran 4.

4.3.4 Mencari Hfinal dengan Ketinggian Timbunan Bervariasi

Perhitungan Hfinal dilakukan dengan langkah-langkah sebagai berikut:

- Menentukan Hinisial

  Perhitungan Hinisial dilakukan dengan perumusan:

  H inisial = $\frac{q_{final} + (Sc.(\gamma_{timb} + \gamma_w - \gamma_{sat-timb}))}{\gamma_{timb}}$

Contoh perhitungan:

Pada H timbunan = 5 meter dari perhitungan sebelumnya didapatkan:

Htimb = 5 meter
ɣtimb = 1.8 t/m^3
ɣsat timb = 1.8 t/m^3

γ_w = 1 t/m^3
q final = 5 x 1.8 = 9 t/m^2
Sc = 1.15 meter
H inisial = $\frac{9+(1.15\ x\ (1.8+1-1.8))}{1.8}$
= 5.639 meter
H final = 5.639 – 1.15
= 4.489 meter

Berikut ini merupakan hasil perhitungan Hfinal untuk ketinggian timbunan yang bervariasi, slope = 1, dan kedalaman tanah dasar = 20 meter yang ditunjukkan pada Tabel 4.1.

Tabel 4.1 Contoh Hasil Perhitungan Hfinal untuk Ketinggian Timbunan yang Bervariasi, slope 1, dan kedalaman tanah dasar 20 meter

Kedalaman 20 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
4	7.2	0.968	4.538	3.570
5	9	1.150	5.639	4.489
6	10.8	1.310	6.728	5.418
7	12.6	1.453	7.807	6.354

- Membuat Grafik Hubungan antara Hfinal dan Hinisial

  Hasil perhitungan pada Tabel 4.5 di atas kemudian dibuat dalam bentuk grafik hubungan antara Hfinal dan Hinisial.

  Berikut ini merupakan grafik hubungan antara Hfinal dan Hinisial untuk ketinggian timbunan yang bervariasi, slope = 1, dan kedalaman tanah

dasar = 20 meter yang ditunjukkan pada Gambar 4.1.

Gambar 4.1. Grafik Hubungan antara Hfinal dan Hinisial untuk Ketinggian Timbunan yang Bervariasi, slope 1, dan kedalaman tanah dasar 20 meter

- Membuat Grafik Hubungan antara Hfinal dan Sc

  Selanjutnya hasil perhitungan pada tabel 4.5 di atas juga dibuat dalam bentuk grafik hubungan antara Hfinal dan Sc.

  Berikut ini merupakan grafik hubungan antara Hfinal dan Sc untuk ketinggian timbunan yang bervariasi, slope = 1, dan kedalaman tanah dasar = 20 meter yang ditunjukkan pada Gambar 4.2.

Gambar 4.2. Grafik Hubungan antara Hfinal dan Sc untuk Ketinggian Timbunan yang Bervariasi, slope 1, dan kedalaman tanah dasar 20 meter

- Menetukan Hinisial dan Sc Perencanaan

  Dengan menggunakan persamaan regresi dari Gambar 4.1 dan 4.2, maka dapat dilakukan perhitungan untuk mencari Hinisial dan Sc sesuai dengan Htimbunan yang direncanakan.

  Contoh perhitungan:

  Perhitungan untuk Hfinal = 4 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 20 meter :

  Hfinal = 4 meter

  Hinisial= $(-0.0125 \times 4^2) + (1.2982 \times 4) + 0.0627 = 5.056$ meter

  Sc = $(-0.0125 \times 4^2) + (0.2982 \times 4) + 0.0627 = 1.056$ meter

Hasil keseluruhan perhitungan besar settlement pada setiap lapisan tanah dasar untuk Hinisial yang bervariasi sesuai dengan Hfinal yang dianalisis dapat dilihat pada Lampiran 5.

BAB V
ANALISA DATA

5.1 Analisa Stabilitas

Pemodelan analisa stabilisasi kelongsoran menggunakan Program Bantu XSTABL dengan melakukan pemodelan sebanyak ±20 kali untuk masing-masing variasi. Hal ini dikarenakan sudah mencakup kemungkinan semua bidang kelongsoran yang mungkin terjadi. Bila terjadi ketidaksesuaian pada hasil analisa, maka dilakukan pengambilan initiation dan termination secara acak kembali.

Data variasi yang akan dianalisis mencakup sebagai berikut:

- Indeks Plastisitas tanah dasar = 20%, 40%, dan 60%
- Hfinal = 2 meter, 4 meter, 6 meter, dan 8 meter
- Slope = 1, 2, dan 3
- Kedalaman tanah dasar = 5 meter, 10 meter, 15 meter, dan 20 meter

5.1.1 Hfinal 2 meter

Untuk Hfinal timbunan 2 meter, dilakukan pemodelan terlebih dahulu untuk analisa stabilisasi kelongsoran menggunakan Program Bantu XSTABL sebanyak 15 kali dengan memvariasikan titik-titik initiation dan termination. Pemodelan yang dilakukan pertama kali menggunakan Cu tanah dasar asli yang belum mengalami peningkatan dan tanah dasar belum memampat. Setelah dilakukan analisa stabilisasi kelongsoran sebanyak 15 kali, ternyata SF yang didapatkan untuk setiap variasi data tanah lebih besar dari SF rencana geotextile yang digunakan, yaitu 1.2.

Tabel 5.1 Rekap Hasil Pemodelan dengan Stable untuk Hfinal = 2m, IP = 20%, Kedalaman Tanah Dasar = 5m, Slope 1

No.	SF	Circle Center		Radius (m)	Resisting Moment (kNm)
		Koord. X (m)	Koord. Y (m)		
1	1.4	29.73	9.22	6.34	6.89E+02
2	1.474	31.43	12.98	10.98	1.88E+03
3	1.324	31.59	9.56	6.47	6.67E+02
4	1.267	30.79	8.24	4.98	4.31E+02
5	1.262	31.34	7.77	4.34	3.34E+02
6	1.293	30.34	7.77	4.34	3.35E+02
7	1.244	31.01	7.73	4.06	2.84E+02
8	1.244	31	7.72	4.05	2.82E+02
9	1.249	31.12	7.61	4.15	3.10E+02
10	1.294	30.33	7.76	4.32	3.33E+02
11	1.371	30.21	9.92	6.48	6.20E+02
12	1.412	30.27	11.37	8.27	9.70E+02
13	1.281	31.26	8.73	5.66	5.45E+02
14	1.445	31.82	11.76	9.76	1.58E+03
15	1.272	31.04	8.55	5.46	5.14E+02

Tabel 5.2 Rekap Hasil Pemodelan dengan Stable untuk Hfinal = 2m, IP = 60%, Kedalaman Tanah Dasar = 10m, Slope 1

No.	SF	Circle Center		Radius (m)	Resisting Moment (kNm)
		Koord. X (m)	Koord. Y (m)		
1	1.324	29.73	14.22	6.34	6.52E+02
2	1.352	31.38	16.99	10.24	1.66E+03
3	1.261	30.97	14.51	6.8	7.49E+02
4	1.21	30.79	13.24	4.98	4.12E+02

5	1.209	31.34	12.77	4.34	3.20E+02
6	1.239	30.34	12.77	4.34	3.21E+02
7	1.20	31.01	12.73	4.06	2.73E+02
8	1.20	31	12.72	4.05	2.72E+02
9	1.197	31.12	12.61	4.15	2.97E+02
10	1.24	30.33	12.76	4.32	3.19E+02
11	1.297	30.91	15.57	8.2	1.06E+03
12	1.335	31	16.72	9.79	1.50E+03
13	1.221	31.26	13.73	5.66	5.20E+02
14	1.361	32.41	15.99	8.85	1.24E+03
15	1.213	31.04	13.55	5.46	4.90E+02

Dapat dilihat pada Tabel 5.1 di atas, bahwa SF yang dihasilkan untuk data tanah variasi Htimbunan = 2m, IP = 20%, kedalaman tanah dasar = 5m, kemiringan 1:1 memiliki hasil SF yang cukup besar melebihi SF rencana geotextile. Lalu, pada Tabel 5.2 ditunjukkan hasil running pada kondisi paling kritis untuk data tanah variasi Hfinal = 2m, IP = 60%, kedalaman tanah dasar = 10m, kemiringan 1:1 ternyata juga memiliki hasil SF yang cukup besar. Oleh karena itu, disimpulkan bahwa untuk Hfinal timbunan 2 meter tidak diperlukan perkuatan geotextile dikarenakan sudah cukup stabil sekalipun tanpa perkuatan dalam keadaan Cu tanah dasar belum meningkat dan tanah dasar belum mengalami pemampatan. Hasil rekap pemodelan dengan XSTABL untuk Hfinal = 2 meter dapat dilihat pada Lampiran 6.

5.1.2 Hfinal 4 meter

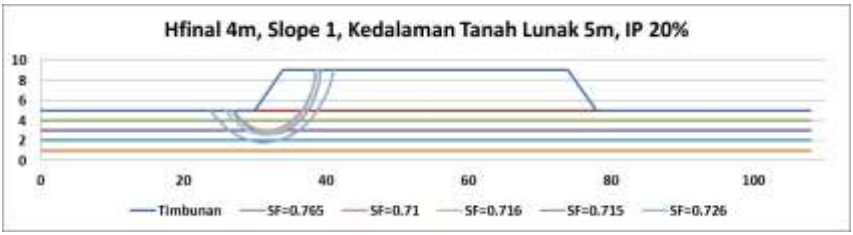
Pada Hfinal timbunan 4 meter dilakukan pemodelan analisa stabilisasi kelongsoran menggunakan Program Bantu XSTABL dengan melakukan pemodelan sebanyak ±20 kali untuk masing-masing variasi.

5.1.2.1 Asumsi Kondisi Tanah Belum Memampat

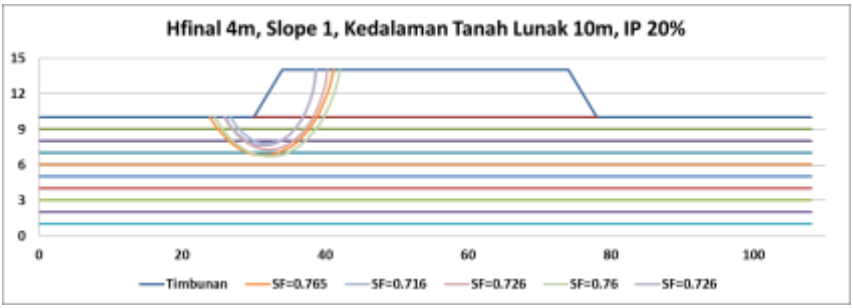
Analisa stabilisasi kelongsoran yang pertama kali dilakukan pada Hfinal timbunan 4 meter adalah dengan menggunakan Cu tanah asli yang tanah dasarnya belum mengalami pemampatan. Hasil running yang didapatkan, yaitu pada kedalaman tanah lunak yang berbeda memiliki garis kelongsoran yang cenderung sama di setiap slope. Hal ini dikarenakan untuk H timbunan 4 meter tidak terlalu memiliki pengaruh kelongsoran yang dalam pada tanah dasarnya.

Berikut dapat dilihat hasil running berupa grafik untuk Hfinal timbunan 4 meter dengan Cu tanah asli yang belum mengalami pemampatan dengan kedalaman tanah lunak yang berbeda-beda pada salah satu slope yang ditinjau.

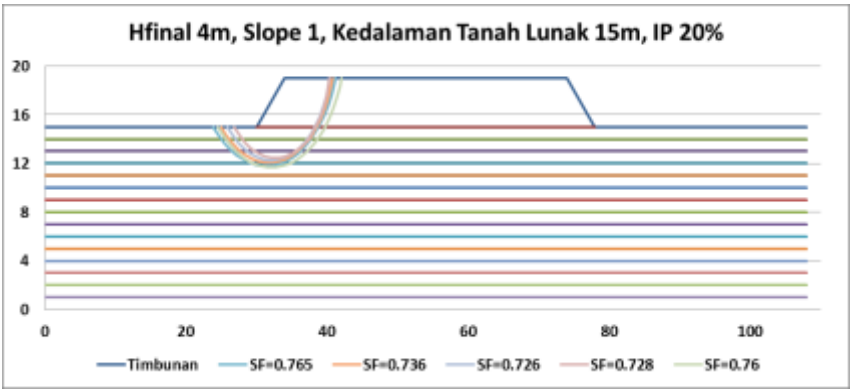
(**Note:** garis kelongsoran pada Gambar 5.1, 5.2, 5.3 dan 5.4 di bawah ini merupakan perwakilan dari hasil running sebanyak 20 kali dengan kelongsoran terkritis)



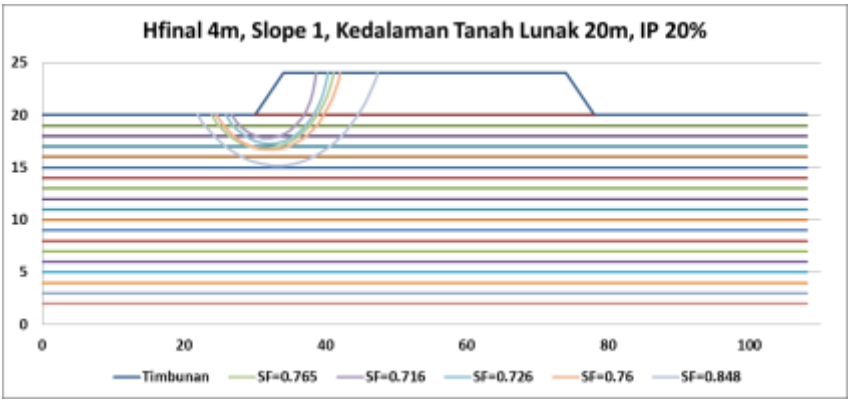
Gambar 5.1 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 4 meter, Slope 1, Kedalaman Tanah Lunak 5 meter, IP 20% pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.2 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 4 meter, Slope 1, Kedalaman Tanah Lunak 10 meter, IP 20% pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.3 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 4 meter, Slope 1, Kedalaman Tanah Lunak 15 meter, IP 20% pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.4 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 4 meter, Slope 1, Kedalaman Tanah Lunak 20 meter, IP 20% pada Asumsi Kondisi Tanah Belum Memampat

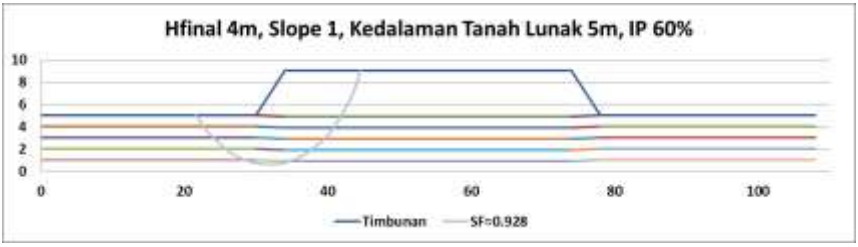
Berdasarkan Gambar 5.1, Gambar 5.2, Gambar 5.3 dan Gambar 5.4 di atas, dapat dilihat bahwa garis kelongsoran yang dihasilkan Hfinal timbunan 4 meter tidak memiliki perbedaan kedalaman pada tanah lunaknya. Kelongsoran yang dihasilkan mencapai hingga kedalaman tanah lunak 5 meter, sehingga untuk kedalaman tanah lunak lebih dari 5 meter tidak memiliki pengaruh. Hasil rekap pemodelan dengan XSTABL untuk Htimbunan = 4 meter dengan Cu asli dapat dilihat pada Lampiran 7.

5.1.2.2 Asumsi Kondisi Tanah Telah Memampat

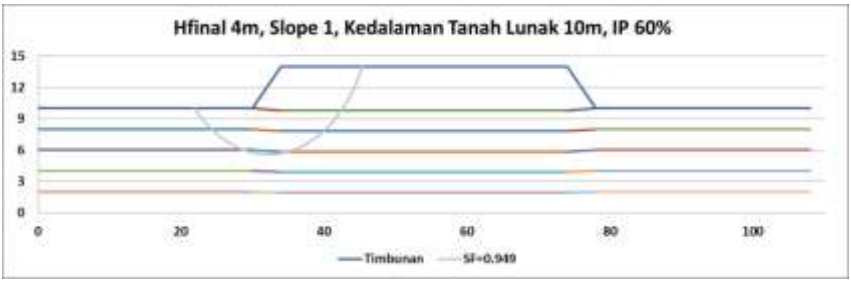
Analisa stabilisasi kelongsoran yang selanjutnya dilakukan pada Hfinal timbunan 4 meter adalah dengan menggunakan Cu tanah dasar yang sudah meningkat dan tanah dasar yang telah mengalami pemampatan. Hasil running yang didapatkan, yaitu pada kedalaman tanah lunak yang berbeda memiliki garis kelongsoran yang cenderung sama di setiap slope, sama seperti pola kelongsoran yang terjadi saat menggunakan Cu asli.

Berikut dapat dilihat hasil running kondisi terkritis berupa grafik untuk Hfinal timbunan 4 meter dengan Cu tanah dasar yang sudah meningkat dan tanah dasar yang telah mengalami pemampatan dengan kedalaman tanah lunak yang berbeda-beda pada salah satu slope yang ditinjau.

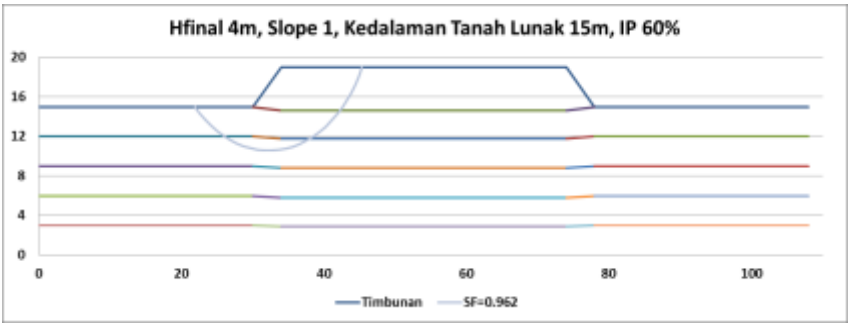
(**Note:** garis kelongsoran pada Gambar 5.5, 5.6, 5.7 dan 5.8 di bawah ini merupakan perwakilan dari hasil running sebanyak 20 kali dengan kelongsoran terkritis)



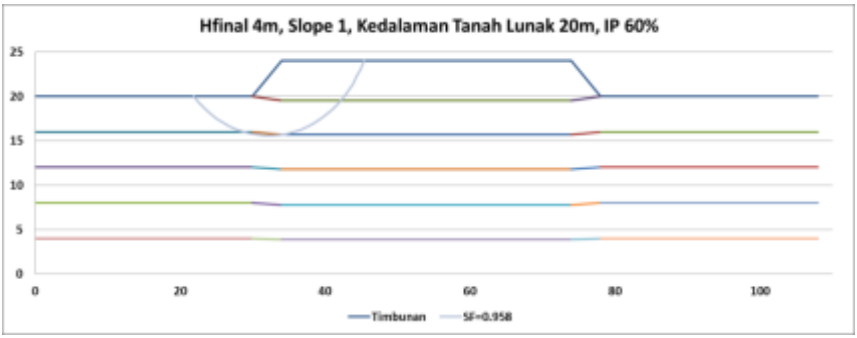
Gambar 5.5 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 4 meter, Slope 1, Kedalaman Tanah Lunak 5 meter, IP 60% pada Asumsi Kondisi Tanah Telah Memampat



Gambar 5.6 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 4 meter, Slope 1, Kedalaman Tanah Lunak 10 meter, IP 60% pada Asumsi Kondisi Tanah Telah Memampat



Gambar 5.7 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 4 meter, Slope 1, Kedalaman Tanah Lunak 15 meter, IP 60% pada Asumsi Kondisi Tanah Telah Memampat



Gambar 5.8 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 4 meter, Slope 1, Kedalaman Tanah Lunak 20 meter, IP 60% pada Asumsi Kondisi Tanah Telah Memampat

Berdasarkan Gambar 5.5, Gambar 5.6, Gambar 5.7 dan Gambar 5.8 di atas, dapat dilihat bahwa garis kelongsoran yang dihasilkan Hfinal timbunan 4 meter pada kondisi Cu tanah dasar meningkat tidak memiliki perbedaan kedalaman pada tanah lunaknya. Kelongsoran yang dihasilkan mencapai hingga kedalaman tanah lunak 5 meter, sehingga untuk kedalaman tanah lunak lebih dari 5 meter tidak memiliki pengaruh.

5.1.3 Hfinal 6 meter

Pada Hfinal timbunan 6 meter dilakukan pemodelan analisa stabilisasi kelongsoran menggunakan Program Bantu XSTABL dengan melakukan pemodelan sebanyak ±20 kali untuk masing-masing variasi.

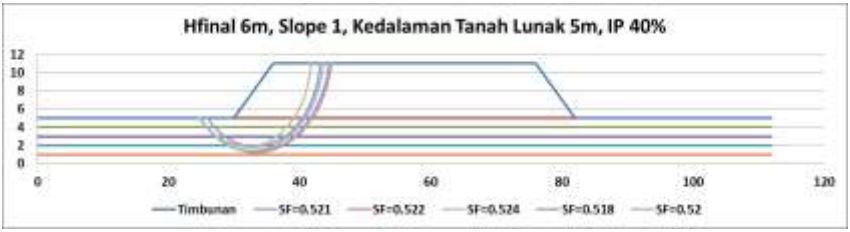
5.1.3.1 Asumsi Kondisi Tanah Belum Memampat

Analisa stabilisasi kelongsoran yang pertama kali dilakukan pada Hfinal timbunan 6 meter adalah dengan menggunakan Cu tanah asli yang tanah dasarnya belum mengalami pemampatan. Hasil running yang didapatkan, yaitu terdapat perbedaan kedalaman kelongsoran pada slope yang berbeda. Untuk slope 1 dan 2 memiliki kedalaman kelongsoran yang cenderung sama pada

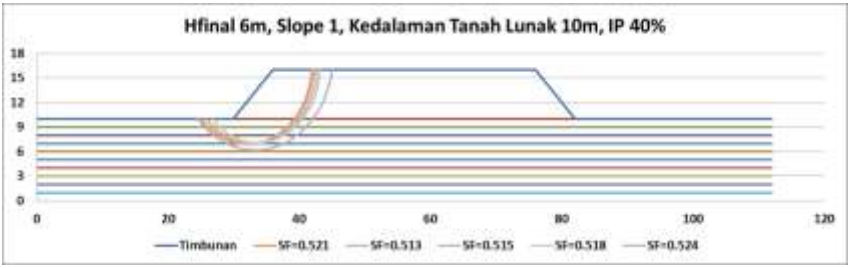
kedalaman tanah lunak yang berbeda. Sedangkan untuk slope 3 cenderung memiliki kedalaman kelongsoran yang berbeda pada tanah lunaknya.

Berikut dapat dilihat hasil running berupa grafik untuk Hfinal timbunan 6 meter dengan Cu tanah asli yang belum mengalami pemampatan dengan kedalaman tanah lunak berbeda-beda pada slope 1.

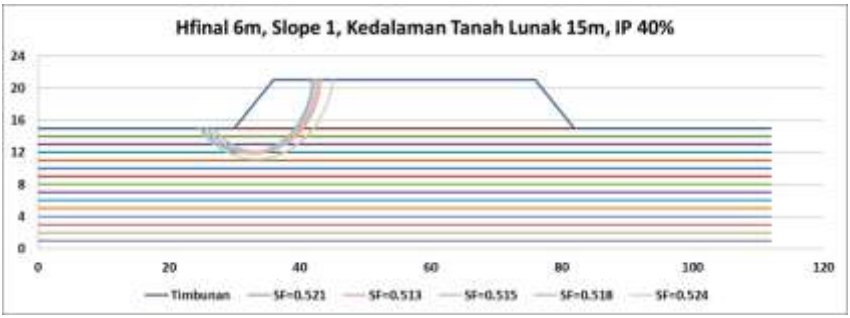
(**Note:** garis kelongsoran pada Gambar 5.9, 5.10, 5.11 dan 5.12 di bawah ini merupakan perwakilan dari hasil running sebanyak 20 kali dengan kelongsoran terkritis)



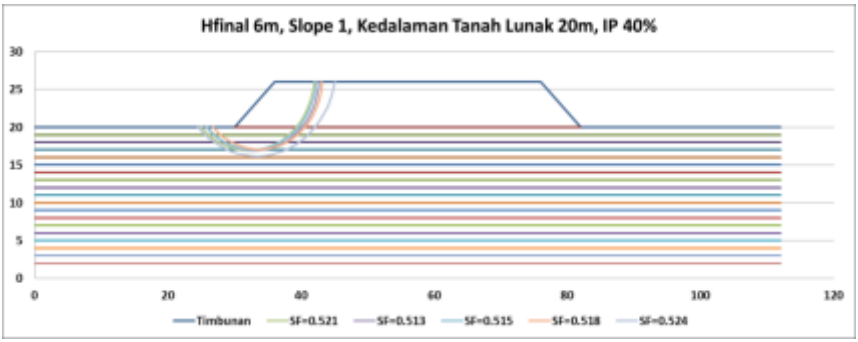
Gambar 5.9 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 6 meter, Slope 1, Kedalaman Tanah Lunak 5 meter, IP 40% pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.10 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 6 meter, Slope 1, Kedalaman Tanah Lunak 10 meter, IP 40% pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.11 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 6 meter, Slope 1, Kedalaman Tanah Lunak 15 meter, IP 40% pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.12 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 6 meter, Slope 1, Kedalaman Tanah Lunak 20 meter, IP 40% pada Asumsi Kondisi Tanah Belum Memampat

Berdasarkan Gambar 5.9, Gambar 5.10, Gambar 5.11 dan Gambar 5.12 di atas, dapat dilihat bahwa garis kelongsoran yang dihasilkan Hfinal timbunan 6 meter dengan slope 1 tidak memiliki perbedaan kedalaman kelongsoran pada tanah lunaknya. Kelongsoran yang dihasilkan mencapai hingga kedalaman tanah lunak 5 meter, sehingga untuk kedalaman tanah lunak lebih dari 5 meter tidak memiliki pengaruh. Sedangkan pada slope

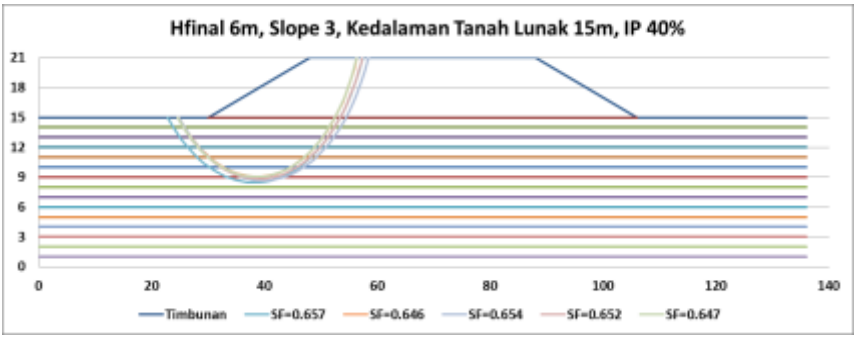
2, sama seperti slope 1, kedalaman kelongsoran yang terjadi juga tidak memiliki perbedaan pada tanah lunaknya.

Untuk selanjutnya, dapat dilihat hasil running berupa grafik untuk Hfinal timbunan 6 meter dengan Cu tanah asli yang belum mengalami pemampatan dengan kedalaman tanah lunak yang berbeda-beda pada slope 3.

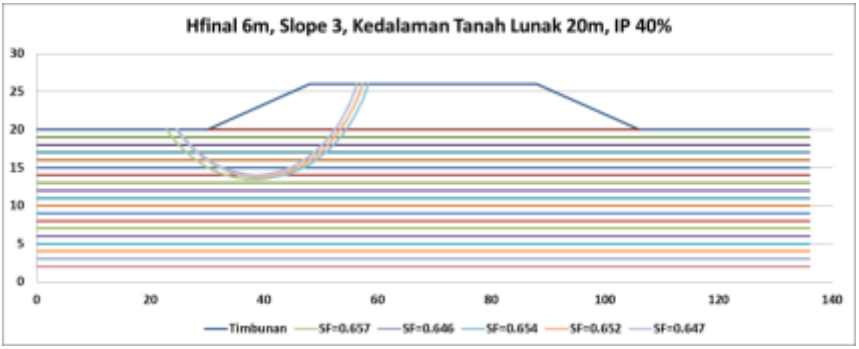
(**Note:** garis kelongsoran pada Gambar 5.13, 5.14, 5.15 dan 5.16 di bawah ini merupakan perwakilan dari hasil running sebanyak 20 kali dengan kelongsoran terkritis)

Gambar 5.13 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 6 meter, Slope 3, Kedalaman Tanah Lunak 5 meter, IP 40% pada Asumsi Kondisi Tanah Belum Memampat

Gambar 5.14 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 6 meter, Slope 3, Kedalaman Tanah Lunak 10 meter, IP 40% pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.15 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 6 meter, Slope 3, Kedalaman Tanah Lunak 15 meter, IP 40% pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.16 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 6 meter, Slope 3, Kedalaman Tanah Lunak 20 meter, IP 40% pada Asumsi Kondisi Tanah Belum Memampat

Berdasarkan Gambar 5.13, Gambar 5.14, Gambar 5.15 dan Gambar 5.16 di atas, dapat dilihat bahwa garis kelongsoran yang dihasilkan Hfinal timbunan 6 meter dengan slope 3 memiliki perbedaan kedalaman kelongsoran pada tanah lunaknya. Pada kedalaman tanah lunak 5 meter, kelongsoran yang terjadi mencapai sedalam 5 meter. Sedangkan saat kedalaman tanah lunak 10 meter, 15 meter dan 20 meter, kelongsoran yang

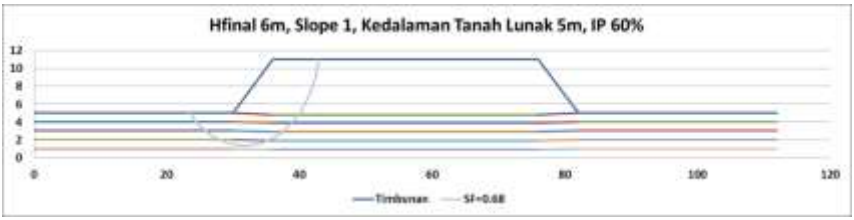
terjadi mencapai sedalam 7 meter. Maka, dapat disimpulkan bahwa kelongsoran yang dihasilkan Hfinal timbunan meter tidak memberi pengaruh besar terhadap tanah lunak yang berada pada kedalaman yang lebih dari 10 meter. Hasil rekap pemodelan dengan XSTABL untuk Htimbunan = 6 meter dengan Cu asli dapat dilihat pada Lampiran 8.

5.1.3.2 Asumsi Kondisi Tanah Telah Memampat

Analisa stabilisasi kelongsoran yang selanjutnya dilakukan pada Hfinal timbunan 6 meter adalah dengan menggunakan Cu tanah dasar yang sudah meningkat dan tanah dasar yang sudah memampat. Hasil running yang didapatkan, yaitu cenderung memiliki kedalaman kelongsoran yang berbeda pada tanah lunaknya. Hal ini dikarenakan untuk Hfinal timbunan 6 meter dapat memberikan pengaruh kelongsoran yang cukup dalam pada tanah lunak di bawahnya bila berada pada kondisi Cu tanah dasar yang sudah meningkat, sehingga kedalaman tanah lunak berpengaruh pada dalamnya kelongsoran yang terjadi. Pengaruh kedalaman tanah lunak pada kelongsoran ini juga terjadi untuk keseluruhan slope yang dianalisa.

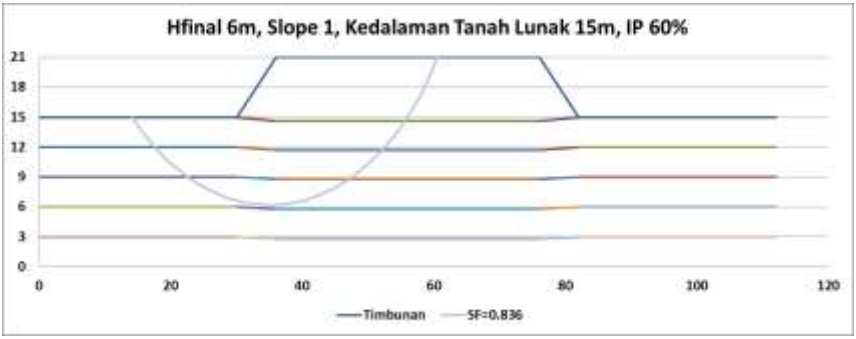
Berikut dapat dilihat hasil running kondisi terkritis berupa grafik untuk Hfinal timbunan 6 meter dengan Cu tanah dasar yang sudah meningkat dengan kedalaman tanah lunak yang berbeda-beda pada salah satu slope yang ditinjau.

(**Note:** garis kelongsoran pada Gambar 5.17, 5.18, 5.19 dan 5.20 di bawah ini merupakan perwakilan dari hasil running sebanyak 20 kali dengan kelongsoran terkritis)



Gambar 5.17 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 6 meter, Slope 1, Kedalaman Tanah Lunak 5 meter, IP 60% pada Asumsi Kondisi Tanah Telah Memampat

Gambar 5.18 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 6 meter, Slope 1, Kedalaman Tanah Lunak 10 meter, IP 60% pada Asumsi Kondisi Tanah Telah Memampat



Gambar 5.19 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 6 meter, Slope 1, Kedalaman Tanah Lunak 15 meter, IP 60% pada Asumsi Kondisi Tanah Telah Memampat

Gambar 5.20 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 6 meter, Slope 1, Kedalaman Tanah Lunak 20 meter, IP 60% pada Asumsi Kondisi Tanah Telah Memampat

Berdasarkan Gambar 5.17, Gambar 5.18, Gambar 5.19 dan Gambar 5.20 di atas, dapat dilihat bahwa garis kelongsoran yang dihasilkan Hfinal timbunan 6 meter memiliki perbedaan kedalaman kelongsoran pada tanah lunaknya. Pada kedalaman tanah lunak 5 meter, kelongsoran yang terjadi mencapai sedalam 4 meter. Sedangkan saat kedalaman tanah lunak 10 meter, 15 meter dan 20 meter, kelongsoran yang terjadi mencapai sedalam 9 meter. Maka, dapat disimpulkan bahwa kelongsoran yang dihasilkan Hfinal timbunan 6 meter tidak memberi pengaruh besar terhadap tanah lunak yang berada pada kedalaman yang lebih dari 10 meter.

5.1.4 Hfinal 8 meter

Pada Hfinal timbunan 8 meter dilakukan pemodelan analisa stabilisasi kelongsoran menggunakan Program Bantu XSTABL dengan melakukan pemodelan sebanyak ±20 kali untuk masing-masing variasi.

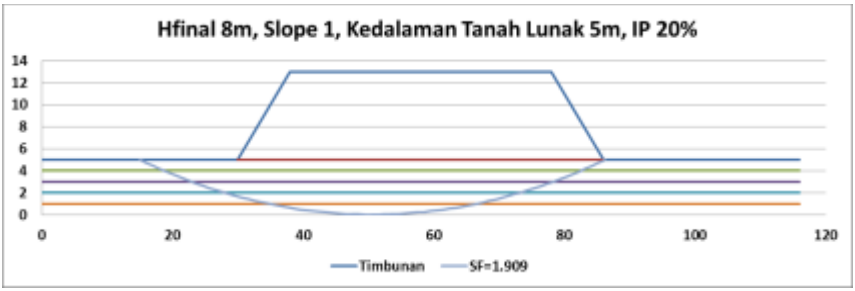
5.1.4.1 Asumsi Kondisi Tanah Belum Memampat

Untuk Hfinal 8 meter, perlu dilakukan analisa stabilisasi kelongsoran dengan garis kelongsoran yang

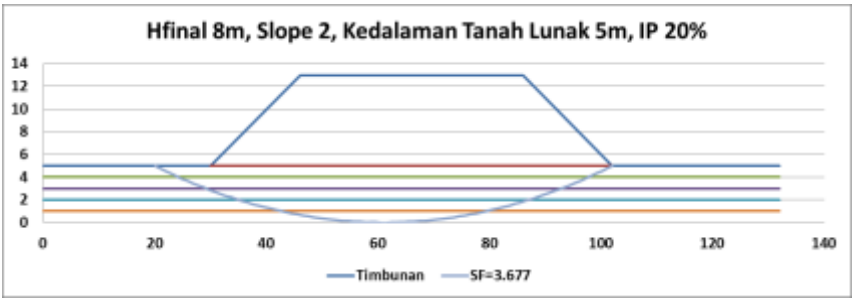
melewati kaki timbunan. Hal ini dikarenakan Hfinal 8 meter cukup tinggi untuk diletakkan di atas tanah lunak, maka diperlukan analisa untuk mengetahui kemampuan tanah lunak memikul beban Hfinal 8 meter tanpa kelongsoran. Syarat angka keamanan yang berlaku dalam analisa ini, yaitu:

$$SF > 1.10$$

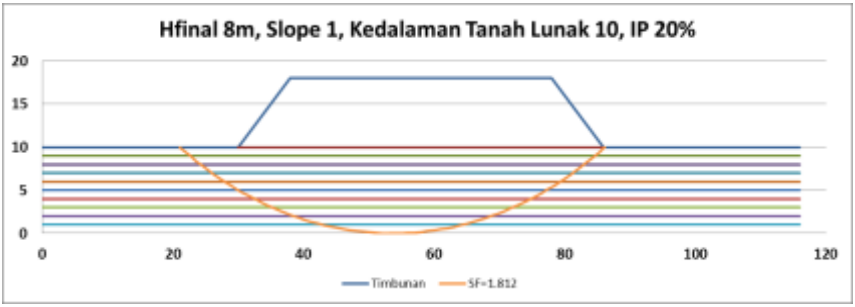
Bila syarat angka keamanan tersebut memenuhi, maka tanah lunak yang dianalisa dikatakan mampu memikul Hfinal 8 meter tanpa kelongsoran pada tanah lunaknya dan dapat dilanjutkan untuk perhitungan jumlah perkuatan geotextile yang dibutuhkan. Berikut dapat dilihat hasil running berupa grafik untuk Hfinal timbunan 8 meter dengan Cu asumsi tanah belum memampat.



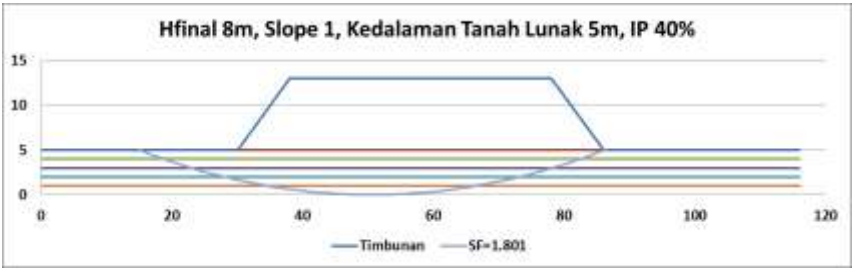
Gambar 5.21 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 8 meter, Slope 1, Kedalaman Tanah Lunak 5 meter, IP 20% pada Asumsi Kondisi Tanah Belum Memampat



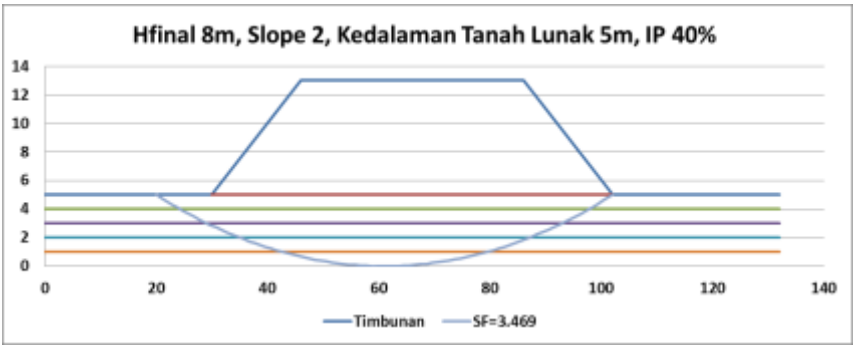
Gambar 5.22 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 8 meter, Slope 2, Kedalaman Tanah Lunak 5 meter, IP 20% pada Asumsi Kondisi Tanah Belum Memampat



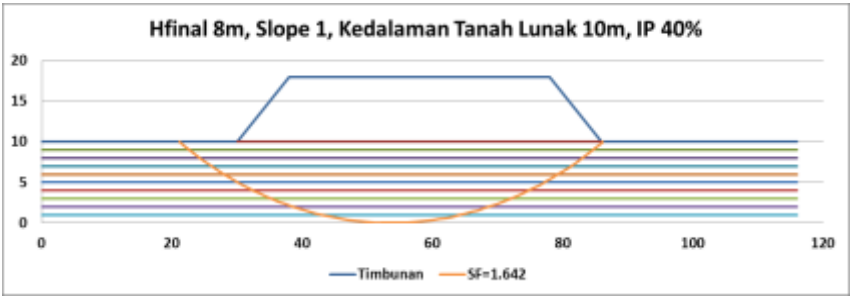
Gambar 5.23 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 8 meter, Slope 1, Kedalaman Tanah Lunak 10 meter, IP 20% pada Asumsi Kondisi Tanah Belum Memampat



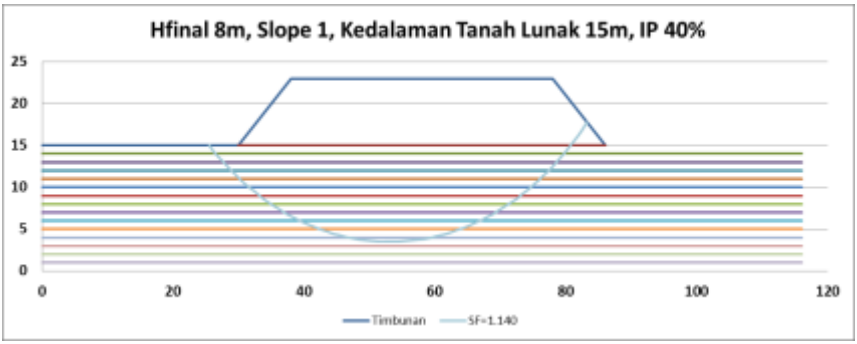
Gambar 5.24 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 8 meter, Slope 1, Kedalaman Tanah Lunak 5 meter, IP 40% pada Asumsi Kondisi Tanah Belum Memampat



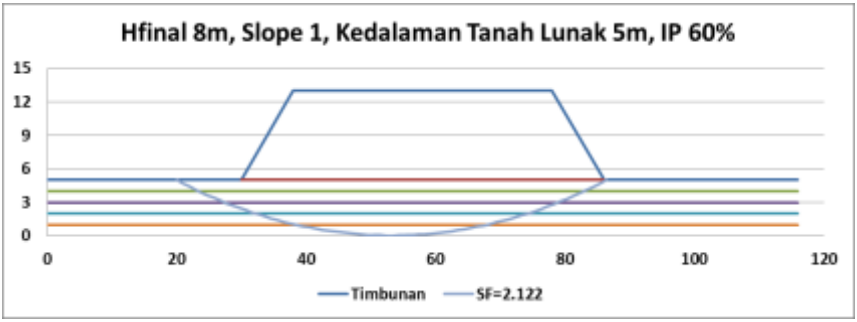
Gambar 5.25 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 8 meter, Slope 2, Kedalaman Tanah Lunak 5 meter, IP 40% pada Asumsi Kondisi Tanah Belum Memampat



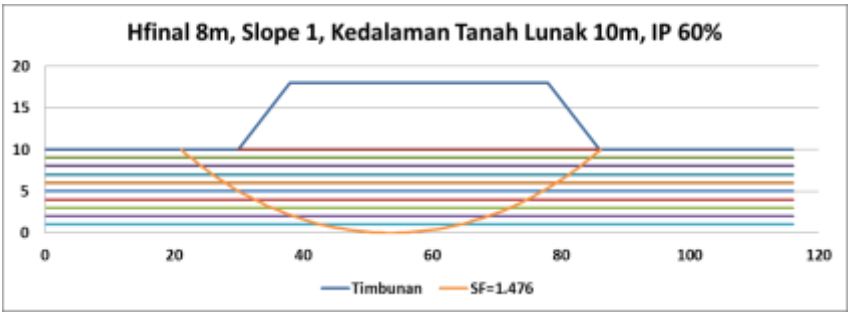
Gambar 5.26 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 8 meter, Slope 1, Kedalaman Tanah Lunak 10 meter, IP 40% pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.27 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 8 meter, Slope 1, Kedalaman Tanah Lunak 15 meter, IP 40% pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.28 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 8 meter, Slope 1, Kedalaman Tanah Lunak 5 meter, IP 60% pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.29 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 8 meter, Slope 1, Kedalaman Tanah Lunak 10 meter, IP 60% pada Asumsi Kondisi Tanah Belum Memampat

Berdasarkan gambar di atas, dapat disimpulkan bahwa tanah lunak hingga kedalaman 20 meter memiliki angka keamanan lebih dari 1.10, sehingga memungkinkan untuk diberi Hfinal 8 meter tanpa ada kemungkinan terjadi kelongsoran.

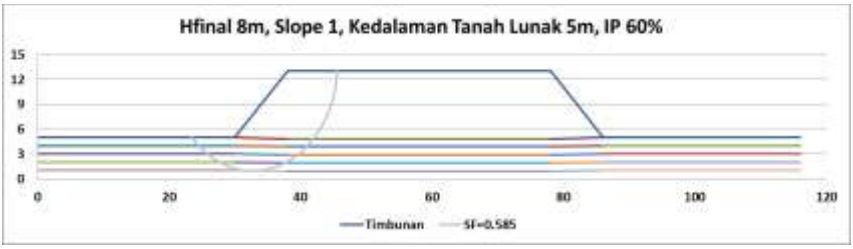
5.1.4.2 Asumsi Kondisi Tanah Telah Memampat

Analisa stabilisasi kelongsoran yang selanjutnya dilakukan pada Hfinal timbunan 8 meter adalah dengan menggunakan Cu tanah dasar yang sudah meningkat dan tanah dasar yang sudah memampat. Hasil running yang didapatkan, yaitu cenderung memiliki kedalaman kelongsoran yang berbeda pada tanah lunaknya. Hal ini dikarenakan untuk Hfinal timbunan 8 meter dapat memberikan pengaruh kelongsoran yang cukup dalam pada tanah lunak di bawahnya bila berada pada kondisi Cu tanah dasar yang sudah meningkat, sehingga kedalaman tanah lunak berpengaruh pada dalamnya kelongsoran yang terjadi. Pengaruh kedalaman tanah lunak pada kelongsoran ini juga terjadi untuk keseluruhan slope yang dianalisa.

Berikut dapat dilihat hasil running kondisi terkritis berupa grafik untuk Hfinal timbunan 8 meter dengan Cu

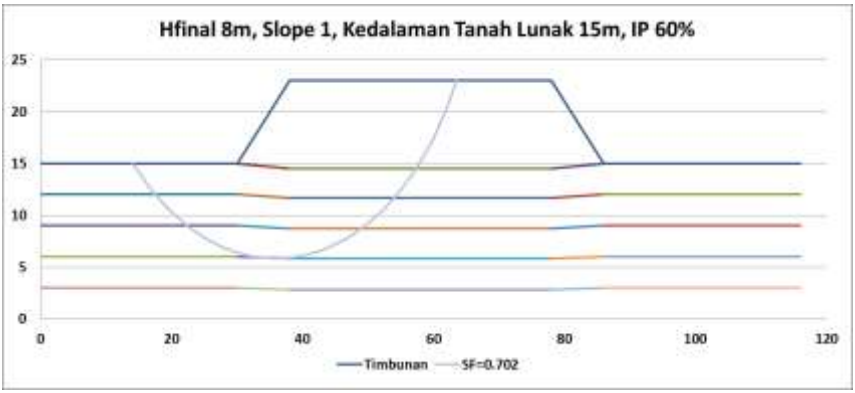
tanah dasar yang sudah meningkat dengan kedalaman tanah lunak yang berbeda-beda pada salah satu slope yang ditinjau.

(**Note:** garis kelongsoran pada Gambar 5.30, 5.31, 5.32 dan 5.33 di bawah ini merupakan perwakilan dari hasil running sebanyak 20 kali dengan kelongsoran terkritis)

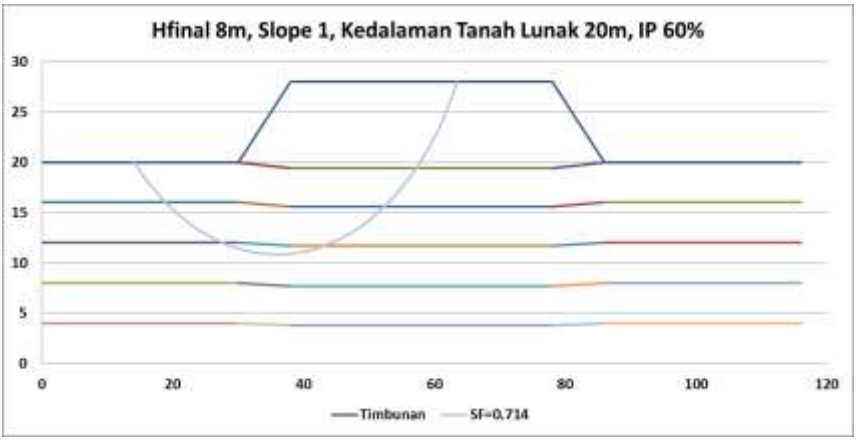


Gambar 5.30 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 8 meter, Slope 1, Kedalaman Tanah Lunak 5 meter, IP 60% pada Asumsi Kondisi Tanah Telah Memampat

Gambar 5.31 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 8 meter, Slope 1, Kedalaman Tanah Lunak 10 meter, IP 60% pada Asumsi Kondisi Tanah Telah Memampat



Gambar 5.32 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 8 meter, Slope 1, Kedalaman Tanah Lunak 15 meter, IP 60% pada Asumsi Kondisi Tanah Telah Memampat



Gambar 5.33 Garis Kelongsoran yang dihasilkan pada Analisa Stabilitas Hfinal 8 meter, Slope 1, Kedalaman Tanah Lunak 20 meter, IP 60% pada Asumsi Kondisi Tanah Telah Memampat

Berdasarkan Gambar 5.36, Gambar 5.37, Gambar 5.38 dan Gambar 5.39 di atas, dapat dilihat bahwa garis kelongsoran yang dihasilkan Hfinal timbunan 8 meter memiliki perbedaan kedalaman kelongsoran pada tanah lunaknya. Pada kedalaman tanah lunak 5 meter, kelongsoran yang terjadi mencapai sedalam 4 meter. Sedangkan saat kedalaman tanah lunak 10 meter, 15 meter dan 20 meter, kelongsoran yang terjadi mencapai sedalam 10 meter. Maka, Hfinal timbunan 8 meter dapat memberikan pengaruh kelongsoran yang cukup dalam pada tanah lunak di bawahnya, sehingga kedalaman tanah lunak berpengaruh pada dalamnya kelongsoran yang terjadi untuk setiap slope yang dianalisa.

5.2 Jumlah Perkuatan pada Asumsi Kondisi Tanah Belum Memampat

Perhitungan untuk mendapatkan jumlah kebutuhan geotextile pada masing-masing hasil analisa stabilisasi kelongsoran yang menggunakan Program Bantu XSTABL dilakukan beberapa tahapan perhitungan. Kuat tarik ultimate geotextile yang digunakan dalam analisa ini, yaitu 52 kN/m dan 100 kN/m. Perhitungan jumlah perkuatan geotextile dilakukan pada setiap hasil running XSTABL untuk masing-masing variasi data dengan menggunakan Cu asli tanah dasar yang belum meningkat dan belum memampat. Hasil perhitungan yang diambil, yaitu yang memiliki jumlah perkuatan terbanyak dari seluruh hasil running pada satu variasi data.

Tegangan ijin geotextile untuk perencanaan konstruksi perkuatan didefinisikan sebagai kuat tarik ultimate sesuai umur rencana konstruksi dibagi dengan faktor reduksi yang diperhitungkan. Perhitungan tersebut disampaikan dalam persamaan:

$$T_{all} = T_{ult}.\left(\frac{1}{FS_{id}.FS_{cr}.FS_{cd}.FS_{bd}}\right)$$

dengan:

T_{all} = tegangan ijin geotextile

T_{ult} = kuat tarik ultimate geotextile berdasarkan spesifikasi pabrik

FS_{id} = faktor reduksi karena kerusakan saat pemasangan (1.1-2.0)

FS_{cr} = faktor reduksi terhadap kerusakan akibat rangkak (2.0-3.0)

FS_{cd} = faktor reduksi terhadap kerusakan karena bahan-bahan kimia (1.1-1.5)

FS_{bd} = faktor reduksi terhadap kerusakan karena aktifitas biologi dalam tanah (1.1-1.3)

Contoh perhitungan:

Perhitungan T_{all} untuk Htimbunan = 6 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 10 meter :

SF	=	0.524	
X koord	=	33.32	meter
Y koord	=	18.12	meter
R	=	11.94	meter
MR min	=	3121.00	KNm

$$T_{all} = T_{ult}.\left(\frac{1}{FS_{id}.FS_{cr}.FS_{cd}.FS_{bd}}\right)$$

$$= 52\ x\left(\frac{1}{1.5\ x\ 2.5\ x\ 1.25\ x\ 1.25}\right)$$

= 9.24 kNm

Selanjutnya mencari nilai momen dorong dengan persamaan:

$$\text{SF} = \frac{MR\ min}{M\ dorong}$$

$$\text{M}_{\text{dorong}} = \frac{MR\ min}{SF}$$

Contoh perhitungan:

Perhitungan M_{dorong} untuk Htimbunan = 6 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 10 meter :

$$M_{dorong} = \frac{MR\ min}{SF}$$
$$= \frac{3121}{0.524}$$
$$= 5956.11 \text{ kNm}$$

Angka keamanan yang digunakan dalam analisis ini adalah 1.2 . Kemudian mencari nilai momen rencana dengan persamaan:

$$M_{R\ rencana} = M_{\ dorong} \text{ x } SF_{\ rencana}$$

Contoh perhitungan:

Perhitungan $M_{R\ rencana}$ untuk Htimbunan = 6 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 10 meter :

$$M_{R\ rencana} = M_{\ dorong} \text{ x } SF_{\ rencana}$$
$$= 5956.11 \text{ x } 1.2$$
$$= 7147.33 \text{ kNm}$$

Setelah itu, mencari nilai tambahan momen penahan dengan persamaan:

$$\Delta M_R = M_{R\ rencana} - M_{R\ min}$$

Contoh perhitungan:

Perhitungan ΔM_R untuk Htimbunan = 6 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 10 meter :

$$\Delta M_R = M_{R\ rencana} - M_{R\ min}$$
$$= 7147.33 - 3121.00$$
$$= 4026.33 \text{ kNm}$$

Untuk mendapatkan jumlah kebutuhan lembar geotextile dapat dihitung dengan persamaan:

$$M_{geotextile} = T_{\ allow} \text{ x } T_i$$

Dimana:

Ti = jarak vertikal antara geotextile dengan pusat bidang longsor

Contoh perhitungan:

Perhitungan $M_{geotextile}$ untuk Htimbunan = 6 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 10 meter :

$$M_{geotextile} \text{ lapisan } 1 = T_{allow} \times T_1$$
$$= 9.24 \times (18.12 - 10)$$
$$= 75.06 \text{ kNm}$$

Perhitungan dilakukan secara bertahap hingga mendapatkan jumlah momen yang lebih besar dari ΔM_R dengan persamaan:

$$\sum \text{Momen} = M_{geotextile1} + M_{geotextile2} + ... + M_{geotextile-n} > \Delta M_R \rightarrow (OK)$$

Jumlah geotextile maksimal yang dihasilkan pada perhitungan tersebut didasarkan pada perhitungan dengan menggunakan SF geotextile terkecil dan terbesar, sesuai dengan faktor reduksi saat perhitungan tegangan ijin geotextile, sehingga terdapat dua macam jumlah maksimal geotextile dari setiap kuat tarik ultimate geotextile yang dianalisis.

Tabel 5.3 Jumlah Perkuatan Geotextile Maksimal untuk Hfinal = 6 meter, IP = 40%, Slope = 1, Kedalaman Tanah Dasar = 10 meter dengan Tult = 52 kN/m pada Asumsi Kondisi Tanah Belum Memampat

T All = 9.24 kNm					
Jumlah (n)	Hi (m)	Ti (m)	M geotextile (kNm)	∑M geotextile (kNm)	Rangkap
1	6.00	8.12	375.3244	375.3244	5
2	5.70	7.82	361.4578	736.7822	5
3	5.40	7.52	278.0729	1014.8551	4

4	5.10	7.22	266.9796	1281.8347	4
5	4.80	6.92	255.8862	1537.7209	4
6	4.50	6.62	244.7929	1782.5138	4
7	4.20	6.32	233.6996	2016.2133	4
8	3.90	6.02	222.6062	2238.8196	4
9	3.60	5.72	211.5129	2450.3324	4
10	3.30	5.42	200.4196	2650.7520	4
11	3.00	5.12	189.3262	2840.0782	4
12	2.70	4.82	178.2329	3018.3111	4
13	2.40	4.52	167.1396	3185.4507	4
14	2.10	4.22	156.0462	3341.4969	4
15	1.80	3.92	144.9529	3486.4498	4
16	1.50	3.62	133.8596	3620.3093	4
17	1.20	3.32	122.7662	3743.0756	4
18	0.90	3.02	111.6729	3854.7484	4
19	0.60	2.72	100.5796	3955.3280	4
20	0.30	2.42	89.4862	4044.8142	4
Jumlah	82				

Tabel 5.3 di atas menunjukkan perhitungan jumlah kebutuhan geotextile maksimal untuk Htimbunan = 6 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 10 meter dengan Tult = 52 kN/m, yaitu sebanyak 82 geotextile.

Tabel 5.4 Jumlah Perkuatan Geotextile Maksimal untuk Hfinal = 6 meter, IP = 40%, Slope = 1, Kedalaman Tanah Dasar = 10 meter dengan Tult = 100 kN/m pada Asumsi Kondisi Tanah Belum Memampat

T All	=	17.78	kNm

Jumlah (n)	Hi (m)	Ti (m)	M geotextile (kNm)	∑M geotextile (kNm)	Rangkap

1	6.00	8.12	433.0667	433.0667	3
2	5.70	7.82	417.0667	850.1333	3
3	5.40	7.52	267.3778	1117.5111	2
4	5.10	7.22	256.7111	1374.2222	2
5	4.80	6.92	246.0444	1620.2667	2
6	4.50	6.62	235.3778	1855.6444	2
7	4.20	6.32	224.7111	2080.3556	2
8	3.90	6.02	214.0444	2294.4000	2
9	3.60	5.72	203.3778	2497.7778	2
10	3.30	5.42	192.7111	2690.4889	2
11	3.00	5.12	182.0444	2872.5333	2
12	2.70	4.82	171.3778	3043.9111	2
13	2.40	4.52	160.7111	3204.6222	2
14	2.10	4.22	150.0444	3354.6667	2
15	1.80	3.92	139.3778	3494.0444	2
16	1.50	3.62	128.7111	3622.7556	2
17	1.20	3.32	118.0444	3740.8000	2
18	0.90	3.02	107.3778	3848.1778	2
19	0.60	2.72	96.7111	3944.8889	2
20	0.30	2.42	86.0444	4030.9333	2
Jumlah	42				

Sedangkan pada Tabel 5.4 di atas, menunjukkan perhitungan jumlah kebutuhan geotextile maksimal untuk Htimbunan = 6 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 10 meter dengan Tult = 100 kN/m, yaitu sebanyak 42 geotextile.

Selain itu, dilakukan pula perhitungan untuk jumlah kebutuhan geotextile minimal dengan faktor reduksi pada perhitungan T All paling kecil untuk setiap kuat tarik ultimate geotextile yang dianalisis. Dengan demikian, didapatkan jumlah kebutuhan perkuatan geotextile maksimal dan minimal pada setiap variasi data.

Tabel 5.5 Jumlah Perkuatan Geotextile Minimal untuk Htimbunan = 6 meter, IP = 40%, Slope = 1, Kedalaman Tanah Dasar = 10 meter dengan Tult = 52 kN/m pada Asumsi Kondisi Tanah Belum Memampat

T All = 19.53 kNm					
Jumlah (n)	Hi (m)	Ti (m)	M geotextile (kNm)	∑M geotextile (kNm)	Rangkap
1	6.00	8.12	317.2352	317.2352	2
2	5.70	7.82	305.5147	622.7498	2
3	5.40	7.52	293.7941	916.5440	2
4	5.10	7.22	282.0736	1198.6176	2
5	4.80	6.92	270.3531	1468.9707	2
6	4.50	6.62	258.6326	1727.6033	2
7	4.20	6.32	246.9121	1974.5154	2
8	3.90	6.02	235.1916	2209.7070	2
9	3.60	5.72	223.4711	2433.1781	2
10	3.30	5.42	211.7506	2644.9286	2
11	3.00	5.12	200.0301	2844.9587	2
12	2.70	4.82	188.3095	3033.2682	2
13	2.40	4.52	176.5890	3209.8573	2
14	2.10	4.22	164.8685	3374.7258	2
15	1.80	3.92	153.1480	3527.8738	2
16	1.50	3.62	141.4275	3669.3013	2
17	1.20	3.32	129.7070	3799.0083	2
18	0.90	3.02	117.9865	3916.9947	2
19	0.60	2.72	106.2660	4023.2607	2
20	0.30	2.42	47.2727	4070.5334	1
Jumlah	39				

Tabel 5.5 di atas menunjukkan perhitungan jumlah kebutuhan geotextile minimal untuk Htimbunan = 6 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 10

meter dengan Tult = 52 kN/m, yaitu sebanyak 39 geotextile.

Tabel 5.6 Jumlah Perkuatan Geotextile Minimal untuk Htimbunan = 6 meter, IP = 40%, Slope = 1, Kedalaman Tanah Dasar = 10 meter dengan Tult = 100 kN/m pada Asumsi Kondisi Tanah Belum Memampat

T All = 37.57 kNm					
Jumlah (n)	Hi (m)	Ti (m)	M geotextile (kNm)	∑M geotextile (kNm)	Rangkap
1	6.00	8.12	610.0676	610.0676	2
2	5.70	7.82	293.7641	903.8317	1
3	5.40	7.52	282.4944	1186.3261	1
4	5.10	7.22	271.2246	1457.5507	1
5	4.80	6.92	259.9549	1717.5056	1
6	4.50	6.62	248.6852	1966.1908	1
7	4.20	6.32	237.4155	2203.6063	1
8	3.90	6.02	226.1458	2429.7521	1
9	3.60	5.72	214.8760	2644.6281	1
10	3.30	5.42	203.6063	2848.2344	1
11	3.00	5.12	192.3366	3040.5710	1
12	2.70	4.82	181.0669	3221.6379	1
13	2.40	4.52	169.7971	3391.4350	1
14	2.10	4.22	158.5274	3549.9624	1
15	1.80	3.92	147.2577	3697.2201	1
16	1.50	3.62	135.9880	3833.2081	1
17	1.20	3.32	124.7183	3957.9264	1
18	0.90	3.02	113.4485	4071.3749	1
19	0.60	2.72	102.1788	4173.5537	1
20	0.30	2.42	90.9091	4264.4628	1
Jumlah	21				

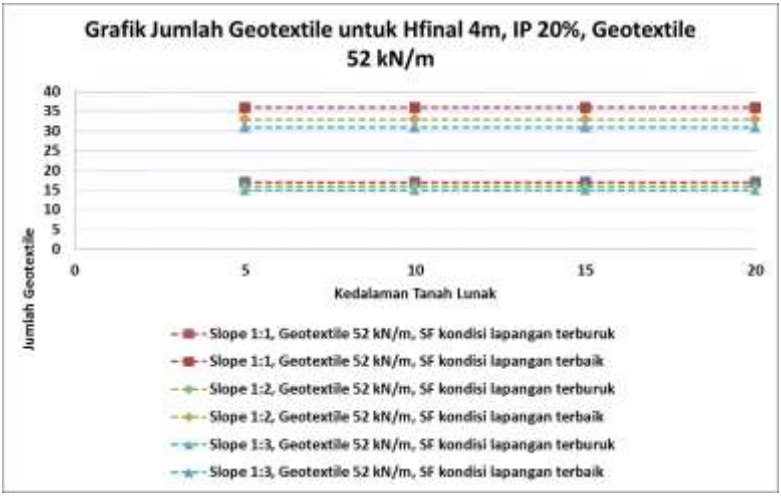
Sedangkan pada Tabel 5.6 di atas, menunjukkan perhitungan jumlah kebutuhan geotextile minimal untuk Htimbunan = 6 meter, IP = 40%, slope = 1, kedalaman tanah dasar = 10 meter dengan Tult = 100 kN/m, yaitu sebanyak 21 geotextile.

Setelah melakukan perhitungan jumlah kebutuhan geotextile untuk setiap variasi data yang dianalisis pada kondisi tanah belum memampat, maka bisa didapat jumlah kebutuhan geotextile keseluruhan yang kemudian ditabelkan dan digrafikkan untuk memudahkan pembacaan.

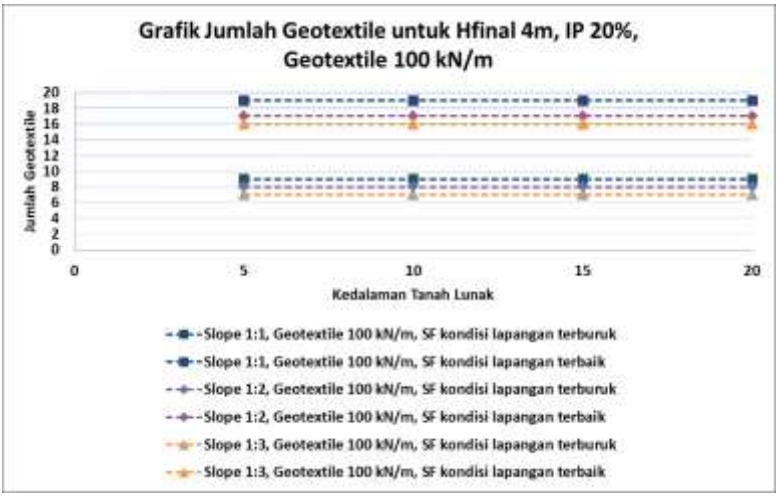
Hasil rekap keseluruhan perhitungan jumlah kebutuhan geotextile untuk setiap variasi data yang dianalisis pada kondisi tanah belum memampat dapat dilihat pada Lampiran 10.

Tabel 5.7 Jumlah Perkuatan Geotextile untuk Variasi Data pada Asumsi Kondisi Tanah Belum Memampat dengan Indeks Plastisitas 20%

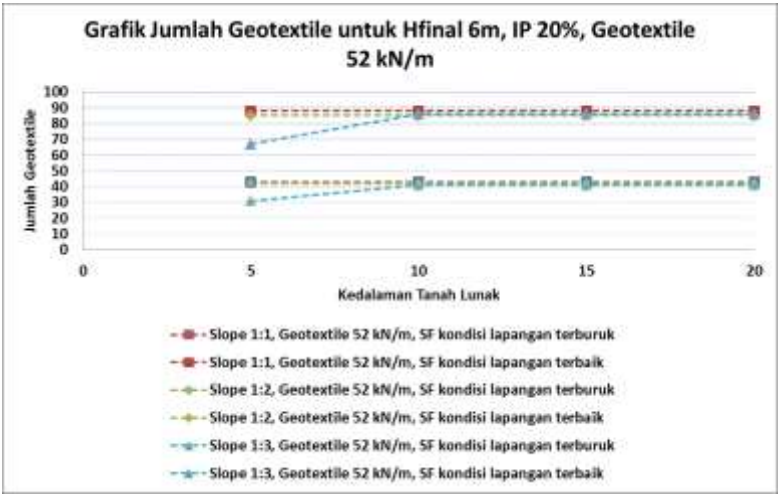
		IP = 20%											
		slope = 1				slope = 2				slope = 3			
Htimb (m)	D (m)	52 kN/m		100 kN/m		52 kN/m		100 kN/m		52 kN/m		100 kN/m	
4	5	17	36	9	19	16	33	8	17	15	31	7	16
	10	17	36	9	19	16	33	8	17	15	31	7	16
	15	17	36	9	19	16	33	8	17	15	31	7	16
	20	17	36	9	19	16	33	8	17	15	31	7	16
6	5	43	88	22	45	42	85	21	44	31	67	16	34
	10	43	88	22	45	42	85	21	44	41	86	21	44
	15	43	88	22	45	42	85	21	44	41	86	21	44
	20	43	88	22	45	42	85	21	44	41	86	21	44
8	5	84	174	39	89	68	147	35	77	46	98	24	52
	10	84	174	39	89	75	162	38	84	70	149	36	78
	15	84	174	39	89	75	162	38	84	74	159	38	83
	20	84	174	39	89	75	162	38	84	74	159	38	83



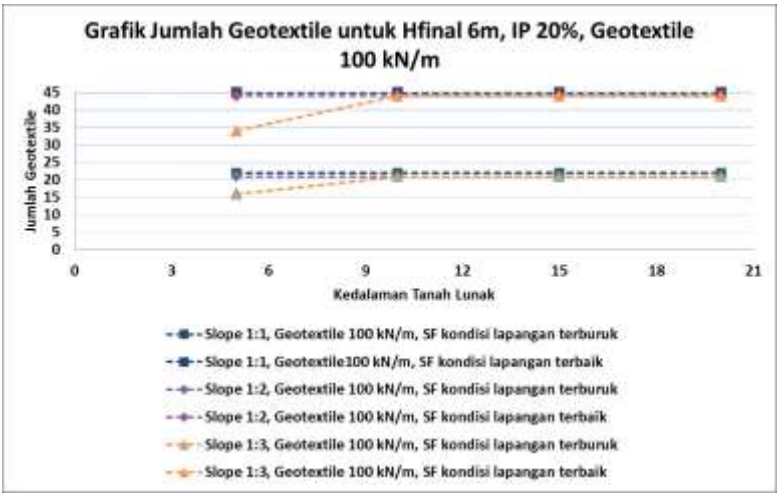
Gambar 5.34 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 4 meter, IP 20% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Belum Memampat



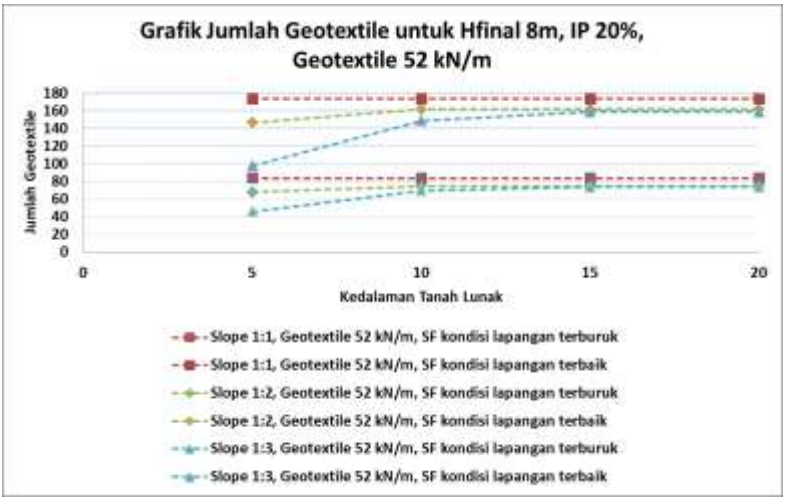
Gambar 5.35 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 4 meter, IP 20% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Belum Memampat



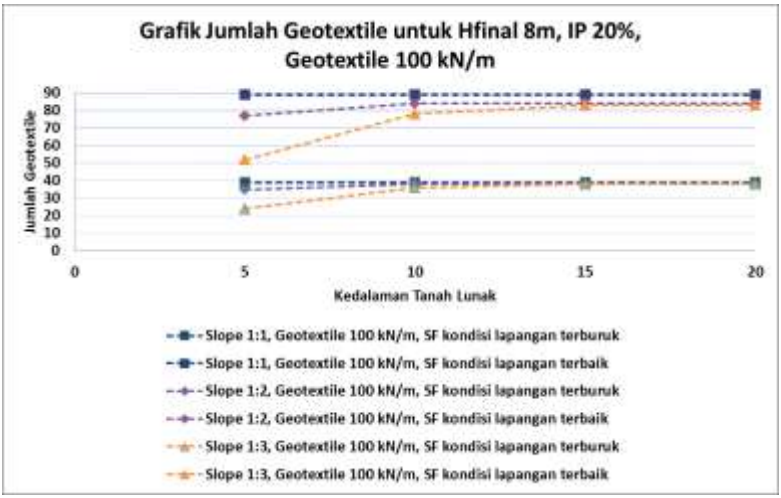
Gambar 5.36 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 6 meter, IP 20% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.37 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 6 meter, IP 20% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Belum Memampat



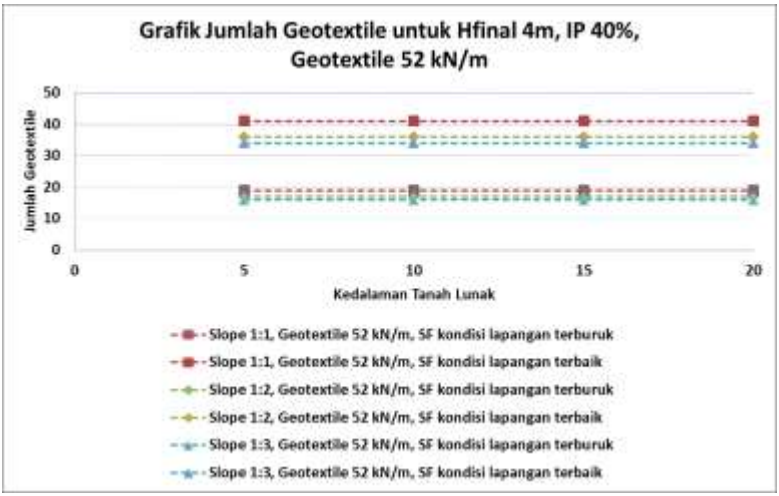
Gambar 5.38 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 8 meter, IP 20% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Belum Memampat



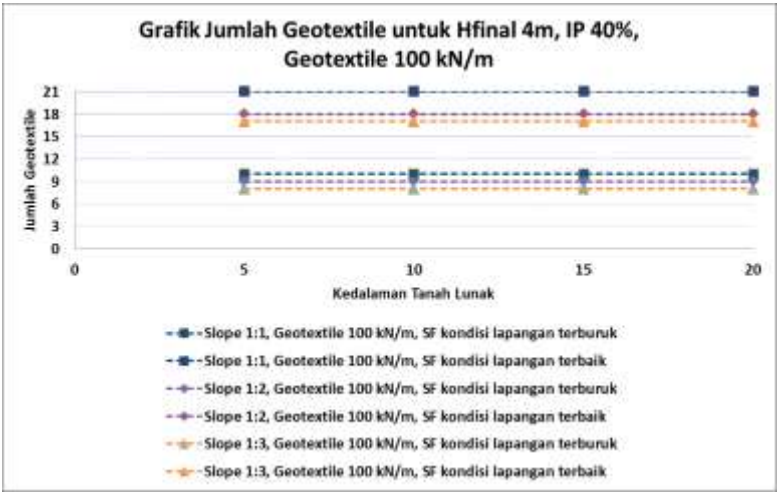
Gambar 5.39 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 8 meter, IP 20% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Belum Mempampat

Tabel 5.8 Jumlah Perkuatan Geotextile untuk Variasi Data pada Asumsi Kondisi Tanah Belum Mempampat dengan Indeks Plastisitas 40%

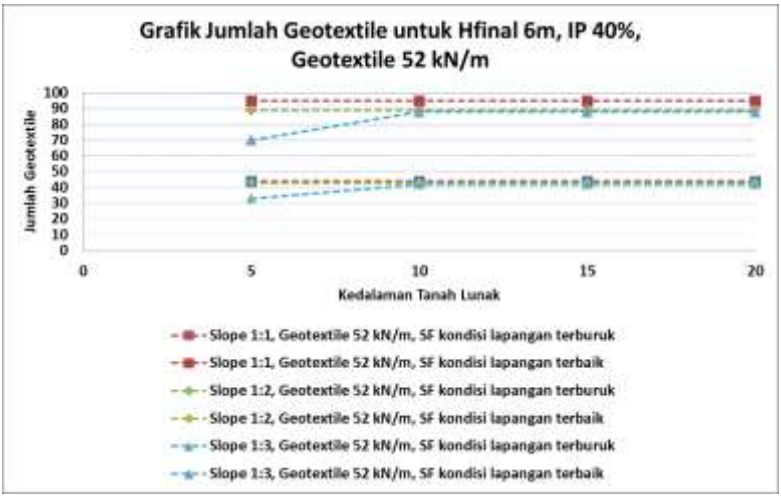
		IP = 40%											
		slope = 1				slope = 2				slope = 3			
Htimb (m)	D (m)	52 kN/m		100 kN/m		52 kN/m		100 kN/m		52 kN/m		100 kN/m	
4	5	19	41	10	21	17	36	9	18	16	34	8	17
	10	19	41	10	21	17	36	9	18	16	34	8	17
	15	19	41	10	21	17	36	9	18	16	34	8	17
	20	19	41	10	21	17	36	9	18	16	34	8	17
6	5	44	95	24	48	43	89	23	47	33	70	17	37
	10	44	95	24	48	43	89	23	47	42	88	22	46
	15	44	95	24	48	43	89	23	47	42	88	22	46
	20	44	95	24	48	43	89	23	47	42	88	22	46
8	5	85	178	40	91	70	152	36	81	90	101	25	54
	10	99	210	55	114	97	205	51	108	90	191	46	98
	15	99	210	55	114	97	206	51	108	90	191	46	98
	20	99	210	55	114	97	206	51	108	90	191	46	98



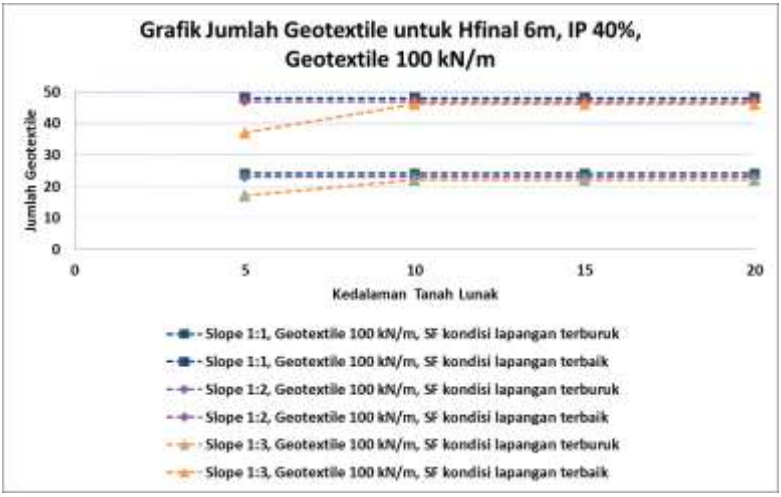
Gambar 5.40 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 4 meter, IP 40% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Belum Memampat



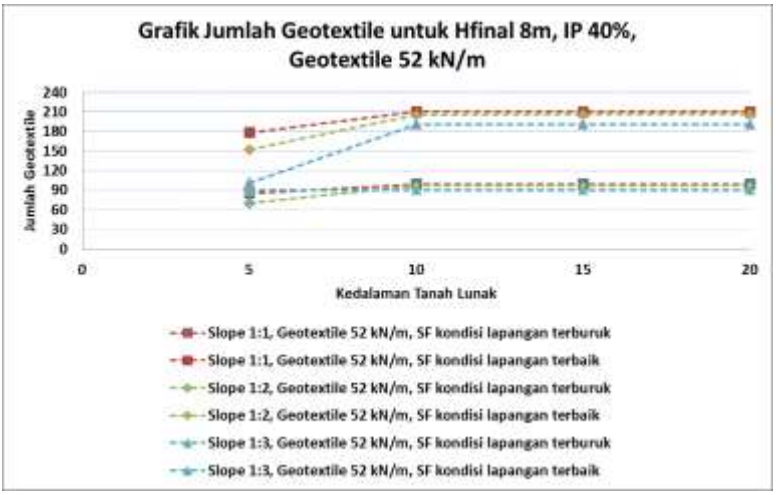
Gambar 5.41 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 4 meter, IP 40% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Belum Memampat



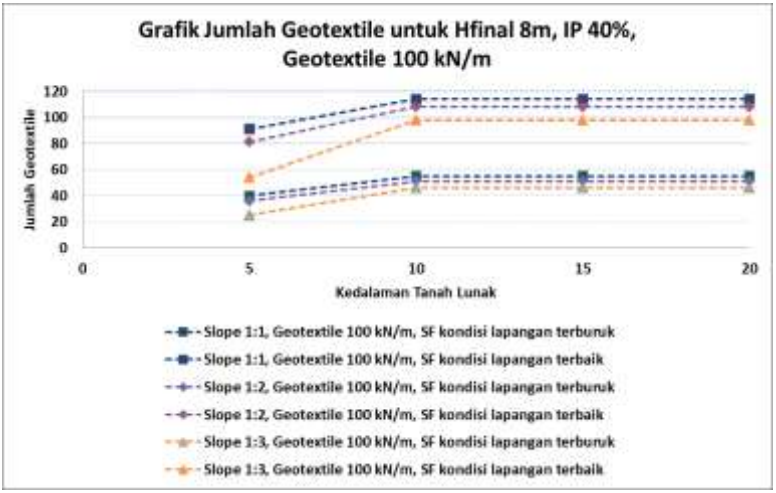
Gambar 5.42 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 6 meter, IP 40% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.43 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 6 meter, IP 40% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Belum Memampat



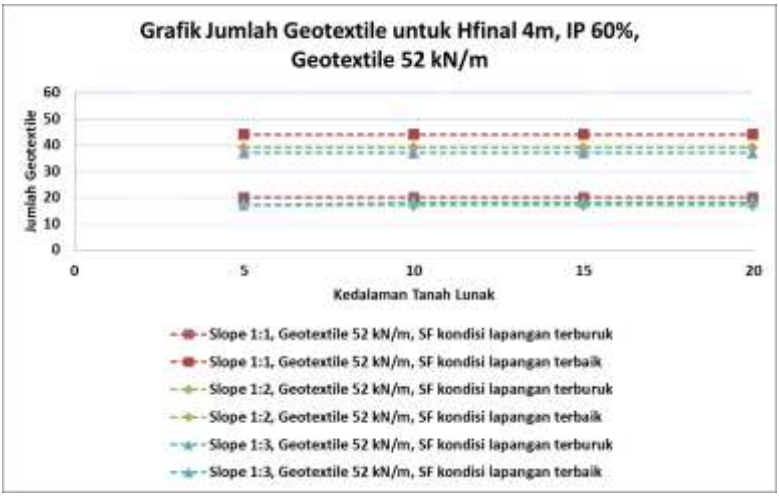
Gambar 5.44 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 8 meter, IP 40% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Belum Memampat



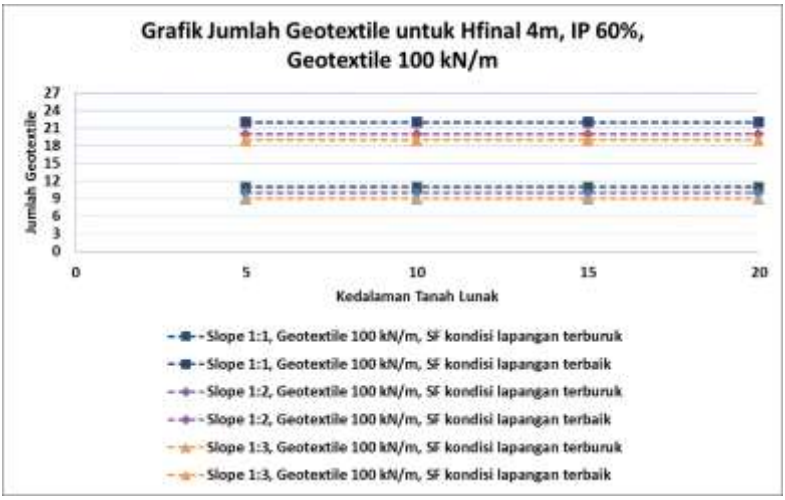
Gambar 5.45 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 8 meter, IP 40% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Belum Memampat

Tabel 5.9 Jumlah Perkuatan Geotextile untuk Variasi Data pada Asumsi Kondisi Tanah Belum Memampat dengan Indeks Plastisitas 60%

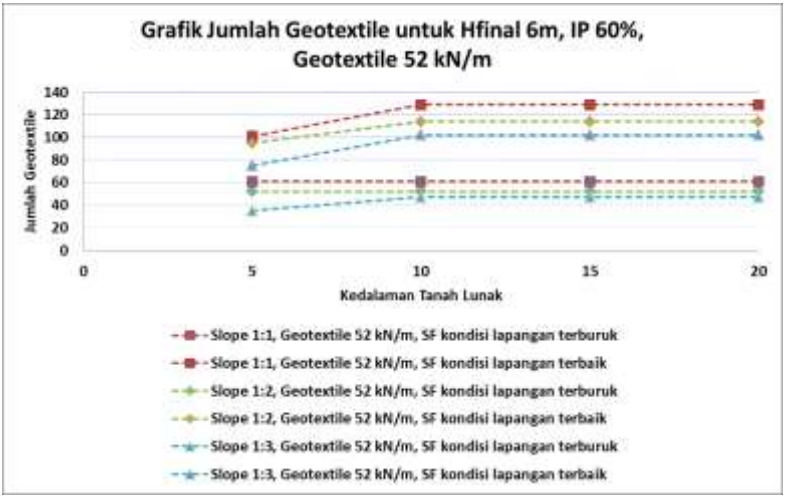
		IP = 60%											
		slope = 1				slope = 2				slope = 3			
Htimb (m)	D (m)	52 kN/m		100 kN/m		52 kN/m		100 kN/m		52 kN/m		100 kN/m	
4	5	20	44	11	22	17	39	10	20	17	37	9	19
	10	20	44	11	22	17	39	10	20	18	37	9	19
	15	20	44	11	22	17	39	10	20	18	37	9	19
	20	20	44	11	22	17	39	10	20	18	37	9	19
6	5	61	101	31	50	52	95	27	49	35	75	19	40
	10	61	129	31	67	52	114	27	56	47	102	25	52
	15	61	129	31	67	52	114	27	56	47	102	25	52
	20	61	129	31	67	52	114	27	56	47	102	25	52
8	5	86	186	42	93	73	160	37	83	51	109	27	57
	10	109	229	57	119	107	225	56	117	97	205	50	107
	15	109	229	57	119	107	225	56	117	97	205	50	107
	20	109	229	57	119	107	225	56	117	97	205	50	107



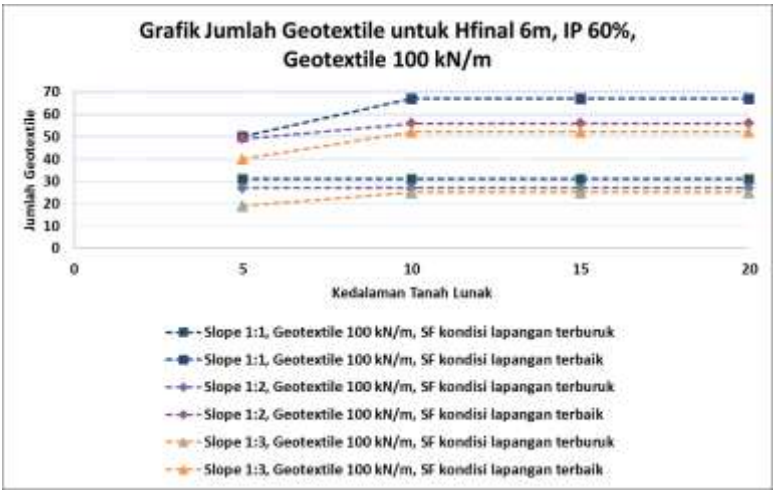
Gambar 5.46 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 4 meter, IP 60% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Belum Memampat



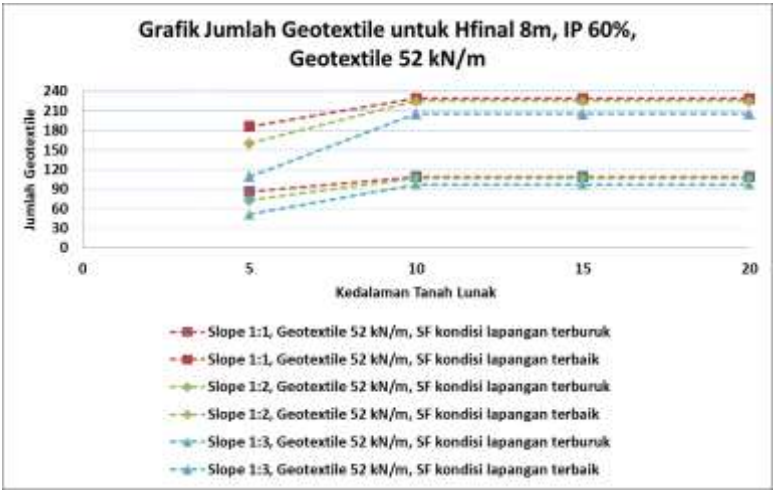
Gambar 5.47 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 4 meter, IP 60% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Belum Memampat



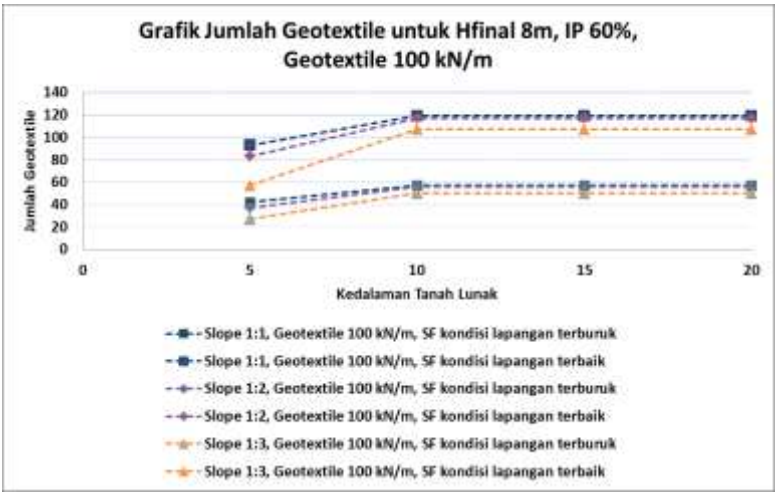
Gambar 5.48 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 6 meter, IP 60% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.49 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 6 meter, IP 60% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.50 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 8 meter, IP 60% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Belum Memampat



Gambar 5.51 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 8 meter, IP 60% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Belum Memampat

5.3 Jumlah Perkuatan pada Asumsi Kondisi Tanah Telah Memampat

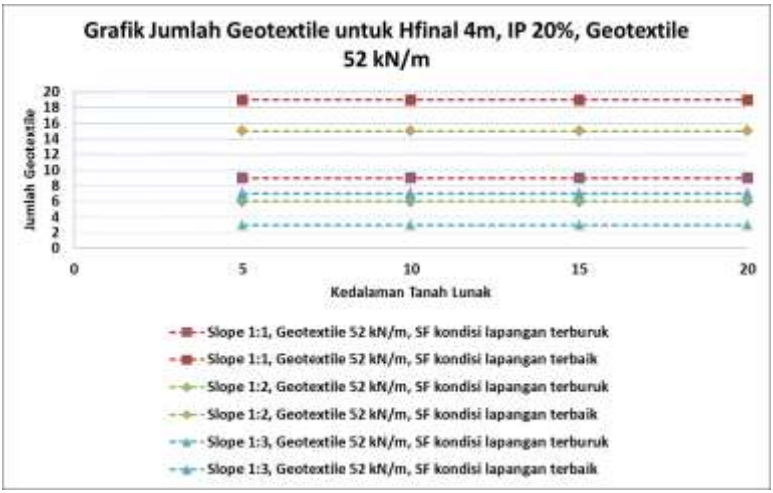
Perhitungan untuk mendapatkan jumlah kebutuhan geotextile pada masing-masing hasil analisa stabilisasi kelongsoran yang menggunakan Program Bantu XSTABL dilakukan beberapa tahapan perhitungan yang sama seperti perhitungan untuk jumlah perkuatan geotextile pada asumsi kondisi tanah belum memampat. Kuat tarik ultimate geotextile yang digunakan dalam analisa ini, yaitu 52 kN/m dan 100 kN/m. Perhitungan jumlah perkuatan geotextile dilakukan pada setiap hasil running XSTABL untuk masing-masing variasi data dengan menggunakan Cu tanah dasar yang sudah mengalami peningkatan dan sudah memampat, sehingga pada input data di XSTABL Cu tanah dasar yang digunakan adalah Cu asli, Cu transisi dan Cu yang sudah meningkat. Hasil perhitungan yang diambil, yaitu yang

memiliki jumlah perkuatan terbanyak dari seluruh hasil running pada satu variasi data.

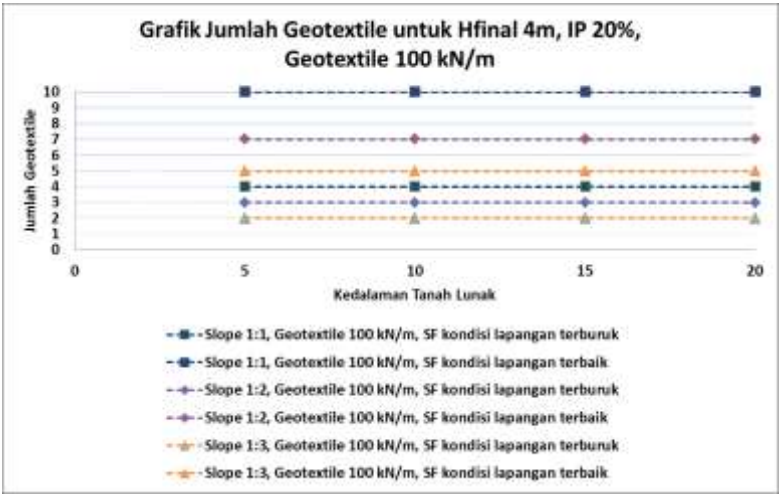
Setelah melakukan perhitungan jumlah kebutuhan geotextile untuk setiap variasi data yang dianalisis pada kondisi Cu meningkat, maka bisa didapat jumlah kebutuhan geotextile keseluruhan yang kemudian ditabelkan dan digrafikkan untuk memudahkan pembacaan. Hasil rekap keseluruhan perhitungan jumlah kebutuhan geotextile untuk setiap variasi data yang dianalisis pada kondisi Cu meningkat dapat dilihat pada Lampiran 11.

Tabel 5.10 Jumlah Perkuatan Geotextile untuk Variasi Data pada Asumsi Kondisi Tanah Telah Memampat dengan Indeks Plastisitas 20%

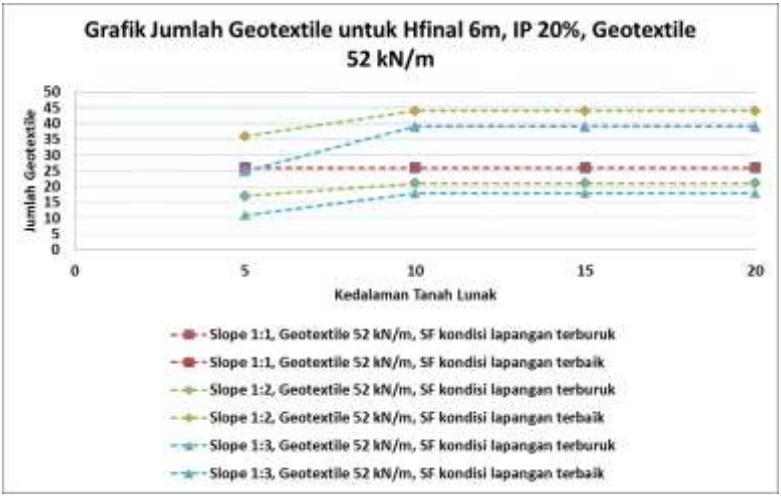
		IP = 20%											
		slope = 1				slope = 2				slope = 3			
Htimb (m)	D (m)	52 kN/m		100 kN/m		52 kN/m		100 kN/m		52 kN/m		100 kN/m	
4	5	9	19	4	10	6	15	3	7	3	7	2	5
	10	9	19	4	10	6	15	3	7	3	7	2	5
	15	9	19	4	10	6	15	3	7	3	7	2	5
	20	9	19	4	10	6	15	3	7	3	7	2	5
6	5	26	56	9	25	17	36	8	19	11	25	6	12
	10	26	56	12	28	21	44	10	23	18	39	9	21
	15	26	56	12	28	21	44	10	23	18	39	9	21
	20	26	56	12	28	21	44	10	23	18	39	9	21
8	5	51	111	28	57	36	83	17	40	17	77	8	33
	10	51	111	28	57	41	90	22	46	37	80	19	40
	15	51	111	28	57	41	90	22	46	37	80	19	40
	20	51	111	28	57	41	90	22	46	37	80	19	40



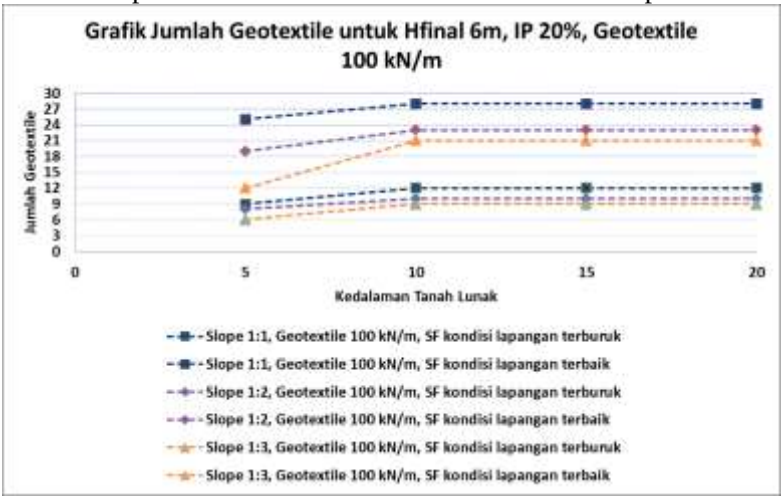
Gambar 5.52 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 4 meter, IP 20% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Telah Memampat



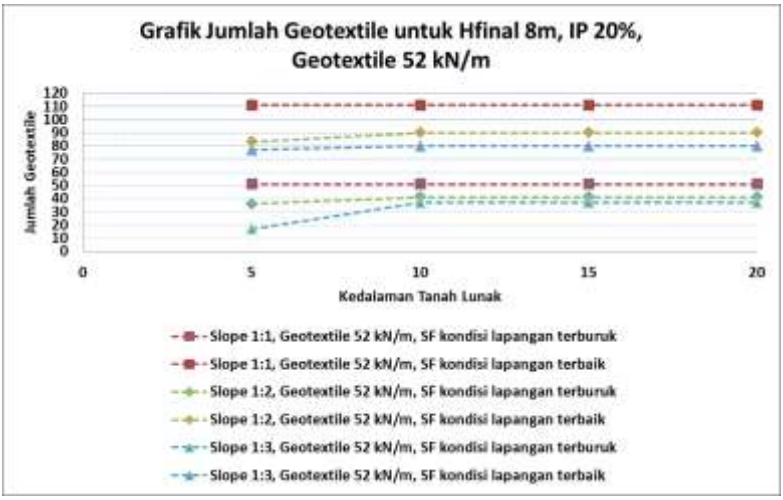
Gambar 5.53 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 4 meter, IP 20% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Telah Memampat



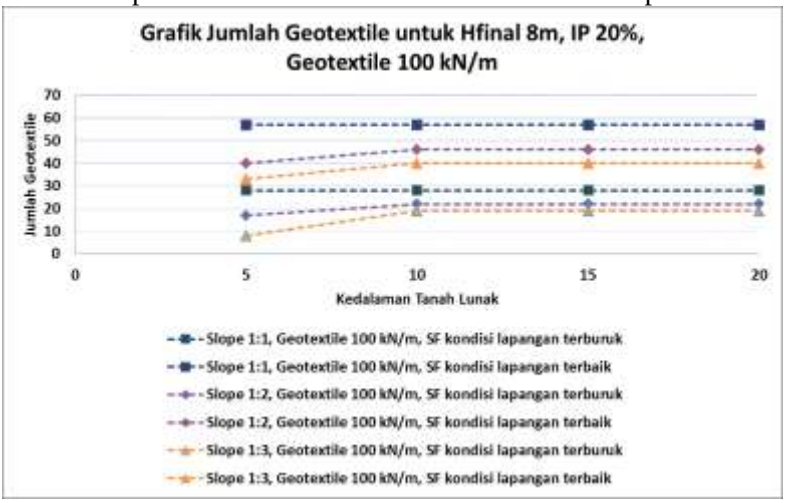
Gambar 5.54 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 6 meter, IP 20% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Telah Memampat



Gambar 5.55 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 6 meter, IP 20% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Telah Memampat



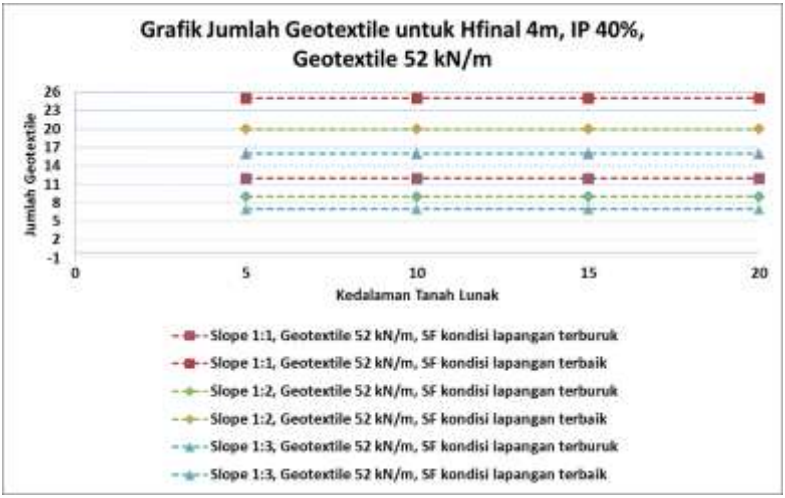
Gambar 5.56 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 8 meter, IP 20% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Telah Memampat



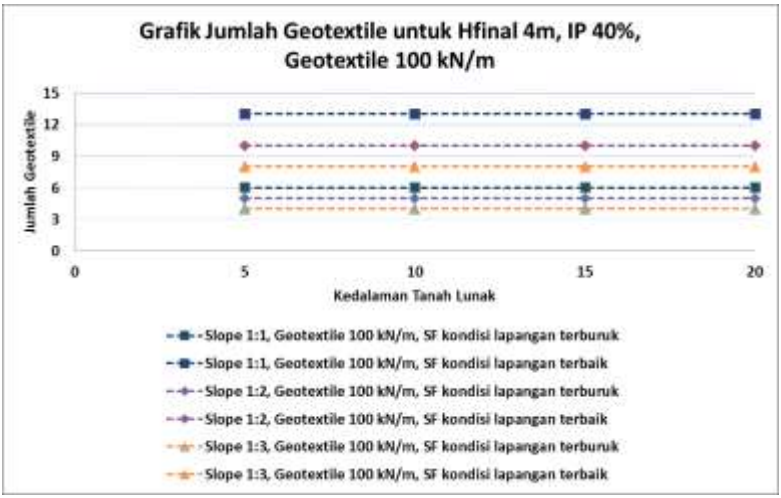
Gambar 5.57 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 8 meter, IP 20% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Telah Memampat

Tabel 5.11 Jumlah Perkuatan Geotextile untuk Variasi Data pada Asumsi Kondisi Tanah Telah Memampat dengan Indeks Plastisitas 40%

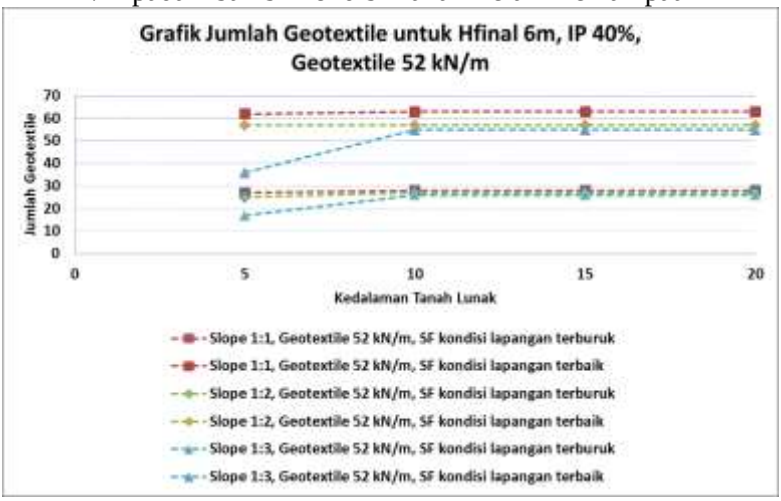
		IP = 40%											
		slope = 1				slope = 2				slope = 3			
Htimb (m)	D (m)	52 kN/m		100 kN/m		52 kN/m		100 kN/m		52 kN/m		100 kN/m	
4	5	12	25	6	13	9	20	5	10	7	16	4	8
	10	12	25	6	13	9	20	5	10	7	16	4	8
	15	12	25	6	13	9	20	5	10	7	16	4	8
	20	12	25	6	13	9	20	5	10	7	16	4	8
6	5	27	62	15	31	25	57	14	28	17	36	8	19
	10	28	63	15	31	27	57	14	28	26	55	13	24
	15	28	63	15	31	27	57	14	30	26	55	13	28
	20	28	63	15	31	27	57	14	30	26	55	13	28
8	5	58	121	30	62	55	97	23	51	25	78	11	35
	10	61	131	32	67	55	114	28	59	47	99	25	52
	15	61	132	32	67	57	120	30	62	49	100	26	55
	20	62	132	32	67	57	120	30	62	49	100	26	55



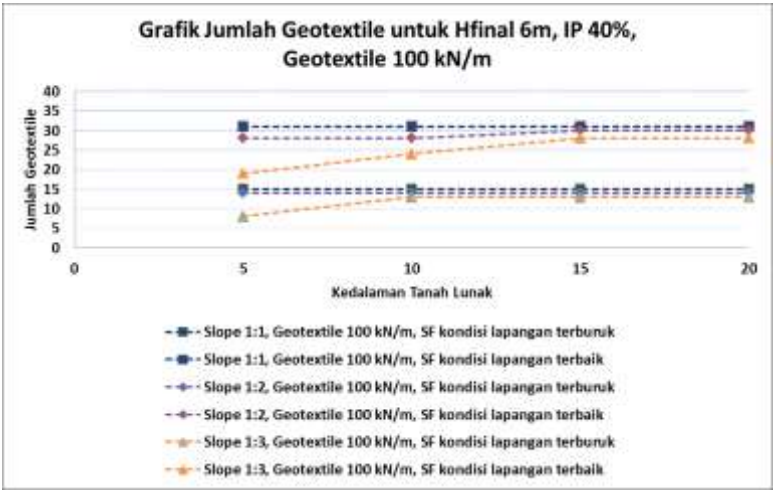
Gambar 5.58 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 4 meter, IP 40% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Telah Memampat



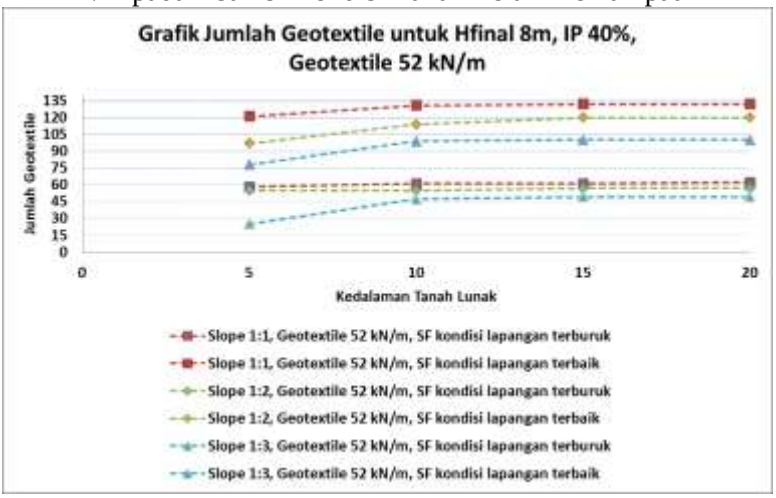
Gambar 5.59 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 4 meter, IP 40% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Telah Memampat



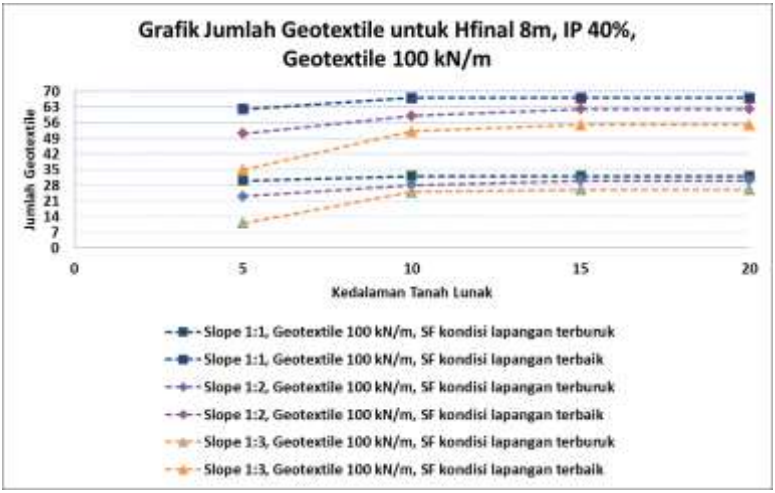
Gambar 5.60 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 6 meter, IP 40% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Telah Memampat



Gambar 5.61 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 6 meter, IP 40% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Telah Memampat



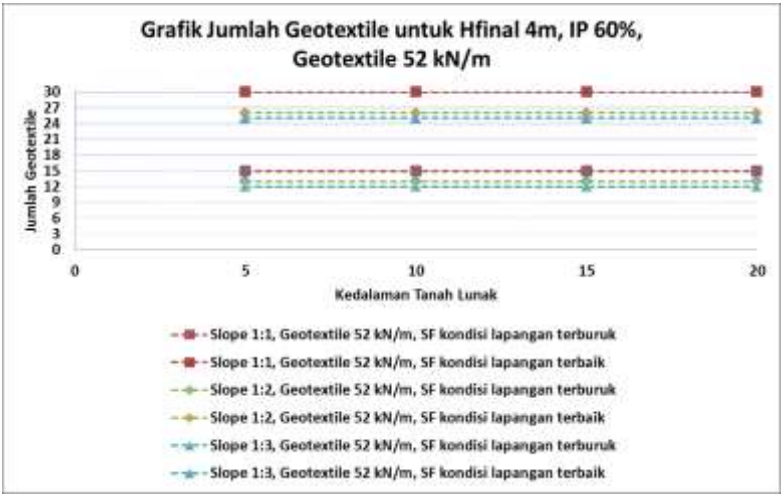
Gambar 5.62 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 8 meter, IP 40% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Telah Memampat



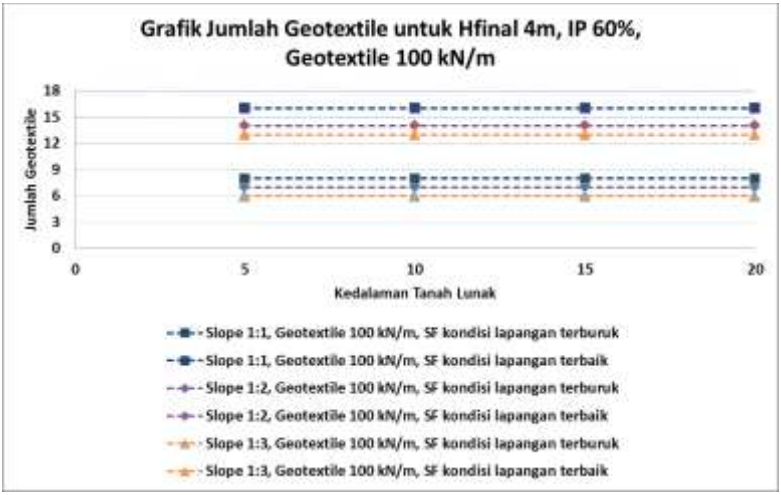
Gambar 5.63 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 8 meter, IP 40% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Telah Memampat

Tabel 5.12 Jumlah Perkuatan Geotextile untuk Variasi Data pada Asumsi Kondisi Tanah Telah Memampat dengan Indeks Plastisitas 60%

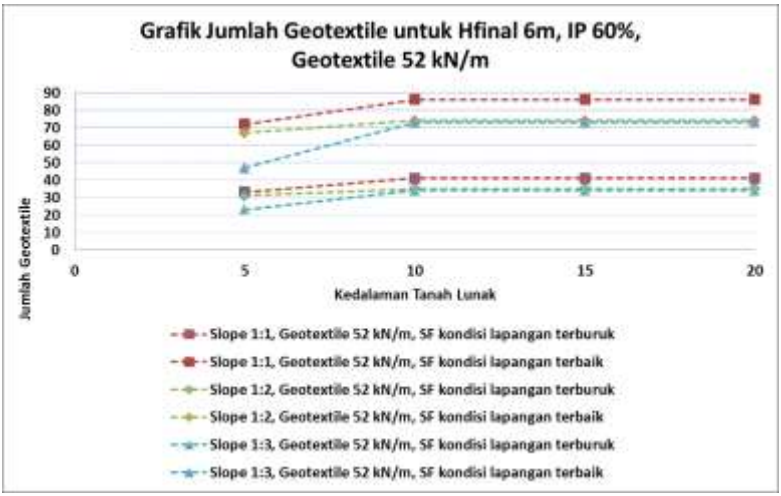
		IP = 60%											
		slope = 1				slope = 2				slope = 3			
Htimb (m)	D (m)	52 kN/m		100 kN/m		52 kN/m		100 kN/m		52 kN/m		100 kN/m	
4	5	15	30	8	16	13	26	7	14	12	25	6	13
	10	15	30	8	16	13	26	7	14	12	25	6	13
	15	15	30	8	16	13	26	7	14	12	25	6	13
	20	15	30	8	16	13	26	7	14	12	25	6	13
6	5	33	72	17	38	31	67	16	34	23	47	11	25
	10	41	86	22	45	35	74	19	39	34	73	18	38
	15	41	86	22	45	35	74	19	39	34	73	18	38
	20	41	86	22	45	35	74	19	39	34	73	18	38
8	5	63	139	32	68	55	115	29	59	32	67	15	35
	10	78	165	40	85	76	162	39	84	64	137	33	70
	15	78	165	40	85	76	162	39	84	64	137	33	70
	20	78	165	40	85	76	162	39	84	66	140	34	72



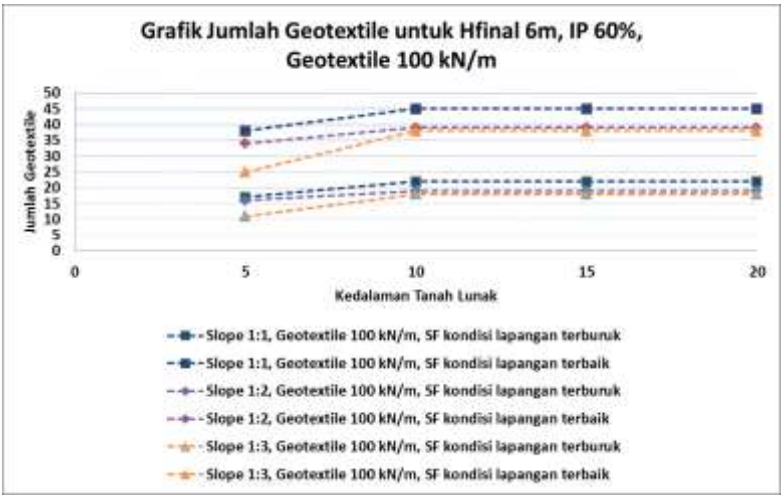
Gambar 5.64 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 4 meter, IP 60% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Telah Memampat



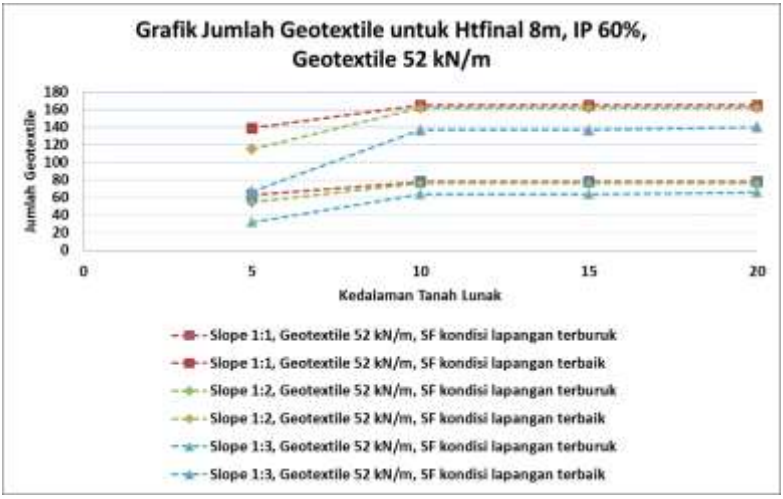
Gambar 5.65 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 4 meter, IP 60% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Telah Memampat



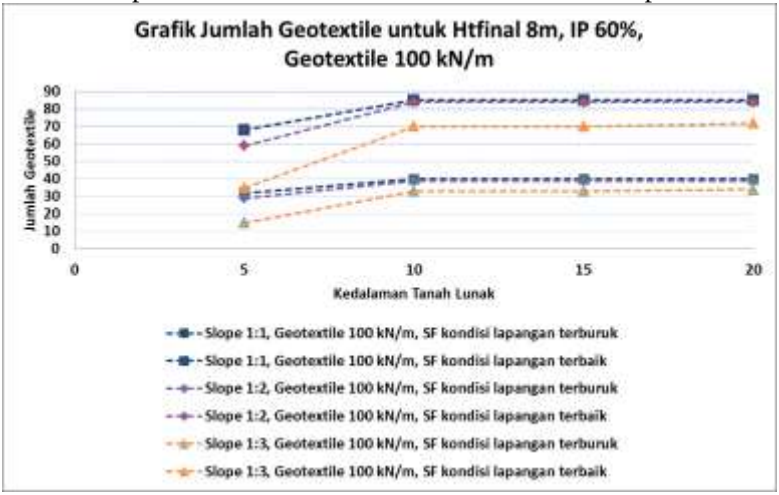
Gambar 5.66 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 6 meter, IP 60% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Telah Memampat



Gambar 5.67 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 6 meter, IP 60% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Telah Memampat



Gambar 5.68 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 8 meter, IP 60% dengan Tult 52 kN/m pada Asumsi Kondisi Tanah Telah Memampat



Gambar 5.69 Grafik Jumlah Geotextile Maksimal dan Minimal untuk Htimbunan 8 meter, IP 60% dengan Tult 100 kN/m pada Asumsi Kondisi Tanah Telah Memampat

5.4 Perbandingan Kondisi Saat Menggunakan PVD dan Tanpa PVD

Perhitungan perbandingan dengan kondisi yang sama, yaitu saat menggunakan PVD dan tanpa PVD digunakan untuk melihat efektifitas. Sebagai contoh, perhitungan dengan variasi data tanah untuk Hfinal 6m, IP 40%, kedalaman tanah lunak 10m dan slope 1:1.

- Tanpa PVD dengan Geotextile 52 kN/m: 44 – 95
- Tanpa PVD dengan Geotextile 100 kN/m: 24 – 48
- Menggunakan PVD dengan Geotextile 52 kN/m: 28 - 63

- Menggunakan PVD dengan Geotextile 52 kN/m: 15 – 31

Perbandingan rata-rata jumlah kebutuhan geotextile antara saat menggunakan PVD dan tanpa PVD adalah 1 : 1.5

LAMPIRAN

LAMPIRAN 1-1

H timb	2 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	3.6	2	20	0.1301	88.5679	89.9995	0.5000	0.3	0.03	0.07844	7.844
2	1.5	1	1.6	20	3.6	2	20	0.3887	85.7108	89.9861	0.4999	0.9	0.09	0.08792	8.792
3	2.5	1	1.6	20	3.6	2	20	0.6419	82.8750	89.9364	0.4996	1.5	0.15	0.0974	9.740
4	3.5	1	1.6	20	3.6	2	20	0.8868	80.0738	89.8281	0.4990	2.1	0.21	0.10688	10.688
5	4.5	1	1.6	20	3.6	2	20	1.1203	77.3196	89.6424	0.4980	2.7	0.27	0.11636	11.636
6	5.5	1	1.6	20	3.6	2	20	1.3400	74.6237	89.3638	0.4965	3.3	0.33	0.12584	12.584
7	6.5	1	1.6	20	3.6	2	20	1.5441	71.9958	88.9815	0.4943	3.9	0.39	0.13532	13.532
8	7.5	1	1.6	20	3.6	2	20	1.7313	69.4440	88.4886	0.4916	4.5	0.45	0.1448	14.480
9	8.5	1	1.6	20	3.6	2	20	1.9008	66.9745	87.8830	0.4882	5.1	0.51	0.15428	15.428
10	9.5	1	1.6	20	3.6	2	20	2.0522	64.5923	87.1660	0.4843	5.7	0.57	0.16376	16.376
11	10.5	1	1.6	20	3.6	2	20	2.1856	62.3005	86.3422	0.4797	6.3	0.63	0.17324	17.324
12	11.5	1	1.6	20	3.6	2	20	2.3016	60.1011	85.4188	0.4745	6.9	0.69	0.18272	18.272
13	12.5	1	1.6	20	3.6	2	20	2.4009	57.9946	84.4049	0.4689	7.5	0.75	0.1922	19.220
14	13.5	1	1.6	20	3.6	2	20	2.4846	55.9807	83.3108	0.4628	8.1	0.81	0.20168	20.168
15	14.5	1	1.6	20	3.6	2	20	2.5536	54.0579	82.1475	0.4564	8.7	0.87	0.21116	21.116
16	15.5	1	1.6	20	3.6	2	20	2.6092	52.2243	80.9260	0.4496	9.3	0.93	0.22064	22.064
17	16.5	1	1.6	20	3.6	2	20	2.6527	50.4774	79.6574	0.4425	9.9	0.99	0.23012	23.012
18	17.5	1	1.6	20	3.6	2	20	2.6853	48.8141	78.3521	0.4353	10.5	1.05	0.2396	23.960
19	18.5	1	1.6	20	3.6	2	20	2.7080	47.2312	77.0196	0.4279	11.1	1.11	0.24908	24.908
20	19.5	1	1.6	20	3.6	2	20	2.7222	45.7252	75.6690	0.4204	11.7	1.17	0.25856	25.856

H timb	2 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	3.6	4	20	0.2386	88.5679	89.9995	0.5000	0.3	0.03	0.07844	7.844
2	1.5	1	1.6	20	3.6	4	20	0.7128	85.7108	89.9878	0.4999	0.9	0.09	0.08792	8.792
3	2.5	1	1.6	20	3.6	4	20	1.1782	82.8750	89.9439	0.4997	1.5	0.15	0.0974	9.740
4	3.5	1	1.6	20	3.6	4	20	1.6291	80.0738	89.8484	0.4992	2.1	0.21	0.10688	10.688
5	4.5	1	1.6	20	3.6	4	20	2.0607	77.3196	89.6840	0.4982	2.7	0.27	0.11636	11.636
6	5.5	1	1.6	20	3.6	4	20	2.4688	74.6237	89.4368	0.4969	3.3	0.33	0.12584	12.584
7	6.5	1	1.6	20	3.6	4	20	2.8501	71.9958	89.0964	0.4950	3.9	0.39	0.13532	13.532
8	7.5	1	1.6	20	3.6	4	20	3.2020	69.4440	88.6561	0.4925	4.5	0.45	0.1448	14.480
9	8.5	1	1.6	20	3.6	4	20	3.5230	66.9745	88.1128	0.4895	5.1	0.51	0.15428	15.428
10	9.5	1	1.6	20	3.6	4	20	3.8124	64.5923	87.4667	0.4859	5.7	0.57	0.16376	16.376
11	10.5	1	1.6	20	3.6	4	20	4.0701	62.3005	86.7211	0.4818	6.3	0.63	0.17324	17.324
12	11.5	1	1.6	20	3.6	4	20	4.2967	60.1011	85.8814	0.4771	6.9	0.69	0.18272	18.272
13	12.5	1	1.6	20	3.6	4	20	4.4934	57.9946	84.9549	0.4720	7.5	0.75	0.1922	19.220
14	13.5	1	1.6	20	3.6	4	20	4.6616	55.9807	83.9502	0.4664	8.1	0.81	0.20168	20.168
15	14.5	1	1.6	20	3.6	4	20	4.8031	54.0579	82.8767	0.4604	8.7	0.87	0.21116	21.116
16	15.5	1	1.6	20	3.6	4	20	4.9200	52.2243	81.7441	0.4541	9.3	0.93	0.22064	22.064
17	16.5	1	1.6	20	3.6	4	20	5.0141	50.4774	80.5620	0.4476	9.9	0.99	0.23012	23.012
18	17.5	1	1.6	20	3.6	4	20	5.0876	48.8141	79.3399	0.4408	10.5	1.05	0.2396	23.960
19	18.5	1	1.6	20	3.6	4	20	5.1426	47.2312	78.0867	0.4338	11.1	1.11	0.24908	24.908
20	19.5	1	1.6	20	3.6	4	20	5.1809	45.7252	76.8107	0.4267	11.7	1.17	0.25856	25.856

H timb	2	meter
γtimb(t/m3)	1.8	t/m3
kemiringan	3	

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	3.6	6	20	0.3304	88.5679	89.9996	0.5000	0.3	0.03	0.07844	7.844
2	1.5	1	1.6	20	3.6	6	20	0.9873	85.7108	89.9891	0.4999	0.9	0.09	0.08792	8.792
3	2.5	1	1.6	20	3.6	6	20	1.6327	82.8750	89.9500	0.4997	1.5	0.15	0.0974	9.740
4	3.5	1	1.6	20	3.6	6	20	2.2594	80.0738	89.8647	0.4992	2.1	0.21	0.10688	10.688
5	4.5	1	1.6	20	3.6	6	20	2.8611	77.3196	89.7176	0.4984	2.7	0.27	0.11636	11.636
6	5.5	1	1.6	20	3.6	6	20	3.4321	74.6237	89.4961	0.4972	3.3	0.33	0.12584	12.584
7	6.5	1	1.6	20	3.6	6	20	3.9679	71.9958	89.1902	0.4955	3.9	0.39	0.13532	13.532
8	7.5	1	1.6	20	3.6	6	20	4.4652	69.4440	88.7933	0.4933	4.5	0.45	0.1448	14.480
9	8.5	1	1.6	20	3.6	6	20	4.9217	66.9745	88.3020	0.4906	5.1	0.51	0.15428	15.428
10	9.5	1	1.6	20	3.6	6	20	5.3362	64.5923	87.7158	0.4873	5.7	0.57	0.16376	16.376
11	10.5	1	1.6	20	3.6	6	20	5.7083	62.3005	87.0367	0.4835	6.3	0.63	0.17324	17.324
12	11.5	1	1.6	20	3.6	6	20	6.0387	60.1011	86.2689	0.4793	6.9	0.69	0.18272	18.272
13	12.5	1	1.6	20	3.6	6	20	6.3286	57.9946	85.4184	0.4745	7.5	0.75	0.1922	19.220
14	13.5	1	1.6	20	3.6	6	20	6.5796	55.9807	84.4923	0.4694	8.1	0.81	0.20168	20.168
15	14.5	1	1.6	20	3.6	6	20	6.7940	54.0579	83.4987	0.4639	8.7	0.87	0.21116	21.116
16	15.5	1	1.6	20	3.6	6	20	6.9742	52.2243	82.4460	0.4580	9.3	0.93	0.22064	22.064
17	16.5	1	1.6	20	3.6	6	20	7.1228	50.4774	81.3428	0.4519	9.9	0.99	0.23012	23.012
18	17.5	1	1.6	20	3.6	6	20	7.2423	48.8141	80.1975	0.4455	10.5	1.05	0.2396	23.960
19	18.5	1	1.6	20	3.6	6	20	7.3355	47.2312	79.0184	0.4390	11.1	1.11	0.24908	24.908
20	19.5	1	1.6	20	3.6	6	20	7.4049	45.7252	77.8130	0.4323	11.7	1.17	0.25856	25.856

H timb	4 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	7.2	4	20	0.2386	88.5679	89.9995	0.5000	0.3	0.03	0.07844	7.844
2	1.5	1	1.6	20	7.2	4	20	0.7128	85.7108	89.9878	0.4999	0.9	0.09	0.08792	8.792
3	2.5	1	1.6	20	7.2	4	20	1.1782	82.8750	89.9439	0.4997	1.5	0.15	0.0974	9.740
4	3.5	1	1.6	20	7.2	4	20	1.6291	80.0738	89.8484	0.4992	2.1	0.21	0.10688	10.688
5	4.5	1	1.6	20	7.2	4	20	2.0607	77.3196	89.6840	0.4982	2.7	0.27	0.11636	11.636
6	5.5	1	1.6	20	7.2	4	20	2.4688	74.6237	89.4368	0.4969	3.3	0.33	0.12584	12.584
7	6.5	1	1.6	20	7.2	4	20	2.8501	71.9958	89.0964	0.4950	3.9	0.39	0.13532	13.532
8	7.5	1	1.6	20	7.2	4	20	3.2020	69.4440	88.6561	0.4925	4.5	0.45	0.1448	14.480
9	8.5	1	1.6	20	7.2	4	20	3.5230	66.9745	88.1128	0.4895	5.1	0.51	0.15428	15.428
10	9.5	1	1.6	20	7.2	4	20	3.8124	64.5923	87.4667	0.4859	5.7	0.57	0.16376	16.376
11	10.5	1	1.6	20	7.2	4	20	4.0701	62.3005	86.7211	0.4818	6.3	0.63	0.17324	17.324
12	11.5	1	1.6	20	7.2	4	20	4.2967	60.1011	85.8814	0.4771	6.9	0.69	0.18272	18.272
13	12.5	1	1.6	20	7.2	4	20	4.4934	57.9946	84.9549	0.4720	7.5	0.75	0.1922	19.220
14	13.5	1	1.6	20	7.2	4	20	4.6616	55.9807	83.9502	0.4664	8.1	0.81	0.20168	20.168
15	14.5	1	1.6	20	7.2	4	20	4.8031	54.0579	82.8767	0.4604	8.7	0.87	0.21116	21.116
16	15.5	1	1.6	20	7.2	4	20	4.9200	52.2243	81.7441	0.4541	9.3	0.93	0.22064	22.064
17	16.5	1	1.6	20	7.2	4	20	5.0141	50.4774	80.5620	0.4476	9.9	0.99	0.23012	23.012
18	17.5	1	1.6	20	7.2	4	20	5.0876	48.8141	79.3399	0.4408	10.5	1.05	0.2396	23.960
19	18.5	1	1.6	20	7.2	4	20	5.1426	47.2312	78.0867	0.4338	11.1	1.11	0.24908	24.908
20	19.5	1	1.6	20	7.2	4	20	5.1809	45.7252	76.8107	0.4267	11.7	1.17	0.25856	25.856

H timb	4 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	7.2	8	20	0.4091	88.5679	89.9996	0.5000	0.3	0.03	0.07844	7.844
2	1.5	1	1.6	20	7.2	8	20	1.2227	85.7108	89.9902	0.4999	0.9	0.09	0.08792	8.792
3	2.5	1	1.6	20	7.2	8	20	2.0229	82.8750	89.9550	0.4997	1.5	0.15	0.0974	9.740
4	3.5	1	1.6	20	7.2	8	20	2.8012	80.0738	89.8781	0.4993	2.1	0.21	0.10688	10.688
5	4.5	1	1.6	20	7.2	8	20	3.5502	77.3196	89.7453	0.4986	2.7	0.27	0.11636	11.636
6	5.5	1	1.6	20	7.2	8	20	4.2632	74.6237	89.5450	0.4975	3.3	0.33	0.12584	12.584
7	6.5	1	1.6	20	7.2	8	20	4.9348	71.9958	89.2678	0.4959	3.9	0.39	0.13532	13.532
8	7.5	1	1.6	20	7.2	8	20	5.5610	69.4440	88.9073	0.4939	4.5	0.45	0.1448	14.480
9	8.5	1	1.6	20	7.2	8	20	6.1387	66.9745	88.4600	0.4914	5.1	0.51	0.15428	15.428
10	9.5	1	1.6	20	7.2	8	20	6.6664	64.5923	87.9246	0.4885	5.7	0.57	0.16376	16.376
11	10.5	1	1.6	20	7.2	8	20	7.1434	62.3005	87.3025	0.4850	6.3	0.63	0.17324	17.324
12	11.5	1	1.6	20	7.2	8	20	7.5702	60.1011	86.5970	0.4811	6.9	0.69	0.18272	18.272
13	12.5	1	1.6	20	7.2	8	20	7.9480	57.9946	85.8127	0.4767	7.5	0.75	0.1922	19.220
14	13.5	1	1.6	20	7.2	8	20	8.2786	55.9807	84.9559	0.4720	8.1	0.81	0.20168	20.168
15	14.5	1	1.6	20	7.2	8	20	8.5644	54.0579	84.0333	0.4669	8.7	0.87	0.21116	21.116
16	15.5	1	1.6	20	7.2	8	20	8.8080	52.2243	83.0524	0.4614	9.3	0.93	0.22064	22.064
17	16.5	1	1.6	20	7.2	8	20	9.0124	50.4774	82.0207	0.4557	9.9	0.99	0.23012	23.012
18	17.5	1	1.6	20	7.2	8	20	9.1805	48.8141	80.9460	0.4497	10.5	1.05	0.2396	23.960
19	18.5	1	1.6	20	7.2	8	20	9.3155	47.2312	79.8355	0.4435	11.1	1.11	0.24908	24.908
20	19.5	1	1.6	20	7.2	8	20	9.4203	45.7252	78.6963	0.4372	11.7	1.17	0.25856	25.856

H timb	4 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	7.2	12	20	0.5369	88.5679	89.9997	0.5000	0.3	0.03	0.07844	7.844
2	1.5	1	1.6	20	7.2	12	20	1.6054	85.7108	89.9919	0.5000	0.9	0.09	0.08792	8.792
3	2.5	1	1.6	20	7.2	12	20	2.6579	82.8750	89.9626	0.4998	1.5	0.15	0.0974	9.740
4	3.5	1	1.6	20	7.2	12	20	3.6843	80.0738	89.8986	0.4994	2.1	0.21	0.10688	10.688
5	4.5	1	1.6	20	7.2	12	20	4.6757	77.3196	89.7880	0.4988	2.7	0.27	0.11636	11.636
6	5.5	1	1.6	20	7.2	12	20	5.6238	74.6237	89.6206	0.4979	3.3	0.33	0.12584	12.584
7	6.5	1	1.6	20	7.2	12	20	6.5222	71.9958	89.3883	0.4966	3.9	0.39	0.13532	13.532
8	7.5	1	1.6	20	7.2	12	20	7.3654	69.4440	89.0851	0.4949	4.5	0.45	0.1448	14.480
9	8.5	1	1.6	20	7.2	12	20	8.1498	66.9745	88.7073	0.4928	5.1	0.51	0.15428	15.428
10	9.5	1	1.6	20	7.2	12	20	8.8729	64.5923	88.2533	0.4903	5.7	0.57	0.16376	16.376
11	10.5	1	1.6	20	7.2	12	20	9.5335	62.3005	87.7232	0.4874	6.3	0.63	0.17324	17.324
12	11.5	1	1.6	20	7.2	12	20	10.1317	60.1011	87.1191	0.4840	6.9	0.69	0.18272	18.272
13	12.5	1	1.6	20	7.2	12	20	10.6685	57.9946	86.4440	0.4802	7.5	0.75	0.1922	19.220
14	13.5	1	1.6	20	7.2	12	20	11.1457	55.9807	85.7025	0.4761	8.1	0.81	0.20168	20.168
15	14.5	1	1.6	20	7.2	12	20	11.5656	54.0579	84.8996	0.4717	8.7	0.87	0.21116	21.116
16	15.5	1	1.6	20	7.2	12	20	11.9313	52.2243	84.0411	0.4669	9.3	0.93	0.22064	22.064
17	16.5	1	1.6	20	7.2	12	20	12.2459	50.4774	83.1330	0.4619	9.9	0.99	0.23012	23.012
18	17.5	1	1.6	20	7.2	12	20	12.5128	48.8141	82.1815	0.4566	10.5	1.05	0.2396	23.960
19	18.5	1	1.6	20	7.2	12	20	12.7355	47.2312	81.1926	0.4511	11.1	1.11	0.24908	24.908
20	19.5	1	1.6	20	7.2	12	20	12.9177	45.7252	80.1724	0.4454	11.7	1.17	0.25856	25.856

H timb	6 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	10.8	6	20	0.3304	88.5679	89.9996	0.5000	0.3	0.03	0.07844	7.844
2	1.5	1	1.6	20	10.8	6	20	0.9873	85.7108	89.9891	0.4999	0.9	0.09	0.08792	8.792
3	2.5	1	1.6	20	10.8	6	20	1.6327	82.8750	89.9500	0.4997	1.5	0.15	0.0974	9.740
4	3.5	1	1.6	20	10.8	6	20	2.2594	80.0738	89.8647	0.4992	2.1	0.21	0.10688	10.688
5	4.5	1	1.6	20	10.8	6	20	2.8611	77.3196	89.7176	0.4984	2.7	0.27	0.11636	11.636
6	5.5	1	1.6	20	10.8	6	20	3.4321	74.6237	89.4961	0.4972	3.3	0.33	0.12584	12.584
7	6.5	1	1.6	20	10.8	6	20	3.9679	71.9958	89.1902	0.4955	3.9	0.39	0.13532	13.532
8	7.5	1	1.6	20	10.8	6	20	4.4652	69.4440	88.7933	0.4933	4.5	0.45	0.1448	14.480
9	8.5	1	1.6	20	10.8	6	20	4.9217	66.9745	88.3020	0.4906	5.1	0.51	0.15428	15.428
10	9.5	1	1.6	20	10.8	6	20	5.3362	64.5923	87.7158	0.4873	5.7	0.57	0.16376	16.376
11	10.5	1	1.6	20	10.8	6	20	5.7083	62.3005	87.0367	0.4835	6.3	0.63	0.17324	17.324
12	11.5	1	1.6	20	10.8	6	20	6.0387	60.1011	86.2689	0.4793	6.9	0.69	0.18272	18.272
13	12.5	1	1.6	20	10.8	6	20	6.3286	57.9946	85.4184	0.4745	7.5	0.75	0.1922	19.220
14	13.5	1	1.6	20	10.8	6	20	6.5796	55.9807	84.4923	0.4694	8.1	0.81	0.20168	20.168
15	14.5	1	1.6	20	10.8	6	20	6.7940	54.0579	83.4987	0.4639	8.7	0.87	0.21116	21.116
16	15.5	1	1.6	20	10.8	6	20	6.9742	52.2243	82.4460	0.4580	9.3	0.93	0.22064	22.064
17	16.5	1	1.6	20	10.8	6	20	7.1228	50.4774	81.3428	0.4519	9.9	0.99	0.23012	23.012
18	17.5	1	1.6	20	10.8	6	20	7.2423	48.8141	80.1975	0.4455	10.5	1.05	0.2396	23.960
19	18.5	1	1.6	20	10.8	6	20	7.3355	47.2312	79.0184	0.4390	11.1	1.11	0.24908	24.908
20	19.5	1	1.6	20	10.8	6	20	7.4049	45.7252	77.8130	0.4323	11.7	1.17	0.25856	25.856

H timb	6 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	10.8	12	20	0.5369	88.5679	89.9997	0.5000	0.3	0.03	0.07844	7.844
2	1.5	1	1.6	20	10.8	12	20	1.6054	85.7108	89.9919	0.5000	0.9	0.09	0.08792	8.792
3	2.5	1	1.6	20	10.8	12	20	2.6579	82.8750	89.9626	0.4998	1.5	0.15	0.0974	9.740
4	3.5	1	1.6	20	10.8	12	20	3.6843	80.0738	89.8986	0.4994	2.1	0.21	0.10688	10.688
5	4.5	1	1.6	20	10.8	12	20	4.6757	77.3196	89.7880	0.4988	2.7	0.27	0.11636	11.636
6	5.5	1	1.6	20	10.8	12	20	5.6238	74.6237	89.6206	0.4979	3.3	0.33	0.12584	12.584
7	6.5	1	1.6	20	10.8	12	20	6.5222	71.9958	89.3883	0.4966	3.9	0.39	0.13532	13.532
8	7.5	1	1.6	20	10.8	12	20	7.3654	69.4440	89.0851	0.4949	4.5	0.45	0.1448	14.480
9	8.5	1	1.6	20	10.8	12	20	8.1498	66.9745	88.7073	0.4928	5.1	0.51	0.15428	15.428
10	9.5	1	1.6	20	10.8	12	20	8.8729	64.5923	88.2533	0.4903	5.7	0.57	0.16376	16.376
11	10.5	1	1.6	20	10.8	12	20	9.5335	62.3005	87.7232	0.4874	6.3	0.63	0.17324	17.324
12	11.5	1	1.6	20	10.8	12	20	10.1317	60.1011	87.1191	0.4840	6.9	0.69	0.18272	18.272
13	12.5	1	1.6	20	10.8	12	20	10.6685	57.9946	86.4440	0.4802	7.5	0.75	0.1922	19.220
14	13.5	1	1.6	20	10.8	12	20	11.1457	55.9807	85.7025	0.4761	8.1	0.81	0.20168	20.168
15	14.5	1	1.6	20	10.8	12	20	11.5656	54.0579	84.8996	0.4717	8.7	0.87	0.21116	21.116
16	15.5	1	1.6	20	10.8	12	20	11.9313	52.2243	84.0411	0.4669	9.3	0.93	0.22064	22.064
17	16.5	1	1.6	20	10.8	12	20	12.2459	50.4774	83.1330	0.4619	9.9	0.99	0.23012	23.012
18	17.5	1	1.6	20	10.8	12	20	12.5128	48.8141	82.1815	0.4566	10.5	1.05	0.2396	23.960
19	18.5	1	1.6	20	10.8	12	20	12.7355	47.2312	81.1926	0.4511	11.1	1.11	0.24908	24.908
20	19.5	1	1.6	20	10.8	12	20	12.9177	45.7252	80.1724	0.4454	11.7	1.17	0.25856	25.856

	H timb	6 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	3													
No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	10.8	18	20	0.6782	88.5679	89.9998	0.5000	0.3	0.03	0.07844	7.844
2	1.5	1	1.6	20	10.8	18	20	2.0287	85.7108	89.9936	0.5000	0.9	0.09	0.08792	8.792
3	2.5	1	1.6	20	10.8	18	20	3.3610	82.8750	89.9704	0.4998	1.5	0.15	0.0974	9.740
4	3.5	1	1.6	20	10.8	18	20	4.6639	80.0738	89.9197	0.4996	2.1	0.21	0.10688	10.688
5	4.5	1	1.6	20	10.8	18	20	5.9268	77.3196	89.8318	0.4991	2.7	0.27	0.11636	11.636
6	5.5	1	1.6	20	10.8	18	20	7.1406	74.6237	89.6984	0.4983	3.3	0.33	0.12584	12.584
7	6.5	1	1.6	20	10.8	18	20	8.2975	71.9958	89.5128	0.4973	3.9	0.39	0.13532	13.532
8	7.5	1	1.6	20	10.8	18	20	9.3912	69.4440	89.2697	0.4959	4.5	0.45	0.1448	14.480
9	8.5	1	1.6	20	10.8	18	20	10.4169	66.9745	88.9657	0.4943	5.1	0.51	0.15428	15.428
10	9.5	1	1.6	20	10.8	18	20	11.3715	64.5923	88.5987	0.4922	5.7	0.57	0.16376	16.376
11	10.5	1	1.6	20	10.8	18	20	12.2532	62.3005	88.1683	0.4898	6.3	0.63	0.17324	17.324
12	11.5	1	1.6	20	10.8	18	20	13.0614	60.1011	87.6752	0.4871	6.9	0.69	0.18272	18.272
13	12.5	1	1.6	20	10.8	18	20	13.7969	57.9946	87.1214	0.4840	7.5	0.75	0.1922	19.220
14	13.5	1	1.6	20	10.8	18	20	14.4611	55.9807	86.5096	0.4806	8.1	0.81	0.20168	20.168
15	14.5	1	1.6	20	10.8	18	20	15.0563	54.0579	85.8434	0.4769	8.7	0.87	0.21116	21.116
16	15.5	1	1.6	20	10.8	18	20	15.5854	52.2243	85.1268	0.4729	9.3	0.93	0.22064	22.064
17	16.5	1	1.6	20	10.8	18	20	16.0516	50.4774	84.3642	0.4687	9.9	0.99	0.23012	23.012
18	17.5	1	1.6	20	10.8	18	20	16.4586	48.8141	83.5600	0.4642	10.5	1.05	0.2396	23.960
19	18.5	1	1.6	20	10.8	18	20	16.8101	47.2312	82.7191	0.4596	11.1	1.11	0.24908	24.908
20	19.5	1	1.6	20	10.8	18	20	17.1098	45.7252	81.8459	0.4547	11.7	1.17	0.25856	25.856

H timb	8 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	14.4	8	20	0.4091	88.5679	89.9996	0.5000	0.3	0.03	0.07844	7.844
2	1.5	1	1.6	20	14.4	8	20	1.2227	85.7108	89.9902	0.4999	0.9	0.09	0.08792	8.792
3	2.5	1	1.6	20	14.4	8	20	2.0229	82.8750	89.9550	0.4997	1.5	0.15	0.0974	9.740
4	3.5	1	1.6	20	14.4	8	20	2.8012	80.0738	89.8781	0.4993	2.1	0.21	0.10688	10.688
5	4.5	1	1.6	20	14.4	8	20	3.5502	77.3196	89.7453	0.4986	2.7	0.27	0.11636	11.636
6	5.5	1	1.6	20	14.4	8	20	4.2632	74.6237	89.5450	0.4975	3.3	0.33	0.12584	12.584
7	6.5	1	1.6	20	14.4	8	20	4.9348	71.9958	89.2678	0.4959	3.9	0.39	0.13532	13.532
8	7.5	1	1.6	20	14.4	8	20	5.5610	69.4440	88.9073	0.4939	4.5	0.45	0.1448	14.480
9	8.5	1	1.6	20	14.4	8	20	6.1387	66.9745	88.4600	0.4914	5.1	0.51	0.15428	15.428
10	9.5	1	1.6	20	14.4	8	20	6.6664	64.5923	87.9246	0.4885	5.7	0.57	0.16376	16.376
11	10.5	1	1.6	20	14.4	8	20	7.1434	62.3005	87.3025	0.4850	6.3	0.63	0.17324	17.324
12	11.5	1	1.6	20	14.4	8	20	7.5702	60.1011	86.5970	0.4811	6.9	0.69	0.18272	18.272
13	12.5	1	1.6	20	14.4	8	20	7.9480	57.9946	85.8127	0.4767	7.5	0.75	0.1922	19.220
14	13.5	1	1.6	20	14.4	8	20	8.2786	55.9807	84.9559	0.4720	8.1	0.81	0.20168	20.168
15	14.5	1	1.6	20	14.4	8	20	8.5644	54.0579	84.0333	0.4669	8.7	0.87	0.21116	21.116
16	15.5	1	1.6	20	14.4	8	20	8.8080	52.2243	83.0524	0.4614	9.3	0.93	0.22064	22.064
17	16.5	1	1.6	20	14.4	8	20	9.0124	50.4774	82.0207	0.4557	9.9	0.99	0.23012	23.012
18	17.5	1	1.6	20	14.4	8	20	9.1805	48.8141	80.9460	0.4497	10.5	1.05	0.2396	23.960
19	18.5	1	1.6	20	14.4	8	20	9.3155	47.2312	79.8355	0.4435	11.1	1.11	0.24908	24.908
20	19.5	1	1.6	20	14.4	8	20	9.4203	45.7252	78.6963	0.4372	11.7	1.17	0.25856	25.856

H timb	8	meter
γtimb(t/m3)	1.8	t/m3
kemiringan	2	

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	14.4	16	20	0.6364	88.5679	89.9997	0.5000	0.3	0.03	0.07844	7.844
2	1.5	1	1.6	20	14.4	16	20	1.9032	85.7108	89.9931	0.5000	0.9	0.09	0.08792	8.792
3	2.5	1	1.6	20	14.4	16	20	3.1525	82.8750	89.9682	0.4998	1.5	0.15	0.0974	9.740
4	3.5	1	1.6	20	14.4	16	20	4.3733	80.0738	89.9136	0.4995	2.1	0.21	0.10688	10.688
5	4.5	1	1.6	20	14.4	16	20	5.5554	77.3196	89.8192	0.4990	2.7	0.27	0.11636	11.636
6	5.5	1	1.6	20	14.4	16	20	6.6899	74.6237	89.6760	0.4982	3.3	0.33	0.12584	12.584
7	6.5	1	1.6	20	14.4	16	20	7.7694	71.9958	89.4769	0.4971	3.9	0.39	0.13532	13.532
8	7.5	1	1.6	20	14.4	16	20	8.7878	69.4440	89.2164	0.4956	4.5	0.45	0.1448	14.480
9	8.5	1	1.6	20	14.4	16	20	9.7406	66.9745	88.8909	0.4938	5.1	0.51	0.15428	15.428
10	9.5	1	1.6	20	14.4	16	20	10.6250	64.5923	88.4985	0.4917	5.7	0.57	0.16376	16.376
11	10.5	1	1.6	20	14.4	16	20	11.4393	62.3005	88.0389	0.4891	6.3	0.63	0.17324	17.324
12	11.5	1	1.6	20	14.4	16	20	12.1831	60.1011	87.5131	0.4862	6.9	0.69	0.18272	18.272
13	12.5	1	1.6	20	14.4	16	20	12.8572	57.9946	86.9234	0.4829	7.5	0.75	0.1922	19.220
14	13.5	1	1.6	20	14.4	16	20	13.4633	55.9807	86.2731	0.4793	8.1	0.81	0.20168	20.168
15	14.5	1	1.6	20	14.4	16	20	14.0036	54.0579	85.5661	0.4754	8.7	0.87	0.21116	21.116
16	15.5	1	1.6	20	14.4	16	20	14.4811	52.2243	84.8068	0.4711	9.3	0.93	0.22064	22.064
17	16.5	1	1.6	20	14.4	16	20	14.8991	50.4774	84.0003	0.4667	9.9	0.99	0.23012	23.012
18	17.5	1	1.6	20	14.4	16	20	15.2610	48.8141	83.1514	0.4620	10.5	1.05	0.2396	23.960
19	18.5	1	1.6	20	14.4	16	20	15.5707	47.2312	82.2652	0.4570	11.1	1.11	0.24908	24.908
20	19.5	1	1.6	20	14.4	16	20	15.8318	45.7252	81.3469	0.4519	11.7	1.17	0.25856	25.856

H timb	8 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	14.4	24	20	0.7810	88.5679	89.9998	0.5000	0.3	0.03	0.07844	7.844
2	1.5	1	1.6	20	14.4	24	20	2.3366	85.7108	89.9947	0.5000	0.9	0.09	0.08792	8.792
3	2.5	1	1.6	20	14.4	24	20	3.8731	82.8750	89.9756	0.4999	1.5	0.15	0.0974	9.740
4	3.5	1	1.6	20	14.4	24	20	5.3782	80.0738	89.9338	0.4996	2.1	0.21	0.10688	10.688
5	4.5	1	1.6	20	14.4	24	20	6.8409	77.3196	89.8613	0.4992	2.7	0.27	0.11636	11.636
6	5.5	1	1.6	20	14.4	24	20	8.2512	74.6237	89.7510	0.4986	3.3	0.33	0.12584	12.584
7	6.5	1	1.6	20	14.4	24	20	9.6008	71.9958	89.5973	0.4978	3.9	0.39	0.13532	13.532
8	7.5	1	1.6	20	14.4	24	20	10.8827	69.4440	89.3956	0.4966	4.5	0.45	0.1448	14.480
9	8.5	1	1.6	20	14.4	24	20	12.0917	66.9745	89.1426	0.4952	5.1	0.51	0.15428	15.428
10	9.5	1	1.6	20	14.4	24	20	13.2241	64.5923	88.8364	0.4935	5.7	0.57	0.16376	16.376
11	10.5	1	1.6	20	14.4	24	20	14.2776	62.3005	88.4762	0.4915	6.3	0.63	0.17324	17.324
12	11.5	1	1.6	20	14.4	24	20	15.2515	60.1011	88.0622	0.4892	6.9	0.69	0.18272	18.272
13	12.5	1	1.6	20	14.4	24	20	16.1460	57.9946	87.5956	0.4866	7.5	0.75	0.1922	19.220
14	13.5	1	1.6	20	14.4	24	20	16.9624	55.9807	87.0784	0.4838	8.1	0.81	0.20168	20.168
15	14.5	1	1.6	20	14.4	24	20	17.7027	54.0579	86.5129	0.4806	8.7	0.87	0.21116	21.116
16	15.5	1	1.6	20	14.4	24	20	18.3697	52.2243	85.9021	0.4772	9.3	0.93	0.22064	22.064
17	16.5	1	1.6	20	14.4	24	20	18.9666	50.4774	85.2494	0.4736	9.9	0.99	0.23012	23.012
18	17.5	1	1.6	20	14.4	24	20	19.4969	48.8141	84.5583	0.4698	10.5	1.05	0.2396	23.960
19	18.5	1	1.6	20	14.4	24	20	19.9643	47.2312	83.8324	0.4657	11.1	1.11	0.24908	24.908
20	19.5	1	1.6	20	14.4	24	20	20.3727	45.7252	83.0752	0.4615	11.7	1.17	0.25856	25.856

LAMPIRAN 1-2

	H timb	2 meter														
	γtimb(t/m3)	1.8 t/m3														
	kemiringan	1														
No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	3.6	2	20	0.1301	88.5679	89.9995	0.5000	0.3	0.03	0.07748	7.748
2	1.5	1	1.6	40	3.6	2	20	0.3887	85.7108	89.9861	0.4999	0.9	0.09	0.08504	8.504
3	2.5	1	1.6	40	3.6	2	20	0.6419	82.8750	89.9364	0.4996	1.5	0.15	0.0926	9.260
4	3.5	1	1.6	40	3.6	2	20	0.8868	80.0738	89.8281	0.4990	2.1	0.21	0.10016	10.016
5	4.5	1	1.6	40	3.6	2	20	1.1203	77.3196	89.6424	0.4980	2.7	0.27	0.10772	10.772
6	5.5	1	1.6	40	3.6	2	20	1.3400	74.6237	89.3638	0.4965	3.3	0.33	0.11528	11.528
7	6.5	1	1.6	40	3.6	2	20	1.5441	71.9958	88.9815	0.4943	3.9	0.39	0.12284	12.284
8	7.5	1	1.6	40	3.6	2	20	1.7313	69.4440	88.4886	0.4916	4.5	0.45	0.1304	13.040
9	8.5	1	1.6	40	3.6	2	20	1.9008	66.9745	87.8830	0.4882	5.1	0.51	0.13796	13.796
10	9.5	1	1.6	40	3.6	2	20	2.0522	64.5923	87.1660	0.4843	5.7	0.57	0.14552	14.552
11	10.5	1	1.6	40	3.6	2	20	2.1856	62.3005	86.3422	0.4797	6.3	0.63	0.15308	15.308
12	11.5	1	1.6	40	3.6	2	20	2.3016	60.1011	85.4188	0.4745	6.9	0.69	0.16064	16.064
13	12.5	1	1.6	40	3.6	2	20	2.4009	57.9946	84.4049	0.4689	7.5	0.75	0.1682	16.820
14	13.5	1	1.6	40	3.6	2	20	2.4846	55.9807	83.3108	0.4628	8.1	0.81	0.17576	17.576
15	14.5	1	1.6	40	3.6	2	20	2.5536	54.0579	82.1475	0.4564	8.7	0.87	0.18332	18.332
16	15.5	1	1.6	40	3.6	2	20	2.6092	52.2243	80.9260	0.4496	9.3	0.93	0.19088	19.088
17	16.5	1	1.6	40	3.6	2	20	2.6527	50.4774	79.6574	0.4425	9.9	0.99	0.19844	19.844
18	17.5	1	1.6	40	3.6	2	20	2.6853	48.8141	78.3521	0.4353	10.5	1.05	0.206	20.600
19	18.5	1	1.6	40	3.6	2	20	2.7080	47.2312	77.0196	0.4279	11.1	1.11	0.21356	21.356
20	19.5	1	1.6	40	3.6	2	20	2.7222	45.7252	75.6690	0.4204	11.7	1.17	0.22112	22.112

H timb	2 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	3.6	4	20	0.2386	88.5679	89.9995	0.5000	0.3	0.03	0.07748	7.748
2	1.5	1	1.6	40	3.6	4	20	0.7128	85.7108	89.9878	0.4999	0.9	0.09	0.08504	8.504
3	2.5	1	1.6	40	3.6	4	20	1.1782	82.8750	89.9439	0.4997	1.5	0.15	0.0926	9.260
4	3.5	1	1.6	40	3.6	4	20	1.6291	80.0738	89.8484	0.4992	2.1	0.21	0.10016	10.016
5	4.5	1	1.6	40	3.6	4	20	2.0607	77.3196	89.6840	0.4982	2.7	0.27	0.10772	10.772
6	5.5	1	1.6	40	3.6	4	20	2.4688	74.6237	89.4368	0.4969	3.3	0.33	0.11528	11.528
7	6.5	1	1.6	40	3.6	4	20	2.8501	71.9958	89.0964	0.4950	3.9	0.39	0.12284	12.284
8	7.5	1	1.6	40	3.6	4	20	3.2020	69.4440	88.6561	0.4925	4.5	0.45	0.1304	13.040
9	8.5	1	1.6	40	3.6	4	20	3.5230	66.9745	88.1128	0.4895	5.1	0.51	0.13796	13.796
10	9.5	1	1.6	40	3.6	4	20	3.8124	64.5923	87.4667	0.4859	5.7	0.57	0.14552	14.552
11	10.5	1	1.6	40	3.6	4	20	4.0701	62.3005	86.7211	0.4818	6.3	0.63	0.15308	15.308
12	11.5	1	1.6	40	3.6	4	20	4.2967	60.1011	85.8814	0.4771	6.9	0.69	0.16064	16.064
13	12.5	1	1.6	40	3.6	4	20	4.4934	57.9946	84.9549	0.4720	7.5	0.75	0.1682	16.820
14	13.5	1	1.6	40	3.6	4	20	4.6616	55.9807	83.9502	0.4664	8.1	0.81	0.17576	17.576
15	14.5	1	1.6	40	3.6	4	20	4.8031	54.0579	82.8767	0.4604	8.7	0.87	0.18332	18.332
16	15.5	1	1.6	40	3.6	4	20	4.9200	52.2243	81.7441	0.4541	9.3	0.93	0.19088	19.088
17	16.5	1	1.6	40	3.6	4	20	5.0141	50.4774	80.5620	0.4476	9.9	0.99	0.19844	19.844
18	17.5	1	1.6	40	3.6	4	20	5.0876	48.8141	79.3399	0.4408	10.5	1.05	0.206	20.600
19	18.5	1	1.6	40	3.6	4	20	5.1426	47.2312	78.0867	0.4338	11.1	1.11	0.21356	21.356
20	19.5	1	1.6	40	3.6	4	20	5.1809	45.7252	76.8107	0.4267	11.7	1.17	0.22112	22.112

H timb	2 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	3.6	6	20	0.3304	88.5679	89.9996	0.5000	0.3	0.03	0.07748	7.748
2	1.5	1	1.6	40	3.6	6	20	0.9873	85.7108	89.9891	0.4999	0.9	0.09	0.08504	8.504
3	2.5	1	1.6	40	3.6	6	20	1.6327	82.8750	89.9500	0.4997	1.5	0.15	0.0926	9.260
4	3.5	1	1.6	40	3.6	6	20	2.2594	80.0738	89.8647	0.4992	2.1	0.21	0.10016	10.016
5	4.5	1	1.6	40	3.6	6	20	2.8611	77.3196	89.7176	0.4984	2.7	0.27	0.10772	10.772
6	5.5	1	1.6	40	3.6	6	20	3.4321	74.6237	89.4961	0.4972	3.3	0.33	0.11528	11.528
7	6.5	1	1.6	40	3.6	6	20	3.9679	71.9958	89.1902	0.4955	3.9	0.39	0.12284	12.284
8	7.5	1	1.6	40	3.6	6	20	4.4652	69.4440	88.7933	0.4933	4.5	0.45	0.1304	13.040
9	8.5	1	1.6	40	3.6	6	20	4.9217	66.9745	88.3020	0.4906	5.1	0.51	0.13796	13.796
10	9.5	1	1.6	40	3.6	6	20	5.3362	64.5923	87.7158	0.4873	5.7	0.57	0.14552	14.552
11	10.5	1	1.6	40	3.6	6	20	5.7083	62.3005	87.0367	0.4835	6.3	0.63	0.15308	15.308
12	11.5	1	1.6	40	3.6	6	20	6.0387	60.1011	86.2689	0.4793	6.9	0.69	0.16064	16.064
13	12.5	1	1.6	40	3.6	6	20	6.3286	57.9946	85.4184	0.4745	7.5	0.75	0.1682	16.820
14	13.5	1	1.6	40	3.6	6	20	6.5796	55.9807	84.4923	0.4694	8.1	0.81	0.17576	17.576
15	14.5	1	1.6	40	3.6	6	20	6.7940	54.0579	83.4987	0.4639	8.7	0.87	0.18332	18.332
16	15.5	1	1.6	40	3.6	6	20	6.9742	52.2243	82.4460	0.4580	9.3	0.93	0.19088	19.088
17	16.5	1	1.6	40	3.6	6	20	7.1228	50.4774	81.3428	0.4519	9.9	0.99	0.19844	19.844
18	17.5	1	1.6	40	3.6	6	20	7.2423	48.8141	80.1975	0.4455	10.5	1.05	0.206	20.600
19	18.5	1	1.6	40	3.6	6	20	7.3355	47.2312	79.0184	0.4390	11.1	1.11	0.21356	21.356
20	19.5	1	1.6	40	3.6	6	20	7.4049	45.7252	77.8130	0.4323	11.7	1.17	0.22112	22.112

H timb	4 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	7.2	4	20	0.2386	88.5679	89.9995	0.5000	0.3	0.03	0.07748	7.748
2	1.5	1	1.6	40	7.2	4	20	0.7128	85.7108	89.9878	0.4999	0.9	0.09	0.08504	8.504
3	2.5	1	1.6	40	7.2	4	20	1.1782	82.8750	89.9439	0.4997	1.5	0.15	0.0926	9.260
4	3.5	1	1.6	40	7.2	4	20	1.6291	80.0738	89.8484	0.4992	2.1	0.21	0.10016	10.016
5	4.5	1	1.6	40	7.2	4	20	2.0607	77.3196	89.6840	0.4982	2.7	0.27	0.10772	10.772
6	5.5	1	1.6	40	7.2	4	20	2.4688	74.6237	89.4368	0.4969	3.3	0.33	0.11528	11.528
7	6.5	1	1.6	40	7.2	4	20	2.8501	71.9958	89.0964	0.4950	3.9	0.39	0.12284	12.284
8	7.5	1	1.6	40	7.2	4	20	3.2020	69.4440	88.6561	0.4925	4.5	0.45	0.1304	13.040
9	8.5	1	1.6	40	7.2	4	20	3.5230	66.9745	88.1128	0.4895	5.1	0.51	0.13796	13.796
10	9.5	1	1.6	40	7.2	4	20	3.8124	64.5923	87.4667	0.4859	5.7	0.57	0.14552	14.552
11	10.5	1	1.6	40	7.2	4	20	4.0701	62.3005	86.7211	0.4818	6.3	0.63	0.15308	15.308
12	11.5	1	1.6	40	7.2	4	20	4.2967	60.1011	85.8814	0.4771	6.9	0.69	0.16064	16.064
13	12.5	1	1.6	40	7.2	4	20	4.4934	57.9946	84.9549	0.4720	7.5	0.75	0.1682	16.820
14	13.5	1	1.6	40	7.2	4	20	4.6616	55.9807	83.9502	0.4664	8.1	0.81	0.17576	17.576
15	14.5	1	1.6	40	7.2	4	20	4.8031	54.0579	82.8767	0.4604	8.7	0.87	0.18332	18.332
16	15.5	1	1.6	40	7.2	4	20	4.9200	52.2243	81.7441	0.4541	9.3	0.93	0.19088	19.088
17	16.5	1	1.6	40	7.2	4	20	5.0141	50.4774	80.5620	0.4476	9.9	0.99	0.19844	19.844
18	17.5	1	1.6	40	7.2	4	20	5.0876	48.8141	79.3399	0.4408	10.5	1.05	0.206	20.600
19	18.5	1	1.6	40	7.2	4	20	5.1426	47.2312	78.0867	0.4338	11.1	1.11	0.21356	21.356
20	19.5	1	1.6	40	7.2	4	20	5.1809	45.7252	76.8107	0.4267	11.7	1.17	0.22112	22.112

	H timb	4 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	2													
No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	7.2	8	20	0.4091	88.5679	89.9996	0.5000	0.3	0.03	0.07748	7.748
2	1.5	1	1.6	40	7.2	8	20	1.2227	85.7108	89.9902	0.4999	0.9	0.09	0.08504	8.504
3	2.5	1	1.6	40	7.2	8	20	2.0229	82.8750	89.9550	0.4997	1.5	0.15	0.0926	9.260
4	3.5	1	1.6	40	7.2	8	20	2.8012	80.0738	89.8781	0.4993	2.1	0.21	0.10016	10.016
5	4.5	1	1.6	40	7.2	8	20	3.5502	77.3196	89.7453	0.4986	2.7	0.27	0.10772	10.772
6	5.5	1	1.6	40	7.2	8	20	4.2632	74.6237	89.5450	0.4975	3.3	0.33	0.11528	11.528
7	6.5	1	1.6	40	7.2	8	20	4.9348	71.9958	89.2678	0.4959	3.9	0.39	0.12284	12.284
8	7.5	1	1.6	40	7.2	8	20	5.5610	69.4440	88.9073	0.4939	4.5	0.45	0.1304	13.040
9	8.5	1	1.6	40	7.2	8	20	6.1387	66.9745	88.4600	0.4914	5.1	0.51	0.13796	13.796
10	9.5	1	1.6	40	7.2	8	20	6.6664	64.5923	87.9246	0.4885	5.7	0.57	0.14552	14.552
11	10.5	1	1.6	40	7.2	8	20	7.1434	62.3005	87.3025	0.4850	6.3	0.63	0.15308	15.308
12	11.5	1	1.6	40	7.2	8	20	7.5702	60.1011	86.5970	0.4811	6.9	0.69	0.16064	16.064
13	12.5	1	1.6	40	7.2	8	20	7.9480	57.9946	85.8127	0.4767	7.5	0.75	0.1682	16.820
14	13.5	1	1.6	40	7.2	8	20	8.2786	55.9807	84.9559	0.4720	8.1	0.81	0.17576	17.576
15	14.5	1	1.6	40	7.2	8	20	8.5644	54.0579	84.0333	0.4669	8.7	0.87	0.18332	18.332
16	15.5	1	1.6	40	7.2	8	20	8.8080	52.2243	83.0524	0.4614	9.3	0.93	0.19088	19.088
17	16.5	1	1.6	40	7.2	8	20	9.0124	50.4774	82.0207	0.4557	9.9	0.99	0.19844	19.844
18	17.5	1	1.6	40	7.2	8	20	9.1805	48.8141	80.9460	0.4497	10.5	1.05	0.206	20.600
19	18.5	1	1.6	40	7.2	8	20	9.3155	47.2312	79.8355	0.4435	11.1	1.11	0.21356	21.356
20	19.5	1	1.6	40	7.2	8	20	9.4203	45.7252	78.6963	0.4372	11.7	1.17	0.22112	22.112

	H timb	4 meter														
	ytimb(t/m3)	1.8 t/m3														
	kemiringan	3														
No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	7.2	12	20	0.5369	88.5679	89.9997	0.5000	0.3	0.03	0.07748	7.748
2	1.5	1	1.6	40	7.2	12	20	1.6054	85.7108	89.9919	0.5000	0.9	0.09	0.08504	8.504
3	2.5	1	1.6	40	7.2	12	20	2.6579	82.8750	89.9626	0.4998	1.5	0.15	0.0926	9.260
4	3.5	1	1.6	40	7.2	12	20	3.6843	80.0738	89.8986	0.4994	2.1	0.21	0.10016	10.016
5	4.5	1	1.6	40	7.2	12	20	4.6757	77.3196	89.7880	0.4988	2.7	0.27	0.10772	10.772
6	5.5	1	1.6	40	7.2	12	20	5.6238	74.6237	89.6206	0.4979	3.3	0.33	0.11528	11.528
7	6.5	1	1.6	40	7.2	12	20	6.5222	71.9958	89.3883	0.4966	3.9	0.39	0.12284	12.284
8	7.5	1	1.6	40	7.2	12	20	7.3654	69.4440	89.0851	0.4949	4.5	0.45	0.1304	13.040
9	8.5	1	1.6	40	7.2	12	20	8.1498	66.9745	88.7073	0.4928	5.1	0.51	0.13796	13.796
10	9.5	1	1.6	40	7.2	12	20	8.8729	64.5923	88.2533	0.4903	5.7	0.57	0.14552	14.552
11	10.5	1	1.6	40	7.2	12	20	9.5335	62.3005	87.7232	0.4874	6.3	0.63	0.15308	15.308
12	11.5	1	1.6	40	7.2	12	20	10.1317	60.1011	87.1191	0.4840	6.9	0.69	0.16064	16.064
13	12.5	1	1.6	40	7.2	12	20	10.6685	57.9946	86.4440	0.4802	7.5	0.75	0.1682	16.820
14	13.5	1	1.6	40	7.2	12	20	11.1457	55.9807	85.7025	0.4761	8.1	0.81	0.17576	17.576
15	14.5	1	1.6	40	7.2	12	20	11.5656	54.0579	84.8996	0.4717	8.7	0.87	0.18332	18.332
16	15.5	1	1.6	40	7.2	12	20	11.9313	52.2243	84.0411	0.4669	9.3	0.93	0.19088	19.088
17	16.5	1	1.6	40	7.2	12	20	12.2459	50.4774	83.1330	0.4619	9.9	0.99	0.19844	19.844
18	17.5	1	1.6	40	7.2	12	20	12.5128	48.8141	82.1815	0.4566	10.5	1.05	0.206	20.600
19	18.5	1	1.6	40	7.2	12	20	12.7355	47.2312	81.1926	0.4511	11.1	1.11	0.21356	21.356
20	19.5	1	1.6	40	7.2	12	20	12.9177	45.7252	80.1724	0.4454	11.7	1.17	0.22112	22.112

H timb	6	meter
γtimb(t/m3)	1.8	t/m3
kemiringan	1	

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	10.8	6	20	0.3304	88.5679	89.9996	0.5000	0.3	0.03	0.07748	7.748
2	1.5	1	1.6	40	10.8	6	20	0.9873	85.7108	89.9891	0.4999	0.9	0.09	0.08504	8.504
3	2.5	1	1.6	40	10.8	6	20	1.6327	82.8750	89.9500	0.4997	1.5	0.15	0.0926	9.260
4	3.5	1	1.6	40	10.8	6	20	2.2594	80.0738	89.8647	0.4992	2.1	0.21	0.10016	10.016
5	4.5	1	1.6	40	10.8	6	20	2.8611	77.3196	89.7176	0.4984	2.7	0.27	0.10772	10.772
6	5.5	1	1.6	40	10.8	6	20	3.4321	74.6237	89.4961	0.4972	3.3	0.33	0.11528	11.528
7	6.5	1	1.6	40	10.8	6	20	3.9679	71.9958	89.1902	0.4955	3.9	0.39	0.12284	12.284
8	7.5	1	1.6	40	10.8	6	20	4.4652	69.4440	88.7933	0.4933	4.5	0.45	0.1304	13.040
9	8.5	1	1.6	40	10.8	6	20	4.9217	66.9745	88.3020	0.4906	5.1	0.51	0.13796	13.796
10	9.5	1	1.6	40	10.8	6	20	5.3362	64.5923	87.7158	0.4873	5.7	0.57	0.14552	14.552
11	10.5	1	1.6	40	10.8	6	20	5.7083	62.3005	87.0367	0.4835	6.3	0.63	0.15308	15.308
12	11.5	1	1.6	40	10.8	6	20	6.0387	60.1011	86.2689	0.4793	6.9	0.69	0.16064	16.064
13	12.5	1	1.6	40	10.8	6	20	6.3286	57.9946	85.4184	0.4745	7.5	0.75	0.1682	16.820
14	13.5	1	1.6	40	10.8	6	20	6.5796	55.9807	84.4923	0.4694	8.1	0.81	0.17576	17.576
15	14.5	1	1.6	40	10.8	6	20	6.7940	54.0579	83.4987	0.4639	8.7	0.87	0.18332	18.332
16	15.5	1	1.6	40	10.8	6	20	6.9742	52.2243	82.4460	0.4580	9.3	0.93	0.19088	19.088
17	16.5	1	1.6	40	10.8	6	20	7.1228	50.4774	81.3428	0.4519	9.9	0.99	0.19844	19.844
18	17.5	1	1.6	40	10.8	6	20	7.2423	48.8141	80.1975	0.4455	10.5	1.05	0.206	20.600
19	18.5	1	1.6	40	10.8	6	20	7.3355	47.2312	79.0184	0.4390	11.1	1.11	0.21356	21.356
20	19.5	1	1.6	40	10.8	6	20	7.4049	45.7252	77.8130	0.4323	11.7	1.17	0.22112	22.112

H timb	6 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	10.8	12	20	0.5369	88.5679	89.9997	0.5000	0.3	0.03	0.07748	7.748
2	1.5	1	1.6	40	10.8	12	20	1.6054	85.7108	89.9919	0.5000	0.9	0.09	0.08504	8.504
3	2.5	1	1.6	40	10.8	12	20	2.6579	82.8750	89.9626	0.4998	1.5	0.15	0.0926	9.260
4	3.5	1	1.6	40	10.8	12	20	3.6843	80.0738	89.8986	0.4994	2.1	0.21	0.10016	10.016
5	4.5	1	1.6	40	10.8	12	20	4.6757	77.3196	89.7880	0.4988	2.7	0.27	0.10772	10.772
6	5.5	1	1.6	40	10.8	12	20	5.6238	74.6237	89.6206	0.4979	3.3	0.33	0.11528	11.528
7	6.5	1	1.6	40	10.8	12	20	6.5222	71.9958	89.3883	0.4966	3.9	0.39	0.12284	12.284
8	7.5	1	1.6	40	10.8	12	20	7.3654	69.4440	89.0851	0.4949	4.5	0.45	0.1304	13.040
9	8.5	1	1.6	40	10.8	12	20	8.1498	66.9745	88.7073	0.4928	5.1	0.51	0.13796	13.796
10	9.5	1	1.6	40	10.8	12	20	8.8729	64.5923	88.2533	0.4903	5.7	0.57	0.14552	14.552
11	10.5	1	1.6	40	10.8	12	20	9.5335	62.3005	87.7232	0.4874	6.3	0.63	0.15308	15.308
12	11.5	1	1.6	40	10.8	12	20	10.1317	60.1011	87.1191	0.4840	6.9	0.69	0.16064	16.064
13	12.5	1	1.6	40	10.8	12	20	10.6685	57.9946	86.4440	0.4802	7.5	0.75	0.1682	16.820
14	13.5	1	1.6	40	10.8	12	20	11.1457	55.9807	85.7025	0.4761	8.1	0.81	0.17576	17.576
15	14.5	1	1.6	40	10.8	12	20	11.5656	54.0579	84.8996	0.4717	8.7	0.87	0.18332	18.332
16	15.5	1	1.6	40	10.8	12	20	11.9313	52.2243	84.0411	0.4669	9.3	0.93	0.19088	19.088
17	16.5	1	1.6	40	10.8	12	20	12.2459	50.4774	83.1330	0.4619	9.9	0.99	0.19844	19.844
18	17.5	1	1.6	40	10.8	12	20	12.5128	48.8141	82.1815	0.4566	10.5	1.05	0.206	20.600
19	18.5	1	1.6	40	10.8	12	20	12.7355	47.2312	81.1926	0.4511	11.1	1.11	0.21356	21.356
20	19.5	1	1.6	40	10.8	12	20	12.9177	45.7252	80.1724	0.4454	11.7	1.17	0.22112	22.112

	H timb	6 meter														
	ytimb(t/m3)	1.8 t/m3														
	kemiringan	3														
No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	10.8	18	20	0.6782	88.5679	89.9998	0.5000	0.3	0.03	0.07748	7.748
2	1.5	1	1.6	40	10.8	18	20	2.0287	85.7108	89.9936	0.5000	0.9	0.09	0.08504	8.504
3	2.5	1	1.6	40	10.8	18	20	3.3610	82.8750	89.9704	0.4998	1.5	0.15	0.0926	9.260
4	3.5	1	1.6	40	10.8	18	20	4.6639	80.0738	89.9197	0.4996	2.1	0.21	0.10016	10.016
5	4.5	1	1.6	40	10.8	18	20	5.9268	77.3196	89.8318	0.4991	2.7	0.27	0.10772	10.772
6	5.5	1	1.6	40	10.8	18	20	7.1406	74.6237	89.6984	0.4983	3.3	0.33	0.11528	11.528
7	6.5	1	1.6	40	10.8	18	20	8.2975	71.9958	89.5128	0.4973	3.9	0.39	0.12284	12.284
8	7.5	1	1.6	40	10.8	18	20	9.3912	69.4440	89.2697	0.4959	4.5	0.45	0.1304	13.040
9	8.5	1	1.6	40	10.8	18	20	10.4169	66.9745	88.9657	0.4943	5.1	0.51	0.13796	13.796
10	9.5	1	1.6	40	10.8	18	20	11.3715	64.5923	88.5987	0.4922	5.7	0.57	0.14552	14.552
11	10.5	1	1.6	40	10.8	18	20	12.2532	62.3005	88.1683	0.4898	6.3	0.63	0.15308	15.308
12	11.5	1	1.6	40	10.8	18	20	13.0614	60.1011	87.6752	0.4871	6.9	0.69	0.16064	16.064
13	12.5	1	1.6	40	10.8	18	20	13.7969	57.9946	87.1214	0.4840	7.5	0.75	0.1682	16.820
14	13.5	1	1.6	40	10.8	18	20	14.4611	55.9807	86.5096	0.4806	8.1	0.81	0.17576	17.576
15	14.5	1	1.6	40	10.8	18	20	15.0563	54.0579	85.8434	0.4769	8.7	0.87	0.18332	18.332
16	15.5	1	1.6	40	10.8	18	20	15.5854	52.2243	85.1268	0.4729	9.3	0.93	0.19088	19.088
17	16.5	1	1.6	40	10.8	18	20	16.0516	50.4774	84.3642	0.4687	9.9	0.99	0.19844	19.844
18	17.5	1	1.6	40	10.8	18	20	16.4586	48.8141	83.5600	0.4642	10.5	1.05	0.206	20.600
19	18.5	1	1.6	40	10.8	18	20	16.8101	47.2312	82.7191	0.4596	11.1	1.11	0.21356	21.356
20	19.5	1	1.6	40	10.8	18	20	17.1098	45.7252	81.8459	0.4547	11.7	1.17	0.22112	22.112

H timb	8 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	14.4	8	20	0.4091	88.5679	89.9996	0.5000	0.3	0.03	0.07748	7.748
2	1.5	1	1.6	40	14.4	8	20	1.2227	85.7108	89.9902	0.4999	0.9	0.09	0.08504	8.504
3	2.5	1	1.6	40	14.4	8	20	2.0229	82.8750	89.9550	0.4997	1.5	0.15	0.0926	9.260
4	3.5	1	1.6	40	14.4	8	20	2.8012	80.0738	89.8781	0.4993	2.1	0.21	0.10016	10.016
5	4.5	1	1.6	40	14.4	8	20	3.5502	77.3196	89.7453	0.4986	2.7	0.27	0.10772	10.772
6	5.5	1	1.6	40	14.4	8	20	4.2632	74.6237	89.5450	0.4975	3.3	0.33	0.11528	11.528
7	6.5	1	1.6	40	14.4	8	20	4.9348	71.9958	89.2678	0.4959	3.9	0.39	0.12284	12.284
8	7.5	1	1.6	40	14.4	8	20	5.5610	69.4440	88.9073	0.4939	4.5	0.45	0.1304	13.040
9	8.5	1	1.6	40	14.4	8	20	6.1387	66.9745	88.4600	0.4914	5.1	0.51	0.13796	13.796
10	9.5	1	1.6	40	14.4	8	20	6.6664	64.5923	87.9246	0.4885	5.7	0.57	0.14552	14.552
11	10.5	1	1.6	40	14.4	8	20	7.1434	62.3005	87.3025	0.4850	6.3	0.63	0.15308	15.308
12	11.5	1	1.6	40	14.4	8	20	7.5702	60.1011	86.5970	0.4811	6.9	0.69	0.16064	16.064
13	12.5	1	1.6	40	14.4	8	20	7.9480	57.9946	85.8127	0.4767	7.5	0.75	0.1682	16.820
14	13.5	1	1.6	40	14.4	8	20	8.2786	55.9807	84.9559	0.4720	8.1	0.81	0.17576	17.576
15	14.5	1	1.6	40	14.4	8	20	8.5644	54.0579	84.0333	0.4669	8.7	0.87	0.18332	18.332
16	15.5	1	1.6	40	14.4	8	20	8.8080	52.2243	83.0524	0.4614	9.3	0.93	0.19088	19.088
17	16.5	1	1.6	40	14.4	8	20	9.0124	50.4774	82.0207	0.4557	9.9	0.99	0.19844	19.844
18	17.5	1	1.6	40	14.4	8	20	9.1805	48.8141	80.9460	0.4497	10.5	1.05	0.206	20.600
19	18.5	1	1.6	40	14.4	8	20	9.3155	47.2312	79.8355	0.4435	11.1	1.11	0.21356	21.356
20	19.5	1	1.6	40	14.4	8	20	9.4203	45.7252	78.6963	0.4372	11.7	1.17	0.22112	22.112

H timb	8	meter
γtimb(t/m3)	1.8	t/m3
kemiringan	2	

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	14.4	16	20	0.6364	88.5679	89.9997	0.5000	0.3	0.03	0.07748	7.748
2	1.5	1	1.6	40	14.4	16	20	1.9032	85.7108	89.9931	0.5000	0.9	0.09	0.08504	8.504
3	2.5	1	1.6	40	14.4	16	20	3.1525	82.8750	89.9682	0.4998	1.5	0.15	0.0926	9.260
4	3.5	1	1.6	40	14.4	16	20	4.3733	80.0738	89.9136	0.4995	2.1	0.21	0.10016	10.016
5	4.5	1	1.6	40	14.4	16	20	5.5554	77.3196	89.8192	0.4990	2.7	0.27	0.10772	10.772
6	5.5	1	1.6	40	14.4	16	20	6.6899	74.6237	89.6760	0.4982	3.3	0.33	0.11528	11.528
7	6.5	1	1.6	40	14.4	16	20	7.7694	71.9958	89.4769	0.4971	3.9	0.39	0.12284	12.284
8	7.5	1	1.6	40	14.4	16	20	8.7878	69.4440	89.2164	0.4956	4.5	0.45	0.1304	13.040
9	8.5	1	1.6	40	14.4	16	20	9.7406	66.9745	88.8909	0.4938	5.1	0.51	0.13796	13.796
10	9.5	1	1.6	40	14.4	16	20	10.6250	64.5923	88.4985	0.4917	5.7	0.57	0.14552	14.552
11	10.5	1	1.6	40	14.4	16	20	11.4393	62.3005	88.0389	0.4891	6.3	0.63	0.15308	15.308
12	11.5	1	1.6	40	14.4	16	20	12.1831	60.1011	87.5131	0.4862	6.9	0.69	0.16064	16.064
13	12.5	1	1.6	40	14.4	16	20	12.8572	57.9946	86.9234	0.4829	7.5	0.75	0.1682	16.820
14	13.5	1	1.6	40	14.4	16	20	13.4633	55.9807	86.2731	0.4793	8.1	0.81	0.17576	17.576
15	14.5	1	1.6	40	14.4	16	20	14.0036	54.0579	85.5661	0.4754	8.7	0.87	0.18332	18.332
16	15.5	1	1.6	40	14.4	16	20	14.4811	52.2243	84.8068	0.4711	9.3	0.93	0.19088	19.088
17	16.5	1	1.6	40	14.4	16	20	14.8991	50.4774	84.0003	0.4667	9.9	0.99	0.19844	19.844
18	17.5	1	1.6	40	14.4	16	20	15.2610	48.8141	83.1514	0.4620	10.5	1.05	0.206	20.600
19	18.5	1	1.6	40	14.4	16	20	15.5707	47.2312	82.2652	0.4570	11.1	1.11	0.21356	21.356
20	19.5	1	1.6	40	14.4	16	20	15.8318	45.7252	81.3469	0.4519	11.7	1.17	0.22112	22.112

H timb	8 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	14.4	24	20	0.7810	88.5679	89.9998	0.5000	0.3	0.03	0.07748	7.748
2	1.5	1	1.6	40	14.4	24	20	2.3366	85.7108	89.9947	0.5000	0.9	0.09	0.08504	8.504
3	2.5	1	1.6	40	14.4	24	20	3.8731	82.8750	89.9756	0.4999	1.5	0.15	0.0926	9.260
4	3.5	1	1.6	40	14.4	24	20	5.3782	80.0738	89.9338	0.4996	2.1	0.21	0.10016	10.016
5	4.5	1	1.6	40	14.4	24	20	6.8409	77.3196	89.8613	0.4992	2.7	0.27	0.10772	10.772
6	5.5	1	1.6	40	14.4	24	20	8.2512	74.6237	89.7510	0.4986	3.3	0.33	0.11528	11.528
7	6.5	1	1.6	40	14.4	24	20	9.6008	71.9958	89.5973	0.4978	3.9	0.39	0.12284	12.284
8	7.5	1	1.6	40	14.4	24	20	10.8827	69.4440	89.3956	0.4966	4.5	0.45	0.1304	13.040
9	8.5	1	1.6	40	14.4	24	20	12.0917	66.9745	89.1426	0.4952	5.1	0.51	0.13796	13.796
10	9.5	1	1.6	40	14.4	24	20	13.2241	64.5923	88.8364	0.4935	5.7	0.57	0.14552	14.552
11	10.5	1	1.6	40	14.4	24	20	14.2776	62.3005	88.4762	0.4915	6.3	0.63	0.15308	15.308
12	11.5	1	1.6	40	14.4	24	20	15.2515	60.1011	88.0622	0.4892	6.9	0.69	0.16064	16.064
13	12.5	1	1.6	40	14.4	24	20	16.1460	57.9946	87.5956	0.4866	7.5	0.75	0.1682	16.820
14	13.5	1	1.6	40	14.4	24	20	16.9624	55.9807	87.0784	0.4838	8.1	0.81	0.17576	17.576
15	14.5	1	1.6	40	14.4	24	20	17.7027	54.0579	86.5129	0.4806	8.7	0.87	0.18332	18.332
16	15.5	1	1.6	40	14.4	24	20	18.3697	52.2243	85.9021	0.4772	9.3	0.93	0.19088	19.088
17	16.5	1	1.6	40	14.4	24	20	18.9666	50.4774	85.2494	0.4736	9.9	0.99	0.19844	19.844
18	17.5	1	1.6	40	14.4	24	20	19.4969	48.8141	84.5583	0.4698	10.5	1.05	0.206	20.600
19	18.5	1	1.6	40	14.4	24	20	19.9643	47.2312	83.8324	0.4657	11.1	1.11	0.21356	21.356
20	19.5	1	1.6	40	14.4	24	20	20.3727	45.7252	83.0752	0.4615	11.7	1.17	0.22112	22.112

LAMPIRAN 1-3

H timb	2 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	60	3.6	2	20	0.1301	88.5679	89.9995	0.5000	0.3	0.03	0.07652	7.652
2	1.5	1	1.6	60	3.6	2	20	0.3887	85.7108	89.9861	0.4999	0.9	0.09	0.08216	8.216
3	2.5	1	1.6	60	3.6	2	20	0.6419	82.8750	89.9364	0.4996	1.5	0.15	0.0878	8.780
4	3.5	1	1.6	60	3.6	2	20	0.8868	80.0738	89.8281	0.4990	2.1	0.21	0.09344	9.344
5	4.5	1	1.6	60	3.6	2	20	1.1203	77.3196	89.6424	0.4980	2.7	0.27	0.09908	9.908
6	5.5	1	1.6	60	3.6	2	20	1.3400	74.6237	89.3638	0.4965	3.3	0.33	0.10472	10.472
7	6.5	1	1.6	60	3.6	2	20	1.5441	71.9958	88.9815	0.4943	3.9	0.39	0.11036	11.036
8	7.5	1	1.6	60	3.6	2	20	1.7313	69.4440	88.4886	0.4916	4.5	0.45	0.116	11.600
9	8.5	1	1.6	60	3.6	2	20	1.9008	66.9745	87.8830	0.4882	5.1	0.51	0.12164	12.164
10	9.5	1	1.6	60	3.6	2	20	2.0522	64.5923	87.1660	0.4843	5.7	0.57	0.12728	12.728
11	10.5	1	1.6	60	3.6	2	20	2.1856	62.3005	86.3422	0.4797	6.3	0.63	0.13292	13.292
12	11.5	1	1.6	60	3.6	2	20	2.3016	60.1011	85.4188	0.4745	6.9	0.69	0.13856	13.856
13	12.5	1	1.6	60	3.6	2	20	2.4009	57.9946	84.4049	0.4689	7.5	0.75	0.1442	14.420
14	13.5	1	1.6	60	3.6	2	20	2.4846	55.9807	83.3108	0.4628	8.1	0.81	0.14984	14.984
15	14.5	1	1.6	60	3.6	2	20	2.5536	54.0579	82.1475	0.4564	8.7	0.87	0.15548	15.548
16	15.5	1	1.6	60	3.6	2	20	2.6092	52.2243	80.9260	0.4496	9.3	0.93	0.16112	16.112
17	16.5	1	1.6	60	3.6	2	20	2.6527	50.4774	79.6574	0.4425	9.9	0.99	0.16676	16.676
18	17.5	1	1.6	60	3.6	2	20	2.6853	48.8141	78.3521	0.4353	10.5	1.05	0.1724	17.240
19	18.5	1	1.6	60	3.6	2	20	2.7080	47.2312	77.0196	0.4279	11.1	1.11	0.17804	17.804
20	19.5	1	1.6	60	3.6	2	20	2.7222	45.7252	75.6690	0.4204	11.7	1.17	0.18368	18.368

	H timb	2 meter													
	ytimb(t/m3)	1.8 t/m3													
	kemiringan	2													
No	z	H (meter)	ysat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	60	3.6	4	20	0.2386	88.5679	89.9995	0.5000	0.3	0.03	0.07652	7.652
2	1.5	1	1.6	60	3.6	4	20	0.7128	85.7108	89.9878	0.4999	0.9	0.09	0.08216	8.216
3	2.5	1	1.6	60	3.6	4	20	1.1782	82.8750	89.9439	0.4997	1.5	0.15	0.0878	8.780
4	3.5	1	1.6	60	3.6	4	20	1.6291	80.0738	89.8484	0.4992	2.1	0.21	0.09344	9.344
5	4.5	1	1.6	60	3.6	4	20	2.0607	77.3196	89.6840	0.4982	2.7	0.27	0.09908	9.908
6	5.5	1	1.6	60	3.6	4	20	2.4688	74.6237	89.4368	0.4969	3.3	0.33	0.10472	10.472
7	6.5	1	1.6	60	3.6	4	20	2.8501	71.9958	89.0964	0.4950	3.9	0.39	0.11036	11.036
8	7.5	1	1.6	60	3.6	4	20	3.2020	69.4440	88.6561	0.4925	4.5	0.45	0.116	11.600
9	8.5	1	1.6	60	3.6	4	20	3.5230	66.9745	88.1128	0.4895	5.1	0.51	0.12164	12.164
10	9.5	1	1.6	60	3.6	4	20	3.8124	64.5923	87.4667	0.4859	5.7	0.57	0.12728	12.728
11	10.5	1	1.6	60	3.6	4	20	4.0701	62.3005	86.7211	0.4818	6.3	0.63	0.13292	13.292
12	11.5	1	1.6	60	3.6	4	20	4.2967	60.1011	85.8814	0.4771	6.9	0.69	0.13856	13.856
13	12.5	1	1.6	60	3.6	4	20	4.4934	57.9946	84.9549	0.4720	7.5	0.75	0.1442	14.420
14	13.5	1	1.6	60	3.6	4	20	4.6616	55.9807	83.9502	0.4664	8.1	0.81	0.14984	14.984
15	14.5	1	1.6	60	3.6	4	20	4.8031	54.0579	82.8767	0.4604	8.7	0.87	0.15548	15.548
16	15.5	1	1.6	60	3.6	4	20	4.9200	52.2243	81.7441	0.4541	9.3	0.93	0.16112	16.112
17	16.5	1	1.6	60	3.6	4	20	5.0141	50.4774	80.5620	0.4476	9.9	0.99	0.16676	16.676
18	17.5	1	1.6	60	3.6	4	20	5.0876	48.8141	79.3399	0.4408	10.5	1.05	0.1724	17.240
19	18.5	1	1.6	60	3.6	4	20	5.1426	47.2312	78.0867	0.4338	11.1	1.11	0.17804	17.804
20	19.5	1	1.6	60	3.6	4	20	5.1809	45.7252	76.8107	0.4267	11.7	1.17	0.18368	18.368

H timb	2 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	60	3.6	6	20	0.3304	88.5679	89.9996	0.5000	0.3	0.03	0.07652	7.652
2	1.5	1	1.6	60	3.6	6	20	0.9873	85.7108	89.9891	0.4999	0.9	0.09	0.08216	8.216
3	2.5	1	1.6	60	3.6	6	20	1.6327	82.8750	89.9500	0.4997	1.5	0.15	0.0878	8.780
4	3.5	1	1.6	60	3.6	6	20	2.2594	80.0738	89.8647	0.4992	2.1	0.21	0.09344	9.344
5	4.5	1	1.6	60	3.6	6	20	2.8611	77.3196	89.7176	0.4984	2.7	0.27	0.09908	9.908
6	5.5	1	1.6	60	3.6	6	20	3.4321	74.6237	89.4961	0.4972	3.3	0.33	0.10472	10.472
7	6.5	1	1.6	60	3.6	6	20	3.9679	71.9958	89.1902	0.4955	3.9	0.39	0.11036	11.036
8	7.5	1	1.6	60	3.6	6	20	4.4652	69.4440	88.7933	0.4933	4.5	0.45	0.116	11.600
9	8.5	1	1.6	60	3.6	6	20	4.9217	66.9745	88.3020	0.4906	5.1	0.51	0.12164	12.164
10	9.5	1	1.6	60	3.6	6	20	5.3362	64.5923	87.7158	0.4873	5.7	0.57	0.12728	12.728
11	10.5	1	1.6	60	3.6	6	20	5.7083	62.3005	87.0367	0.4835	6.3	0.63	0.13292	13.292
12	11.5	1	1.6	60	3.6	6	20	6.0387	60.1011	86.2689	0.4793	6.9	0.69	0.13856	13.856
13	12.5	1	1.6	60	3.6	6	20	6.3286	57.9946	85.4184	0.4745	7.5	0.75	0.1442	14.420
14	13.5	1	1.6	60	3.6	6	20	6.5796	55.9807	84.4923	0.4694	8.1	0.81	0.14984	14.984
15	14.5	1	1.6	60	3.6	6	20	6.7940	54.0579	83.4987	0.4639	8.7	0.87	0.15548	15.548
16	15.5	1	1.6	60	3.6	6	20	6.9742	52.2243	82.4460	0.4580	9.3	0.93	0.16112	16.112
17	16.5	1	1.6	60	3.6	6	20	7.1228	50.4774	81.3428	0.4519	9.9	0.99	0.16676	16.676
18	17.5	1	1.6	60	3.6	6	20	7.2423	48.8141	80.1975	0.4455	10.5	1.05	0.1724	17.240
19	18.5	1	1.6	60	3.6	6	20	7.3355	47.2312	79.0184	0.4390	11.1	1.11	0.17804	17.804
20	19.5	1	1.6	60	3.6	6	20	7.4049	45.7252	77.8130	0.4323	11.7	1.17	0.18368	18.368

H timb	4	meter
γtimb(t/m3)	1.8	t/m3
kemiringan	1	

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	60	7.2	4	20	0.2386	88.5679	89.9995	0.5000	0.3	0.03	0.07652	7.652
2	1.5	1	1.6	60	7.2	4	20	0.7128	85.7108	89.9878	0.4999	0.9	0.09	0.08216	8.216
3	2.5	1	1.6	60	7.2	4	20	1.1782	82.8750	89.9439	0.4997	1.5	0.15	0.0878	8.780
4	3.5	1	1.6	60	7.2	4	20	1.6291	80.0738	89.8484	0.4992	2.1	0.21	0.09344	9.344
5	4.5	1	1.6	60	7.2	4	20	2.0607	77.3196	89.6840	0.4982	2.7	0.27	0.09908	9.908
6	5.5	1	1.6	60	7.2	4	20	2.4688	74.6237	89.4368	0.4969	3.3	0.33	0.10472	10.472
7	6.5	1	1.6	60	7.2	4	20	2.8501	71.9958	89.0964	0.4950	3.9	0.39	0.11036	11.036
8	7.5	1	1.6	60	7.2	4	20	3.2020	69.4440	88.6561	0.4925	4.5	0.45	0.116	11.600
9	8.5	1	1.6	60	7.2	4	20	3.5230	66.9745	88.1128	0.4895	5.1	0.51	0.12164	12.164
10	9.5	1	1.6	60	7.2	4	20	3.8124	64.5923	87.4667	0.4859	5.7	0.57	0.12728	12.728
11	10.5	1	1.6	60	7.2	4	20	4.0701	62.3005	86.7211	0.4818	6.3	0.63	0.13292	13.292
12	11.5	1	1.6	60	7.2	4	20	4.2967	60.1011	85.8814	0.4771	6.9	0.69	0.13856	13.856
13	12.5	1	1.6	60	7.2	4	20	4.4934	57.9946	84.9549	0.4720	7.5	0.75	0.1442	14.420
14	13.5	1	1.6	60	7.2	4	20	4.6616	55.9807	83.9502	0.4664	8.1	0.81	0.14984	14.984
15	14.5	1	1.6	60	7.2	4	20	4.8031	54.0579	82.8767	0.4604	8.7	0.87	0.15548	15.548
16	15.5	1	1.6	60	7.2	4	20	4.9200	52.2243	81.7441	0.4541	9.3	0.93	0.16112	16.112
17	16.5	1	1.6	60	7.2	4	20	5.0141	50.4774	80.5620	0.4476	9.9	0.99	0.16676	16.676
18	17.5	1	1.6	60	7.2	4	20	5.0876	48.8141	79.3399	0.4408	10.5	1.05	0.1724	17.240
19	18.5	1	1.6	60	7.2	4	20	5.1426	47.2312	78.0867	0.4338	11.1	1.11	0.17804	17.804
20	19.5	1	1.6	60	7.2	4	20	5.1809	45.7252	76.8107	0.4267	11.7	1.17	0.18368	18.368

H timb	4 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	60	7.2	8	20	0.4091	88.5679	89.9996	0.5000	0.3	0.03	0.07652	7.652
2	1.5	1	1.6	60	7.2	8	20	1.2227	85.7108	89.9902	0.4999	0.9	0.09	0.08216	8.216
3	2.5	1	1.6	60	7.2	8	20	2.0229	82.8750	89.9550	0.4997	1.5	0.15	0.0878	8.780
4	3.5	1	1.6	60	7.2	8	20	2.8012	80.0738	89.8781	0.4993	2.1	0.21	0.09344	9.344
5	4.5	1	1.6	60	7.2	8	20	3.5502	77.3196	89.7453	0.4986	2.7	0.27	0.09908	9.908
6	5.5	1	1.6	60	7.2	8	20	4.2632	74.6237	89.5450	0.4975	3.3	0.33	0.10472	10.472
7	6.5	1	1.6	60	7.2	8	20	4.9348	71.9958	89.2678	0.4959	3.9	0.39	0.11036	11.036
8	7.5	1	1.6	60	7.2	8	20	5.5610	69.4440	88.9073	0.4939	4.5	0.45	0.116	11.600
9	8.5	1	1.6	60	7.2	8	20	6.1387	66.9745	88.4600	0.4914	5.1	0.51	0.12164	12.164
10	9.5	1	1.6	60	7.2	8	20	6.6664	64.5923	87.9246	0.4885	5.7	0.57	0.12728	12.728
11	10.5	1	1.6	60	7.2	8	20	7.1434	62.3005	87.3025	0.4850	6.3	0.63	0.13292	13.292
12	11.5	1	1.6	60	7.2	8	20	7.5702	60.1011	86.5970	0.4811	6.9	0.69	0.13856	13.856
13	12.5	1	1.6	60	7.2	8	20	7.9480	57.9946	85.8127	0.4767	7.5	0.75	0.1442	14.420
14	13.5	1	1.6	60	7.2	8	20	8.2786	55.9807	84.9559	0.4720	8.1	0.81	0.14984	14.984
15	14.5	1	1.6	60	7.2	8	20	8.5644	54.0579	84.0333	0.4669	8.7	0.87	0.15548	15.548
16	15.5	1	1.6	60	7.2	8	20	8.8080	52.2243	83.0524	0.4614	9.3	0.93	0.16112	16.112
17	16.5	1	1.6	60	7.2	8	20	9.0124	50.4774	82.0207	0.4557	9.9	0.99	0.16676	16.676
18	17.5	1	1.6	60	7.2	8	20	9.1805	48.8141	80.9460	0.4497	10.5	1.05	0.1724	17.240
19	18.5	1	1.6	60	7.2	8	20	9.3155	47.2312	79.8355	0.4435	11.1	1.11	0.17804	17.804
20	19.5	1	1.6	60	7.2	8	20	9.4203	45.7252	78.6963	0.4372	11.7	1.17	0.18368	18.368

H timb	4 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	60	7.2	12	20	0.5369	88.5679	89.9997	0.5000	0.3	0.03	0.07652	7.652
2	1.5	1	1.6	60	7.2	12	20	1.6054	85.7108	89.9919	0.5000	0.9	0.09	0.08216	8.216
3	2.5	1	1.6	60	7.2	12	20	2.6579	82.8750	89.9626	0.4998	1.5	0.15	0.0878	8.780
4	3.5	1	1.6	60	7.2	12	20	3.6843	80.0738	89.8986	0.4994	2.1	0.21	0.09344	9.344
5	4.5	1	1.6	60	7.2	12	20	4.6757	77.3196	89.7880	0.4988	2.7	0.27	0.09908	9.908
6	5.5	1	1.6	60	7.2	12	20	5.6238	74.6237	89.6206	0.4979	3.3	0.33	0.10472	10.472
7	6.5	1	1.6	60	7.2	12	20	6.5222	71.9958	89.3883	0.4966	3.9	0.39	0.11036	11.036
8	7.5	1	1.6	60	7.2	12	20	7.3654	69.4440	89.0851	0.4949	4.5	0.45	0.116	11.600
9	8.5	1	1.6	60	7.2	12	20	8.1498	66.9745	88.7073	0.4928	5.1	0.51	0.12164	12.164
10	9.5	1	1.6	60	7.2	12	20	8.8729	64.5923	88.2533	0.4903	5.7	0.57	0.12728	12.728
11	10.5	1	1.6	60	7.2	12	20	9.5335	62.3005	87.7232	0.4874	6.3	0.63	0.13292	13.292
12	11.5	1	1.6	60	7.2	12	20	10.1317	60.1011	87.1191	0.4840	6.9	0.69	0.13856	13.856
13	12.5	1	1.6	60	7.2	12	20	10.6685	57.9946	86.4440	0.4802	7.5	0.75	0.1442	14.420
14	13.5	1	1.6	60	7.2	12	20	11.1457	55.9807	85.7025	0.4761	8.1	0.81	0.14984	14.984
15	14.5	1	1.6	60	7.2	12	20	11.5656	54.0579	84.8996	0.4717	8.7	0.87	0.15548	15.548
16	15.5	1	1.6	60	7.2	12	20	11.9313	52.2243	84.0411	0.4669	9.3	0.93	0.16112	16.112
17	16.5	1	1.6	60	7.2	12	20	12.2459	50.4774	83.1330	0.4619	9.9	0.99	0.16676	16.676
18	17.5	1	1.6	60	7.2	12	20	12.5128	48.8141	82.1815	0.4566	10.5	1.05	0.1724	17.240
19	18.5	1	1.6	60	7.2	12	20	12.7355	47.2312	81.1926	0.4511	11.1	1.11	0.17804	17.804
20	19.5	1	1.6	60	7.2	12	20	12.9177	45.7252	80.1724	0.4454	11.7	1.17	0.18368	18.368

H timb	6 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	60	10.8	6	20	0.3304	88.5679	89.9996	0.5000	0.3	0.03	0.07652	7.652
2	1.5	1	1.6	60	10.8	6	20	0.9873	85.7108	89.9891	0.4999	0.9	0.09	0.08216	8.216
3	2.5	1	1.6	60	10.8	6	20	1.6327	82.8750	89.9500	0.4997	1.5	0.15	0.0878	8.780
4	3.5	1	1.6	60	10.8	6	20	2.2594	80.0738	89.8647	0.4992	2.1	0.21	0.09344	9.344
5	4.5	1	1.6	60	10.8	6	20	2.8611	77.3196	89.7176	0.4984	2.7	0.27	0.09908	9.908
6	5.5	1	1.6	60	10.8	6	20	3.4321	74.6237	89.4961	0.4972	3.3	0.33	0.10472	10.472
7	6.5	1	1.6	60	10.8	6	20	3.9679	71.9958	89.1902	0.4955	3.9	0.39	0.11036	11.036
8	7.5	1	1.6	60	10.8	6	20	4.4652	69.4440	88.7933	0.4933	4.5	0.45	0.116	11.600
9	8.5	1	1.6	60	10.8	6	20	4.9217	66.9745	88.3020	0.4906	5.1	0.51	0.12164	12.164
10	9.5	1	1.6	60	10.8	6	20	5.3362	64.5923	87.7158	0.4873	5.7	0.57	0.12728	12.728
11	10.5	1	1.6	60	10.8	6	20	5.7083	62.3005	87.0367	0.4835	6.3	0.63	0.13292	13.292
12	11.5	1	1.6	60	10.8	6	20	6.0387	60.1011	86.2689	0.4793	6.9	0.69	0.13856	13.856
13	12.5	1	1.6	60	10.8	6	20	6.3286	57.9946	85.4184	0.4745	7.5	0.75	0.1442	14.420
14	13.5	1	1.6	60	10.8	6	20	6.5796	55.9807	84.4923	0.4694	8.1	0.81	0.14984	14.984
15	14.5	1	1.6	60	10.8	6	20	6.7940	54.0579	83.4987	0.4639	8.7	0.87	0.15548	15.548
16	15.5	1	1.6	60	10.8	6	20	6.9742	52.2243	82.4460	0.4580	9.3	0.93	0.16112	16.112
17	16.5	1	1.6	60	10.8	6	20	7.1228	50.4774	81.3428	0.4519	9.9	0.99	0.16676	16.676
18	17.5	1	1.6	60	10.8	6	20	7.2423	48.8141	80.1975	0.4455	10.5	1.05	0.1724	17.240
19	18.5	1	1.6	60	10.8	6	20	7.3355	47.2312	79.0184	0.4390	11.1	1.11	0.17804	17.804
20	19.5	1	1.6	60	10.8	6	20	7.4049	45.7252	77.8130	0.4323	11.7	1.17	0.18368	18.368

H timb	6	meter
γtimb(t/m3)	1.8	t/m3
kemiringan	2	

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	60	10.8	12	20	0.5369	88.5679	89.9997	0.5000	0.3	0.03	0.07652	7.652
2	1.5	1	1.6	60	10.8	12	20	1.6054	85.7108	89.9919	0.5000	0.9	0.09	0.08216	8.216
3	2.5	1	1.6	60	10.8	12	20	2.6579	82.8750	89.9626	0.4998	1.5	0.15	0.0878	8.780
4	3.5	1	1.6	60	10.8	12	20	3.6843	80.0738	89.8986	0.4994	2.1	0.21	0.09344	9.344
5	4.5	1	1.6	60	10.8	12	20	4.6757	77.3196	89.7880	0.4988	2.7	0.27	0.09908	9.908
6	5.5	1	1.6	60	10.8	12	20	5.6238	74.6237	89.6206	0.4979	3.3	0.33	0.10472	10.472
7	6.5	1	1.6	60	10.8	12	20	6.5222	71.9958	89.3883	0.4966	3.9	0.39	0.11036	11.036
8	7.5	1	1.6	60	10.8	12	20	7.3654	69.4440	89.0851	0.4949	4.5	0.45	0.116	11.600
9	8.5	1	1.6	60	10.8	12	20	8.1498	66.9745	88.7073	0.4928	5.1	0.51	0.12164	12.164
10	9.5	1	1.6	60	10.8	12	20	8.8729	64.5923	88.2533	0.4903	5.7	0.57	0.12728	12.728
11	10.5	1	1.6	60	10.8	12	20	9.5335	62.3005	87.7232	0.4874	6.3	0.63	0.13292	13.292
12	11.5	1	1.6	60	10.8	12	20	10.1317	60.1011	87.1191	0.4840	6.9	0.69	0.13856	13.856
13	12.5	1	1.6	60	10.8	12	20	10.6685	57.9946	86.4440	0.4802	7.5	0.75	0.1442	14.420
14	13.5	1	1.6	60	10.8	12	20	11.1457	55.9807	85.7025	0.4761	8.1	0.81	0.14984	14.984
15	14.5	1	1.6	60	10.8	12	20	11.5656	54.0579	84.8996	0.4717	8.7	0.87	0.15548	15.548
16	15.5	1	1.6	60	10.8	12	20	11.9313	52.2243	84.0411	0.4669	9.3	0.93	0.16112	16.112
17	16.5	1	1.6	60	10.8	12	20	12.2459	50.4774	83.1330	0.4619	9.9	0.99	0.16676	16.676
18	17.5	1	1.6	60	10.8	12	20	12.5128	48.8141	82.1815	0.4566	10.5	1.05	0.1724	17.240
19	18.5	1	1.6	60	10.8	12	20	12.7355	47.2312	81.1926	0.4511	11.1	1.11	0.17804	17.804
20	19.5	1	1.6	60	10.8	12	20	12.9177	45.7252	80.1724	0.4454	11.7	1.17	0.18368	18.368

H timb	6 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	60	10.8	18	20	0.6782	88.5679	89.9998	0.5000	0.3	0.03	0.07652	7.652
2	1.5	1	1.6	60	10.8	18	20	2.0287	85.7108	89.9936	0.5000	0.9	0.09	0.08216	8.216
3	2.5	1	1.6	60	10.8	18	20	3.3610	82.8750	89.9704	0.4998	1.5	0.15	0.0878	8.780
4	3.5	1	1.6	60	10.8	18	20	4.6639	80.0738	89.9197	0.4996	2.1	0.21	0.09344	9.344
5	4.5	1	1.6	60	10.8	18	20	5.9268	77.3196	89.8318	0.4991	2.7	0.27	0.09908	9.908
6	5.5	1	1.6	60	10.8	18	20	7.1406	74.6237	89.6984	0.4983	3.3	0.33	0.10472	10.472
7	6.5	1	1.6	60	10.8	18	20	8.2975	71.9958	89.5128	0.4973	3.9	0.39	0.11036	11.036
8	7.5	1	1.6	60	10.8	18	20	9.3912	69.4440	89.2697	0.4959	4.5	0.45	0.116	11.600
9	8.5	1	1.6	60	10.8	18	20	10.4169	66.9745	88.9657	0.4943	5.1	0.51	0.12164	12.164
10	9.5	1	1.6	60	10.8	18	20	11.3715	64.5923	88.5987	0.4922	5.7	0.57	0.12728	12.728
11	10.5	1	1.6	60	10.8	18	20	12.2532	62.3005	88.1683	0.4898	6.3	0.63	0.13292	13.292
12	11.5	1	1.6	60	10.8	18	20	13.0614	60.1011	87.6752	0.4871	6.9	0.69	0.13856	13.856
13	12.5	1	1.6	60	10.8	18	20	13.7969	57.9946	87.1214	0.4840	7.5	0.75	0.1442	14.420
14	13.5	1	1.6	60	10.8	18	20	14.4611	55.9807	86.5096	0.4806	8.1	0.81	0.14984	14.984
15	14.5	1	1.6	60	10.8	18	20	15.0563	54.0579	85.8434	0.4769	8.7	0.87	0.15548	15.548
16	15.5	1	1.6	60	10.8	18	20	15.5854	52.2243	85.1268	0.4729	9.3	0.93	0.16112	16.112
17	16.5	1	1.6	60	10.8	18	20	16.0516	50.4774	84.3642	0.4687	9.9	0.99	0.16676	16.676
18	17.5	1	1.6	60	10.8	18	20	16.4586	48.8141	83.5600	0.4642	10.5	1.05	0.1724	17.240
19	18.5	1	1.6	60	10.8	18	20	16.8101	47.2312	82.7191	0.4596	11.1	1.11	0.17804	17.804
20	19.5	1	1.6	60	10.8	18	20	17.1098	45.7252	81.8459	0.4547	11.7	1.17	0.18368	18.368

H timb	8	meter
γtimb(t/m3)	1.8	t/m3
kemiringan	1	

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	60	14.4	8	20	0.4091	88.5679	89.9996	0.5000	0.3	0.03	0.07652	7.652
2	1.5	1	1.6	60	14.4	8	20	1.2227	85.7108	89.9902	0.4999	0.9	0.09	0.08216	8.216
3	2.5	1	1.6	60	14.4	8	20	2.0229	82.8750	89.9550	0.4997	1.5	0.15	0.0878	8.780
4	3.5	1	1.6	60	14.4	8	20	2.8012	80.0738	89.8781	0.4993	2.1	0.21	0.09344	9.344
5	4.5	1	1.6	60	14.4	8	20	3.5502	77.3196	89.7453	0.4986	2.7	0.27	0.09908	9.908
6	5.5	1	1.6	60	14.4	8	20	4.2632	74.6237	89.5450	0.4975	3.3	0.33	0.10472	10.472
7	6.5	1	1.6	60	14.4	8	20	4.9348	71.9958	89.2678	0.4959	3.9	0.39	0.11036	11.036
8	7.5	1	1.6	60	14.4	8	20	5.5610	69.4440	88.9073	0.4939	4.5	0.45	0.116	11.600
9	8.5	1	1.6	60	14.4	8	20	6.1387	66.9745	88.4600	0.4914	5.1	0.51	0.12164	12.164
10	9.5	1	1.6	60	14.4	8	20	6.6664	64.5923	87.9246	0.4885	5.7	0.57	0.12728	12.728
11	10.5	1	1.6	60	14.4	8	20	7.1434	62.3005	87.3025	0.4850	6.3	0.63	0.13292	13.292
12	11.5	1	1.6	60	14.4	8	20	7.5702	60.1011	86.5970	0.4811	6.9	0.69	0.13856	13.856
13	12.5	1	1.6	60	14.4	8	20	7.9480	57.9946	85.8127	0.4767	7.5	0.75	0.1442	14.420
14	13.5	1	1.6	60	14.4	8	20	8.2786	55.9807	84.9559	0.4720	8.1	0.81	0.14984	14.984
15	14.5	1	1.6	60	14.4	8	20	8.5644	54.0579	84.0333	0.4669	8.7	0.87	0.15548	15.548
16	15.5	1	1.6	60	14.4	8	20	8.8080	52.2243	83.0524	0.4614	9.3	0.93	0.16112	16.112
17	16.5	1	1.6	60	14.4	8	20	9.0124	50.4774	82.0207	0.4557	9.9	0.99	0.16676	16.676
18	17.5	1	1.6	60	14.4	8	20	9.1805	48.8141	80.9460	0.4497	10.5	1.05	0.1724	17.240
19	18.5	1	1.6	60	14.4	8	20	9.3155	47.2312	79.8355	0.4435	11.1	1.11	0.17804	17.804
20	19.5	1	1.6	60	14.4	8	20	9.4203	45.7252	78.6963	0.4372	11.7	1.17	0.18368	18.368

H timb	8 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	60	14.4	16	20	0.6364	88.5679	89.9997	0.5000	0.3	0.03	0.07652	7.652
2	1.5	1	1.6	60	14.4	16	20	1.9032	85.7108	89.9931	0.5000	0.9	0.09	0.08216	8.216
3	2.5	1	1.6	60	14.4	16	20	3.1525	82.8750	89.9682	0.4998	1.5	0.15	0.0878	8.780
4	3.5	1	1.6	60	14.4	16	20	4.3733	80.0738	89.9136	0.4995	2.1	0.21	0.09344	9.344
5	4.5	1	1.6	60	14.4	16	20	5.5554	77.3196	89.8192	0.4990	2.7	0.27	0.09908	9.908
6	5.5	1	1.6	60	14.4	16	20	6.6899	74.6237	89.6760	0.4982	3.3	0.33	0.10472	10.472
7	6.5	1	1.6	60	14.4	16	20	7.7694	71.9958	89.4769	0.4971	3.9	0.39	0.11036	11.036
8	7.5	1	1.6	60	14.4	16	20	8.7878	69.4440	89.2164	0.4956	4.5	0.45	0.116	11.600
9	8.5	1	1.6	60	14.4	16	20	9.7406	66.9745	88.8909	0.4938	5.1	0.51	0.12164	12.164
10	9.5	1	1.6	60	14.4	16	20	10.6250	64.5923	88.4985	0.4917	5.7	0.57	0.12728	12.728
11	10.5	1	1.6	60	14.4	16	20	11.4393	62.3005	88.0389	0.4891	6.3	0.63	0.13292	13.292
12	11.5	1	1.6	60	14.4	16	20	12.1831	60.1011	87.5131	0.4862	6.9	0.69	0.13856	13.856
13	12.5	1	1.6	60	14.4	16	20	12.8572	57.9946	86.9234	0.4829	7.5	0.75	0.1442	14.420
14	13.5	1	1.6	60	14.4	16	20	13.4633	55.9807	86.2731	0.4793	8.1	0.81	0.14984	14.984
15	14.5	1	1.6	60	14.4	16	20	14.0036	54.0579	85.5661	0.4754	8.7	0.87	0.15548	15.548
16	15.5	1	1.6	60	14.4	16	20	14.4811	52.2243	84.8068	0.4711	9.3	0.93	0.16112	16.112
17	16.5	1	1.6	60	14.4	16	20	14.8991	50.4774	84.0003	0.4667	9.9	0.99	0.16676	16.676
18	17.5	1	1.6	60	14.4	16	20	15.2610	48.8141	83.1514	0.4620	10.5	1.05	0.1724	17.240
19	18.5	1	1.6	60	14.4	16	20	15.5707	47.2312	82.2652	0.4570	11.1	1.11	0.17804	17.804
20	19.5	1	1.6	60	14.4	16	20	15.8318	45.7252	81.3469	0.4519	11.7	1.17	0.18368	18.368

H timb	8 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	IP	q	B2 (meter)	B1 (meter)	α1	α2	I		po' (t/m2)	po' (kg/cm2)	Sebelum diperbaiki	
														Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	60	14.4	24	20	0.7810	88.5679	89.9998	0.5000	0.3	0.03	0.07652	7.652
2	1.5	1	1.6	60	14.4	24	20	2.3366	85.7108	89.9947	0.5000	0.9	0.09	0.08216	8.216
3	2.5	1	1.6	60	14.4	24	20	3.8731	82.8750	89.9756	0.4999	1.5	0.15	0.0878	8.780
4	3.5	1	1.6	60	14.4	24	20	5.3782	80.0738	89.9338	0.4996	2.1	0.21	0.09344	9.344
5	4.5	1	1.6	60	14.4	24	20	6.8409	77.3196	89.8613	0.4992	2.7	0.27	0.09908	9.908
6	5.5	1	1.6	60	14.4	24	20	8.2512	74.6237	89.7510	0.4986	3.3	0.33	0.10472	10.472
7	6.5	1	1.6	60	14.4	24	20	9.6008	71.9958	89.5973	0.4978	3.9	0.39	0.11036	11.036
8	7.5	1	1.6	60	14.4	24	20	10.8827	69.4440	89.3956	0.4966	4.5	0.45	0.116	11.600
9	8.5	1	1.6	60	14.4	24	20	12.0917	66.9745	89.1426	0.4952	5.1	0.51	0.12164	12.164
10	9.5	1	1.6	60	14.4	24	20	13.2241	64.5923	88.8364	0.4935	5.7	0.57	0.12728	12.728
11	10.5	1	1.6	60	14.4	24	20	14.2776	62.3005	88.4762	0.4915	6.3	0.63	0.13292	13.292
12	11.5	1	1.6	60	14.4	24	20	15.2515	60.1011	88.0622	0.4892	6.9	0.69	0.13856	13.856
13	12.5	1	1.6	60	14.4	24	20	16.1460	57.9946	87.5956	0.4866	7.5	0.75	0.1442	14.420
14	13.5	1	1.6	60	14.4	24	20	16.9624	55.9807	87.0784	0.4838	8.1	0.81	0.14984	14.984
15	14.5	1	1.6	60	14.4	24	20	17.7027	54.0579	86.5129	0.4806	8.7	0.87	0.15548	15.548
16	15.5	1	1.6	60	14.4	24	20	18.3697	52.2243	85.9021	0.4772	9.3	0.93	0.16112	16.112
17	16.5	1	1.6	60	14.4	24	20	18.9666	50.4774	85.2494	0.4736	9.9	0.99	0.16676	16.676
18	17.5	1	1.6	60	14.4	24	20	19.4969	48.8141	84.5583	0.4698	10.5	1.05	0.1724	17.240
19	18.5	1	1.6	60	14.4	24	20	19.9643	47.2312	83.8324	0.4657	11.1	1.11	0.17804	17.804
20	19.5	1	1.6	60	14.4	24	20	20.3727	45.7252	83.0752	0.4615	11.7	1.17	0.18368	18.368

LAMPIRAN 2-1

	H timb	2 meter												
	γtimb(t/m3)	1.8 t/m3												
	kemiringan	1												
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar				
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	3.6	89.9995	0.5000	0.3	0.03	3.6000	3.0176	0.3018	0.1213	12.135
2	1.5	1	1.6	20	3.6	89.9861	0.4999	0.9	0.09	3.5994	3.8306	0.3831	0.1342	13.419
3	2.5	1	1.6	20	3.6	89.9364	0.4996	1.5	0.15	3.5975	4.5105	0.4511	0.1449	14.492
4	3.5	1	1.6	20	3.6	89.8281	0.4990	2.1	0.21	3.5931	5.1527	0.5153	0.1551	15.506
5	4.5	1	1.6	20	3.6	89.6424	0.4980	2.7	0.27	3.5857	5.7764	0.5776	0.1649	16.491
6	5.5	1	1.6	20	3.6	89.3638	0.4965	3.3	0.33	3.5746	6.3881	0.6388	0.1746	17.457
7	6.5	1	1.6	20	3.6	88.9815	0.4943	3.9	0.39	3.5593	6.9909	0.6991	0.1841	18.409
8	7.5	1	1.6	20	3.6	88.4886	0.4916	4.5	0.45	3.5395	7.5863	0.7586	0.1935	19.349
9	8.5	1	1.6	20	3.6	87.8830	0.4882	5.1	0.51	3.5153	8.1753	0.8175	0.2028	20.279
10	9.5	1	1.6	20	3.6	87.1660	0.4843	5.7	0.57	3.4866	8.7585	0.8758	0.2120	21.200
11	10.5	1	1.6	20	3.6	86.3422	0.4797	6.3	0.63	3.4537	9.3365	0.9337	0.2211	22.112
12	11.5	1	1.6	20	3.6	85.4188	0.4745	6.9	0.69	3.4168	9.9100	0.9910	0.2302	23.018
13	12.5	1	1.6	20	3.6	84.4049	0.4689	7.5	0.75	3.3762	10.4794	1.0479	0.2392	23.917
14	13.5	1	1.6	20	3.6	83.3108	0.4628	8.1	0.81	3.3324	11.0452	1.1045	0.2481	24.810
15	14.5	1	1.6	20	3.6	82.1475	0.4564	8.7	0.87	3.2859	11.6079	1.1608	0.2570	25.699
16	15.5	1	1.6	20	3.6	80.9260	0.4496	9.3	0.93	3.2370	12.1681	1.2168	0.2658	26.583
17	16.5	1	1.6	20	3.6	79.6574	0.4425	9.9	0.99	3.1863	12.7262	1.2726	0.2746	27.465
18	17.5	1	1.6	20	3.6	78.3521	0.4353	10.5	1.05	3.1341	13.2826	1.3283	0.2834	28.343
19	18.5	1	1.6	20	3.6	77.0196	0.4279	11.1	1.11	3.0808	13.8377	1.3838	0.2922	29.220
20	19.5	1	1.6	20	3.6	75.6690	0.4204	11.7	1.17	3.0268	14.3918	1.4392	0.3009	30.095

	H timb	2 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	2													
No	**z**	**H (meter)**	**γsat (t/m3)**	**IP**	**q**	**I**		**po' (t/m2)**	**po' (kg/cm2)**	**Setelah diperbaiki Ardhana dan Mochtar**				
										Δp (t/m2)	**σ'p (t/m2)**	**σ'p (kg/cm2)**	**Cu (kg/cm2)**	**Cu (kpa)**
1	0.5	1	1.6	20	3.6	89.9995	0.5000	0.3	0.03	3.6000	3.0176	0.3018	0.1213	12.135
2	1.5	1	1.6	20	3.6	89.9878	0.4999	0.9	0.09	3.5995	3.8307	0.3831	0.1342	13.419
3	2.5	1	1.6	20	3.6	89.9439	0.4997	1.5	0.15	3.5978	4.5108	0.4511	0.1449	14.492
4	3.5	1	1.6	20	3.6	89.8484	0.4992	2.1	0.21	3.5939	5.1534	0.5153	0.1551	15.507
5	4.5	1	1.6	20	3.6	89.6840	0.4982	2.7	0.27	3.5874	5.7777	0.5778	0.1649	16.493
6	5.5	1	1.6	20	3.6	89.4368	0.4969	3.3	0.33	3.5775	6.3905	0.6391	0.1746	17.461
7	6.5	1	1.6	20	3.6	89.0964	0.4950	3.9	0.39	3.5639	6.9948	0.6995	0.1841	18.415
8	7.5	1	1.6	20	3.6	88.6561	0.4925	4.5	0.45	3.5462	7.5920	0.7592	0.1936	19.358
9	8.5	1	1.6	20	3.6	88.1128	0.4895	5.1	0.51	3.5245	8.1831	0.8183	0.2029	20.291
10	9.5	1	1.6	20	3.6	87.4667	0.4859	5.7	0.57	3.4987	8.7688	0.8769	0.2122	21.216
11	10.5	1	1.6	20	3.6	86.7211	0.4818	6.3	0.63	3.4688	9.3496	0.9350	0.2213	22.133
12	11.5	1	1.6	20	3.6	85.8814	0.4771	6.9	0.69	3.4353	9.9260	0.9926	0.2304	23.043
13	12.5	1	1.6	20	3.6	84.9549	0.4720	7.5	0.75	3.3982	10.4985	1.0498	0.2395	23.947
14	13.5	1	1.6	20	3.6	83.9502	0.4664	8.1	0.81	3.3580	11.0674	1.1067	0.2485	24.845
15	14.5	1	1.6	20	3.6	82.8767	0.4604	8.7	0.87	3.3151	11.6334	1.1633	0.2574	25.739
16	15.5	1	1.6	20	3.6	81.7441	0.4541	9.3	0.93	3.2698	12.1967	1.2197	0.2663	26.629
17	16.5	1	1.6	20	3.6	80.5620	0.4476	9.9	0.99	3.2225	12.7579	1.2758	0.2751	27.515
18	17.5	1	1.6	20	3.6	79.3399	0.4408	10.5	1.05	3.1736	13.3172	1.3317	0.2840	28.398
19	18.5	1	1.6	20	3.6	78.0867	0.4338	11.1	1.11	3.1235	13.8751	1.3875	0.2928	29.279
20	19.5	1	1.6	20	3.6	76.8107	0.4267	11.7	1.17	3.0724	14.4320	1.4432	0.3016	30.158

	H timb	2 meter												
	γtimb(t/m3)	1.8 t/m3												
	kemiringan	3												
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar				
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	3.6	89.9996	0.5000	0.3	0.03	3.6000	3.0176	0.3018	0.1213	12.135
2	1.5	1	1.6	20	3.6	89.9891	0.4999	0.9	0.09	3.5996	3.8307	0.3831	0.1342	13.419
3	2.5	1	1.6	20	3.6	89.9500	0.4997	1.5	0.15	3.5980	4.5110	0.4511	0.1449	14.493
4	3.5	1	1.6	20	3.6	89.8647	0.4992	2.1	0.21	3.5946	5.1539	0.5154	0.1551	15.508
5	4.5	1	1.6	20	3.6	89.7176	0.4984	2.7	0.27	3.5887	5.7789	0.5779	0.1649	16.495
6	5.5	1	1.6	20	3.6	89.4961	0.4972	3.3	0.33	3.5798	6.3925	0.6393	0.1746	17.464
7	6.5	1	1.6	20	3.6	89.1902	0.4955	3.9	0.39	3.5676	6.9979	0.6998	0.1842	18.420
8	7.5	1	1.6	20	3.6	88.7933	0.4933	4.5	0.45	3.5517	7.5966	0.7597	0.1937	19.365
9	8.5	1	1.6	20	3.6	88.3020	0.4906	5.1	0.51	3.5321	8.1896	0.8190	0.2030	20.301
10	9.5	1	1.6	20	3.6	87.7158	0.4873	5.7	0.57	3.5086	8.7773	0.8777	0.2123	21.229
11	10.5	1	1.6	20	3.6	87.0367	0.4835	6.3	0.63	3.4815	9.3605	0.9360	0.2215	22.150
12	11.5	1	1.6	20	3.6	86.2689	0.4793	6.9	0.69	3.4508	9.9394	0.9939	0.2306	23.064
13	12.5	1	1.6	20	3.6	85.4184	0.4745	7.5	0.75	3.4167	10.5145	1.0515	0.2397	23.972
14	13.5	1	1.6	20	3.6	84.4923	0.4694	8.1	0.81	3.3797	11.0863	1.1086	0.2488	24.875
15	14.5	1	1.6	20	3.6	83.4987	0.4639	8.7	0.87	3.3399	11.6550	1.1655	0.2577	25.773
16	15.5	1	1.6	20	3.6	82.4460	0.4580	9.3	0.93	3.2978	12.2212	1.2221	0.2667	26.667
17	16.5	1	1.6	20	3.6	81.3428	0.4519	9.9	0.99	3.2537	12.7852	1.2785	0.2756	27.558
18	17.5	1	1.6	20	3.6	80.1975	0.4455	10.5	1.05	3.2079	13.3473	1.3347	0.2845	28.445
19	18.5	1	1.6	20	3.6	79.0184	0.4390	11.1	1.11	3.1607	13.9079	1.3908	0.2933	29.330
20	19.5	1	1.6	20	3.6	77.8130	0.4323	11.7	1.17	3.1125	14.4672	1.4467	0.3021	30.214

	H timb	4 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	1													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	20	7.2	89.9995	0.5000	0.3	0.03	7.2000	5.4358	0.5436	0.1595	15.953	
2	1.5	1	1.6	20	7.2	89.9878	0.4999	0.9	0.09	7.1990	6.5015	0.6501	0.1764	17.636	
3	2.5	1	1.6	20	7.2	89.9439	0.4997	1.5	0.15	7.1955	7.2942	0.7294	0.1889	18.887	
4	3.5	1	1.6	20	7.2	89.8484	0.4992	2.1	0.21	7.1879	8.0047	0.8005	0.2001	20.009	
5	4.5	1	1.6	20	7.2	89.6840	0.4982	2.7	0.27	7.1747	8.6738	0.8674	0.2107	21.066	
6	5.5	1	1.6	20	7.2	89.4368	0.4969	3.3	0.33	7.1549	9.3162	0.9316	0.2208	22.080	
7	6.5	1	1.6	20	7.2	89.0964	0.4950	3.9	0.39	7.1277	9.9390	0.9939	0.2306	23.064	
8	7.5	1	1.6	20	7.2	88.6561	0.4925	4.5	0.45	7.0925	10.5458	1.0546	0.2402	24.022	
9	8.5	1	1.6	20	7.2	88.1128	0.4895	5.1	0.51	7.0490	11.1389	1.1139	0.2496	24.958	
10	9.5	1	1.6	20	7.2	87.4667	0.4859	5.7	0.57	6.9973	11.7200	1.1720	0.2588	25.876	
11	10.5	1	1.6	20	7.2	86.7211	0.4818	6.3	0.63	6.9377	12.2904	1.2290	0.2678	26.776	
12	11.5	1	1.6	20	7.2	85.8814	0.4771	6.9	0.69	6.8705	12.8511	1.2851	0.2766	27.662	
13	12.5	1	1.6	20	7.2	84.9549	0.4720	7.5	0.75	6.7964	13.4032	1.3403	0.2853	28.534	
14	13.5	1	1.6	20	7.2	83.9502	0.4664	8.1	0.81	6.7160	13.9478	1.3948	0.2939	29.394	
15	14.5	1	1.6	20	7.2	82.8767	0.4604	8.7	0.87	6.6301	14.4858	1.4486	0.3024	30.243	
16	15.5	1	1.6	20	7.2	81.7441	0.4541	9.3	0.93	6.5395	15.0181	1.5018	0.3108	31.084	
17	16.5	1	1.6	20	7.2	80.5620	0.4476	9.9	0.99	6.4450	15.5457	1.5546	0.3192	31.917	
18	17.5	1	1.6	20	7.2	79.3399	0.4408	10.5	1.05	6.3472	16.0692	1.6069	0.3274	32.743	
19	18.5	1	1.6	20	7.2	78.0867	0.4338	11.1	1.11	6.2469	16.5895	1.6589	0.3356	33.565	
20	19.5	1	1.6	20	7.2	76.8107	0.4267	11.7	1.17	6.1449	17.1073	1.7107	0.3438	34.382	

	H timb	4 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	2													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	20	7.2	89.9996	0.5000	0.3	0.03	7.2000	5.4358	0.5436	0.1595	15.953	
2	1.5	1	1.6	20	7.2	89.9902	0.4999	0.9	0.09	7.1992	6.5016	0.6502	0.1764	17.636	
3	2.5	1	1.6	20	7.2	89.9550	0.4997	1.5	0.15	7.1964	7.2948	0.7295	0.1889	18.889	
4	3.5	1	1.6	20	7.2	89.8781	0.4993	2.1	0.21	7.1902	8.0066	0.8007	0.2001	20.012	
5	4.5	1	1.6	20	7.2	89.7453	0.4986	2.7	0.27	7.1796	8.6777	0.8678	0.2107	21.072	
6	5.5	1	1.6	20	7.2	89.5450	0.4975	3.3	0.33	7.1636	9.3232	0.9323	0.2209	22.091	
7	6.5	1	1.6	20	7.2	89.2678	0.4959	3.9	0.39	7.1414	9.9501	0.9950	0.2308	23.081	
8	7.5	1	1.6	20	7.2	88.9073	0.4939	4.5	0.45	7.1126	10.5623	1.0562	0.2405	24.048	
9	8.5	1	1.6	20	7.2	88.4600	0.4914	5.1	0.51	7.0768	11.1619	1.1162	0.2499	24.995	
10	9.5	1	1.6	20	7.2	87.9246	0.4885	5.7	0.57	7.0340	11.7505	1.1750	0.2592	25.924	
11	10.5	1	1.6	20	7.2	87.3025	0.4850	6.3	0.63	6.9842	12.3292	1.2329	0.2684	26.838	
12	11.5	1	1.6	20	7.2	86.5970	0.4811	6.9	0.69	6.9278	12.8992	1.2899	0.2774	27.738	
13	12.5	1	1.6	20	7.2	85.8127	0.4767	7.5	0.75	6.8650	13.4611	1.3461	0.2863	28.625	
14	13.5	1	1.6	20	7.2	84.9559	0.4720	8.1	0.81	6.7965	14.0160	1.4016	0.2950	29.501	
15	14.5	1	1.6	20	7.2	84.0333	0.4669	8.7	0.87	6.7227	14.5645	1.4564	0.3037	30.367	
16	15.5	1	1.6	20	7.2	83.0524	0.4614	9.3	0.93	6.6442	15.1074	1.5107	0.3122	31.225	
17	16.5	1	1.6	20	7.2	82.0207	0.4557	9.9	0.99	6.5617	15.6455	1.5646	0.3207	32.074	
18	17.5	1	1.6	20	7.2	80.9460	0.4497	10.5	1.05	6.4757	16.1794	1.6179	0.3292	32.917	
19	18.5	1	1.6	20	7.2	79.8355	0.4435	11.1	1.11	6.3868	16.7098	1.6710	0.3375	33.755	
20	19.5	1	1.6	20	7.2	78.6963	0.4372	11.7	1.17	6.2957	17.2374	1.7237	0.3459	34.588	

	H timb	4 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	3													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	20	7.2	89.9997	0.5000	0.3	0.03	7.2000	5.4358	0.5436	0.1595	15.953	
2	1.5	1	1.6	20	7.2	89.9919	0.5000	0.9	0.09	7.1993	6.5017	0.6502	0.1764	17.636	
3	2.5	1	1.6	20	7.2	89.9626	0.4998	1.5	0.15	7.1970	7.2953	0.7295	0.1889	18.889	
4	3.5	1	1.6	20	7.2	89.8986	0.4994	2.1	0.21	7.1919	8.0078	0.8008	0.2001	20.014	
5	4.5	1	1.6	20	7.2	89.7880	0.4988	2.7	0.27	7.1830	8.6804	0.8680	0.2108	21.076	
6	5.5	1	1.6	20	7.2	89.6206	0.4979	3.3	0.33	7.1696	9.3280	0.9328	0.2210	22.099	
7	6.5	1	1.6	20	7.2	89.3883	0.4966	3.9	0.39	7.1511	9.9580	0.9958	0.2309	23.094	
8	7.5	1	1.6	20	7.2	89.0851	0.4949	4.5	0.45	7.1268	10.5739	1.0574	0.2407	24.066	
9	8.5	1	1.6	20	7.2	88.7073	0.4928	5.1	0.51	7.0966	11.1782	1.1178	0.2502	25.020	
10	9.5	1	1.6	20	7.2	88.2533	0.4903	5.7	0.57	7.0603	11.7723	1.1772	0.2596	25.958	
11	10.5	1	1.6	20	7.2	87.7232	0.4874	6.3	0.63	7.0179	12.3573	1.2357	0.2688	26.882	
12	11.5	1	1.6	20	7.2	87.1191	0.4840	6.9	0.69	6.9695	12.9342	1.2934	0.2779	27.793	
13	12.5	1	1.6	20	7.2	86.4440	0.4802	7.5	0.75	6.9155	13.5037	1.3504	0.2869	28.692	
14	13.5	1	1.6	20	7.2	85.7025	0.4761	8.1	0.81	6.8562	14.0665	1.4067	0.2958	29.581	
15	14.5	1	1.6	20	7.2	84.8996	0.4717	8.7	0.87	6.7920	14.6234	1.4623	0.3046	30.460	
16	15.5	1	1.6	20	7.2	84.0411	0.4669	9.3	0.93	6.7233	15.1749	1.5175	0.3133	31.331	
17	16.5	1	1.6	20	7.2	83.1330	0.4619	9.9	0.99	6.6506	15.7216	1.5722	0.3219	32.194	
18	17.5	1	1.6	20	7.2	82.1815	0.4566	10.5	1.05	6.5745	16.2642	1.6264	0.3305	33.051	
19	18.5	1	1.6	20	7.2	81.1926	0.4511	11.1	1.11	6.4954	16.8032	1.6803	0.3390	33.902	
20	19.5	1	1.6	20	7.2	80.1724	0.4454	11.7	1.17	6.4138	17.3391	1.7339	0.3475	34.748	

H timb	6 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar				
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	20	10.8	89.9996	0.5000	0.3	0.03	10.8000	7.7357	0.7736	0.1958	19.585
2	1.5	1	1.6	20	10.8	89.9891	0.4999	0.9	0.09	10.7987	9.0521	0.9052	0.2166	21.663
3	2.5	1	1.6	20	10.8	89.9500	0.4997	1.5	0.15	10.7940	9.9617	0.9962	0.2310	23.100
4	3.5	1	1.6	20	10.8	89.8647	0.4992	2.1	0.21	10.7838	10.7463	1.0746	0.2434	24.338
5	4.5	1	1.6	20	10.8	89.7176	0.4984	2.7	0.27	10.7661	11.4671	1.1467	0.2548	25.477
6	5.5	1	1.6	20	10.8	89.4961	0.4972	3.3	0.33	10.7395	12.1470	1.2147	0.2655	26.550
7	6.5	1	1.6	20	10.8	89.1902	0.4955	3.9	0.39	10.7028	12.7967	1.2797	0.2758	27.576
8	7.5	1	1.6	20	10.8	88.7933	0.4933	4.5	0.45	10.6552	13.4223	1.3422	0.2856	28.564
9	8.5	1	1.6	20	10.8	88.3020	0.4906	5.1	0.51	10.5962	14.0273	1.4027	0.2952	29.519
10	9.5	1	1.6	20	10.8	87.7158	0.4873	5.7	0.57	10.5259	14.6142	1.4614	0.3045	30.446
11	10.5	1	1.6	20	10.8	87.0367	0.4835	6.3	0.63	10.4444	15.1851	1.5185	0.3135	31.347
12	11.5	1	1.6	20	10.8	86.2689	0.4793	6.9	0.69	10.3523	15.7415	1.5742	0.3223	32.226
13	12.5	1	1.6	20	10.8	85.4184	0.4745	7.5	0.75	10.2502	16.2851	1.6285	0.3308	33.084
14	13.5	1	1.6	20	10.8	84.4923	0.4694	8.1	0.81	10.1391	16.8171	1.6817	0.3392	33.924
15	14.5	1	1.6	20	10.8	83.4987	0.4639	8.7	0.87	10.0198	17.3390	1.7339	0.3475	34.748
16	15.5	1	1.6	20	10.8	82.4460	0.4580	9.3	0.93	9.8935	17.8520	1.7852	0.3556	35.558
17	16.5	1	1.6	20	10.8	81.3428	0.4519	9.9	0.99	9.7611	18.3574	1.8357	0.3636	36.356
18	17.5	1	1.6	20	10.8	80.1975	0.4455	10.5	1.05	9.6237	18.8563	1.8856	0.3714	37.144
19	18.5	1	1.6	20	10.8	79.0184	0.4390	11.1	1.11	9.4822	19.3497	1.9350	0.3792	37.923
20	19.5	1	1.6	20	10.8	77.8130	0.4323	11.7	1.17	9.3376	19.8388	1.9839	0.3870	38.695

	H timb	6 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	2													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	20	10.8	89.9997	0.5000	0.3	0.03	10.8000	7.7357	0.7736	0.1958	19.585	
2	1.5	1	1.6	20	10.8	89.9919	0.5000	0.9	0.09	10.7990	9.0523	0.9052	0.2166	21.664	
3	2.5	1	1.6	20	10.8	89.9626	0.4998	1.5	0.15	10.7955	9.9628	0.9963	0.2310	23.101	
4	3.5	1	1.6	20	10.8	89.8986	0.4994	2.1	0.21	10.7878	10.7494	1.0749	0.2434	24.343	
5	4.5	1	1.6	20	10.8	89.7880	0.4988	2.7	0.27	10.7746	11.4736	1.1474	0.2549	25.487	
6	5.5	1	1.6	20	10.8	89.6206	0.4979	3.3	0.33	10.7545	12.1586	1.2159	0.2657	26.568	
7	6.5	1	1.6	20	10.8	89.3883	0.4966	3.9	0.39	10.7266	12.8155	1.2815	0.2761	27.606	
8	7.5	1	1.6	20	10.8	89.0851	0.4949	4.5	0.45	10.6902	13.4502	1.3450	0.2861	28.608	
9	8.5	1	1.6	20	10.8	88.7073	0.4928	5.1	0.51	10.6449	14.0664	1.4066	0.2958	29.581	
10	9.5	1	1.6	20	10.8	88.2533	0.4903	5.7	0.57	10.5904	14.6665	1.4666	0.3053	30.528	
11	10.5	1	1.6	20	10.8	87.7232	0.4874	6.3	0.63	10.5268	15.2523	1.5252	0.3145	31.453	
12	11.5	1	1.6	20	10.8	87.1191	0.4840	6.9	0.69	10.4543	15.8253	1.5825	0.3236	32.358	
13	12.5	1	1.6	20	10.8	86.4440	0.4802	7.5	0.75	10.3733	16.3866	1.6387	0.3324	33.245	
14	13.5	1	1.6	20	10.8	85.7025	0.4761	8.1	0.81	10.2843	16.9376	1.6938	0.3411	34.114	
15	14.5	1	1.6	20	10.8	84.8996	0.4717	8.7	0.87	10.1880	17.4791	1.7479	0.3497	34.969	
16	15.5	1	1.6	20	10.8	84.0411	0.4669	9.3	0.93	10.0849	18.0122	1.8012	0.3581	35.811	
17	16.5	1	1.6	20	10.8	83.1330	0.4619	9.9	0.99	9.9760	18.5378	1.8538	0.3664	36.641	
18	17.5	1	1.6	20	10.8	82.1815	0.4566	10.5	1.05	9.8618	19.0569	1.9057	0.3746	37.461	
19	18.5	1	1.6	20	10.8	81.1926	0.4511	11.1	1.11	9.7431	19.5704	1.9570	0.3827	38.272	
20	19.5	1	1.6	20	10.8	80.1724	0.4454	11.7	1.17	9.6207	20.0789	2.0079	0.3907	39.075	

	H timb	6 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	3													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	20	10.8	89.9998	0.5000	0.3	0.03	10.8000	7.7357	0.7736	0.1958	19.585	
2	1.5	1	1.6	20	10.8	89.9936	0.5000	0.9	0.09	10.7992	9.0524	0.9052	0.2166	21.664	
3	2.5	1	1.6	20	10.8	89.9704	0.4998	1.5	0.15	10.7964	9.9635	0.9963	0.2310	23.102	
4	3.5	1	1.6	20	10.8	89.9197	0.4996	2.1	0.21	10.7904	10.7513	1.0751	0.2435	24.346	
5	4.5	1	1.6	20	10.8	89.8318	0.4991	2.7	0.27	10.7798	11.4776	1.1478	0.2549	25.493	
6	5.5	1	1.6	20	10.8	89.6984	0.4983	3.3	0.33	10.7638	12.1659	1.2166	0.2658	26.580	
7	6.5	1	1.6	20	10.8	89.5128	0.4973	3.9	0.39	10.7415	12.8273	1.2827	0.2762	27.624	
8	7.5	1	1.6	20	10.8	89.2697	0.4959	4.5	0.45	10.7124	13.4679	1.3468	0.2864	28.636	
9	8.5	1	1.6	20	10.8	88.9657	0.4943	5.1	0.51	10.6759	14.0913	1.4091	0.2962	29.620	
10	9.5	1	1.6	20	10.8	88.5987	0.4922	5.7	0.57	10.6318	14.7001	1.4700	0.3058	30.581	
11	10.5	1	1.6	20	10.8	88.1683	0.4898	6.3	0.63	10.5802	15.2959	1.5296	0.3152	31.522	
12	11.5	1	1.6	20	10.8	87.6752	0.4871	6.9	0.69	10.5210	15.8800	1.5880	0.3244	32.445	
13	12.5	1	1.6	20	10.8	87.1214	0.4840	7.5	0.75	10.4546	16.4537	1.6454	0.3335	33.350	
14	13.5	1	1.6	20	10.8	86.5096	0.4806	8.1	0.81	10.3812	17.0179	1.7018	0.3424	34.241	
15	14.5	1	1.6	20	10.8	85.8434	0.4769	8.7	0.87	10.3012	17.5734	1.7573	0.3512	35.118	
16	15.5	1	1.6	20	10.8	85.1268	0.4729	9.3	0.93	10.2152	18.1211	1.8121	0.3598	35.983	
17	16.5	1	1.6	20	10.8	84.3642	0.4687	9.9	0.99	10.1237	18.6618	1.8662	0.3684	36.837	
18	17.5	1	1.6	20	10.8	83.5600	0.4642	10.5	1.05	10.0272	19.1962	1.9196	0.3768	37.681	
19	18.5	1	1.6	20	10.8	82.7191	0.4596	11.1	1.11	9.9263	19.7251	1.9725	0.3852	38.516	
20	19.5	1	1.6	20	10.8	81.8459	0.4547	11.7	1.17	9.8215	20.2490	2.0249	0.3934	39.343	

	H timb	8 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	1													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	20	14.4	89.9996	0.5000	0.3	0.03	14.3999	9.9608	0.9961	0.2310	23.098	
2	1.5	1	1.6	20	14.4	89.9902	0.4999	0.9	0.09	14.3984	11.5241	1.1524	0.2557	25.567	
3	2.5	1	1.6	20	14.4	89.9550	0.4997	1.5	0.15	14.3928	12.5513	1.2551	0.2719	27.189	
4	3.5	1	1.6	20	14.4	89.8781	0.4993	2.1	0.21	14.3805	13.4120	1.3412	0.2855	28.548	
5	4.5	1	1.6	20	14.4	89.7453	0.4986	2.7	0.27	14.3593	14.1873	1.4187	0.2977	29.772	
6	5.5	1	1.6	20	14.4	89.5450	0.4975	3.3	0.33	14.3272	14.9079	1.4908	0.3091	30.910	
7	6.5	1	1.6	20	14.4	89.2678	0.4959	3.9	0.39	14.2828	15.5884	1.5588	0.3198	31.984	
8	7.5	1	1.6	20	14.4	88.9073	0.4939	4.5	0.45	14.2252	16.2370	1.6237	0.3301	33.008	
9	8.5	1	1.6	20	14.4	88.4600	0.4914	5.1	0.51	14.1536	16.8584	1.6858	0.3399	33.989	
10	9.5	1	1.6	20	14.4	87.9246	0.4885	5.7	0.57	14.0679	17.4563	1.7456	0.3493	34.934	
11	10.5	1	1.6	20	14.4	87.3025	0.4850	6.3	0.63	13.9684	18.0332	1.8033	0.3584	35.844	
12	11.5	1	1.6	20	14.4	86.5970	0.4811	6.9	0.69	13.8555	18.5911	1.8591	0.3673	36.725	
13	12.5	1	1.6	20	14.4	85.8127	0.4767	7.5	0.75	13.7300	19.1321	1.9132	0.3758	37.580	
14	13.5	1	1.6	20	14.4	84.9559	0.4720	8.1	0.81	13.5929	19.6578	1.9658	0.3841	38.410	
15	14.5	1	1.6	20	14.4	84.0333	0.4669	8.7	0.87	13.4453	20.1700	2.0170	0.3922	39.218	
16	15.5	1	1.6	20	14.4	83.0524	0.4614	9.3	0.93	13.2884	20.6702	2.0670	0.4001	40.008	
17	16.5	1	1.6	20	14.4	82.0207	0.4557	9.9	0.99	13.1233	21.1600	2.1160	0.4078	40.782	
18	17.5	1	1.6	20	14.4	80.9460	0.4497	10.5	1.05	12.9514	21.6406	2.1641	0.4154	41.541	
19	18.5	1	1.6	20	14.4	79.8355	0.4435	11.1	1.11	12.7737	22.1136	2.2114	0.4229	42.287	
20	19.5	1	1.6	20	14.4	78.6963	0.4372	11.7	1.17	12.5914	22.5801	2.2580	0.4302	43.024	

	H timb	8 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	2													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	20	14.4	89.9997	0.5000	0.3	0.03	14.4000	9.9609	0.9961	0.2310	23.098	
2	1.5	1	1.6	20	14.4	89.9931	0.5000	0.9	0.09	14.3989	11.5244	1.1524	0.2557	25.567	
3	2.5	1	1.6	20	14.4	89.9682	0.4998	1.5	0.15	14.3949	12.5528	1.2553	0.2719	27.191	
4	3.5	1	1.6	20	14.4	89.9136	0.4995	2.1	0.21	14.3862	13.4162	1.3416	0.2855	28.554	
5	4.5	1	1.6	20	14.4	89.8192	0.4990	2.7	0.27	14.3711	14.1962	1.4196	0.2979	29.786	
6	5.5	1	1.6	20	14.4	89.6760	0.4982	3.3	0.33	14.3482	14.9239	1.4924	0.3093	30.935	
7	6.5	1	1.6	20	14.4	89.4769	0.4971	3.9	0.39	14.3163	15.6142	1.5614	0.3202	32.025	
8	7.5	1	1.6	20	14.4	89.2164	0.4956	4.5	0.45	14.2746	16.2755	1.6276	0.3307	33.069	
9	8.5	1	1.6	20	14.4	88.8909	0.4938	5.1	0.51	14.2225	16.9128	1.6913	0.3408	34.075	
10	9.5	1	1.6	20	14.4	88.4985	0.4917	5.7	0.57	14.1598	17.5293	1.7529	0.3505	35.049	
11	10.5	1	1.6	20	14.4	88.0389	0.4891	6.3	0.63	14.0862	18.1275	1.8127	0.3599	35.993	
12	11.5	1	1.6	20	14.4	87.5131	0.4862	6.9	0.69	14.0021	18.7092	1.8709	0.3691	36.912	
13	12.5	1	1.6	20	14.4	86.9234	0.4829	7.5	0.75	13.9077	19.2761	1.9276	0.3781	37.807	
14	13.5	1	1.6	20	14.4	86.2731	0.4793	8.1	0.81	13.8037	19.8296	1.9830	0.3868	38.681	
15	14.5	1	1.6	20	14.4	85.5661	0.4754	8.7	0.87	13.6906	20.3709	2.0371	0.3954	39.536	
16	15.5	1	1.6	20	14.4	84.8068	0.4711	9.3	0.93	13.5691	20.9013	2.0901	0.4037	40.373	
17	16.5	1	1.6	20	14.4	84.0003	0.4667	9.9	0.99	13.4400	21.4218	2.1422	0.4119	41.195	
18	17.5	1	1.6	20	14.4	83.1514	0.4620	10.5	1.05	13.3042	21.9335	2.1933	0.4200	42.003	
19	18.5	1	1.6	20	14.4	82.2652	0.4570	11.1	1.11	13.1624	22.4374	2.2437	0.4280	42.799	
20	19.5	1	1.6	20	14.4	81.3469	0.4519	11.7	1.17	13.0155	22.9346	2.2935	0.4358	43.584	

	H timb	8 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	3													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	20	14.4	89.9998	0.5000	0.3	0.03	14.4000	9.9609	0.9961	0.2310	23.098	
2	1.5	1	1.6	20	14.4	89.9947	0.5000	0.9	0.09	14.3992	11.5246	1.1525	0.2557	25.567	
3	2.5	1	1.6	20	14.4	89.9756	0.4999	1.5	0.15	14.3961	12.5537	1.2554	0.2719	27.192	
4	3.5	1	1.6	20	14.4	89.9338	0.4996	2.1	0.21	14.3894	13.4186	1.3419	0.2856	28.558	
5	4.5	1	1.6	20	14.4	89.8613	0.4992	2.7	0.27	14.3778	14.2012	1.4201	0.2979	29.794	
6	5.5	1	1.6	20	14.4	89.7510	0.4986	3.3	0.33	14.3602	14.9330	1.4933	0.3095	30.949	
7	6.5	1	1.6	20	14.4	89.5973	0.4978	3.9	0.39	14.3356	15.6291	1.5629	0.3205	32.048	
8	7.5	1	1.6	20	14.4	89.3956	0.4966	4.5	0.45	14.3033	16.2979	1.6298	0.3310	33.104	
9	8.5	1	1.6	20	14.4	89.1426	0.4952	5.1	0.51	14.2628	16.9445	1.6944	0.3413	34.125	
10	9.5	1	1.6	20	14.4	88.8364	0.4935	5.7	0.57	14.2138	17.5722	1.7572	0.3512	35.117	
11	10.5	1	1.6	20	14.4	88.4762	0.4915	6.3	0.63	14.1562	18.1835	1.8183	0.3608	36.082	
12	11.5	1	1.6	20	14.4	88.0622	0.4892	6.9	0.69	14.0900	18.7800	1.8780	0.3702	37.024	
13	12.5	1	1.6	20	14.4	87.5956	0.4866	7.5	0.75	14.0153	19.3633	1.9363	0.3794	37.945	
14	13.5	1	1.6	20	14.4	87.0784	0.4838	8.1	0.81	13.9325	19.9346	1.9935	0.3885	38.847	
15	14.5	1	1.6	20	14.4	86.5129	0.4806	8.7	0.87	13.8421	20.4949	2.0495	0.3973	39.731	
16	15.5	1	1.6	20	14.4	85.9021	0.4772	9.3	0.93	13.7443	21.0453	2.1045	0.4060	40.601	
17	16.5	1	1.6	20	14.4	85.2494	0.4736	9.9	0.99	13.6399	21.5868	2.1587	0.4146	41.456	
18	17.5	1	1.6	20	14.4	84.5583	0.4698	10.5	1.05	13.5293	22.1201	2.2120	0.4230	42.298	
19	18.5	1	1.6	20	14.4	83.8324	0.4657	11.1	1.11	13.4132	22.6460	2.2646	0.4313	43.128	
20	19.5	1	1.6	20	14.4	83.0752	0.4615	11.7	1.17	13.2920	23.1654	2.3165	0.4395	43.948	

LAMPIRAN 2-2

H timb	2 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar				
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	3.6	89.9995	0.5000	0.3	0.03	3.6000	3.0176	0.3018	0.1117	11.169
2	1.5	1	1.6	40	3.6	89.9861	0.4999	0.9	0.09	3.5994	3.8306	0.3831	0.1219	12.193
3	2.5	1	1.6	40	3.6	89.9364	0.4996	1.5	0.15	3.5975	4.5105	0.4511	0.1305	13.049
4	3.5	1	1.6	40	3.6	89.8281	0.4990	2.1	0.21	3.5931	5.1527	0.5153	0.1386	13.857
5	4.5	1	1.6	40	3.6	89.6424	0.4980	2.7	0.27	3.5857	5.7764	0.5776	0.1464	14.642
6	5.5	1	1.6	40	3.6	89.3638	0.4965	3.3	0.33	3.5746	6.3881	0.6388	0.1541	15.413
7	6.5	1	1.6	40	3.6	88.9815	0.4943	3.9	0.39	3.5593	6.9909	0.6991	0.1617	16.172
8	7.5	1	1.6	40	3.6	88.4886	0.4916	4.5	0.45	3.5395	7.5863	0.7586	0.1692	16.921
9	8.5	1	1.6	40	3.6	87.8830	0.4882	5.1	0.51	3.5153	8.1753	0.8175	0.1766	17.663
10	9.5	1	1.6	40	3.6	87.1660	0.4843	5.7	0.57	3.4866	8.7585	0.8758	0.1840	18.397
11	10.5	1	1.6	40	3.6	86.3422	0.4797	6.3	0.63	3.4537	9.3365	0.9337	0.1912	19.125
12	11.5	1	1.6	40	3.6	85.4188	0.4745	6.9	0.69	3.4168	9.9100	0.9910	0.1985	19.847
13	12.5	1	1.6	40	3.6	84.4049	0.4689	7.5	0.75	3.3762	10.4794	1.0479	0.2056	20.564
14	13.5	1	1.6	40	3.6	83.3108	0.4628	8.1	0.81	3.3324	11.0452	1.1045	0.2128	21.276
15	14.5	1	1.6	40	3.6	82.1475	0.4564	8.7	0.87	3.2859	11.6079	1.1608	0.2198	21.984
16	15.5	1	1.6	40	3.6	80.9260	0.4496	9.3	0.93	3.2370	12.1681	1.2168	0.2269	22.690
17	16.5	1	1.6	40	3.6	79.6574	0.4425	9.9	0.99	3.1863	12.7262	1.2726	0.2339	23.392
18	17.5	1	1.6	40	3.6	78.3521	0.4353	10.5	1.05	3.1341	13.2826	1.3283	0.2409	24.093
19	18.5	1	1.6	40	3.6	77.0196	0.4279	11.1	1.11	3.0808	13.8377	1.3838	0.2479	24.792
20	19.5	1	1.6	40	3.6	75.6690	0.4204	11.7	1.17	3.0268	14.3918	1.4392	0.2549	25.489

	H timb	2 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	2													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	40	3.6	89.9995	0.5000	0.3	0.03	3.6000	3.0176	0.3018	0.1117	11.169	
2	1.5	1	1.6	40	3.6	89.9878	0.4999	0.9	0.09	3.5995	3.8307	0.3831	0.1219	12.193	
3	2.5	1	1.6	40	3.6	89.9439	0.4997	1.5	0.15	3.5978	4.5108	0.4511	0.1305	13.049	
4	3.5	1	1.6	40	3.6	89.8484	0.4992	2.1	0.21	3.5939	5.1534	0.5153	0.1386	13.858	
5	4.5	1	1.6	40	3.6	89.6840	0.4982	2.7	0.27	3.5874	5.7777	0.5778	0.1464	14.644	
6	5.5	1	1.6	40	3.6	89.4368	0.4969	3.3	0.33	3.5775	6.3905	0.6391	0.1542	15.416	
7	6.5	1	1.6	40	3.6	89.0964	0.4950	3.9	0.39	3.5639	6.9948	0.6995	0.1618	16.176	
8	7.5	1	1.6	40	3.6	88.6561	0.4925	4.5	0.45	3.5462	7.5920	0.7592	0.1693	16.928	
9	8.5	1	1.6	40	3.6	88.1128	0.4895	5.1	0.51	3.5245	8.1831	0.8183	0.1767	17.673	
10	9.5	1	1.6	40	3.6	87.4667	0.4859	5.7	0.57	3.4987	8.7688	0.8769	0.1841	18.410	
11	10.5	1	1.6	40	3.6	86.7211	0.4818	6.3	0.63	3.4688	9.3496	0.9350	0.1914	19.141	
12	11.5	1	1.6	40	3.6	85.8814	0.4771	6.9	0.69	3.4353	9.9260	0.9926	0.1987	19.867	
13	12.5	1	1.6	40	3.6	84.9549	0.4720	7.5	0.75	3.3982	10.4985	1.0498	0.2059	20.588	
14	13.5	1	1.6	40	3.6	83.9502	0.4664	8.1	0.81	3.3580	11.0674	1.1067	0.2130	21.304	
15	14.5	1	1.6	40	3.6	82.8767	0.4604	8.7	0.87	3.3151	11.6334	1.1633	0.2202	22.016	
16	15.5	1	1.6	40	3.6	81.7441	0.4541	9.3	0.93	3.2698	12.1967	1.2197	0.2273	22.726	
17	16.5	1	1.6	40	3.6	80.5620	0.4476	9.9	0.99	3.2225	12.7579	1.2758	0.2343	23.432	
18	17.5	1	1.6	40	3.6	79.3399	0.4408	10.5	1.05	3.1736	13.3172	1.3317	0.2414	24.136	
19	18.5	1	1.6	40	3.6	78.0867	0.4338	11.1	1.11	3.1235	13.8751	1.3875	0.2484	24.839	
20	19.5	1	1.6	40	3.6	76.8107	0.4267	11.7	1.17	3.0724	14.4320	1.4432	0.2554	25.540	

	H timb	2 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	3													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar				
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	3.6	89.9996	0.5000	0.3	0.03	3.6000	3.0176	0.3018	0.1117	11.169
2	1.5	1	1.6	40	3.6	89.9891	0.4999	0.9	0.09	3.5996	3.8307	0.3831	0.1219	12.193
3	2.5	1	1.6	40	3.6	89.9500	0.4997	1.5	0.15	3.5980	4.5110	0.4511	0.1305	13.049
4	3.5	1	1.6	40	3.6	89.8647	0.4992	2.1	0.21	3.5946	5.1539	0.5154	0.1386	13.859
5	4.5	1	1.6	40	3.6	89.7176	0.4984	2.7	0.27	3.5887	5.7789	0.5779	0.1465	14.646
6	5.5	1	1.6	40	3.6	89.4961	0.4972	3.3	0.33	3.5798	6.3925	0.6393	0.1542	15.418
7	6.5	1	1.6	40	3.6	89.1902	0.4955	3.9	0.39	3.5676	6.9979	0.6998	0.1618	16.180
8	7.5	1	1.6	40	3.6	88.7933	0.4933	4.5	0.45	3.5517	7.5966	0.7597	0.1693	16.934
9	8.5	1	1.6	40	3.6	88.3020	0.4906	5.1	0.51	3.5321	8.1896	0.8190	0.1768	17.681
10	9.5	1	1.6	40	3.6	87.7158	0.4873	5.7	0.57	3.5086	8.7773	0.8777	0.1842	18.421
11	10.5	1	1.6	40	3.6	87.0367	0.4835	6.3	0.63	3.4815	9.3605	0.9360	0.1915	19.155
12	11.5	1	1.6	40	3.6	86.2689	0.4793	6.9	0.69	3.4508	9.9394	0.9939	0.1988	19.884
13	12.5	1	1.6	40	3.6	85.4184	0.4745	7.5	0.75	3.4167	10.5145	1.0515	0.2061	20.608
14	13.5	1	1.6	40	3.6	84.4923	0.4694	8.1	0.81	3.3797	11.0863	1.1086	0.2133	21.328
15	14.5	1	1.6	40	3.6	83.4987	0.4639	8.7	0.87	3.3399	11.6550	1.1655	0.2204	22.044
16	15.5	1	1.6	40	3.6	82.4460	0.4580	9.3	0.93	3.2978	12.2212	1.2221	0.2276	22.757
17	16.5	1	1.6	40	3.6	81.3428	0.4519	9.9	0.99	3.2537	12.7852	1.2785	0.2347	23.467
18	17.5	1	1.6	40	3.6	80.1975	0.4455	10.5	1.05	3.2079	13.3473	1.3347	0.2417	24.174
19	18.5	1	1.6	40	3.6	79.0184	0.4390	11.1	1.11	3.1607	13.9079	1.3908	0.2488	24.880
20	19.5	1	1.6	40	3.6	77.8130	0.4323	11.7	1.17	3.1125	14.4672	1.4467	0.2558	25.584

	H timb	4 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	1													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	40	7.2	89.9995	0.5000	0.3	0.03	7.2000	5.4358	0.5436	0.1421	14.214	
2	1.5	1	1.6	40	7.2	89.9878	0.4999	0.9	0.09	7.1990	6.5015	0.6501	0.1556	15.555	
3	2.5	1	1.6	40	7.2	89.9439	0.4997	1.5	0.15	7.1955	7.2942	0.7294	0.1655	16.553	
4	3.5	1	1.6	40	7.2	89.8484	0.4992	2.1	0.21	7.1879	8.0047	0.8005	0.1745	17.448	
5	4.5	1	1.6	40	7.2	89.6840	0.4982	2.7	0.27	7.1747	8.6738	0.8674	0.1829	18.290	
6	5.5	1	1.6	40	7.2	89.4368	0.4969	3.3	0.33	7.1549	9.3162	0.9316	0.1910	19.099	
7	6.5	1	1.6	40	7.2	89.0964	0.4950	3.9	0.39	7.1277	9.9390	0.9939	0.1988	19.883	
8	7.5	1	1.6	40	7.2	88.6561	0.4925	4.5	0.45	7.0925	10.5458	1.0546	0.2065	20.647	
9	8.5	1	1.6	40	7.2	88.1128	0.4895	5.1	0.51	7.0490	11.1389	1.1139	0.2139	21.394	
10	9.5	1	1.6	40	7.2	87.4667	0.4859	5.7	0.57	6.9973	11.7200	1.1720	0.2213	22.126	
11	10.5	1	1.6	40	7.2	86.7211	0.4818	6.3	0.63	6.9377	12.2904	1.2290	0.2284	22.844	
12	11.5	1	1.6	40	7.2	85.8814	0.4771	6.9	0.69	6.8705	12.8511	1.2851	0.2355	23.550	
13	12.5	1	1.6	40	7.2	84.9549	0.4720	7.5	0.75	6.7964	13.4032	1.3403	0.2424	24.245	
14	13.5	1	1.6	40	7.2	83.9502	0.4664	8.1	0.81	6.7160	13.9478	1.3948	0.2493	24.930	
15	14.5	1	1.6	40	7.2	82.8767	0.4604	8.7	0.87	6.6301	14.4858	1.4486	0.2561	25.608	
16	15.5	1	1.6	40	7.2	81.7441	0.4541	9.3	0.93	6.5395	15.0181	1.5018	0.2628	26.278	
17	16.5	1	1.6	40	7.2	80.5620	0.4476	9.9	0.99	6.4450	15.5457	1.5546	0.2694	26.942	
18	17.5	1	1.6	40	7.2	79.3399	0.4408	10.5	1.05	6.3472	16.0692	1.6069	0.2760	27.601	
19	18.5	1	1.6	40	7.2	78.0867	0.4338	11.1	1.11	6.2469	16.5895	1.6589	0.2826	28.256	
20	19.5	1	1.6	40	7.2	76.8107	0.4267	11.7	1.17	6.1449	17.1073	1.7107	0.2891	28.908	

	H timb	4 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	2													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	40	7.2	89.9996	0.5000	0.3	0.03	7.2000	5.4358	0.5436	0.1421	14.214	
2	1.5	1	1.6	40	7.2	89.9902	0.4999	0.9	0.09	7.1992	6.5016	0.6502	0.1556	15.556	
3	2.5	1	1.6	40	7.2	89.9550	0.4997	1.5	0.15	7.1964	7.2948	0.7295	0.1655	16.554	
4	3.5	1	1.6	40	7.2	89.8781	0.4993	2.1	0.21	7.1902	8.0066	0.8007	0.1745	17.450	
5	4.5	1	1.6	40	7.2	89.7453	0.4986	2.7	0.27	7.1796	8.6777	0.8678	0.1830	18.295	
6	5.5	1	1.6	40	7.2	89.5450	0.4975	3.3	0.33	7.1636	9.3232	0.9323	0.1911	19.108	
7	6.5	1	1.6	40	7.2	89.2678	0.4959	3.9	0.39	7.1414	9.9501	0.9950	0.1990	19.897	
8	7.5	1	1.6	40	7.2	88.9073	0.4939	4.5	0.45	7.1126	10.5623	1.0562	0.2067	20.668	
9	8.5	1	1.6	40	7.2	88.4600	0.4914	5.1	0.51	7.0768	11.1619	1.1162	0.2142	21.423	
10	9.5	1	1.6	40	7.2	87.9246	0.4885	5.7	0.57	7.0340	11.7505	1.1750	0.2216	22.164	
11	10.5	1	1.6	40	7.2	87.3025	0.4850	6.3	0.63	6.9842	12.3292	1.2329	0.2289	22.893	
12	11.5	1	1.6	40	7.2	86.5970	0.4811	6.9	0.69	6.9278	12.8992	1.2899	0.2361	23.610	
13	12.5	1	1.6	40	7.2	85.8127	0.4767	7.5	0.75	6.8650	13.4611	1.3461	0.2432	24.318	
14	13.5	1	1.6	40	7.2	84.9559	0.4720	8.1	0.81	6.7965	14.0160	1.4016	0.2502	25.016	
15	14.5	1	1.6	40	7.2	84.0333	0.4669	8.7	0.87	6.7227	14.5645	1.4564	0.2571	25.707	
16	15.5	1	1.6	40	7.2	83.0524	0.4614	9.3	0.93	6.6442	15.1074	1.5107	0.2639	26.390	
17	16.5	1	1.6	40	7.2	82.0207	0.4557	9.9	0.99	6.5617	15.6455	1.5646	0.2707	27.068	
18	17.5	1	1.6	40	7.2	80.9460	0.4497	10.5	1.05	6.4757	16.1794	1.6179	0.2774	27.740	
19	18.5	1	1.6	40	7.2	79.8355	0.4435	11.1	1.11	6.3868	16.7098	1.6710	0.2841	28.408	
20	19.5	1	1.6	40	7.2	78.6963	0.4372	11.7	1.17	6.2957	17.2374	1.7237	0.2907	29.072	

	H timb	4 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	3													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	40	7.2	89.9997	0.5000	0.3	0.03	7.2000	5.4358	0.5436	0.1421	14.214	
2	1.5	1	1.6	40	7.2	89.9919	0.5000	0.9	0.09	7.1993	6.5017	0.6502	0.1556	15.556	
3	2.5	1	1.6	40	7.2	89.9626	0.4998	1.5	0.15	7.1970	7.2953	0.7295	0.1655	16.555	
4	3.5	1	1.6	40	7.2	89.8986	0.4994	2.1	0.21	7.1919	8.0078	0.8008	0.1745	17.452	
5	4.5	1	1.6	40	7.2	89.7880	0.4988	2.7	0.27	7.1830	8.6804	0.8680	0.1830	18.299	
6	5.5	1	1.6	40	7.2	89.6206	0.4979	3.3	0.33	7.1696	9.3280	0.9328	0.1911	19.114	
7	6.5	1	1.6	40	7.2	89.3883	0.4966	3.9	0.39	7.1511	9.9580	0.9958	0.1991	19.907	
8	7.5	1	1.6	40	7.2	89.0851	0.4949	4.5	0.45	7.1268	10.5739	1.0574	0.2068	20.683	
9	8.5	1	1.6	40	7.2	88.7073	0.4928	5.1	0.51	7.0966	11.1782	1.1178	0.2144	21.443	
10	9.5	1	1.6	40	7.2	88.2533	0.4903	5.7	0.57	7.0603	11.7723	1.1772	0.2219	22.191	
11	10.5	1	1.6	40	7.2	87.7232	0.4874	6.3	0.63	7.0179	12.3573	1.2357	0.2293	22.928	
12	11.5	1	1.6	40	7.2	87.1191	0.4840	6.9	0.69	6.9695	12.9342	1.2934	0.2365	23.654	
13	12.5	1	1.6	40	7.2	86.4440	0.4802	7.5	0.75	6.9155	13.5037	1.3504	0.2437	24.371	
14	13.5	1	1.6	40	7.2	85.7025	0.4761	8.1	0.81	6.8562	14.0665	1.4067	0.2508	25.080	
15	14.5	1	1.6	40	7.2	84.8996	0.4717	8.7	0.87	6.7920	14.6234	1.4623	0.2578	25.781	
16	15.5	1	1.6	40	7.2	84.0411	0.4669	9.3	0.93	6.7233	15.1749	1.5175	0.2648	26.475	
17	16.5	1	1.6	40	7.2	83.1330	0.4619	9.9	0.99	6.6506	15.7216	1.5722	0.2716	27.163	
18	17.5	1	1.6	40	7.2	82.1815	0.4566	10.5	1.05	6.5745	16.2642	1.6264	0.2785	27.847	
19	18.5	1	1.6	40	7.2	81.1926	0.4511	11.1	1.11	6.4954	16.8032	1.6803	0.2853	28.525	
20	19.5	1	1.6	40	7.2	80.1724	0.4454	11.7	1.17	6.4138	17.3391	1.7339	0.2920	29.200	

H timb	6 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar				
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	40	10.8	89.9996	0.5000	0.3	0.03	10.8000	7.7357	0.7736	0.1711	17.109
2	1.5	1	1.6	40	10.8	89.9891	0.4999	0.9	0.09	10.7987	9.0521	0.9052	0.1877	18.767
3	2.5	1	1.6	40	10.8	89.9500	0.4997	1.5	0.15	10.7940	9.9617	0.9962	0.1991	19.912
4	3.5	1	1.6	40	10.8	89.8647	0.4992	2.1	0.21	10.7838	10.7463	1.0746	0.2090	20.900
5	4.5	1	1.6	40	10.8	89.7176	0.4984	2.7	0.27	10.7661	11.4671	1.1467	0.2181	21.807
6	5.5	1	1.6	40	10.8	89.4961	0.4972	3.3	0.33	10.7395	12.1470	1.2147	0.2266	22.663
7	6.5	1	1.6	40	10.8	89.1902	0.4955	3.9	0.39	10.7028	12.7967	1.2797	0.2348	23.481
8	7.5	1	1.6	40	10.8	88.7933	0.4933	4.5	0.45	10.6552	13.4223	1.3422	0.2427	24.269
9	8.5	1	1.6	40	10.8	88.3020	0.4906	5.1	0.51	10.5962	14.0273	1.4027	0.2503	25.030
10	9.5	1	1.6	40	10.8	87.7158	0.4873	5.7	0.57	10.5259	14.6142	1.4614	0.2577	25.769
11	10.5	1	1.6	40	10.8	87.0367	0.4835	6.3	0.63	10.4444	15.1851	1.5185	0.2649	26.488
12	11.5	1	1.6	40	10.8	86.2689	0.4793	6.9	0.69	10.3523	15.7415	1.5742	0.2719	27.189
13	12.5	1	1.6	40	10.8	85.4184	0.4745	7.5	0.75	10.2502	16.2851	1.6285	0.2787	27.873
14	13.5	1	1.6	40	10.8	84.4923	0.4694	8.1	0.81	10.1391	16.8171	1.6817	0.2854	28.543
15	14.5	1	1.6	40	10.8	83.4987	0.4639	8.7	0.87	10.0198	17.3390	1.7339	0.2920	29.200
16	15.5	1	1.6	40	10.8	82.4460	0.4580	9.3	0.93	9.8935	17.8520	1.7852	0.2985	29.846
17	16.5	1	1.6	40	10.8	81.3428	0.4519	9.9	0.99	9.7611	18.3574	1.8357	0.3048	30.482
18	17.5	1	1.6	40	10.8	80.1975	0.4455	10.5	1.05	9.6237	18.8563	1.8856	0.3111	31.110
19	18.5	1	1.6	40	10.8	79.0184	0.4390	11.1	1.11	9.4822	19.3497	1.9350	0.3173	31.731
20	19.5	1	1.6	40	10.8	77.8130	0.4323	11.7	1.17	9.3376	19.8388	1.9839	0.3235	32.347

	H timb	6 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	2													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	40	10.8	89.9997	0.5000	0.3	0.03	10.8000	7.7357	0.7736	0.1711	17.109	
2	1.5	1	1.6	40	10.8	89.9919	0.5000	0.9	0.09	10.7990	9.0523	0.9052	0.1877	18.767	
3	2.5	1	1.6	40	10.8	89.9626	0.4998	1.5	0.15	10.7955	9.9628	0.9963	0.1991	19.913	
4	3.5	1	1.6	40	10.8	89.8986	0.4994	2.1	0.21	10.7878	10.7494	1.0749	0.2090	20.903	
5	4.5	1	1.6	40	10.8	89.7880	0.4988	2.7	0.27	10.7746	11.4736	1.1474	0.2182	21.815	
6	5.5	1	1.6	40	10.8	89.6206	0.4979	3.3	0.33	10.7545	12.1586	1.2159	0.2268	22.678	
7	6.5	1	1.6	40	10.8	89.3883	0.4966	3.9	0.39	10.7266	12.8155	1.2815	0.2350	23.505	
8	7.5	1	1.6	40	10.8	89.0851	0.4949	4.5	0.45	10.6902	13.4502	1.3450	0.2430	24.304	
9	8.5	1	1.6	40	10.8	88.7073	0.4928	5.1	0.51	10.6449	14.0664	1.4066	0.2508	25.080	
10	9.5	1	1.6	40	10.8	88.2533	0.4903	5.7	0.57	10.5904	14.6665	1.4666	0.2584	25.835	
11	10.5	1	1.6	40	10.8	87.7232	0.4874	6.3	0.63	10.5268	15.2523	1.5252	0.2657	26.573	
12	11.5	1	1.6	40	10.8	87.1191	0.4840	6.9	0.69	10.4543	15.8253	1.5825	0.2729	27.294	
13	12.5	1	1.6	40	10.8	86.4440	0.4802	7.5	0.75	10.3733	16.3866	1.6387	0.2800	28.001	
14	13.5	1	1.6	40	10.8	85.7025	0.4761	8.1	0.81	10.2843	16.9376	1.6938	0.2869	28.694	
15	14.5	1	1.6	40	10.8	84.8996	0.4717	8.7	0.87	10.1880	17.4791	1.7479	0.2938	29.376	
16	15.5	1	1.6	40	10.8	84.0411	0.4669	9.3	0.93	10.0849	18.0122	1.8012	0.3005	30.047	
17	16.5	1	1.6	40	10.8	83.1330	0.4619	9.9	0.99	9.9760	18.5378	1.8538	0.3071	30.709	
18	17.5	1	1.6	40	10.8	82.1815	0.4566	10.5	1.05	9.8618	19.0569	1.9057	0.3136	31.363	
19	18.5	1	1.6	40	10.8	81.1926	0.4511	11.1	1.11	9.7431	19.5704	1.9570	0.3201	32.009	
20	19.5	1	1.6	40	10.8	80.1724	0.4454	11.7	1.17	9.6207	20.0789	2.0079	0.3265	32.649	

	H timb	6 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	3													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	40	10.8	89.9998	0.5000	0.3	0.03	10.8000	7.7357	0.7736	0.1711	17.109	
2	1.5	1	1.6	40	10.8	89.9936	0.5000	0.9	0.09	10.7992	9.0524	0.9052	0.1877	18.767	
3	2.5	1	1.6	40	10.8	89.9704	0.4998	1.5	0.15	10.7964	9.9635	0.9963	0.1991	19.914	
4	3.5	1	1.6	40	10.8	89.9197	0.4996	2.1	0.21	10.7904	10.7513	1.0751	0.2091	20.906	
5	4.5	1	1.6	40	10.8	89.8318	0.4991	2.7	0.27	10.7798	11.4776	1.1478	0.2182	21.820	
6	5.5	1	1.6	40	10.8	89.6984	0.4983	3.3	0.33	10.7638	12.1659	1.2166	0.2269	22.687	
7	6.5	1	1.6	40	10.8	89.5128	0.4973	3.9	0.39	10.7415	12.8273	1.2827	0.2352	23.520	
8	7.5	1	1.6	40	10.8	89.2697	0.4959	4.5	0.45	10.7124	13.4679	1.3468	0.2433	24.326	
9	8.5	1	1.6	40	10.8	88.9657	0.4943	5.1	0.51	10.6759	14.0913	1.4091	0.2511	25.111	
10	9.5	1	1.6	40	10.8	88.5987	0.4922	5.7	0.57	10.6318	14.7001	1.4700	0.2588	25.877	
11	10.5	1	1.6	40	10.8	88.1683	0.4898	6.3	0.63	10.5802	15.2959	1.5296	0.2663	26.627	
12	11.5	1	1.6	40	10.8	87.6752	0.4871	6.9	0.69	10.5210	15.8800	1.5880	0.2736	27.363	
13	12.5	1	1.6	40	10.8	87.1214	0.4840	7.5	0.75	10.4546	16.4537	1.6454	0.2809	28.085	
14	13.5	1	1.6	40	10.8	86.5096	0.4806	8.1	0.81	10.3812	17.0179	1.7018	0.2880	28.795	
15	14.5	1	1.6	40	10.8	85.8434	0.4769	8.7	0.87	10.3012	17.5734	1.7573	0.2949	29.495	
16	15.5	1	1.6	40	10.8	85.1268	0.4729	9.3	0.93	10.2152	18.1211	1.8121	0.3018	30.184	
17	16.5	1	1.6	40	10.8	84.3642	0.4687	9.9	0.99	10.1237	18.6618	1.8662	0.3087	30.865	
18	17.5	1	1.6	40	10.8	83.5600	0.4642	10.5	1.05	10.0272	19.1962	1.9196	0.3154	31.538	
19	18.5	1	1.6	40	10.8	82.7191	0.4596	11.1	1.11	9.9263	19.7251	1.9725	0.3220	32.204	
20	19.5	1	1.6	40	10.8	81.8459	0.4547	11.7	1.17	9.8215	20.2490	2.0249	0.3286	32.864	

	H timb	8 meter												
	γtimb(t/m3)	1.8 t/m3												
	kemiringan	1												
No	**z**	**H (meter)**	**γsat (t/m3)**	**IP**	**q**	**I**		**po' (t/m2)**	**po' (kg/cm2)**	**Setelah diperbaiki Ardhana dan Mochtar**				
										Δp (t/m2)	**σ'p (t/m2)**	**σ'p (kg/cm2)**	**Cu (kg/cm2)**	**Cu (kpa)**
1	0.5	1	1.6	40	14.4	89.9996	0.5000	0.3	0.03	14.3999	9.9608	0.9961	0.1991	19.911
2	1.5	1	1.6	40	14.4	89.9902	0.4999	0.9	0.09	14.3984	11.5241	1.1524	0.2188	21.879
3	2.5	1	1.6	40	14.4	89.9550	0.4997	1.5	0.15	14.3928	12.5513	1.2551	0.2317	23.172
4	3.5	1	1.6	40	14.4	89.8781	0.4993	2.1	0.21	14.3805	13.4120	1.3412	0.2426	24.256
5	4.5	1	1.6	40	14.4	89.7453	0.4986	2.7	0.27	14.3593	14.1873	1.4187	0.2523	25.232
6	5.5	1	1.6	40	14.4	89.5450	0.4975	3.3	0.33	14.3272	14.9079	1.4908	0.2614	26.139
7	6.5	1	1.6	40	14.4	89.2678	0.4959	3.9	0.39	14.2828	15.5884	1.5588	0.2700	26.996
8	7.5	1	1.6	40	14.4	88.9073	0.4939	4.5	0.45	14.2252	16.2370	1.6237	0.2781	27.812
9	8.5	1	1.6	40	14.4	88.4600	0.4914	5.1	0.51	14.1536	16.8584	1.6858	0.2859	28.595
10	9.5	1	1.6	40	14.4	87.9246	0.4885	5.7	0.57	14.0679	17.4563	1.7456	0.2935	29.348
11	10.5	1	1.6	40	14.4	87.3025	0.4850	6.3	0.63	13.9684	18.0332	1.8033	0.3007	30.074
12	11.5	1	1.6	40	14.4	86.5970	0.4811	6.9	0.69	13.8555	18.5911	1.8591	0.3078	30.776
13	12.5	1	1.6	40	14.4	85.8127	0.4767	7.5	0.75	13.7300	19.1321	1.9132	0.3146	31.457
14	13.5	1	1.6	40	14.4	84.9559	0.4720	8.1	0.81	13.5929	19.6578	1.9658	0.3212	32.119
15	14.5	1	1.6	40	14.4	84.0333	0.4669	8.7	0.87	13.4453	20.1700	2.0170	0.3276	32.764
16	15.5	1	1.6	40	14.4	83.0524	0.4614	9.3	0.93	13.2884	20.6702	2.0670	0.3339	33.394
17	16.5	1	1.6	40	14.4	82.0207	0.4557	9.9	0.99	13.1233	21.1600	2.1160	0.3401	34.010
18	17.5	1	1.6	40	14.4	80.9460	0.4497	10.5	1.05	12.9514	21.6406	2.1641	0.3462	34.616
19	18.5	1	1.6	40	14.4	79.8355	0.4435	11.1	1.11	12.7737	22.1136	2.2114	0.3521	35.211
20	19.5	1	1.6	40	14.4	78.6963	0.4372	11.7	1.17	12.5914	22.5801	2.2580	0.3580	35.798

	H timb	8 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	2													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	40	14.4	89.9997	0.5000	0.3	0.03	14.4000	9.9609	0.9961	0.1991	19.911	
2	1.5	1	1.6	40	14.4	89.9931	0.5000	0.9	0.09	14.3989	11.5244	1.1524	0.2188	21.879	
3	2.5	1	1.6	40	14.4	89.9682	0.4998	1.5	0.15	14.3949	12.5528	1.2553	0.2317	23.174	
4	3.5	1	1.6	40	14.4	89.9136	0.4995	2.1	0.21	14.3862	13.4162	1.3416	0.2426	24.261	
5	4.5	1	1.6	40	14.4	89.8192	0.4990	2.7	0.27	14.3711	14.1962	1.4196	0.2524	25.243	
6	5.5	1	1.6	40	14.4	89.6760	0.4982	3.3	0.33	14.3482	14.9239	1.4924	0.2616	26.159	
7	6.5	1	1.6	40	14.4	89.4769	0.4971	3.9	0.39	14.3163	15.6142	1.5614	0.2703	27.028	
8	7.5	1	1.6	40	14.4	89.2164	0.4956	4.5	0.45	14.2746	16.2755	1.6276	0.2786	27.861	
9	8.5	1	1.6	40	14.4	88.8909	0.4938	5.1	0.51	14.2225	16.9128	1.6913	0.2866	28.663	
10	9.5	1	1.6	40	14.4	88.4985	0.4917	5.7	0.57	14.1598	17.5293	1.7529	0.2944	29.439	
11	10.5	1	1.6	40	14.4	88.0389	0.4891	6.3	0.63	14.0862	18.1275	1.8127	0.3019	30.192	
12	11.5	1	1.6	40	14.4	87.5131	0.4862	6.9	0.69	14.0021	18.7092	1.8709	0.3092	30.925	
13	12.5	1	1.6	40	14.4	86.9234	0.4829	7.5	0.75	13.9077	19.2761	1.9276	0.3164	31.639	
14	13.5	1	1.6	40	14.4	86.2731	0.4793	8.1	0.81	13.8037	19.8296	1.9830	0.3234	32.335	
15	14.5	1	1.6	40	14.4	85.5661	0.4754	8.7	0.87	13.6906	20.3709	2.0371	0.3302	33.017	
16	15.5	1	1.6	40	14.4	84.8068	0.4711	9.3	0.93	13.5691	20.9013	2.0901	0.3368	33.685	
17	16.5	1	1.6	40	14.4	84.0003	0.4667	9.9	0.99	13.4400	21.4218	2.1422	0.3434	34.340	
18	17.5	1	1.6	40	14.4	83.1514	0.4620	10.5	1.05	13.3042	21.9335	2.1933	0.3498	34.984	
19	18.5	1	1.6	40	14.4	82.2652	0.4570	11.1	1.11	13.1624	22.4374	2.2437	0.3562	35.619	
20	19.5	1	1.6	40	14.4	81.3469	0.4519	11.7	1.17	13.0155	22.9346	2.2935	0.3624	36.245	

	H timb	8 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	3													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	40	14.4	89.9998	0.5000	0.3	0.03	14.4000	9.9609	0.9961	0.1991	19.911	
2	1.5	1	1.6	40	14.4	89.9947	0.5000	0.9	0.09	14.3992	11.5246	1.1525	0.2188	21.879	
3	2.5	1	1.6	40	14.4	89.9756	0.4999	1.5	0.15	14.3961	12.5537	1.2554	0.2318	23.175	
4	3.5	1	1.6	40	14.4	89.9338	0.4996	2.1	0.21	14.3894	13.4186	1.3419	0.2426	24.264	
5	4.5	1	1.6	40	14.4	89.8613	0.4992	2.7	0.27	14.3778	14.2012	1.4201	0.2525	25.249	
6	5.5	1	1.6	40	14.4	89.7510	0.4986	3.3	0.33	14.3602	14.9330	1.4933	0.2617	26.171	
7	6.5	1	1.6	40	14.4	89.5973	0.4978	3.9	0.39	14.3356	15.6291	1.5629	0.2705	27.047	
8	7.5	1	1.6	40	14.4	89.3956	0.4966	4.5	0.45	14.3033	16.2979	1.6298	0.2789	27.889	
9	8.5	1	1.6	40	14.4	89.1426	0.4952	5.1	0.51	14.2628	16.9445	1.6944	0.2870	28.703	
10	9.5	1	1.6	40	14.4	88.8364	0.4935	5.7	0.57	14.2138	17.5722	1.7572	0.2949	29.493	
11	10.5	1	1.6	40	14.4	88.4762	0.4915	6.3	0.63	14.1562	18.1835	1.8183	0.3026	30.263	
12	11.5	1	1.6	40	14.4	88.0622	0.4892	6.9	0.69	14.0900	18.7800	1.8780	0.3101	31.014	
13	12.5	1	1.6	40	14.4	87.5956	0.4866	7.5	0.75	14.0153	19.3633	1.9363	0.3175	31.748	
14	13.5	1	1.6	40	14.4	87.0784	0.4838	8.1	0.81	13.9325	19.9346	1.9935	0.3247	32.468	
15	14.5	1	1.6	40	14.4	86.5129	0.4806	8.7	0.87	13.8421	20.4949	2.0495	0.3317	33.173	
16	15.5	1	1.6	40	14.4	85.9021	0.4772	9.3	0.93	13.7443	21.0453	2.1045	0.3387	33.866	
17	16.5	1	1.6	40	14.4	85.2494	0.4736	9.9	0.99	13.6399	21.5868	2.1587	0.3455	34.548	
18	17.5	1	1.6	40	14.4	84.5583	0.4698	10.5	1.05	13.5293	22.1201	2.2120	0.3522	35.219	
19	18.5	1	1.6	40	14.4	83.8324	0.4657	11.1	1.11	13.4132	22.6460	2.2646	0.3588	35.881	
20	19.5	1	1.6	40	14.4	83.0752	0.4615	11.7	1.17	13.2920	23.1654	2.3165	0.3654	36.535	

LAMPIRAN 2-3

	H timb	2 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	1													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	60	3.6	89.9995	0.5000	0.3	0.03	3.6000	3.0176	0.3018	0.1020	10.204	
2	1.5	1	1.6	60	3.6	89.9861	0.4999	0.9	0.09	3.5994	3.8306	0.3831	0.1097	10.967	
3	2.5	1	1.6	60	3.6	89.9364	0.4996	1.5	0.15	3.5975	4.5105	0.4511	0.1161	11.605	
4	3.5	1	1.6	60	3.6	89.8281	0.4990	2.1	0.21	3.5931	5.1527	0.5153	0.1221	12.208	
5	4.5	1	1.6	60	3.6	89.6424	0.4980	2.7	0.27	3.5857	5.7764	0.5776	0.1279	12.794	
6	5.5	1	1.6	60	3.6	89.3638	0.4965	3.3	0.33	3.5746	6.3881	0.6388	0.1337	13.368	
7	6.5	1	1.6	60	3.6	88.9815	0.4943	3.9	0.39	3.5593	6.9909	0.6991	0.1393	13.934	
8	7.5	1	1.6	60	3.6	88.4886	0.4916	4.5	0.45	3.5395	7.5863	0.7586	0.1449	14.494	
9	8.5	1	1.6	60	3.6	87.8830	0.4882	5.1	0.51	3.5153	8.1753	0.8175	0.1505	15.047	
10	9.5	1	1.6	60	3.6	87.1660	0.4843	5.7	0.57	3.4866	8.7585	0.8758	0.1559	15.594	
11	10.5	1	1.6	60	3.6	86.3422	0.4797	6.3	0.63	3.4537	9.3365	0.9337	0.1614	16.137	
12	11.5	1	1.6	60	3.6	85.4188	0.4745	6.9	0.69	3.4168	9.9100	0.9910	0.1668	16.675	
13	12.5	1	1.6	60	3.6	84.4049	0.4689	7.5	0.75	3.3762	10.4794	1.0479	0.1721	17.210	
14	13.5	1	1.6	60	3.6	83.3108	0.4628	8.1	0.81	3.3324	11.0452	1.1045	0.1774	17.741	
15	14.5	1	1.6	60	3.6	82.1475	0.4564	8.7	0.87	3.2859	11.6079	1.1608	0.1827	18.270	
16	15.5	1	1.6	60	3.6	80.9260	0.4496	9.3	0.93	3.2370	12.1681	1.2168	0.1880	18.796	
17	16.5	1	1.6	60	3.6	79.6574	0.4425	9.9	0.99	3.1863	12.7262	1.2726	0.1932	19.320	
18	17.5	1	1.6	60	3.6	78.3521	0.4353	10.5	1.05	3.1341	13.2826	1.3283	0.1984	19.842	
19	18.5	1	1.6	60	3.6	77.0196	0.4279	11.1	1.11	3.0808	13.8377	1.3838	0.2036	20.364	
20	19.5	1	1.6	60	3.6	75.6690	0.4204	11.7	1.17	3.0268	14.3918	1.4392	0.2088	20.884	

	H timb	2 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	2													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	60	3.6	89.9995	0.5000	0.3	0.03	3.6000	3.0176	0.3018	0.1020	10.204	
2	1.5	1	1.6	60	3.6	89.9878	0.4999	0.9	0.09	3.5995	3.8307	0.3831	0.1097	10.967	
3	2.5	1	1.6	60	3.6	89.9439	0.4997	1.5	0.15	3.5978	4.5108	0.4511	0.1161	11.606	
4	3.5	1	1.6	60	3.6	89.8484	0.4992	2.1	0.21	3.5939	5.1534	0.5153	0.1221	12.209	
5	4.5	1	1.6	60	3.6	89.6840	0.4982	2.7	0.27	3.5874	5.7777	0.5778	0.1280	12.795	
6	5.5	1	1.6	60	3.6	89.4368	0.4969	3.3	0.33	3.5775	6.3905	0.6391	0.1337	13.371	
7	6.5	1	1.6	60	3.6	89.0964	0.4950	3.9	0.39	3.5639	6.9948	0.6995	0.1394	13.938	
8	7.5	1	1.6	60	3.6	88.6561	0.4925	4.5	0.45	3.5462	7.5920	0.7592	0.1450	14.499	
9	8.5	1	1.6	60	3.6	88.1128	0.4895	5.1	0.51	3.5245	8.1831	0.8183	0.1505	15.054	
10	9.5	1	1.6	60	3.6	87.4667	0.4859	5.7	0.57	3.4987	8.7688	0.8769	0.1560	15.604	
11	10.5	1	1.6	60	3.6	86.7211	0.4818	6.3	0.63	3.4688	9.3496	0.9350	0.1615	16.149	
12	11.5	1	1.6	60	3.6	85.8814	0.4771	6.9	0.69	3.4353	9.9260	0.9926	0.1669	16.691	
13	12.5	1	1.6	60	3.6	84.9549	0.4720	7.5	0.75	3.3982	10.4985	1.0498	0.1723	17.228	
14	13.5	1	1.6	60	3.6	83.9502	0.4664	8.1	0.81	3.3580	11.0674	1.1067	0.1776	17.762	
15	14.5	1	1.6	60	3.6	82.8767	0.4604	8.7	0.87	3.3151	11.6334	1.1633	0.1829	18.294	
16	15.5	1	1.6	60	3.6	81.7441	0.4541	9.3	0.93	3.2698	12.1967	1.2197	0.1882	18.823	
17	16.5	1	1.6	60	3.6	80.5620	0.4476	9.9	0.99	3.2225	12.7579	1.2758	0.1935	19.350	
18	17.5	1	1.6	60	3.6	79.3399	0.4408	10.5	1.05	3.1736	13.3172	1.3317	0.1987	19.875	
19	18.5	1	1.6	60	3.6	78.0867	0.4338	11.1	1.11	3.1235	13.8751	1.3875	0.2040	20.399	
20	19.5	1	1.6	60	3.6	76.8107	0.4267	11.7	1.17	3.0724	14.4320	1.4432	0.2092	20.922	

	H timb	2 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	3													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	60	3.6	89.9996	0.5000	0.3	0.03	3.6000	3.0176	0.3018	0.1020	10.204	
2	1.5	1	1.6	60	3.6	89.9891	0.4999	0.9	0.09	3.5996	3.8307	0.3831	0.1097	10.967	
3	2.5	1	1.6	60	3.6	89.9500	0.4997	1.5	0.15	3.5980	4.5110	0.4511	0.1161	11.606	
4	3.5	1	1.6	60	3.6	89.8647	0.4992	2.1	0.21	3.5946	5.1539	0.5154	0.1221	12.210	
5	4.5	1	1.6	60	3.6	89.7176	0.4984	2.7	0.27	3.5887	5.7789	0.5779	0.1280	12.796	
6	5.5	1	1.6	60	3.6	89.4961	0.4972	3.3	0.33	3.5798	6.3925	0.6393	0.1337	13.373	
7	6.5	1	1.6	60	3.6	89.1902	0.4955	3.9	0.39	3.5676	6.9979	0.6998	0.1394	13.941	
8	7.5	1	1.6	60	3.6	88.7933	0.4933	4.5	0.45	3.5517	7.5966	0.7597	0.1450	14.503	
9	8.5	1	1.6	60	3.6	88.3020	0.4906	5.1	0.51	3.5321	8.1896	0.8190	0.1506	15.060	
10	9.5	1	1.6	60	3.6	87.7158	0.4873	5.7	0.57	3.5086	8.7773	0.8777	0.1561	15.612	
11	10.5	1	1.6	60	3.6	87.0367	0.4835	6.3	0.63	3.4815	9.3605	0.9360	0.1616	16.159	
12	11.5	1	1.6	60	3.6	86.2689	0.4793	6.9	0.69	3.4508	9.9394	0.9939	0.1670	16.703	
13	12.5	1	1.6	60	3.6	85.4184	0.4745	7.5	0.75	3.4167	10.5145	1.0515	0.1724	17.243	
14	13.5	1	1.6	60	3.6	84.4923	0.4694	8.1	0.81	3.3797	11.0863	1.1086	0.1778	17.780	
15	14.5	1	1.6	60	3.6	83.4987	0.4639	8.7	0.87	3.3399	11.6550	1.1655	0.1831	18.314	
16	15.5	1	1.6	60	3.6	82.4460	0.4580	9.3	0.93	3.2978	12.2212	1.2221	0.1885	18.846	
17	16.5	1	1.6	60	3.6	81.3428	0.4519	9.9	0.99	3.2537	12.7852	1.2785	0.1938	19.375	
18	17.5	1	1.6	60	3.6	80.1975	0.4455	10.5	1.05	3.2079	13.3473	1.3347	0.1990	19.903	
19	18.5	1	1.6	60	3.6	79.0184	0.4390	11.1	1.11	3.1607	13.9079	1.3908	0.2043	20.429	
20	19.5	1	1.6	60	3.6	77.8130	0.4323	11.7	1.17	3.1125	14.4672	1.4467	0.2095	20.955	

	H timb	4 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	1													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	60	7.2	89.9995	0.5000	0.3	0.03	7.2000	5.4358	0.5436	0.1247	12.474	
2	1.5	1	1.6	60	7.2	89.9878	0.4999	0.9	0.09	7.1990	6.5015	0.6501	0.1347	13.475	
3	2.5	1	1.6	60	7.2	89.9439	0.4997	1.5	0.15	7.1955	7.2942	0.7294	0.1422	14.219	
4	3.5	1	1.6	60	7.2	89.8484	0.4992	2.1	0.21	7.1879	8.0047	0.8005	0.1489	14.886	
5	4.5	1	1.6	60	7.2	89.6840	0.4982	2.7	0.27	7.1747	8.6738	0.8674	0.1551	15.515	
6	5.5	1	1.6	60	7.2	89.4368	0.4969	3.3	0.33	7.1549	9.3162	0.9316	0.1612	16.118	
7	6.5	1	1.6	60	7.2	89.0964	0.4950	3.9	0.39	7.1277	9.9390	0.9939	0.1670	16.703	
8	7.5	1	1.6	60	7.2	88.6561	0.4925	4.5	0.45	7.0925	10.5458	1.0546	0.1727	17.273	
9	8.5	1	1.6	60	7.2	88.1128	0.4895	5.1	0.51	7.0490	11.1389	1.1139	0.1783	17.829	
10	9.5	1	1.6	60	7.2	87.4667	0.4859	5.7	0.57	6.9973	11.7200	1.1720	0.1838	18.375	
11	10.5	1	1.6	60	7.2	86.7211	0.4818	6.3	0.63	6.9377	12.2904	1.2290	0.1891	18.911	
12	11.5	1	1.6	60	7.2	85.8814	0.4771	6.9	0.69	6.8705	12.8511	1.2851	0.1944	19.437	
13	12.5	1	1.6	60	7.2	84.9549	0.4720	7.5	0.75	6.7964	13.4032	1.3403	0.1996	19.956	
14	13.5	1	1.6	60	7.2	83.9502	0.4664	8.1	0.81	6.7160	13.9478	1.3948	0.2047	20.467	
15	14.5	1	1.6	60	7.2	82.8767	0.4604	8.7	0.87	6.6301	14.4858	1.4486	0.2097	20.972	
16	15.5	1	1.6	60	7.2	81.7441	0.4541	9.3	0.93	6.5395	15.0181	1.5018	0.2147	21.472	
17	16.5	1	1.6	60	7.2	80.5620	0.4476	9.9	0.99	6.4450	15.5457	1.5546	0.2197	21.967	
18	17.5	1	1.6	60	7.2	79.3399	0.4408	10.5	1.05	6.3472	16.0692	1.6069	0.2246	22.459	
19	18.5	1	1.6	60	7.2	78.0867	0.4338	11.1	1.11	6.2469	16.5895	1.6589	0.2295	22.948	
20	19.5	1	1.6	60	7.2	76.8107	0.4267	11.7	1.17	6.1449	17.1073	1.7107	0.2343	23.434	

	H timb	4 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	2													
No	**z**	**H (meter)**	**γsat (t/m3)**	**IP**	**q**	**I**		**po' (t/m2)**	**po' (kg/cm2)**	**Setelah diperbaiki Ardhana dan Mochtar**				
										Δp (t/m2)	**σ'p (t/m2)**	**σ'p (kg/cm2)**	**Cu (kg/cm2)**	**Cu (kpa)**
1	0.5	1	1.6	60	7.2	89.9996	0.5000	0.3	0.03	7.2000	5.4358	0.5436	0.1247	12.474
2	1.5	1	1.6	60	7.2	89.9902	0.4999	0.9	0.09	7.1992	6.5016	0.6502	0.1348	13.475
3	2.5	1	1.6	60	7.2	89.9550	0.4997	1.5	0.15	7.1964	7.2948	0.7295	0.1422	14.220
4	3.5	1	1.6	60	7.2	89.8781	0.4993	2.1	0.21	7.1902	8.0066	0.8007	0.1489	14.888
5	4.5	1	1.6	60	7.2	89.7453	0.4986	2.7	0.27	7.1796	8.6777	0.8678	0.1552	15.518
6	5.5	1	1.6	60	7.2	89.5450	0.4975	3.3	0.33	7.1636	9.3232	0.9323	0.1612	16.124
7	6.5	1	1.6	60	7.2	89.2678	0.4959	3.9	0.39	7.1414	9.9501	0.9950	0.1671	16.713
8	7.5	1	1.6	60	7.2	88.9073	0.4939	4.5	0.45	7.1126	10.5623	1.0562	0.1729	17.288
9	8.5	1	1.6	60	7.2	88.4600	0.4914	5.1	0.51	7.0768	11.1619	1.1162	0.1785	17.851
10	9.5	1	1.6	60	7.2	87.9246	0.4885	5.7	0.57	7.0340	11.7505	1.1750	0.1840	18.404
11	10.5	1	1.6	60	7.2	87.3025	0.4850	6.3	0.63	6.9842	12.3292	1.2329	0.1895	18.947
12	11.5	1	1.6	60	7.2	86.5970	0.4811	6.9	0.69	6.9278	12.8992	1.2899	0.1948	19.482
13	12.5	1	1.6	60	7.2	85.8127	0.4767	7.5	0.75	6.8650	13.4611	1.3461	0.2001	20.010
14	13.5	1	1.6	60	7.2	84.9559	0.4720	8.1	0.81	6.7965	14.0160	1.4016	0.2053	20.531
15	14.5	1	1.6	60	7.2	84.0333	0.4669	8.7	0.87	6.7227	14.5645	1.4564	0.2105	21.046
16	15.5	1	1.6	60	7.2	83.0524	0.4614	9.3	0.93	6.6442	15.1074	1.5107	0.2156	21.556
17	16.5	1	1.6	60	7.2	82.0207	0.4557	9.9	0.99	6.5617	15.6455	1.5646	0.2206	22.061
18	17.5	1	1.6	60	7.2	80.9460	0.4497	10.5	1.05	6.4757	16.1794	1.6179	0.2256	22.562
19	18.5	1	1.6	60	7.2	79.8355	0.4435	11.1	1.11	6.3868	16.7098	1.6710	0.2306	23.061
20	19.5	1	1.6	60	7.2	78.6963	0.4372	11.7	1.17	6.2957	17.2374	1.7237	0.2356	23.556

H timb	4 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar				
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	60	7.2	89.9997	0.5000	0.3	0.03	7.2000	5.4358	0.5436	0.1247	12.474
2	1.5	1	1.6	60	7.2	89.9919	0.5000	0.9	0.09	7.1993	6.5017	0.6502	0.1348	13.475
3	2.5	1	1.6	60	7.2	89.9626	0.4998	1.5	0.15	7.1970	7.2953	0.7295	0.1422	14.220
4	3.5	1	1.6	60	7.2	89.8986	0.4994	2.1	0.21	7.1919	8.0078	0.8008	0.1489	14.889
5	4.5	1	1.6	60	7.2	89.7880	0.4988	2.7	0.27	7.1830	8.6804	0.8680	0.1552	15.521
6	5.5	1	1.6	60	7.2	89.6206	0.4979	3.3	0.33	7.1696	9.3280	0.9328	0.1613	16.129
7	6.5	1	1.6	60	7.2	89.3883	0.4966	3.9	0.39	7.1511	9.9580	0.9958	0.1672	16.721
8	7.5	1	1.6	60	7.2	89.0851	0.4949	4.5	0.45	7.1268	10.5739	1.0574	0.1730	17.299
9	8.5	1	1.6	60	7.2	88.7073	0.4928	5.1	0.51	7.0966	11.1782	1.1178	0.1787	17.866
10	9.5	1	1.6	60	7.2	88.2533	0.4903	5.7	0.57	7.0603	11.7723	1.1772	0.1842	18.424
11	10.5	1	1.6	60	7.2	87.7232	0.4874	6.3	0.63	7.0179	12.3573	1.2357	0.1897	18.974
12	11.5	1	1.6	60	7.2	87.1191	0.4840	6.9	0.69	6.9695	12.9342	1.2934	0.1952	19.515
13	12.5	1	1.6	60	7.2	86.4440	0.4802	7.5	0.75	6.9155	13.5037	1.3504	0.2005	20.050
14	13.5	1	1.6	60	7.2	85.7025	0.4761	8.1	0.81	6.8562	14.0665	1.4067	0.2058	20.578
15	14.5	1	1.6	60	7.2	84.8996	0.4717	8.7	0.87	6.7920	14.6234	1.4623	0.2110	21.101
16	15.5	1	1.6	60	7.2	84.0411	0.4669	9.3	0.93	6.7233	15.1749	1.5175	0.2162	21.619
17	16.5	1	1.6	60	7.2	83.1330	0.4619	9.9	0.99	6.6506	15.7216	1.5722	0.2213	22.133
18	17.5	1	1.6	60	7.2	82.1815	0.4566	10.5	1.05	6.5745	16.2642	1.6264	0.2264	22.642
19	18.5	1	1.6	60	7.2	81.1926	0.4511	11.1	1.11	6.4954	16.8032	1.6803	0.2315	23.148
20	19.5	1	1.6	60	7.2	80.1724	0.4454	11.7	1.17	6.4138	17.3391	1.7339	0.2365	23.651

	H timb	6 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	1													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	60	10.8	89.9996	0.5000	0.3	0.03	10.8000	7.7357	0.7736	0.1463	14.634	
2	1.5	1	1.6	60	10.8	89.9891	0.4999	0.9	0.09	10.7987	9.0521	0.9052	0.1587	15.870	
3	2.5	1	1.6	60	10.8	89.9500	0.4997	1.5	0.15	10.7940	9.9617	0.9962	0.1672	16.724	
4	3.5	1	1.6	60	10.8	89.8647	0.4992	2.1	0.21	10.7838	10.7463	1.0746	0.1746	17.461	
5	4.5	1	1.6	60	10.8	89.7176	0.4984	2.7	0.27	10.7661	11.4671	1.1467	0.1814	18.138	
6	5.5	1	1.6	60	10.8	89.4961	0.4972	3.3	0.33	10.7395	12.1470	1.2147	0.1878	18.776	
7	6.5	1	1.6	60	10.8	89.1902	0.4955	3.9	0.39	10.7028	12.7967	1.2797	0.1939	19.386	
8	7.5	1	1.6	60	10.8	88.7933	0.4933	4.5	0.45	10.6552	13.4223	1.3422	0.1997	19.974	
9	8.5	1	1.6	60	10.8	88.3020	0.4906	5.1	0.51	10.5962	14.0273	1.4027	0.2054	20.542	
10	9.5	1	1.6	60	10.8	87.7158	0.4873	5.7	0.57	10.5259	14.6142	1.4614	0.2109	21.093	
11	10.5	1	1.6	60	10.8	87.0367	0.4835	6.3	0.63	10.4444	15.1851	1.5185	0.2163	21.629	
12	11.5	1	1.6	60	10.8	86.2689	0.4793	6.9	0.69	10.3523	15.7415	1.5742	0.2215	22.151	
13	12.5	1	1.6	60	10.8	85.4184	0.4745	7.5	0.75	10.2502	16.2851	1.6285	0.2266	22.662	
14	13.5	1	1.6	60	10.8	84.4923	0.4694	8.1	0.81	10.1391	16.8171	1.6817	0.2316	23.161	
15	14.5	1	1.6	60	10.8	83.4987	0.4639	8.7	0.87	10.0198	17.3390	1.7339	0.2365	23.651	
16	15.5	1	1.6	60	10.8	82.4460	0.4580	9.3	0.93	9.8935	17.8520	1.7852	0.2413	24.133	
17	16.5	1	1.6	60	10.8	81.3428	0.4519	9.9	0.99	9.7611	18.3574	1.8357	0.2461	24.608	
18	17.5	1	1.6	60	10.8	80.1975	0.4455	10.5	1.05	9.6237	18.8563	1.8856	0.2508	25.076	
19	18.5	1	1.6	60	10.8	79.0184	0.4390	11.1	1.11	9.4822	19.3497	1.9350	0.2554	25.539	
20	19.5	1	1.6	60	10.8	77.8130	0.4323	11.7	1.17	9.3376	19.8388	1.9839	0.2600	25.999	

	H timb	6 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	2													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	60	10.8	89.9997	0.5000	0.3	0.03	10.8000	7.7357	0.7736	0.1463	14.634	
2	1.5	1	1.6	60	10.8	89.9919	0.5000	0.9	0.09	10.7990	9.0523	0.9052	0.1587	15.870	
3	2.5	1	1.6	60	10.8	89.9626	0.4998	1.5	0.15	10.7955	9.9628	0.9963	0.1673	16.725	
4	3.5	1	1.6	60	10.8	89.8986	0.4994	2.1	0.21	10.7878	10.7494	1.0749	0.1746	17.464	
5	4.5	1	1.6	60	10.8	89.7880	0.4988	2.7	0.27	10.7746	11.4736	1.1474	0.1814	18.144	
6	5.5	1	1.6	60	10.8	89.6206	0.4979	3.3	0.33	10.7545	12.1586	1.2159	0.1879	18.787	
7	6.5	1	1.6	60	10.8	89.3883	0.4966	3.9	0.39	10.7266	12.8155	1.2815	0.1940	19.404	
8	7.5	1	1.6	60	10.8	89.0851	0.4949	4.5	0.45	10.6902	13.4502	1.3450	0.2000	20.000	
9	8.5	1	1.6	60	10.8	88.7073	0.4928	5.1	0.51	10.6449	14.0664	1.4066	0.2058	20.578	
10	9.5	1	1.6	60	10.8	88.2533	0.4903	5.7	0.57	10.5904	14.6665	1.4666	0.2114	21.142	
11	10.5	1	1.6	60	10.8	87.7232	0.4874	6.3	0.63	10.5268	15.2523	1.5252	0.2169	21.692	
12	11.5	1	1.6	60	10.8	87.1191	0.4840	6.9	0.69	10.4543	15.8253	1.5825	0.2223	22.230	
13	12.5	1	1.6	60	10.8	86.4440	0.4802	7.5	0.75	10.3733	16.3866	1.6387	0.2276	22.757	
14	13.5	1	1.6	60	10.8	85.7025	0.4761	8.1	0.81	10.2843	16.9376	1.6938	0.2327	23.274	
15	14.5	1	1.6	60	10.8	84.8996	0.4717	8.7	0.87	10.1880	17.4791	1.7479	0.2378	23.783	
16	15.5	1	1.6	60	10.8	84.0411	0.4669	9.3	0.93	10.0849	18.0122	1.8012	0.2428	24.283	
17	16.5	1	1.6	60	10.8	83.1330	0.4619	9.9	0.99	9.9760	18.5378	1.8538	0.2478	24.777	
18	17.5	1	1.6	60	10.8	82.1815	0.4566	10.5	1.05	9.8618	19.0569	1.9057	0.2526	25.264	
19	18.5	1	1.6	60	10.8	81.1926	0.4511	11.1	1.11	9.7431	19.5704	1.9570	0.2575	25.747	
20	19.5	1	1.6	60	10.8	80.1724	0.4454	11.7	1.17	9.6207	20.0789	2.0079	0.2622	26.224	

	H timb	6 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	3													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	60	10.8	89.9998	0.5000	0.3	0.03	10.8000	7.7357	0.7736	0.1463	14.634	
2	1.5	1	1.6	60	10.8	89.9936	0.5000	0.9	0.09	10.7992	9.0524	0.9052	0.1587	15.870	
3	2.5	1	1.6	60	10.8	89.9704	0.4998	1.5	0.15	10.7964	9.9635	0.9963	0.1673	16.726	
4	3.5	1	1.6	60	10.8	89.9197	0.4996	2.1	0.21	10.7904	10.7513	1.0751	0.1747	17.465	
5	4.5	1	1.6	60	10.8	89.8318	0.4991	2.7	0.27	10.7798	11.4776	1.1478	0.1815	18.147	
6	5.5	1	1.6	60	10.8	89.6984	0.4983	3.3	0.33	10.7638	12.1659	1.2166	0.1879	18.794	
7	6.5	1	1.6	60	10.8	89.5128	0.4973	3.9	0.39	10.7415	12.8273	1.2827	0.1941	19.415	
8	7.5	1	1.6	60	10.8	89.2697	0.4959	4.5	0.45	10.7124	13.4679	1.3468	0.2002	20.016	
9	8.5	1	1.6	60	10.8	88.9657	0.4943	5.1	0.51	10.6759	14.0913	1.4091	0.2060	20.602	
10	9.5	1	1.6	60	10.8	88.5987	0.4922	5.7	0.57	10.6318	14.7001	1.4700	0.2117	21.173	
11	10.5	1	1.6	60	10.8	88.1683	0.4898	6.3	0.63	10.5802	15.2959	1.5296	0.2173	21.733	
12	11.5	1	1.6	60	10.8	87.6752	0.4871	6.9	0.69	10.5210	15.8800	1.5880	0.2228	22.281	
13	12.5	1	1.6	60	10.8	87.1214	0.4840	7.5	0.75	10.4546	16.4537	1.6454	0.2282	22.820	
14	13.5	1	1.6	60	10.8	86.5096	0.4806	8.1	0.81	10.3812	17.0179	1.7018	0.2335	23.350	
15	14.5	1	1.6	60	10.8	85.8434	0.4769	8.7	0.87	10.3012	17.5734	1.7573	0.2387	23.871	
16	15.5	1	1.6	60	10.8	85.1268	0.4729	9.3	0.93	10.2152	18.1211	1.8121	0.2439	24.386	
17	16.5	1	1.6	60	10.8	84.3642	0.4687	9.9	0.99	10.1237	18.6618	1.8662	0.2489	24.893	
18	17.5	1	1.6	60	10.8	83.5600	0.4642	10.5	1.05	10.0272	19.1962	1.9196	0.2540	25.395	
19	18.5	1	1.6	60	10.8	82.7191	0.4596	11.1	1.11	9.9263	19.7251	1.9725	0.2589	25.892	
20	19.5	1	1.6	60	10.8	81.8459	0.4547	11.7	1.17	9.8215	20.2490	2.0249	0.2638	26.384	

	H timb	8 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	1													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	60	14.4	89.9996	0.5000	0.3	0.03	14.3999	9.9608	0.9961	0.1672	16.723	
2	1.5	1	1.6	60	14.4	89.9902	0.4999	0.9	0.09	14.3984	11.5241	1.1524	0.1819	18.191	
3	2.5	1	1.6	60	14.4	89.9550	0.4997	1.5	0.15	14.3928	12.5513	1.2551	0.1916	19.156	
4	3.5	1	1.6	60	14.4	89.8781	0.4993	2.1	0.21	14.3805	13.4120	1.3412	0.1996	19.964	
5	4.5	1	1.6	60	14.4	89.7453	0.4986	2.7	0.27	14.3593	14.1873	1.4187	0.2069	20.692	
6	5.5	1	1.6	60	14.4	89.5450	0.4975	3.3	0.33	14.3272	14.9079	1.4908	0.2137	21.369	
7	6.5	1	1.6	60	14.4	89.2678	0.4959	3.9	0.39	14.2828	15.5884	1.5588	0.2201	22.008	
8	7.5	1	1.6	60	14.4	88.9073	0.4939	4.5	0.45	14.2252	16.2370	1.6237	0.2262	22.616	
9	8.5	1	1.6	60	14.4	88.4600	0.4914	5.1	0.51	14.1536	16.8584	1.6858	0.2320	23.200	
10	9.5	1	1.6	60	14.4	87.9246	0.4885	5.7	0.57	14.0679	17.4563	1.7456	0.2376	23.761	
11	10.5	1	1.6	60	14.4	87.3025	0.4850	6.3	0.63	13.9684	18.0332	1.8033	0.2430	24.303	
12	11.5	1	1.6	60	14.4	86.5970	0.4811	6.9	0.69	13.8555	18.5911	1.8591	0.2483	24.827	
13	12.5	1	1.6	60	14.4	85.8127	0.4767	7.5	0.75	13.7300	19.1321	1.9132	0.2534	25.335	
14	13.5	1	1.6	60	14.4	84.9559	0.4720	8.1	0.81	13.5929	19.6578	1.9658	0.2583	25.829	
15	14.5	1	1.6	60	14.4	84.0333	0.4669	8.7	0.87	13.4453	20.1700	2.0170	0.2631	26.310	
16	15.5	1	1.6	60	14.4	83.0524	0.4614	9.3	0.93	13.2884	20.6702	2.0670	0.2678	26.779	
17	16.5	1	1.6	60	14.4	82.0207	0.4557	9.9	0.99	13.1233	21.1600	2.1160	0.2724	27.239	
18	17.5	1	1.6	60	14.4	80.9460	0.4497	10.5	1.05	12.9514	21.6406	2.1641	0.2769	27.691	
19	18.5	1	1.6	60	14.4	79.8355	0.4435	11.1	1.11	12.7737	22.1136	2.2114	0.2813	28.135	
20	19.5	1	1.6	60	14.4	78.6963	0.4372	11.7	1.17	12.5914	22.5801	2.2580	0.2857	28.573	

	H timb	8 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	2													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar				
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)
1	0.5	1	1.6	60	14.4	89.9997	0.5000	0.3	0.03	14.4000	9.9609	0.9961	0.1672	16.723
2	1.5	1	1.6	60	14.4	89.9931	0.5000	0.9	0.09	14.3989	11.5244	1.1524	0.1819	18.191
3	2.5	1	1.6	60	14.4	89.9682	0.4998	1.5	0.15	14.3949	12.5528	1.2553	0.1916	19.157
4	3.5	1	1.6	60	14.4	89.9136	0.4995	2.1	0.21	14.3862	13.4162	1.3416	0.1997	19.968
5	4.5	1	1.6	60	14.4	89.8192	0.4990	2.7	0.27	14.3711	14.1962	1.4196	0.2070	20.700
6	5.5	1	1.6	60	14.4	89.6760	0.4982	3.3	0.33	14.3482	14.9239	1.4924	0.2138	21.383
7	6.5	1	1.6	60	14.4	89.4769	0.4971	3.9	0.39	14.3163	15.6142	1.5614	0.2203	22.032
8	7.5	1	1.6	60	14.4	89.2164	0.4956	4.5	0.45	14.2746	16.2755	1.6276	0.2265	22.653
9	8.5	1	1.6	60	14.4	88.8909	0.4938	5.1	0.51	14.2225	16.9128	1.6913	0.2325	23.251
10	9.5	1	1.6	60	14.4	88.4985	0.4917	5.7	0.57	14.1598	17.5293	1.7529	0.2383	23.830
11	10.5	1	1.6	60	14.4	88.0389	0.4891	6.3	0.63	14.0862	18.1275	1.8127	0.2439	24.392
12	11.5	1	1.6	60	14.4	87.5131	0.4862	6.9	0.69	14.0021	18.7092	1.8709	0.2494	24.938
13	12.5	1	1.6	60	14.4	86.9234	0.4829	7.5	0.75	13.9077	19.2761	1.9276	0.2547	25.470
14	13.5	1	1.6	60	14.4	86.2731	0.4793	8.1	0.81	13.8037	19.8296	1.9830	0.2599	25.990
15	14.5	1	1.6	60	14.4	85.5661	0.4754	8.7	0.87	13.6906	20.3709	2.0371	0.2650	26.498
16	15.5	1	1.6	60	14.4	84.8068	0.4711	9.3	0.93	13.5691	20.9013	2.0901	0.2700	26.996
17	16.5	1	1.6	60	14.4	84.0003	0.4667	9.9	0.99	13.4400	21.4218	2.1422	0.2749	27.485
18	17.5	1	1.6	60	14.4	83.1514	0.4620	10.5	1.05	13.3042	21.9335	2.1933	0.2797	27.966
19	18.5	1	1.6	60	14.4	82.2652	0.4570	11.1	1.11	13.1624	22.4374	2.2437	0.2844	28.439
20	19.5	1	1.6	60	14.4	81.3469	0.4519	11.7	1.17	13.0155	22.9346	2.2935	0.2891	28.906

	H timb	8 meter													
	γtimb(t/m3)	1.8 t/m3													
	kemiringan	3													
No	z	H (meter)	γsat (t/m3)	IP	q	I		po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan Mochtar					
										Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Cu (kg/cm2)	Cu (kpa)	
1	0.5	1	1.6	60	14.4	89.9998	0.5000	0.3	0.03	14.4000	9.9609	0.9961	0.1672	16.723	
2	1.5	1	1.6	60	14.4	89.9947	0.5000	0.9	0.09	14.3992	11.5246	1.1525	0.1819	18.192	
3	2.5	1	1.6	60	14.4	89.9756	0.4999	1.5	0.15	14.3961	12.5537	1.2554	0.1916	19.158	
4	3.5	1	1.6	60	14.4	89.9338	0.4996	2.1	0.21	14.3894	13.4186	1.3419	0.1997	19.970	
5	4.5	1	1.6	60	14.4	89.8613	0.4992	2.7	0.27	14.3778	14.2012	1.4201	0.2070	20.705	
6	5.5	1	1.6	60	14.4	89.7510	0.4986	3.3	0.33	14.3602	14.9330	1.4933	0.2139	21.392	
7	6.5	1	1.6	60	14.4	89.5973	0.4978	3.9	0.39	14.3356	15.6291	1.5629	0.2205	22.046	
8	7.5	1	1.6	60	14.4	89.3956	0.4966	4.5	0.45	14.3033	16.2979	1.6298	0.2267	22.674	
9	8.5	1	1.6	60	14.4	89.1426	0.4952	5.1	0.51	14.2628	16.9445	1.6944	0.2328	23.281	
10	9.5	1	1.6	60	14.4	88.8364	0.4935	5.7	0.57	14.2138	17.5722	1.7572	0.2387	23.870	
11	10.5	1	1.6	60	14.4	88.4762	0.4915	6.3	0.63	14.1562	18.1835	1.8183	0.2444	24.444	
12	11.5	1	1.6	60	14.4	88.0622	0.4892	6.9	0.69	14.0900	18.7800	1.8780	0.2500	25.004	
13	12.5	1	1.6	60	14.4	87.5956	0.4866	7.5	0.75	14.0153	19.3633	1.9363	0.2555	25.552	
14	13.5	1	1.6	60	14.4	87.0784	0.4838	8.1	0.81	13.9325	19.9346	1.9935	0.2609	26.089	
15	14.5	1	1.6	60	14.4	86.5129	0.4806	8.7	0.87	13.8421	20.4949	2.0495	0.2661	26.615	
16	15.5	1	1.6	60	14.4	85.9021	0.4772	9.3	0.93	13.7443	21.0453	2.1045	0.2713	27.132	
17	16.5	1	1.6	60	14.4	85.2494	0.4736	9.9	0.99	13.6399	21.5868	2.1587	0.2764	27.640	
18	17.5	1	1.6	60	14.4	84.5583	0.4698	10.5	1.05	13.5293	22.1201	2.2120	0.2814	28.141	
19	18.5	1	1.6	60	14.4	83.8324	0.4657	11.1	1.11	13.4132	22.6460	2.2646	0.2863	28.635	
20	19.5	1	1.6	60	14.4	83.0752	0.4615	11.7	1.17	13.2920	23.1654	2.3165	0.2912	29.122	

LAMPIRAN 3-1

Perhitungan *Consolidation Settlement* untuk Hfinal = 4 meter slope 1

No	z	H (meter)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	1.9	7.500	1.1	50	0.3273	0.0742	0.121	0.121
2	1.5	1	1.6	2.5	8.099	1.1	50	0.3273	0.0742	0.095	0.217
3	2.5	1	1.6	3.1	8.696	1.1	50	0.3273	0.0742	0.081	0.297
4	3.5	1	1.6	3.7	9.288	1.1	50	0.3273	0.0742	0.071	0.368
5	4.5	1	1.6	4.3	9.875	1.1	50	0.3273	0.0742	0.063	0.432
6	5.5	1	1.6	4.9	10.455	1.1	50	0.3273	0.0742	0.057	0.489
7	6.5	1	1.6	5.5	11.028	1.1	50	0.3273	0.0742	0.052	0.542
8	7.5	1	1.6	6.1	11.592	1.1	50	0.3273	0.0742	0.048	0.590
9	8.5	1	1.6	6.7	12.149	1.1	50	0.3273	0.0742	0.044	0.634
10	9.5	1	1.6	7.3	12.697	1.1	50	0.3273	0.0742	0.041	0.675
11	10.5	1	1.6	7.9	13.238	1.1	50	0.3273	0.0742	0.038	0.714
12	11.5	1	1.6	8.5	13.771	1.1	50	0.3273	0.0742	0.036	0.750
13	12.5	1	1.6	9.1	14.296	1.1	50	0.3273	0.0742	0.034	0.783
14	13.5	1	1.6	9.7	14.816	1.1	50	0.3273	0.0742	0.031	0.815
15	14.5	1	1.6	10.3	15.330	1.1	50	0.3273	0.0742	0.030	0.844
16	15.5	1	1.6	10.9	15.840	1.1	50	0.3273	0.0742	0.028	0.872
17	16.5	1	1.6	11.5	16.345	1.1	50	0.3273	0.0742	0.026	0.898
18	17.5	1	1.6	12.1	16.847	1.1	50	0.3273	0.0742	0.025	0.923
19	18.5	1	1.6	12.7	17.347	1.1	50	0.3273	0.0742	0.023	0.946
20	19.5	1	1.6	13.3	17.845	1.1	50	0.3273	0.0742	0.022	0.968

Perhitungan *Consolidation Settlement* untuk Hfinal = 4 meter slope 2

No	z	H (meter)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	1.9	7.500	1.1	50	0.3273	0.0742	0.121	0.121
2	1.5	1	1.6	2.5	8.099	1.1	50	0.3273	0.0742	0.095	0.217
3	2.5	1	1.6	3.1	8.696	1.1	50	0.3273	0.0742	0.081	0.297
4	3.5	1	1.6	3.7	9.290	1.1	50	0.3273	0.0742	0.071	0.368
5	4.5	1	1.6	4.3	9.880	1.1	50	0.3273	0.0742	0.063	0.432
6	5.5	1	1.6	4.9	10.464	1.1	50	0.3273	0.0742	0.057	0.489
7	6.5	1	1.6	5.5	11.041	1.1	50	0.3273	0.0742	0.052	0.542
8	7.5	1	1.6	6.1	11.613	1.1	50	0.3273	0.0742	0.048	0.590
9	8.5	1	1.6	6.7	12.177	1.1	50	0.3273	0.0742	0.045	0.635
10	9.5	1	1.6	7.3	12.734	1.1	50	0.3273	0.0742	0.041	0.676
11	10.5	1	1.6	7.9	13.284	1.1	50	0.3273	0.0742	0.039	0.715
12	11.5	1	1.6	8.5	13.828	1.1	50	0.3273	0.0742	0.036	0.751
13	12.5	1	1.6	9.1	14.365	1.1	50	0.3273	0.0742	0.034	0.785
14	13.5	1	1.6	9.7	14.896	1.1	50	0.3273	0.0742	0.032	0.817
15	14.5	1	1.6	10.3	15.423	1.1	50	0.3273	0.0742	0.030	0.846
16	15.5	1	1.6	10.9	15.944	1.1	50	0.3273	0.0742	0.028	0.875
17	16.5	1	1.6	11.5	16.462	1.1	50	0.3273	0.0742	0.027	0.901
18	17.5	1	1.6	12.1	16.976	1.1	50	0.3273	0.0742	0.025	0.926
19	18.5	1	1.6	12.7	17.487	1.1	50	0.3273	0.0742	0.024	0.950
20	19.5	1	1.6	13.3	17.996	1.1	50	0.3273	0.0742	0.022	0.972

Perhitungan *Consolidation Settlement* untuk Hfinal = 4 meter slope 3

No	z	H (meter)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	1.9	7.500	1.1	50	0.3273	0.0742	0.121	0.121
2	1.5	1	1.6	2.5	8.099	1.1	50	0.3273	0.0742	0.095	0.217
3	2.5	1	1.6	3.1	8.697	1.1	50	0.3273	0.0742	0.081	0.297
4	3.5	1	1.6	3.7	9.292	1.1	50	0.3273	0.0742	0.071	0.368
5	4.5	1	1.6	4.3	9.883	1.1	50	0.3273	0.0742	0.063	0.432
6	5.5	1	1.6	4.9	10.470	1.1	50	0.3273	0.0742	0.057	0.489
7	6.5	1	1.6	5.5	11.051	1.1	50	0.3273	0.0742	0.053	0.542
8	7.5	1	1.6	6.1	11.627	1.1	50	0.3273	0.0742	0.048	0.590
9	8.5	1	1.6	6.7	12.197	1.1	50	0.3273	0.0742	0.045	0.635
10	9.5	1	1.6	7.3	12.760	1.1	50	0.3273	0.0742	0.042	0.677
11	10.5	1	1.6	7.9	13.318	1.1	50	0.3273	0.0742	0.039	0.715
12	11.5	1	1.6	8.5	13.870	1.1	50	0.3273	0.0742	0.036	0.752
13	12.5	1	1.6	9.1	14.416	1.1	50	0.3273	0.0742	0.034	0.786
14	13.5	1	1.6	9.7	14.956	1.1	50	0.3273	0.0742	0.032	0.818
15	14.5	1	1.6	10.3	15.492	1.1	50	0.3273	0.0742	0.030	0.848
16	15.5	1	1.6	10.9	16.023	1.1	50	0.3273	0.0742	0.029	0.877
17	16.5	1	1.6	11.5	16.551	1.1	50	0.3273	0.0742	0.027	0.904
18	17.5	1	1.6	12.1	17.075	1.1	50	0.3273	0.0742	0.025	0.929
19	18.5	1	1.6	12.7	17.595	1.1	50	0.3273	0.0742	0.024	0.953
20	19.5	1	1.6	13.3	18.114	1.1	50	0.3273	0.0742	0.023	0.976

LAMPIRAN 3-2

Perhitungan *Consolidation Settlement* untuk Hfinal = 6 meter slope 1

No	z	H (meter)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	1.9	11.100	1.1	50	0.3273	0.0742	0.148	0.148
2	1.5	1	1.6	2.5	11.699	1.1	50	0.3273	0.0742	0.120	0.268
3	2.5	1	1.6	3.1	12.294	1.1	50	0.3273	0.0742	0.104	0.372
4	3.5	1	1.6	3.7	12.884	1.1	50	0.3273	0.0742	0.093	0.465
5	4.5	1	1.6	4.3	13.466	1.1	50	0.3273	0.0742	0.084	0.550
6	5.5	1	1.6	4.9	14.040	1.1	50	0.3273	0.0742	0.077	0.627
7	6.5	1	1.6	5.5	14.603	1.1	50	0.3273	0.0742	0.071	0.699
8	7.5	1	1.6	6.1	15.155	1.1	50	0.3273	0.0742	0.066	0.765
9	8.5	1	1.6	6.7	15.696	1.1	50	0.3273	0.0742	0.062	0.827
10	9.5	1	1.6	7.3	16.226	1.1	50	0.3273	0.0742	0.058	0.885
11	10.5	1	1.6	7.9	16.744	1.1	50	0.3273	0.0742	0.054	0.939
12	11.5	1	1.6	8.5	17.252	1.1	50	0.3273	0.0742	0.051	0.990
13	12.5	1	1.6	9.1	17.750	1.1	50	0.3273	0.0742	0.048	1.038
14	13.5	1	1.6	9.7	18.239	1.1	50	0.3273	0.0742	0.046	1.084
15	14.5	1	1.6	10.3	18.720	1.1	50	0.3273	0.0742	0.043	1.127
16	15.5	1	1.6	10.9	19.194	1.1	50	0.3273	0.0742	0.041	1.167
17	16.5	1	1.6	11.5	19.661	1.1	50	0.3273	0.0742	0.039	1.206
18	17.5	1	1.6	12.1	20.124	1.1	50	0.3273	0.0742	0.037	1.243
19	18.5	1	1.6	12.7	20.582	1.1	50	0.3273	0.0742	0.035	1.277
20	19.5	1	1.6	13.3	21.038	1.1	50	0.3273	0.0742	0.033	1.310

Perhitungan *Consolidation Settlement* untuk Hfinal = 6 meter slope 3

No	z	H (meter)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	1.9	11.100	1.1	50	0.3273	0.0742	0.148	0.148
2	1.5	1	1.6	2.5	11.699	1.1	50	0.3273	0.0742	0.120	0.268
3	2.5	1	1.6	3.1	12.296	1.1	50	0.3273	0.0742	0.104	0.372
4	3.5	1	1.6	3.7	12.890	1.1	50	0.3273	0.0742	0.093	0.466
5	4.5	1	1.6	4.3	13.480	1.1	50	0.3273	0.0742	0.084	0.550
6	5.5	1	1.6	4.9	14.064	1.1	50	0.3273	0.0742	0.077	0.627
7	6.5	1	1.6	5.5	14.642	1.1	50	0.3273	0.0742	0.072	0.699
8	7.5	1	1.6	6.1	15.212	1.1	50	0.3273	0.0742	0.067	0.766
9	8.5	1	1.6	6.7	15.776	1.1	50	0.3273	0.0742	0.062	0.828
10	9.5	1	1.6	7.3	16.332	1.1	50	0.3273	0.0742	0.058	0.886
11	10.5	1	1.6	7.9	16.880	1.1	50	0.3273	0.0742	0.055	0.941
12	11.5	1	1.6	8.5	17.421	1.1	50	0.3273	0.0742	0.052	0.993
13	12.5	1	1.6	9.1	17.955	1.1	50	0.3273	0.0742	0.049	1.042
14	13.5	1	1.6	9.7	18.481	1.1	50	0.3273	0.0742	0.046	1.088
15	14.5	1	1.6	10.3	19.001	1.1	50	0.3273	0.0742	0.044	1.132
16	15.5	1	1.6	10.9	19.515	1.1	50	0.3273	0.0742	0.042	1.174
17	16.5	1	1.6	11.5	20.024	1.1	50	0.3273	0.0742	0.040	1.214
18	17.5	1	1.6	12.1	20.527	1.1	50	0.3273	0.0742	0.038	1.252
19	18.5	1	1.6	12.7	21.026	1.1	50	0.3273	0.0742	0.036	1.288
20	19.5	1	1.6	13.3	21.522	1.1	50	0.3273	0.0742	0.035	1.322

Perhitungan *Consolidation Settlement* untuk Hfinal = 6 meter slope 2

No	z	H (meter)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	1.9	11.100	1.1	50	0.3273	0.0742	0.148	0.148
2	1.5	1	1.6	2.5	11.699	1.1	50	0.3273	0.0742	0.120	0.268
3	2.5	1	1.6	3.1	12.296	1.1	50	0.3273	0.0742	0.104	0.372
4	3.5	1	1.6	3.7	12.888	1.1	50	0.3273	0.0742	0.093	0.465
5	4.5	1	1.6	4.3	13.475	1.1	50	0.3273	0.0742	0.084	0.550
6	5.5	1	1.6	4.9	14.054	1.1	50	0.3273	0.0742	0.077	0.627
7	6.5	1	1.6	5.5	14.627	1.1	50	0.3273	0.0742	0.071	0.699
8	7.5	1	1.6	6.1	15.190	1.1	50	0.3273	0.0742	0.066	0.765
9	8.5	1	1.6	6.7	15.745	1.1	50	0.3273	0.0742	0.062	0.827
10	9.5	1	1.6	7.3	16.290	1.1	50	0.3273	0.0742	0.058	0.885
11	10.5	1	1.6	7.9	16.827	1.1	50	0.3273	0.0742	0.055	0.940
12	11.5	1	1.6	8.5	17.354	1.1	50	0.3273	0.0742	0.052	0.992
13	12.5	1	1.6	9.1	17.873	1.1	50	0.3273	0.0742	0.049	1.040
14	13.5	1	1.6	9.7	18.384	1.1	50	0.3273	0.0742	0.046	1.086
15	14.5	1	1.6	10.3	18.888	1.1	50	0.3273	0.0742	0.044	1.130
16	15.5	1	1.6	10.9	19.385	1.1	50	0.3273	0.0742	0.041	1.171
17	16.5	1	1.6	11.5	19.876	1.1	50	0.3273	0.0742	0.039	1.211
18	17.5	1	1.6	12.1	20.362	1.1	50	0.3273	0.0742	0.037	1.248
19	18.5	1	1.6	12.7	20.843	1.1	50	0.3273	0.0742	0.036	1.284
20	19.5	1	1.6	13.3	21.321	1.1	50	0.3273	0.0742	0.034	1.318

LAMPIRAN 3-3

Perhitungan *Consolidation Settlement* untuk Hfinal = 8 meter slope 1

No	z	H (meter)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	1.9	14.700	1.1	50	0.3273	0.0742	0.167	0.167
2	1.5	1	1.6	2.5	15.298	1.1	50	0.3273	0.0742	0.138	0.305
3	2.5	1	1.6	3.1	15.893	1.1	50	0.3273	0.0742	0.122	0.427
4	3.5	1	1.6	3.7	16.480	1.1	50	0.3273	0.0742	0.110	0.537
5	4.5	1	1.6	4.3	17.059	1.1	50	0.3273	0.0742	0.100	0.637
6	5.5	1	1.6	4.9	17.627	1.1	50	0.3273	0.0742	0.093	0.730
7	6.5	1	1.6	5.5	18.183	1.1	50	0.3273	0.0742	0.086	0.816
8	7.5	1	1.6	6.1	18.725	1.1	50	0.3273	0.0742	0.081	0.897
9	8.5	1	1.6	6.7	19.254	1.1	50	0.3273	0.0742	0.076	0.972
10	9.5	1	1.6	7.3	19.768	1.1	50	0.3273	0.0742	0.071	1.043
11	10.5	1	1.6	7.9	20.268	1.1	50	0.3273	0.0742	0.067	1.111
12	11.5	1	1.6	8.5	20.756	1.1	50	0.3273	0.0742	0.064	1.174
13	12.5	1	1.6	9.1	21.230	1.1	50	0.3273	0.0742	0.060	1.235
14	13.5	1	1.6	9.7	21.693	1.1	50	0.3273	0.0742	0.057	1.292
15	14.5	1	1.6	10.3	22.145	1.1	50	0.3273	0.0742	0.054	1.346
16	15.5	1	1.6	10.9	22.588	1.1	50	0.3273	0.0742	0.052	1.398
17	16.5	1	1.6	11.5	23.023	1.1	50	0.3273	0.0742	0.049	1.447
18	17.5	1	1.6	12.1	23.451	1.1	50	0.3273	0.0742	0.047	1.494
19	18.5	1	1.6	12.7	23.874	1.1	50	0.3273	0.0742	0.045	1.539
20	19.5	1	1.6	13.3	24.291	1.1	50	0.3273	0.0742	0.043	1.582

Perhitungan *Consolidation Settlement* untuk Hfinal = 8 meter slope 2

No	z	H (meter)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	1.9	14.700	1.1	50	0.3273	0.0742	0.167	0.167
2	1.5	1	1.6	2.5	15.299	1.1	50	0.3273	0.0742	0.138	0.305
3	2.5	1	1.6	3.1	15.895	1.1	50	0.3273	0.0742	0.122	0.427
4	3.5	1	1.6	3.7	16.486	1.1	50	0.3273	0.0742	0.110	0.537
5	4.5	1	1.6	4.3	17.071	1.1	50	0.3273	0.0742	0.100	0.637
6	5.5	1	1.6	4.9	17.648	1.1	50	0.3273	0.0742	0.093	0.730
7	6.5	1	1.6	5.5	18.216	1.1	50	0.3273	0.0742	0.086	0.816
8	7.5	1	1.6	6.1	18.775	1.1	50	0.3273	0.0742	0.081	0.897
9	8.5	1	1.6	6.7	19.323	1.1	50	0.3273	0.0742	0.076	0.973
10	9.5	1	1.6	7.3	19.860	1.1	50	0.3273	0.0742	0.072	1.045
11	10.5	1	1.6	7.9	20.386	1.1	50	0.3273	0.0742	0.068	1.112
12	11.5	1	1.6	8.5	20.902	1.1	50	0.3273	0.0742	0.064	1.176
13	12.5	1	1.6	9.1	21.408	1.1	50	0.3273	0.0742	0.061	1.237
14	13.5	1	1.6	9.7	21.904	1.1	50	0.3273	0.0742	0.058	1.295
15	14.5	1	1.6	10.3	22.391	1.1	50	0.3273	0.0742	0.055	1.350
16	15.5	1	1.6	10.9	22.869	1.1	50	0.3273	0.0742	0.053	1.403
17	16.5	1	1.6	11.5	23.340	1.1	50	0.3273	0.0742	0.050	1.453
18	17.5	1	1.6	12.1	23.804	1.1	50	0.3273	0.0742	0.048	1.501
19	18.5	1	1.6	12.7	24.262	1.1	50	0.3273	0.0742	0.046	1.547
20	19.5	1	1.6	13.3	24.716	1.1	50	0.3273	0.0742	0.044	1.591

Perhitungan *Consolidation Settlement* untuk Hfinal = 8 meter slope 3

No	z	H (meter)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	1.9	14.700	1.1	50	0.3273	0.0742	0.167	0.167
2	1.5	1	1.6	2.5	15.299	1.1	50	0.3273	0.0742	0.138	0.305
3	2.5	1	1.6	3.1	15.896	1.1	50	0.3273	0.0742	0.122	0.427
4	3.5	1	1.6	3.7	16.489	1.1	50	0.3273	0.0742	0.110	0.537
5	4.5	1	1.6	4.3	17.078	1.1	50	0.3273	0.0742	0.100	0.637
6	5.5	1	1.6	4.9	17.660	1.1	50	0.3273	0.0742	0.093	0.730
7	6.5	1	1.6	5.5	18.236	1.1	50	0.3273	0.0742	0.086	0.816
8	7.5	1	1.6	6.1	18.803	1.1	50	0.3273	0.0742	0.081	0.897
9	8.5	1	1.6	6.7	19.363	1.1	50	0.3273	0.0742	0.076	0.973
10	9.5	1	1.6	7.3	19.914	1.1	50	0.3273	0.0742	0.072	1.045
11	10.5	1	1.6	7.9	20.456	1.1	50	0.3273	0.0742	0.068	1.113
12	11.5	1	1.6	8.5	20.990	1.1	50	0.3273	0.0742	0.064	1.177
13	12.5	1	1.6	9.1	21.515	1.1	50	0.3273	0.0742	0.061	1.239
14	13.5	1	1.6	9.7	22.033	1.1	50	0.3273	0.0742	0.058	1.297
15	14.5	1	1.6	10.3	22.542	1.1	50	0.3273	0.0742	0.056	1.352
16	15.5	1	1.6	10.9	23.044	1.1	50	0.3273	0.0742	0.053	1.406
17	16.5	1	1.6	11.5	23.540	1.1	50	0.3273	0.0742	0.051	1.456
18	17.5	1	1.6	12.1	24.029	1.1	50	0.3273	0.0742	0.049	1.505
19	18.5	1	1.6	12.7	24.513	1.1	50	0.3273	0.0742	0.047	1.552
20	19.5	1	1.6	13.3	24.992	1.1	50	0.3273	0.0742	0.045	1.596

LAMPIRAN 4-1

Perhitungan *Consolidation Settlement* untuk Hinisial = 5 meter

H timb	5 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	8.999957	6.596977065	0.659697707	1.6	1.9	9.300	1.1	50	0.3273	0.0742	0.136	0.136
2	1.5	1	1.6	0.9	0.09	8.998846	7.788438016	0.778843802	1.6	2.5	9.899	1.1	50	0.3273	0.0742	0.109	0.245
3	2.5	1	1.6	1.5	0.15	8.99471	8.639378928	0.863937893	1.6	3.1	10.495	1.1	50	0.3273	0.0742	0.094	0.338
4	3.5	1	1.6	2.1	0.21	8.985693	9.386603913	0.938660391	1.6	3.7	11.086	1.1	50	0.3273	0.0742	0.083	0.421
5	4.5	1	1.6	2.7	0.27	8.970167	10.08104898	1.008104898	1.6	4.3	11.670	1.1	50	0.3273	0.0742	0.075	0.496
6	5.5	1	1.6	3.3	0.33	8.946791	10.74166187	1.074166187	1.6	4.9	12.247	1.1	50	0.3273	0.0742	0.068	0.564
7	6.5	1	1.6	3.9	0.39	8.914557	11.37731243	1.137731243	1.6	5.5	12.815	1.1	50	0.3273	0.0742	0.063	0.627
8	7.5	1	1.6	4.5	0.45	8.872796	11.99281814	1.199281814	1.6	6.1	13.373	1.1	50	0.3273	0.0742	0.058	0.684
9	8.5	1	1.6	5.1	0.51	8.82118	12.59115201	1.259115201	1.6	6.7	13.921	1.1	50	0.3273	0.0742	0.054	0.738
10	9.5	1	1.6	5.7	0.57	8.759692	13.17439306	1.317439306	1.6	7.3	14.460	1.1	50	0.3273	0.0742	0.050	0.788
11	10.5	1	1.6	6.3	0.63	8.688586	13.74417447	1.374417447	1.6	7.9	14.989	1.1	50	0.3273	0.0742	0.047	0.835
12	11.5	1	1.6	6.9	0.69	8.608346	14.30190316	1.430190316	1.6	8.5	15.508	1.1	50	0.3273	0.0742	0.044	0.879
13	12.5	1	1.6	7.5	0.75	8.519628	14.84886651	1.484886651	1.6	9.1	16.020	1.1	50	0.3273	0.0742	0.041	0.920
14	13.5	1	1.6	8.1	0.81	8.423217	15.38628045	1.538628045	1.6	9.7	16.523	1.1	50	0.3273	0.0742	0.039	0.959
15	14.5	1	1.6	8.7	0.87	8.319978	15.91530714	1.591530714	1.6	10.3	17.020	1.1	50	0.3273	0.0742	0.037	0.996
16	15.5	1	1.6	9.3	0.93	8.210817	16.43705734	1.643705734	1.6	10.9	17.511	1.1	50	0.3273	0.0742	0.035	1.030
17	16.5	1	1.6	9.9	0.99	8.096647	16.95258599	1.695258599	1.6	11.5	17.997	1.1	50	0.3273	0.0742	0.033	1.063
18	17.5	1	1.6	10.5	1.05	7.97836	17.46288567	1.746288567	1.6	12.1	18.478	1.1	50	0.3273	0.0742	0.031	1.094
19	18.5	1	1.6	11.1	1.11	7.85681	17.96888053	1.796888053	1.6	12.7	18.957	1.1	50	0.3273	0.0742	0.029	1.123
20	19.5	1	1.6	11.7	1.17	7.732795	18.47142179	1.847142179	1.6	13.3	19.433	1.1	50	0.3273	0.0742	0.028	1.150

Perhitungan *Consolidation Settlement* untuk Hinisial = 6 meter

H timb	6 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	10.79995	7.735726226	0.773572623	1.6	1.9	11.100	1.1	50	0.3273	0.0742	0.148	0.148
2	1.5	1	1.6	0.9	0.09	10.79869	9.052067838	0.905206784	1.6	2.5	11.699	1.1	50	0.3273	0.0742	0.120	0.268
3	2.5	1	1.6	1.5	0.15	10.794	9.96168817	0.996168817	1.6	3.1	12.294	1.1	50	0.3273	0.0742	0.104	0.372
4	3.5	1	1.6	2.1	0.21	10.78376	10.74633296	1.074633296	1.6	3.7	12.884	1.1	50	0.3273	0.0742	0.093	0.465
5	4.5	1	1.6	2.7	0.27	10.76612	11.46712439	1.146712439	1.6	4.3	13.466	1.1	50	0.3273	0.0742	0.084	0.550
6	5.5	1	1.6	3.3	0.33	10.73953	12.14698963	1.214698963	1.6	4.9	14.040	1.1	50	0.3273	0.0742	0.077	0.627
7	6.5	1	1.6	3.9	0.39	10.70282	12.79674356	1.279674356	1.6	5.5	14.603	1.1	50	0.3273	0.0742	0.071	0.699
8	7.5	1	1.6	4.5	0.45	10.65519	13.42228916	1.342228916	1.6	6.1	15.155	1.1	50	0.3273	0.0742	0.066	0.765
9	8.5	1	1.6	5.1	0.51	10.59624	14.02726772	1.402726772	1.6	6.7	15.696	1.1	50	0.3273	0.0742	0.062	0.827
10	9.5	1	1.6	5.7	0.57	10.52589	14.6142069	1.46142069	1.6	7.3	16.226	1.1	50	0.3273	0.0742	0.058	0.885
11	10.5	1	1.6	6.3	0.63	10.4444	15.18506736	1.518506736	1.6	7.9	16.744	1.1	50	0.3273	0.0742	0.054	0.939
12	11.5	1	1.6	6.9	0.69	10.35227	15.74151482	1.574151482	1.6	8.5	17.252	1.1	50	0.3273	0.0742	0.051	0.990
13	12.5	1	1.6	7.5	0.75	10.25021	16.28505588	1.628505588	1.6	9.1	17.750	1.1	50	0.3273	0.0742	0.048	1.038
14	13.5	1	1.6	8.1	0.81	10.13908	16.8171024	1.68171024	1.6	9.7	18.239	1.1	50	0.3273	0.0742	0.046	1.084
15	14.5	1	1.6	8.7	0.87	10.01985	17.33899809	1.733899809	1.6	10.3	18.720	1.1	50	0.3273	0.0742	0.043	1.127
16	15.5	1	1.6	9.3	0.93	9.893522	17.8520255	1.78520255	1.6	10.9	19.194	1.1	50	0.3273	0.0742	0.041	1.167
17	16.5	1	1.6	9.9	0.99	9.761136	18.35740369	1.835740369	1.6	11.5	19.661	1.1	50	0.3273	0.0742	0.039	1.206
18	17.5	1	1.6	10.5	1.05	9.623705	18.85628243	1.885628243	1.6	12.1	20.124	1.1	50	0.3273	0.0742	0.037	1.243
19	18.5	1	1.6	11.1	1.11	9.482207	19.34973595	1.934973595	1.6	12.7	20.582	1.1	50	0.3273	0.0742	0.035	1.277
20	19.5	1	1.6	11.7	1.17	9.337564	19.83875811	1.983875811	1.6	13.3	21.038	1.1	50	0.3273	0.0742	0.033	1.310

Perhitungan *Consolidation Settlement* untuk Hinisial = 7 meter

H timb	7 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	12.59995	8.856073932	0.885607393	1.6	1.9	12.900	1.1	50	0.3273	0.0742	0.158	0.158
2	1.5	1	1.6	0.9	0.09	12.59855	10.29633697	1.029633697	1.6	2.5	13.499	1.1	50	0.3273	0.0742	0.130	0.288
3	2.5	1	1.6	1.5	0.15	12.59336	11.26476903	1.126476903	1.6	3.1	14.093	1.1	50	0.3273	0.0742	0.114	0.401
4	3.5	1	1.6	2.1	0.21	12.58203	12.0873071	1.20873071	1.6	3.7	14.682	1.1	50	0.3273	0.0742	0.102	0.503
5	4.5	1	1.6	2.7	0.27	12.5625	12.83510632	1.283510632	1.6	4.3	15.262	1.1	50	0.3273	0.0742	0.093	0.596
6	5.5	1	1.6	3.3	0.33	12.53303	13.53502512	1.353502512	1.6	4.9	15.833	1.1	50	0.3273	0.0742	0.085	0.682
7	6.5	1	1.6	3.9	0.39	12.4923	14.19980621	1.419980621	1.6	5.5	16.392	1.1	50	0.3273	0.0742	0.079	0.761
8	7.5	1	1.6	4.5	0.45	12.4394	14.83643061	1.483643061	1.6	6.1	16.939	1.1	50	0.3273	0.0742	0.074	0.835
9	8.5	1	1.6	5.1	0.51	12.37382	15.44920232	1.544920232	1.6	6.7	17.474	1.1	50	0.3273	0.0742	0.069	0.904
10	9.5	1	1.6	5.7	0.57	12.29545	16.04109087	1.604109087	1.6	7.3	17.995	1.1	50	0.3273	0.0742	0.065	0.969
11	10.5	1	1.6	6.3	0.63	12.20452	16.61437526	1.661437526	1.6	7.9	18.505	1.1	50	0.3273	0.0742	0.061	1.030
12	11.5	1	1.6	6.9	0.69	12.10154	17.17096846	1.717096846	1.6	8.5	19.002	1.1	50	0.3273	0.0742	0.058	1.087
13	12.5	1	1.6	7.5	0.75	11.98726	17.71258272	1.771258272	1.6	9.1	19.487	1.1	50	0.3273	0.0742	0.055	1.142
14	13.5	1	1.6	8.1	0.81	11.86261	18.24081078	1.824081078	1.6	9.7	19.963	1.1	50	0.3273	0.0742	0.052	1.194
15	14.5	1	1.6	8.7	0.87	11.72862	18.75716211	1.875716211	1.6	10.3	20.429	1.1	50	0.3273	0.0742	0.049	1.243
16	15.5	1	1.6	9.3	0.93	11.5864	19.26307521	1.926307521	1.6	10.9	20.886	1.1	50	0.3273	0.0742	0.046	1.289
17	16.5	1	1.6	9.9	0.99	11.43709	19.75991791	1.975991791	1.6	11.5	21.337	1.1	50	0.3273	0.0742	0.044	1.333
18	17.5	1	1.6	10.5	1.05	11.28179	20.24898273	2.024898273	1.6	12.1	21.782	1.1	50	0.3273	0.0742	0.042	1.375
19	18.5	1	1.6	11.1	1.11	11.12161	20.73148089	2.073148089	1.6	12.7	22.222	1.1	50	0.3273	0.0742	0.040	1.415
20	19.5	1	1.6	11.7	1.17	10.95758	21.20853724	2.120853724	1.6	13.3	22.658	1.1	50	0.3273	0.0742	0.038	1.453

Kedalaman 20 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
4	7.2	0.968	4.538	3.570
5	9	1.150	5.639	4.489
6	10.8	1.310	6.728	5.418
7	12.6	1.453	7.807	6.354

Hfinal (m)	4
Hinisial (m)	5.056
Sc (m)	1.056

Kedalaman 15 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
4	7.2	0.844	4.469	3.625
5	9	0.996	5.553	4.558
6	10.8	1.127	6.626	5.499
7	12.6	1.243	7.690	6.448

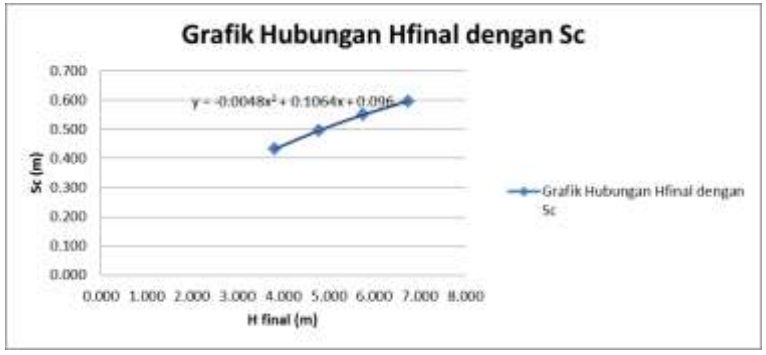
Hfinal (m)	4
Hinisial (m)	4.908
Sc (m)	0.908

Kedalaman 10 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
4	7.2	0.675	4.375	3.700
5	9	0.788	5.438	4.650
6	10.8	0.885	6.491	5.607
7	12.6	0.969	7.538	6.569

Hfinal (m)	4
Hinisial (m)	4.713
Sc (m)	0.713

Kedalaman 5 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
4	7.2	0.432	4.240	3.808
5	9	0.496	5.276	4.780
6	10.8	0.550	6.305	5.756
7	12.6	0.596	7.331	6.735

Hfinal (m)	4
Hinisial (m)	4.445
Sc (m)	0.445



LAMPIRAN 4-2

Perhitungan *Consolidation Settlement* untuk Hinisial = 5 meter

H timb	5 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan			Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
						Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)									
1	0.5	1	1.6	0.3	0.03	8.9999669	6.5969833	0.659698333	1.6	1.9	9.300	1.1	50	0.3273	0.0742	0.136	0.136
2	1.5	1	1.6	0.9	0.09	8.9991091	7.7886242	0.778862421	1.6	2.5	9.899	1.1	50	0.3273	0.0742	0.109	0.245
3	2.5	1	1.6	1.5	0.15	8.9959108	8.6402686	0.864026858	1.6	3.1	10.496	1.1	50	0.3273	0.0742	0.094	0.338
4	3.5	1	1.6	2.1	0.21	8.9889216	9.3890642	0.938906424	1.6	3.7	11.089	1.1	50	0.3273	0.0742	0.083	0.421
5	4.5	1	1.6	2.7	0.27	8.976847	10.086243	1.008624255	1.6	4.3	11.677	1.1	50	0.3273	0.0742	0.075	0.496
6	5.5	1	1.6	3.3	0.33	8.9585929	10.750978	1.075097754	1.6	4.9	12.259	1.1	50	0.3273	0.0742	0.068	0.564
7	6.5	1	1.6	3.9	0.39	8.9332955	11.392285	1.139228487	1.6	5.5	12.833	1.1	50	0.3273	0.0742	0.063	0.627
8	7.5	1	1.6	4.5	0.45	8.900336	12.015044	1.201504414	1.6	6.1	13.400	1.1	50	0.3273	0.0742	0.058	0.685
9	8.5	1	1.6	5.1	0.51	8.8593402	12.622211	1.262221055	1.6	6.7	13.959	1.1	50	0.3273	0.0742	0.054	0.739
10	9.5	1	1.6	5.7	0.57	8.810166	13.215775	1.321577475	1.6	7.3	14.510	1.1	50	0.3273	0.0742	0.050	0.789
11	10.5	1	1.6	6.3	0.63	8.7528807	13.797224	1.379722392	1.6	7.9	15.053	1.1	50	0.3273	0.0742	0.047	0.836
12	11.5	1	1.6	6.9	0.69	8.6877323	14.367776	1.436777621	1.6	8.5	15.588	1.1	50	0.3273	0.0742	0.044	0.880
13	12.5	1	1.6	7.5	0.75	8.6151172	14.928503	1.492850256	1.6	9.1	16.115	1.1	50	0.3273	0.0742	0.042	0.922
14	13.5	1	1.6	8.1	0.81	8.5355464	15.480389	1.548038883	1.6	9.7	16.636	1.1	50	0.3273	0.0742	0.039	0.961
15	14.5	1	1.6	8.7	0.87	8.4496144	16.024366	1.602436577	1.6	10.3	17.150	1.1	50	0.3273	0.0742	0.037	0.998
16	15.5	1	1.6	9.3	0.93	8.3579695	16.561321	1.65613212	1.6	10.9	17.658	1.1	50	0.3273	0.0742	0.035	1.033
17	16.5	1	1.6	9.9	0.99	8.2612881	17.092103	1.709210308	1.6	11.5	18.161	1.1	50	0.3273	0.0742	0.033	1.067
18	17.5	1	1.6	10.5	1.05	8.1602539	17.617518	1.761751798	1.6	12.1	18.660	1.1	50	0.3273	0.0742	0.031	1.098
19	18.5	1	1.6	11.1	1.11	8.0555397	18.138328	1.813832805	1.6	12.7	19.156	1.1	50	0.3273	0.0742	0.030	1.128
20	19.5	1	1.6	11.7	1.17	7.9477949	18.655248	1.865524771	1.6	13.3	19.648	1.1	50	0.3273	0.0742	0.028	1.156

Perhitungan *Consolidation Settlement* untuk Hinisial = 6 meter

H timb	6 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan			Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
						Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)									
1	0.5	1	1.6	0.3	0.03	10.799964	7.735734	0.773573398	1.6	1.9	11.100	1.1	50	0.3273	0.0742	0.148	0.148
2	1.5	1	1.6	0.9	0.09	10.799023	9.0522986	0.905229865	1.6	2.5	11.699	1.1	50	0.3273	0.0742	0.120	0.268
3	2.5	1	1.6	1.5	0.15	10.795512	9.9627927	0.99627927	1.6	3.1	12.296	1.1	50	0.3273	0.0742	0.104	0.372
4	3.5	1	1.6	2.1	0.21	10.787837	10.749393	1.074939312	1.6	3.7	12.888	1.1	50	0.3273	0.0742	0.093	0.465
5	4.5	1	1.6	2.7	0.27	10.774563	11.473597	1.147359749	1.6	4.3	13.475	1.1	50	0.3273	0.0742	0.084	0.550
6	5.5	1	1.6	3.3	0.33	10.754474	12.158627	1.215862708	1.6	4.9	14.054	1.1	50	0.3273	0.0742	0.077	0.627
7	6.5	1	1.6	3.9	0.39	10.726595	12.815495	1.281549471	1.6	5.5	14.627	1.1	50	0.3273	0.0742	0.071	0.699
8	7.5	1	1.6	4.5	0.45	10.690214	13.4502	1.345020007	1.6	6.1	15.190	1.1	50	0.3273	0.0742	0.066	0.765
9	8.5	1	1.6	5.1	0.51	10.64488	14.066383	1.406638309	1.6	6.7	15.745	1.1	50	0.3273	0.0742	0.062	0.827
10	9.5	1	1.6	5.7	0.57	10.590396	14.666482	1.466648192	1.6	7.3	16.290	1.1	50	0.3273	0.0742	0.058	0.885
11	10.5	1	1.6	6.3	0.63	10.526788	15.252294	1.525229395	1.6	7.9	16.827	1.1	50	0.3273	0.0742	0.055	0.940
12	11.5	1	1.6	6.9	0.69	10.454286	15.825265	1.582526507	1.6	8.5	17.354	1.1	50	0.3273	0.0742	0.052	0.992
13	12.5	1	1.6	7.5	0.75	10.373282	16.386643	1.638664314	1.6	9.1	17.873	1.1	50	0.3273	0.0742	0.049	1.040
14	13.5	1	1.6	8.1	0.81	10.284297	16.937559	1.693755933	1.6	9.7	18.384	1.1	50	0.3273	0.0742	0.046	1.086
15	14.5	1	1.6	8.7	0.87	10.187952	17.47907	1.747906982	1.6	10.3	18.888	1.1	50	0.3273	0.0742	0.044	1.130
16	15.5	1	1.6	9.3	0.93	10.084933	18.012175	1.801217532	1.6	10.9	19.385	1.1	50	0.3273	0.0742	0.041	1.171
17	16.5	1	1.6	9.9	0.99	9.975962	18.537829	1.853782854	1.6	11.5	19.876	1.1	50	0.3273	0.0742	0.039	1.211
18	17.5	1	1.6	10.5	1.05	9.8617782	19.056935	1.905693538	1.6	12.1	20.362	1.1	50	0.3273	0.0742	0.037	1.248
19	18.5	1	1.6	11.1	1.11	9.7431153	19.570353	1.957035332	1.6	12.7	20.843	1.1	50	0.3273	0.0742	0.036	1.284
20	19.5	1	1.6	11.7	1.17	9.6206879	20.078889	2.007888892	1.6	13.3	21.321	1.1	50	0.3273	0.0742	0.034	1.318

Perhitungan *Consolidation Settlement* untuk Hinisial = 7 meter

H timb	7 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan			Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
						Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)									
1	0.5	1	1.6	0.3	0.03	12.599961	8.8560831	0.885608309	1.6	1.9	12.900	1.1	50	0.3273	0.0742	0.158	0.158
2	1.5	1	1.6	0.9	0.09	12.598951	10.29661	1.029661009	1.6	2.5	13.499	1.1	50	0.3273	0.0742	0.130	0.288
3	2.5	1	1.6	1.5	0.15	12.595182	11.266078	1.12660777	1.6	3.1	14.095	1.1	50	0.3273	0.0742	0.114	0.401
4	3.5	1	1.6	2.1	0.21	12.586936	12.090938	1.20909382	1.6	3.7	14.687	1.1	50	0.3273	0.0742	0.102	0.503
5	4.5	1	1.6	2.7	0.27	12.572665	12.8428	1.284280027	1.6	4.3	15.273	1.1	50	0.3273	0.0742	0.093	0.596
6	5.5	1	1.6	3.3	0.33	12.551046	13.548884	1.354888408	1.6	4.9	15.851	1.1	50	0.3273	0.0742	0.086	0.682
7	6.5	1	1.6	3.9	0.39	12.521009	14.222184	1.422218436	1.6	5.5	16.421	1.1	50	0.3273	0.0742	0.079	0.761
8	7.5	1	1.6	4.5	0.45	12.481758	14.869817	1.486981733	1.6	6.1	16.982	1.1	50	0.3273	0.0742	0.074	0.835
9	8.5	1	1.6	5.1	0.51	12.432776	15.496108	1.549610766	1.6	6.7	17.533	1.1	50	0.3273	0.0742	0.069	0.904
10	9.5	1	1.6	5.7	0.57	12.373808	16.103941	1.610394109	1.6	7.3	18.074	1.1	50	0.3273	0.0742	0.065	0.970
11	10.5	1	1.6	6.3	0.63	12.304842	16.695424	1.669542373	1.6	7.9	18.605	1.1	50	0.3273	0.0742	0.061	1.031
12	11.5	1	1.6	6.9	0.69	12.226081	17.272225	1.727222544	1.6	8.5	19.126	1.1	50	0.3273	0.0742	0.058	1.089
13	12.5	1	1.6	7.5	0.75	12.137904	17.835765	1.783576486	1.6	9.1	19.638	1.1	50	0.3273	0.0742	0.055	1.144
14	13.5	1	1.6	8.1	0.81	12.040834	18.38731	1.838731015	1.6	9.7	20.141	1.1	50	0.3273	0.0742	0.052	1.196
15	14.5	1	1.6	8.7	0.87	11.935503	18.928033	1.892803269	1.6	10.3	20.636	1.1	50	0.3273	0.0742	0.050	1.246
16	15.5	1	1.6	9.3	0.93	11.822619	19.459034	1.945903438	1.6	10.9	21.123	1.1	50	0.3273	0.0742	0.047	1.293
17	16.5	1	1.6	9.9	0.99	11.702937	19.98136	1.998136	1.6	11.5	21.603	1.1	50	0.3273	0.0742	0.045	1.338
18	17.5	1	1.6	10.5	1.05	11.577235	20.496002	2.049600154	1.6	12.1	22.077	1.1	50	0.3273	0.0742	0.043	1.381
19	18.5	1	1.6	11.1	1.11	11.446292	21.003898	2.100389844	1.6	12.7	22.546	1.1	50	0.3273	0.0742	0.041	1.422
20	19.5	1	1.6	11.7	1.17	11.310872	21.505936	2.150593617	1.6	13.3	23.011	1.1	50	0.3273	0.0742	0.039	1.461

Kedalaman 20 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
4	7.2	0.972	4.540	3.568
5	9	1.156	5.642	4.486
6	10.8	1.318	6.732	5.414
7	12.6	1.461	7.812	6.351

Hfinal (m)	4
Hinisial (m)	5.062
Sc (m)	1.062

Kedalaman 15 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
4	7.2	0.846	4.470	3.624
5	9	0.998	5.555	4.556
6	10.8	1.130	6.628	5.498
7	12.6	1.246	7.692	6.446

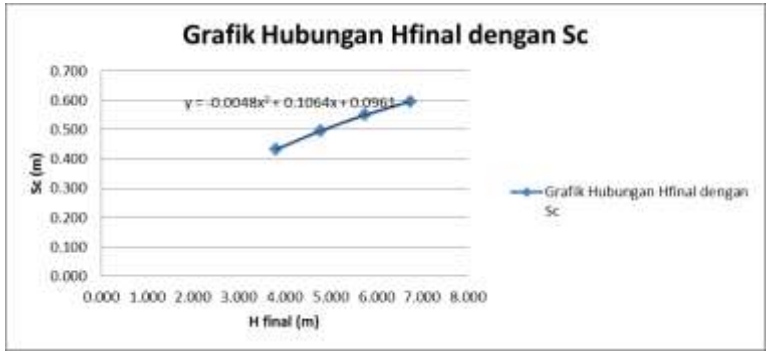
Hfinal (m)	4
Hinisial (m)	4.910
Sc (m)	0.910

Kedalaman 10 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
4	7.2	0.676	4.376	3.700
5	9	0.789	5.438	4.649
6	10.8	0.885	6.492	5.606
7	12.6	0.970	7.539	6.569

Hfinal (m)	4
Hinisial (m)	4.713
Sc (m)	0.713

Kedalaman 5 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
4	7.2	0.432	4.240	3.808
5	9	0.496	5.276	4.780
6	10.8	0.550	6.306	5.756
7	12.6	0.596	7.331	6.735

Hfinal (m)	4
Hinisial (m)	4.445
Sc (m)	0.445



LAMPIRAN 4-3

Perhitungan *Consolidation Settlement* untuk Hinisial = 5 meter

H timb	5 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan			Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
						Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)									
1	0.5	1	1.6	0.3	0.03	8.999973217	6.596987384	0.659698738	1.6	1.9	9.300	1.1	50	0.3273	0.0742	0.136	0.136
2	1.5	1	1.6	0.9	0.09	8.99927972	7.788745035	0.778874504	1.6	2.5	9.899	1.1	50	0.3273	0.0742	0.109	0.245
3	2.5	1	1.6	1.5	0.15	8.996691598	8.640847085	0.864084708	1.6	3.1	10.497	1.1	50	0.3273	0.0742	0.094	0.338
4	3.5	1	1.6	2.1	0.21	8.991027669	9.390669139	0.939066914	1.6	3.7	11.091	1.1	50	0.3273	0.0742	0.083	0.421
5	4.5	1	1.6	2.7	0.27	8.981222912	10.08964432	1.008964432	1.6	4.3	11.681	1.1	50	0.3273	0.0742	0.075	0.496
6	5.5	1	1.6	3.3	0.33	8.966362476	10.75710998	1.075710998	1.6	4.9	12.266	1.1	50	0.3273	0.0742	0.068	0.564
7	6.5	1	1.6	3.9	0.39	8.945705208	11.40219901	1.140219901	1.6	5.5	12.846	1.1	50	0.3273	0.0742	0.063	0.627
8	7.5	1	1.6	4.5	0.45	8.918696045	12.02985895	1.202985895	1.6	6.1	13.419	1.1	50	0.3273	0.0742	0.058	0.685
9	8.5	1	1.6	5.1	0.51	8.884967803	12.64306415	1.264306415	1.6	6.7	13.985	1.1	50	0.3273	0.0742	0.054	0.739
10	9.5	1	1.6	5.7	0.57	8.84433372	13.24377925	1.324377925	1.6	7.3	14.544	1.1	50	0.3273	0.0742	0.050	0.789
11	10.5	1	1.6	6.3	0.63	8.79677272	13.83342628	1.383342628	1.6	7.9	15.097	1.1	50	0.3273	0.0742	0.047	0.837
12	11.5	1	1.6	6.9	0.69	8.742409582	14.41312646	1.441312646	1.6	8.5	15.642	1.1	50	0.3273	0.0742	0.044	0.881
13	12.5	1	1.6	7.5	0.75	8.681492148	14.98382998	1.498382998	1.6	9.1	16.181	1.1	50	0.3273	0.0742	0.042	0.923
14	13.5	1	1.6	8.1	0.81	8.614367447	15.54638622	1.554638622	1.6	9.7	16.714	1.1	50	0.3273	0.0742	0.040	0.963
15	14.5	1	1.6	8.7	0.87	8.541458266	16.101581	1.6101581	1.6	10.3	17.241	1.1	50	0.3273	0.0742	0.037	1.000
16	15.5	1	1.6	9.3	0.93	8.463241259	16.65015527	1.665015527	1.6	10.9	17.763	1.1	50	0.3273	0.0742	0.035	1.036
17	16.5	1	1.6	9.9	0.99	8.380227341	17.19281352	1.719281352	1.6	11.5	18.280	1.1	50	0.3273	0.0742	0.034	1.069
18	17.5	1	1.6	10.5	1.05	8.292944747	17.73022648	1.773022648	1.6	12.1	18.793	1.1	50	0.3273	0.0742	0.032	1.101
19	18.5	1	1.6	11.1	1.11	8.20192489	18.26303103	1.826303103	1.6	12.7	19.302	1.1	50	0.3273	0.0742	0.030	1.132
20	19.5	1	1.6	11.7	1.17	8.107690945	18.79182902	1.879182902	1.6	13.3	19.808	1.1	50	0.3273	0.0742	0.029	1.161

Perhitungan *Consolidation Settlement* untuk Hinisial = 6 meter

H timb	6 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan			Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
						Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)									
1	0.5	1	1.6	0.3	0.03	10.79997125	7.735738741	0.773573874	1.6	1.9	11.100	1.1	50	0.3273	0.0742	0.148	0.148
2	1.5	1	1.6	0.9	0.09	10.79922663	9.052440717	0.905244072	1.6	2.5	11.699	1.1	50	0.3273	0.0742	0.120	0.268
3	2.5	1	1.6	1.5	0.15	10.79644668	9.963474044	0.996347404	1.6	3.1	12.296	1.1	50	0.3273	0.0742	0.104	0.372
4	3.5	1	1.6	2.1	0.21	10.79035923	10.75128682	1.075128682	1.6	3.7	12.890	1.1	50	0.3273	0.0742	0.093	0.466
5	4.5	1	1.6	2.7	0.27	10.77981238	11.47761992	1.147761992	1.6	4.3	13.480	1.1	50	0.3273	0.0742	0.084	0.550
6	5.5	1	1.6	3.3	0.33	10.76380994	12.16589556	1.216589556	1.6	4.9	14.064	1.1	50	0.3273	0.0742	0.077	0.627
7	6.5	1	1.6	3.9	0.39	10.74153627	12.82727612	1.282727612	1.6	5.5	14.642	1.1	50	0.3273	0.0742	0.072	0.699
8	7.5	1	1.6	4.5	0.45	10.71236972	13.46785513	1.346785513	1.6	6.1	15.212	1.1	50	0.3273	0.0742	0.067	0.766
9	8.5	1	1.6	5.1	0.51	10.67588521	14.0913104	1.40913104	1.6	6.7	15.776	1.1	50	0.3273	0.0742	0.062	0.828
10	9.5	1	1.6	5.7	0.57	10.6318474	14.70006542	1.470006542	1.6	7.3	16.332	1.1	50	0.3273	0.0742	0.058	0.886
11	10.5	1	1.6	6.3	0.63	10.58019623	15.29585637	1.529585637	1.6	7.9	16.880	1.1	50	0.3273	0.0742	0.055	0.941
12	11.5	1	1.6	6.9	0.69	10.52102718	15.88002901	1.588002901	1.6	8.5	17.421	1.1	50	0.3273	0.0742	0.052	0.993
13	12.5	1	1.6	7.5	0.75	10.45456836	16.4537009	1.64537009	1.6	9.1	17.955	1.1	50	0.3273	0.0742	0.049	1.042
14	13.5	1	1.6	8.1	0.81	10.38115628	17.01785141	1.701785141	1.6	9.7	18.481	1.1	50	0.3273	0.0742	0.046	1.088
15	14.5	1	1.6	8.7	0.87	10.30121188	17.57337174	1.757337174	1.6	10.3	19.001	1.1	50	0.3273	0.0742	0.044	1.132
16	15.5	1	1.6	9.3	0.93	10.21521805	18.12109188	1.812109188	1.6	10.9	19.515	1.1	50	0.3273	0.0742	0.042	1.174
17	16.5	1	1.6	9.9	0.99	10.12369925	18.66179445	1.866179445	1.6	11.5	20.024	1.1	50	0.3273	0.0742	0.040	1.214
18	17.5	1	1.6	10.5	1.05	10.02720371	19.19622108	1.919622108	1.6	12.1	20.527	1.1	50	0.3273	0.0742	0.038	1.252
19	18.5	1	1.6	11.1	1.11	9.926288506	19.72507463	1.972507463	1.6	12.7	21.026	1.1	50	0.3273	0.0742	0.036	1.288
20	19.5	1	1.6	11.7	1.17	9.821507212	20.2490196	2.02490196	1.6	13.3	21.522	1.1	50	0.3273	0.0742	0.035	1.322

Perhitungan *Consolidation Settlement* untuk Hinisial = 7 meter

H timb	7 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Setelah diperbaiki Ardhana dan			Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
						Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)									
1	0.5	1	1.6	0.3	0.03	12.59996969	8.856088472	0.885608847	1.6	1.9	12.900	1.1	50	0.3273	0.0742	0.158	0.158
2	1.5	1	1.6	0.9	0.09	12.59918474	10.29677061	1.029677061	1.6	2.5	13.499	1.1	50	0.3273	0.0742	0.130	0.288
3	2.5	1	1.6	1.5	0.15	12.59625337	11.26684847	1.126684847	1.6	3.1	14.096	1.1	50	0.3273	0.0742	0.114	0.401
4	3.5	1	1.6	2.1	0.21	12.58983123	12.0930836	1.20930836	1.6	3.7	14.690	1.1	50	0.3273	0.0742	0.102	0.503
5	4.5	1	1.6	2.7	0.27	12.57869703	12.84736502	1.284736502	1.6	4.3	15.279	1.1	50	0.3273	0.0742	0.093	0.596
6	5.5	1	1.6	3.3	0.33	12.56178899	13.55714825	1.355714825	1.6	4.9	15.862	1.1	50	0.3273	0.0742	0.086	0.682
7	6.5	1	1.6	3.9	0.39	12.53823052	14.235608	1.4235608	1.6	5.5	16.438	1.1	50	0.3273	0.0742	0.079	0.761
8	7.5	1	1.6	4.5	0.45	12.50734452	14.88997984	1.488997984	1.6	6.1	17.007	1.1	50	0.3273	0.0742	0.074	0.835
9	8.5	1	1.6	5.1	0.51	12.4686565	15.52464629	1.552464629	1.6	6.7	17.569	1.1	50	0.3273	0.0742	0.069	0.905
10	9.5	1	1.6	5.7	0.57	12.42188828	16.14249236	1.614249236	1.6	7.3	18.122	1.1	50	0.3273	0.0742	0.065	0.970
11	10.5	1	1.6	6.3	0.63	12.36694384	16.74557072	1.674557072	1.6	7.9	18.667	1.1	50	0.3273	0.0742	0.062	1.032
12	11.5	1	1.6	6.9	0.69	12.30388973	17.3354529	1.73354529	1.6	8.5	19.204	1.1	50	0.3273	0.0742	0.058	1.090
13	12.5	1	1.6	7.5	0.75	12.23293219	17.91342326	1.791342326	1.6	9.1	19.733	1.1	50	0.3273	0.0742	0.055	1.146
14	13.5	1	1.6	8.1	0.81	12.1543928	18.48058894	1.848058894	1.6	9.7	20.254	1.1	50	0.3273	0.0742	0.053	1.198
15	14.5	1	1.6	8.7	0.87	12.06868428	19.03794252	1.903794252	1.6	10.3	20.769	1.1	50	0.3273	0.0742	0.050	1.248
16	15.5	1	1.6	9.3	0.93	11.97628763	19.58639742	1.958639742	1.6	10.9	21.276	1.1	50	0.3273	0.0742	0.048	1.296
17	16.5	1	1.6	9.9	0.99	11.87773135	20.12680746	2.012680746	1.6	11.5	21.778	1.1	50	0.3273	0.0742	0.046	1.342
18	17.5	1	1.6	10.5	1.05	11.77357317	20.659977	2.0659977	1.6	12.1	22.274	1.1	50	0.3273	0.0742	0.043	1.385
19	18.5	1	1.6	11.1	1.11	11.66438451	21.18666595	2.118666595	1.6	12.7	22.764	1.1	50	0.3273	0.0742	0.042	1.427
20	19.5	1	1.6	11.7	1.17	11.55073762	21.70759188	2.170759188	1.6	13.3	23.251	1.1	50	0.3273	0.0742	0.040	1.466

Kedalaman 20 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
4	7.2	0.976	4.542	3.566
5	9	1.161	5.645	4.484
6	10.8	1.322	6.735	5.412
7	12.6	1.466	7.815	6.348

Hfinal (m)	4
Hinisial (m)	5.066
Sc (m)	1.066

Kedalaman 15 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
4	7.2	0.848	4.471	3.623
5	9	1.000	5.556	4.555
6	10.8	1.132	6.629	5.497
7	12.6	1.248	7.694	6.445

Hfinal (m)	4
Hinisial (m)	4.911
Sc (m)	0.911

Kedalaman 10 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
4	7.2	0.677	4.376	3.699
5	9	0.789	5.439	4.649
6	10.8	0.886	6.492	5.606
7	12.6	0.970	7.539	6.569

Hfinal (m)	4
Hinisial (m)	4.713
Sc (m)	0.713

Kedalaman 5 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
4	7.2	0.432	4.240	3.808
5	9	0.496	5.276	4.779
6	10.8	0.550	6.306	5.756
7	12.6	0.596	7.331	6.735

Hfinal (m)	4
Hinisial (m)	4.445
Sc (m)	0.445

LAMPIRAN 4-4

Perhitungan *Consolidation Settlement* untuk Hinisial = 7 meter

H timb	7 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	12.599946	8.8560739	0.885607393	1.6	1.9	12.900	1.1	50	0.3273	0.0742	0.158	0.158
2	1.5	1	1.6	0.9	0.09	12.598553	10.296337	1.029633697	1.6	2.5	13.499	1.1	50	0.3273	0.0742	0.130	0.288
3	2.5	1	1.6	1.5	0.15	12.593363	11.264769	1.126476903	1.6	3.1	14.093	1.1	50	0.3273	0.0742	0.114	0.401
4	3.5	1	1.6	2.1	0.21	12.582035	12.087307	1.20873071	1.6	3.7	14.682	1.1	50	0.3273	0.0742	0.102	0.503
5	4.5	1	1.6	2.7	0.27	12.562499	12.835106	1.283510632	1.6	4.3	15.262	1.1	50	0.3273	0.0742	0.093	0.596
6	5.5	1	1.6	3.3	0.33	12.533032	13.535025	1.353502512	1.6	4.9	15.833	1.1	50	0.3273	0.0742	0.085	0.682
7	6.5	1	1.6	3.9	0.39	12.492302	14.199806	1.419980621	1.6	5.5	16.392	1.1	50	0.3273	0.0742	0.079	0.761
8	7.5	1	1.6	4.5	0.45	12.439398	14.836431	1.483643061	1.6	6.1	16.939	1.1	50	0.3273	0.0742	0.074	0.835
9	8.5	1	1.6	5.1	0.51	12.373819	15.449202	1.544920232	1.6	6.7	17.474	1.1	50	0.3273	0.0742	0.069	0.904
10	9.5	1	1.6	5.7	0.57	12.295449	16.041091	1.604109087	1.6	7.3	17.995	1.1	50	0.3273	0.0742	0.065	0.969
11	10.5	1	1.6	6.3	0.63	12.204516	16.614375	1.661437526	1.6	7.9	18.505	1.1	50	0.3273	0.0742	0.061	1.030
12	11.5	1	1.6	6.9	0.69	12.101538	17.170968	1.717096846	1.6	8.5	19.002	1.1	50	0.3273	0.0742	0.058	1.087
13	12.5	1	1.6	7.5	0.75	11.987263	17.712583	1.771258272	1.6	9.1	19.487	1.1	50	0.3273	0.0742	0.055	1.142
14	13.5	1	1.6	8.1	0.81	11.862612	18.240811	1.824081078	1.6	9.7	19.963	1.1	50	0.3273	0.0742	0.052	1.194
15	14.5	1	1.6	8.7	0.87	11.728624	18.757162	1.875716211	1.6	10.3	20.429	1.1	50	0.3273	0.0742	0.049	1.243
16	15.5	1	1.6	9.3	0.93	11.586405	19.263075	1.926307521	1.6	10.9	20.886	1.1	50	0.3273	0.0742	0.046	1.289
17	16.5	1	1.6	9.9	0.99	11.437087	19.759918	1.975991791	1.6	11.5	21.337	1.1	50	0.3273	0.0742	0.044	1.333
18	17.5	1	1.6	10.5	1.05	11.281794	20.248983	2.024898273	1.6	12.1	21.782	1.1	50	0.3273	0.0742	0.042	1.375
19	18.5	1	1.6	11.1	1.11	11.121613	20.731481	2.073148089	1.6	12.7	22.222	1.1	50	0.3273	0.0742	0.040	1.415
20	19.5	1	1.6	11.7	1.17	10.957578	21.208537	2.120853724	1.6	13.3	22.658	1.1	50	0.3273	0.0742	0.038	1.453

Perhitungan *Consolidation Settlement* untuk Hinisial = 8 meter

H timb	8 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	14.399942	9.9608448	0.996084479	1.6	1.9	14.700	1.1	50	0.3273	0.0742	0.167	0.167
2	1.5	1	1.6	0.9	0.09	14.398429	11.524084	1.152408397	1.6	2.5	15.298	1.1	50	0.3273	0.0742	0.138	0.305
3	2.5	1	1.6	1.5	0.15	14.392794	12.551319	1.255131862	1.6	3.1	15.893	1.1	50	0.3273	0.0742	0.122	0.427
4	3.5	1	1.6	2.1	0.21	14.380489	13.412045	1.34120454	1.6	3.7	16.480	1.1	50	0.3273	0.0742	0.110	0.537
5	4.5	1	1.6	2.7	0.27	14.359255	14.187322	1.418732186	1.6	4.3	17.059	1.1	50	0.3273	0.0742	0.100	0.637
6	5.5	1	1.6	3.3	0.33	14.327198	14.907896	1.490789565	1.6	4.9	17.627	1.1	50	0.3273	0.0742	0.093	0.730
7	6.5	1	1.6	3.9	0.39	14.282847	15.588422	1.558842179	1.6	5.5	18.183	1.1	50	0.3273	0.0742	0.086	0.816
8	7.5	1	1.6	4.5	0.45	14.225174	16.236953	1.623695259	1.6	6.1	18.725	1.1	50	0.3273	0.0742	0.081	0.897
9	8.5	1	1.6	5.1	0.51	14.153594	16.85845	1.685844998	1.6	6.7	19.254	1.1	50	0.3273	0.0742	0.076	0.972
10	9.5	1	1.6	5.7	0.57	14.067937	17.45632	1.745631986	1.6	7.3	19.768	1.1	50	0.3273	0.0742	0.071	1.043
11	10.5	1	1.6	6.3	0.63	13.968404	18.033152	1.80331522	1.6	7.9	20.268	1.1	50	0.3273	0.0742	0.067	1.111
12	11.5	1	1.6	6.9	0.69	13.855513	18.591098	1.859109786	1.6	8.5	20.756	1.1	50	0.3273	0.0742	0.064	1.174
13	12.5	1	1.6	7.5	0.75	13.730038	19.132063	1.913206348	1.6	9.1	21.230	1.1	50	0.3273	0.0742	0.060	1.235
14	13.5	1	1.6	8.1	0.81	13.592943	19.65781	1.965781009	1.6	9.7	21.693	1.1	50	0.3273	0.0742	0.057	1.292
15	14.5	1	1.6	8.7	0.87	13.445331	20.169999	2.016999948	1.6	10.3	22.145	1.1	50	0.3273	0.0742	0.054	1.346
16	15.5	1	1.6	9.3	0.93	13.288384	20.670212	2.067021227	1.6	10.9	22.588	1.1	50	0.3273	0.0742	0.052	1.398
17	16.5	1	1.6	9.9	0.99	13.12332	21.159951	2.115995145	1.6	11.5	23.023	1.1	50	0.3273	0.0742	0.049	1.447
18	17.5	1	1.6	10.5	1.05	12.951355	21.640639	2.164063921	1.6	12.1	23.451	1.1	50	0.3273	0.0742	0.047	1.494
19	18.5	1	1.6	11.1	1.11	12.773677	22.113612	2.211361163	1.6	12.7	23.874	1.1	50	0.3273	0.0742	0.045	1.539
20	19.5	1	1.6	11.7	1.17	12.591415	22.580114	2.258011353	1.6	13.3	24.291	1.1	50	0.3273	0.0742	0.043	1.582

Perhitungan *Consolidation Settlement* untuk Hinisial = 9 meter

H timb	9 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	16.199937	11.052135	1.105213531	1.6	1.9	16.500	1.1	50	0.3273	0.0742	0.175	0.175
2	1.5	1	1.6	0.9	0.09	16.198318	12.737445	1.273744467	1.6	2.5	17.098	1.1	50	0.3273	0.0742	0.146	0.320
3	2.5	1	1.6	1.5	0.15	16.192283	13.823392	1.382339158	1.6	3.1	17.692	1.1	50	0.3273	0.0742	0.129	0.449
4	3.5	1	1.6	2.1	0.21	16.179098	14.722489	1.472248855	1.6	3.7	18.279	1.1	50	0.3273	0.0742	0.117	0.566
5	4.5	1	1.6	2.7	0.27	16.156333	15.525582	1.552558227	1.6	4.3	18.856	1.1	50	0.3273	0.0742	0.107	0.674
6	5.5	1	1.6	3.3	0.33	16.12194	16.267273	1.626727262	1.6	4.9	19.422	1.1	50	0.3273	0.0742	0.099	0.773
7	6.5	1	1.6	3.9	0.39	16.074315	16.964113	1.696411314	1.6	5.5	19.974	1.1	50	0.3273	0.0742	0.093	0.865
8	7.5	1	1.6	4.5	0.45	16.012321	17.625221	1.762522144	1.6	6.1	20.512	1.1	50	0.3273	0.0742	0.087	0.952
9	8.5	1	1.6	5.1	0.51	15.935292	18.256214	1.825621353	1.6	6.7	21.035	1.1	50	0.3273	0.0742	0.082	1.034
10	9.5	1	1.6	5.7	0.57	15.843	18.860927	1.886092732	1.6	7.3	21.543	1.1	50	0.3273	0.0742	0.077	1.111
11	10.5	1	1.6	6.3	0.63	15.735614	19.442258	1.944225802	1.6	7.9	22.036	1.1	50	0.3273	0.0742	0.073	1.184
12	11.5	1	1.6	6.9	0.69	15.613646	20.002587	2.000258687	1.6	8.5	22.514	1.1	50	0.3273	0.0742	0.069	1.253
13	12.5	1	1.6	7.5	0.75	15.477882	20.544006	2.054400579	1.6	9.1	22.978	1.1	50	0.3273	0.0742	0.066	1.318
14	13.5	1	1.6	8.1	0.81	15.329322	21.068434	2.106843366	1.6	9.7	23.429	1.1	50	0.3273	0.0742	0.062	1.381
15	14.5	1	1.6	8.7	0.87	15.169115	21.577673	2.157767321	1.6	10.3	23.869	1.1	50	0.3273	0.0742	0.059	1.440
16	15.5	1	1.6	9.3	0.93	14.998507	22.073435	2.207343534	1.6	10.9	24.299	1.1	50	0.3273	0.0742	0.057	1.497
17	16.5	1	1.6	9.9	0.99	14.81879	22.557346	2.255734626	1.6	11.5	24.719	1.1	50	0.3273	0.0742	0.054	1.551
18	17.5	1	1.6	10.5	1.05	14.631261	23.030946	2.303094624	1.6	12.1	25.131	1.1	50	0.3273	0.0742	0.052	1.603
19	18.5	1	1.6	11.1	1.11	14.437191	23.495685	2.349568512	1.6	12.7	25.537	1.1	50	0.3273	0.0742	0.049	1.652
20	19.5	1	1.6	11.7	1.17	14.237801	23.952917	2.395291748	1.6	13.3	25.938	1.1	50	0.3273	0.0742	0.047	1.699

Kedalaman 20 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
6	10.8	1.310	6.728	5.418
7	12.6	1.453	7.807	6.354
8	14.4	1.582	8.879	7.297
9	16.2	1.699	9.944	8.245

Hfinal (m)	6
Hinisial (m)	7.400
Sc (m)	1.400

Kedalaman 15 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
6	10.8	1.127	6.626	5.499
7	12.6	1.243	7.690	6.448
8	14.4	1.346	8.748	7.402
9	16.2	1.440	9.800	8.360

Hfinal (m)	6
Hinisial (m)	7.188
Sc (m)	1.188

Kedalaman 10 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
6	10.8	0.885	6.491	5.607
7	12.6	0.969	7.538	6.569
8	14.4	1.043	8.580	7.536
9	16.2	1.111	9.617	8.506

Hfinal (m)	6
Hinisial (m)	6.919
Sc (m)	0.919

Kedalaman 5 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
6	10.8	0.550	6.305	5.756
7	12.6	0.596	7.331	6.735
8	14.4	0.637	8.354	7.717
9	16.2	0.674	9.374	8.701

Hfinal (m)	6
Hinisial (m)	6.564
Sc (m)	0.564

LAMPIRAN 4-5

Perhitungan *Consolidation Settlement* untuk Hinisial = 7 meter

H timb	7 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	12.599961	8.85608309	0.885608309	1.6	1.9	12.900	1.1	50	0.3273	0.0742	0.158	0.158
2	1.5	1	1.6	0.9	0.09	12.5989509	10.2966101	1.029661009	1.6	2.5	13.499	1.1	50	0.3273	0.0742	0.130	0.288
3	2.5	1	1.6	1.5	0.15	12.5951819	11.2660777	1.12660777	1.6	3.1	14.095	1.1	50	0.3273	0.0742	0.114	0.401
4	3.5	1	1.6	2.1	0.21	12.5869356	12.0909382	1.20909382	1.6	3.7	14.687	1.1	50	0.3273	0.0742	0.102	0.503
5	4.5	1	1.6	2.7	0.27	12.5726654	12.8428003	1.284280027	1.6	4.3	15.273	1.1	50	0.3273	0.0742	0.093	0.596
6	5.5	1	1.6	3.3	0.33	12.551046	13.5488841	1.354888408	1.6	4.9	15.851	1.1	50	0.3273	0.0742	0.086	0.682
7	6.5	1	1.6	3.9	0.39	12.5210085	14.2221844	1.422218436	1.6	5.5	16.421	1.1	50	0.3273	0.0742	0.079	0.761
8	7.5	1	1.6	4.5	0.45	12.481758	14.8698173	1.486981733	1.6	6.1	16.982	1.1	50	0.3273	0.0742	0.074	0.835
9	8.5	1	1.6	5.1	0.51	12.4327756	15.4961077	1.549610766	1.6	6.7	17.533	1.1	50	0.3273	0.0742	0.069	0.904
10	9.5	1	1.6	5.7	0.57	12.3738075	16.1039411	1.610394109	1.6	7.3	18.074	1.1	50	0.3273	0.0742	0.065	0.970
11	10.5	1	1.6	6.3	0.63	12.3048422	16.6954237	1.669542373	1.6	7.9	18.605	1.1	50	0.3273	0.0742	0.061	1.031
12	11.5	1	1.6	6.9	0.69	12.2260809	17.2722254	1.727222544	1.6	8.5	19.126	1.1	50	0.3273	0.0742	0.058	1.089
13	12.5	1	1.6	7.5	0.75	12.1379036	17.8357649	1.783576486	1.6	9.1	19.638	1.1	50	0.3273	0.0742	0.055	1.144
14	13.5	1	1.6	8.1	0.81	12.0408337	18.3873101	1.838731015	1.6	9.7	20.141	1.1	50	0.3273	0.0742	0.052	1.196
15	14.5	1	1.6	8.7	0.87	11.9355029	18.9280327	1.892803269	1.6	10.3	20.636	1.1	50	0.3273	0.0742	0.050	1.246
16	15.5	1	1.6	9.3	0.93	11.8226191	19.4590344	1.945903438	1.6	10.9	21.123	1.1	50	0.3273	0.0742	0.047	1.293
17	16.5	1	1.6	9.9	0.99	11.7029373	19.98136	1.998136	1.6	11.5	21.603	1.1	50	0.3273	0.0742	0.045	1.338
18	17.5	1	1.6	10.5	1.05	11.5772352	20.4960015	2.049600154	1.6	12.1	22.077	1.1	50	0.3273	0.0742	0.043	1.381
19	18.5	1	1.6	11.1	1.11	11.4462918	21.0038984	2.100389844	1.6	12.7	22.546	1.1	50	0.3273	0.0742	0.041	1.422
20	19.5	1	1.6	11.7	1.17	11.3108718	21.5059362	2.150593617	1.6	13.3	23.011	1.1	50	0.3273	0.0742	0.039	1.461

Perhitungan *Consolidation Settlement* untuk Hinisial = 8 meter

H timb	8 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	14.3999588	9.96085528	0.996085528	1.6	1.9	14.700	1.1	50	0.3273	0.0742	0.167	0.167
2	1.5	1	1.6	0.9	0.09	14.3988908	11.5243968	1.152439676	1.6	2.5	15.299	1.1	50	0.3273	0.0742	0.138	0.305
3	2.5	1	1.6	1.5	0.15	14.3949047	12.5528189	1.255281887	1.6	3.1	15.895	1.1	50	0.3273	0.0742	0.122	0.427
4	3.5	1	1.6	2.1	0.21	14.3861795	13.4162132	1.341621322	1.6	3.7	16.486	1.1	50	0.3273	0.0742	0.110	0.537
5	4.5	1	1.6	2.7	0.27	14.3710708	14.1961658	1.419616583	1.6	4.3	17.071	1.1	50	0.3273	0.0742	0.100	0.637
6	5.5	1	1.6	3.3	0.33	14.3481626	14.9238523	1.492385225	1.6	4.9	17.648	1.1	50	0.3273	0.0742	0.093	0.730
7	6.5	1	1.6	3.9	0.39	14.3163033	15.6142341	1.561423405	1.6	5.5	18.216	1.1	50	0.3273	0.0742	0.086	0.816
8	7.5	1	1.6	4.5	0.45	14.274625	16.2755396	1.62755396	1.6	6.1	18.775	1.1	50	0.3273	0.0742	0.081	0.897
9	8.5	1	1.6	5.1	0.51	14.2225465	16.9127778	1.691277775	1.6	6.7	19.323	1.1	50	0.3273	0.0742	0.076	0.973
10	9.5	1	1.6	5.7	0.57	14.1597622	17.5292819	1.752928193	1.6	7.3	19.860	1.1	50	0.3273	0.0742	0.072	1.045
11	10.5	1	1.6	6.3	0.63	14.0862209	18.1274663	1.812746635	1.6	7.9	20.386	1.1	50	0.3273	0.0742	0.068	1.112
12	11.5	1	1.6	6.9	0.69	14.002095	18.7092227	1.87092227	1.6	8.5	20.902	1.1	50	0.3273	0.0742	0.064	1.176
13	12.5	1	1.6	7.5	0.75	13.9077472	19.2761367	1.927613665	1.6	9.1	21.408	1.1	50	0.3273	0.0742	0.061	1.237
14	13.5	1	1.6	8.1	0.81	13.8036937	19.8296078	1.982960778	1.6	9.7	21.904	1.1	50	0.3273	0.0742	0.058	1.295
15	14.5	1	1.6	8.7	0.87	13.6905694	20.3709156	2.037091561	1.6	10.3	22.391	1.1	50	0.3273	0.0742	0.055	1.350
16	15.5	1	1.6	9.3	0.93	13.5690941	20.9012548	2.090125482	1.6	10.9	22.869	1.1	50	0.3273	0.0742	0.053	1.403
17	16.5	1	1.6	9.9	0.99	13.4400429	21.4217529	2.142175288	1.6	11.5	23.340	1.1	50	0.3273	0.0742	0.050	1.453
18	17.5	1	1.6	10.5	1.05	13.3042205	21.9334777	2.193347772	1.6	12.1	23.804	1.1	50	0.3273	0.0742	0.048	1.501
19	18.5	1	1.6	11.1	1.11	13.162439	22.4374402	2.243744023	1.6	12.7	24.262	1.1	50	0.3273	0.0742	0.046	1.547
20	19.5	1	1.6	11.7	1.17	13.0155008	22.9345942	2.293459419	1.6	13.3	24.716	1.1	50	0.3273	0.0742	0.044	1.591

Perhitungan *Consolidation Settlement* untuk Hinisial = 9 meter

H timb	9 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

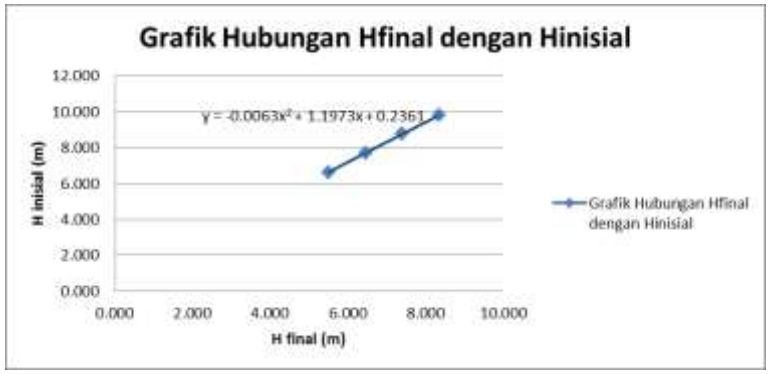
No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	16.1999569	11.052147	1.105214702	1.6	1.9	16.500	1.1	50	0.3273	0.0742	0.175	0.175
2	1.5	1	1.6	0.9	0.09	16.1988399	12.7377944	1.273779436	1.6	2.5	17.099	1.1	50	0.3273	0.0742	0.146	0.320
3	2.5	1	1.6	1.5	0.15	16.19467	13.8250703	1.382507026	1.6	3.1	17.695	1.1	50	0.3273	0.0742	0.129	0.449
4	3.5	1	1.6	2.1	0.21	16.1855388	14.727157	1.472715698	1.6	3.7	18.286	1.1	50	0.3273	0.0742	0.117	0.566
5	4.5	1	1.6	2.7	0.27	16.1697186	15.5355008	1.553550078	1.6	4.3	18.870	1.1	50	0.3273	0.0742	0.107	0.674
6	5.5	1	1.6	3.3	0.33	16.1457149	16.2851933	1.628519326	1.6	4.9	19.446	1.1	50	0.3273	0.0742	0.099	0.773
7	6.5	1	1.6	3.9	0.39	16.1123044	16.9931484	1.699314843	1.6	5.5	20.012	1.1	50	0.3273	0.0742	0.093	0.866
8	7.5	1	1.6	4.5	0.45	16.0685546	17.6687021	1.766870206	1.6	6.1	20.569	1.1	50	0.3273	0.0742	0.087	0.953
9	8.5	1	1.6	5.1	0.51	16.0138278	18.3175462	1.83175462	1.6	6.7	21.114	1.1	50	0.3273	0.0742	0.082	1.034
10	9.5	1	1.6	5.7	0.57	15.9477711	18.9434621	1.894346213	1.6	7.3	21.648	1.1	50	0.3273	0.0742	0.077	1.112
11	10.5	1	1.6	6.3	0.63	15.8702943	19.549172	1.954917202	1.6	7.9	22.170	1.1	50	0.3273	0.0742	0.073	1.185
12	11.5	1	1.6	6.9	0.69	15.7815408	20.1367884	2.013678842	1.6	8.5	22.682	1.1	50	0.3273	0.0742	0.070	1.255
13	12.5	1	1.6	7.5	0.75	15.6818525	20.7080618	2.070806175	1.6	9.1	23.182	1.1	50	0.3273	0.0742	0.066	1.321
14	13.5	1	1.6	8.1	0.81	15.5717344	21.2645195	2.126451949	1.6	9.7	23.672	1.1	50	0.3273	0.0742	0.063	1.384
15	14.5	1	1.6	8.7	0.87	15.4518178	21.8075445	2.180754448	1.6	10.3	24.152	1.1	50	0.3273	0.0742	0.060	1.444
16	15.5	1	1.6	9.3	0.93	15.3228271	22.3384183	2.233841827	1.6	10.9	24.623	1.1	50	0.3273	0.0742	0.058	1.502
17	16.5	1	1.6	9.9	0.99	15.1855489	22.8583441	2.285834412	1.6	11.5	25.086	1.1	50	0.3273	0.0742	0.055	1.557
18	17.5	1	1.6	10.5	1.05	15.0408056	23.3684583	2.336845832	1.6	12.1	25.541	1.1	50	0.3273	0.0742	0.053	1.610
19	18.5	1	1.6	11.1	1.11	14.8894328	23.8698351	2.386983509	1.6	12.7	25.989	1.1	50	0.3273	0.0742	0.051	1.660
20	19.5	1	1.6	11.7	1.17	14.7322608	24.3634881	2.436348811	1.6	13.3	26.432	1.1	50	0.3273	0.0742	0.048	1.709

Kedalaman 20 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
6	10.8	1.318	6.732	5.414
7	12.6	1.461	7.812	6.351
8	14.4	1.591	8.884	7.293
9	16.2	1.709	9.949	8.240

Hfinal (m)	6
Hinisial (m)	7.409
Sc (m)	1.409

Kedalaman 15 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
6	10.8	1.130	6.628	5.498
7	12.6	1.246	7.692	6.446
8	14.4	1.350	8.750	7.400
9	16.2	1.444	9.802	8.358

Hfinal (m)	6
Hinisial (m)	7.193
Sc (m)	1.193



Kedalaman 10 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
6	10.8	0.885	6.492	5.606
7	12.6	0.970	7.539	6.569
8	14.4	1.045	8.580	7.536
9	16.2	1.112	9.618	8.506

Hfinal (m)	6
Hinisial (m)	6.921
Sc (m)	0.921

Kedalaman 5 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
6	10.8	0.550	6.306	5.756
7	12.6	0.596	7.331	6.735
8	14.4	0.637	8.354	7.717
9	16.2	0.674	9.374	8.701

Hfinal (m)	6
Hinisial (m)	6.564
Sc (m)	0.564

LAMPIRAN 4-6

Perhitungan *Consolidation Settlement* untuk Hinisial = 7 meter

H timb	7 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	12.59996969	8.856088472	0.885608847	1.6	1.9	12.900	1.1	50	0.3273	0.0742	0.158	0.158
2	1.5	1	1.6	0.9	0.09	12.59918474	10.29677061	1.029677061	1.6	2.5	13.499	1.1	50	0.3273	0.0742	0.130	0.288
3	2.5	1	1.6	1.5	0.15	12.59625337	11.26684847	1.126684847	1.6	3.1	14.096	1.1	50	0.3273	0.0742	0.114	0.401
4	3.5	1	1.6	2.1	0.21	12.58983123	12.0930836	1.20930836	1.6	3.7	14.690	1.1	50	0.3273	0.0742	0.102	0.503
5	4.5	1	1.6	2.7	0.27	12.57869703	12.84736502	1.284736502	1.6	4.3	15.279	1.1	50	0.3273	0.0742	0.093	0.596
6	5.5	1	1.6	3.3	0.33	12.56178899	13.55714825	1.355714825	1.6	4.9	15.862	1.1	50	0.3273	0.0742	0.086	0.682
7	6.5	1	1.6	3.9	0.39	12.53823052	14.235608	1.4235608	1.6	5.5	16.438	1.1	50	0.3273	0.0742	0.079	0.761
8	7.5	1	1.6	4.5	0.45	12.50734452	14.88997984	1.488997984	1.6	6.1	17.007	1.1	50	0.3273	0.0742	0.074	0.835
9	8.5	1	1.6	5.1	0.51	12.4686565	15.52464629	1.552464629	1.6	6.7	17.569	1.1	50	0.3273	0.0742	0.069	0.905
10	9.5	1	1.6	5.7	0.57	12.42188828	16.14249236	1.614249236	1.6	7.3	18.122	1.1	50	0.3273	0.0742	0.065	0.970
11	10.5	1	1.6	6.3	0.63	12.36694384	16.74557072	1.674557072	1.6	7.9	18.667	1.1	50	0.3273	0.0742	0.062	1.032
12	11.5	1	1.6	6.9	0.69	12.30388973	17.3354529	1.73354529	1.6	8.5	19.204	1.1	50	0.3273	0.0742	0.058	1.090
13	12.5	1	1.6	7.5	0.75	12.23293219	17.91342326	1.791342326	1.6	9.1	19.733	1.1	50	0.3273	0.0742	0.055	1.146
14	13.5	1	1.6	8.1	0.81	12.1543928	18.48058894	1.848058894	1.6	9.7	20.254	1.1	50	0.3273	0.0742	0.053	1.198
15	14.5	1	1.6	8.7	0.87	12.06868428	19.03794252	1.903794252	1.6	10.3	20.769	1.1	50	0.3273	0.0742	0.050	1.248
16	15.5	1	1.6	9.3	0.93	11.97628763	19.58639742	1.958639742	1.6	10.9	21.276	1.1	50	0.3273	0.0742	0.048	1.296
17	16.5	1	1.6	9.9	0.99	11.87773135	20.12680746	2.012680746	1.6	11.5	21.778	1.1	50	0.3273	0.0742	0.046	1.342
18	17.5	1	1.6	10.5	1.05	11.77357317	20.659977	2.0659977	1.6	12.1	22.274	1.1	50	0.3273	0.0742	0.043	1.385
19	18.5	1	1.6	11.1	1.11	11.66438451	21.18666595	2.118666595	1.6	12.7	22.764	1.1	50	0.3273	0.0742	0.042	1.427
20	19.5	1	1.6	11.7	1.17	11.55073762	21.70759188	2.170759188	1.6	13.3	23.251	1.1	50	0.3273	0.0742	0.040	1.466

Perhitungan *Consolidation Settlement* untuk Hinisial = 8 meter

H timb	8 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	14.39996845	9.960861184	0.996086118	1.6	1.9	14.700	1.1	50	0.3273	0.0742	0.167	0.167
2	1.5	1	1.6	0.9	0.09	14.39915112	11.52457323	1.152457323	1.6	2.5	15.299	1.1	50	0.3273	0.0742	0.138	0.305
3	2.5	1	1.6	1.5	0.15	14.39609814	12.5536671	1.25536671	1.6	3.1	15.896	1.1	50	0.3273	0.0742	0.122	0.427
4	3.5	1	1.6	2.1	0.21	14.38940696	13.41857699	1.341857699	1.6	3.7	16.489	1.1	50	0.3273	0.0742	0.110	0.537
5	4.5	1	1.6	2.7	0.27	14.37780005	14.20120212	1.420120212	1.6	4.3	17.078	1.1	50	0.3273	0.0742	0.100	0.637
6	5.5	1	1.6	3.3	0.33	14.36016204	14.93298434	1.493298434	1.6	4.9	17.660	1.1	50	0.3273	0.0742	0.093	0.730
7	6.5	1	1.6	3.9	0.39	14.33556603	15.62909331	1.562909331	1.6	5.5	18.236	1.1	50	0.3273	0.0742	0.086	0.816
8	7.5	1	1.6	4.5	0.45	14.30328844	16.29790112	1.629790112	1.6	6.1	18.803	1.1	50	0.3273	0.0742	0.081	0.897
9	8.5	1	1.6	5.1	0.51	14.26281268	16.9444945	1.69444945	1.6	6.7	19.363	1.1	50	0.3273	0.0742	0.076	0.973
10	9.5	1	1.6	5.7	0.57	14.21382315	17.57222142	1.757222142	1.6	7.3	19.914	1.1	50	0.3273	0.0742	0.072	1.045
11	10.5	1	1.6	6.3	0.63	14.15619142	18.1834529	1.81834529	1.6	7.9	20.456	1.1	50	0.3273	0.0742	0.068	1.113
12	11.5	1	1.6	6.9	0.69	14.08995683	18.77998755	1.877998755	1.6	8.5	20.990	1.1	50	0.3273	0.0742	0.064	1.177
13	12.5	1	1.6	7.5	0.75	14.01530366	19.363277	1.9363277	1.6	9.1	21.515	1.1	50	0.3273	0.0742	0.061	1.239
14	13.5	1	1.6	8.1	0.81	13.93253676	19.93455544	1.993455544	1.6	9.7	22.033	1.1	50	0.3273	0.0742	0.058	1.297
15	14.5	1	1.6	8.7	0.87	13.84205733	20.49491494	2.049491494	1.6	10.3	22.542	1.1	50	0.3273	0.0742	0.056	1.352
16	15.5	1	1.6	9.3	0.93	13.74433982	21.04534931	2.104534931	1.6	10.9	23.044	1.1	50	0.3273	0.0742	0.053	1.406
17	16.5	1	1.6	9.9	0.99	13.63991091	21.58677937	2.158677937	1.6	11.5	23.540	1.1	50	0.3273	0.0742	0.051	1.456
18	17.5	1	1.6	10.5	1.05	13.52933097	22.12006716	2.212006716	1.6	12.1	24.029	1.1	50	0.3273	0.0742	0.049	1.505
19	18.5	1	1.6	11.1	1.11	13.41317818	22.64602371	2.264602371	1.6	12.7	24.513	1.1	50	0.3273	0.0742	0.047	1.552
20	19.5	1	1.6	11.7	1.17	13.29203531	23.16541311	2.316541311	1.6	13.3	24.992	1.1	50	0.3273	0.0742	0.045	1.596

Perhitungan *Consolidation Settlement* untuk Hinisial = 9 meter

H timb	9 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	16.19996743	11.05215339	1.105215339	1.6	1.9	16.500	1.1	50	0.3273	0.0742	0.175	0.175
2	1.5	1	1.6	0.9	0.09	16.19912373	12.73798462	1.273798462	1.6	2.5	17.099	1.1	50	0.3273	0.0742	0.146	0.320
3	2.5	1	1.6	1.5	0.15	16.1959716	13.82598551	1.382598551	1.6	3.1	17.696	1.1	50	0.3273	0.0742	0.129	0.450
4	3.5	1	1.6	2.1	0.21	16.18906095	14.72970998	1.472970998	1.6	3.7	18.289	1.1	50	0.3273	0.0742	0.117	0.566
5	4.5	1	1.6	2.7	0.27	16.17706804	15.54094643	1.554094643	1.6	4.3	18.877	1.1	50	0.3273	0.0742	0.107	0.674
6	5.5	1	1.6	3.3	0.33	16.1588332	16.29508048	1.629508048	1.6	4.9	19.459	1.1	50	0.3273	0.0742	0.099	0.773
7	6.5	1	1.6	3.9	0.39	16.1333876	17.00925982	1.700925982	1.6	5.5	20.033	1.1	50	0.3273	0.0742	0.093	0.866
8	7.5	1	1.6	4.5	0.45	16.0999685	17.69298674	1.769298674	1.6	6.1	20.600	1.1	50	0.3273	0.0742	0.087	0.953
9	8.5	1	1.6	5.1	0.51	16.05802333	18.35205069	1.835205069	1.6	6.7	21.158	1.1	50	0.3273	0.0742	0.082	1.035
10	9.5	1	1.6	5.7	0.57	16.00720392	18.99026315	1.899026315	1.6	7.3	21.707	1.1	50	0.3273	0.0742	0.078	1.112
11	10.5	1	1.6	6.3	0.63	15.94735299	19.61031483	1.961031483	1.6	7.9	22.247	1.1	50	0.3273	0.0742	0.074	1.186
12	11.5	1	1.6	6.9	0.69	15.8784849	20.21423263	2.021423263	1.6	8.5	22.778	1.1	50	0.3273	0.0742	0.070	1.256
13	12.5	1	1.6	7.5	0.75	15.8007629	20.80363632	2.080363632	1.6	9.1	23.301	1.1	50	0.3273	0.0742	0.067	1.323
14	13.5	1	1.6	8.1	0.81	15.71447486	21.37988723	2.137988723	1.6	9.7	23.814	1.1	50	0.3273	0.0742	0.064	1.386
15	14.5	1	1.6	8.7	0.87	15.62000896	21.94417625	2.194417625	1.6	10.3	24.320	1.1	50	0.3273	0.0742	0.061	1.447
16	15.5	1	1.6	9.3	0.93	15.51783055	22.49757603	2.249757603	1.6	10.9	24.818	1.1	50	0.3273	0.0742	0.058	1.505
17	16.5	1	1.6	9.9	0.99	15.408461	23.04107207	2.304107207	1.6	11.5	25.308	1.1	50	0.3273	0.0742	0.056	1.561
18	17.5	1	1.6	10.5	1.05	15.29245901	23.57558098	2.357558098	1.6	12.1	25.792	1.1	50	0.3273	0.0742	0.053	1.614
19	18.5	1	1.6	11.1	1.11	15.17040448	24.10196112	2.410196112	1.6	12.7	26.270	1.1	50	0.3273	0.0742	0.051	1.665
20	19.5	1	1.6	11.7	1.17	15.04288507	24.62101872	2.462101872	1.6	13.3	26.743	1.1	50	0.3273	0.0742	0.049	1.715

Kedalaman 20 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
6	10.8	1.322	6.735	5.412
7	12.6	1.466	7.815	6.348
8	14.4	1.596	8.887	7.291
9	16.2	1.715	9.953	8.238

Hfinal (m)	6
Hinisial (m)	7.413
Sc (m)	1.413

Kedalaman 15 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
6	10.8	1.132	6.629	5.497
7	12.6	1.248	7.694	6.445
8	14.4	1.352	8.751	7.399
9	16.2	1.447	9.804	8.357

Hfinal (m)	6
Hinisial (m)	7.196
Sc (m)	1.196

Kedalaman 10 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
6	10.8	0.886	6.492	5.606
7	12.6	0.970	7.539	6.569
8	14.4	1.045	8.581	7.536
9	16.2	1.112	9.618	8.506

Hfinal (m)	6
Hinisial (m)	6.921
Sc (m)	0.921

Kedalaman 5 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
6	10.8	0.550	6.306	5.756
7	12.6	0.596	7.331	6.735
8	14.4	0.637	8.354	7.717
9	16.2	0.674	9.374	8.701

Hfinal (m)	6
Hinisial (m)	6.560
Sc (m)	0.560

LAMPIRAN 4-7

Perhitungan *Consolidation Settlement* untuk Hinisial = 9 meter

H timb	9 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0
1	0.5	1	1.6	0.3	0.03	16.19994	11.05214	1.105214	1.6	1.9	16.500	1.1
2	1.5	1	1.6	0.9	0.09	16.19832	12.73744	1.273744	1.6	2.5	17.098	1.1
3	2.5	1	1.6	1.5	0.15	16.19228	13.82339	1.382339	1.6	3.1	17.692	1.1
4	3.5	1	1.6	2.1	0.21	16.1791	14.72249	1.472249	1.6	3.7	18.279	1.1
5	4.5	1	1.6	2.7	0.27	16.15633	15.52558	1.552558	1.6	4.3	18.856	1.1
6	5.5	1	1.6	3.3	0.33	16.12194	16.26727	1.626727	1.6	4.9	19.422	1.1
7	6.5	1	1.6	3.9	0.39	16.07431	16.96411	1.696411	1.6	5.5	19.974	1.1
8	7.5	1	1.6	4.5	0.45	16.01232	17.62522	1.762522	1.6	6.1	20.512	1.1
9	8.5	1	1.6	5.1	0.51	15.93529	18.25621	1.825621	1.6	6.7	21.035	1.1
10	9.5	1	1.6	5.7	0.57	15.843	18.86093	1.886093	1.6	7.3	21.543	1.1
11	10.5	1	1.6	6.3	0.63	15.73561	19.44226	1.944226	1.6	7.9	22.036	1.1
12	11.5	1	1.6	6.9	0.69	15.61365	20.00259	2.000259	1.6	8.5	22.514	1.1
13	12.5	1	1.6	7.5	0.75	15.47788	20.54401	2.054401	1.6	9.1	22.978	1.1
14	13.5	1	1.6	8.1	0.81	15.32932	21.06843	2.106843	1.6	9.7	23.429	1.1
15	14.5	1	1.6	8.7	0.87	15.16912	21.57767	2.157767	1.6	10.3	23.869	1.1
16	15.5	1	1.6	9.3	0.93	14.99851	22.07344	2.207344	1.6	10.9	24.299	1.1
17	16.5	1	1.6	9.9	0.99	14.81879	22.55735	2.255735	1.6	11.5	24.719	1.1
18	17.5	1	1.6	10.5	1.05	14.63126	23.03095	2.303095	1.6	12.1	25.131	1.1
19	18.5	1	1.6	11.1	1.11	14.43719	23.49569	2.349569	1.6	12.7	25.537	1.1
20	19.5	1	1.6	11.7	1.17	14.2378	23.95292	2.395292	1.6	13.3	25.938	1.1

Perhitungan *Consolidation Settlement* untuk Hinisial = 10 meter

H timb	10 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL
1	0.5	1	1.6	0.3	0.03	17.99993	12.13156	1.213156	1.6	1.9	18.300	1.1	50
2	1.5	1	1.6	0.9	0.09	17.99822	13.93808	1.393808	1.6	2.5	18.898	1.1	50
3	2.5	1	1.6	1.5	0.15	17.99182	15.0826	1.50826	1.6	3.1	19.492	1.1	50
4	3.5	1	1.6	2.1	0.21	17.97784	16.02018	1.602018	1.6	3.7	20.078	1.1	50
5	4.5	1	1.6	2.7	0.27	17.95369	16.85134	1.685134	1.6	4.3	20.654	1.1	50
6	5.5	1	1.6	3.3	0.33	17.91719	17.6145	1.76145	1.6	4.9	21.217	1.1	50
7	6.5	1	1.6	3.9	0.39	17.86659	18.32812	1.832812	1.6	5.5	21.767	1.1	50
8	7.5	1	1.6	4.5	0.45	17.80067	19.00235	1.900235	1.6	6.1	22.301	1.1	50
9	8.5	1	1.6	5.1	0.51	17.71868	19.64348	1.964348	1.6	6.7	22.819	1.1	50
10	9.5	1	1.6	5.7	0.57	17.62033	20.25577	2.025577	1.6	7.3	23.320	1.1	50
11	10.5	1	1.6	6.3	0.63	17.50576	20.84241	2.084241	1.6	7.9	23.806	1.1	50
12	11.5	1	1.6	6.9	0.69	17.37546	21.40601	2.140601	1.6	8.5	24.275	1.1	50
13	12.5	1	1.6	7.5	0.75	17.23023	21.94884	2.194884	1.6	9.1	24.730	1.1	50
14	13.5	1	1.6	8.1	0.81	17.07109	22.47296	2.247296	1.6	9.7	25.171	1.1	50
15	14.5	1	1.6	8.7	0.87	16.89923	22.98032	2.298032	1.6	10.3	25.599	1.1	50
16	15.5	1	1.6	9.3	0.93	16.71594	23.47274	2.347274	1.6	10.9	26.016	1.1	50
17	16.5	1	1.6	9.9	0.99	16.52258	23.95197	2.395197	1.6	11.5	26.423	1.1	50
18	17.5	1	1.6	10.5	1.05	16.32051	24.41964	2.441964	1.6	12.1	26.821	1.1	50
19	18.5	1	1.6	11.1	1.11	16.11108	24.87731	2.487731	1.6	12.7	27.211	1.1	50
20	19.5	1	1.6	11.7	1.17	15.89559	25.32645	2.532645	1.6	13.3	27.596	1.1	50

Perhitungan *Consolidation Settlement* untuk Hinisial = 11 meter

H timb	11 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL
1	0.5	1	1.6	0.3	0.03	19.79993	13.2004	1.32004	1.6	1.9	20.100	1.1	50
2	1.5	1	1.6	0.9	0.09	19.79813	15.12733	1.512733	1.6	2.5	20.698	1.1	50
3	2.5	1	1.6	1.5	0.15	19.7914	16.33026	1.633026	1.6	3.1	21.291	1.1	50
4	3.5	1	1.6	2.1	0.21	19.77671	17.30636	1.730636	1.6	3.7	21.877	1.1	50
5	4.5	1	1.6	2.7	0.27	19.7513	18.16577	1.816577	1.6	4.3	22.451	1.1	50
6	5.5	1	1.6	3.3	0.33	19.71287	18.9507	1.89507	1.6	4.9	23.013	1.1	50
7	6.5	1	1.6	3.9	0.39	19.65958	19.68146	1.968146	1.6	5.5	23.560	1.1	50
8	7.5	1	1.6	4.5	0.45	19.59008	20.36928	2.036928	1.6	6.1	24.090	1.1	50
9	8.5	1	1.6	5.1	0.51	19.50356	21.02109	2.102109	1.6	6.7	24.604	1.1	50
10	9.5	1	1.6	5.7	0.57	19.39967	21.64157	2.164157	1.6	7.3	25.100	1.1	50
11	10.5	1	1.6	6.3	0.63	19.27851	22.23421	2.223421	1.6	7.9	25.579	1.1	50
12	11.5	1	1.6	6.9	0.69	19.14056	22.80185	2.280185	1.6	8.5	26.041	1.1	50
13	12.5	1	1.6	7.5	0.75	18.9866	23.34693	2.334693	1.6	9.1	26.487	1.1	50
14	13.5	1	1.6	8.1	0.81	18.81768	23.87165	2.387165	1.6	9.7	26.918	1.1	50
15	14.5	1	1.6	8.7	0.87	18.63502	24.37807	2.437807	1.6	10.3	27.335	1.1	50
16	15.5	1	1.6	9.3	0.93	18.43994	24.86814	2.486814	1.6	10.9	27.740	1.1	50
17	16.5	1	1.6	9.9	0.99	18.23386	25.3437	2.53437	1.6	11.5	28.134	1.1	50
18	17.5	1	1.6	10.5	1.05	18.0182	25.80649	2.580649	1.6	12.1	28.518	1.1	50
19	18.5	1	1.6	11.1	1.11	17.79438	26.25816	2.625816	1.6	12.7	28.894	1.1	50
20	19.5	1	1.6	11.7	1.17	17.56376	26.70027	2.670027	1.6	13.3	29.264	1.1	50

Kedalaman 20 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
8	14.4	1.582	8.879	7.297
9	16.2	1.699	9.944	8.245
10	18	1.808	11.004	9.197
11	19.8	1.908	12.060	10.152

Hfinal (m)	8
Hinisial (m)	9.667
Sc (m)	1.667

Kedalaman 15 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
8	14.4	1.346	8.748	7.402
9	16.2	1.440	9.800	8.360
10	18	1.527	10.848	9.322
11	19.8	1.606	11.892	10.286

Hfinal (m)	8
Hinisial (m)	9.403
Sc (m)	1.403

Kedalaman 10 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
8	14.4	1.043	8.580	7.536
9	16.2	1.111	9.617	8.506
10	18	1.172	10.651	9.479
11	19.8	1.228	11.682	10.454

Hfinal (m)	8
Hinisial (m)	9.079
Sc (m)	1.079

Kedalaman 5 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
8	14.4	0.637	8.354	7.717
9	16.2	0.674	9.374	8.701
10	18	0.706	10.392	9.686
11	19.8	0.736	11.409	10.673

Hfinal (m)	8
Hinisial (m)	8.647
Sc (m)	0.647

LAMPIRAN 4-8

Perhitungan *Consolidation Settlement* untuk Hinisial = 9 meter

H timb	9 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0
1	0.5	1	1.6	0.3	0.03	16.19996	11.05215	1.105215	1.6	1.9	16.500	1.
2	1.5	1	1.6	0.9	0.09	16.19884	12.73779	1.273779	1.6	2.5	17.099	1.
3	2.5	1	1.6	1.5	0.15	16.19467	13.82507	1.382507	1.6	3.1	17.695	1.
4	3.5	1	1.6	2.1	0.21	16.18554	14.72716	1.472716	1.6	3.7	18.286	1.
5	4.5	1	1.6	2.7	0.27	16.16972	15.5355	1.55355	1.6	4.3	18.870	1.
6	5.5	1	1.6	3.3	0.33	16.14571	16.28519	1.628519	1.6	4.9	19.446	1.
7	6.5	1	1.6	3.9	0.39	16.1123	16.99315	1.699315	1.6	5.5	20.012	1.
8	7.5	1	1.6	4.5	0.45	16.06855	17.6687	1.76687	1.6	6.1	20.569	1.
9	8.5	1	1.6	5.1	0.51	16.01383	18.31755	1.831755	1.6	6.7	21.114	1.
10	9.5	1	1.6	5.7	0.57	15.94777	18.94346	1.894346	1.6	7.3	21.648	1.
11	10.5	1	1.6	6.3	0.63	15.87029	19.54917	1.954917	1.6	7.9	22.170	1.
12	11.5	1	1.6	6.9	0.69	15.78154	20.13679	2.013679	1.6	8.5	22.682	1.
13	12.5	1	1.6	7.5	0.75	15.68185	20.70806	2.070806	1.6	9.1	23.182	1.
14	13.5	1	1.6	8.1	0.81	15.57173	21.26452	2.126452	1.6	9.7	23.672	1.
15	14.5	1	1.6	8.7	0.87	15.45182	21.80754	2.180754	1.6	10.3	24.152	1.
16	15.5	1	1.6	9.3	0.93	15.32283	22.33842	2.233842	1.6	10.9	24.623	1.
17	16.5	1	1.6	9.9	0.99	15.18555	22.85834	2.285834	1.6	11.5	25.086	1.
18	17.5	1	1.6	10.5	1.05	15.04081	23.36846	2.336846	1.6	12.1	25.541	1.
19	18.5	1	1.6	11.1	1.11	14.88943	23.86984	2.386984	1.6	12.7	25.989	1.
20	19.5	1	1.6	11.7	1.17	14.73226	24.36349	2.436349	1.6	13.3	26.432	1.

Perhitungan *Consolidation Settlement* untuk Hinisial = 10 meter

H timb	10 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL
1	0.5	1	1.6	0.3	0.03	17.99996	12.13157	1.213157	1.6	1.9	18.300	1.1	50
2	1.5	1	1.6	0.9	0.09	17.9988	13.93847	1.393847	1.6	2.5	18.899	1.1	50
3	2.5	1	1.6	1.5	0.15	17.99447	15.08445	1.508445	1.6	3.1	19.494	1.1	50
4	3.5	1	1.6	2.1	0.21	17.98499	16.02531	1.602531	1.6	3.7	20.085	1.1	50
5	4.5	1	1.6	2.7	0.27	17.96856	16.86225	1.686225	1.6	4.3	20.669	1.1	50
6	5.5	1	1.6	3.3	0.33	17.94362	17.63425	1.763425	1.6	4.9	21.244	1.1	50
7	6.5	1	1.6	3.9	0.39	17.90888	18.36016	1.836016	1.6	5.5	21.809	1.1	50
8	7.5	1	1.6	4.5	0.45	17.86335	19.05041	1.905041	1.6	6.1	22.363	1.1	50
9	8.5	1	1.6	5.1	0.51	17.80634	19.71138	1.971138	1.6	6.7	22.906	1.1	50
10	9.5	1	1.6	5.7	0.57	17.73746	20.34731	2.034731	1.6	7.3	23.437	1.1	50
11	10.5	1	1.6	6.3	0.63	17.65657	20.96121	2.096121	1.6	7.9	23.957	1.1	50
12	11.5	1	1.6	6.9	0.69	17.5638	21.55542	2.155542	1.6	8.5	24.464	1.1	50
13	12.5	1	1.6	7.5	0.75	17.45947	22.13186	2.213186	1.6	9.1	24.959	1.1	50
14	13.5	1	1.6	8.1	0.81	17.34405	22.69218	2.269218	1.6	9.7	25.444	1.1	50
15	14.5	1	1.6	8.7	0.87	17.21819	23.23786	2.323786	1.6	10.3	25.918	1.1	50
16	15.5	1	1.6	9.3	0.93	17.0826	23.77027	2.377027	1.6	10.9	26.383	1.1	50
17	16.5	1	1.6	9.9	0.99	16.93807	24.29068	2.429068	1.6	11.5	26.838	1.1	50
18	17.5	1	1.6	10.5	1.05	16.78543	24.80029	2.480029	1.6	12.1	27.285	1.1	50
19	18.5	1	1.6	11.1	1.11	16.62555	25.30023	2.530023	1.6	12.7	27.726	1.1	50
20	19.5	1	1.6	11.7	1.17	16.45926	25.79157	2.579157	1.6	13.3	28.159	1.1	50

Perhitungan *Consolidation Settlement* untuk Hinisial = 11 meter

H timb	11 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL
1	0.5	1	1.6	0.3	0.03	19.79995	13.20042	1.320042	1.6	1.9	20.100	1.1	50
2	1.5	1	1.6	0.9	0.09	19.79876	15.12774	1.512774	1.6	2.5	20.699	1.1	50
3	2.5	1	1.6	1.5	0.15	19.7943	16.33225	1.633225	1.6	3.1	21.294	1.1	50
4	3.5	1	1.6	2.1	0.21	19.78452	17.31192	1.731192	1.6	3.7	21.885	1.1	50
5	4.5	1	1.6	2.7	0.27	19.76757	18.17761	1.817761	1.6	4.3	22.468	1.1	50
6	5.5	1	1.6	3.3	0.33	19.74181	18.97214	1.897214	1.6	4.9	23.042	1.1	50
7	6.5	1	1.6	3.9	0.39	19.70592	19.71629	1.971629	1.6	5.5	23.606	1.1	50
8	7.5	1	1.6	4.5	0.45	19.65885	20.4216	2.04216	1.6	6.1	24.159	1.1	50
9	8.5	1	1.6	5.1	0.51	19.59986	21.09512	2.109512	1.6	6.7	24.700	1.1	50
10	9.5	1	1.6	5.7	0.57	19.52852	21.74153	2.174153	1.6	7.3	25.229	1.1	50
11	10.5	1	1.6	6.3	0.63	19.44467	22.36416	2.236416	1.6	7.9	25.745	1.1	50
12	11.5	1	1.6	6.9	0.69	19.3484	22.96558	2.296558	1.6	8.5	26.248	1.1	50
13	12.5	1	1.6	7.5	0.75	19.23999	23.54785	2.354785	1.6	9.1	26.740	1.1	50
14	13.5	1	1.6	8.1	0.81	19.11994	24.11276	2.411276	1.6	9.7	27.220	1.1	50
15	14.5	1	1.6	8.7	0.87	18.98884	24.66188	2.466188	1.6	10.3	27.689	1.1	50
16	15.5	1	1.6	9.3	0.93	18.84742	25.19667	2.519667	1.6	10.9	28.147	1.1	50
17	16.5	1	1.6	9.9	0.99	18.69648	25.71845	2.571845	1.6	11.5	28.596	1.1	50
18	17.5	1	1.6	10.5	1.05	18.53684	26.22849	2.622849	1.6	12.1	29.037	1.1	50
19	18.5	1	1.6	11.1	1.11	18.36938	26.72798	2.672798	1.6	12.7	29.469	1.1	50
20	19.5	1	1.6	11.7	1.17	18.19495	27.21803	2.721803	1.6	13.3	29.895	1.1	50

Kedalaman 20 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
8	14.4	1.591	8.884	7.293
9	16.2	1.709	9.949	8.240
10	18	1.818	11.010	9.192
11	19.8	1.918	12.066	10.148

Hfinal (m)	8
Hinisial (m)	9.681
Sc (m)	1.681

Kedalaman 15 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
8	14.4	1.350	8.750	7.400
9	16.2	1.444	9.802	8.358
10	18	1.531	10.850	9.320
11	19.8	1.610	11.895	10.284

Hfinal (m)	8
Hinisial (m)	9.409
Sc (m)	1.409

Kedalaman 10 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
8	14.4	1.045	8.580	7.536
9	16.2	1.112	9.618	8.506
10	18	1.173	10.652	9.479
11	19.8	1.229	11.683	10.454

Hfinal (m)	8
Hinisial (m)	9.074
Sc (m)	1.074

Kedalaman 5 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
8	14.4	0.637	8.354	7.717
9	16.2	0.674	9.374	8.701
10	18	0.706	10.392	9.686
11	19.8	0.736	11.409	10.673

Hfinal (m)	8
Hinisial (m)	8.647
Sc (m)	0.647

LAMPIRAN 4-9

Perhitungan *Consolidation Settlement* untuk Hinisial = 9 meter

H timb	9 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	16.19997	11.05215	1.105215	1.6	1.9	16.500	1.1	50	0.3273	0.0742	0.175	0.175
2	1.5	1	1.6	0.9	0.09	16.19912	12.73798	1.273798	1.6	2.5	17.099	1.1	50	0.3273	0.0742	0.146	0.320
3	2.5	1	1.6	1.5	0.15	16.19597	13.82599	1.382599	1.6	3.1	17.696	1.1	50	0.3273	0.0742	0.129	0.450
4	3.5	1	1.6	2.1	0.21	16.18906	14.72971	1.472971	1.6	3.7	18.289	1.1	50	0.3273	0.0742	0.117	0.566
5	4.5	1	1.6	2.7	0.27	16.17707	15.54095	1.554095	1.6	4.3	18.877	1.1	50	0.3273	0.0742	0.107	0.674
6	5.5	1	1.6	3.3	0.33	16.15883	16.29508	1.629508	1.6	4.9	19.459	1.1	50	0.3273	0.0742	0.099	0.773
7	6.5	1	1.6	3.9	0.39	16.13339	17.00926	1.700926	1.6	5.5	20.033	1.1	50	0.3273	0.0742	0.093	0.866
8	7.5	1	1.6	4.5	0.45	16.09997	17.69299	1.769299	1.6	6.1	20.600	1.1	50	0.3273	0.0742	0.087	0.953
9	8.5	1	1.6	5.1	0.51	16.05802	18.35205	1.835205	1.6	6.7	21.158	1.1	50	0.3273	0.0742	0.082	1.035
10	9.5	1	1.6	5.7	0.57	16.0072	18.99026	1.899026	1.6	7.3	21.707	1.1	50	0.3273	0.0742	0.078	1.112
11	10.5	1	1.6	6.3	0.63	15.94735	19.61031	1.961031	1.6	7.9	22.247	1.1	50	0.3273	0.0742	0.074	1.186
12	11.5	1	1.6	6.9	0.69	15.87848	20.21423	2.021423	1.6	8.5	22.778	1.1	50	0.3273	0.0742	0.070	1.256
13	12.5	1	1.6	7.5	0.75	15.80076	20.80364	2.080364	1.6	9.1	23.301	1.1	50	0.3273	0.0742	0.067	1.323
14	13.5	1	1.6	8.1	0.81	15.71447	21.37989	2.137989	1.6	9.7	23.814	1.1	50	0.3273	0.0742	0.064	1.386
15	14.5	1	1.6	8.7	0.87	15.62001	21.94418	2.194418	1.6	10.3	24.320	1.1	50	0.3273	0.0742	0.061	1.447
16	15.5	1	1.6	9.3	0.93	15.51783	22.49758	2.249758	1.6	10.9	24.818	1.1	50	0.3273	0.0742	0.058	1.505
17	16.5	1	1.6	9.9	0.99	15.40846	23.04107	2.304107	1.6	11.5	25.308	1.1	50	0.3273	0.0742	0.056	1.561
18	17.5	1	1.6	10.5	1.05	15.29246	23.57558	2.357558	1.6	12.1	25.792	1.1	50	0.3273	0.0742	0.053	1.614
19	18.5	1	1.6	11.1	1.11	15.1704	24.10196	2.410196	1.6	12.7	26.270	1.1	50	0.3273	0.0742	0.051	1.665
20	19.5	1	1.6	11.7	1.17	15.04289	24.62102	2.462102	1.6	13.3	26.743	1.1	50	0.3273	0.0742	0.049	1.715

Perhitungan *Consolidation Settlement* untuk Hinisial = 10 meter

H timb	10 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	17.99997	12.13158	1.213158	1.6	1.9	18.300	1.1	50	0.3273	0.0742	0.182	0.182
2	1.5	1	1.6	0.9	0.09	17.9991	13.93867	1.393867	1.6	2.5	18.899	1.1	50	0.3273	0.0742	0.153	0.334
3	2.5	1	1.6	1.5	0.15	17.99587	15.08542	1.508542	1.6	3.1	19.496	1.1	50	0.3273	0.0742	0.136	0.470
4	3.5	1	1.6	2.1	0.21	17.98878	16.02803	1.602803	1.6	3.7	20.089	1.1	50	0.3273	0.0742	0.123	0.593
5	4.5	1	1.6	2.7	0.27	17.97646	16.86805	1.686805	1.6	4.3	20.676	1.1	50	0.3273	0.0742	0.113	0.706
6	5.5	1	1.6	3.3	0.33	17.95773	17.6448	1.76448	1.6	4.9	21.258	1.1	50	0.3273	0.0742	0.105	0.812
7	6.5	1	1.6	3.9	0.39	17.93158	18.37736	1.837736	1.6	5.5	21.832	1.1	50	0.3273	0.0742	0.099	0.910
8	7.5	1	1.6	4.5	0.45	17.89722	19.07638	1.907638	1.6	6.1	22.397	1.1	50	0.3273	0.0742	0.093	1.003
9	8.5	1	1.6	5.1	0.51	17.85405	19.74833	1.974833	1.6	6.7	22.954	1.1	50	0.3273	0.0742	0.088	1.091
10	9.5	1	1.6	5.7	0.57	17.80171	20.3975	2.03975	1.6	7.3	23.502	1.1	50	0.3273	0.0742	0.083	1.174
11	10.5	1	1.6	6.3	0.63	17.74	21.02689	2.102689	1.6	7.9	24.040	1.1	50	0.3273	0.0742	0.079	1.252
12	11.5	1	1.6	6.9	0.69	17.66893	21.63877	2.163877	1.6	8.5	24.569	1.1	50	0.3273	0.0742	0.075	1.327
13	12.5	1	1.6	7.5	0.75	17.58864	22.23492	2.223492	1.6	9.1	25.089	1.1	50	0.3273	0.0742	0.072	1.399
14	13.5	1	1.6	8.1	0.81	17.49939	22.81682	2.281682	1.6	9.7	25.599	1.1	50	0.3273	0.0742	0.068	1.468
15	14.5	1	1.6	8.7	0.87	17.40156	23.38578	2.338578	1.6	10.3	26.102	1.1	50	0.3273	0.0742	0.066	1.533
16	15.5	1	1.6	9.3	0.93	17.29561	23.94293	2.394293	1.6	10.9	26.596	1.1	50	0.3273	0.0742	0.063	1.596
17	16.5	1	1.6	9.9	0.99	17.18205	24.48933	2.448933	1.6	11.5	27.082	1.1	50	0.3273	0.0742	0.060	1.656
18	17.5	1	1.6	10.5	1.05	17.06144	25.02596	2.502596	1.6	12.1	27.561	1.1	50	0.3273	0.0742	0.058	1.714
19	18.5	1	1.6	11.1	1.11	16.93435	25.5537	2.55537	1.6	12.7	28.034	1.1	50	0.3273	0.0742	0.056	1.770
20	19.5	1	1.6	11.7	1.17	16.80138	26.07341	2.607341	1.6	13.3	28.501	1.1	50	0.3273	0.0742	0.054	1.823

Perhitungan *Consolidation Settlement* untuk Hinisial = 11 meter

H timb	11 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	19.79997	13.20042	1.320042	1.6	1.9	20.100	1.1	50	0.3273	0.0742	0.188	0.188
2	1.5	1	1.6	0.9	0.09	19.79908	15.12796	1.512796	1.6	2.5	20.699	1.1	50	0.3273	0.0742	0.159	0.347
3	2.5	1	1.6	1.5	0.15	19.79578	16.33328	1.633328	1.6	3.1	21.296	1.1	50	0.3273	0.0742	0.142	0.488
4	3.5	1	1.6	2.1	0.21	19.78854	17.31478	1.731478	1.6	3.7	21.889	1.1	50	0.3273	0.0742	0.129	0.617
5	4.5	1	1.6	2.7	0.27	19.77596	18.18372	1.818372	1.6	4.3	22.476	1.1	50	0.3273	0.0742	0.119	0.736
6	5.5	1	1.6	3.3	0.33	19.75681	18.98326	1.898326	1.6	4.9	23.057	1.1	50	0.3273	0.0742	0.111	0.847
7	6.5	1	1.6	3.9	0.39	19.73007	19.73445	1.973445	1.6	5.5	23.630	1.1	50	0.3273	0.0742	0.104	0.951
8	7.5	1	1.6	4.5	0.45	19.69491	20.44904	2.044904	1.6	6.1	24.195	1.1	50	0.3273	0.0742	0.098	1.049
9	8.5	1	1.6	5.1	0.51	19.65072	21.13421	2.113421	1.6	6.7	24.751	1.1	50	0.3273	0.0742	0.093	1.142
10	9.5	1	1.6	5.7	0.57	19.59709	21.79471	2.179471	1.6	7.3	25.297	1.1	50	0.3273	0.0742	0.088	1.230
11	10.5	1	1.6	6.3	0.63	19.53383	22.43386	2.243386	1.6	7.9	25.834	1.1	50	0.3273	0.0742	0.084	1.313
12	11.5	1	1.6	6.9	0.69	19.4609	23.05415	2.305415	1.6	8.5	26.361	1.1	50	0.3273	0.0742	0.080	1.393
13	12.5	1	1.6	7.5	0.75	19.37842	23.65754	2.365754	1.6	9.1	26.878	1.1	50	0.3273	0.0742	0.076	1.470
14	13.5	1	1.6	8.1	0.81	19.28667	24.24564	2.424564	1.6	9.7	27.387	1.1	50	0.3273	0.0742	0.073	1.543
15	14.5	1	1.6	8.7	0.87	19.18598	24.81986	2.481986	1.6	10.3	27.886	1.1	50	0.3273	0.0742	0.070	1.613
16	15.5	1	1.6	9.3	0.93	19.07682	25.38141	2.538141	1.6	10.9	28.377	1.1	50	0.3273	0.0742	0.067	1.680
17	16.5	1	1.6	9.9	0.99	18.95969	25.9314	2.59314	1.6	11.5	28.860	1.1	50	0.3273	0.0742	0.065	1.744
18	17.5	1	1.6	10.5	1.05	18.83512	26.47086	2.647086	1.6	12.1	29.335	1.1	50	0.3273	0.0742	0.062	1.806
19	18.5	1	1.6	11.1	1.11	18.70371	27.00074	2.700074	1.6	12.7	29.804	1.1	50	0.3273	0.0742	0.060	1.866
20	19.5	1	1.6	11.7	1.17	18.56604	27.52191	2.752191	1.6	13.3	30.266	1.1	50	0.3273	0.0742	0.058	1.924

Kedalaman 20 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
8	14.4	1.596	8.887	7.291
9	16.2	1.715	9.953	8.238
10	18	1.823	11.013	9.190
11	19.8	1.924	12.069	10.145

Hfinal (m)	8
Hinisial (m)	9.682
Sc (m)	1.682

Kedalaman 15 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
8	14.4	1.352	8.751	7.399
9	16.2	1.447	9.804	8.357
10	18	1.533	10.852	9.319
11	19.8	1.613	11.896	10.283

Hfinal (m)	8
Hinisial (m)	9.412
Sc (m)	1.412

Kedalaman 10 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
8	14.4	1.045	8.581	7.536
9	16.2	1.112	9.618	8.506
10	18	1.174	10.652	9.478
11	19.8	1.230	11.683	10.453

Hfinal (m)	8
Hinisial (m)	9.075
Sc (m)	1.075

Kedalaman 5 meter				
Htimb (m)	q final (t/m2)	Sc (m)	Hinisial (m)	Hfinal (m)
8	14.4	0.637	8.354	7.717
9	16.2	0.674	9.374	8.701
10	18	0.706	10.392	9.686
11	19.8	0.736	11.409	10.673

Hfinal (m)	8
Hinisial (m)	8.648
Sc (m)	0.648

LAMPIRAN 5-1

	H timb	5.056 meter															
	ytimb(t/m3)	1.8 t/m3															
	kemiringan	1															
No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	9.099857	6.660720895	0.66607209	1.6	1.9	9.400	1.1	50	0.3273	0.0742	0.137	0.137
2	1.5	1	1.6	0.9	0.09	9.098737	7.859137444	0.785913744	1.6	2.5	9.999	1.1	50	0.3273	0.0742	0.110	0.246
3	2.5	1	1.6	1.5	0.15	9.094568	8.713327972	0.871332797	1.6	3.1	10.595	1.1	50	0.3273	0.0742	0.094	0.340
4	3.5	1	1.6	2.1	0.21	9.08548	9.462613083	0.946261308	1.6	3.7	11.185	1.1	50	0.3273	0.0742	0.084	0.424
5	4.5	1	1.6	2.7	0.27	9.069829	10.1584986	1.01584986	1.6	4.3	11.770	1.1	50	0.3273	0.0742	0.075	0.499
6	5.5	1	1.6	3.3	0.33	9.046266	10.82015451	1.082015451	1.6	4.9	12.346	1.1	50	0.3273	0.0742	0.069	0.568
7	6.5	1	1.6	3.9	0.39	9.01377	11.45655909	1.145655909	1.6	5.5	12.914	1.1	50	0.3273	0.0742	0.063	0.631
8	7.5	1	1.6	4.5	0.45	8.971667	12.07259024	1.207259024	1.6	6.1	13.472	1.1	50	0.3273	0.0742	0.058	0.689
9	8.5	1	1.6	5.1	0.51	8.919624	12.67125823	1.267125823	1.6	6.7	14.020	1.1	50	0.3273	0.0742	0.054	0.743
10	9.5	1	1.6	5.7	0.57	8.85762	13.25466718	1.325466718	1.6	7.3	14.558	1.1	50	0.3273	0.0742	0.051	0.794
11	10.5	1	1.6	6.3	0.63	8.785911	13.8244687	1.38244687	1.6	7.9	15.086	1.1	50	0.3273	0.0742	0.047	0.841
12	11.5	1	1.6	6.9	0.69	8.704981	14.38208443	1.438208443	1.6	8.5	15.605	1.1	50	0.3273	0.0742	0.044	0.885
13	12.5	1	1.6	7.5	0.75	8.615491	14.92881431	1.492881431	1.6	9.1	16.115	1.1	50	0.3273	0.0742	0.042	0.927
14	13.5	1	1.6	8.1	0.81	8.51823	15.46588557	1.546588557	1.6	9.7	16.618	1.1	50	0.3273	0.0742	0.039	0.966
15	14.5	1	1.6	8.7	0.87	8.414069	15.99447091	1.599447091	1.6	10.3	17.114	1.1	50	0.3273	0.0742	0.037	1.003
16	15.5	1	1.6	9.3	0.93	8.30392	16.51569108	1.651569108	1.6	10.9	17.604	1.1	50	0.3273	0.0742	0.035	1.038
17	16.5	1	1.6	9.9	0.99	8.188704	17.03061055	1.703061055	1.6	11.5	18.089	1.1	50	0.3273	0.0742	0.033	1.071
18	17.5	1	1.6	10.5	1.05	8.069319	17.54023102	1.754023102	1.6	12.1	18.569	1.1	50	0.3273	0.0742	0.031	1.102
19	18.5	1	1.6	11.1	1.11	7.946627	18.04548533	1.804548533	1.6	12.7	19.047	1.1	50	0.3273	0.0742	0.029	1.132
20	19.5	1	1.6	11.7	1.17	7.821434	18.54723294	1.854723294	1.6	13.3	19.521	1.1	50	0.3273	0.0742	0.028	1.160

	H timb	4.908 meter															
	ytimb(t/m3)	1.8 t/m3															
	kemiringan	1															
No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	8.833998	6.490930069	0.649093007	1.6	1.9	9.134	1.1	50	0.3273	0.0742	0.135	0.135
2	1.5	1	1.6	0.9	0.09	8.832901	7.670829709	0.767082971	1.6	2.5	9.733	1.1	50	0.3273	0.0742	0.108	0.242
3	2.5	1	1.6	1.5	0.15	8.82882	8.516374724	0.851637472	1.6	3.1	10.329	1.1	50	0.3273	0.0742	0.093	0.335
4	3.5	1	1.6	2.1	0.21	8.819923	9.260182438	0.926018244	1.6	3.7	10.920	1.1	50	0.3273	0.0742	0.082	0.417
5	4.5	1	1.6	2.7	0.27	8.804604	9.952241	0.9952241	1.6	4.3	11.505	1.1	50	0.3273	0.0742	0.074	0.491
6	5.5	1	1.6	3.3	0.33	8.781544	10.61112859	1.061112859	1.6	4.9	12.082	1.1	50	0.3273	0.0742	0.067	0.558
7	6.5	1	1.6	3.9	0.39	8.749747	11.24553481	1.124553481	1.6	5.5	12.650	1.1	50	0.3273	0.0742	0.062	0.619
8	7.5	1	1.6	4.5	0.45	8.708559	11.86017666	1.186017666	1.6	6.1	13.209	1.1	50	0.3273	0.0742	0.057	0.676
9	8.5	1	1.6	5.1	0.51	8.657659	12.45796525	1.245796525	1.6	6.7	13.758	1.1	50	0.3273	0.0742	0.053	0.729
10	9.5	1	1.6	5.7	0.57	8.597033	13.04093787	1.304093787	1.6	7.3	14.297	1.1	50	0.3273	0.0742	0.049	0.779
11	10.5	1	1.6	6.3	0.63	8.526937	13.61069695	1.361069695	1.6	7.9	14.827	1.1	50	0.3273	0.0742	0.046	0.825
12	11.5	1	1.6	6.9	0.69	8.44785	14.16862492	1.416862492	1.6	8.5	15.348	1.1	50	0.3273	0.0742	0.043	0.868
13	12.5	1	1.6	7.5	0.75	8.360424	14.71598816	1.471598816	1.6	9.1	15.860	1.1	50	0.3273	0.0742	0.041	0.908
14	13.5	1	1.6	8.1	0.81	8.265434	15.25398369	1.525398369	1.6	9.7	16.365	1.1	50	0.3273	0.0742	0.038	0.947
15	14.5	1	1.6	8.7	0.87	8.163737	15.78375606	1.578375606	1.6	10.3	16.864	1.1	50	0.3273	0.0742	0.036	0.983

	H timb	4.713 meter															
	ytimb(t/m3)	1.8 t/m3															
	kemiringan	1															
No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	8.484079	6.266697449	0.626669745	1.6	1.9	8.784	1.1	50	0.3273	0.0742	0.132	0.132
2	1.5	1	1.6	0.9	0.09	8.483014	7.422195361	0.742219536	1.6	2.5	9.383	1.1	50	0.3273	0.0742	0.105	0.237
3	2.5	1	1.6	1.5	0.15	8.47905	8.256374945	0.825637494	1.6	3.1	9.979	1.1	50	0.3273	0.0742	0.090	0.327
4	3.5	1	1.6	2.1	0.21	8.47041	8.992999735	0.899299974	1.6	3.7	10.570	1.1	50	0.3273	0.0742	0.080	0.407
5	4.5	1	1.6	2.7	0.27	8.455536	9.680054155	0.968005415	1.6	4.3	11.156	1.1	50	0.3273	0.0742	0.072	0.479
6	5.5	1	1.6	3.3	0.33	8.433151	10.33533561	1.033533561	1.6	4.9	11.733	1.1	50	0.3273	0.0742	0.065	0.544
7	6.5	1	1.6	3.9	0.39	8.402293	10.96715314	1.096715314	1.6	5.5	12.302	1.1	50	0.3273	0.0742	0.060	0.604
8	7.5	1	1.6	4.5	0.45	8.362332	11.58001174	1.158001174	1.6	6.1	12.862	1.1	50	0.3273	0.0742	0.055	0.659
9	8.5	1	1.6	5.1	0.51	8.312964	12.17669181	1.217669181	1.6	6.7	13.413	1.1	50	0.3273	0.0742	0.051	0.710
10	9.5	1	1.6	5.7	0.57	8.254184	12.75914238	1.275914238	1.6	7.3	13.954	1.1	50	0.3273	0.0742	0.048	0.758

	H timb	4.445 meter															
	ytimb(t/m3)	1.8 t/m3															
	kemiringan	1															
No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	8.000601	5.95539661	0.595539661	1.6	1.9	8.301	1.1	50	0.3273	0.0742	0.128	0.128
2	1.5	1	1.6	0.9	0.09	7.99958	7.077124452	0.707712445	1.6	2.5	8.900	1.1	50	0.3273	0.0742	0.102	0.230
3	2.5	1	1.6	1.5	0.15	7.995783	7.895630998	0.7895631	1.6	3.1	9.496	1.1	50	0.3273	0.0742	0.087	0.317
4	3.5	1	1.6	2.1	0.21	7.987508	8.622385774	0.862238577	1.6	3.7	10.088	1.1	50	0.3273	0.0742	0.077	0.393
5	4.5	1	1.6	2.7	0.27	7.973267	9.302592659	0.930259266	1.6	4.3	10.673	1.1	50	0.3273	0.0742	0.069	0.462

LAMPIRAN 5-2

	H timb	5.062 meter															
	ytimb(t/m3)	1.8 t/m3															
	kemiringan	2															
No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	9.1117466	6.6683031	0.666830308	1.6	1.9	9.412	1.1	50	0.3273	0.0742	0.137	0.137
2	1.5	1	1.6	0.9	0.09	9.1108832	7.8677293	0.786772926	1.6	2.5	10.011	1.1	50	0.3273	0.0742	0.110	0.246
3	2.5	1	1.6	1.5	0.15	9.1076637	8.7230205	0.872302053	1.6	3.1	10.608	1.1	50	0.3273	0.0742	0.094	0.341
4	3.5	1	1.6	2.1	0.21	9.1006279	9.4741458	0.947414578	1.6	3.7	11.201	1.1	50	0.3273	0.0742	0.084	0.424
5	4.5	1	1.6	2.7	0.27	9.0884721	10.172979	1.017297889	1.6	4.3	11.788	1.1	50	0.3273	0.0742	0.075	0.500
6	5.5	1	1.6	3.3	0.33	9.0700936	10.838947	1.083894675	1.6	4.9	12.370	1.1	50	0.3273	0.0742	0.069	0.568
7	6.5	1	1.6	3.9	0.39	9.0446216	11.481189	1.148118946	1.6	5.5	12.945	1.1	50	0.3273	0.0742	0.063	0.632
8	7.5	1	1.6	4.5	0.45	9.0114309	12.104656	1.210465626	1.6	6.1	13.511	1.1	50	0.3273	0.0742	0.058	0.690
9	8.5	1	1.6	5.1	0.51	8.9701426	12.712345	1.271234486	1.6	6.7	14.070	1.1	50	0.3273	0.0742	0.054	0.745
10	9.5	1	1.6	5.7	0.57	8.9206108	13.306274	1.330627368	1.6	7.3	14.621	1.1	50	0.3273	0.0742	0.051	0.795
11	10.5	1	1.6	6.3	0.63	8.8629008	13.887949	1.388794923	1.6	7.9	15.163	1.1	50	0.3273	0.0742	0.048	0.843
12	11.5	1	1.6	6.9	0.69	8.7972595	14.458604	1.445860397	1.6	8.5	15.697	1.1	50	0.3273	0.0742	0.045	0.888
13	12.5	1	1.6	7.5	0.75	8.7240831	15.01932	1.501932004	1.6	9.1	16.224	1.1	50	0.3273	0.0742	0.042	0.930
14	13.5	1	1.6	8.1	0.81	8.6438841	15.571093	1.557109266	1.6	9.7	16.744	1.1	50	0.3273	0.0742	0.040	0.970
15	14.5	1	1.6	8.7	0.87	8.5572588	16.114861	1.611486072	1.6	10.3	17.257	1.1	50	0.3273	0.0742	0.038	1.007
16	15.5	1	1.6	9.3	0.93	8.4648584	16.651519	1.665151947	1.6	10.9	17.765	1.1	50	0.3273	0.0742	0.035	1.043
17	16.5	1	1.6	9.9	0.99	8.3673628	17.181924	1.718192382	1.6	11.5	18.267	1.1	50	0.3273	0.0742	0.034	1.076
18	17.5	1	1.6	10.5	1.05	8.2654596	17.706887	1.770688696	1.6	12.1	18.765	1.1	50	0.3273	0.0742	0.032	1.108
19	18.5	1	1.6	11.1	1.11	8.159826	18.227177	1.822717741	1.6	12.7	19.260	1.1	50	0.3273	0.0742	0.030	1.138
20	19.5	1	1.6	11.7	1.17	8.0511157	18.743516	1.874351575	1.6	13.3	19.751	1.1	50	0.3273	0.0742	0.029	1.167

	H timb	4.910 meter															
	ytimb(t/m3)	1.8 t/m3															
	kemiringan	2															
No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	8.8379672	6.4934688	0.649346883	1.6	1.9	9.138	1.1	50	0.3273	0.0742	0.135	0.135
2	1.5	1	1.6	0.9	0.09	8.8371177	7.6738204	0.76738204	1.6	2.5	9.737	1.1	50	0.3273	0.0742	0.108	0.242
3	2.5	1	1.6	1.5	0.15	8.8339506	8.5201819	0.852018193	1.6	3.1	10.334	1.1	50	0.3273	0.0742	0.093	0.335
4	3.5	1	1.6	2.1	0.21	8.82703	9.2656065	0.926560646	1.6	3.7	10.927	1.1	50	0.3273	0.0742	0.082	0.417
5	4.5	1	1.6	2.7	0.27	8.815075	9.9603929	0.996039287	1.6	4.3	11.515	1.1	50	0.3273	0.0742	0.074	0.491
6	5.5	1	1.6	3.3	0.33	8.7970037	10.623348	1.062334842	1.6	4.9	12.097	1.1	50	0.3273	0.0742	0.067	0.558
7	6.5	1	1.6	3.9	0.39	8.7719631	11.263308	1.126330828	1.6	5.5	12.672	1.1	50	0.3273	0.0742	0.062	0.620
8	7.5	1	1.6	4.5	0.45	8.7393434	11.885051	1.188505113	1.6	6.1	13.239	1.1	50	0.3273	0.0742	0.057	0.677
9	8.5	1	1.6	5.1	0.51	8.6987775	12.491471	1.249147057	1.6	6.7	13.799	1.1	50	0.3273	0.0742	0.053	0.730
10	9.5	1	1.6	5.7	0.57	8.6501285	13.084517	1.3084517	1.6	7.3	14.350	1.1	50	0.3273	0.0742	0.050	0.780
11	10.5	1	1.6	6.3	0.63	8.5934669	13.66565	1.366564954	1.6	7.9	14.893	1.1	50	0.3273	0.0742	0.046	0.826
12	11.5	1	1.6	6.9	0.69	8.5290423	14.236066	1.423606561	1.6	8.5	15.429	1.1	50	0.3273	0.0742	0.044	0.869
13	12.5	1	1.6	7.5	0.75	8.4572506	14.79682	1.47968198	1.6	9.1	15.957	1.1	50	0.3273	0.0742	0.041	0.910
14	13.5	1	1.6	8.1	0.81	8.3786014	15.348884	1.534888438	1.6	9.7	16.479	1.1	50	0.3273	0.0742	0.039	0.949
15	14.5	1	1.6	8.7	0.87	8.2936858	15.893178	1.589317816	1.6	10.3	16.994	1.1	50	0.3273	0.0742	0.036	0.986

	H timb	4.713 meter															
	ytimb(t/m3)	1.8 t/m3															
	kemiringan	2															
No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	8.4826479	6.2657787	0.626577868	1.6	1.9	8.783	1.1	50	0.3273	0.0742	0.132	0.132
2	1.5	1	1.6	0.9	0.09	8.4818173	7.4213433	0.742134333	1.6	2.5	9.382	1.1	50	0.3273	0.0742	0.105	0.237
3	2.5	1	1.6	1.5	0.15	8.4787205	8.2561295	0.825612951	1.6	3.1	9.979	1.1	50	0.3273	0.0742	0.090	0.327
4	3.5	1	1.6	2.1	0.21	8.4719546	8.9941824	0.899418241	1.6	3.7	10.572	1.1	50	0.3273	0.0742	0.080	0.407
5	4.5	1	1.6	2.7	0.27	8.4602694	9.6837504	0.968375038	1.6	4.3	11.160	1.1	50	0.3273	0.0742	0.072	0.479
6	5.5	1	1.6	3.3	0.33	8.4426105	10.342835	1.034283469	1.6	4.9	11.743	1.1	50	0.3273	0.0742	0.065	0.544
7	6.5	1	1.6	3.9	0.39	8.4181489	10.979874	1.097987426	1.6	5.5	12.318	1.1	50	0.3273	0.0742	0.060	0.604
8	7.5	1	1.6	4.5	0.45	8.386295	11.599426	1.159942637	1.6	6.1	12.886	1.1	50	0.3273	0.0742	0.055	0.659
9	8.5	1	1.6	5.1	0.51	8.3466972	12.20425	1.220424958	1.6	6.7	13.447	1.1	50	0.3273	0.0742	0.051	0.711
10	9.5	1	1.6	5.7	0.57	8.2992301	12.796206	1.279620596	1.6	7.3	13.999	1.1	50	0.3273	0.0742	0.048	0.758

	H timb	4.445 meter															
	ytimb(t/m3)	1.8 t/m3															
	kemiringan	2															
No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	8.0007889	5.9555182	0.595551825	1.6	1.9	8.301	1.1	50	0.3273	0.0742	0.128	0.128
2	1.5	1	1.6	0.9	0.09	7.999985	7.077414	0.707741398	1.6	2.5	8.900	1.1	50	0.3273	0.0742	0.102	0.230
3	2.5	1	1.6	1.5	0.15	7.9969883	7.8965327	0.789653268	1.6	3.1	9.497	1.1	50	0.3273	0.0742	0.087	0.317
4	3.5	1	1.6	2.1	0.21	7.9904424	8.6246428	0.862464277	1.6	3.7	10.090	1.1	50	0.3273	0.0742	0.077	0.393
5	4.5	1	1.6	2.7	0.27	7.9791403	9.3071999	0.930719987	1.6	4.3	10.679	1.1	50	0.3273	0.0742	0.069	0.462

LAMPIRAN 5-3

H timb	5.066 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	9.11949307	6.673242443	0.667324244	1.6	1.9	9.419	1.1	50	0.3273	0.0742	0.137	0.137
2	1.5	1	1.6	0.9	0.09	9.118795769	7.873325787	0.787332579	1.6	2.5	10.019	1.1	50	0.3273	0.0742	0.110	0.246
3	2.5	1	1.6	1.5	0.15	9.116193379	8.729333074	0.872933307	1.6	3.1	10.616	1.1	50	0.3273	0.0742	0.094	0.341
4	3.5	1	1.6	2.1	0.21	9.110497967	9.481659242	0.948165924	1.6	3.7	11.210	1.1	50	0.3273	0.0742	0.084	0.425
5	4.5	1	1.6	2.7	0.27	9.100638086	10.18242731	1.018242731	1.6	4.3	11.801	1.1	50	0.3273	0.0742	0.075	0.500
6	5.5	1	1.6	3.3	0.33	9.085692907	10.85124755	1.085124755	1.6	4.9	12.386	1.1	50	0.3273	0.0742	0.069	0.569
7	6.5	1	1.6	3.9	0.39	9.064915836	11.49738812	1.149738812	1.6	5.5	12.965	1.1	50	0.3273	0.0742	0.063	0.632
8	7.5	1	1.6	4.5	0.45	9.037746998	12.12587273	1.212587273	1.6	6.1	13.538	1.1	50	0.3273	0.0742	0.059	0.691
9	8.5	1	1.6	5.1	0.51	9.003815079	12.73972232	1.273972232	1.6	6.7	14.104	1.1	50	0.3273	0.0742	0.055	0.745
10	9.5	1	1.6	5.7	0.57	8.962929913	13.34093193	1.334093193	1.6	7.3	14.663	1.1	50	0.3273	0.0742	0.051	0.796
11	10.5	1	1.6	6.3	0.63	8.915067767	13.93094433	1.393094433	1.6	7.9	15.215	1.1	50	0.3273	0.0742	0.048	0.844
12	11.5	1	1.6	6.9	0.69	8.860351511	14.51089564	1.451089564	1.6	8.5	15.760	1.1	50	0.3273	0.0742	0.045	0.889
13	12.5	1	1.6	7.5	0.75	8.799027805	15.0817472	1.50817472	1.6	9.1	16.299	1.1	50	0.3273	0.0742	0.042	0.932
14	13.5	1	1.6	8.1	0.81	8.731443196	15.64435715	1.564435715	1.6	9.7	16.831	1.1	50	0.3273	0.0742	0.040	0.972
15	14.5	1	1.6	8.7	0.87	8.658020632	16.19951847	1.619951847	1.6	10.3	17.358	1.1	50	0.3273	0.0742	0.038	1.010
16	15.5	1	1.6	9.3	0.93	8.57923753	16.7479783	1.67479783	1.6	10.9	17.879	1.1	50	0.3273	0.0742	0.036	1.046
17	16.5	1	1.6	9.9	0.99	8.495606093	17.29044659	1.729044659	1.6	11.5	18.396	1.1	50	0.3273	0.0742	0.034	1.080
18	17.5	1	1.6	10.5	1.05	8.407656313	17.82759911	1.782759911	1.6	12.1	18.908	1.1	50	0.3273	0.0742	0.032	1.112
19	18.5	1	1.6	11.1	1.11	8.315921746	18.36007748	1.836007748	1.6	12.7	19.416	1.1	50	0.3273	0.0742	0.031	1.143
20	19.5	1	1.6	11.7	1.17	8.220928041	18.88848807	1.888848807	1.6	13.3	19.921	1.1	50	0.3273	0.0742	0.029	1.172

H timb	4.911 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	8.839413418	6.494393751	0.649439375	1.6	1.9	9.139	1.1	50	0.3273	0.0742	0.135	0.135
2	1.5	1	1.6	0.9	0.09	8.838725134	7.674960492	0.767496049	1.6	2.5	9.739	1.1	50	0.3273	0.0742	0.108	0.242
3	2.5	1	1.6	1.5	0.15	8.836156565	8.521818831	0.852181883	1.6	3.1	10.336	1.1	50	0.3273	0.0742	0.093	0.335
4	3.5	1	1.6	2.1	0.21	8.830535777	9.268281899	0.92682819	1.6	3.7	10.931	1.1	50	0.3273	0.0742	0.082	0.417
5	4.5	1	1.6	2.7	0.27	8.820806543	9.964854734	0.996485473	1.6	4.3	11.521	1.1	50	0.3273	0.0742	0.074	0.491
6	5.5	1	1.6	3.3	0.33	8.80606219	10.63050765	1.063050765	1.6	4.9	12.106	1.1	50	0.3273	0.0742	0.067	0.558
7	6.5	1	1.6	3.9	0.39	8.785568989	11.27419175	1.127419175	1.6	5.5	12.686	1.1	50	0.3273	0.0742	0.062	0.620
8	7.5	1	1.6	4.5	0.45	8.758778443	11.90075223	1.190075223	1.6	6.1	13.259	1.1	50	0.3273	0.0742	0.057	0.677
9	8.5	1	1.6	5.1	0.51	8.725328979	12.51310084	1.251310084	1.6	6.7	13.825	1.1	50	0.3273	0.0742	0.053	0.730
10	9.5	1	1.6	5.7	0.57	8.685038446	13.1131615	1.31131615	1.6	7.3	14.385	1.1	50	0.3273	0.0742	0.050	0.780
11	10.5	1	1.6	6.3	0.63	8.637889346	13.70232831	1.370232831	1.6	7.9	14.938	1.1	50	0.3273	0.0742	0.047	0.827
12	11.5	1	1.6	6.9	0.69	8.584009009	14.28170252	1.428170252	1.6	8.5	15.484	1.1	50	0.3273	0.0742	0.044	0.871
13	12.5	1	1.6	7.5	0.75	8.523646823	14.85221933	1.485221933	1.6	9.1	16.024	1.1	50	0.3273	0.0742	0.041	0.912
14	13.5	1	1.6	8.1	0.81	8.457150408	15.41471631	1.541471631	1.6	9.7	16.557	1.1	50	0.3273	0.0742	0.039	0.951
15	14.5	1	1.6	8.7	0.87	8.384942249	15.96996958	1.596996958	1.6	10.3	17.085	1.1	50	0.3273	0.0742	0.037	0.988

H timb	4.713 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	8.484093879	6.266707108	0.626670711	1.6	1.9	8.784	1.1	50	0.3273	0.0742	0.132	0.132
2	1.5	1	1.6	0.9	0.09	8.483417571	7.422482629	0.742248263	1.6	2.5	9.383	1.1	50	0.3273	0.0742	0.105	0.237
3	2.5	1	1.6	1.5	0.15	8.480893911	8.257747922	0.825774792	1.6	3.1	9.981	1.1	50	0.3273	0.0742	0.090	0.327
4	3.5	1	1.6	2.1	0.21	8.475372189	8.996799131	0.899679913	1.6	3.7	10.575	1.1	50	0.3273	0.0742	0.080	0.407
5	4.5	1	1.6	2.7	0.27	8.465816327	9.688082046	0.968808205	1.6	4.3	11.166	1.1	50	0.3273	0.0742	0.072	0.479
6	5.5	1	1.6	3.3	0.33	8.451338362	10.34975316	1.034975316	1.6	4.9	11.751	1.1	50	0.3273	0.0742	0.065	0.544
7	6.5	1	1.6	3.9	0.39	8.431221505	10.9903608	1.09903608	1.6	5.5	12.331	1.1	50	0.3273	0.0742	0.060	0.604
8	7.5	1	1.6	4.5	0.45	8.404932173	11.61452371	1.161452371	1.6	6.1	12.905	1.1	50	0.3273	0.0742	0.055	0.660
9	8.5	1	1.6	5.1	0.51	8.372121491	12.22501524	1.222501524	1.6	6.7	13.472	1.1	50	0.3273	0.0742	0.051	0.711
10	9.5	1	1.6	5.7	0.57	8.33261766	12.82366927	1.282366927	1.6	7.3	14.033	1.1	50	0.3273	0.0742	0.048	0.759

H timb	4.445 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	8.000794547	5.955521869	0.595552187	1.6	1.9	8.301	1.1	50	0.3273	0.0742	0.128	0.128
2	1.5	1	1.6	0.9	0.09	8.000135561	7.077521712	0.707752171	1.6	2.5	8.900	1.1	50	0.3273	0.0742	0.102	0.230
3	2.5	1	1.6	1.5	0.15	7.99767685	7.897047968	0.789704797	1.6	3.1	9.498	1.1	50	0.3273	0.0742	0.087	0.317
4	3.5	1	1.6	2.1	0.21	7.992298348	8.626070475	0.862607048	1.6	3.7	10.092	1.1	50	0.3273	0.0742	0.077	0.393
5	4.5	1	1.6	2.7	0.27	7.982993012	9.310221776	0.931022178	1.6	4.3	10.683	1.1	50	0.3273	0.0742	0.069	0.462

LAMPIRAN 5-4

H timb	7.400 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	13.320664	9.3001635	0.930016352	1.6	1.9	13.621	1.1	50	0.3273	0.0742	0.162	0.162
2	1.5	1	1.6	0.9	0.09	13.319222	10.789778	1.078977779	1.6	2.5	14.219	1.1	50	0.3273	0.0742	0.133	0.295
3	2.5	1	1.6	1.5	0.15	13.313848	11.781761	1.178176103	1.6	3.1	14.814	1.1	50	0.3273	0.0742	0.117	0.412
4	3.5	1	1.6	2.1	0.21	13.302116	12.619562	1.261956186	1.6	3.7	15.402	1.1	50	0.3273	0.0742	0.105	0.517
5	4.5	1	1.6	2.7	0.27	13.281878	13.378315	1.337831494	1.6	4.3	15.982	1.1	50	0.3273	0.0742	0.096	0.613
6	5.5	1	1.6	3.3	0.33	13.251341	14.086441	1.40864407	1.6	4.9	16.551	1.1	50	0.3273	0.0742	0.088	0.702
7	6.5	1	1.6	3.9	0.39	13.209117	14.757449	1.475744928	1.6	5.5	17.109	1.1	50	0.3273	0.0742	0.082	0.784
8	7.5	1	1.6	4.5	0.45	13.154246	15.398751	1.539875142	1.6	6.1	17.654	1.1	50	0.3273	0.0742	0.077	0.860
9	8.5	1	1.6	5.1	0.51	13.086193	16.014915	1.601491508	1.6	6.7	18.186	1.1	50	0.3273	0.0742	0.072	0.932
10	9.5	1	1.6	5.7	0.57	13.004822	16.609085	1.660908511	1.6	7.3	18.705	1.1	50	0.3273	0.0742	0.067	1.000
11	10.5	1	1.6	6.3	0.63	12.910351	17.183666	1.718366579	1.6	7.9	19.210	1.1	50	0.3273	0.0742	0.064	1.063
12	11.5	1	1.6	6.9	0.69	12.803297	17.740666	1.774066638	1.6	8.5	19.703	1.1	50	0.3273	0.0742	0.060	1.123
13	12.5	1	1.6	7.5	0.75	12.684422	18.281878	1.828187816	1.6	9.1	20.184	1.1	50	0.3273	0.0742	0.057	1.180
14	13.5	1	1.6	8.1	0.81	12.554665	18.808963	1.880896265	1.6	9.7	20.655	1.1	50	0.3273	0.0742	0.054	1.234
15	14.5	1	1.6	8.7	0.87	12.415092	19.323492	1.932349181	1.6	10.3	21.115	1.1	50	0.3273	0.0742	0.051	1.285
16	15.5	1	1.6	9.3	0.93	12.266842	19.826963	1.982696258	1.6	10.9	21.567	1.1	50	0.3273	0.0742	0.049	1.334
17	16.5	1	1.6	9.9	0.99	12.111082	20.320798	2.032079844	1.6	11.5	22.011	1.1	50	0.3273	0.0742	0.046	1.380
18	17.5	1	1.6	10.5	1.05	11.948975	20.806345	2.080634533	1.6	12.1	22.449	1.1	50	0.3273	0.0742	0.044	1.424
19	18.5	1	1.6	11.1	1.11	11.781651	21.284866	2.128486586	1.6	12.7	22.882	1.1	50	0.3273	0.0742	0.042	1.466
20	19.5	1	1.6	11.7	1.17	11.610181	21.757534	2.17575342	1.6	13.3	23.310	1.1	50	0.3273	0.0742	0.040	1.506

H timb	7.188 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	12.937805	9.0645555	0.906455555	1.6	1.9	13.238	1.1	50	0.3273	0.0742	0.160	0.160
2	1.5	1	1.6	0.9	0.09	12.936389	10.527972	1.052797229	1.6	2.5	13.836	1.1	50	0.3273	0.0742	0.131	0.291
3	2.5	1	1.6	1.5	0.15	12.931111	11.507445	1.150744535	1.6	3.1	14.431	1.1	50	0.3273	0.0742	0.115	0.406
4	3.5	1	1.6	2.1	0.21	12.919592	12.337133	1.233713303	1.6	3.7	15.020	1.1	50	0.3273	0.0742	0.104	0.510
5	4.5	1	1.6	2.7	0.27	12.899724	13.090059	1.309005851	1.6	4.3	15.600	1.1	50	0.3273	0.0742	0.094	0.604
6	5.5	1	1.6	3.3	0.33	12.869749	13.793813	1.379381329	1.6	4.9	16.170	1.1	50	0.3273	0.0742	0.087	0.691
7	6.5	1	1.6	3.9	0.39	12.828311	14.4615	1.446150012	1.6	5.5	16.728	1.1	50	0.3273	0.0742	0.081	0.772
8	7.5	1	1.6	4.5	0.45	12.774475	15.100302	1.51003016	1.6	6.1	17.274	1.1	50	0.3273	0.0742	0.075	0.847
9	8.5	1	1.6	5.1	0.51	12.707724	15.714646	1.571464556	1.6	6.7	17.808	1.1	50	0.3273	0.0742	0.070	0.917
10	9.5	1	1.6	5.7	0.57	12.627933	16.307584	1.630758383	1.6	7.3	18.328	1.1	50	0.3273	0.0742	0.066	0.983
11	10.5	1	1.6	6.3	0.63	12.535325	16.881454	1.688145427	1.6	7.9	18.835	1.1	50	0.3273	0.0742	0.062	1.046
12	11.5	1	1.6	6.9	0.69	12.430418	17.438215	1.743821517	1.6	8.5	19.330	1.1	50	0.3273	0.0742	0.059	1.104
13	12.5	1	1.6	7.5	0.75	12.313967	17.979616	1.797961605	1.6	9.1	19.814	1.1	50	0.3273	0.0742	0.056	1.160
14	13.5	1	1.6	8.1	0.81	12.186901	18.507282	1.850728212	1.6	9.7	20.287	1.1	50	0.3273	0.0742	0.053	1.213
15	14.5	1	1.6	8.7	0.87	12.050273	19.022752	1.902275243	1.6	10.3	20.750	1.1	50	0.3273	0.0742	0.050	1.263

H timb	6.919 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	12.454507	8.7661606	0.876616056	1.6	1.9	12.755	1.1	50	0.3273	0.0742	0.157	0.157
2	1.5	1	1.6	0.9	0.09	12.453124	10.196446	1.019644626	1.6	2.5	13.353	1.1	50	0.3273	0.0742	0.129	0.286
3	2.5	1	1.6	1.5	0.15	12.447971	11.160125	1.116012527	1.6	3.1	13.948	1.1	50	0.3273	0.0742	0.113	0.399
4	3.5	1	1.6	2.1	0.21	12.436727	11.979589	1.197958872	1.6	3.7	14.537	1.1	50	0.3273	0.0742	0.101	0.501
5	4.5	1	1.6	2.7	0.27	12.417337	12.725186	1.272518618	1.6	4.3	15.117	1.1	50	0.3273	0.0742	0.092	0.593
6	5.5	1	1.6	3.3	0.33	12.388091	13.42346	1.342346011	1.6	4.9	15.688	1.1	50	0.3273	0.0742	0.085	0.678
7	6.5	1	1.6	3.9	0.39	12.347671	14.086998	1.408699803	1.6	5.5	16.248	1.1	50	0.3273	0.0742	0.079	0.756
8	7.5	1	1.6	4.5	0.45	12.295173	14.722694	1.472269411	1.6	6.1	16.795	1.1	50	0.3273	0.0742	0.073	0.829
9	8.5	1	1.6	5.1	0.51	12.230105	15.334799	1.5334799	1.6	6.7	17.330	1.1	50	0.3273	0.0742	0.069	0.898
10	9.5	1	1.6	5.7	0.57	12.152355	15.926247	1.592624676	1.6	7.3	17.852	1.1	50	0.3273	0.0742	0.064	0.962

H timb	6.564 meter
γtimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	11.814248	8.3691037	0.836910372	1.6	1.9	12.114	1.1	50	0.3273	0.0742	0.154	0.154
2	1.5	1	1.6	0.9	0.09	11.812911	9.755393	0.975539301	1.6	2.5	12.713	1.1	50	0.3273	0.0742	0.126	0.279
3	2.5	1	1.6	1.5	0.15	11.807931	10.698148	1.069814837	1.6	3.1	13.308	1.1	50	0.3273	0.0742	0.110	0.389
4	3.5	1	1.6	2.1	0.21	11.797064	11.504101	1.150410109	1.6	3.7	13.897	1.1	50	0.3273	0.0742	0.098	0.488
5	4.5	1	1.6	2.7	0.27	11.778329	12.240044	1.224004417	1.6	4.3	14.478	1.1	50	0.3273	0.0742	0.089	0.577

LAMPIRAN 5-5

H timb	7.409 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	13.33598	9.30957481	0.930957481	1.6	1.9	13.636	1.1	50	0.3273	0.0742	0.162	0.162
2	1.5	1	1.6	0.9	0.09	13.3349451	10.8005151	1.080051508	1.6	2.5	14.235	1.1	50	0.3273	0.0742	0.133	0.295
3	2.5	1	1.6	1.5	0.15	13.3310828	11.7940971	1.179409712	1.6	3.1	14.831	1.1	50	0.3273	0.0742	0.117	0.412
4	3.5	1	1.6	2.1	0.21	13.3226308	12.6346887	1.263468869	1.6	3.7	15.423	1.1	50	0.3273	0.0742	0.105	0.518
5	4.5	1	1.6	2.7	0.27	13.3080005	13.3979933	1.339799333	1.6	4.3	16.008	1.1	50	0.3273	0.0742	0.096	0.614
6	5.5	1	1.6	3.3	0.33	13.285828	14.1128536	1.411285358	1.6	4.9	16.586	1.1	50	0.3273	0.0742	0.089	0.702
7	6.5	1	1.6	3.9	0.39	13.2550091	14.7930702	1.479307018	1.6	5.5	17.155	1.1	50	0.3273	0.0742	0.082	0.785
8	7.5	1	1.6	4.5	0.45	13.2147178	15.4462147	1.544621467	1.6	6.1	17.715	1.1	50	0.3273	0.0742	0.077	0.861
9	8.5	1	1.6	5.1	0.51	13.1644092	16.0768916	1.607689159	1.6	6.7	18.264	1.1	50	0.3273	0.0742	0.072	0.933
10	9.5	1	1.6	5.7	0.57	13.1038078	16.6881697	1.668816971	1.6	7.3	18.804	1.1	50	0.3273	0.0742	0.068	1.001
11	10.5	1	1.6	6.3	0.63	13.0328855	17.2822812	1.728228118	1.6	7.9	19.333	1.1	50	0.3273	0.0742	0.064	1.065
12	11.5	1	1.6	6.9	0.69	12.9518323	17.8609867	1.786098672	1.6	8.5	19.852	1.1	50	0.3273	0.0742	0.061	1.126
13	12.5	1	1.6	7.5	0.75	12.8610215	18.4257736	1.842577365	1.6	9.1	20.361	1.1	50	0.3273	0.0742	0.057	1.183
14	13.5	1	1.6	8.1	0.81	12.7609741	18.9779644	1.897796439	1.6	9.7	20.861	1.1	50	0.3273	0.0742	0.055	1.238
15	14.5	1	1.6	8.7	0.87	12.6523241	19.5187753	1.951877525	1.6	10.3	21.352	1.1	50	0.3273	0.0742	0.052	1.290
16	15.5	1	1.6	9.3	0.93	12.5357854	20.0493469	2.004934694	1.6	10.9	21.836	1.1	50	0.3273	0.0742	0.049	1.339
17	16.5	1	1.6	9.9	0.99	12.4121225	20.570759	2.057075902	1.6	11.5	22.312	1.1	50	0.3273	0.0742	0.047	1.387
18	17.5	1	1.6	10.5	1.05	12.2821252	21.0840356	2.108403559	1.6	12.1	22.782	1.1	50	0.3273	0.0742	0.045	1.432
19	18.5	1	1.6	11.1	1.11	12.1465876	21.5901464	2.159014644	1.6	12.7	23.247	1.1	50	0.3273	0.0742	0.043	1.475
20	19.5	1	1.6	11.7	1.17	12.006291	22.0900061	2.209000612	1.6	13.3	23.706	1.1	50	0.3273	0.0742	0.041	1.516

H timb	7.193 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	12.9475405	9.07055491	0.907055491	1.6	1.9	13.248	1.1	50	0.3273	0.0742	0.160	0.160
2	1.5	1	1.6	0.9	0.09	12.9465185	10.5349088	1.053490884	1.6	2.5	13.847	1.1	50	0.3273	0.0742	0.132	0.291
3	2.5	1	1.6	1.5	0.15	12.9427046	11.5157652	1.151576521	1.6	3.1	14.443	1.1	50	0.3273	0.0742	0.115	0.407
4	3.5	1	1.6	2.1	0.21	12.9343594	12.3480496	1.234804955	1.6	3.7	15.034	1.1	50	0.3273	0.0742	0.104	0.510
5	4.5	1	1.6	2.7	0.27	12.9199159	13.105307	1.310530701	1.6	4.3	15.620	1.1	50	0.3273	0.0742	0.094	0.605
6	5.5	1	1.6	3.3	0.33	12.8980306	13.8155248	1.38155248	1.6	4.9	16.198	1.1	50	0.3273	0.0742	0.087	0.692
7	6.5	1	1.6	3.9	0.39	12.8676174	14.4920786	1.449207859	1.6	5.5	16.768	1.1	50	0.3273	0.0742	0.081	0.772
8	7.5	1	1.6	4.5	0.45	12.8278666	15.1422997	1.514229971	1.6	6.1	17.328	1.1	50	0.3273	0.0742	0.075	0.848
9	8.5	1	1.6	5.1	0.51	12.778247	15.770645	1.577064503	1.6	6.7	17.878	1.1	50	0.3273	0.0742	0.071	0.918
10	9.5	1	1.6	5.7	0.57	12.7184942	16.3800867	1.63800867	1.6	7.3	18.418	1.1	50	0.3273	0.0742	0.066	0.985
11	10.5	1	1.6	6.3	0.63	12.6485892	16.9727904	1.697279037	1.6	7.9	18.949	1.1	50	0.3273	0.0742	0.063	1.047
12	11.5	1	1.6	6.9	0.69	12.5687277	17.5504688	1.755046885	1.6	8.5	19.469	1.1	50	0.3273	0.0742	0.059	1.107
13	12.5	1	1.6	7.5	0.75	12.4792867	18.1145733	1.811457328	1.6	9.1	19.979	1.1	50	0.3273	0.0742	0.056	1.163
14	13.5	1	1.6	8.1	0.81	12.3807887	18.6663975	1.866639754	1.6	9.7	20.481	1.1	50	0.3273	0.0742	0.053	1.216
15	14.5	1	1.6	8.7	0.87	12.2738665	19.2071344	1.920713439	1.6	10.3	20.974	1.1	50	0.3273	0.0742	0.051	1.267

H timb	6.921 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	12.4570412	8.76772838	0.876772838	1.6	1.9	12.757	1.1	50	0.3273	0.0742	0.157	0.157
2	1.5	1	1.6	0.9	0.09	12.4560361	10.1984478	1.019844782	1.6	2.5	13.356	1.1	50	0.3273	0.0742	0.129	0.286
3	2.5	1	1.6	1.5	0.15	12.452286	11.1632322	1.116323223	1.6	3.1	13.952	1.1	50	0.3273	0.0742	0.113	0.399
4	3.5	1	1.6	2.1	0.21	12.4440814	11.985043	1.1985043	1.6	3.7	14.544	1.1	50	0.3273	0.0742	0.101	0.501
5	4.5	1	1.6	2.7	0.27	12.429884	12.7346911	1.273469113	1.6	4.3	15.130	1.1	50	0.3273	0.0742	0.092	0.593
6	5.5	1	1.6	3.3	0.33	12.4083766	13.4390809	1.343908092	1.6	4.9	15.708	1.1	50	0.3273	0.0742	0.085	0.678
7	6.5	1	1.6	3.9	0.39	12.3784972	14.1110503	1.411105028	1.6	5.5	16.278	1.1	50	0.3273	0.0742	0.079	0.757
8	7.5	1	1.6	4.5	0.45	12.3394571	14.757627	1.475762695	1.6	6.1	16.839	1.1	50	0.3273	0.0742	0.073	0.830
9	8.5	1	1.6	5.1	0.51	12.2907427	15.3830813	1.538308126	1.6	6.7	17.391	1.1	50	0.3273	0.0742	0.069	0.899
10	9.5	1	1.6	5.7	0.57	12.2321043	15.9902634	1.599026338	1.6	7.3	17.932	1.1	50	0.3273	0.0742	0.065	0.963

H timb	6.564 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	11.8142621	8.36911228	0.836911228	1.6	1.9	12.114	1.1	50	0.3273	0.0742	0.154	0.154
2	1.5	1	1.6	0.9	0.09	11.8132806	9.75564798	0.975564798	1.6	2.5	12.713	1.1	50	0.3273	0.0742	0.126	0.279
3	2.5	1	1.6	1.5	0.15	11.8096188	10.6993694	1.06993694	1.6	3.1	13.310	1.1	50	0.3273	0.0742	0.110	0.389
4	3.5	1	1.6	2.1	0.21	11.801609	11.507487	1.150748697	1.6	3.7	13.902	1.1	50	0.3273	0.0742	0.098	0.488
5	4.5	1	1.6	2.7	0.27	11.7877523	12.2472134	1.224721344	1.6	4.3	14.488	1.1	50	0.3273	0.0742	0.089	0.577

LAMPIRAN 5-6

H timb	7.413 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	13.34300915	9.313893737	0.931389374	1.6	1.9	13.643	1.1	50	0.3273	0.0742	0.162	0.162
2	1.5	1	1.6	0.9	0.09	13.34221	10.80547586	1.080547586	1.6	2.5	14.242	1.1	50	0.3273	0.0742	0.133	0.295
3	2.5	1	1.6	1.5	0.15	13.33922529	11.79992458	1.179992458	1.6	3.1	14.839	1.1	50	0.3273	0.0742	0.117	0.412
4	3.5	1	1.6	2.1	0.21	13.33268518	12.64210161	1.264210161	1.6	3.7	15.433	1.1	50	0.3273	0.0742	0.105	0.518
5	4.5	1	1.6	2.7	0.27	13.32134376	13.40804385	1.340804385	1.6	4.3	16.021	1.1	50	0.3273	0.0742	0.096	0.614
6	5.5	1	1.6	3.3	0.33	13.30411586	14.1268578	1.41268578	1.6	4.9	16.604	1.1	50	0.3273	0.0742	0.089	0.703
7	6.5	1	1.6	3.9	0.39	13.28010297	14.81254378	1.481254378	1.6	5.5	17.180	1.1	50	0.3273	0.0742	0.082	0.785
8	7.5	1	1.6	4.5	0.45	13.24860781	15.47280724	1.547280724	1.6	6.1	17.749	1.1	50	0.3273	0.0742	0.077	0.862
9	8.5	1	1.6	5.1	0.51	13.20913772	16.11232153	1.611232153	1.6	6.7	18.309	1.1	50	0.3273	0.0742	0.072	0.934
10	9.5	1	1.6	5.7	0.57	13.16139842	16.73416264	1.673416264	1.6	7.3	18.861	1.1	50	0.3273	0.0742	0.068	1.002
11	10.5	1	1.6	6.3	0.63	13.10528008	17.34051449	1.734051449	1.6	7.9	19.405	1.1	50	0.3273	0.0742	0.064	1.066
12	11.5	1	1.6	6.9	0.69	13.04083777	17.93304215	1.793304215	1.6	8.5	19.941	1.1	50	0.3273	0.0742	0.061	1.127
13	12.5	1	1.6	7.5	0.75	12.9682686	18.51309898	1.851309898	1.6	9.1	20.468	1.1	50	0.3273	0.0742	0.058	1.185
14	13.5	1	1.6	8.1	0.81	12.88788736	19.08184457	1.908184457	1.6	9.7	20.988	1.1	50	0.3273	0.0742	0.055	1.240
15	14.5	1	1.6	8.7	0.87	12.80010228	19.64031272	1.964031272	1.6	10.3	21.500	1.1	50	0.3273	0.0742	0.052	1.293
16	15.5	1	1.6	9.3	0.93	12.70539208	20.18945031	2.018945031	1.6	10.9	22.005	1.1	50	0.3273	0.0742	0.050	1.343
17	16.5	1	1.6	9.9	0.99	12.60428506	20.73013917	2.073013917	1.6	11.5	22.504	1.1	50	0.3273	0.0742	0.048	1.390
18	17.5	1	1.6	10.5	1.05	12.49734071	21.26320799	2.126320799	1.6	12.1	22.997	1.1	50	0.3273	0.0742	0.046	1.436
19	18.5	1	1.6	11.1	1.11	12.38513398	21.78943835	2.178943835	1.6	12.7	23.485	1.1	50	0.3273	0.0742	0.044	1.480
20	19.5	1	1.6	11.7	1.17	12.2682423	22.30956765	2.230956765	1.6	13.3	23.968	1.1	50	0.3273	0.0742	0.042	1.522

H timb	7.196 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	12.95312943	9.073998868	0.907399887	1.6	1.9	13.253	1.1	50	0.3273	0.0742	0.160	0.160
2	1.5	1	1.6	0.9	0.09	12.95233757	10.53889338	1.053889338	1.6	2.5	13.852	1.1	50	0.3273	0.0742	0.132	0.291
3	2.5	1	1.6	1.5	0.15	12.94938026	11.5205556	1.15205556	1.6	3.1	14.449	1.1	50	0.3273	0.0742	0.115	0.407
4	3.5	1	1.6	2.1	0.21	12.94290074	12.35436307	1.235436307	1.6	3.7	15.043	1.1	50	0.3273	0.0742	0.104	0.510
5	4.5	1	1.6	2.7	0.27	12.93166577	13.11417912	1.311417912	1.6	4.3	15.632	1.1	50	0.3273	0.0742	0.095	0.605
6	5.5	1	1.6	3.3	0.33	12.91460221	13.82824491	1.382824491	1.6	4.9	16.215	1.1	50	0.3273	0.0742	0.087	0.692
7	6.5	1	1.6	3.9	0.39	12.89082284	14.51012795	1.451012795	1.6	5.5	16.791	1.1	50	0.3273	0.0742	0.081	0.773
8	7.5	1	1.6	4.5	0.45	12.85964077	15.16728725	1.516728725	1.6	6.1	17.360	1.1	50	0.3273	0.0742	0.075	0.848
9	8.5	1	1.6	5.1	0.51	12.82057274	15.80424359	1.580424359	1.6	6.7	17.921	1.1	50	0.3273	0.0742	0.071	0.919
10	9.5	1	1.6	5.7	0.57	12.77333281	16.4239727	1.64239727	1.6	7.3	18.473	1.1	50	0.3273	0.0742	0.067	0.986
11	10.5	1	1.6	6.3	0.63	12.7178183	17.02858962	1.702858962	1.6	7.9	19.018	1.1	50	0.3273	0.0742	0.063	1.049
12	11.5	1	1.6	6.9	0.69	12.65409028	17.6197103	1.76197103	1.6	8.5	19.554	1.1	50	0.3273	0.0742	0.060	1.108
13	12.5	1	1.6	7.5	0.75	12.58235064	18.19865187	1.819865187	1.6	9.1	20.082	1.1	50	0.3273	0.0742	0.057	1.165
14	13.5	1	1.6	8.1	0.81	12.50291775	18.76654644	1.876654644	1.6	9.7	20.603	1.1	50	0.3273	0.0742	0.054	1.218
15	14.5	1	1.6	8.7	0.87	12.41620227	19.32440618	1.932440618	1.6	10.3	21.116	1.1	50	0.3273	0.0742	0.051	1.270

H timb	6.921 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	12.4575898	8.768067735	0.876806774	1.6	1.9	12.758	1.1	50	0.3273	0.0742	0.157	0.157
2	1.5	1	1.6	0.9	0.09	12.45680772	10.19897806	1.019897806	1.6	2.5	13.357	1.1	50	0.3273	0.0742	0.129	0.286
3	2.5	1	1.6	1.5	0.15	12.45388713	11.16438517	1.116438517	1.6	3.1	13.954	1.1	50	0.3273	0.0742	0.113	0.399
4	3.5	1	1.6	2.1	0.21	12.44748882	11.98757006	1.198757006	1.6	3.7	14.547	1.1	50	0.3273	0.0742	0.101	0.501
5	4.5	1	1.6	2.7	0.27	12.43639647	12.73962433	1.273962433	1.6	4.3	15.136	1.1	50	0.3273	0.0742	0.092	0.593
6	5.5	1	1.6	3.3	0.33	12.419553	13.44768622	1.344768622	1.6	4.9	15.720	1.1	50	0.3273	0.0742	0.085	0.678
7	6.5	1	1.6	3.9	0.39	12.39608624	14.12477191	1.412477191	1.6	5.5	16.296	1.1	50	0.3273	0.0742	0.079	0.757
8	7.5	1	1.6	4.5	0.45	12.3653231	14.77802682	1.477802682	1.6	6.1	16.865	1.1	50	0.3273	0.0742	0.074	0.830
9	8.5	1	1.6	5.1	0.51	12.32679273	15.41177773	1.541177773	1.6	6.7	17.427	1.1	50	0.3273	0.0742	0.069	0.899
10	9.5	1	1.6	5.7	0.57	12.28022014	16.02887307	1.602887307	1.6	7.3	17.980	1.1	50	0.3273	0.0742	0.065	0.964

H timb	6.560 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	11.80797033	8.365200194	0.836520019	1.6	1.9	12.108	1.1	50	0.3273	0.0742	0.154	0.154
2	1.5	1	1.6	0.9	0.09	11.807202	9.751449847	0.975144985	1.6	2.5	12.707	1.1	50	0.3273	0.0742	0.126	0.279
3	2.5	1	1.6	1.5	0.15	11.80433305	10.6955451	1.06955451	1.6	3.1	13.304	1.1	50	0.3273	0.0742	0.110	0.389
4	3.5	1	1.6	2.1	0.21	11.79804892	11.50483467	1.150483467	1.6	3.7	13.898	1.1	50	0.3273	0.0742	0.098	0.487
5	4.5	1	1.6	2.7	0.27	11.787157	12.24676054	1.224676054	1.6	4.3	14.487	1.1	50	0.3273	0.0742	0.089	0.577

LAMPIRAN 5-7

H timb	9.667 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	17.40017	11.77313	1.177313	1.6	1.9	17.700	1.1	50	0.3273	0.0742	0.179	0.179
2	1.5	1	1.6	0.9	0.09	17.39849	13.53936	1.353936	1.6	2.5	18.298	1.1	50	0.3273	0.0742	0.150	0.330
3	2.5	1	1.6	1.5	0.15	17.39221	14.66438	1.466438	1.6	3.1	18.892	1.1	50	0.3273	0.0742	0.133	0.463
4	3.5	1	1.6	2.1	0.21	17.37849	15.58912	1.558912	1.6	3.7	19.478	1.1	50	0.3273	0.0742	0.121	0.584
5	4.5	1	1.6	2.7	0.27	17.35478	16.41091	1.641091	1.6	4.3	20.055	1.1	50	0.3273	0.0742	0.111	0.696
6	5.5	1	1.6	3.3	0.33	17.31896	17.16688	1.716688	1.6	4.9	20.619	1.1	50	0.3273	0.0742	0.103	0.799
7	6.5	1	1.6	3.9	0.39	17.26932	17.87486	1.787486	1.6	5.5	21.169	1.1	50	0.3273	0.0742	0.097	0.896
8	7.5	1	1.6	4.5	0.45	17.20467	18.54467	1.854467	1.6	6.1	21.705	1.1	50	0.3273	0.0742	0.091	0.986
9	8.5	1	1.6	5.1	0.51	17.12428	19.18236	1.918236	1.6	6.7	22.224	1.1	50	0.3273	0.0742	0.085	1.072
10	9.5	1	1.6	5.7	0.57	17.02789	19.79205	1.979205	1.6	7.3	22.728	1.1	50	0.3273	0.0742	0.081	1.152
11	10.5	1	1.6	6.3	0.63	16.91564	20.37683	2.037683	1.6	7.9	23.216	1.1	50	0.3273	0.0742	0.076	1.229
12	11.5	1	1.6	6.9	0.69	16.78804	20.93925	2.093925	1.6	8.5	23.688	1.1	50	0.3273	0.0742	0.073	1.301
13	12.5	1	1.6	7.5	0.75	16.64588	21.48151	2.148151	1.6	9.1	24.146	1.1	50	0.3273	0.0742	0.069	1.370
14	13.5	1	1.6	8.1	0.81	16.49017	22.00564	2.200564	1.6	9.7	24.590	1.1	50	0.3273	0.0742	0.066	1.436
15	14.5	1	1.6	8.7	0.87	16.32209	22.51351	2.251351	1.6	10.3	25.022	1.1	50	0.3273	0.0742	0.063	1.499
16	15.5	1	1.6	9.3	0.93	16.14293	23.00693	2.300693	1.6	10.9	25.443	1.1	50	0.3273	0.0742	0.060	1.558
17	16.5	1	1.6	9.9	0.99	15.954	23.48759	2.348759	1.6	11.5	25.854	1.1	50	0.3273	0.0742	0.057	1.616
18	17.5	1	1.6	10.5	1.05	15.75667	23.95712	2.395712	1.6	12.1	26.257	1.1	50	0.3273	0.0742	0.055	1.670
19	18.5	1	1.6	11.1	1.11	15.55225	24.41703	2.441703	1.6	12.7	26.652	1.1	50	0.3273	0.0742	0.052	1.722
20	19.5	1	1.6	11.7	1.17	15.34201	24.86874	2.486874	1.6	13.3	27.042	1.1	50	0.3273	0.0742	0.050	1.772

H timb	9.403 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	16.92552	11.4886	1.14886	1.6	1.9	17.226	1.1	50	0.3273	0.0742	0.178	0.178
2	1.5	1	1.6	0.9	0.09	16.92386	13.22287	1.322287	1.6	2.5	17.824	1.1	50	0.3273	0.0742	0.149	0.326
3	2.5	1	1.6	1.5	0.15	16.91767	14.33245	1.433245	1.6	3.1	18.418	1.1	50	0.3273	0.0742	0.132	0.458
4	3.5	1	1.6	2.1	0.21	16.90416	15.24705	1.524705	1.6	3.7	19.004	1.1	50	0.3273	0.0742	0.119	0.577
5	4.5	1	1.6	2.7	0.27	16.88082	16.06143	1.606143	1.6	4.3	19.581	1.1	50	0.3273	0.0742	0.110	0.687
6	5.5	1	1.6	3.3	0.33	16.84555	16.81174	1.681174	1.6	4.9	20.146	1.1	50	0.3273	0.0742	0.102	0.789
7	6.5	1	1.6	3.9	0.39	16.79669	17.51529	1.751529	1.6	5.5	20.697	1.1	50	0.3273	0.0742	0.095	0.884
8	7.5	1	1.6	4.5	0.45	16.73307	18.18163	1.818163	1.6	6.1	21.233	1.1	50	0.3273	0.0742	0.089	0.973
9	8.5	1	1.6	5.1	0.51	16.65398	18.81663	1.881663	1.6	6.7	21.754	1.1	50	0.3273	0.0742	0.084	1.057
10	9.5	1	1.6	5.7	0.57	16.55918	19.42432	1.942432	1.6	7.3	22.259	1.1	50	0.3273	0.0742	0.079	1.136
11	10.5	1	1.6	6.3	0.63	16.44883	20.0077	2.00077	1.6	7.9	22.749	1.1	50	0.3273	0.0742	0.075	1.211
12	11.5	1	1.6	6.9	0.69	16.32342	20.56925	2.056925	1.6	8.5	23.223	1.1	50	0.3273	0.0742	0.071	1.282
13	12.5	1	1.6	7.5	0.75	16.18374	21.11113	2.111113	1.6	9.1	23.684	1.1	50	0.3273	0.0742	0.068	1.350
14	13.5	1	1.6	8.1	0.81	16.03081	21.63532	2.163532	1.6	9.7	24.131	1.1	50	0.3273	0.0742	0.064	1.415
15	14.5	1	1.6	8.7	0.87	15.8658	22.14368	2.214368	1.6	10.3	24.566	1.1	50	0.3273	0.0742	0.061	1.476

H timb	9.079 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	16.34268	11.13815	1.113815	1.6	1.9	16.643	1.1	50	0.3273	0.0742	0.175	0.175
2	1.5	1	1.6	0.9	0.09	16.34105	12.8331	1.28331	1.6	2.5	17.241	1.1	50	0.3273	0.0742	0.146	0.322
3	2.5	1	1.6	1.5	0.15	16.33498	13.9237	1.39237	1.6	3.1	17.835	1.1	50	0.3273	0.0742	0.130	0.451
4	3.5	1	1.6	2.1	0.21	16.32173	14.82584	1.482584	1.6	3.7	18.422	1.1	50	0.3273	0.0742	0.117	0.569
5	4.5	1	1.6	2.7	0.27	16.29885	15.63115	1.563115	1.6	4.3	18.999	1.1	50	0.3273	0.0742	0.108	0.676
6	5.5	1	1.6	3.3	0.33	16.26429	16.37454	1.637454	1.6	4.9	19.564	1.1	50	0.3273	0.0742	0.100	0.776
7	6.5	1	1.6	3.9	0.39	16.21641	17.07269	1.707269	1.6	5.5	20.116	1.1	50	0.3273	0.0742	0.093	0.869
8	7.5	1	1.6	4.5	0.45	16.1541	17.73482	1.773482	1.6	6.1	20.654	1.1	50	0.3273	0.0742	0.087	0.956
9	8.5	1	1.6	5.1	0.51	16.07666	18.3666	1.83666	1.6	6.7	21.177	1.1	50	0.3273	0.0742	0.082	1.038
10	9.5	1	1.6	5.7	0.57	15.98386	18.97188	1.897188	1.6	7.3	21.684	1.1	50	0.3273	0.0742	0.077	1.116

H timb	8.647 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	1

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	15.56526	10.66878	1.066878	1.6	1.9	15.865	1.1	50	0.3273	0.0742	0.172	0.172
2	1.5	1	1.6	0.9	0.09	15.56368	12.31114	1.231114	1.6	2.5	16.464	1.1	50	0.3273	0.0742	0.143	0.315
3	2.5	1	1.6	1.5	0.15	15.55778	13.3764	1.33764	1.6	3.1	17.058	1.1	50	0.3273	0.0742	0.127	0.442
4	3.5	1	1.6	2.1	0.21	15.54489	14.26195	1.426195	1.6	3.7	17.645	1.1	50	0.3273	0.0742	0.114	0.556
5	4.5	1	1.6	2.7	0.27	15.52265	15.05521	1.505521	1.6	4.3	18.223	1.1	50	0.3273	0.0742	0.105	0.661

LAMPIRAN 5-8

H timb	9.681 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	17.42558	11.78833	1.178833	1.6	1.9	17.726	1.1	50	0.3273	0.0742	0.179	0.179
2	1.5	1	1.6	0.9	0.09	17.42443	13.55663	1.355663	1.6	2.5	18.324	1.1	50	0.3273	0.0742	0.151	0.330
3	2.5	1	1.6	1.5	0.15	17.42015	14.68389	1.468389	1.6	3.1	18.920	1.1	50	0.3273	0.0742	0.134	0.464
4	3.5	1	1.6	2.1	0.21	17.41078	15.61238	1.561238	1.6	3.7	19.511	1.1	50	0.3273	0.0742	0.121	0.585
5	4.5	1	1.6	2.7	0.27	17.39453	16.44018	1.644018	1.6	4.3	20.095	1.1	50	0.3273	0.0742	0.112	0.696
6	5.5	1	1.6	3.3	0.33	17.36987	17.20503	1.720503	1.6	4.9	20.670	1.1	50	0.3273	0.0742	0.103	0.800
7	6.5	1	1.6	3.9	0.39	17.33554	17.92517	1.792517	1.6	5.5	21.236	1.1	50	0.3273	0.0742	0.097	0.897
8	7.5	1	1.6	4.5	0.45	17.29055	18.61069	1.861069	1.6	6.1	21.791	1.1	50	0.3273	0.0742	0.091	0.987
9	8.5	1	1.6	5.1	0.51	17.23423	19.26775	1.926775	1.6	6.7	22.334	1.1	50	0.3273	0.0742	0.086	1.073
10	9.5	1	1.6	5.7	0.57	17.16621	19.90042	1.990042	1.6	7.3	22.866	1.1	50	0.3273	0.0742	0.081	1.154
11	10.5	1	1.6	6.3	0.63	17.08636	20.51164	2.051164	1.6	7.9	23.386	1.1	50	0.3273	0.0742	0.077	1.231
12	11.5	1	1.6	6.9	0.69	16.99481	21.10368	2.110368	1.6	8.5	23.895	1.1	50	0.3273	0.0742	0.073	1.304
13	12.5	1	1.6	7.5	0.75	16.89189	21.67839	2.167839	1.6	9.1	24.392	1.1	50	0.3273	0.0742	0.070	1.374
14	13.5	1	1.6	8.1	0.81	16.77809	22.23739	2.223739	1.6	9.7	24.878	1.1	50	0.3273	0.0742	0.067	1.440
15	14.5	1	1.6	8.7	0.87	16.65404	22.78213	2.278213	1.6	10.3	25.354	1.1	50	0.3273	0.0742	0.064	1.504
16	15.5	1	1.6	9.3	0.93	16.52046	23.31395	2.331395	1.6	10.9	25.820	1.1	50	0.3273	0.0742	0.061	1.565
17	16.5	1	1.6	9.9	0.99	16.37815	23.8341	2.38341	1.6	11.5	26.278	1.1	50	0.3273	0.0742	0.058	1.623
18	17.5	1	1.6	10.5	1.05	16.22793	24.34376	2.434376	1.6	12.1	26.728	1.1	50	0.3273	0.0742	0.056	1.679
19	18.5	1	1.6	11.1	1.11	16.07065	24.84405	2.484405	1.6	12.7	27.171	1.1	50	0.3273	0.0742	0.054	1.732
20	19.5	1	1.6	11.7	1.17	15.90716	25.33601	2.533601	1.6	13.3	27.607	1.1	50	0.3273	0.0742	0.051	1.784

H timb	9.409 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	16.93544	11.49456	1.149456	1.6	1.9	17.235	1.1	50	0.3273	0.0742	0.178	0.178
2	1.5	1	1.6	0.9	0.09	16.9343	13.22984	1.322984	1.6	2.5	17.834	1.1	50	0.3273	0.0742	0.149	0.326
3	2.5	1	1.6	1.5	0.15	16.93006	14.34113	1.434113	1.6	3.1	18.430	1.1	50	0.3273	0.0742	0.132	0.458
4	3.5	1	1.6	2.1	0.21	16.92078	15.25905	1.525905	1.6	3.7	19.021	1.1	50	0.3273	0.0742	0.120	0.578
5	4.5	1	1.6	2.7	0.27	16.9047	16.07906	1.607906	1.6	4.3	19.605	1.1	50	0.3273	0.0742	0.110	0.687
6	5.5	1	1.6	3.3	0.33	16.8803	16.83784	1.683784	1.6	4.9	20.180	1.1	50	0.3273	0.0742	0.102	0.789
7	6.5	1	1.6	3.9	0.39	16.84632	17.55309	1.755309	1.6	5.5	20.746	1.1	50	0.3273	0.0742	0.095	0.884
8	7.5	1	1.6	4.5	0.45	16.80181	18.2346	1.82346	1.6	6.1	21.302	1.1	50	0.3273	0.0742	0.089	0.974
9	8.5	1	1.6	5.1	0.51	16.74611	18.88834	1.888834	1.6	6.7	21.846	1.1	50	0.3273	0.0742	0.084	1.058
10	9.5	1	1.6	5.7	0.57	16.67885	19.51828	1.951828	1.6	7.3	22.379	1.1	50	0.3273	0.0742	0.080	1.138
11	10.5	1	1.6	6.3	0.63	16.59993	20.12726	2.012726	1.6	7.9	22.900	1.1	50	0.3273	0.0742	0.076	1.213
12	11.5	1	1.6	6.9	0.69	16.50946	20.71749	2.071749	1.6	8.5	23.409	1.1	50	0.3273	0.0742	0.072	1.285
13	12.5	1	1.6	7.5	0.75	16.4078	21.29079	2.129079	1.6	9.1	23.908	1.1	50	0.3273	0.0742	0.068	1.353
14	13.5	1	1.6	8.1	0.81	16.29543	21.84873	2.184873	1.6	9.7	24.395	1.1	50	0.3273	0.0742	0.065	1.418
15	14.5	1	1.6	8.7	0.87	16.17299	22.39273	2.239273	1.6	10.3	24.873	1.1	50	0.3273	0.0742	0.062	1.481

H timb	9.074 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	16.33316	11.13241	1.113241	1.6	1.9	16.633	1.1	50	0.3273	0.0742	0.175	0.175
2	1.5	1	1.6	0.9	0.09	16.33204	12.82706	1.282706	1.6	2.5	17.232	1.1	50	0.3273	0.0742	0.146	0.322
3	2.5	1	1.6	1.5	0.15	16.32785	13.91869	1.391869	1.6	3.1	17.828	1.1	50	0.3273	0.0742	0.130	0.451
4	3.5	1	1.6	2.1	0.21	16.3187	14.82364	1.482364	1.6	3.7	18.419	1.1	50	0.3273	0.0742	0.117	0.568
5	4.5	1	1.6	2.7	0.27	16.30283	15.6341	1.56341	1.6	4.3	19.003	1.1	50	0.3273	0.0742	0.108	0.676
6	5.5	1	1.6	3.3	0.33	16.27875	16.38543	1.638543	1.6	4.9	19.579	1.1	50	0.3273	0.0742	0.100	0.776
7	6.5	1	1.6	3.9	0.39	16.24523	17.0947	1.70947	1.6	5.5	20.145	1.1	50	0.3273	0.0742	0.093	0.869
8	7.5	1	1.6	4.5	0.45	16.20134	17.77133	1.777133	1.6	6.1	20.701	1.1	50	0.3273	0.0742	0.087	0.956
9	8.5	1	1.6	5.1	0.51	16.14643	18.42105	1.842105	1.6	6.7	21.246	1.1	50	0.3273	0.0742	0.082	1.039
10	9.5	1	1.6	5.7	0.57	16.08015	19.04769	1.904769	1.6	7.3	21.780	1.1	50	0.3273	0.0742	0.078	1.117

H timb	8.647 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	2

No	z	H (meter)	γsat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	15.56528	10.66879	1.066879	1.6	1.9	15.865	1.1	50	0.3273	0.0742	0.172	0.172
2	1.5	1	1.6	0.9	0.09	15.56418	12.31148	1.231148	1.6	2.5	16.464	1.1	50	0.3273	0.0742	0.143	0.315
3	2.5	1	1.6	1.5	0.15	15.56007	13.37802	1.337802	1.6	3.1	17.060	1.1	50	0.3273	0.0742	0.127	0.442
4	3.5	1	1.6	2.1	0.21	15.55107	14.26645	1.426645	1.6	3.7	17.651	1.1	50	0.3273	0.0742	0.114	0.556
5	4.5	1	1.6	2.7	0.27	15.53549	15.06476	1.506476	1.6	4.3	18.235	1.1	50	0.3273	0.0742	0.105	0.661

LAMPIRAN 5-9

H timb	9.682 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	17.42829	11.78996	1.178996	1.6	1.9	17.728	1.1	50	0.3273	0.0742	0.179	0.179
2	1.5	1	1.6	0.9	0.09	17.42743	13.55862	1.355862	1.6	2.5	18.327	1.1	50	0.3273	0.0742	0.151	0.330
3	2.5	1	1.6	1.5	0.15	17.42422	14.68674	1.468674	1.6	3.1	18.924	1.1	50	0.3273	0.0742	0.134	0.464
4	3.5	1	1.6	2.1	0.21	17.41718	15.61699	1.561699	1.6	3.7	19.517	1.1	50	0.3273	0.0742	0.121	0.585
5	4.5	1	1.6	2.7	0.27	17.40496	16.44786	1.644786	1.6	4.3	20.105	1.1	50	0.3273	0.0742	0.112	0.696
6	5.5	1	1.6	3.3	0.33	17.38638	17.2174	1.72174	1.6	4.9	20.686	1.1	50	0.3273	0.0742	0.104	0.800
7	6.5	1	1.6	3.9	0.39	17.36044	17.94409	1.794409	1.6	5.5	21.260	1.1	50	0.3273	0.0742	0.097	0.897
8	7.5	1	1.6	4.5	0.45	17.32636	18.63822	1.863822	1.6	6.1	21.826	1.1	50	0.3273	0.0742	0.091	0.988
9	8.5	1	1.6	5.1	0.51	17.28356	19.30604	1.930604	1.6	6.7	22.384	1.1	50	0.3273	0.0742	0.086	1.074
10	9.5	1	1.6	5.7	0.57	17.23167	19.95168	1.995168	1.6	7.3	22.932	1.1	50	0.3273	0.0742	0.081	1.155
11	10.5	1	1.6	6.3	0.63	17.17052	20.57806	2.057806	1.6	7.9	23.471	1.1	50	0.3273	0.0742	0.077	1.232
12	11.5	1	1.6	6.9	0.69	17.1001	21.18735	2.118735	1.6	8.5	24.000	1.1	50	0.3273	0.0742	0.073	1.305
13	12.5	1	1.6	7.5	0.75	17.02058	21.7813	2.17813	1.6	9.1	24.521	1.1	50	0.3273	0.0742	0.070	1.376
14	13.5	1	1.6	8.1	0.81	16.93222	22.36134	2.236134	1.6	9.7	25.032	1.1	50	0.3273	0.0742	0.067	1.442
15	14.5	1	1.6	8.7	0.87	16.8354	22.92875	2.292875	1.6	10.3	25.535	1.1	50	0.3273	0.0742	0.064	1.506
16	15.5	1	1.6	9.3	0.93	16.73058	23.48463	2.348463	1.6	10.9	26.031	1.1	50	0.3273	0.0742	0.061	1.568
17	16.5	1	1.6	9.9	0.99	16.61828	24.03003	2.403003	1.6	11.5	26.518	1.1	50	0.3273	0.0742	0.059	1.627
18	17.5	1	1.6	10.5	1.05	16.49905	24.5659	2.45659	1.6	12.1	26.999	1.1	50	0.3273	0.0742	0.057	1.683
19	18.5	1	1.6	11.1	1.11	16.37348	25.09312	2.509312	1.6	12.7	27.473	1.1	50	0.3273	0.0742	0.054	1.738
20	19.5	1	1.6	11.7	1.17	16.24215	25.61252	2.561252	1.6	13.3	27.942	1.1	50	0.3273	0.0742	0.052	1.790

H timb	9.412 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	16.94085	11.4978	1.14978	1.6	1.9	17.241	1.1	50	0.3273	0.0742	0.178	0.178
2	1.5	1	1.6	0.9	0.09	16.93999	13.23365	1.323365	1.6	2.5	17.840	1.1	50	0.3273	0.0742	0.149	0.326
3	2.5	1	1.6	1.5	0.15	16.93681	14.34585	1.434585	1.6	3.1	18.437	1.1	50	0.3273	0.0742	0.132	0.458
4	3.5	1	1.6	2.1	0.21	16.92982	15.26557	1.526557	1.6	3.7	19.030	1.1	50	0.3273	0.0742	0.120	0.578
5	4.5	1	1.6	2.7	0.27	16.91769	16.08864	1.608864	1.6	4.3	19.618	1.1	50	0.3273	0.0742	0.110	0.688
6	5.5	1	1.6	3.3	0.33	16.89924	16.85205	1.685205	1.6	4.9	20.199	1.1	50	0.3273	0.0742	0.102	0.789
7	6.5	1	1.6	3.9	0.39	16.87349	17.57377	1.757377	1.6	5.5	20.773	1.1	50	0.3273	0.0742	0.095	0.885
8	7.5	1	1.6	4.5	0.45	16.83966	18.26375	1.826375	1.6	6.1	21.340	1.1	50	0.3273	0.0742	0.089	0.974
9	8.5	1	1.6	5.1	0.51	16.79718	18.92807	1.892807	1.6	6.7	21.897	1.1	50	0.3273	0.0742	0.084	1.058
10	9.5	1	1.6	5.7	0.57	16.7457	19.57074	1.957074	1.6	7.3	22.446	1.1	50	0.3273	0.0742	0.080	1.138
11	10.5	1	1.6	6.3	0.63	16.68505	20.19458	2.019458	1.6	7.9	22.985	1.1	50	0.3273	0.0742	0.076	1.214
12	11.5	1	1.6	6.9	0.69	16.61523	20.80172	2.080172	1.6	8.5	23.515	1.1	50	0.3273	0.0742	0.072	1.286
13	12.5	1	1.6	7.5	0.75	16.53639	21.39383	2.139383	1.6	9.1	24.036	1.1	50	0.3273	0.0742	0.069	1.355
14	13.5	1	1.6	8.1	0.81	16.44882	21.97233	2.197233	1.6	9.7	24.549	1.1	50	0.3273	0.0742	0.066	1.420
15	14.5	1	1.6	8.7	0.87	16.35291	22.53846	2.253846	1.6	10.3	25.053	1.1	50	0.3273	0.0742	0.063	1.483

H timb	9.075 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	16.33551	11.13383	1.113383	1.6	1.9	16.636	1.1	50	0.3273	0.0742	0.175	0.175
2	1.5	1	1.6	0.9	0.09	16.33466	12.82882	1.282882	1.6	2.5	17.235	1.1	50	0.3273	0.0742	0.146	0.322
3	2.5	1	1.6	1.5	0.15	16.3315	13.92125	1.392125	1.6	3.1	17.832	1.1	50	0.3273	0.0742	0.130	0.451
4	3.5	1	1.6	2.1	0.21	16.32458	14.8279	1.48279	1.6	3.7	18.425	1.1	50	0.3273	0.0742	0.117	0.568
5	4.5	1	1.6	2.7	0.27	16.31256	15.6413	1.56413	1.6	4.3	19.013	1.1	50	0.3273	0.0742	0.108	0.676
6	5.5	1	1.6	3.3	0.33	16.29428	16.39713	1.639713	1.6	4.9	19.594	1.1	50	0.3273	0.0742	0.100	0.776
7	6.5	1	1.6	3.9	0.39	16.26878	17.11268	1.711268	1.6	5.5	20.169	1.1	50	0.3273	0.0742	0.093	0.869
8	7.5	1	1.6	4.5	0.45	16.23528	17.79755	1.779755	1.6	6.1	20.735	1.1	50	0.3273	0.0742	0.087	0.957
9	8.5	1	1.6	5.1	0.51	16.19324	18.45757	1.845757	1.6	6.7	21.293	1.1	50	0.3273	0.0742	0.082	1.039
10	9.5	1	1.6	5.7	0.57	16.14229	19.09659	1.909659	1.6	7.3	21.842	1.1	50	0.3273	0.0742	0.078	1.117

H timb	8.648 meter
ytimb(t/m3)	1.8 t/m3
kemiringan	3

No	z	H (meter)	ysat (t/m3)	po' (t/m2)	po' (kg/cm2)	Δp (t/m2)	σ'p (t/m2)	σ'p (kg/cm2)	Δpf (t/m2)	Pc' (t/m2)	Po'+Δp (t/m2)	e0	LL	Cc	Cs	Sc i (m)	Sc kum (m)
1	0.5	1	1.6	0.3	0.03	15.56547	10.6689	1.06689	1.6	1.9	15.865	1.1	50	0.3273	0.0742	0.172	0.172
2	1.5	1	1.6	0.9	0.09	15.56463	12.31179	1.231179	1.6	2.5	16.465	1.1	50	0.3273	0.0742	0.143	0.315
3	2.5	1	1.6	1.5	0.15	15.56151	13.37904	1.337904	1.6	3.1	17.062	1.1	50	0.3273	0.0742	0.127	0.442
4	3.5	1	1.6	2.1	0.21	15.55468	14.26907	1.426907	1.6	3.7	17.655	1.1	50	0.3273	0.0742	0.114	0.556
5	4.5	1	1.6	2.7	0.27	15.54281	15.0702	1.50702	1.6	4.3	18.243	1.1	50	0.3273	0.0742	0.105	0.661

LAMPIRAN 6

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=2m, IP=20%, Kedalaman Tanah Dasar=5m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	1.4	29.73	9.22	6.34	25	35.67	6.89E+02
2	1.474	31.43	12.98	10.98	23.89	40.64	1.88E+03
3	1.324	31.59	9.56	6.47	27	37.52	6.67E+02
4	1.267	30.79	8.24	4.98	27	35.6	4.31E+02
5	1.262	31.34	7.77	4.34	28	35.59	3.34E+02
6	1.293	30.34	7.77	4.34	27	34.59	3.35E+02
7	1.244	31.01	7.73	4.06	28	35.01	2.84E+02
8	1.244	31	7.72	4.05	28	34.99	2.82E+02
9	1.249	31.12	7.61	4.15	27.89	35.2	3.10E+02
10	1.294	30.33	7.76	4.32	27	34.57	3.33E+02
11	1.371	30.21	9.92	6.48	26	35.98	6.20E+02
12	1.412	30.27	11.37	8.27	25	37.28	9.70E+02
13	1.281	31.26	8.73	5.66	27	36.64	5.45E+02
14	1.445	31.82	11.76	9.76	24.78	40.34	1.58E+03
15	1.272	31.04	8.55	5.46	26.89	36.25	5.14E+02

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=2m, IP=20%, Kedalaman Tanah Dasar=5m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	1.581	32.61	13.4	12.11	23.89	42.89	2.51E+03
2	1.534	32.26	11.58	9.8	25	40.92	1.68E+03
3	1.53	32.8	12.09	9.16	27	40.4	1.19E+03
4	1.497	32.21	9.73	7.03	27	38.69	8.48E+02
5	1.505	33.34	11.56	9.12	27	41.23	1.32E+03
6	1.473	33.28	10.59	8.41	27	40.87	1.22E+03
7	1.545	32.32	12.04	10.32	24.78	41.31	1.84E+03
8	1.483	32.46	10.98	8.97	25.78	40.48	1.38E+03
9	1.461	32.59	9.56	6.47	28	38.52	6.71E+02
10	1.468	33.07	10.11	7.2	28	39.54	8.29E+02
11	1.532	33.96	11.68	9.73	26.89	42.48	1.60E+03
12	1.495	33.61	11.31	9.22	26.89	41.75	1.42E+03
13	1.464	32.97	9.51	6.8	27.89	39.28	8.00E+02
14	1.477	33.45	10	7.48	27.89	40.29	9.62E+02
15	1.455	33.26	8.73	5.66	29	38.64	5.49E+02

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=2m, IP=20%, Kedalaman Tanah Dasar=5m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	1.508	31.54	12.28	10.57	23.89	40.68	1.90E+03
2	1.481	32.26	11.58	9.8	25	40.92	1.68E+03
3	1.366	31.59	9.56	6.47	27	37.52	6.68E+02
4	1.416	31.74	10.65	7.37	27	38.14	7.86E+02
5	1.385	31.58	8.97	5.34	28	36.53	4.42E+02
6	1.373	31.26	8.73	5.66	27	36.64	5.47E+02
7	1.343	31.79	8.24	4.98	28	36.6	4.33E+02
8	1.341	32.26	8.73	5.66	28	37.64	5.47E+02
9	1.362	32.33	7.76	4.32	29	36.57	3.34E+02
10	1.39	32.07	10.11	7.2	27	38.54	8.27E+02
11	1.452	31.27	11.37	8.27	26	38.28	9.71E+02
12	1.518	30.56	11.62	8.65	25	37.86	1.07E+03
13	1.376	32.59	9.56	6.47	28	38.52	6.69E+02
14	1.409	32.45	10	7.48	26.89	39.29	9.60E+02
15	1.488	32.96	11.68	9.73	25.89	41.48	1.60E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=2m, IP=20%, Kedalaman Tanah Dasar=10m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	1.4	29.73	14.22	6.34	25	35.67	6.89E+02
2	1.473	31.38	16.99	10.24	23.89	40.31	1.81E+03
3	1.34	30.97	14.51	6.8	25.89	37.28	7.96E+02
4	1.267	30.79	13.24	4.98	27	35.6	4.31E+02
5	1.262	31.34	12.77	4.34	28	35.59	3.34E+02
6	1.293	30.34	12.77	4.34	27	34.59	3.35E+02
7	1.244	31.01	12.73	4.06	28	35.01	2.84E+02
8	1.244	31	12.72	4.05	28	34.99	2.82E+02
9	1.249	31.12	12.61	4.15	27.89	35.2	3.10E+02
10	1.294	30.33	12.76	4.32	27	34.57	3.33E+02
11	1.371	30.21	14.92	6.48	26	35.98	6.20E+02
12	1.412	30.27	16.37	8.27	25	37.28	9.70E+02
13	1.281	31.26	13.73	5.66	27	36.64	5.45E+02
14	1.458	32.41	15.99	8.85	25.89	40.31	1.33E+03
15	1.272	31.04	13.55	5.46	26.89	36.25	5.14E+02

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=2m, IP=20%, Kedalaman Tanah Dasar=10m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	1.508	31.54	17.28	10.57	23.89	40.68	1.90E+03
2	1.471	32.16	16.77	9.85	25	40.77	1.64E+03
3	1.371	31.73	14.22	6.34	27	37.67	6.88E+02
4	1.416	31.74	15.65	7.37	27	38.14	7.86E+02
5	1.385	31.58	13.97	5.34	28	36.53	4.42E+02
6	1.373	31.26	13.73	5.66	27	36.64	5.47E+02
7	1.343	31.79	13.24	4.98	28	36.6	4.33E+02
8	1.341	32.26	13.73	5.66	28	37.64	5.47E+02
9	1.362	32.33	12.76	4.32	29	36.57	3.34E+02
10	1.392	32.21	14.73	7.03	27	38.69	8.45E+02
11	1.452	31.27	16.37	8.27	26	38.28	9.71E+02
12	1.518	30.56	16.62	8.65	25	37.86	1.07E+03
13	1.384	31.97	14.51	6.8	26.89	38.28	7.98E+02
14	1.409	32.45	15	7.48	26.89	39.29	9.60E+02
15	1.416	31.93	15.49	8.16	25.89	39.31	1.14E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=2m, IP=60%, Kedalaman Tanah Dasar=10m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	1.324	29.73	14.22	6.34	25	35.67	6.52E+02
2	1.352	31.38	16.99	10.24	23.89	40.31	1.66E+03
3	1.261	30.97	14.51	6.8	25.89	37.28	7.49E+02
4	1.21	30.79	13.24	4.98	27	35.6	4.12E+02
5	1.209	31.34	12.77	4.34	28	35.59	3.20E+02
6	1.239	30.34	12.77	4.34	27	34.59	3.21E+02
7	1.20	31.01	12.73	4.06	28	35.01	2.73E+02
8	1.20	31	12.72	4.05	28	34.99	2.72E+02
9	1.197	31.12	12.61	4.15	27.89	35.2	2.97E+02
10	1.24	30.33	12.76	4.32	27	34.57	3.19E+02
11	1.297	30.91	15.57	8.2	24.89	38.29	1.06E+03
12	1.335	31	16.72	9.79	23.89	39.56	1.50E+03
13	1.221	31.26	13.73	5.66	27	36.64	5.20E+02
14	1.361	32.41	15.99	8.85	25.89	40.31	1.24E+03
15	1.213	31.04	13.55	5.46	26.89	36.25	4.90E+02

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=2m, IP=20%, Kedalaman Tanah Dasar=10m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	1.581	32.61	18.4	12.11	23.89	42.89	2.51E+03
2	1.531	32.16	16.77	9.85	25	40.77	1.64E+03
3	1.531	32.06	15.95	7.81	27	38.78	8.85E+02
4	1.497	32.21	14.73	7.03	27	38.69	8.48E+02
5	1.475	32.69	15.23	7.73	27	39.71	1.02E+03
6	1.478	33.18	15.74	8.44	27	40.73	1.20E+03
7	1.493	32.88	16.7	9.68	25.89	41.34	1.55E+03
8	1.483	32.46	15.98	8.97	25.78	40.48	1.38E+03
9	1.463	32.73	14.22	6.34	28	38.67	6.91E+02
10	1.468	33.21	14.73	7.03	28	39.69	8.47E+02
11	1.474	32.93	15.49	8.16	26.89	40.31	1.14E+03
12	1.484	33.41	15.99	8.85	26.89	41.31	1.33E+03
13	1.464	32.97	14.51	6.8	27.89	39.28	8.00E+02
14	1.477	33.45	15	7.48	27.89	40.29	9.62E+02
15	1.455	33.26	13.73	5.66	29	38.64	5.49E+02

LAMPIRAN 7-1

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=20%, Kedalaman Tanah Dasar=5m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.765	31.35	12.08	10.29	23.89	41.15	2.11E+03
2	0.763	32.4	12.78	10.74	25	42.45	2.17E+03
3	0.711	31.78	9.77	6.75	27	38.48	8.96E+02
4	0.711	31.76	9.75	6.73	27	38.44	8.91E+02
5	0.715	32.07	9.61	6.93	26.89	38.96	9.88E+02
6	0.71	31.82	9.82	6.82	27	38.58	9.12E+02
7	0.716	32.08	9.62	6.95	26.89	39	9.94E+02
8	0.715	32.09	9.63	6.96	26.89	39.02	9.97E+02
9	0.713	31.67	9.96	6.97	26.78	38.56	9.46E+02
10	0.716	31.83	9.63	6.85	26.78	38.63	9.57E+02
11	0.716	31.83	9.64	6.86	26.78	38.66	9.60E+02
12	0.716	31.84	9.65	6.87	26.78	38.67	9.63E+02
13	0.722	31.65	10.21	7.76	25.89	39.3	1.22E+03
14	0.766	33.09	11.81	9.92	25.89	42.59	1.96E+03
15	0.715	32.21	9.76	7.14	26.89	39.3	1.04E+03
16	0.728	32.65	10.21	7.76	26.89	40.3	1.22E+03
17	0.718	32.12	9.95	7.28	26.78	39.32	1.07E+03
18	0.73	32.56	10.41	7.92	26.78	40.33	1.26E+03
19	0.727	31.28	9.8	7.14	26	38.36	1.04E+03
20	0.726	31.44	9.97	7.37	26	38.74	1.11E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=20%, Kedalaman Tanah Dasar=5m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.901	35.83	15.5	15.09	25	49.45	4.60E+03
2	0.899	35.45	14.84	14.35	25	48.55	4.23E+03
3	0.898	35.94	15.25	14.99	25	49.55	4.63E+03
4	0.904	35.59	16.19	16.19	23.89	50.09	5.34E+03
5	0.924	37.17	17.44	17.4	25	52.38	5.95E+03
6	0.894	36.01	14.46	13.85	25.89	48.73	3.95E+03
7	0.892	35.5	14.76	13.7	25.89	47.93	3.65E+03
8	0.883	36.02	13.64	12.49	27	47.62	3.13E+03
9	0.898	35.95	14.94	14.14	25.89	48.77	3.99E+03
10	0.894	36.25	14.5	13.26	27	48.3	3.41E+03
11	0.892	36.5	13.95	13.13	26.89	48.65	3.55E+03
12	0.895	34.96	13.88	12.78	25.78	46.76	3.26E+03
13	0.883	35.82	13.48	12.32	26.89	47.28	3.06E+03
14	0.88	35.83	13.29	12.19	26.89	47.23	3.03E+03
15	0.898	36.07	14.65	13.32	26.89	48.13	3.41E+03
16	0.889	37.01	13.46	12.44	27.89	48.62	3.16E+03
17	0.893	35.55	14.18	13.49	25.67	48.01	3.76E+03
18	0.884	35.96	13.88	12.78	26.78	47.76	3.26E+03
19	0.886	35.55	13.28	12.06	26.78	46.82	2.95E+03
20	0.887	36.83	13.3	12.19	27.89	48.23	3.03E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=20%, Kedalaman Tanah Dasar=5m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.843	33.68	15.2	14.14	23.89	46.37	3.81E+03
2	0.828	33.09	13.1	11.45	25	43.77	2.57E+03
3	0.817	34.17	12.94	11.48	25.89	44.95	2.64E+03
4	0.813	33.09	11.81	9.92	25.89	42.59	1.98E+03
5	0.808	33.93	12.24	10.02	27	43.41	1.92E+03
6	0.81	34.4	12.78	10.74	27	44.45	2.19E+03
7	0.806	34.38	11.7	9.96	27	43.96	2.04E+03
8	0.813	33.16	11.68	9.95	25.78	42.73	2.04E+03
9	0.81	33.64	12.16	10.64	25.78	43.79	2.32E+03
10	0.802	34.09	11.81	9.91	26.89	43.59	1.97E+03
11	0.814	34.57	12.31	10.61	26.89	44.64	2.26E+03
12	0.812	33.39	12.12	10.42	25.78	43.33	2.20E+03
13	0.798	33.67	11.19	9.27	26.78	42.68	1.76E+03
14	0.804	34.16	11.68	9.95	26.78	43.73	2.04E+03
15	0.802	33.65	10.21	7.76	27.89	41.3	1.24E+03
16	0.812	33.46	12.12	10.56	25.67	43.54	2.28E+03
17	0.799	33.9	11.84	9.88	26.78	43.35	1.94E+03
18	0.809	34.39	12.12	10.42	26.78	44.33	2.20E+03
19	0.812	34.43	12.98	10.98	26.89	44.65	2.27E+03
20	0.82	33.55	13.28	12.06	24.78	44.82	2.92E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=20%, Kedalaman Tanah Dasar=10m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.765	31.35	17.08	10.29	23.89	41.15	2.11E+03
2	0.736	31.79	16.38	9.32	25	40.79	1.72E+03
3	0.711	31.78	14.77	6.75	27	38.48	8.96E+02
4	0.711	31.76	14.75	6.73	27	38.44	8.91E+02
5	0.715	32.07	14.61	6.93	26.89	38.96	9.88E+02
6	0.71	31.82	14.82	6.82	27	38.58	9.12E+02
7	0.716	32.08	14.62	6.95	26.89	39	9.94E+02
8	0.715	32.09	14.63	6.96	26.89	39.02	9.97E+02
9	0.713	31.67	14.96	6.97	26.78	38.56	9.46E+02
10	0.716	31.83	14.63	6.85	26.78	38.63	9.57E+02
11	0.716	31.83	14.64	6.86	26.78	38.66	9.60E+02
12	0.716	31.84	14.65	6.87	26.78	38.67	9.63E+02
13	0.722	31.65	15.21	7.76	25.89	39.3	1.22E+03
14	0.726	32.09	15.66	8.4	25.89	40.31	1.42E+03
15	0.715	32.21	14.76	7.14	26.89	39.3	1.04E+03
16	0.728	32.65	15.21	7.76	26.89	40.3	1.22E+03
17	0.745	32.67	16.03	8.43	26.78	40.83	1.38E+03
18	0.76	32.15	17.03	10.35	24.56	42.04	2.16E+03
19	0.727	31.28	14.8	7.14	26	38.36	1.04E+03
20	0.726	31.44	14.97	7.37	26	38.74	1.11E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=20%, Kedalaman Tanah Dasar=10m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.831	33.17	18.98	12.91	23.89	45.07	3.30E+03
2	0.841	33.66	19.5	13.63	23.89	46.12	3.71E+03
3	0.817	34.17	17.94	11.48	25.89	44.95	2.64E+03
4	0.819	33.13	17.65	11.33	24.78	43.85	2.62E+03
5	0.803	33.34	15.9	8.66	27	41.77	1.52E+03
6	0.792	33.79	16.38	9.32	27	42.79	1.73E+03
7	0.804	34.25	16.86	9.98	27	43.81	2.00E+03
8	0.813	33.16	16.68	9.95	25.78	42.73	2.04E+03
9	0.81	33.64	17.16	10.64	25.78	43.79	2.32E+03
10	0.8	33.89	15.43	8.01	28	41.76	1.31E+03
11	0.793	33.54	16.12	9.04	26.89	42.31	1.65E+03
12	0.796	33.96	16.79	9.8	26.89	43.35	1.90E+03
13	0.804	34.16	16.68	9.95	26.78	43.73	2.04E+03
14	0.802	33.65	15.21	7.76	27.89	41.3	1.24E+03
15	0.793	34.09	15.66	8.4	27.89	42.31	1.44E+03
16	0.794	34.54	16.12	9.04	27.89	43.31	1.65E+03
17	0.809	34.96	16.79	9.8	27.89	44.35	1.91E+03
18	0.832	34.05	18.96	13.05	24.56	46.12	3.45E+03
19	0.809	34.45	17.06	10.35	26.89	44.33	2.17E+03
20	0.811	33.92	17.54	11.01	25.89	44.33	2.44E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=20%, Kedalaman Tanah Dasar=15m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.765	31.35	22.08	10.29	23.89	41.15	2.11E+03
2	0.736	31.79	21.38	9.32	25	40.79	1.72E+03
3	0.711	31.78	19.77	6.75	27	38.48	8.96E+02
4	0.711	31.76	19.75	6.73	27	38.44	8.91E+02
5	0.715	32.07	19.61	6.93	26.89	38.96	9.88E+02
6	0.71	31.82	19.82	6.82	27	38.58	9.12E+02
7	0.716	32.08	19.62	6.95	26.89	39	9.94E+02
8	0.715	32.09	19.63	6.96	26.89	39.02	9.97E+02
9	0.713	31.67	19.96	6.97	26.78	38.56	9.46E+02
10	0.716	31.83	19.63	6.85	26.78	38.63	9.57E+02
11	0.716	31.83	19.64	6.86	26.78	38.66	9.60E+02
12	0.716	31.84	19.65	6.87	26.78	38.67	9.63E+02
13	0.722	31.65	20.21	7.76	25.89	39.3	1.22E+03
14	0.726	32.09	20.66	8.4	25.89	40.31	1.42E+03
15	0.715	32.21	19.76	7.14	26.89	39.3	1.04E+03
16	0.728	32.65	20.21	7.76	26.89	40.3	1.22E+03
17	0.745	32.67	21.03	8.43	26.78	40.83	1.38E+03
18	0.76	32.15	22.03	10.35	24.56	42.04	2.16E+03
19	0.727	31.28	19.8	7.14	26	38.36	1.04E+03
20	0.726	31.44	19.97	7.37	26	38.74	1.11E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=20%, Kedalaman Tanah Dasar=10m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.92	34.13	18.82	12.69	25	45.86	3.23E+03
2	0.902	35.56	20.32	14.76	25	48.89	4.39E+03
3	0.904	36.04	20.82	15.46	25	49.9	4.80E+03
4	0.908	35.71	21.44	16.45	23.89	50.37	5.48E+03
5	0.932	36.67	22.43	17.83	23.89	52.37	6.55E+03
6	0.898	36.16	20.02	14.35	25.89	49.18	4.14E+03
7	0.9	35.1	19.62	14.11	24.78	48.05	4.11E+03
8	0.898	35.6	20.12	14.81	24.78	49.09	4.52E+03
9	0.889	35.65	18.33	12.01	27	46.85	2.90E+03
10	0.885	36.13	18.82	12.69	27	47.86	3.22E+03
11	0.893	35.12	18.64	12.72	25.78	46.95	3.33E+03
12	0.892	35.61	19.13	13.42	25.78	48	3.71E+03
13	0.894	36.1	19.62	14.11	25.78	49.05	4.11E+03
14	0.89	35.38	18.02	11.68	26.89	46.34	2.76E+03
15	0.882	35.85	18.5	12.35	26.89	47.35	3.07E+03
16	0.881	35.62	18.14	12.02	26.78	46.9	2.96E+03
17	0.886	36.12	18.64	12.72	26.78	47.95	3.32E+03
18	0.894	36.61	19.13	13.42	26.78	49	3.71E+03
19	0.891	35.92	17.54	11.01	27.89	46.33	2.47E+03
20	0.887	36.38	18.02	11.68	27.89	47.34	2.76E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=20%, Kedalaman Tanah Dasar=15m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.831	33.17	23.98	12.91	23.89	45.07	3.30E+03
2	0.841	33.66	24.5	13.63	23.89	46.12	3.71E+03
3	0.817	34.17	22.94	11.48	25.89	44.95	2.64E+03
4	0.819	33.13	22.65	11.33	24.78	43.85	2.62E+03
5	0.803	33.34	20.9	8.66	27	41.77	1.52E+03
6	0.792	33.79	21.38	9.32	27	42.79	1.73E+03
7	0.804	34.25	21.86	9.98	27	43.81	2.00E+03
8	0.813	33.16	21.68	9.95	25.78	42.73	2.04E+03
9	0.81	33.64	22.16	10.64	25.78	43.79	2.32E+03
10	0.8	33.89	20.43	8.01	28	41.76	1.31E+03
11	0.793	33.54	21.12	9.04	26.89	42.31	1.65E+03
12	0.796	33.96	21.79	9.8	26.89	43.35	1.90E+03
13	0.804	34.16	21.68	9.95	26.78	43.73	2.04E+03
14	0.802	33.65	20.21	7.76	27.89	41.3	1.24E+03
15	0.793	34.09	20.66	8.4	27.89	42.31	1.44E+03
16	0.794	34.54	21.12	9.04	27.89	43.31	1.65E+03
17	0.809	34.96	21.79	9.8	27.89	44.35	1.91E+03
18	0.832	34.05	23.96	13.05	24.56	46.12	3.45E+03
19	0.809	34.45	22.06	10.35	26.89	44.33	2.17E+03
20	0.811	33.92	22.54	11.01	25.89	44.33	2.44E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=20%, Kedalaman Tanah Dasar=15m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.92	34.13	23.82	12.69	25	45.86	3.23E+03
2	0.902	35.56	25.32	14.76	25	48.89	4.39E+03
3	0.904	36.04	25.82	15.46	25	49.9	4.80E+03
4	0.908	35.71	26.44	16.45	23.89	50.37	5.48E+03
5	0.932	36.67	27.43	17.83	23.89	52.37	6.55E+03
6	0.898	36.16	25.02	14.35	25.89	49.18	4.14E+03
7	0.9	35.1	24.62	14.11	24.78	48.05	4.11E+03
8	0.898	35.6	25.12	14.81	24.78	49.09	4.52E+03
9	0.889	35.65	23.33	12.01	27	46.85	2.90E+03
10	0.885	36.13	23.82	12.69	27	47.86	3.22E+03
11	0.893	35.12	23.64	12.72	25.78	46.95	3.33E+03
12	0.892	35.61	24.13	13.42	25.78	48	3.71E+03
13	0.894	36.1	24.62	14.11	25.78	49.05	4.11E+03
14	0.89	35.38	23.02	11.68	26.89	46.34	2.76E+03
15	0.882	35.85	23.5	12.35	26.89	47.35	3.07E+03
16	0.881	35.62	23.14	12.02	26.78	46.9	2.96E+03
17	0.886	36.12	23.64	12.72	26.78	47.95	3.32E+03
18	0.894	36.61	24.13	13.42	26.78	49	3.71E+03
19	0.891	35.92	22.54	11.01	27.89	46.33	2.47E+03
20	0.887	36.38	23.02	11.68	27.89	47.34	2.76E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=20%, Kedalaman Tanah Dasar=20m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.831	33.17	28.98	12.91	23.89	45.07	3.30E+03
2	0.841	33.66	29.5	13.63	23.89	46.12	3.71E+03
3	0.817	34.17	27.94	11.48	25.89	44.95	2.64E+03
4	0.819	33.13	27.65	11.33	24.78	43.85	2.62E+03
5	0.803	33.34	25.9	8.66	27	41.77	1.52E+03
6	0.792	33.79	26.38	9.32	27	42.79	1.73E+03
7	0.804	34.25	26.86	9.98	27	43.81	2.00E+03
8	0.813	33.16	26.68	9.95	25.78	42.73	2.04E+03
9	0.81	33.64	27.16	10.64	25.78	43.79	2.32E+03
10	0.8	33.89	25.43	8.01	28	41.76	1.31E+03
11	0.793	33.54	26.12	9.04	26.89	42.31	1.65E+03
12	0.796	33.96	26.79	9.8	26.89	43.35	1.90E+03
13	0.804	34.16	26.68	9.95	26.78	43.73	2.04E+03
14	0.802	33.65	25.21	7.76	27.89	41.3	1.24E+03
15	0.793	34.09	25.66	8.4	27.89	42.31	1.44E+03
16	0.794	34.54	26.12	9.04	27.89	43.31	1.65E+03
17	0.809	34.96	26.79	9.8	27.89	44.35	1.91E+03
18	0.832	34.05	28.96	13.05	24.56	46.12	3.45E+03
19	0.809	34.45	27.06	10.35	26.89	44.33	2.17E+03
20	0.811	33.92	27.54	11.01	25.89	44.33	2.44E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=20%, Kedalaman Tanah Dasar=20m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.765	31.35	27.08	10.29	23.89	41.15	2.11E+03
2	0.736	31.79	26.38	9.32	25	40.79	1.72E+03
3	0.711	31.78	24.77	6.75	27	38.48	8.96E+02
4	0.711	31.76	24.75	6.73	27	38.44	8.91E+02
5	0.715	32.07	24.61	6.93	26.89	38.96	9.88E+02
6	0.71	31.82	24.82	6.82	27	38.58	9.12E+02
7	0.716	32.08	24.62	6.95	26.89	39	9.94E+02
8	0.715	32.09	24.63	6.96	26.89	39.02	9.97E+02
9	0.713	31.67	24.96	6.97	26.78	38.56	9.46E+02
10	0.716	31.83	24.63	6.85	26.78	38.63	9.57E+02
11	0.716	31.83	24.64	6.86	26.78	38.66	9.60E+02
12	0.716	31.84	24.65	6.87	26.78	38.67	9.63E+02
13	0.722	31.65	25.21	7.76	25.89	39.3	1.22E+03
14	0.726	32.09	25.66	8.4	25.89	40.31	1.42E+03
15	0.715	32.21	24.76	7.14	26.89	39.3	1.04E+03
16	0.728	32.65	25.21	7.76	26.89	40.3	1.22E+03
17	0.745	32.67	26.03	8.43	26.78	40.83	1.38E+03
18	0.76	32.15	27.03	10.35	24.56	42.04	2.16E+03
19	0.727	31.28	24.8	7.14	26	38.36	1.04E+03
20	0.726	31.44	24.97	7.37	26	38.74	1.11E+03
21	0.791	32.85	28.5	12.35	23.89	44.35	3.04E+03
22	0.808	32.6	29.32	13.38	23	44.87	3.55E+03
23	0.848	33.23	30.94	15.76	21.89	47.37	5.01E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=20%, Kedalaman Tanah Dasar=20m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.92	34.13	28.82	12.69	25	45.86	3.23E+03
2	0.902	35.56	30.32	14.76	25	48.89	4.39E+03
3	0.904	36.04	30.82	15.46	25	49.9	4.80E+03
4	0.908	35.71	31.44	16.45	23.89	50.37	5.48E+03
5	0.932	36.67	32.43	17.83	23.89	52.37	6.55E+03
6	0.898	36.16	30.02	14.35	25.89	49.18	4.14E+03
7	0.9	35.1	29.62	14.11	24.78	48.05	4.11E+03
8	0.898	35.6	30.12	14.81	24.78	49.09	4.52E+03
9	0.889	35.65	28.33	12.01	27	46.85	2.90E+03
10	0.885	36.13	28.82	12.69	27	47.86	3.22E+03
11	0.893	35.12	28.64	12.72	25.78	46.95	3.33E+03
12	0.892	35.61	29.13	13.42	25.78	48	3.71E+03
13	0.894	36.1	29.62	14.11	25.78	49.05	4.11E+03
14	0.89	35.38	28.02	11.68	26.89	46.34	2.76E+03
15	0.882	35.85	28.5	12.35	26.89	47.35	3.07E+03
16	0.881	35.62	28.14	12.02	26.78	46.9	2.96E+03
17	0.886	36.12	28.64	12.72	26.78	47.95	3.32E+03
18	0.894	36.61	29.13	13.42	26.78	49	3.71E+03
19	0.891	35.92	27.54	11.01	27.89	46.33	2.47E+03
20	0.887	36.38	28.02	11.68	27.89	47.34	2.76E+03

LAMPIRAN 7-2

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=40%, Kedalaman Tanah Dasar=5m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.736	31.82	12.31	10.78	23.89	42.06	2.26E+03
2	0.741	32.4	12.78	10.74	25	42.45	2.11E+03
3	0.695	31.78	9.77	6.75	27	38.48	8.75E+02
4	0.695	31.76	9.75	6.73	27	38.44	8.70E+02
5	0.696	32.07	9.61	6.93	26.89	38.96	9.60E+02
6	0.694	31.82	9.82	6.82	27	38.58	8.91E+02
7	0.696	32.08	9.62	6.95	26.89	39	9.67E+02
8	0.696	32.09	9.63	6.96	26.89	39.02	9.69E+02
9	0.696	31.67	9.96	6.97	26.78	38.56	9.24E+02
10	0.697	31.83	9.63	6.85	26.78	38.63	9.31E+02
11	0.697	31.83	9.64	6.86	26.78	38.66	9.34E+02
12	0.697	31.84	9.65	6.87	26.78	38.67	9.37E+02
13	0.701	31.65	10.21	7.76	25.89	39.3	1.19E+03
14	0.736	31.46	12.12	10.56	23.67	41.54	2.18E+03
15	0.695	32.21	9.76	7.14	26.89	39.3	1.01E+03
16	0.707	32.65	10.21	7.76	26.89	40.3	1.19E+03
17	0.698	32.12	9.95	7.28	26.78	39.32	1.04E+03
18	0.709	32.56	10.41	7.92	26.78	40.33	1.22E+03
19	0.707	31.28	9.8	7.14	26	38.36	1.01E+03
20	0.705	31.44	9.97	7.37	26	38.74	1.08E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=40%, Kedalaman Tanah Dasar=5m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.806	34.84	14.42	13.62	25	47.33	3.57E+03
2	0.796	33.09	13.1	11.45	25	43.77	2.47E+03
3	0.784	34.17	12.94	11.48	25.89	44.95	2.53E+03
4	0.785	33.09	11.81	9.92	25.89	42.59	1.91E+03
5	0.782	33.57	12.31	10.61	25.89	43.64	2.17E+03
6	0.787	34.4	12.78	10.74	27	44.45	2.12E+03
7	0.776	34.38	11.7	9.96	27	43.96	1.96E+03
8	0.783	33.16	11.68	9.95	25.78	42.73	1.96E+03
9	0.777	33.64	12.16	10.64	25.78	43.79	2.23E+03
10	0.774	34.09	11.81	9.91	26.89	43.59	1.90E+03
11	0.783	34.57	12.31	10.61	26.89	44.64	2.17E+03
12	0.781	33.39	12.12	10.42	25.78	43.33	2.11E+03
13	0.771	33.67	11.19	9.27	26.78	42.68	1.70E+03
14	0.774	34.16	11.68	9.95	26.78	43.73	1.96E+03
15	0.779	33.65	10.21	7.76	27.89	41.3	1.21E+03
16	0.779	33.46	12.12	10.56	25.67	43.54	2.19E+03
17	0.772	33.93	11.64	9.76	26.78	43.32	1.86E+03
18	0.778	34.39	12.12	10.42	26.78	44.33	2.11E+03
19	0.783	34.67	12.26	10.64	26.89	44.8	2.21E+03
20	0.785	33.55	13.28	12.06	24.78	44.82	2.80E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=40%, Kedalaman Tanah Dasar=5m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.858	35.83	15.5	15.09	25	49.45	4.38E+03
2	0.855	35.45	14.84	14.35	25	48.55	4.02E+03
3	0.853	35.94	15.25	14.99	25	49.55	4.40E+03
4	0.853	36.15	15.45	15.28	25	50.01	4.56E+03
5	0.877	37.17	17.44	17.4	25	52.38	5.65E+03
6	0.851	36.01	14.46	13.85	25.89	48.73	3.76E+03
7	0.854	35.95	15.52	15.34	24.78	49.83	4.59E+03
8	0.846	36.02	13.64	12.49	27	47.62	3.00E+03
9	0.857	35.95	14.94	14.14	25.89	48.77	3.81E+03
10	0.857	36.25	14.5	13.26	27	48.3	3.27E+03
11	0.851	36.5	13.95	13.13	26.89	48.65	3.38E+03
12	0.856	34.96	13.88	12.78	25.78	46.76	3.12E+03
13	0.845	35.82	13.48	12.32	26.89	47.28	2.93E+03
14	0.842	35.83	13.29	12.19	26.89	47.23	2.90E+03
15	0.856	36.22	15.04	14.48	25.78	49.38	4.06E+03
16	0.85	37.01	13.46	12.44	27.89	48.62	3.02E+03
17	0.852	35.55	14.18	13.49	25.67	48.01	3.58E+03
18	0.846	35.96	13.88	12.78	26.78	47.76	3.12E+03
19	0.849	35.55	13.28	12.06	26.78	46.82	2.82E+03
20	0.848	36.83	13.3	12.19	27.89	48.23	2.90E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=40%, Kedalaman Tanah Dasar=10m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.736	31.82	17.31	10.78	23.89	42.06	2.26E+03
2	0.714	31.79	16.38	9.32	25	40.79	1.66E+03
3	0.695	31.78	14.77	6.75	27	38.48	8.75E+02
4	0.695	31.76	14.75	6.73	27	38.44	8.70E+02
5	0.696	32.07	14.61	6.93	26.89	38.96	9.60E+02
6	0.694	31.82	14.82	6.82	27	38.58	8.91E+02
7	0.696	32.08	14.62	6.95	26.89	39	9.67E+02
8	0.696	32.09	14.63	6.96	26.89	39.02	9.69E+02
9	0.696	31.67	14.96	6.97	26.78	38.56	9.24E+02
10	0.697	31.83	14.63	6.85	26.78	38.63	9.31E+02
11	0.697	31.83	14.64	6.86	26.78	38.66	9.34E+02
12	0.697	31.84	14.65	6.87	26.78	38.67	9.37E+02
13	0.701	31.65	15.21	7.76	25.89	39.3	1.19E+03
14	0.704	32.09	15.66	8.4	25.89	40.31	1.38E+03
15	0.695	32.21	14.76	7.14	26.89	39.3	1.01E+03
16	0.707	32.65	15.21	7.76	26.89	40.3	1.19E+03
17	0.722	31.69	16.55	9.69	24.56	41.02	1.82E+03
18	0.731	32.15	17.03	10.35	24.56	42.04	2.08E+03
19	0.707	31.28	14.8	7.14	26	38.36	1.01E+03
20	0.705	31.44	14.97	7.37	26	38.74	1.08E+03
21	0.757	32.85	18.5	12.35	23.89	44.35	2.91E+03
22	0.771	32.6	19.32	13.38	23	44.87	3.39E+03
23	0.806	33.23	20.94	15.76	21.89	47.37	4.76E+03
24	0.929	32.69	28.14	25.96	14.11	54.46	1.37E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=40%, Kedalaman Tanah Dasar=10m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.795	33.17	18.98	12.91	23.89	45.07	3.16E+03
2	0.802	33.66	19.5	13.63	23.89	46.12	3.54E+03
3	0.784	34.17	17.94	11.48	25.89	44.95	2.53E+03
4	0.785	33.13	17.65	11.33	24.78	43.85	2.51E+03
5	0.779	33.34	15.9	8.66	27	41.77	1.47E+03
6	0.769	33.79	16.38	9.32	27	42.79	1.68E+03
7	0.776	34.25	16.86	9.98	27	43.81	1.93E+03
8	0.783	33.16	16.68	9.95	25.78	42.73	1.96E+03
9	0.777	33.64	17.16	10.64	25.78	43.79	2.23E+03
10	0.778	34.13	17.65	11.33	25.78	44.85	2.51E+03
11	0.769	33.54	16.12	9.04	26.89	42.31	1.60E+03
12	0.771	33.96	16.79	9.8	26.89	43.35	1.84E+03
13	0.774	34.16	16.68	9.95	26.78	43.73	1.96E+03
14	0.779	33.65	15.21	7.76	27.89	41.3	1.21E+03
15	0.77	34.09	15.66	8.4	27.89	42.31	1.39E+03
16	0.77	34.54	16.12	9.04	27.89	43.31	1.60E+03
17	0.784	34.96	16.79	9.8	27.89	44.35	1.85E+03
18	0.794	34.05	18.96	13.05	24.56	46.12	3.29E+03
19	0.778	34.45	17.06	10.35	26.89	44.33	2.09E+03
20	0.779	33.92	17.54	11.01	25.89	44.33	2.35E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=40%, Kedalaman Tanah Dasar=15m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.736	31.82	22.31	10.78	23.89	42.06	2.26E+03
2	0.714	31.79	21.38	9.32	25	40.79	1.66E+03
3	0.695	31.78	19.77	6.75	27	38.48	8.75E+02
4	0.695	31.76	19.75	6.73	27	38.44	8.70E+02
5	0.696	32.07	19.61	6.93	26.89	38.96	9.60E+02
6	0.694	31.82	19.82	6.82	27	38.58	8.91E+02
7	0.696	32.08	19.62	6.95	26.89	39	9.67E+02
8	0.696	32.09	19.63	6.96	26.89	39.02	9.69E+02
9	0.696	31.67	19.96	6.97	26.78	38.56	9.24E+02
10	0.697	31.83	19.63	6.85	26.78	38.63	9.31E+02
11	0.697	31.83	19.64	6.86	26.78	38.66	9.34E+02
12	0.697	31.84	19.65	6.87	26.78	38.67	9.37E+02
13	0.701	31.65	20.21	7.76	25.89	39.3	1.19E+03
14	0.704	32.09	20.66	8.4	25.89	40.31	1.38E+03
15	0.695	32.21	19.76	7.14	26.89	39.3	1.01E+03
16	0.707	32.65	20.21	7.76	26.89	40.3	1.19E+03
17	0.722	31.69	21.55	9.69	24.56	41.02	1.82E+03
18	0.731	32.15	22.03	10.35	24.56	42.04	2.08E+03
19	0.707	31.28	19.8	7.14	26	38.36	1.01E+03
20	0.705	31.44	19.97	7.37	26	38.74	1.08E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=40%, Kedalaman Tanah Dasar=10m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.872	36.15	22.1	17.23	23.89	51.35	5.69E+03
2	0.86	35.56	20.32	14.76	25	48.89	4.18E+03
3	0.86	36.04	20.82	15.46	25	49.9	4.57E+03
4	0.861	35.71	21.44	16.45	23.89	50.37	5.20E+03
5	0.879	36.67	22.43	17.83	23.89	52.37	6.18E+03
6	0.856	36.59	20.12	14.73	25.89	49.98	4.22E+03
7	0.857	35.1	19.62	14.11	24.78	48.05	3.91E+03
8	0.854	35.6	20.12	14.81	24.78	49.09	4.30E+03
9	0.852	35.65	18.33	12.01	27	46.85	2.78E+03
10	0.847	36.13	18.82	12.69	27	47.86	3.08E+03
11	0.853	35.12	18.64	12.72	25.78	46.95	3.18E+03
12	0.85	35.61	19.13	13.42	25.78	48	3.54E+03
13	0.851	36.1	19.62	14.11	25.78	49.05	3.91E+03
14	0.853	35.38	18.02	11.68	26.89	46.34	2.65E+03
15	0.845	35.85	18.5	12.35	26.89	47.35	2.94E+03
16	0.843	35.62	18.14	12.02	26.78	46.9	2.83E+03
17	0.846	36.12	18.64	12.72	26.78	47.95	3.17E+03
18	0.852	36.61	19.13	13.42	26.78	49	3.54E+03
19	0.854	35.96	20.72	15.65	24.56	50.09	4.78E+03
20	0.851	36.38	18.02	11.68	27.89	47.34	2.65E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=40%, Kedalaman Tanah Dasar=15m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.795	33.17	23.98	12.91	23.89	45.07	3.16E+03
2	0.802	33.66	24.5	13.63	23.89	46.12	3.54E+03
3	0.784	34.17	22.94	11.48	25.89	44.95	2.53E+03
4	0.785	33.13	22.65	11.33	24.78	43.85	2.51E+03
5	0.779	33.34	20.9	8.66	27	41.77	1.47E+03
6	0.769	33.79	21.38	9.32	27	42.79	1.68E+03
7	0.776	34.25	21.86	9.98	27	43.81	1.93E+03
8	0.783	33.16	21.68	9.95	25.78	42.73	1.96E+03
9	0.777	33.64	22.16	10.64	25.78	43.79	2.23E+03
10	0.778	34.13	22.65	11.33	25.78	44.85	2.51E+03
11	0.769	33.54	21.12	9.04	26.89	42.31	1.60E+03
12	0.771	33.96	21.79	9.8	26.89	43.35	1.84E+03
13	0.774	34.16	21.68	9.95	26.78	43.73	1.96E+03
14	0.779	33.65	20.21	7.76	27.89	41.3	1.21E+03
15	0.77	34.09	20.66	8.4	27.89	42.31	1.39E+03
16	0.77	34.54	21.12	9.04	27.89	43.31	1.60E+03
17	0.784	34.96	21.79	9.8	27.89	44.35	1.85E+03
18	0.794	34.05	23.96	13.05	24.56	46.12	3.29E+03
19	0.778	34.45	22.06	10.35	26.89	44.33	2.09E+03
20	0.779	33.92	22.54	11.01	25.89	44.33	2.35E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=40%, Kedalaman Tanah Dasar=15m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.872	36.15	27.1	17.23	23.89	51.35	5.69E+03
2	0.86	35.56	25.32	14.76	25	48.89	4.18E+03
3	0.86	36.04	25.82	15.46	25	49.9	4.57E+03
4	0.861	35.71	26.44	16.45	23.89	50.37	5.20E+03
5	0.879	36.67	27.43	17.83	23.89	52.37	6.18E+03
6	0.856	36.59	25.12	14.73	25.89	49.98	4.22E+03
7	0.857	35.1	24.62	14.11	24.78	48.05	3.91E+03
8	0.854	35.6	25.12	14.81	24.78	49.09	4.30E+03
9	0.852	35.65	23.33	12.01	27	46.85	2.78E+03
10	0.847	36.13	23.82	12.69	27	47.86	3.08E+03
11	0.853	35.12	23.64	12.72	25.78	46.95	3.18E+03
12	0.85	35.61	24.13	13.42	25.78	48	3.54E+03
13	0.851	36.1	24.62	14.11	25.78	49.05	3.91E+03
14	0.853	35.38	23.02	11.68	26.89	46.34	2.65E+03
15	0.845	35.85	23.5	12.35	26.89	47.35	2.94E+03
16	0.843	35.62	23.14	12.02	26.78	46.9	2.83E+03
17	0.846	36.12	23.64	12.72	26.78	47.95	3.17E+03
18	0.852	36.61	24.13	13.42	26.78	49	3.54E+03
19	0.854	35.96	25.72	15.65	24.56	50.09	4.78E+03
20	0.851	36.38	23.02	11.68	27.89	47.34	2.65E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=40%, Kedalaman Tanah Dasar=20m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.795	33.17	28.98	12.91	23.89	45.07	3.16E+03
2	0.802	33.66	29.5	13.63	23.89	46.12	3.54E+03
3	0.784	34.17	27.94	11.48	25.89	44.95	2.53E+03
4	0.785	33.13	27.65	11.33	24.78	43.85	2.51E+03
5	0.779	33.34	25.9	8.66	27	41.77	1.47E+03
6	0.769	33.79	26.38	9.32	27	42.79	1.68E+03
7	0.776	34.25	26.86	9.98	27	43.81	1.93E+03
8	0.783	33.16	26.68	9.95	25.78	42.73	1.96E+03
9	0.777	33.64	27.16	10.64	25.78	43.79	2.23E+03
10	0.778	34.13	27.65	11.33	25.78	44.85	2.51E+03
11	0.769	33.54	26.12	9.04	26.89	42.31	1.60E+03
12	0.771	33.96	26.79	9.8	26.89	43.35	1.84E+03
13	0.774	34.16	26.68	9.95	26.78	43.73	1.96E+03
14	0.779	33.65	25.21	7.76	27.89	41.3	1.21E+03
15	0.77	34.09	25.66	8.4	27.89	42.31	1.39E+03
16	0.77	34.54	26.12	9.04	27.89	43.31	1.60E+03
17	0.784	34.96	26.79	9.8	27.89	44.35	1.85E+03
18	0.794	34.05	28.96	13.05	24.56	46.12	3.29E+03
19	0.778	34.45	27.06	10.35	26.89	44.33	2.09E+03
20	0.779	33.92	27.54	11.01	25.89	44.33	2.35E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=40%, Kedalaman Tanah Dasar=20m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.736	31.82	27.31	10.78	23.89	42.06	2.26E+03
2	0.714	31.79	26.38	9.32	25	40.79	1.66E+03
3	0.695	31.78	24.77	6.75	27	38.48	8.75E+02
4	0.695	31.76	24.75	6.73	27	38.44	8.70E+02
5	0.696	32.07	24.61	6.93	26.89	38.96	9.60E+02
6	0.694	31.82	24.82	6.82	27	38.58	8.91E+02
7	0.696	32.08	24.62	6.95	26.89	39	9.67E+02
8	0.696	32.09	24.63	6.96	26.89	39.02	9.69E+02
9	0.696	31.67	24.96	6.97	26.78	38.56	9.24E+02
10	0.697	31.83	24.63	6.85	26.78	38.63	9.31E+02
11	0.697	31.83	24.64	6.86	26.78	38.66	9.34E+02
12	0.697	31.84	24.65	6.87	26.78	38.67	9.37E+02
13	0.701	31.65	25.21	7.76	25.89	39.3	1.19E+03
14	0.704	32.09	25.66	8.4	25.89	40.31	1.38E+03
15	0.695	32.21	24.76	7.14	26.89	39.3	1.01E+03
16	0.707	32.65	25.21	7.76	26.89	40.3	1.19E+03
17	0.722	31.69	26.55	9.69	24.56	41.02	1.82E+03
18	0.731	32.15	27.03	10.35	24.56	42.04	2.08E+03
19	0.707	31.28	24.8	7.14	26	38.36	1.01E+03
20	0.705	31.44	24.97	7.37	26	38.74	1.08E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=40%, Kedalaman Tanah Dasar=20m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.872	36.15	32.1	17.23	23.89	51.35	5.69E+03
2	0.86	35.56	30.32	14.76	25	48.89	4.18E+03
3	0.86	36.04	30.82	15.46	25	49.9	4.57E+03
4	0.861	35.71	31.44	16.45	23.89	50.37	5.20E+03
5	0.879	36.67	32.43	17.83	23.89	52.37	6.18E+03
6	0.856	36.59	30.12	14.73	25.89	49.98	4.22E+03
7	0.857	35.1	29.62	14.11	24.78	48.05	3.91E+03
8	0.854	35.6	30.12	14.81	24.78	49.09	4.30E+03
9	0.852	35.65	28.33	12.01	27	46.85	2.78E+03
10	0.847	36.13	28.82	12.69	27	47.86	3.08E+03
11	0.853	35.12	28.64	12.72	25.78	46.95	3.18E+03
12	0.85	35.61	29.13	13.42	25.78	48	3.54E+03
13	0.851	36.1	29.62	14.11	25.78	49.05	3.91E+03
14	0.853	35.38	28.02	11.68	26.89	46.34	2.65E+03
15	0.845	35.85	28.5	12.35	26.89	47.35	2.94E+03
16	0.843	35.62	28.14	12.02	26.78	46.9	2.83E+03
17	0.846	36.12	28.64	12.72	26.78	47.95	3.17E+03
18	0.852	36.61	29.13	13.42	26.78	49	3.54E+03
19	0.854	35.96	30.72	15.65	24.56	50.09	4.78E+03
20	0.851	36.38	28.02	11.68	27.89	47.34	2.65E+03

LAMPIRAN 7-3

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=60%, Kedalaman Tanah Dasar=5m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.704	31.82	12.31	10.78	23.89	42.06	2.16E+03
2	0.716	32.4	12.78	10.74	25	42.45	2.03E+03
3	0.678	32.28	9.8	7.14	27	39.36	9.79E+02
4	0.678	32.26	9.78	7.11	27	39.31	9.72E+02
5	0.675	32.07	9.61	6.93	26.89	38.96	9.32E+02
6	0.677	32.3	9.82	7.16	27	39.4	9.86E+02
7	0.675	32.08	9.62	6.95	26.89	39	9.38E+02
8	0.675	32.09	9.63	6.96	26.89	39.02	9.41E+02
9	0.677	31.82	9.62	6.84	26.78	38.61	9.02E+02
10	0.678	31.83	9.63	6.85	26.78	38.63	9.05E+02
11	0.678	31.83	9.64	6.86	26.78	38.66	9.08E+02
12	0.678	31.84	9.65	6.87	26.78	38.67	9.11E+02
13	0.679	31.65	10.21	7.76	25.89	39.3	1.15E+03
14	0.705	31.46	12.12	10.56	23.67	41.54	2.08E+03
15	0.674	32.21	9.76	7.14	26.89	39.3	9.82E+02
16	0.684	32.65	10.21	7.76	26.89	40.3	1.15E+03
17	0.677	32.12	9.95	7.28	26.78	39.32	1.01E+03
18	0.687	32.56	10.41	7.92	26.78	40.33	1.18E+03
19	0.686	31.28	9.8	7.14	26	38.36	9.81E+02
20	0.684	31.44	9.97	7.37	26	38.74	1.04E+03
21	0.808	34.27	18.53	18.49	21.67	50.12	5.84E+03
22	0.743	32.73	15.03	13.97	23	45.32	3.41E+03
23	0.735	31.82	14.49	13.89	21.67	44.57	3.55E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=60%, Kedalaman Tanah Dasar=5m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.764	34.84	14.42	13.62	25	47.33	3.38E+03
2	0.757	33.5	13.95	13.13	23.89	45.65	3.19E+03
3	0.748	34.61	13.11	11.91	25.89	45.77	2.62E+03
4	0.754	35.08	12.41	10.96	27	45.49	2.25E+03
5	0.749	33.57	12.31	10.61	25.89	43.64	2.08E+03
6	0.758	33.55	14.18	13.49	23.67	46.01	3.37E+03
7	0.744	34.38	11.7	9.96	27	43.96	1.88E+03
8	0.75	33.16	11.68	9.95	25.78	42.73	1.88E+03
9	0.743	33.64	12.16	10.64	25.78	43.79	2.13E+03
10	0.745	34.09	11.81	9.91	26.89	43.59	1.83E+03
11	0.751	34.06	13.69	12.8	24.67	45.96	3.03E+03
12	0.749	33.39	12.12	10.42	25.78	43.33	2.03E+03
13	0.742	33.67	11.19	9.27	26.78	42.68	1.64E+03
14	0.742	34.16	11.68	9.95	26.78	43.73	1.88E+03
15	0.745	33.49	13.25	12.16	24.56	44.88	2.73E+03
16	0.746	33.46	12.12	10.56	25.67	43.54	2.10E+03
17	0.742	33.93	11.64	9.76	26.78	43.32	1.79E+03
18	0.746	34.39	12.12	10.42	26.78	44.33	2.03E+03
19	0.75	34.67	12.26	10.64	26.89	44.8	2.12E+03
20	0.749	33.55	13.28	12.06	24.78	44.82	2.67E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=60%, Kedalaman Tanah Dasar=5m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.811	35.83	15.5	15.09	25	49.45	4.14E+03
2	0.809	35.45	14.84	14.35	25	48.55	3.81E+03
3	0.805	35.94	15.25	14.99	25	49.55	4.15E+03
4	0.809	35.59	16.19	16.19	23.89	50.09	4.77E+03
5	0.827	37.17	17.44	17.4	25	52.38	5.33E+03
6	0.804	35.93	15.45	15.28	24.78	49.78	4.30E+03
7	0.805	35.95	15.52	15.34	24.78	49.83	4.33E+03
8	0.807	36.02	13.64	12.49	27	47.62	2.86E+03
9	0.813	35.95	14.94	14.14	25.89	48.77	3.61E+03
10	0.814	35.14	16.1	15.96	23.67	49.43	4.63E+03
11	0.806	36.43	14.95	14.58	25.78	49.73	3.94E+03
12	0.809	35.1	15.85	15.85	23.56	49.38	4.62E+03
13	0.806	35.82	13.48	12.32	26.89	47.28	2.79E+03
14	0.803	35.83	13.29	12.19	26.89	47.23	2.76E+03
15	0.81	36.22	15.04	14.48	25.78	49.38	3.84E+03
16	0.809	35.2	14.94	14.57	24.56	48.49	3.93E+03
17	0.805	35.7	15.45	15.28	24.56	49.54	4.30E+03
18	0.805	36.1	15.85	15.85	24.56	50.38	4.61E+03
19	0.805	35.98	15.72	15.67	24.56	50.13	4.52E+03
20	0.809	36.83	13.3	12.19	27.89	48.23	2.76E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=60%, Kedalaman Tanah Dasar=10m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.704	31.82	17.31	10.78	23.89	42.06	2.16E+03
2	0.689	31.79	16.38	9.32	25	40.79	1.61E+03
3	0.678	32.28	14.8	7.14	27	39.36	9.79E+02
4	0.678	32.26	14.78	7.11	27	39.31	9.72E+02
5	0.675	32.07	14.61	6.93	26.89	38.96	9.32E+02
6	0.677	32.3	14.82	7.16	27	39.4	9.86E+02
7	0.675	32.08	14.62	6.95	26.89	39	9.38E+02
8	0.675	32.09	14.63	6.96	26.89	39.02	9.41E+02
9	0.677	31.82	14.62	6.84	26.78	38.61	9.02E+02
10	0.678	31.83	14.63	6.85	26.78	38.63	9.05E+02
11	0.678	31.83	14.64	6.86	26.78	38.66	9.08E+02
12	0.678	31.84	14.65	6.87	26.78	38.67	9.11E+02
13	0.679	31.65	15.21	7.76	25.89	39.3	1.15E+03
14	0.681	32.09	15.66	8.4	25.89	40.31	1.33E+03
15	0.674	32.21	14.76	7.14	26.89	39.3	9.82E+02
16	0.684	32.65	15.21	7.76	26.89	40.3	1.15E+03
17	0.694	31.69	16.55	9.69	24.56	41.02	1.75E+03
18	0.7	32.15	17.03	10.35	24.56	42.04	1.99E+03
19	0.686	31.28	14.8	7.14	26	38.36	9.81E+02
20	0.684	31.44	14.97	7.37	26	38.74	1.04E+03
21	0.742	32.27	19.96	14.39	21.89	45.36	3.76E+03
22	0.722	32.85	18.5	12.35	23.89	44.35	2.77E+03
23	0.733	32.6	19.32	13.38	23	44.87	3.23E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=60%, Kedalaman Tanah Dasar=10m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.758	33.17	18.98	12.91	23.89	45.07	3.01E+03
2	0.762	34.09	19.62	14.02	23.89	46.93	3.61E+03
3	0.748	34.61	18.11	11.91	25.89	45.77	2.62E+03
4	0.75	33.13	17.65	11.33	24.78	43.85	2.40E+03
5	0.744	33.62	18.14	12.02	24.78	44.9	2.67E+03
6	0.742	33.79	16.38	9.32	27	42.79	1.62E+03
7	0.746	34.25	16.86	9.98	27	43.81	1.86E+03
8	0.75	33.16	16.68	9.95	25.78	42.73	1.88E+03
9	0.743	33.64	17.16	10.64	25.78	43.79	2.13E+03
10	0.743	34.13	17.65	11.33	25.78	44.85	2.39E+03
11	0.743	33.54	16.12	9.04	26.89	42.31	1.54E+03
12	0.742	33.99	16.59	9.69	26.89	43.32	1.76E+03
13	0.742	34.16	16.68	9.95	26.78	43.73	1.88E+03
14	0.745	33.49	18.25	12.16	24.56	44.88	2.73E+03
15	0.745	34.09	15.66	8.4	27.89	42.31	1.35E+03
16	0.744	34.54	16.12	9.04	27.89	43.31	1.54E+03
17	0.748	33.57	18.47	12.37	24.56	45.1	2.80E+03
18	0.754	34.05	18.96	13.05	24.56	46.12	3.12E+03
19	0.746	34.45	17.06	10.35	26.89	44.33	2.00E+03
20	0.745	33.92	17.54	11.01	25.89	44.33	2.25E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=60%, Kedalaman Tanah Dasar=10m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.821	36.15	22.1	17.23	23.89	51.35	5.35E+03
2	0.814	35.56	20.32	14.76	25	48.89	3.96E+03
3	0.813	36.04	20.82	15.46	25	49.9	4.32E+03
4	0.812	35.71	21.44	16.45	23.89	50.37	4.90E+03
5	0.825	36.67	22.43	17.83	23.89	52.37	5.80E+03
6	0.809	36.59	20.12	14.73	25.89	49.98	3.99E+03
7	0.811	35.1	19.62	14.11	24.78	48.05	3.70E+03
8	0.806	35.6	20.12	14.81	24.78	49.09	4.06E+03
9	0.805	36.09	20.61	15.51	24.78	50.12	4.43E+03
10	0.808	36.13	18.82	12.69	27	47.86	2.94E+03
11	0.811	35.12	18.64	12.72	25.78	46.95	3.02E+03
12	0.806	35.61	19.13	13.42	25.78	48	3.35E+03
13	0.805	36.1	19.62	14.11	25.78	49.05	3.70E+03
14	0.807	36.6	20.12	14.81	25.78	50.09	4.06E+03
15	0.806	35.85	18.5	12.35	26.89	47.35	2.81E+03
16	0.804	35.62	18.14	12.02	26.78	46.9	2.70E+03
17	0.804	36.12	18.64	12.72	26.78	47.95	3.02E+03
18	0.807	35.47	20.22	14.95	24.56	49.06	4.13E+03
19	0.805	35.96	20.72	15.65	24.56	50.09	4.51E+03
20	0.813	36.38	18.02	11.68	27.89	47.34	2.53E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=60%, Kedalaman Tanah Dasar=15m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.704	31.82	22.31	10.78	23.89	42.06	2.16E+03
2	0.689	31.79	21.38	9.32	25	40.79	1.61E+03
3	0.678	32.28	19.8	7.14	27	39.36	9.79E+02
4	0.678	32.26	19.78	7.11	27	39.31	9.72E+02
5	0.675	32.07	19.61	6.93	26.89	38.96	9.32E+02
6	0.677	32.3	19.82	7.16	27	39.4	9.86E+02
7	0.675	32.08	19.62	6.95	26.89	39	9.38E+02
8	0.675	32.09	19.63	6.96	26.89	39.02	9.41E+02
9	0.677	31.82	19.62	6.84	26.78	38.61	9.02E+02
10	0.678	31.83	19.63	6.85	26.78	38.63	9.05E+02
11	0.678	31.83	19.64	6.86	26.78	38.66	9.08E+02
12	0.678	31.84	19.65	6.87	26.78	38.67	9.11E+02
13	0.679	31.65	20.21	7.76	25.89	39.3	1.15E+03
14	0.681	32.09	20.66	8.4	25.89	40.31	1.33E+03
15	0.674	32.21	19.76	7.14	26.89	39.3	9.82E+02
16	0.684	32.65	20.21	7.76	26.89	40.3	1.15E+03
17	0.694	31.69	21.55	9.69	24.56	41.02	1.75E+03
18	0.7	32.15	22.03	10.35	24.56	42.04	1.99E+03
19	0.686	31.28	19.8	7.14	26	38.36	9.81E+02
20	0.684	31.44	19.97	7.37	26	38.74	1.04E+03
21	0.722	32.85	23.5	12.35	23.89	44.35	2.77E+03
22	0.733	32.6	24.32	13.38	23	44.87	3.23E+03
23	0.742	32.27	24.96	14.39	21.89	45.36	3.76E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=60%, Kedalaman Tanah Dasar=15m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.758	33.17	23.98	12.91	23.89	45.07	3.01E+03
2	0.762	34.09	24.62	14.02	23.89	46.93	3.61E+03
3	0.748	34.61	23.11	11.91	25.89	45.77	2.62E+03
4	0.75	33.13	22.65	11.33	24.78	43.85	2.40E+03
5	0.744	33.62	23.14	12.02	24.78	44.9	2.67E+03
6	0.742	33.79	21.38	9.32	27	42.79	1.62E+03
7	0.746	34.25	21.86	9.98	27	43.81	1.86E+03
8	0.75	33.16	21.68	9.95	25.78	42.73	1.88E+03
9	0.743	33.64	22.16	10.64	25.78	43.79	2.13E+03
10	0.743	34.13	22.65	11.33	25.78	44.85	2.39E+03
11	0.743	33.54	21.12	9.04	26.89	42.31	1.54E+03
12	0.742	33.99	21.59	9.69	26.89	43.32	1.76E+03
13	0.742	34.16	21.68	9.95	26.78	43.73	1.88E+03
14	0.745	33.49	23.25	12.16	24.56	44.88	2.73E+03
15	0.745	34.09	20.66	8.4	27.89	42.31	1.35E+03
16	0.744	34.54	21.12	9.04	27.89	43.31	1.54E+03
17	0.748	33.57	23.47	12.37	24.56	45.1	2.80E+03
18	0.754	34.05	23.96	13.05	24.56	46.12	3.12E+03
19	0.746	34.45	22.06	10.35	26.89	44.33	2.00E+03
20	0.745	33.92	22.54	11.01	25.89	44.33	2.25E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=60%, Kedalaman Tanah Dasar=15m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.821	36.15	27.1	17.23	23.89	51.35	5.35E+03
2	0.814	35.56	25.32	14.76	25	48.89	3.96E+03
3	0.813	36.04	25.82	15.46	25	49.9	4.32E+03
4	0.812	35.71	26.44	16.45	23.89	50.37	4.90E+03
5	0.825	36.67	27.43	17.83	23.89	52.37	5.80E+03
6	0.809	36.59	25.12	14.73	25.89	49.98	3.99E+03
7	0.811	35.1	24.62	14.11	24.78	48.05	3.70E+03
8	0.806	35.6	25.12	14.81	24.78	49.09	4.06E+03
9	0.805	36.09	25.61	15.51	24.78	50.12	4.43E+03
10	0.808	36.13	23.82	12.69	27	47.86	2.94E+03
11	0.811	35.12	23.64	12.72	25.78	46.95	3.02E+03
12	0.806	35.61	24.13	13.42	25.78	48	3.35E+03
13	0.805	36.1	24.62	14.11	25.78	49.05	3.70E+03
14	0.807	36.6	25.12	14.81	25.78	50.09	4.06E+03
15	0.806	35.85	23.5	12.35	26.89	47.35	2.81E+03
16	0.804	35.62	23.14	12.02	26.78	46.9	2.70E+03
17	0.804	36.12	23.64	12.72	26.78	47.95	3.02E+03
18	0.807	35.47	25.22	14.95	24.56	49.06	4.13E+03
19	0.805	35.96	25.72	15.65	24.56	50.09	4.51E+03
20	0.813	36.38	23.02	11.68	27.89	47.34	2.53E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=60%, Kedalaman Tanah Dasar=20m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.758	33.17	28.98	12.91	23.89	45.07	3.01E+03
2	0.762	34.09	29.62	14.02	23.89	46.93	3.61E+03
3	0.748	34.61	28.11	11.91	25.89	45.77	2.62E+03
4	0.75	33.13	27.65	11.33	24.78	43.85	2.40E+03
5	0.744	33.62	28.14	12.02	24.78	44.9	2.67E+03
6	0.742	33.79	26.38	9.32	27	42.79	1.62E+03
7	0.746	34.25	26.86	9.98	27	43.81	1.86E+03
8	0.75	33.16	26.68	9.95	25.78	42.73	1.88E+03
9	0.743	33.64	27.16	10.64	25.78	43.79	2.13E+03
10	0.743	34.13	27.65	11.33	25.78	44.85	2.39E+03
11	0.743	33.54	26.12	9.04	26.89	42.31	1.54E+03
12	0.742	33.99	26.59	9.69	26.89	43.32	1.76E+03
13	0.742	34.16	26.68	9.95	26.78	43.73	1.88E+03
14	0.745	33.49	28.25	12.16	24.56	44.88	2.73E+03
15	0.745	34.09	25.66	8.4	27.89	42.31	1.35E+03
16	0.744	34.54	26.12	9.04	27.89	43.31	1.54E+03
17	0.748	33.57	28.47	12.37	24.56	45.1	2.80E+03
18	0.754	34.05	28.96	13.05	24.56	46.12	3.12E+03
19	0.746	34.45	27.06	10.35	26.89	44.33	2.00E+03
20	0.745	33.92	27.54	11.01	25.89	44.33	2.25E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=60%, Kedalaman Tanah Dasar=20m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.704	31.82	27.31	10.78	23.89	42.06	2.16E+03
2	0.689	31.79	26.38	9.32	25	40.79	1.61E+03
3	0.678	32.28	24.8	7.14	27	39.36	9.79E+02
4	0.678	32.26	24.78	7.11	27	39.31	9.72E+02
5	0.675	32.07	24.61	6.93	26.89	38.96	9.32E+02
6	0.677	32.3	24.82	7.16	27	39.4	9.86E+02
7	0.675	32.08	24.62	6.95	26.89	39	9.38E+02
8	0.675	32.09	24.63	6.96	26.89	39.02	9.41E+02
9	0.677	31.82	24.62	6.84	26.78	38.61	9.02E+02
10	0.678	31.83	24.63	6.85	26.78	38.63	9.05E+02
11	0.678	31.83	24.64	6.86	26.78	38.66	9.08E+02
12	0.678	31.84	24.65	6.87	26.78	38.67	9.11E+02
13	0.679	31.65	25.21	7.76	25.89	39.3	1.15E+03
14	0.681	32.09	25.66	8.4	25.89	40.31	1.33E+03
15	0.674	32.21	24.76	7.14	26.89	39.3	9.82E+02
16	0.684	32.65	25.21	7.76	26.89	40.3	1.15E+03
17	0.694	31.69	26.55	9.69	24.56	41.02	1.75E+03
18	0.7	32.15	27.03	10.35	24.56	42.04	1.99E+03
19	0.686	31.28	24.8	7.14	26	38.36	9.81E+02
20	0.684	31.44	24.97	7.37	26	38.74	1.04E+03
21	0.722	32.85	28.5	12.35	23.89	44.35	2.77E+03
22	0.733	32.6	29.32	13.38	23	44.87	3.23E+03
23	0.742	32.27	29.96	14.39	21.89	45.36	3.76E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=4m, IP=60%, Kedalaman Tanah Dasar=20m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.821	36.15	32.1	17.23	23.89	51.35	5.35E+03
2	0.814	35.56	30.32	14.76	25	48.89	3.96E+03
3	0.813	36.04	30.82	15.46	25	49.9	4.32E+03
4	0.812	35.71	31.44	16.45	23.89	50.37	4.90E+03
5	0.825	36.67	32.43	17.83	23.89	52.37	5.80E+03
6	0.809	36.59	30.12	14.73	25.89	49.98	3.99E+03
7	0.811	35.1	29.62	14.11	24.78	48.05	3.70E+03
8	0.806	35.6	30.12	14.81	24.78	49.09	4.06E+03
9	0.805	36.09	30.61	15.51	24.78	50.12	4.43E+03
10	0.808	36.13	28.82	12.69	27	47.86	2.94E+03
11	0.811	35.12	28.64	12.72	25.78	46.95	3.02E+03
12	0.806	35.61	29.13	13.42	25.78	48	3.35E+03
13	0.805	36.1	29.62	14.11	25.78	49.05	3.70E+03
14	0.807	36.6	30.12	14.81	25.78	50.09	4.06E+03
15	0.806	35.85	28.5	12.35	26.89	47.35	2.81E+03
16	0.804	35.62	28.14	12.02	26.78	46.9	2.70E+03
17	0.804	36.12	28.64	12.72	26.78	47.95	3.02E+03
18	0.807	35.47	30.22	14.95	24.56	49.06	4.13E+03
19	0.805	35.96	30.72	15.65	24.56	50.09	4.51E+03
20	0.813	36.38	28.02	11.68	27.89	47.34	2.53E+03

LAMPIRAN 8-1

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=20%, Kedalaman Tanah Dasar=5m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.539	32.15	11.75	9.83	25	41.94	2.20E+03
2	0.548	32.33	12.7	10.63	25	42.81	2.49E+03
3	0.532	32.99	11.59	9.69	25.89	42.65	2.15E+03
4	0.543	31.91	11.62	9.73	24.78	41.6	2.17E+03
5	0.543	31.92	11.63	9.74	24.78	41.63	2.18E+03
6	0.532	33.03	11.63	9.74	25.89	42.74	2.17E+03
7	0.543	31.94	11.65	9.77	24.78	41.68	2.19E+03
8	0.537	33.15	11.87	9.99	25.89	43.1	2.28E+03
9	0.531	32.68	11.61	9.56	25.78	42.22	2.07E+03
10	0.531	32.7	11.62	9.58	25.78	42.25	2.07E+03
11	0.531	32.71	11.63	9.6	25.78	42.28	2.08E+03
12	0.531	32.72	11.65	9.61	25.78	42.3	2.09E+03
13	0.531	32.73	11.66	9.63	25.78	42.33	2.09E+03
14	0.541	32.75	12.4	10.96	24.67	43.61	2.76E+03
15	0.534	33.67	11.59	9.54	26.78	43.18	2.06E+03
16	0.534	33.68	11.61	9.56	26.78	43.22	2.07E+03
17	0.534	33.7	11.62	9.58	26.78	43.25	2.08E+03
18	0.535	33.71	11.63	9.6	26.78	43.28	2.08E+03
19	0.535	33.72	11.65	9.61	26.78	43.3	2.09E+03
20	0.535	33.73	11.66	9.63	26.78	43.33	2.10E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=20%, Kedalaman Tanah Dasar=5m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.733	36.34	16.34	16.04	25	51.45	5.95E+03
2	0.704	37.19	17.48	17.45	25	53.38	6.88E+03
3	0.691	38.44	16.13	15.97	27	53.55	5.91E+03
4	0.687	38.73	16.46	16.4	27	54.19	6.20E+03
5	0.695	37.63	16.44	16.4	25.89	53.09	6.21E+03
6	0.695	38.52	16.6	16.35	27	53.87	6.11E+03
7	0.689	38.78	16.7	16.6	27	54.36	6.31E+03
8	0.685	38.7	16.23	16.22	27	54.04	6.10E+03
9	0.695	38.97	15.64	15.28	28	53.52	5.44E+03
10	0.691	39.44	16.13	15.96	28	54.55	5.91E+03
11	0.687	38.6	16.41	16.35	26.89	54.03	6.17E+03
12	0.687	38.63	16.44	16.4	26.89	54.09	6.20E+03
13	0.687	38.37	15.8	15.77	26.89	53.38	5.83E+03
14	0.692	39.78	16.7	16.6	28	55.36	6.32E+03
15	0.704	38.01	16.53	16.1	26.78	53.13	5.90E+03
16	0.696	37.9	17.63	17.58	25.67	54.18	6.95E+03
17	0.697	39.91	15.23	14.95	29	54.24	5.29E+03
18	0.688	39.6	16.41	16.35	27.89	55.03	6.17E+03
19	0.686	39.31	15.74	15.67	27.89	54.24	5.76E+03
20	0.686	39.37	15.8	15.77	27.89	54.38	5.82E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=20%, Kedalaman Tanah Dasar=5m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.621	35.13	14.89	14.15	25	48.73	4.59E+03
2	0.639	34.09	15.09	14.35	23.89	47.84	4.72E+03
3	0.611	35.72	14.17	13.45	25.89	48.78	4.21E+03
4	0.613	36.2	14.66	14.13	25.89	49.85	4.64E+03
5	0.614	35.04	13.7	12.63	25.89	47.36	3.67E+03
6	0.608	36.23	13.86	12.79	27	48.69	3.75E+03
7	0.619	36.09	15.09	14.35	25.89	49.84	4.69E+03
8	0.618	36.39	14.66	13.47	27	49.35	4.07E+03
9	0.613	36.13	14.65	14.15	25.78	49.8	4.66E+03
10	0.614	36.72	14.17	13.45	26.89	49.78	4.21E+03
11	0.611	35.76	13.56	12.33	26.89	47.81	3.49E+03
12	0.608	36.03	13.7	12.62	26.89	48.36	3.66E+03
13	0.605	36.04	13.51	12.5	26.89	48.27	3.61E+03
14	0.618	36.36	15.18	14.69	25.78	50.43	4.96E+03
15	0.614	35.78	15.53	15.39	24.56	50.49	5.47E+03
16	0.614	35.29	13.92	13.12	25.67	48.06	4.02E+03
17	0.613	35.75	14.38	13.78	25.67	49.1	4.43E+03
18	0.614	36.22	14.85	14.44	25.67	50.13	4.85E+03
19	0.607	35.76	13.49	12.36	26.78	47.86	3.52E+03
20	0.612	37.04	13.51	12.5	27.89	49.27	3.62E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=20%, Kedalaman Tanah Dasar=10m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.539	32.15	16.75	9.83	25	41.94	2.20E+03
2	0.541	32.23	16.84	9.95	25	42.14	2.26E+03
3	0.532	32.99	16.59	9.69	25.89	42.65	2.15E+03
4	0.532	33.01	16.6	9.71	25.89	42.68	2.16E+03
5	0.531	33.02	16.62	9.73	25.89	42.71	2.16E+03
6	0.532	33.03	16.63	9.74	25.89	42.74	2.17E+03
7	0.532	33.04	16.64	9.76	25.89	42.76	2.18E+03
8	0.533	33.05	16.65	9.77	25.89	42.79	2.19E+03
9	0.531	32.68	16.61	9.56	25.78	42.22	2.07E+03
10	0.531	32.7	16.62	9.58	25.78	42.25	2.07E+03
11	0.531	32.71	16.63	9.6	25.78	42.28	2.08E+03
12	0.531	32.72	16.65	9.61	25.78	42.3	2.09E+03
13	0.531	32.73	16.66	9.63	25.78	42.33	2.09E+03
14	0.53	32.75	16.68	9.65	25.78	42.37	2.10E+03
15	0.534	33.67	16.59	9.54	26.78	43.18	2.06E+03
16	0.534	33.68	16.61	9.56	26.78	43.22	2.07E+03
17	0.534	33.7	16.62	9.58	26.78	43.25	2.08E+03
18	0.545	31.95	16.74	10	24.56	41.91	2.32E+03
19	0.535	33.72	16.65	9.61	26.78	43.3	2.09E+03
20	0.535	33.73	16.66	9.63	26.78	43.33	2.10E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=20%, Kedalaman Tanah Dasar=10m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.619	35.22	20.76	15.63	23.89	50.1	5.62E+03
2	0.623	35.74	21.68	16.64	23.89	51.38	6.27E+03
3	0.614	36.28	19.8	14.28	25.89	50.04	4.73E+03
4	0.618	36.75	20.28	14.95	25.89	51.07	5.17E+03
5	0.616	35.28	19.8	14.37	24.78	49.13	4.80E+03
6	0.614	35.75	20.27	15.03	24.78	50.16	5.24E+03
7	0.611	35.85	18.53	12.3	27	47.87	3.48E+03
8	0.609	36.3	19	12.95	27	48.88	3.82E+03
9	0.613	34.88	18.4	12.39	25.78	47.03	3.57E+03
10	0.613	35.34	18.86	13.04	25.78	48.06	3.98E+03
11	0.612	35.81	19.33	13.7	25.78	49.09	4.38E+03
12	0.614	36.28	19.8	14.37	25.78	50.13	4.80E+03
13	0.612	35.59	18.23	11.98	26.89	47.35	3.33E+03
14	0.607	36.04	18.69	12.62	26.89	48.35	3.66E+03
15	0.606	35.64	18.16	12.04	26.78	47.48	3.37E+03
16	0.604	35.88	18.4	12.39	26.78	48.03	3.56E+03
17	0.611	36.35	18.87	13.04	26.78	49.06	3.97E+03
18	0.615	35.62	20.37	15.17	24.56	50.13	5.32E+03
19	0.614	36.15	17.78	11.35	27.89	47.35	3.01E+03
20	0.613	36.59	18.23	11.98	27.89	48.35	3.33E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=20%, Kedalaman Tanah Dasar=15m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.539	32.15	21.75	9.83	25	41.94	2.20E+03
2	0.541	32.23	21.84	9.95	25	42.14	2.26E+03
3	0.532	32.99	21.59	9.69	25.89	42.65	2.15E+03
4	0.532	33.01	21.6	9.71	25.89	42.68	2.16E+03
5	0.531	33.02	21.62	9.73	25.89	42.71	2.16E+03
6	0.532	33.03	21.63	9.74	25.89	42.74	2.17E+03
7	0.532	33.04	21.64	9.76	25.89	42.76	2.18E+03
8	0.533	33.05	21.65	9.77	25.89	42.79	2.19E+03
9	0.531	32.68	21.61	9.56	25.78	42.22	2.07E+03
10	0.531	32.7	21.62	9.58	25.78	42.25	2.07E+03
11	0.531	32.71	21.63	9.6	25.78	42.28	2.08E+03
12	0.531	32.72	21.65	9.61	25.78	42.3	2.09E+03
13	0.531	32.73	21.66	9.63	25.78	42.33	2.09E+03
14	0.53	32.75	21.68	9.65	25.78	42.37	2.10E+03
15	0.534	33.67	21.59	9.54	26.78	43.18	2.06E+03
16	0.534	33.68	21.61	9.56	26.78	43.22	2.07E+03
17	0.534	33.7	21.62	9.58	26.78	43.25	2.08E+03
18	0.545	31.95	21.74	10	24.56	41.91	2.32E+03
19	0.535	33.72	21.65	9.61	26.78	43.3	2.09E+03
20	0.535	33.73	21.66	9.63	26.78	43.33	2.10E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=20%, Kedalaman Tanah Dasar=10m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.693	39.38	24.33	20.3	25	57.88	9.48E+03
2	0.701	38.07	24.6	21.14	22.78	57.38	1.07E+04
3	0.689	39.13	22.69	18.35	25.89	56.21	7.91E+03
4	0.69	39.62	23.18	19.03	25.89	57.23	8.49E+03
5	0.69	38.14	22.66	18.41	24.78	55.3	8.00E+03
6	0.687	38.62	23.14	19.09	24.78	56.32	8.57E+03
7	0.69	38.6	21.4	16.26	27	53.93	6.09E+03
8	0.69	39.06	21.89	16.94	27	54.94	6.62E+03
9	0.691	39.65	22.21	17.66	26.89	56.18	7.34E+03
10	0.692	38.18	21.7	17.05	25.78	54.25	6.88E+03
11	0.689	38.66	22.18	17.73	25.78	55.28	7.43E+03
12	0.687	39.14	22.66	18.41	25.78	56.3	7.99E+03
13	0.688	39.62	23.14	19.09	25.78	57.32	8.58E+03
14	0.689	38.78	21.51	16.55	26.89	54.37	6.37E+03
15	0.688	38.23	20.75	15.7	26.78	53.19	5.79E+03
16	0.689	38.7	21.22	16.38	26.78	54.22	6.34E+03
17	0.689	39.18	21.7	17.05	26.78	55.25	6.88E+03
18	0.688	38.49	23.25	19.23	24.56	56.29	8.69E+03
19	0.691	39.51	23.5	19.34	25.67	57.33	8.70E+03
20	0.69	39.31	21.03	15.88	27.89	54.37	5.86E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=20%, Kedalaman Tanah Dasar=15m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.619	35.22	25.76	15.63	23.89	50.1	5.62E+03
2	0.623	35.74	26.68	16.64	23.89	51.38	6.27E+03
3	0.614	36.28	24.8	14.28	25.89	50.04	4.73E+03
4	0.618	36.75	25.28	14.95	25.89	51.07	5.17E+03
5	0.616	35.28	24.8	14.37	24.78	49.13	4.80E+03
6	0.614	35.75	25.27	15.03	24.78	50.16	5.24E+03
7	0.611	35.85	23.53	12.3	27	47.87	3.48E+03
8	0.609	36.3	24	12.95	27	48.88	3.82E+03
9	0.613	34.88	23.4	12.39	25.78	47.03	3.57E+03
10	0.613	35.34	23.86	13.04	25.78	48.06	3.98E+03
11	0.612	35.81	24.33	13.7	25.78	49.09	4.38E+03
12	0.614	36.28	24.8	14.37	25.78	50.13	4.80E+03
13	0.612	35.59	23.23	11.98	26.89	47.35	3.33E+03
14	0.607	36.04	23.69	12.62	26.89	48.35	3.66E+03
15	0.606	35.64	23.16	12.04	26.78	47.48	3.37E+03
16	0.604	35.88	23.4	12.39	26.78	48.03	3.56E+03
17	0.611	36.35	23.87	13.04	26.78	49.06	3.97E+03
18	0.615	35.62	25.37	15.17	24.56	50.13	5.32E+03
19	0.614	36.15	22.78	11.35	27.89	47.35	3.01E+03
20	0.613	36.59	23.23	11.98	27.89	48.35	3.33E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=20%, Kedalaman Tanah Dasar=15m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.693	39.38	29.33	20.3	25	57.88	9.48E+03
2	0.701	38.07	29.6	21.14	22.78	57.38	1.07E+04
3	0.689	39.13	27.69	18.35	25.89	56.21	7.91E+03
4	0.69	39.62	28.18	19.03	25.89	57.23	8.49E+03
5	0.69	38.14	27.66	18.41	24.78	55.3	8.00E+03
6	0.687	38.62	28.14	19.09	24.78	56.32	8.58E+03
7	0.69	38.6	26.4	16.26	27	53.93	6.09E+03
8	0.69	39.06	26.89	16.94	27	54.94	6.62E+03
9	0.691	39.65	27.21	17.66	26.89	56.18	7.34E+03
10	0.692	38.18	26.7	17.05	25.78	54.25	6.88E+03
11	0.689	38.66	27.18	17.73	25.78	55.28	7.43E+03
12	0.687	39.14	27.66	18.41	25.78	56.3	7.99E+03
13	0.688	39.62	28.14	19.09	25.78	57.32	8.58E+03
14	0.689	38.78	26.51	16.55	26.89	54.37	6.37E+03
15	0.688	38.23	25.75	15.7	26.78	53.19	5.79E+03
16	0.689	38.7	26.22	16.38	26.78	54.22	6.34E+03
17	0.689	39.18	26.7	17.05	26.78	55.25	6.88E+03
18	0.688	38.49	28.25	19.23	24.56	56.29	8.69E+03
19	0.691	39.51	28.5	19.34	25.67	57.33	8.70E+03
20	0.69	39.31	26.03	15.88	27.89	54.37	5.86E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=20%, Kedalaman Tanah Dasar=20m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.619	35.22	30.76	15.63	23.89	50.1	5.62E+03
2	0.623	35.74	31.68	16.64	23.89	51.38	6.27E+03
3	0.614	36.28	29.8	14.28	25.89	50.04	4.73E+03
4	0.618	36.75	30.28	14.95	25.89	51.07	5.17E+03
5	0.616	35.28	29.8	14.37	24.78	49.13	4.80E+03
6	0.614	35.75	30.27	15.03	24.78	50.16	5.24E+03
7	0.611	35.85	28.53	12.3	27	47.87	3.48E+03
8	0.609	36.3	29	12.95	27	48.88	3.82E+03
9	0.613	34.88	28.4	12.39	25.78	47.03	3.57E+03
10	0.613	35.34	28.86	13.04	25.78	48.06	3.98E+03
11	0.612	35.81	29.33	13.7	25.78	49.09	4.38E+03
12	0.614	36.28	29.8	14.37	25.78	50.13	4.80E+03
13	0.612	35.59	28.23	11.98	26.89	47.35	3.33E+03
14	0.607	36.04	28.69	12.62	26.89	48.35	3.66E+03
15	0.606	35.64	28.16	12.04	26.78	47.48	3.37E+03
16	0.604	35.88	28.4	12.39	26.78	48.03	3.56E+03
17	0.611	36.35	28.87	13.04	26.78	49.06	3.97E+03
18	0.615	35.62	30.37	15.17	24.56	50.13	5.32E+03
19	0.614	36.15	27.78	11.35	27.89	47.35	3.01E+03
20	0.613	36.59	28.23	11.98	27.89	48.35	3.33E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=20%, Kedalaman Tanah Dasar=20m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.539	32.15	26.75	9.83	25	41.94	2.20E+03
2	0.541	32.23	26.84	9.95	25	42.14	2.26E+03
3	0.532	32.99	26.59	9.69	25.89	42.65	2.15E+03
4	0.532	33.01	26.6	9.71	25.89	42.68	2.16E+03
5	0.531	33.02	26.62	9.73	25.89	42.71	2.16E+03
6	0.532	33.03	26.63	9.74	25.89	42.74	2.17E+03
7	0.532	33.04	26.64	9.76	25.89	42.76	2.18E+03
8	0.533	33.05	26.65	9.77	25.89	42.79	2.19E+03
9	0.531	32.68	26.61	9.56	25.78	42.22	2.07E+03
10	0.531	32.7	26.62	9.58	25.78	42.25	2.07E+03
11	0.531	32.71	26.63	9.6	25.78	42.28	2.08E+03
12	0.531	32.72	26.65	9.61	25.78	42.3	2.09E+03
13	0.531	32.73	26.66	9.63	25.78	42.33	2.09E+03
14	0.53	32.75	26.68	9.65	25.78	42.37	2.10E+03
15	0.534	33.67	26.59	9.54	26.78	43.18	2.06E+03
16	0.534	33.68	26.61	9.56	26.78	43.22	2.07E+03
17	0.534	33.7	26.62	9.58	26.78	43.25	2.08E+03
18	0.545	31.95	26.73	10	24.56	41.91	2.32E+03
19	0.535	33.72	26.65	9.61	26.78	43.3	2.09E+03
20	0.535	33.73	26.66	9.63	26.78	43.33	2.10E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=20%, Kedalaman Tanah Dasar=20m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.693	39.38	34.33	20.3	25	57.88	9.48E+03
2	0.701	38.07	34.6	21.14	22.78	57.38	1.07E+04
3	0.689	39.13	32.69	18.35	25.89	56.21	7.91E+03
4	0.69	39.62	33.18	19.03	25.89	57.23	8.49E+03
5	0.69	38.14	32.66	18.41	24.78	55.3	8.00E+03
6	0.687	38.62	33.14	19.09	24.78	56.32	8.58E+03
7	0.69	38.6	31.4	16.26	27	53.93	6.09E+03
8	0.69	39.06	31.89	16.94	27	54.94	6.62E+03
9	0.691	39.65	32.21	17.66	26.89	56.18	7.34E+03
10	0.692	38.18	31.7	17.05	25.78	54.25	6.88E+03
11	0.689	38.66	32.18	17.73	25.78	55.28	7.43E+03
12	0.687	39.14	32.66	18.41	25.78	56.3	7.99E+03
13	0.688	39.62	33.14	19.09	25.78	57.32	8.58E+03
14	0.689	38.78	31.51	16.55	26.89	54.37	6.37E+03
15	0.688	38.23	30.75	15.7	26.78	53.19	5.79E+03
16	0.689	38.7	31.22	16.38	26.78	54.22	6.34E+03
17	0.689	39.18	31.7	17.05	26.78	55.25	6.88E+03
18	0.688	38.49	33.25	19.23	24.56	56.29	8.69E+03
19	0.691	39.51	33.5	19.34	25.67	57.33	8.70E+03
20	0.69	39.31	31.03	15.88	27.89	54.37	5.86E+03

LAMPIRAN 8-2

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=40%, Kedalaman Tanah Dasar=5m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.521	32.15	11.75	9.83	25	41.94	2.13E+03
2	0.532	31.96	12.71	11.16	23.89	42.98	2.73E+03
3	0.514	32.99	11.59	9.69	25.89	42.65	2.08E+03
4	0.521	33.18	12.7	11.4	24.78	44.44	2.86E+03
5	0.522	33.34	12.86	11.62	24.78	44.81	2.97E+03
6	0.514	33.03	11.63	9.74	25.89	42.74	2.10E+03
7	0.524	31.94	11.65	9.77	24.78	41.68	2.12E+03
8	0.518	33.15	11.87	9.99	25.89	43.1	2.20E+03
9	0.515	32.68	11.61	9.56	25.78	42.22	2.01E+03
10	0.515	32.7	11.62	9.58	25.78	42.25	2.01E+03
11	0.514	32.91	11.62	9.73	25.78	42.6	2.09E+03
12	0.515	32.72	11.65	9.61	25.78	42.3	2.03E+03
13	0.515	32.73	11.66	9.63	25.78	42.33	2.03E+03
14	0.52	32.75	12.4	10.96	24.67	43.61	2.65E+03
15	0.518	33.67	11.59	9.54	26.78	43.18	2.00E+03
16	0.519	33.68	11.61	9.56	26.78	43.22	2.01E+03
17	0.519	33.7	11.62	9.58	26.78	43.25	2.02E+03
18	0.519	33.71	11.63	9.6	26.78	43.28	2.02E+03
19	0.519	33.72	11.65	9.61	26.78	43.3	2.03E+03
20	0.519	33.73	11.66	9.63	26.78	43.33	2.04E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=40%, Kedalaman Tanah Dasar=5m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.699	36.34	16.34	16.04	25	51.45	5.68E+03
2	0.671	37.19	17.48	17.45	25	53.38	6.56E+03
3	0.659	38.44	16.13	15.97	27	53.55	5.63E+03
4	0.654	38.73	16.46	16.4	27	54.19	5.91E+03
5	0.662	37.63	16.44	16.4	25.89	53.09	5.92E+03
6	0.663	38.52	16.6	16.35	27	53.87	5.83E+03
7	0.656	38.78	16.7	16.6	27	54.36	6.02E+03
8	0.652	38.7	16.23	16.22	27	54.04	5.81E+03
9	0.664	38.97	15.64	15.28	28	53.52	5.19E+03
10	0.658	39.44	16.13	15.96	28	54.55	5.63E+03
11	0.655	38.6	16.41	16.35	26.89	54.03	5.88E+03
12	0.654	38.63	16.44	16.4	26.89	54.09	5.91E+03
13	0.654	38.37	15.8	15.77	26.89	53.38	5.55E+03
14	0.659	39.78	16.7	16.6	28	55.36	6.02E+03
15	0.673	38.01	16.53	16.1	26.78	53.13	5.64E+03
16	0.663	37.9	17.63	17.58	25.67	54.18	6.63E+03
17	0.665	39.91	15.23	14.95	29	54.24	5.04E+03
18	0.656	39.6	16.41	16.35	27.89	55.03	5.88E+03
19	0.654	39.31	15.74	15.67	27.89	54.24	5.49E+03
20	0.653	39.37	15.8	15.77	27.89	54.38	5.55E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=40%, Kedalaman Tanah Dasar=5m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.594	35.13	14.89	14.15	25	48.73	4.39E+03
2	0.61	34.09	15.09	14.35	23.89	47.84	4.51E+03
3	0.584	35.72	14.17	13.45	25.89	48.78	4.02E+03
4	0.585	36.2	14.66	14.13	25.89	49.85	4.42E+03
5	0.585	35.52	15.06	14.72	24.78	49.67	4.79E+03
6	0.583	36.23	13.86	12.79	27	48.69	3.59E+03
7	0.59	35.36	15.18	14.69	24.78	49.43	4.73E+03
8	0.591	35.24	16.2	16.11	23.67	50.48	5.63E+03
9	0.584	36.13	14.65	14.15	25.78	49.8	4.44E+03
10	0.586	36.6	15.12	14.82	25.78	50.83	4.85E+03
11	0.586	35.76	13.56	12.33	26.89	47.81	3.35E+03
12	0.582	36.03	13.7	12.62	26.89	48.36	3.51E+03
13	0.579	36.04	13.51	12.5	26.89	48.27	3.46E+03
14	0.589	36.36	15.18	14.69	25.78	50.43	4.73E+03
15	0.585	35.78	15.53	15.39	24.56	50.49	5.21E+03
16	0.586	35.37	15.11	14.81	24.56	49.59	4.85E+03
17	0.585	35.75	14.38	13.78	25.67	49.1	4.22E+03
18	0.585	36.22	14.85	14.44	25.67	50.13	4.62E+03
19	0.582	35.76	13.49	12.36	26.78	47.86	3.37E+03
20	0.585	35.51	14.18	13.46	25.67	48.59	4.03E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=40%, Kedalaman Tanah Dasar=10m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.521	32.15	16.75	9.83	25	41.94	2.13E+03
2	0.522	32.23	16.84	9.95	25	42.14	2.19E+03
3	0.514	32.99	16.59	9.69	25.89	42.65	2.08E+03
4	0.514	33.01	16.6	9.71	25.89	42.68	2.08E+03
5	0.513	33.02	16.62	9.73	25.89	42.71	2.09E+03
6	0.514	33.03	16.63	9.74	25.89	42.74	2.10E+03
7	0.514	33.04	16.64	9.76	25.89	42.76	2.10E+03
8	0.514	33.05	16.65	9.77	25.89	42.79	2.11E+03
9	0.515	32.68	16.61	9.56	25.78	42.22	2.01E+03
10	0.515	32.7	16.62	9.58	25.78	42.25	2.01E+03
11	0.515	32.71	16.63	9.6	25.78	42.28	2.02E+03
12	0.515	32.72	16.65	9.61	25.78	42.3	2.03E+03
13	0.515	32.73	16.66	9.63	25.78	42.33	2.03E+03
14	0.515	32.75	16.68	9.65	25.78	42.37	2.04E+03
15	0.518	33.67	16.59	9.54	26.78	43.18	2.00E+03
16	0.519	33.68	16.61	9.56	26.78	43.22	2.01E+03
17	0.519	33.7	16.62	9.58	26.78	43.25	2.02E+03
18	0.524	33.32	18.12	11.94	24.56	45.07	3.12E+03
19	0.519	33.72	16.65	9.61	26.78	43.3	2.03E+03
20	0.519	33.73	16.66	9.63	26.78	43.33	2.04E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=40%, Kedalaman Tanah Dasar=10m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.589	35.22	20.76	15.63	23.89	50.1	5.35E+03
2	0.593	35.74	21.68	16.64	23.89	51.38	5.96E+03
3	0.586	36.28	19.8	14.28	25.89	50.04	4.51E+03
4	0.589	36.75	20.28	14.95	25.89	51.07	4.92E+03
5	0.587	35.28	19.8	14.37	24.78	49.13	4.58E+03
6	0.585	35.75	20.27	15.03	24.78	50.16	4.99E+03
7	0.585	36.23	20.75	15.7	24.78	51.19	5.41E+03
8	0.584	36.3	19	12.95	27	48.88	3.66E+03
9	0.587	34.88	18.4	12.39	25.78	47.03	3.42E+03
10	0.586	35.34	18.86	13.04	25.78	48.06	3.80E+03
11	0.584	35.81	19.33	13.7	25.78	49.09	4.18E+03
12	0.585	36.28	19.8	14.37	25.78	50.13	4.58E+03
13	0.587	35.59	18.23	11.98	26.89	47.35	3.19E+03
14	0.582	36.04	18.69	12.62	26.89	48.35	3.51E+03
15	0.58	35.64	18.16	12.04	26.78	47.48	3.23E+03
16	0.578	35.88	18.4	12.39	26.78	48.03	3.41E+03
17	0.584	36.35	18.87	13.04	26.78	49.06	3.80E+03
18	0.585	35.62	20.37	15.17	24.56	50.13	5.07E+03
19	0.585	36.09	20.85	15.84	24.56	51.16	5.50E+03
20	0.588	36.59	18.23	11.98	27.89	48.35	3.19E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=40%, Kedalaman Tanah Dasar=15m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.521	32.15	21.75	9.83	25	41.94	2.13E+03
2	0.522	32.23	21.84	9.95	25	42.14	2.19E+03
3	0.514	32.99	21.59	9.69	25.89	42.65	2.08E+03
4	0.514	33.01	21.6	9.71	25.89	42.68	2.08E+03
5	0.513	33.02	21.62	9.73	25.89	42.71	2.09E+03
6	0.514	33.03	21.63	9.74	25.89	42.74	2.10E+03
7	0.514	33.04	21.64	9.76	25.89	42.76	2.10E+03
8	0.514	33.05	21.65	9.77	25.89	42.79	2.11E+03
9	0.515	32.68	21.61	9.56	25.78	42.22	2.01E+03
10	0.515	32.7	21.62	9.58	25.78	42.25	2.01E+03
11	0.515	32.71	21.63	9.6	25.78	42.28	2.02E+03
12	0.515	32.72	21.65	9.61	25.78	42.3	2.03E+03
13	0.515	32.73	21.66	9.63	25.78	42.33	2.03E+03
14	0.515	32.75	21.68	9.65	25.78	42.37	2.04E+03
15	0.518	33.67	21.59	9.54	26.78	43.18	2.00E+03
16	0.519	33.68	21.61	9.56	26.78	43.22	2.01E+03
17	0.519	33.7	21.62	9.58	26.78	43.25	2.02E+03
18	0.524	33.32	23.12	11.94	24.56	45.07	3.12E+03
19	0.519	33.72	21.65	9.61	26.78	43.3	2.03E+03
20	0.519	33.73	21.66	9.63	26.78	43.33	2.04E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=40%, Kedalaman Tanah Dasar=10m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.652	39.38	24.33	20.3	25	57.88	8.92E+03
2	0.657	38.07	24.6	21.14	22.78	57.38	9.99E+03
3	0.65	39.13	22.69	18.35	25.89	56.21	7.46E+03
4	0.65	39.62	23.18	19.03	25.89	57.23	8.00E+03
5	0.65	38.14	22.66	18.41	24.78	55.3	7.54E+03
6	0.646	38.62	23.14	19.09	24.78	56.32	8.07E+03
7	0.651	39.1	23.63	19.77	24.78	57.34	8.71E+03
8	0.654	39.59	24.11	20.46	24.78	58.36	9.35E+03
9	0.653	39.65	22.21	17.66	26.89	56.18	6.94E+03
10	0.652	38.78	23.95	19.85	24.67	56.96	8.58E+03
11	0.65	38.66	22.18	17.73	25.78	55.28	7.01E+03
12	0.648	39.14	22.66	18.41	25.78	56.3	7.53E+03
13	0.647	39.62	23.14	19.09	25.78	57.32	8.07E+03
14	0.655	38.78	21.51	16.55	26.89	54.37	6.05E+03
15	0.652	38.96	23.7	19.88	24.56	57.28	8.82E+03
16	0.653	39.3	23.45	19.15	25.67	56.94	8.02E+03
17	0.651	38.01	22.77	18.54	24.56	55.27	7.64E+03
18	0.647	38.49	23.25	19.23	24.56	56.29	8.18E+03
19	0.651	39.51	23.5	19.34	25.67	57.33	8.20E+03
20	0.654	37.95	22.93	18.62	24.56	55.23	7.65E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=40%, Kedalaman Tanah Dasar=15m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.589	35.22	25.76	15.63	23.89	50.1	5.35E+03
2	0.593	35.74	26.68	16.64	23.89	51.38	5.96E+03
3	0.586	36.28	24.8	14.28	25.89	50.04	4.51E+03
4	0.589	36.75	25.28	14.95	25.89	51.07	4.92E+03
5	0.587	35.28	24.8	14.37	24.78	49.13	4.58E+03
6	0.585	35.75	25.27	15.03	24.78	50.16	4.99E+03
7	0.585	36.23	25.75	15.7	24.78	51.19	5.41E+03
8	0.584	36.3	24	12.95	27	48.88	3.66E+03
9	0.587	34.88	23.4	12.39	25.78	47.03	3.42E+03
10	0.586	35.34	23.86	13.04	25.78	48.06	3.80E+03
11	0.584	35.81	24.33	13.7	25.78	49.09	4.18E+03
12	0.585	36.28	24.8	14.37	25.78	50.13	4.58E+03
13	0.587	35.59	23.23	11.98	26.89	47.35	3.19E+03
14	0.582	36.04	23.69	12.62	26.89	48.35	3.51E+03
15	0.58	35.64	23.16	12.04	26.78	47.48	3.23E+03
16	0.578	35.88	23.4	12.39	26.78	48.03	3.41E+03
17	0.584	36.35	23.87	13.04	26.78	49.06	3.80E+03
18	0.585	35.62	25.37	15.17	24.56	50.13	5.07E+03
19	0.585	36.09	25.85	15.84	24.56	51.16	5.50E+03
20	0.588	36.59	23.23	11.98	27.89	48.35	3.19E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=40%, Kedalaman Tanah Dasar=15m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.652	39.38	29.33	20.3	25	57.88	8.92E+03
2	0.657	38.07	29.6	21.14	22.78	57.38	9.99E+03
3	0.65	39.13	27.69	18.35	25.89	56.21	7.46E+03
4	0.65	39.62	28.18	19.03	25.89	57.23	8.00E+03
5	0.65	38.14	27.66	18.41	24.78	55.3	7.54E+03
6	0.646	38.62	28.14	19.09	24.78	56.32	8.07E+03
7	0.651	39.1	28.63	19.77	24.78	57.34	8.71E+03
8	0.654	39.59	29.11	20.46	24.78	58.36	9.35E+03
9	0.653	39.65	27.21	17.66	26.89	56.18	6.94E+03
10	0.652	38.78	28.95	19.85	24.67	56.96	8.58E+03
11	0.65	38.66	27.18	17.73	25.78	55.28	7.01E+03
12	0.648	39.14	27.66	18.41	25.78	56.3	7.53E+03
13	0.647	39.62	28.14	19.09	25.78	57.32	8.07E+03
14	0.655	38.78	26.51	16.55	26.89	54.37	6.05E+03
15	0.652	38.96	28.7	19.88	24.56	57.28	8.82E+03
16	0.653	39.3	28.45	19.15	25.67	56.94	8.02E+03
17	0.651	38.01	27.77	18.54	24.56	55.27	7.64E+03
18	0.647	38.49	28.25	19.23	24.56	56.29	8.18E+03
19	0.651	39.51	28.5	19.34	25.67	57.33	8.20E+03
20	0.654	37.95	27.93	18.62	24.56	55.23	7.65E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=40%, Kedalaman Tanah Dasar=20m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.589	35.22	30.76	15.63	23.89	50.1	5.35E+03
2	0.593	35.74	31.68	16.64	23.89	51.38	5.96E+03
3	0.586	36.28	29.8	14.28	25.89	50.04	4.51E+03
4	0.589	36.75	30.28	14.95	25.89	51.07	4.92E+03
5	0.587	35.28	29.8	14.37	24.78	49.13	4.58E+03
6	0.585	35.75	30.27	15.03	24.78	50.16	4.99E+03
7	0.585	36.23	30.75	15.7	24.78	51.19	5.41E+03
8	0.584	36.3	29	12.95	27	48.88	3.66E+03
9	0.587	34.88	28.4	12.39	25.78	47.03	3.42E+03
10	0.586	35.34	28.86	13.04	25.78	48.06	3.80E+03
11	0.584	35.81	29.33	13.7	25.78	49.09	4.18E+03
12	0.585	36.28	29.8	14.37	25.78	50.13	4.58E+03
13	0.587	35.59	28.23	11.98	26.89	47.35	3.19E+03
14	0.582	36.04	28.69	12.62	26.89	48.35	3.51E+03
15	0.58	35.64	28.16	12.04	26.78	47.48	3.23E+03
16	0.578	35.88	28.4	12.39	26.78	48.03	3.41E+03
17	0.584	36.35	28.87	13.04	26.78	49.06	3.80E+03
18	0.585	35.62	30.37	15.17	24.56	50.13	5.07E+03
19	0.585	36.09	30.85	15.84	24.56	51.16	5.50E+03
20	0.588	36.59	28.23	11.98	27.89	48.35	3.19E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=40%, Kedalaman Tanah Dasar=20m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.521	32.15	26.75	9.83	25	41.94	2.13E+03
2	0.522	32.23	26.84	9.95	25	42.14	2.19E+03
3	0.514	32.99	26.59	9.69	25.89	42.65	2.08E+03
4	0.514	33.01	26.6	9.71	25.89	42.68	2.08E+03
5	0.513	33.02	26.62	9.73	25.89	42.71	2.09E+03
6	0.514	33.03	26.63	9.74	25.89	42.74	2.10E+03
7	0.514	33.04	26.64	9.76	25.89	42.76	2.10E+03
8	0.514	33.05	26.65	9.77	25.89	42.79	2.11E+03
9	0.515	32.68	26.61	9.56	25.78	42.22	2.01E+03
10	0.515	32.7	26.62	9.58	25.78	42.25	2.01E+03
11	0.515	32.71	26.63	9.6	25.78	42.28	2.02E+03
12	0.515	32.72	26.65	9.61	25.78	42.3	2.03E+03
13	0.515	32.73	26.66	9.63	25.78	42.33	2.03E+03
14	0.515	32.75	26.68	9.65	25.78	42.37	2.04E+03
15	0.518	33.67	26.59	9.54	26.78	43.18	2.00E+03
16	0.519	33.68	26.61	9.56	26.78	43.22	2.01E+03
17	0.519	33.7	26.62	9.58	26.78	43.25	2.02E+03
18	0.524	33.32	28.12	11.94	24.56	45.07	3.12E+03
19	0.519	33.72	26.65	9.61	26.78	43.3	2.03E+03
20	0.519	33.73	26.66	9.63	26.78	43.33	2.04E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=40%, Kedalaman Tanah Dasar=20m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.652	39.38	34.33	20.3	25	57.88	8.92E+03
2	0.657	38.07	34.6	21.14	22.78	57.38	9.99E+03
3	0.65	39.13	32.69	18.35	25.89	56.21	7.46E+03
4	0.65	39.62	33.18	19.03	25.89	57.23	8.00E+03
5	0.65	38.14	32.66	18.41	24.78	55.3	7.54E+03
6	0.646	38.62	33.14	19.09	24.78	56.32	8.07E+03
7	0.651	39.1	33.63	19.77	24.78	57.34	8.71E+03
8	0.654	39.59	34.11	20.46	24.78	58.36	9.35E+03
9	0.653	39.65	32.21	17.66	26.89	56.18	6.94E+03
10	0.652	38.78	33.95	19.85	24.67	56.96	8.58E+03
11	0.65	38.66	32.18	17.73	25.78	55.28	7.01E+03
12	0.648	39.14	32.66	18.41	25.78	56.3	7.53E+03
13	0.647	39.62	33.14	19.09	25.78	57.32	8.07E+03
14	0.655	38.78	31.51	16.55	26.89	54.37	6.05E+03
15	0.652	38.96	33.7	19.88	24.56	57.28	8.82E+03
16	0.653	39.3	33.45	19.15	25.67	56.94	8.02E+03
17	0.651	38.01	32.77	18.54	24.56	55.27	7.64E+03
18	0.647	38.49	33.25	19.23	24.56	56.29	8.18E+03
19	0.651	39.51	33.5	19.34	25.67	57.33	8.20E+03
20	0.654	37.95	32.93	18.62	24.56	55.23	7.65E+03

LAMPIRAN 8-3

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=60%, Kedalaman Tanah Dasar=5m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.502	32.15	11.75	9.83	25	41.94	2.05E+03
2	0.509	33.45	13.9	13.06	23.89	46.17	3.55E+03
3	0.495	32.99	11.59	9.69	25.89	42.65	2.00E+03
4	0.498	33.18	12.7	11.4	24.78	44.44	2.73E+03
5	0.499	33.34	12.86	11.62	24.78	44.81	2.84E+03
6	0.495	33.03	11.63	9.74	25.89	42.74	2.02E+03
7	0.501	32.82	13.45	12.46	23.67	45.03	3.23E+03
8	0.499	33.15	11.87	9.99	25.89	43.1	2.12E+03
9	0.498	32.68	11.61	9.56	25.78	42.22	1.94E+03
10	0.498	32.7	11.62	9.58	25.78	42.25	1.95E+03
11	0.494	32.91	11.62	9.73	25.78	42.6	2.01E+03
12	0.498	32.72	11.65	9.61	25.78	42.3	1.96E+03
13	0.498	32.73	11.66	9.63	25.78	42.33	1.96E+03
14	0.497	32.75	12.4	10.96	24.67	43.61	2.54E+03
15	0.499	32.83	12.63	11.26	24.56	43.96	2.67E+03
16	0.498	32.98	12.73	11.43	24.56	44.27	2.74E+03
17	0.5	33.17	12.96	11.73	24.56	44.72	2.88E+03
18	0.5	33.28	13.03	11.86	24.56	44.96	2.95E+03
19	0.5	33.42	13.18	12.06	24.56	45.28	3.03E+03
20	0.501	32.43	12.31	10.75	24.56	43.09	2.45E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=60%, Kedalaman Tanah Dasar=5m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.564	35.13	14.89	14.15	25	48.73	4.17E+03
2	0.58	34.09	15.09	14.35	23.89	47.84	4.29E+03
3	0.553	35.6	15.12	14.82	24.78	49.83	4.59E+03
4	0.552	36.08	15.59	15.49	24.78	50.86	4.98E+03
5	0.553	36.09	15.66	15.55	24.78	50.91	5.01E+03
6	0.557	36.23	13.86	12.79	27	48.69	3.43E+03
7	0.559	35.36	15.18	14.69	24.78	49.43	4.49E+03
8	0.559	35.24	16.2	16.11	23.67	50.48	5.32E+03
9	0.553	36.13	14.65	14.15	25.78	49.8	4.21E+03
10	0.554	36.6	15.12	14.82	25.78	50.83	4.59E+03
11	0.556	35.22	14.85	14.44	24.67	49.13	4.38E+03
12	0.554	35.47	15.1	14.79	24.67	49.67	4.57E+03
13	0.553	36.04	13.51	12.5	26.89	48.27	3.30E+03
14	0.558	36.36	15.18	14.69	25.78	50.43	4.48E+03
15	0.552	35.78	15.53	15.39	24.56	50.49	4.92E+03
16	0.555	35.37	15.11	14.81	24.56	49.59	4.58E+03
17	0.553	35.85	15.59	15.48	24.56	50.63	4.98E+03
18	0.554	36.22	14.85	14.44	25.67	50.13	4.37E+03
19	0.552	36.11	15.85	15.85	24.56	51.2	5.20E+03
20	0.555	35.31	15.07	14.74	24.56	49.47	4.54E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=60%, Kedalaman Tanah Dasar=5m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.663	36.34	16.34	16.04	25	51.45	5.39E+03
2	0.635	37.19	17.48	17.45	25	53.38	6.20E+03
3	0.624	38.44	16.13	15.97	27	53.55	5.33E+03
4	0.619	38.73	16.46	16.4	27	54.19	5.59E+03
5	0.626	37.63	16.44	16.4	25.89	53.09	5.60E+03
6	0.628	38.52	16.6	16.35	27	53.87	5.52E+03
7	0.621	38.78	16.7	16.6	27	54.36	5.69E+03
8	0.617	38.7	16.23	16.22	27	54.04	5.49E+03
9	0.629	38.97	15.64	15.28	28	53.52	4.92E+03
10	0.623	39.44	16.13	15.96	28	54.55	5.33E+03
11	0.619	39.45	15.85	15.77	28	54.45	5.24E+03
12	0.619	38.63	16.44	16.4	26.89	54.09	5.59E+03
13	0.618	38.37	15.8	15.77	26.89	53.38	5.24E+03
14	0.624	39.78	16.7	16.6	28	55.36	5.70E+03
15	0.639	38.01	16.53	16.1	26.78	53.13	5.35E+03
16	0.627	37.9	17.63	17.58	25.67	54.18	6.27E+03
17	0.629	39.91	15.23	14.95	29	54.24	4.77E+03
18	0.62	39.6	16.41	16.35	27.89	55.03	5.56E+03
19	0.618	39.31	15.74	15.67	27.89	54.24	5.19E+03
20	0.617	39.37	15.8	15.77	27.89	54.38	5.24E+03
21	0.626	37.73	16.46	16.4	26	53.19	5.60E+03
22	0.624	38.19	17.48	17.45	26	54.38	6.19E+03
23	0.622	39.19	17.48	17.45	27	55.38	6.18E+03
24	0.626	37.99	17.1	17.04	26	53.89	5.95E+03
25	0.624	37.7	16.23	16.22	26	53.04	5.50E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=60%, Kedalaman Tanah Dasar=10m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.502	32.15	16.75	9.83	25	41.94	2.05E+03
2	0.503	32.23	16.84	9.95	25	42.14	2.11E+03
3	0.495	32.99	16.59	9.69	25.89	42.65	2.00E+03
4	0.494	33.01	16.6	9.71	25.89	42.68	2.00E+03
5	0.494	33.02	16.62	9.73	25.89	42.71	2.01E+03
6	0.495	33.03	16.63	9.74	25.89	42.74	2.02E+03
7	0.495	33.04	16.64	9.76	25.89	42.76	2.02E+03
8	0.495	33.05	16.65	9.77	25.89	42.79	2.03E+03
9	0.498	32.68	16.61	9.56	25.78	42.22	1.94E+03
10	0.498	32.7	16.62	9.58	25.78	42.25	1.95E+03
11	0.498	32.71	16.63	9.6	25.78	42.28	1.95E+03
12	0.498	32.72	16.65	9.61	25.78	42.3	1.96E+03
13	0.498	32.73	16.66	9.63	25.78	42.33	1.96E+03
14	0.498	32.75	16.68	9.65	25.78	42.37	1.97E+03
15	0.499	32.83	17.63	11.26	24.56	43.96	2.67E+03
16	0.498	33	17.8	11.5	24.56	44.35	2.77E+03
17	0.5	33.17	17.96	11.73	24.56	44.72	2.88E+03
18	0.501	33.32	18.12	11.94	24.56	45.07	2.98E+03
19	0.5	33.42	18.18	12.06	24.56	45.28	3.03E+03
20	0.501	32.43	17.31	10.75	24.56	43.09	2.45E+03
21	0.582	34.12	27.56	25.16	16.11	56.46	1.30E+04
22	0.611	36.23	29.41	27.95	16.11	60.75	1.64E+04
23	0.609	35.2	30.39	29.33	14.11	60.75	1.80E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=60%, Kedalaman Tanah Dasar=10m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.557	35.22	20.76	15.63	23.89	50.1	5.06E+03
2	0.56	35.74	21.68	16.64	23.89	51.38	5.63E+03
3	0.555	36.28	19.8	14.28	25.89	50.04	4.27E+03
4	0.557	36.75	20.28	14.95	25.89	51.07	4.66E+03
5	0.556	35.28	19.8	14.37	24.78	49.13	4.34E+03
6	0.553	35.75	20.27	15.03	24.78	50.16	4.72E+03
7	0.553	36.23	20.75	15.7	24.78	51.19	5.11E+03
8	0.558	36.3	19	12.95	27	48.88	3.50E+03
9	0.558	35.57	21.31	16.5	23.56	51.19	5.66E+03
10	0.557	35.34	18.86	13.04	25.78	48.06	3.61E+03
11	0.554	35.81	19.33	13.7	25.78	49.09	3.96E+03
12	0.554	36.28	19.8	14.37	25.78	50.13	4.33E+03
13	0.555	36.75	20.27	15.03	25.78	51.16	4.72E+03
14	0.556	36.04	18.69	12.62	26.89	48.35	3.35E+03
15	0.552	36.1	20.84	15.83	24.56	51.17	5.19E+03
16	0.552	35.88	18.4	12.39	26.78	48.03	3.25E+03
17	0.555	36.35	18.87	13.04	26.78	49.06	3.61E+03
18	0.553	35.62	20.37	15.17	24.56	50.13	4.79E+03
19	0.552	36.09	20.85	15.84	24.56	51.16	5.19E+03
20	0.558	35.32	21.17	16.31	23.44	50.78	5.53E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=60%, Kedalaman Tanah Dasar=10m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.61	39.31	24.72	21.32	23.89	58.76	9.45E+03
2	0.611	38.07	24.6	21.14	22.78	57.38	9.29E+03
3	0.609	39.31	24.94	21.63	23.67	59	9.70E+03
4	0.61	38.41	25.14	21.92	22.56	58.32	9.97E+03
5	0.609	38.89	25.63	22.6	22.56	59.34	1.06E+04
6	0.607	38.62	23.14	19.09	24.78	56.32	7.57E+03
7	0.608	39.1	23.63	19.77	24.78	57.34	8.14E+03
8	0.61	39.59	24.11	20.46	24.78	58.36	8.71E+03
9	0.61	38.44	24.18	20.56	23.56	57.29	8.80E+03
10	0.609	38.92	24.66	21.24	23.56	58.31	9.37E+03
11	0.61	39.41	25.14	21.92	23.56	59.32	9.96E+03
12	0.608	39.14	22.66	18.41	25.78	56.3	7.08E+03
13	0.607	39.62	23.14	19.09	25.78	57.32	7.57E+03
14	0.61	38.94	24.7	21.28	23.56	58.35	9.40E+03
15	0.609	38.96	23.7	19.88	24.56	57.28	8.23E+03
16	0.61	39.44	24.18	20.56	24.56	58.29	8.80E+03
17	0.61	39.13	25.09	21.77	23.44	58.91	9.80E+03
18	0.607	38.49	23.25	19.23	24.56	56.29	7.68E+03
19	0.609	38.97	23.73	19.91	24.56	57.31	8.25E+03
20	0.61	39.45	24.22	20.59	24.56	58.33	8.82E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=60%, Kedalaman Tanah Dasar=15m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.502	32.15	21.75	9.83	25	41.94	2.05E+03
2	0.503	32.23	21.84	9.95	25	42.14	2.11E+03
3	0.495	32.99	21.59	9.69	25.89	42.65	2.00E+03
4	0.494	33.01	21.6	9.71	25.89	42.68	2.00E+03
5	0.494	33.02	21.62	9.73	25.89	42.71	2.01E+03
6	0.495	33.03	21.63	9.74	25.89	42.74	2.02E+03
7	0.495	33.04	21.64	9.76	25.89	42.76	2.02E+03
8	0.495	33.05	21.65	9.77	25.89	42.79	2.03E+03
9	0.498	32.68	21.61	9.56	25.78	42.22	1.94E+03
10	0.498	32.7	21.62	9.58	25.78	42.25	1.95E+03
11	0.498	32.71	21.63	9.6	25.78	42.28	1.95E+03
12	0.498	32.72	21.65	9.61	25.78	42.3	1.96E+03
13	0.498	32.73	21.66	9.63	25.78	42.33	1.96E+03
14	0.498	32.75	21.68	9.65	25.78	42.37	1.97E+03
15	0.499	32.83	22.63	11.26	24.56	43.96	2.67E+03
16	0.498	33	22.8	11.5	24.56	44.35	2.77E+03
17	0.5	33.17	22.96	11.73	24.56	44.72	2.88E+03
18	0.501	33.32	23.12	11.94	24.56	45.07	2.98E+03
19	0.5	33.42	23.18	12.06	24.56	45.28	3.03E+03
20	0.501	32.43	22.31	10.75	24.56	43.09	2.45E+03
21	0.582	34.12	32.56	25.16	16.11	56.46	1.30E+04
22	0.61	36.06	34.53	27.91	16.11	60.47	1.62E+04
23	0.61	35.03	35.51	29.3	14.11	60.47	1.78E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=60%, Kedalaman Tanah Dasar=15m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.557	35.22	25.76	15.63	23.89	50.1	5.06E+03
2	0.56	35.74	26.68	16.64	23.89	51.38	5.63E+03
3	0.555	36.28	24.8	14.28	25.89	50.04	4.27E+03
4	0.557	36.75	25.28	14.95	25.89	51.07	4.66E+03
5	0.556	35.28	24.8	14.37	24.78	49.13	4.34E+03
6	0.553	35.75	25.27	15.03	24.78	50.16	4.72E+03
7	0.553	36.23	25.75	15.7	24.78	51.19	5.11E+03
8	0.558	36.3	24	12.95	27	48.88	3.50E+03
9	0.558	35.57	26.31	16.5	23.56	51.19	5.66E+03
10	0.557	35.34	23.86	13.04	25.78	48.06	3.61E+03
11	0.554	35.81	24.33	13.7	25.78	49.09	3.96E+03
12	0.554	36.28	24.8	14.37	25.78	50.13	4.33E+03
13	0.555	36.75	25.27	15.03	25.78	51.16	4.72E+03
14	0.556	36.04	23.69	12.62	26.89	48.35	3.35E+03
15	0.552	36.1	25.84	15.83	24.56	51.17	5.19E+03
16	0.552	35.88	23.4	12.39	26.78	48.03	3.25E+03
17	0.555	36.35	23.87	13.04	26.78	49.06	3.61E+03
18	0.553	35.62	25.37	15.17	24.56	50.13	4.79E+03
19	0.552	36.09	25.85	15.84	24.56	51.16	5.19E+03
20	0.558	35.32	26.17	16.31	23.44	50.78	5.53E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=60%, Kedalaman Tanah Dasar=15m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.61	39.31	29.72	21.32	23.89	58.76	9.45E+03
2	0.611	38.07	29.6	21.14	22.78	57.38	9.29E+03
3	0.609	39.31	29.94	21.63	23.67	59	9.70E+03
4	0.61	38.41	30.14	21.92	22.56	58.32	9.97E+03
5	0.609	38.89	30.63	22.6	22.56	59.34	1.06E+04
6	0.607	38.62	28.14	19.09	24.78	56.32	7.57E+03
7	0.608	39.1	28.63	19.77	24.78	57.34	8.14E+03
8	0.61	39.59	29.11	20.46	24.78	58.36	8.71E+03
9	0.61	38.44	29.18	20.56	23.56	57.29	8.80E+03
10	0.609	38.92	29.66	21.24	23.56	58.31	9.37E+03
11	0.61	39.41	30.14	21.92	23.56	59.32	9.96E+03
12	0.608	39.14	27.66	18.41	25.78	56.3	7.08E+03
13	0.607	39.62	28.14	19.09	25.78	57.32	7.57E+03
14	0.61	38.94	29.7	21.28	23.56	58.35	9.40E+03
15	0.609	38.96	28.7	19.88	24.56	57.28	8.23E+03
16	0.61	39.44	29.18	20.56	24.56	58.29	8.80E+03
17	0.61	39.13	30.09	21.77	23.44	58.91	9.80E+03
18	0.607	38.49	28.25	19.23	24.56	56.29	7.68E+03
19	0.609	38.97	28.73	19.91	24.56	57.31	8.25E+03
20	0.61	39.45	29.22	20.59	24.56	58.33	8.82E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=60%, Kedalaman Tanah Dasar=20m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.557	35.22	30.76	15.63	23.89	50.1	5.06E+03
2	0.56	35.74	31.68	16.64	23.89	51.38	5.63E+03
3	0.555	36.28	29.8	14.28	25.89	50.04	4.27E+03
4	0.557	36.75	30.28	14.95	25.89	51.07	4.66E+03
5	0.556	35.28	29.8	14.37	24.78	49.13	4.34E+03
6	0.553	35.75	30.27	15.03	24.78	50.16	4.72E+03
7	0.553	36.23	30.75	15.7	24.78	51.19	5.11E+03
8	0.558	36.3	29	12.95	27	48.88	3.50E+03
9	0.558	35.57	31.31	16.5	23.56	51.19	5.66E+03
10	0.557	35.34	28.86	13.04	25.78	48.06	3.61E+03
11	0.554	35.81	29.33	13.7	25.78	49.09	3.96E+03
12	0.554	36.28	29.8	14.37	25.78	50.13	4.33E+03
13	0.555	36.75	30.27	15.03	25.78	51.16	4.72E+03
14	0.556	36.04	28.69	12.62	26.89	48.35	3.35E+03
15	0.552	36.1	30.84	15.83	24.56	51.17	5.19E+03
16	0.552	35.88	28.4	12.39	26.78	48.03	3.25E+03
17	0.555	36.35	28.87	13.04	26.78	49.06	3.61E+03
18	0.553	35.62	30.37	15.17	24.56	50.13	4.79E+03
19	0.552	36.09	30.85	15.84	24.56	51.16	5.19E+03
20	0.558	35.32	31.17	16.31	23.44	50.78	5.53E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=60%, Kedalaman Tanah Dasar=20m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.502	32.15	26.75	9.83	25	41.94	2.05E+03
2	0.503	32.23	26.84	9.95	25	42.14	2.11E+03
3	0.495	32.99	26.59	9.69	25.89	42.65	2.00E+03
4	0.494	33.01	26.6	9.71	25.89	42.68	2.00E+03
5	0.494	33.02	26.62	9.73	25.89	42.71	2.01E+03
6	0.495	33.03	26.63	9.74	25.89	42.74	2.02E+03
7	0.495	33.04	26.64	9.76	25.89	42.76	2.02E+03
8	0.495	33.05	26.65	9.77	25.89	42.79	2.03E+03
9	0.498	32.68	26.61	9.56	25.78	42.22	1.94E+03
10	0.498	32.7	26.62	9.58	25.78	42.25	1.95E+03
11	0.498	32.71	26.63	9.6	25.78	42.28	1.95E+03
12	0.498	32.72	26.65	9.61	25.78	42.3	1.96E+03
13	0.498	32.73	26.66	9.63	25.78	42.33	1.96E+03
14	0.498	32.75	26.68	9.65	25.78	42.37	1.97E+03
15	0.499	32.83	27.63	11.26	24.56	43.96	2.67E+03
16	0.498	33	27.8	11.5	24.56	44.35	2.77E+03
17	0.5	33.17	27.96	11.73	24.56	44.72	2.88E+03
18	0.501	33.32	28.12	11.94	24.56	45.07	2.98E+03
19	0.5	33.42	28.18	12.06	24.56	45.28	3.03E+03
20	0.501	32.43	27.31	10.75	24.56	43.09	2.45E+03
21	0.582	34.12	37.56	25.16	16.11	56.46	1.30E+04
22	0.61	36.06	39.53	27.91	16.11	60.47	1.62E+04
23	0.61	35.03	40.51	29.3	14.11	60.47	1.78E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=6m, IP=60%, Kedalaman Tanah Dasar=20m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.61	39.31	34.72	21.32	23.89	58.76	9.45E+03
2	0.611	38.07	34.6	21.14	22.78	57.38	9.29E+03
3	0.609	39.31	34.94	21.63	23.67	59	9.70E+03
4	0.61	38.4	35.14	21.92	22.56	58.32	9.97E+03
5	0.609	38.89	35.63	22.6	22.56	59.34	1.06E+04
6	0.607	38.62	33.14	19.09	24.78	56.32	7.57E+03
7	0.608	39.1	33.63	19.77	24.78	57.34	8.14E+03
8	0.61	39.59	34.11	20.46	24.78	58.36	8.71E+03
9	0.61	38.44	34.18	20.56	23.56	57.29	8.80E+03
10	0.609	38.92	34.66	21.24	23.56	58.31	9.37E+03
11	0.61	39.4	35.14	21.92	23.56	59.32	9.96E+03
12	0.608	39.14	32.66	18.41	25.78	56.3	7.08E+03
13	0.607	39.62	33.14	19.09	25.78	57.32	7.57E+03
14	0.61	38.94	34.7	21.28	23.56	58.35	9.40E+03
15	0.609	38.96	33.7	19.88	24.56	57.28	8.23E+03
16	0.61	39.44	34.18	20.56	24.56	58.29	8.80E+03
17	0.61	39.13	35.09	21.77	23.44	58.91	9.80E+03
18	0.607	38.49	33.25	19.23	24.56	56.29	7.68E+03
19	0.609	38.97	33.73	19.91	24.56	57.31	8.25E+03
20	0.61	39.45	34.22	20.59	24.56	58.33	8.82E+03

LAMPIRAN 9-1

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=20%, Kedalaman Tanah Dasar=5m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.44	34.32	13.64	12.71	25	47	4.09E+03
2	0.442	33.16	13.79	12.77	23.89	45.9	4.10E+03
3	0.439	33.8	13.56	12.44	24.78	46.23	3.89E+03
4	0.439	33.82	13.58	12.46	24.78	46.26	3.90E+03
5	0.439	33.83	13.6	12.49	24.78	46.3	3.92E+03
6	0.439	33.85	13.61	12.51	24.78	46.33	3.93E+03
7	0.439	33.86	13.62	12.53	24.78	46.36	3.94E+03
8	0.439	33.87	13.64	12.54	24.78	46.39	3.95E+03
9	0.442	34.78	13.55	12.42	25.78	47.19	3.88E+03
10	0.442	34.8	13.56	12.44	25.78	47.23	3.90E+03
11	0.445	34.56	13.6	12.29	25.78	46.82	3.80E+03
12	0.442	34.83	13.6	12.49	25.78	47.3	3.92E+03
13	0.443	34.85	13.61	12.51	25.78	47.33	3.94E+03
14	0.443	34.86	13.62	12.52	25.78	47.36	3.95E+03
15	0.439	33.8	13.6	12.63	24.56	46.41	4.03E+03
16	0.447	33.3	14.15	13.45	23.44	46.69	4.60E+03
17	0.44	33.89	13.8	12.83	24.56	46.68	4.14E+03
18	0.441	33.94	13.84	12.89	24.56	46.8	4.19E+03
19	0.448	32.91	13.93	13.02	23.44	45.9	4.29E+03
20	0.451	32.74	14.06	12.98	23.44	45.67	4.23E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=20%, Kedalaman Tanah Dasar=5m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.676	37.21	20.24	20.24	23.89	56.11	1.01E+04
2	0.675	38.52	24.5	24.38	23.89	60.01	1.40E+04
3	0.637	39.2	17.5	17.47	27	56.08	7.87E+03
4	0.635	39.24	17.53	17.51	27	56.15	7.91E+03
5	0.639	39.21	20.24	20.24	25.89	58.11	1.02E+04
6	0.629	40.02	19.54	19.52	27	58.4	9.61E+03
7	0.652	40.12	21.32	20.94	27	59.34	1.08E+04
8	0.641	40.58	21.91	21.69	27	60.34	1.14E+04
9	0.632	39.72	16.26	16.25	28	55.64	6.95E+03
10	0.625	40.2	17.5	17.47	28	57.08	7.93E+03
11	0.624	40.24	17.53	17.51	28	57.15	7.97E+03
12	0.626	40.21	20.24	20.24	26.89	59.11	1.02E+04
13	0.62	41.02	19.54	19.52	28	59.4	9.61E+03
14	0.643	41.12	21.32	20.94	28	60.34	1.08E+04
15	0.618	41.29	17.71	17.68	29	58.32	8.13E+03
16	0.624	40.72	16.26	16.25	29	56.64	7.02E+03
17	0.618	41.2	17.5	17.47	29	58.08	7.96E+03
18	0.617	41.24	17.53	17.51	29	58.15	8.00E+03
19	0.618	41.21	20.24	20.24	27.89	60.11	1.02E+04
20	0.616	42.02	19.54	19.52	29	60.4	9.60E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=20%, Kedalaman Tanah Dasar=5m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.525	36.23	15.91	15.66	25	51.61	6.34E+03
2	0.524	36.56	16.57	16.35	25	52.51	6.83E+03
3	0.517	37.27	16.2	15.96	25.89	52.9	6.53E+03
4	0.531	37.28	17.31	16.78	25.89	53.49	7.07E+03
5	0.513	38.23	15.91	15.66	27	53.61	6.30E+03
6	0.509	38.19	15.5	15.34	27	53.32	6.10E+03
7	0.511	37.64	16.46	16.41	25.89	53.68	6.88E+03
8	0.511	37.26	15.69	15.6	25.89	52.62	6.30E+03
9	0.51	37.3	15.87	15.84	25.78	52.87	6.47E+03
10	0.515	38.27	16.2	15.96	26.89	53.9	6.53E+03
11	0.521	36.47	16.62	16.56	24.67	52.62	7.01E+03
12	0.518	36.46	16.43	16.43	24.67	52.52	6.92E+03
13	0.515	39.19	15.5	15.34	28	54.32	6.11E+03
14	0.512	38.64	16.46	16.42	26.89	54.68	6.88E+03
15	0.511	37.77	15.31	15.06	26.78	52.65	5.90E+03
16	0.508	38.3	15.87	15.84	26.78	53.87	6.47E+03
17	0.509	37.21	15.83	15.83	25.67	52.78	6.47E+03
18	0.513	37.47	16.62	16.56	25.67	53.62	6.99E+03
19	0.511	37.46	16.43	16.43	25.67	53.52	6.90E+03
20	0.511	37.12	15.8	15.75	25.67	52.61	6.41E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=20%, Kedalaman Tanah Dasar=10m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.44	33.96	18.65	12.46	25	46.4	3.89E+03
2	0.442	34.11	18.81	12.67	25	46.75	4.03E+03
3	0.442	34.89	18.54	12.41	25.89	47.29	3.88E+03
4	0.443	34.91	18.56	12.44	25.89	47.33	3.90E+03
5	0.443	34.93	18.58	12.46	25.89	47.37	3.91E+03
6	0.443	34.94	18.59	12.48	25.89	47.41	3.93E+03
7	0.443	34.96	18.61	12.5	25.89	47.44	3.94E+03
8	0.445	34.54	19.09	13.34	24.78	47.83	4.52E+03
9	0.445	34.52	18.56	12.24	25.78	46.74	3.77E+03
10	0.445	34.54	18.58	12.26	25.78	46.78	3.79E+03
11	0.445	34.56	18.6	12.29	25.78	46.82	3.80E+03
12	0.445	32.91	18.71	12.78	23.56	45.67	4.14E+03
13	0.445	32.93	18.73	12.81	23.56	45.72	4.16E+03
14	0.445	34.6	18.65	12.35	25.78	46.93	3.84E+03
15	0.439	33.8	18.6	12.63	24.56	46.41	4.03E+03
16	0.439	33.83	18.63	12.67	24.56	46.48	4.06E+03
17	0.44	33.86	18.66	12.71	24.56	46.55	4.08E+03
18	0.44	33.89	18.69	12.75	24.56	46.61	4.11E+03
19	0.442	33.98	18.89	12.95	24.56	46.9	4.23E+03
20	0.443	34.02	18.93	13.01	24.56	47	4.28E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=20%, Kedalaman Tanah Dasar=10m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.516	38.71	23.07	18.94	25	56.96	9.26E+03
2	0.52	37.81	23.84	19.63	23.89	56.54	9.80E+03
3	0.513	38.01	21.56	16.75	25.89	54.37	7.26E+03
4	0.515	38.4	21.95	17.3	25.89	55.23	7.74E+03
5	0.516	36.94	21.46	16.72	24.78	53.29	7.28E+03
6	0.515	37.4	21.92	17.36	24.78	54.31	7.84E+03
7	0.514	37.86	22.38	18.02	24.78	55.33	8.42E+03
8	0.515	38.33	22.85	18.67	24.78	56.35	9.02E+03
9	0.514	38.71	21.25	16.32	26.89	54.7	6.90E+03
10	0.512	37.03	20.55	15.43	25.78	52.25	6.17E+03
11	0.511	37.49	21.01	16.07	25.78	53.27	6.70E+03
12	0.513	37.94	21.46	16.72	25.78	54.29	7.27E+03
13	0.514	38.4	21.92	17.36	25.78	55.31	7.84E+03
14	0.515	37.64	20.35	14.92	26.89	52.38	5.77E+03
15	0.512	37.58	20.1	14.78	26.78	52.2	5.69E+03
16	0.511	37.73	20.25	15	26.78	52.56	5.86E+03
17	0.509	38.03	20.56	15.43	26.78	53.25	6.17E+03
18	0.511	38.49	21.01	16.07	26.78	54.27	6.70E+03
19	0.515	37.72	22.48	18.14	24.56	55.3	8.53E+03
20	0.515	38.19	22.95	18.8	24.56	56.32	9.13E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=20%, Kedalaman Tanah Dasar=15m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.44	33.96	23.65	12.46	25	46.4	3.89E+03
2	0.442	34.11	23.81	12.67	25	46.75	4.03E+03
3	0.442	34.89	23.54	12.41	25.89	47.29	3.88E+03
4	0.443	34.91	23.56	12.44	25.89	47.33	3.90E+03
5	0.443	34.93	23.58	12.46	25.89	47.37	3.91E+03
6	0.443	34.94	23.59	12.48	25.89	47.41	3.93E+03
7	0.443	34.96	23.61	12.5	25.89	47.44	3.94E+03
8	0.445	34.54	24.09	13.34	24.78	47.83	4.52E+03
9	0.445	34.52	23.56	12.24	25.78	46.74	3.77E+03
10	0.445	34.54	23.58	12.26	25.78	46.78	3.79E+03
11	0.445	34.56	23.6	12.29	25.78	46.82	3.80E+03
12	0.445	32.91	23.71	12.78	23.56	45.67	4.14E+03
13	0.445	32.93	23.73	12.81	23.56	45.72	4.16E+03
14	0.445	34.6	23.65	12.35	25.78	46.93	3.84E+03
15	0.439	33.8	23.6	12.63	24.56	46.41	4.03E+03
16	0.439	33.83	23.63	12.67	24.56	46.48	4.06E+03
17	0.44	33.86	23.66	12.71	24.56	46.55	4.08E+03
18	0.44	33.89	23.69	12.75	24.56	46.61	4.11E+03
19	0.442	33.98	23.89	12.95	24.56	46.9	4.23E+03
20	0.443	34.02	23.93	13.01	24.56	47	4.28E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=20%, Kedalaman Tanah Dasar=10m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.586	41.83	26.9	23.85	25	63.95	1.47E+04
2	0.588	41.47	26.51	23.32	25	63.18	1.41E+04
3	0.585	41.66	25.24	21.93	25.89	62.35	1.27E+04
4	0.583	42.13	25.72	22.6	25.89	63.36	1.34E+04
5	0.586	42.6	26.2	23.27	25.89	64.38	1.43E+04
6	0.583	41.14	25.66	22.65	24.78	62.46	1.36E+04
7	0.587	41.62	26.14	23.32	24.78	63.47	1.45E+04
8	0.587	42.09	26.62	24	24.78	64.49	1.54E+04
9	0.587	42.18	24.77	21.26	26.89	62.33	1.19E+04
10	0.586	42.66	25.24	21.93	26.89	63.35	1.27E+04
11	0.586	43.13	25.72	22.6	26.89	64.36	1.35E+04
12	0.584	41.67	25.19	21.98	25.78	62.44	1.28E+04
13	0.582	42.14	25.66	22.65	25.78	63.46	1.36E+04
14	0.587	42.62	26.14	23.32	25.78	64.47	1.45E+04
15	0.587	41.45	26.19	23.4	24.56	63.37	1.46E+04
16	0.587	41.8	26.05	22.75	25.67	63.08	1.35E+04
17	0.586	42.27	26.54	23.44	25.67	64.09	1.43E+04
18	0.585	41.01	25.77	22.79	24.56	62.42	1.37E+04
19	0.584	42.67	25.19	21.98	26.78	63.44	1.28E+04
20	0.584	43.14	25.67	22.65	26.78	64.46	1.36E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=20%, Kedalaman Tanah Dasar=15m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.516	38.71	28.07	18.94	25	56.96	9.26E+03
2	0.52	37.81	28.84	19.63	23.89	56.54	9.80E+03
3	0.513	38.01	26.56	16.75	25.89	54.37	7.26E+03
4	0.515	38.4	26.95	17.3	25.89	55.23	7.74E+03
5	0.516	36.94	26.46	16.72	24.78	53.29	7.28E+03
6	0.515	37.4	26.92	17.36	24.78	54.31	7.84E+03
7	0.514	37.86	27.38	18.02	24.78	55.33	8.42E+03
8	0.515	38.33	27.85	18.67	24.78	56.35	9.02E+03
9	0.514	38.71	26.25	16.32	26.89	54.7	6.90E+03
10	0.512	37.03	25.55	15.43	25.78	52.25	6.17E+03
11	0.511	37.49	26.01	16.07	25.78	53.27	6.70E+03
12	0.513	37.94	26.46	16.72	25.78	54.29	7.27E+03
13	0.514	38.4	26.92	17.36	25.78	55.31	7.84E+03
14	0.515	37.64	25.35	14.92	26.89	52.38	5.77E+03
15	0.512	37.58	25.1	14.78	26.78	52.2	5.69E+03
16	0.511	37.73	25.25	15	26.78	52.56	5.86E+03
17	0.509	38.03	25.56	15.43	26.78	53.25	6.17E+03
18	0.511	38.49	26.01	16.07	26.78	54.27	6.70E+03
19	0.515	37.72	27.48	18.14	24.56	55.3	8.53E+03
20	0.515	38.19	27.95	18.8	24.56	56.32	9.13E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=20%, Kedalaman Tanah Dasar=15m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.586	41.83	31.9	23.85	25	63.95	1.47E+04
2	0.59	42.03	32.64	25.3	23.89	65.42	1.70E+04
3	0.585	41.66	30.24	21.93	25.89	62.35	1.27E+04
4	0.583	42.13	30.72	22.6	25.89	63.36	1.34E+04
5	0.586	42.6	31.2	23.27	25.89	64.38	1.43E+04
6	0.583	41.14	30.66	22.65	24.78	62.46	1.36E+04
7	0.587	41.62	31.14	23.32	24.78	63.47	1.45E+04
8	0.587	42.09	31.62	24	24.78	64.49	1.54E+04
9	0.587	42.18	29.77	21.26	26.89	62.33	1.19E+04
10	0.586	42.66	30.24	21.93	26.89	63.35	1.27E+04
11	0.586	43.13	30.72	22.6	26.89	64.36	1.35E+04
12	0.584	41.67	30.19	21.98	25.78	62.44	1.28E+04
13	0.582	42.14	30.66	22.65	25.78	63.46	1.36E+04
14	0.587	42.62	31.14	23.32	25.78	64.47	1.45E+04
15	0.587	41.45	31.19	23.4	24.56	63.37	1.46E+04
16	0.587	41.8	31.05	22.75	25.67	63.08	1.35E+04
17	0.586	42.27	31.54	23.44	25.67	64.09	1.43E+04
18	0.585	41.01	30.77	22.79	24.56	62.42	1.37E+04
19	0.584	42.67	30.19	21.98	26.78	63.44	1.28E+04
20	0.584	43.14	30.67	22.65	26.78	64.46	1.36E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=20%, Kedalaman Tanah Dasar=20m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.516	38.71	33.07	18.94	25	56.96	9.26E+03
2	0.52	37.81	33.84	19.63	23.89	56.54	9.80E+03
3	0.513	38.01	31.55	16.75	25.89	54.37	7.26E+03
4	0.515	38.4	31.95	17.3	25.89	55.23	7.74E+03
5	0.516	36.94	31.46	16.72	24.78	53.29	7.28E+03
6	0.515	37.4	31.92	17.36	24.78	54.31	7.84E+03
7	0.514	37.86	32.38	18.01	24.78	55.33	8.42E+03
8	0.515	38.33	32.85	18.67	24.78	56.35	9.02E+03
9	0.514	38.71	31.25	16.32	26.89	54.7	6.90E+03
10	0.512	37.03	30.55	15.43	25.78	52.25	6.17E+03
11	0.511	37.49	31.01	16.07	25.78	53.27	6.70E+03
12	0.513	37.94	31.46	16.72	25.78	54.29	7.27E+03
13	0.514	38.4	31.92	17.36	25.78	55.31	7.84E+03
14	0.515	37.64	30.35	14.92	26.89	52.38	5.77E+03
15	0.512	37.58	30.1	14.78	26.78	52.2	5.69E+03
16	0.511	37.73	30.25	15	26.78	52.56	5.86E+03
17	0.509	38.03	30.56	15.43	26.78	53.25	6.17E+03
18	0.511	38.49	31.01	16.07	26.78	54.27	6.70E+03
19	0.515	37.72	32.48	18.15	24.56	55.3	8.53E+03
20	0.515	38.19	32.95	18.8	24.56	56.32	9.13E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=20%, Kedalaman Tanah Dasar=20m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.44	33.96	28.65	12.46	25	46.4	3.89E+03
2	0.442	34.11	28.81	12.67	25	46.75	4.03E+03
3	0.442	34.89	28.54	12.41	25.89	47.29	3.88E+03
4	0.443	34.91	28.56	12.44	25.89	47.33	3.90E+03
5	0.443	34.93	28.58	12.46	25.89	47.37	3.91E+03
6	0.443	34.94	28.59	12.48	25.89	47.41	3.93E+03
7	0.443	34.96	28.61	12.5	25.89	47.44	3.94E+03
8	0.445	34.54	29.09	13.34	24.78	47.83	4.52E+03
9	0.445	34.52	28.56	12.24	25.78	46.74	3.77E+03
10	0.445	34.54	28.58	12.26	25.78	46.78	3.79E+03
11	0.445	34.56	28.6	12.29	25.78	46.82	3.80E+03
12	0.445	32.91	28.71	12.78	23.56	45.67	4.14E+03
13	0.445	32.93	28.73	12.81	23.56	45.72	4.16E+03
14	0.445	34.6	28.65	12.35	25.78	46.93	3.84E+03
15	0.439	33.8	28.6	12.63	24.56	46.41	4.03E+03
16	0.439	33.83	28.63	12.67	24.56	46.48	4.06E+03
17	0.44	33.86	28.66	12.71	24.56	46.55	4.08E+03
18	0.44	33.89	28.69	12.75	24.56	46.61	4.11E+03
19	0.442	33.98	28.89	12.95	24.56	46.9	4.23E+03
20	0.443	34.02	28.93	13.01	24.56	47	4.28E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=20%, Kedalaman Tanah Dasar=20m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.586	41.83	36.9	23.85	25	63.95	1.47E+04
2	0.59	42.03	37.64	25.3	23.89	65.42	1.70E+04
3	0.585	41.66	35.24	21.93	25.89	62.35	1.27E+04
4	0.583	42.13	35.72	22.6	25.89	63.36	1.34E+04
5	0.586	42.6	36.2	23.27	25.89	64.38	1.43E+04
6	0.583	41.14	35.67	22.65	24.78	62.46	1.36E+04
7	0.587	41.62	36.14	23.32	24.78	63.47	1.45E+04
8	0.587	42.09	36.62	24	24.78	64.49	1.54E+04
9	0.587	42.18	34.77	21.26	26.89	62.33	1.19E+04
10	0.586	42.66	35.24	21.93	26.89	63.35	1.27E+04
11	0.586	43.13	35.72	22.6	26.89	64.36	1.35E+04
12	0.584	41.67	35.19	21.98	25.78	62.44	1.28E+04
13	0.582	42.14	35.66	22.65	25.78	63.46	1.36E+04
14	0.587	42.62	36.14	23.32	25.78	64.47	1.45E+04
15	0.587	41.45	36.19	23.4	24.56	63.37	1.46E+04
16	0.587	41.8	36.05	22.75	25.67	63.08	1.35E+04
17	0.586	42.27	36.54	23.44	25.67	64.09	1.43E+04
18	0.585	41.01	35.77	22.79	24.56	62.42	1.37E+04
19	0.584	42.67	35.19	21.98	26.78	63.44	1.28E+04
20	0.584	43.14	35.67	22.65	26.78	64.46	1.36E+04

LAMPIRAN 9-2

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=40%, Kedalaman Tanah Dasar=5m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.421	34.32	13.64	12.71	25	47	3.91E+03
2	0.425	34.54	13.9	13.05	25	47.56	4.14E+03
3	0.421	33.8	13.56	12.44	24.78	46.23	3.73E+03
4	0.421	33.82	13.58	12.46	24.78	46.26	3.74E+03
5	0.421	33.83	13.6	12.49	24.78	46.3	3.76E+03
6	0.421	33.85	13.61	12.51	24.78	46.33	3.77E+03
7	0.421	33.86	13.62	12.53	24.78	46.36	3.78E+03
8	0.421	33.87	13.64	12.54	24.78	46.39	3.79E+03
9	0.423	34.78	13.55	12.42	25.78	47.19	3.72E+03
10	0.424	34.8	13.56	12.44	25.78	47.23	3.73E+03
11	0.427	32.94	13.84	12.89	23.56	45.8	4.02E+03
12	0.424	34.83	13.6	12.49	25.78	47.3	3.76E+03
13	0.424	34.85	13.61	12.51	25.78	47.33	3.77E+03
14	0.424	34.86	13.62	12.52	25.78	47.36	3.79E+03
15	0.42	33.8	13.6	12.63	24.56	46.41	3.86E+03
16	0.427	33.3	14.15	13.45	23.44	46.69	4.39E+03
17	0.421	33.89	13.8	12.83	24.56	46.68	3.96E+03
18	0.422	33.94	13.84	12.89	24.56	46.8	4.00E+03
19	0.429	32.91	13.93	13.02	23.44	45.9	4.11E+03
20	0.432	32.74	14.06	12.98	23.44	45.67	4.06E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=40%, Kedalaman Tanah Dasar=5m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.502	36.23	15.91	15.66	25	51.61	6.05E+03
2	0.5	36.56	16.57	16.35	25	52.51	6.52E+03
3	0.493	37.27	16.2	15.96	25.89	52.9	6.24E+03
4	0.508	37.28	17.31	16.78	25.89	53.49	6.77E+03
5	0.49	38.23	15.91	15.66	27	53.61	6.01E+03
6	0.485	38.19	15.5	15.34	27	53.32	5.81E+03
7	0.487	37.64	16.46	16.41	25.89	53.68	6.56E+03
8	0.487	37.26	15.69	15.6	25.89	52.62	6.00E+03
9	0.486	37.3	15.87	15.84	25.78	52.87	6.16E+03
10	0.491	38.27	16.2	15.96	26.89	53.9	6.23E+03
11	0.497	36.47	16.62	16.56	24.67	52.62	6.69E+03
12	0.494	36.46	16.43	16.43	24.67	52.52	6.60E+03
13	0.491	39.19	15.5	15.34	28	54.32	5.82E+03
14	0.488	38.64	16.46	16.42	26.89	54.68	6.56E+03
15	0.487	37.77	15.31	15.06	26.78	52.65	5.63E+03
16	0.484	38.3	15.87	15.84	26.78	53.87	6.16E+03
17	0.485	37.21	15.83	15.83	25.67	52.78	6.16E+03
18	0.489	37.47	16.62	16.56	25.67	53.62	6.67E+03
19	0.487	37.46	16.43	16.43	25.67	53.52	6.58E+03
20	0.487	37.12	15.8	15.75	25.67	52.61	6.10E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=40%, Kedalaman Tanah Dasar=5m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.647	37.21	20.24	20.24	23.89	56.11	9.64E+03
2	0.64	38.58	21.91	21.69	25	58.34	1.10E+04
3	0.608	39.2	17.5	17.47	27	56.08	7.52E+03
4	0.607	39.24	17.53	17.51	27	56.15	7.56E+03
5	0.611	39.21	20.24	20.24	25.89	58.11	9.78E+03
6	0.601	40.02	19.54	19.52	27	58.4	9.20E+03
7	0.626	40.12	21.32	20.94	27	59.34	1.04E+04
8	0.615	40.58	21.91	21.69	27	60.34	1.10E+04
9	0.603	39.72	16.26	16.25	28	55.64	6.64E+03
10	0.597	40.2	17.5	17.47	28	57.08	7.58E+03
11	0.596	40.24	17.53	17.51	28	57.15	7.62E+03
12	0.599	40.21	20.24	20.24	26.89	59.11	9.78E+03
13	0.593	41.02	19.54	19.52	28	59.4	9.19E+03
14	0.617	41.12	21.32	20.94	28	60.34	1.03E+04
15	0.591	41.29	17.71	17.68	29	58.32	7.77E+03
16	0.595	40.72	16.26	16.25	29	56.64	6.70E+03
17	0.591	41.2	17.5	17.47	29	58.08	7.61E+03
18	0.59	41.24	17.53	17.51	29	58.15	7.64E+03
19	0.591	41.21	20.24	20.24	27.89	60.11	9.76E+03
20	0.589	42.02	19.54	19.52	29	60.4	9.18E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=40%, Kedalaman Tanah Dasar=10m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.422	33.96	18.65	12.46	25	46.4	3.73E+03
2	0.424	34.11	18.81	12.67	25	46.75	3.86E+03
3	0.424	34.89	18.54	12.41	25.89	47.29	3.72E+03
4	0.424	34.91	18.56	12.44	25.89	47.33	3.73E+03
5	0.425	34.93	18.58	12.46	25.89	47.37	3.75E+03
6	0.425	34.94	18.59	12.48	25.89	47.41	3.76E+03
7	0.425	34.96	18.61	12.5	25.89	47.44	3.78E+03
8	0.426	34.54	19.09	13.34	24.78	47.83	4.32E+03
9	0.426	32.83	18.63	12.67	23.56	45.48	3.90E+03
10	0.426	32.86	18.66	12.71	23.56	45.55	3.92E+03
11	0.426	32.89	18.69	12.75	23.56	45.61	3.94E+03
12	0.426	32.91	18.71	12.78	23.56	45.67	3.96E+03
13	0.426	32.93	18.73	12.81	23.56	45.72	3.98E+03
14	0.428	34.6	18.65	12.35	25.78	46.93	3.69E+03
15	0.42	33.8	18.6	12.63	24.56	46.41	3.86E+03
16	0.42	33.83	18.63	12.67	24.56	46.48	3.88E+03
17	0.421	33.86	18.66	12.71	24.56	46.55	3.91E+03
18	0.421	33.89	18.69	12.75	24.56	46.61	3.93E+03
19	0.423	33.98	18.89	12.95	24.56	46.9	4.05E+03
20	0.424	34.02	18.93	13.01	24.56	47	4.09E+03
21	0.489	34.63	28.08	25.88	16.11	58.47	1.62E+04
22	0.488	35.16	27.6	25.21	17.11	58.46	1.54E+04
23	0.502	35.75	28.94	27.29	16.11	60.75	1.83E+04
24	0.5	36.28	28.47	26.62	17.11	60.75	1.74E+04
25	0.498	36.63	28.08	25.88	18.11	60.47	1.63E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=40%, Kedalaman Tanah Dasar=10m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.487	38.71	23.07	18.94	25	56.96	8.73E+03
2	0.49	38.25	23.82	19.93	23.89	57.3	9.66E+03
3	0.487	38.01	21.56	16.75	25.89	54.37	6.89E+03
4	0.487	38.4	21.95	17.3	25.89	55.23	7.33E+03
5	0.488	38.86	22.41	17.95	25.89	56.25	7.87E+03
6	0.487	37.4	21.92	17.36	24.78	54.31	7.41E+03
7	0.485	37.86	22.38	18.02	24.78	55.33	7.95E+03
8	0.485	38.33	22.85	18.67	24.78	56.35	8.50E+03
9	0.485	38.56	23.19	19.16	24.67	56.99	8.92E+03
10	0.487	37.64	23.38	19.43	23.56	56.3	9.21E+03
11	0.486	37.49	21.01	16.07	25.78	53.27	6.37E+03
12	0.486	37.94	21.46	16.72	25.78	54.29	6.89E+03
13	0.486	38.4	21.92	17.36	25.78	55.31	7.41E+03
14	0.487	38.86	22.38	18.01	25.78	56.33	7.95E+03
15	0.485	37.72	22.46	18.12	24.56	55.28	8.04E+03
16	0.485	38.18	22.92	18.77	24.56	56.29	8.59E+03
17	0.485	38.03	20.56	15.43	26.78	53.25	5.88E+03
18	0.486	38.49	21.01	16.07	26.78	54.27	6.37E+03
19	0.486	37.72	22.48	18.14	24.56	55.3	8.05E+03
20	0.485	38.19	22.95	18.8	24.56	56.32	8.61E+03
21	0.532	40.91	29.79	28.39	20.56	66.73	2.00E+04
22	0.535	38.91	31.74	30.78	17.11	66.45	2.33E+04
23	0.556	41.85	32.82	32.77	18.33	71.08	2.72E+04
24	0.557	41.85	32.92	32.91	18.22	71.18	2.74E+04
25	0.556	41.75	32.93	32.93	18.11	71.09	2.74E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=40%, Kedalaman Tanah Dasar=10m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.547	41.76	27.16	24.78	23.89	64.78	1.53E+04
2	0.549	42.03	27.64	25.3	23.89	65.42	1.58E+04
3	0.547	41.74	27.38	25.08	23.67	65	1.56E+04
4	0.547	42.22	27.85	25.74	23.67	66	1.64E+04
5	0.547	41.35	28.09	26.09	22.56	65.41	1.69E+04
6	0.547	41.14	25.66	22.65	24.78	62.46	1.27E+04
7	0.548	41.62	26.14	23.32	24.78	63.47	1.35E+04
8	0.548	42.09	26.62	24	24.78	64.49	1.43E+04
9	0.548	42.27	26.91	24.41	24.67	65	1.48E+04
10	0.548	41.4	27.14	24.74	23.56	64.39	1.52E+04
11	0.547	41.88	27.61	25.41	23.56	65.4	1.60E+04
12	0.546	42.35	28.09	26.09	23.56	66.41	1.69E+04
13	0.545	42.14	25.66	22.65	25.78	63.46	1.27E+04
14	0.548	41.43	27.2	24.81	23.56	64.47	1.53E+04
15	0.548	41.04	28.01	25.97	22.33	65	1.67E+04
16	0.547	41.93	26.66	24.07	24.56	64.38	1.44E+04
17	0.547	42.4	27.14	24.74	24.56	65.39	1.52E+04
18	0.547	42.08	28.06	25.95	23.44	66.01	1.67E+04
19	0.548	41.48	26.25	23.46	24.56	63.44	1.37E+04
20	0.548	41.96	26.72	24.13	24.56	64.45	1.45E+04
21	0.576	44.99	32.67	32.52	21.67	74.02	2.68E+04
22	0.577	45.1	32.85	32.81	21.56	74.35	2.73E+04
23	0.597	46.93	34.28	34.24	22.78	77.05	2.94E+04
24	0.598	44.9	37.91	37.85	19.33	77.09	3.44E+04
25	0.599	46.92	34.76	34.74	22.56	77.34	3.01E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=40%, Kedalaman Tanah Dasar=15m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.424	34.89	23.54	12.41	25.89	47.29	3.72E+03
2	0.424	34.91	23.56	12.44	25.89	47.33	3.73E+03
3	0.425	34.93	23.58	12.46	25.89	47.37	3.75E+03
4	0.425	34.94	23.59	12.48	25.89	47.41	3.76E+03
5	0.425	34.96	23.61	12.5	25.89	47.44	3.78E+03
6	0.426	32.83	23.63	12.67	23.56	45.48	3.90E+03
7	0.426	32.86	23.66	12.71	23.56	45.55	3.92E+03
8	0.426	32.89	23.69	12.75	23.56	45.61	3.94E+03
9	0.426	32.91	23.71	12.78	23.56	45.67	3.96E+03
10	0.426	32.93	23.73	12.81	23.56	45.72	3.98E+03
11	0.42	33.8	23.6	12.63	24.56	46.41	3.86E+03
12	0.42	33.83	23.63	12.67	24.56	46.48	3.88E+03
13	0.421	33.86	23.66	12.71	24.56	46.55	3.91E+03
14	0.421	33.89	23.69	12.75	24.56	46.61	3.93E+03
15	0.423	33.98	23.89	12.95	24.56	46.9	4.05E+03
16	0.489	34.63	33.08	25.88	16.11	58.47	1.62E+04
17	0.488	35.16	32.6	25.21	17.11	58.46	1.54E+04
18	0.501	35.58	34.04	27.23	16.11	60.47	1.81E+04
19	0.497	36.1	33.56	26.56	17.11	60.47	1.71E+04
20	0.498	36.63	33.08	25.88	18.11	60.47	1.63E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=40%, Kedalaman Tanah Dasar=15m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.487	38.01	26.56	16.75	25.89	54.37	6.89E+03
2	0.487	38.4	26.95	17.3	25.89	55.23	7.33E+03
3	0.488	38.86	27.41	17.95	25.89	56.25	7.87E+03
4	0.487	37.4	26.92	17.36	24.78	54.31	7.41E+03
5	0.485	37.86	27.38	18.02	24.78	55.33	7.95E+03
6	0.485	38.56	28.19	19.16	24.67	56.99	8.92E+03
7	0.487	37.64	28.38	19.43	23.56	56.3	9.21E+03
8	0.486	37.49	26.01	16.07	25.78	53.27	6.37E+03
9	0.486	37.94	26.46	16.72	25.78	54.29	6.89E+03
10	0.486	38.4	26.92	17.36	25.78	55.31	7.41E+03
11	0.485	37.72	27.46	18.12	24.56	55.28	8.04E+03
12	0.485	38.18	27.92	18.77	24.56	56.29	8.59E+03
13	0.485	38.03	25.56	15.43	26.78	53.25	5.88E+03
14	0.486	38.49	26.01	16.07	26.78	54.27	6.37E+03
15	0.486	37.72	27.48	18.14	24.56	55.3	8.05E+03
16	0.536	41.16	35.28	28.91	20.56	67.33	2.06E+04
17	0.535	38.97	36.47	30.63	17.11	66.48	2.33E+04
18	0.545	39.41	37.93	32.69	16.11	68.48	2.67E+04
19	0.544	39.93	37.44	32	17.11	68.48	2.56E+04
20	0.543	40.44	36.95	31.31	18.11	68.48	2.45E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=40%, Kedalaman Tanah Dasar=15m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.547	41.74	32.38	25.08	23.67	65	1.56E+04
2	0.547	42.22	32.85	25.74	23.67	66	1.64E+04
3	0.547	41.35	33.09	26.09	22.56	65.41	1.69E+04
4	0.547	41.14	30.66	22.65	24.78	62.46	1.27E+04
5	0.548	41.62	31.14	23.32	24.78	63.47	1.35E+04
6	0.548	42.27	31.91	24.41	24.67	65	1.48E+04
7	0.548	41.4	32.14	24.74	23.56	64.39	1.52E+04
8	0.547	41.88	32.61	25.41	23.56	65.4	1.60E+04
9	0.546	42.35	33.09	26.09	23.56	66.41	1.69E+04
10	0.545	42.14	30.66	22.65	25.78	63.46	1.27E+04
11	0.548	41.04	33.01	25.97	22.33	65	1.67E+04
12	0.547	41.93	31.66	24.07	24.56	64.38	1.44E+04
13	0.547	42.4	32.14	24.74	24.56	65.39	1.52E+04
14	0.547	42.08	33.06	25.95	23.44	66.01	1.67E+04
15	0.548	41.48	31.25	23.46	24.56	63.44	1.37E+04
16	0.551	41.5	32.4	24.76	23.89	64.41	1.51E+04
17	0.55	42.04	31.92	24.09	24.89	64.41	1.43E+04
18	0.557	43.4	34.35	27.47	23.89	68.42	1.86E+04
19	0.556	43.92	33.86	26.79	24.89	68.42	1.76E+04
20	0.558	43.16	35.28	28.91	22.56	69.33	2.07E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=40%, Kedalaman Tanah Dasar=20m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.487	38.01	31.55	16.75	25.89	54.37	6.89E+03
2	0.487	38.4	31.95	17.3	25.89	55.23	7.33E+03
3	0.488	38.86	32.41	17.95	25.89	56.25	7.87E+03
4	0.487	37.4	31.92	17.36	24.78	54.31	7.41E+03
5	0.485	37.86	32.38	18.01	24.78	55.33	7.95E+03
6	0.485	38.56	33.19	19.16	24.67	56.99	8.92E+03
7	0.487	37.64	33.38	19.43	23.56	56.3	9.21E+03
8	0.486	37.49	31.01	16.07	25.78	53.27	6.37E+03
9	0.486	37.94	31.46	16.72	25.78	54.29	6.89E+03
10	0.486	38.4	31.92	17.36	25.78	55.31	7.41E+03
11	0.485	37.72	32.46	18.12	24.56	55.28	8.04E+03
12	0.485	38.18	32.92	18.77	24.56	56.29	8.59E+03
13	0.485	38.03	30.56	15.43	26.78	53.25	5.88E+03
14	0.486	38.49	31.01	16.07	26.78	54.27	6.37E+03
15	0.486	37.72	32.48	18.15	24.56	55.3	8.05E+03
16	0.536	41.16	40.28	28.91	20.56	67.33	2.06E+04
17	0.535	38.97	41.47	30.63	17.11	66.48	2.33E+04
18	0.545	39.41	42.93	32.69	16.11	68.48	2.67E+04
19	0.544	39.93	42.44	32	17.11	68.48	2.56E+04
20	0.543	40.44	41.95	31.31	18.11	68.48	2.45E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=40%, Kedalaman Tanah Dasar=20m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.424	34.89	28.54	12.41	25.89	47.29	3.72E+03
2	0.424	34.91	28.56	12.44	25.89	47.33	3.73E+03
3	0.425	34.93	28.58	12.46	25.89	47.37	3.75E+03
4	0.425	34.94	28.59	12.48	25.89	47.41	3.76E+03
5	0.425	34.96	28.61	12.5	25.89	47.44	3.78E+03
6	0.426	32.83	28.63	12.67	23.56	45.48	3.90E+03
7	0.426	32.86	28.66	12.71	23.56	45.55	3.92E+03
8	0.426	32.89	28.69	12.75	23.56	45.61	3.94E+03
9	0.426	32.91	28.71	12.78	23.56	45.67	3.96E+03
10	0.426	32.93	28.73	12.81	23.56	45.72	3.98E+03
11	0.42	33.8	28.6	12.63	24.56	46.41	3.86E+03
12	0.42	33.83	28.63	12.67	24.56	46.48	3.88E+03
13	0.421	33.86	28.66	12.71	24.56	46.55	3.91E+03
14	0.421	33.89	28.69	12.75	24.56	46.61	3.93E+03
15	0.423	33.98	28.89	12.95	24.56	46.9	4.05E+03
16	0.489	34.63	38.08	25.88	16.11	58.47	1.62E+04
17	0.488	35.16	37.6	25.21	17.11	58.46	1.54E+04
18	0.501	35.58	39.04	27.23	16.11	60.47	1.81E+04
19	0.497	36.1	38.56	26.56	17.11	60.47	1.71E+04
20	0.498	36.63	38.08	25.88	18.11	60.47	1.63E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=40%, Kedalaman Tanah Dasar=20m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.547	41.74	37.38	25.08	23.67	65	1.56E+04
2	0.547	42.22	37.85	25.74	23.67	66	1.64E+04
3	0.547	41.35	38.09	26.09	22.56	65.41	1.69E+04
4	0.547	41.14	35.67	22.65	24.78	62.46	1.27E+04
5	0.548	41.62	36.14	23.32	24.78	63.47	1.35E+04
6	0.548	42.27	36.91	24.41	24.67	65	1.48E+04
7	0.548	41.4	37.14	24.74	23.56	64.39	1.52E+04
8	0.547	41.88	37.61	25.42	23.56	65.4	1.60E+04
9	0.546	42.35	38.09	26.09	23.56	66.41	1.69E+04
10	0.545	42.14	35.66	22.65	25.78	63.46	1.27E+04
11	0.548	41.04	38.01	25.97	22.33	65	1.67E+04
12	0.547	41.93	36.66	24.07	24.56	64.38	1.44E+04
13	0.547	42.4	37.14	24.74	24.56	65.39	1.52E+04
14	0.547	42.08	38.06	25.95	23.44	66.01	1.67E+04
15	0.548	41.48	36.25	23.46	24.56	63.44	1.37E+04
16	0.551	42.92	38.86	26.79	23.89	67.42	1.76E+04
17	0.554	43.45	38.37	26.12	24.89	67.42	1.67E+04
18	0.55	41.98	37.89	25.44	23.89	65.41	1.59E+04
19	0.551	42.5	37.4	24.76	24.89	65.41	1.51E+04
20	0.551	41.73	38.82	26.87	22.56	66.32	1.78E+04

LAMPIRAN 9-3

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=60%, Kedalaman Tanah Dasar=5m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.402	33.8	13.56	12.44	24.78	46.23	3.56E+03
2	0.402	33.82	13.58	12.46	24.78	46.26	3.58E+03
3	0.402	33.83	13.6	12.49	24.78	46.3	3.59E+03
4	0.402	33.85	13.61	12.51	24.78	46.33	3.60E+03
5	0.402	33.86	13.62	12.53	24.78	46.36	3.61E+03
6	0.405	34.78	13.55	12.42	25.78	47.19	3.55E+03
7	0.405	34.8	13.56	12.44	25.78	47.23	3.57E+03
8	0.405	33.87	14.62	14.11	23.56	47.88	4.57E+03
9	0.405	34.83	13.6	12.49	25.78	47.3	3.60E+03
10	0.405	34.85	13.61	12.51	25.78	47.33	3.61E+03
11	0.401	33.8	13.6	12.63	24.56	46.41	3.68E+03
12	0.405	33.3	14.15	13.45	23.44	46.69	4.17E+03
13	0.402	33.89	13.8	12.83	24.56	46.68	3.78E+03
14	0.402	33.94	13.84	12.89	24.56	46.8	3.82E+03
15	0.408	32.91	13.93	13.02	23.44	45.9	3.92E+03
16	0.513	37.32	24.12	24.02	22.78	58.61	1.21E+04
17	0.51	37.28	24.1	24.05	22.67	58.62	1.21E+04
18	0.537	38.52	24.5	24.38	23.89	60.01	1.25E+04
19	0.532	38.53	24.42	24.39	23.78	60.08	1.25E+04
20	0.54	37.16	27.43	27.39	21.44	60.44	1.52E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=60%, Kedalaman Tanah Dasar=5m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.475	36.23	15.91	15.66	25	51.61	5.73E+03
2	0.474	36.56	16.57	16.35	25	52.51	6.18E+03
3	0.467	37.27	16.2	15.96	25.89	52.9	5.91E+03
4	0.484	36.23	16.77	16.42	24.78	52.2	6.24E+03
5	0.464	38.23	15.91	15.66	27	53.61	5.70E+03
6	0.459	38.19	15.5	15.34	27	53.32	5.50E+03
7	0.461	37.64	16.46	16.41	25.89	53.68	6.20E+03
8	0.46	37.26	15.69	15.6	25.89	52.62	5.68E+03
9	0.459	37.3	15.87	15.84	25.78	52.87	5.83E+03
10	0.466	38.27	16.2	15.96	26.89	53.9	5.90E+03
11	0.47	36.47	16.62	16.56	24.67	52.62	6.33E+03
12	0.467	36.46	16.43	16.43	24.67	52.52	6.24E+03
13	0.464	39.19	15.5	15.34	28	54.32	5.51E+03
14	0.462	38.64	16.46	16.42	26.89	54.68	6.21E+03
15	0.462	37.77	15.31	15.06	26.78	52.65	5.33E+03
16	0.458	38.3	15.87	15.84	26.78	53.87	5.82E+03
17	0.459	37.21	15.83	15.83	25.67	52.78	5.82E+03
18	0.463	37.47	16.62	16.56	25.67	53.62	6.31E+03
19	0.461	37.46	16.43	16.43	25.67	53.52	6.22E+03
20	0.461	37.12	15.8	15.75	25.67	52.61	5.77E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=60%, Kedalaman Tanah Dasar=5m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.615	37.21	20.24	20.24	23.89	56.11	9.16E+03
2	0.619	38.52	24.5	24.38	23.89	60.01	1.29E+04
3	0.577	39.2	17.5	17.47	27	56.08	7.13E+03
4	0.576	39.24	17.53	17.51	27	56.15	7.17E+03
5	0.581	39.21	20.24	20.24	25.89	58.11	9.30E+03
6	0.572	40.02	19.54	19.52	27	58.4	8.74E+03
7	0.598	40.12	21.32	20.94	27	59.34	9.89E+03
8	0.587	40.58	21.91	21.69	27	60.34	1.05E+04
9	0.572	39.72	16.26	16.25	28	55.64	6.29E+03
10	0.567	40.2	17.5	17.47	28	57.08	7.19E+03
11	0.566	40.24	17.53	17.51	28	57.15	7.23E+03
12	0.57	40.21	20.24	20.24	26.89	59.11	9.30E+03
13	0.563	41.02	19.54	19.52	28	59.4	8.74E+03
14	0.59	41.12	21.32	20.94	28	60.34	9.87E+03
15	0.561	41.29	17.71	17.68	29	58.32	7.37E+03
16	0.564	40.72	16.26	16.25	29	56.64	6.35E+03
17	0.561	41.2	17.5	17.47	29	58.08	7.22E+03
18	0.56	41.24	17.53	17.51	29	58.15	7.25E+03
19	0.562	41.21	20.24	20.24	27.89	60.11	9.28E+03
20	0.56	42.02	19.54	19.52	29	60.4	8.73E+03

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=60%, Kedalaman Tanah Dasar=10m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.404	33.96	18.65	12.46	25	46.4	3.57E+03
2	0.405	34.11	18.81	12.67	25	46.75	3.69E+03
3	0.404	34.5	19.02	13.27	24.78	47.73	4.06E+03
4	0.406	34.91	18.56	12.44	25.89	47.33	3.57E+03
5	0.406	34.93	18.58	12.46	25.89	47.37	3.58E+03
6	0.406	34.94	18.59	12.48	25.89	47.41	3.60E+03
7	0.406	34.96	18.61	12.5	25.89	47.44	3.61E+03
8	0.404	34.54	19.09	13.34	24.78	47.83	4.10E+03
9	0.406	33.5	19.31	13.62	23.56	47.06	4.28E+03
10	0.406	33.7	19.5	13.9	23.56	47.5	4.44E+03
11	0.406	33.88	19.69	14.16	23.56	47.93	4.60E+03
12	0.406	32.91	18.71	12.78	23.56	45.67	3.77E+03
13	0.406	32.93	18.73	12.81	23.56	45.72	3.79E+03
14	0.407	34.37	20.12	14.81	23.56	49.02	5.01E+03
15	0.401	33.8	18.6	12.63	24.56	46.41	3.68E+03
16	0.452	34.63	28.08	25.88	16.11	58.47	1.50E+04
17	0.451	35.16	27.6	25.21	17.11	58.46	1.42E+04
18	0.461	35.75	28.94	27.29	16.11	60.75	1.69E+04
19	0.461	36.28	28.47	26.62	17.11	60.75	1.60E+04
20	0.46	36.63	28.08	25.88	18.11	60.47	1.50E+04
21	0.475	37.19	30.37	29.31	16.11	63.76	1.95E+04
22	0.488	37.91	31.74	30.78	16.11	65.45	2.13E+04
23	0.477	36.15	31.33	30.67	14.11	63.77	2.14E+04
24	0.463	34.71	29.9	28.64	14.11	60.76	1.86E+04
25	0.484	36.22	32.73	32.49	13	65.18	2.40E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=60%, Kedalaman Tanah Dasar=10m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.457	38.02	23.65	19.81	23.67	56.99	8.96E+03
2	0.459	38.48	24.11	20.46	23.67	57.99	9.55E+03
3	0.459	37.57	24.31	20.74	22.56	57.33	9.82E+03
4	0.458	37.4	21.92	17.36	24.78	54.31	6.98E+03
5	0.457	37.86	22.38	18.02	24.78	55.33	7.47E+03
6	0.455	38.56	23.19	19.16	24.67	56.99	8.38E+03
7	0.457	37.64	23.38	19.43	23.56	56.3	8.63E+03
8	0.458	38.11	23.84	20.08	23.56	57.32	9.22E+03
9	0.458	37.94	21.46	16.72	25.78	54.29	6.49E+03
10	0.457	37.19	22.95	18.8	23.56	55.32	8.10E+03
11	0.457	37.72	22.46	18.12	24.56	55.28	7.56E+03
12	0.456	38.18	22.92	18.77	24.56	56.29	8.07E+03
13	0.457	38.64	23.38	19.43	24.56	57.3	8.63E+03
14	0.459	38.49	21.01	16.07	26.78	54.27	6.02E+03
15	0.457	37.72	22.48	18.14	24.56	55.3	7.58E+03
16	0.489	40.91	29.79	28.39	20.56	66.73	1.83E+04
17	0.488	39.15	31.33	30.67	17.11	66.77	2.15E+04
18	0.495	39.59	32.78	32.71	16.11	68.77	2.45E+04
19	0.494	39.22	32.73	32.5	16	68.18	2.41E+04
20	0.495	40.63	31.81	31.35	18.11	68.77	2.25E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=60%, Kedalaman Tanah Dasar=10m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.506	41.74	27.38	25.08	23.67	65	1.44E+04
2	0.505	42.22	27.85	25.74	23.67	66	1.52E+04
3	0.505	41.35	28.09	26.09	22.56	65.41	1.56E+04
4	0.507	41.83	28.57	26.76	22.56	66.41	1.65E+04
5	0.508	42.31	29.05	27.44	22.56	67.42	1.73E+04
6	0.507	42.27	26.91	24.41	24.67	65	1.37E+04
7	0.507	41.4	27.14	24.74	23.56	64.39	1.41E+04
8	0.505	41.88	27.61	25.41	23.56	65.4	1.48E+04
9	0.504	42.35	28.09	26.09	23.56	66.41	1.56E+04
10	0.507	42.14	25.66	22.65	25.78	63.46	1.18E+04
11	0.506	41.04	28.01	25.97	22.33	65	1.54E+04
12	0.507	41.93	26.66	24.07	24.56	64.38	1.34E+04
13	0.507	42.4	27.14	24.74	24.56	65.39	1.41E+04
14	0.506	42.08	28.06	25.95	23.44	66.01	1.54E+04
15	0.507	43.35	28.09	26.09	24.56	67.41	1.56E+04
16	0.524	44.99	32.67	32.52	21.67	74.02	2.44E+04
17	0.524	45.1	32.85	32.81	21.56	74.35	2.48E+04
18	0.548	46.04	37.6	37.57	20.56	78.08	3.10E+04
19	0.553	47.93	34.28	34.24	23.78	78.05	2.68E+04
20	0.549	45.9	37.91	37.85	20.33	78.09	3.13E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=60%, Kedalaman Tanah Dasar=15m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.404	34.5	24.02	13.27	24.78	47.73	4.06E+03
2	0.406	34.91	23.56	12.44	25.89	47.33	3.57E+03
3	0.406	34.93	23.58	12.46	25.89	47.37	3.58E+03
4	0.406	34.94	23.59	12.48	25.89	47.41	3.60E+03
5	0.406	34.96	23.61	12.5	25.89	47.44	3.61E+03
6	0.406	33.5	24.31	13.62	23.56	47.06	4.28E+03
7	0.406	33.7	24.5	13.9	23.56	47.5	4.44E+03
8	0.406	33.88	24.69	14.16	23.56	47.93	4.60E+03
9	0.406	32.91	23.71	12.78	23.56	45.67	3.77E+03
10	0.406	32.93	23.73	12.81	23.56	45.72	3.79E+03
11	0.401	33.8	23.6	12.63	24.56	46.41	3.68E+03
12	0.401	33.83	23.63	12.67	24.56	46.48	3.70E+03
13	0.401	33.86	23.66	12.71	24.56	46.55	3.72E+03
14	0.401	33.89	23.69	12.75	24.56	46.61	3.74E+03
15	0.403	33.98	23.89	12.95	24.56	46.9	3.86E+03
16	0.452	34.63	33.08	25.88	16.11	58.47	1.50E+04
17	0.451	35.16	32.6	25.21	17.11	58.46	1.42E+04
18	0.461	35.58	34.04	27.23	16.11	60.47	1.67E+04
19	0.458	36.1	33.56	26.56	17.11	60.47	1.58E+04
20	0.46	36.63	33.08	25.88	18.11	60.47	1.50E+04
21	0.464	34.53	35.01	28.59	14.11	60.47	1.84E+04
22	0.476	35.97	36.47	30.63	14.11	63.48	2.12E+04
23	0.486	36.93	37.44	32	14.11	65.48	2.32E+04
24	0.49	37.41	37.93	32.69	14.11	66.48	2.43E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=60%, Kedalaman Tanah Dasar=15m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.457	38.02	28.65	19.81	23.67	56.99	8.96E+03
2	0.459	38.48	29.11	20.46	23.67	57.99	9.55E+03
3	0.459	37.57	29.31	20.74	22.56	57.33	9.82E+03
4	0.458	37.4	26.92	17.36	24.78	54.31	6.98E+03
5	0.457	37.86	27.38	18.02	24.78	55.33	7.47E+03
6	0.455	38.56	28.19	19.16	24.67	56.99	8.38E+03
7	0.457	37.64	28.38	19.43	23.56	56.3	8.63E+03
8	0.458	38.11	28.84	20.08	23.56	57.32	9.22E+03
9	0.458	37.94	26.46	16.72	25.78	54.29	6.49E+03
10	0.457	37.19	27.95	18.8	23.56	55.32	8.10E+03
11	0.457	37.72	27.46	18.12	24.56	55.28	7.56E+03
12	0.456	38.18	27.92	18.77	24.56	56.29	8.07E+03
13	0.457	38.64	28.38	19.43	24.56	57.3	8.63E+03
14	0.459	38.49	26.01	16.07	26.78	54.27	6.02E+03
15	0.457	37.72	27.48	18.14	24.56	55.3	7.58E+03
16	0.49	38.44	36.95	31.32	16.11	66.48	2.23E+04
17	0.489	38.97	36.47	30.63	17.11	66.48	2.13E+04
18	0.495	39.41	37.93	32.69	16.11	68.48	2.43E+04
19	0.495	39.93	37.44	32	17.11	68.48	2.33E+04
20	0.496	40.44	36.95	31.31	18.11	68.48	2.23E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=60%, Kedalaman Tanah Dasar=15m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.506	41.74	32.38	25.08	23.67	65	1.44E+04
2	0.505	42.22	32.85	25.74	23.67	66	1.52E+04
3	0.505	41.35	33.09	26.09	22.56	65.41	1.56E+04
4	0.507	41.83	33.57	26.76	22.56	66.41	1.65E+04
5	0.508	42.31	34.05	27.44	22.56	67.42	1.73E+04
6	0.507	42.27	31.91	24.41	24.67	65	1.37E+04
7	0.507	41.4	32.14	24.74	23.56	64.39	1.41E+04
8	0.505	41.88	32.61	25.41	23.56	65.4	1.48E+04
9	0.504	42.35	33.09	26.09	23.56	66.41	1.56E+04
10	0.507	42.14	30.66	22.65	25.78	63.46	1.18E+04
11	0.506	41.04	33.01	25.97	22.33	65	1.54E+04
12	0.507	41.93	31.66	24.07	24.56	64.38	1.34E+04
13	0.507	42.4	32.14	24.74	24.56	65.39	1.41E+04
14	0.506	42.08	33.06	25.95	23.44	66.01	1.54E+04
15	0.507	43.35	33.09	26.09	24.56	67.41	1.56E+04
16	0.51	42.45	33.37	26.12	23.89	66.42	1.55E+04
17	0.511	41.68	34.79	28.23	21.56	67.33	1.82E+04
18	0.512	42.12	36.26	30.28	20.56	69.34	2.09E+04
19	0.512	42.64	35.77	29.6	21.56	69.34	1.99E+04
20	0.513	43.16	35.28	28.91	22.56	69.33	1.91E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=60%, Kedalaman Tanah Dasar=20m, Kemiringan 1:2

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.457	38.02	33.65	19.81	23.67	56.99	8.97E+03
2	0.459	38.48	34.11	20.46	23.67	57.99	9.55E+03
3	0.459	37.57	34.31	20.74	22.56	57.33	9.82E+03
4	0.458	37.4	31.92	17.36	24.78	54.31	6.98E+03
5	0.457	37.86	32.38	18.01	24.78	55.33	7.47E+03
6	0.455	38.56	33.19	19.16	24.67	56.99	8.38E+03
7	0.457	37.64	33.38	19.43	23.56	56.3	8.63E+03
8	0.458	38.11	33.84	20.08	23.56	57.32	9.22E+03
9	0.458	37.94	31.46	16.72	25.78	54.29	6.49E+03
10	0.457	37.19	32.95	18.8	23.56	55.32	8.10E+03
11	0.457	37.72	32.46	18.12	24.56	55.28	7.56E+03
12	0.456	38.18	32.92	18.77	24.56	56.29	8.07E+03
13	0.457	38.64	33.38	19.43	24.56	57.3	8.63E+03
14	0.459	38.49	31.01	16.07	26.78	54.27	6.02E+03
15	0.457	37.72	32.48	18.15	24.56	55.3	7.58E+03
16	0.49	38.44	41.95	31.32	16.11	66.48	2.23E+04
17	0.489	38.97	41.47	30.63	17.11	66.48	2.13E+04
18	0.495	39.41	42.93	32.69	16.11	68.48	2.43E+04
19	0.495	39.93	42.44	32	17.11	68.48	2.33E+04
20	0.496	40.44	41.95	31.31	18.11	68.48	2.23E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=60%, Kedalaman Tanah Dasar=20m, Kemiringan 1:1

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.404	34.5	29.02	13.27	24.78	47.73	4.06E+03
2	0.406	34.91	28.56	12.44	25.89	47.33	3.57E+03
3	0.406	34.93	28.58	12.46	25.89	47.37	3.58E+03
4	0.406	34.94	28.59	12.48	25.89	47.41	3.60E+03
5	0.406	34.96	28.61	12.5	25.89	47.44	3.61E+03
6	0.406	33.5	29.31	13.62	23.56	47.06	4.28E+03
7	0.406	33.7	29.5	13.9	23.56	47.5	4.44E+03
8	0.406	33.88	29.69	14.16	23.56	47.93	4.60E+03
9	0.406	32.91	28.71	12.78	23.56	45.67	3.77E+03
10	0.406	32.93	28.73	12.81	23.56	45.72	3.79E+03
11	0.401	33.8	28.6	12.63	24.56	46.41	3.68E+03
12	0.401	33.83	28.63	12.67	24.56	46.48	3.70E+03
13	0.401	33.86	28.66	12.71	24.56	46.55	3.72E+03
14	0.401	33.89	28.69	12.75	24.56	46.61	3.74E+03
15	0.403	33.98	28.89	12.95	24.56	46.9	3.86E+03
16	0.452	34.63	38.08	25.88	16.11	58.47	1.50E+04
17	0.451	35.16	37.6	25.21	17.11	58.46	1.42E+04
18	0.461	35.58	39.04	27.23	16.11	60.47	1.67E+04
19	0.458	36.1	38.56	26.56	17.11	60.47	1.58E+04
20	0.46	36.63	38.08	25.88	18.11	60.47	1.50E+04
21	0.464	34.53	40.01	28.59	14.11	60.47	1.84E+04
22	0.476	35.97	41.47	30.63	14.11	63.48	2.12E+04
23	0.486	36.93	42.44	32	14.11	65.48	2.32E+04

Rekap Hasil Pemodelan dengan Stable untuk Htimbunan=8m, IP=60%, Kedalaman Tanah Dasar=20m, Kemiringan 1:3

No.	SF	Circle Center		Radius	Initial	Terminal	Resisting Moment
		Koord. X (m)	Koord. Y (m)	(m)	Koord. X (m)	Koord. Y (m)	(kNm)
1	0.506	41.74	37.38	25.08	23.67	65	1.44E+04
2	0.505	42.22	37.85	25.74	23.67	66	1.52E+04
3	0.505	41.35	38.09	26.09	22.56	65.41	1.56E+04
4	0.507	41.83	38.57	26.76	22.56	66.41	1.65E+04
5	0.508	42.31	39.05	27.44	22.56	67.42	1.73E+04
6	0.507	42.27	36.91	24.41	24.67	65	1.37E+04
7	0.507	41.4	37.14	24.74	23.56	64.39	1.41E+04
8	0.505	41.88	37.61	25.42	23.56	65.4	1.48E+04
9	0.504	42.35	38.09	26.09	23.56	66.41	1.56E+04
10	0.507	42.14	35.66	22.65	25.78	63.46	1.18E+04
11	0.506	41.04	38.01	25.97	22.33	65	1.54E+04
12	0.507	41.93	36.66	24.07	24.56	64.38	1.34E+04
13	0.507	42.4	37.14	24.74	24.56	65.39	1.41E+04
14	0.506	42.08	38.06	25.95	23.44	66.01	1.54E+04
15	0.507	43.35	38.09	26.09	24.56	67.41	1.56E+04
16	0.51	42.45	38.37	26.12	23.89	66.42	1.55E+04
17	0.511	41.68	39.79	28.23	21.56	67.33	1.82E+04
18	0.512	42.12	41.26	30.28	20.56	69.34	2.09E+04
19	0.512	42.64	40.77	29.6	21.56	69.34	1.99E+04
20	0.513	43.16	40.28	28.91	22.56	69.33	1.91E+04

BAB VI
PENUTUP

6.1 Kesimpulan

Dari hasil analisa dan perhitungan pada tugas akhir ini, dapat diambil beberapa kesimpulan sebagai berikut:

1) Variasi data tanah lunak yang digunakan dari ketentuan Ardana-Mochtar (1999), yaitu berdasarkan nilai Indeks Plastisitas 20, 40, dan 60 dengan kondisi asli dan Cu yang sudah meningkat.
2) Variasi lain yang digunakan adalah sebagai berikut:
   - Hfinal timbunan : 2 meter, 4 meter, 6 meter, dan 8 meter
   - Slope : 1, 2, dan 3
   - Kedalaman tanah dasar : 5 meter, 10 meter, 15 meter, dan 20 meter
3) Jumlah perkuatan geotextile dari seluruh hasil analisa bervariasi, sehingga jumlah yang diambil adalah jumlah perkuatan geotextile terbanyak dari setiap hasil analisa variasi data. Jumlah perkuatan terbanyak tidak selalu berasal dari hasil analisa dengan SF terkecil.
4) Jumlah perkuatan geotextile saat tanah telah memampat lebih sedikit dibandingkan dengan saat tanah belum memampat
5) Jumlah kebutuhan geotextile dihasilkan berupa tabel dan grafik dengan hasil:
   - Semakin tinggi timbunan, semakin banyak jumlah perkuatan geotextile.
   - Semakin besar Indeks Plastisitas, semakin banyak jumlah perkuatan geotextile.
   - Semakin dalam tanah lunak, semakin banyak jumlah perkuatan geotextile.

- Semakin besar slope / landai, semakin sedikit jumlah perkuatan geotextile.
- Adanya peningkatan nilai Cu dan pemampatan tanah dasar dapat mengurangi jumlah perkuatan geotextile yang dibutuhkan.
- Bila geotextile yang dibutuhkan harus dirangkap, maka disarankan untuk menggunakan geotextile dengan kuat tarik lebih besar dari kuat tarik yang dianalisa.
- Kebutuhan perkuatan anatara SF kondisi lapangan terbaik dan terburuk bergantung pada kondisi tanah asli di lapangan.
- Tabel dan grafik tersebut dapat digunakan untuk kondisi tanah di lapangan terburuk. Bila kondisi tanah di lapangan memiliki spesifikasi yang lebih baik, maka diperbolehkan untuk menggunakan hasil dari perhitungan yang lebih efisien.

6.2 Saran

Perlu dilakukan studi lanjutan dengan menggunakan metode analisa lain. Selain itu, studi lebih lanjut dengan mempertimbangkan tanah dasar yang lebih bervariasi (tidak terlalu dominan kohesif), penggunaan PVD pada tanah dasar dan peninjauan kondisi gempa juga diperlukan untuk mendapat jumlah kebutuhan perkuatan geotextile yang lebih efektif.

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