

# **EVALUASI STRUKTUR BETON DERMAGA TANJUNG GADING BANGKA SELATAN**

## **TUGAS AKHIR**

*Diajukan Sebagai Salah Satu Syarat  
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## **PERNYATAAN KEABSAHAN**

Dengan ini menyatakan bahwa Tugas Akhir yang berjudul evaluasi struktur beton dermaga tanjung gading bangka selatan adalah murni hasil pekerjaan sendiri. Tidak ada pekerjaan orang lain yang kami gunakan tanpa menyebutkan sumbernya. Semua penulisan dalam Tugas Akhir ini telah disesuaikan dengan ketentuan yang berlaku.

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Demikian pernyataan ini kami buat dengan sebenar-benarnya dan dalam keadaan sadar.

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## ABSTRAK

Dermaga merupakan salah satu infrastruktur penting dalam mendukung aktivitas transportasi laut, bongkar muat, dan distribusi logistik. Kinerja struktur dermaga sangat dipengaruhi oleh kualitas beton yang digunakan serta kondisi lingkungan laut yang bersifat agresif. Penelitian ini bertujuan untuk mengevaluasi kondisi struktur beton pada Dermaga Tanjung Gading, Bangka Selatan, dengan meninjau aspek mutu beton, tingkat kerusakan, serta kesesuaian struktur terhadap standar teknis yang berlaku. Metode penelitian meliputi pengumpulan data primer melalui inspeksi visual lapangan, uji kuat tekan beton, serta pengukuran ketebalan selimut beton dan tingkat korosi tulangan. Selain itu, digunakan data sekunder berupa gambar perencanaan serta dokumen teknis pendukung. Hasil penelitian menunjukkan adanya indikasi penurunan kualitas beton di beberapa titik akibat paparan lingkungan laut, retak permukaan, dan potensi korosi pada tulangan. Namun secara keseluruhan, struktur dermaga masih mampu menahan beban operasional dengan catatan perlunya perawatan berkala dan perkuatan pada bagian tertentu. Kesimpulan dari penelitian ini adalah bahwa struktur beton dermaga masih layak digunakan, namun diperlukan program pemeliharaan jangka panjang untuk menjaga keandalannya.

Kata kunci: Dermaga, beton, evaluasi struktur, korosi, Bangka Selatan

## ABSTRACT

Piers are a critical infrastructure supporting maritime transportation, loading and unloading, and logistics distribution. The performance of pier structures is significantly influenced by the quality of the concrete used and the aggressive marine environment. This study aims to evaluate the condition of the concrete structure at Tanjung Gading Pier, South Bangka, by reviewing concrete quality, damage levels, and the structure's compliance with applicable technical standards. The research method included primary data collection through visual field inspections, concrete compressive strength tests, and measurements of concrete cover thickness and reinforcement corrosion levels. Secondary data, including design drawings and supporting technical documents, were also used. The results showed indications of concrete deterioration in several areas due to exposure to the marine environment, surface cracking, and potential corrosion of the reinforcement. However, overall, the pier structure is still capable of withstanding operational loads, with the caveat that periodic maintenance and reinforcement in certain areas are required. The conclusion of this study is that the pier's concrete structure is still suitable for use, but a long-term maintenance program is required to maintain its reliability.

Keywords: Pier, concrete, structural evaluation, corrosion, South Bangka

## KATA PENGANTAR

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# **BAB I**

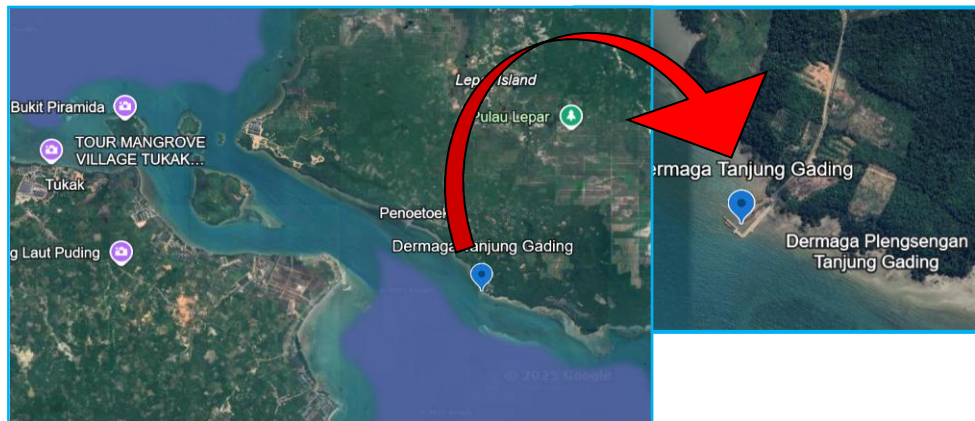
## **PENDAHULUAN**

### **1.1 Latar Belakang**

Fondasi dari suatu gedung/struktur harus direncanakan dan dibangun agar aman dalam memikul beban-beban yang bekerja padanya tanpa mengurangi kestabilan ataupun menyebabkan deformasi yang besar pada bangunan tersebut, atau bangunan lain di sekitarnya, jalan, ataupun lereng yang ada. Berdasarkan SNI 8460:2017 tentang Persyaratan Perancangan Geoteknik, untuk mengatasi kedua hal tersebut, maka perancangan fondasi harus:

- a. Memenuhi persyaratan kekuatan, baik untuk struktur fondasinya maupun untuk lapisan tanah pendukung fondasi tersebut (strength requirement);
- b. Memenuhi persyaratan penurunan yang ditentukan (serviceability requirement).

Lokasi pembangunan Dermaga Tanjung Gading Bangka Selatan, Bangka Belitung seperti terlihat pada gambar berikut.



Gambar 1.1. Lokasi Bangunan Dermaga Tanjung Gading

### **1.2 Identifikasi Masalah**

Identifikasi masalah pada penelitian ini adalah untuk mengetahui daya dukung izin tanah dimana fondasi tersebut akan dibangun, akibat dari beban

kerja harus diambil yang terkecil dari :

- a. Kapasitas ultimit tanah dengan faktor keamanan yang cukup terhadap kemungkinan terjadinya keruntuhan, atau
- b. Suatu nilai yang memberikan deformasi fondasi akibat beban yang bekerja masih dalam batas-batas yang diizinkan oleh bangunan tersebut, atau bangunan di sekitarnya.

### **1.3 Rumusan Masalah**

Berdasarkan deskripsi yang telah disampaikan diatas disimpulkan bahwa terdapat beberapa rumusan masalah, yaitu:

1. Bagaimanakah hasil data – data tanah yang diperoleh dari penyelidikan lapangan maupun laboratorium pada lokasi pekerjaan.
2. Bagaimanakah hasil modulus elastisitas, daktilitas dan, kekakuan pada element struktur.
3. Berapakah variasi dimensi element struktur.
4. Bagaimanakah hasil terhadap pembebanan vertical.
5. Bagaimanakah hasil terhadap pembebanan horizontal.

### **1.4 Batasan Masalah**

Dalam penelitian ini, penulis membatasi masalah antara lain:

1. Pondasi yang digunakan dalam penelitian ini adalah tiang pancang jenis *spun pile* diameter 50 cm.
2. Mutu beton yang digunakan dalam penelitian ini adalah K-300 untuk elemen struktur.
3. Dimensi Pilecap (1) 90 cm x 90 cm x 50 cm.
4. Dimensi Pilecap (2) 500 cm x 500 cm x 100 cm.
5. Dimensi Balok B1 50 cm x 95 cm.
6. Dimensi Balok B2 50 cm x 95 cm.
7. Dimensi Balok B3 50 cm x 85 cm.
8. Dimensi Balok B4 50 cm x 60 cm.
9. Tebal Beton Pelat Lantai (1) 20 cm.

10. Tebal Beton Pelat Lantai (2) 25 cm.
11. Tulangan baja BjTD 420 dengan mutu baja tulangan  $f_y$  420 MPa.

## 1.5 Tujuan

Adapun tujuan dari penelitian ini adalah sebagai berikut :

1. Hasil penyelidikan tanah memberikan dasar penting dalam perencanaan struktur fondasi, kestabilan lereng, dan analisis geoteknik lainnya. Analisis data ini akan menghasilkan :
  - Rekomendasi tipe pondasi (dalam vs dangkal).
  - Kapasitas daya dukung tanah (bearing capacity).
  - Penurunan (settlement) yang diperkirakan.
  - Stabilitas lereng dan galian.
2. Untuk mendapatkan hasil gaya maksimum pada beban envelope dari gabungan beban gravitasi dan beban lateral.
3. variasi dimensi elemen struktur mencakup rentang ukuran yang disesuaikan dengan kebutuhan desain, beban struktur, dan standar teknis yang berlaku. Ukuran ini bisa sangat berbeda tergantung jenis elemen (kolom, balok, sloof, pondasi) dan spesifikasi proyek.
4. pembebanan vertikal pada elemen struktur menghasilkan penurunan (settlement) atau defleksi yang besarnya tergantung pada tipe struktur, ukuran, bahan, dan posisi pembebanan. Pada kombinasi beban aksial dan lateral, ada interaksi yang dapat meningkatkan atau mengurangi kapasitas struktur tergantung pada parameter tanah dan desain struktur terkait
5. Untuk mendapatkan gaya tumbukan pembebanan horizontal akibat kapal.

## **1.6 Manfaat**

Manfaat yang diharapkan dapat diperoleh dari penelitian ini adalah:

1. Bagi penulis:
  - a. Mengetahui kekuatan struktur dermaga.
  - b. Mengetahui gaya pembebanan vertical maupun horizontal.
  - c. Mengetahui variasi dimensi struktur pilecap dan balok.
2. Bagi pembaca:
  - a. Memberikan alternatif kekuatan struktur yang ekonomis.
  - b. Memberikan gambaran peningkatan kekuatan struktur terhadap beban vertical dan horizontal.

## **BAB II**

### **TINJAUAN PUSTAKA**

#### **2.1 Struktur**

##### **a) Uji Kuat Tekan Beton Inti**

###### **Prinsip Uji**

Metoda pengujian *core-drilled* (beton inti) dilaksanakan menurut standar BS 1881, “*Concrete Testing for Strength*” dan Standar Nasional Indonesia (SNI 03-2492-2002, Metode pengambilan dan pengujian beton inti dan SNI 03-6898-2002, Tata cara pelaksanaan pengambilan dan pengujian kuat tekan beton inti). Tujuan utama pengujian *core-drilled* adalah menentukan kuat tekan beton sebenarnya (*actual strength*) dengan cara melakukan pengujian kuat tekan di laboratorium terhadap sampel yang diambil di lapangan.

Pengambilan contoh uji dilakukan dengan cara coring, yaitu mengambil benda uji beton dari bagian struktur dengan ukuran diameter 7,5 cm dan 10 cm menggunakan mesin bor khusus. Arah pengambilannya disesuaikan dengan kondisi di lapangan (vertikal atau horisontal). Contoh uji tersebut diberi tanda dan dilakukan pengujian fisik di laboratorium beton.

Pengujian meliputi:

- a. Pengujian visual dari contoh asli.
- b. Berat asli beton inti.
- c. Diameter dan panjang asli beton inti.
- d. Diameter tulangan.
- e. Jarak tulangan ke tepi beton inti.
- f. Pengujian kuat tekan beton (*actual strength*).
- g. Diameter dan panjang beton inti setelah dipotong.
- h. Berat jenis dalam keadaan jenuh kering permukaan.
- i. Pengujian pembebanan (beban maksimum).

- j. Penentuan kuat tekan beton (core strength).
- k. Penentuan actual strength, yaitu perkalian antara core strength dengan angka-angka koreksi.

### **Kelas dan Kategori Mutu Beton**

Berdasarkan Peraturan Beton Bertulang Indonesi (PBI 1971) Mutu beton digolongkan ke dalam 3 kelas mutu, yaitu beton kelas I, beton kelas II, dan beton kelas III. Beton kelas I: K-100, K-125, K-150, K-175, dan K-200 digunakan untuk bukan pekerjaan struktur. Beton Kelas II: K-225, K-250, K-300 dan K-275 digunakankan untuk pekerjaan struktur seperti lantai, jalan, pondasi, sloof, kolom, dan lain-lain. Beton Kelas III: K-325, K-350, K-375, K-450, dan K-500 adalah beton khusus, misalnya untuk balok dan lantai jembatan, landasan pesawat, dan lain-lain. Mutu beton berdasarkan karakteristik beton dalam praktek di lapangan dapat dibagi menjadi tiga bagian yaitu:

- **Beton Non Struktural**

Beton non struktural adalah pekerjaan pengecoran beton yang tidak mengandung secara langsung unsur strukutral antara lain besi sebagai bahan penulangan cor beton. Mutu beton non struktural atau juga disebut beton kelas I antara lain: K-B0 (Nol) K-100, K-125, K-150, K-175, dan K-200.

- **Beton Struktural**

Beton struktural adalah jenis beton yang mengandung unsur penulangan besi dalam adukan pengecorannya, beton struktural juga meliputi pekerjaan pembesian dan pekerjaan pengecoran beton. Sedangkan pekerjaan lainnya yang sering berhubungan dengan pekerjaan beton adalah pekerjaan penyusunan struktur baja, bekisting beton, finishing beton, pondasi beton, pasangan bata dan lain sebagainya. Mutu beton struktural juga disebut beton kelas II

yang terdiri dari beberapa kelas antara lain: K-225, K-250, K-275 dan K-300.

- **Beton Prategang**

Beton prategang adalah perpaduan antara beton dan baja, sedangkan beton merupakan materi yang memiliki daya kekuatan tekan yang tinggi akan tetapi kekuatan tariknya rendah. Disamping itu baja memiliki kekuatan tarik yang sangat tinggi. Dengan kombinasi antara kekuatan beton dan baja maka akan menghasilkan struktur yang kuat terhadap beban tekan dan beban tarik. Mutu beton prategang ini juga disebut kelas III yang terdiri dari beberapa karakteristik kelas antara lain: K-325, K-350, K-375, K-450, dan K-500.

Adapun penggunaan beton yang umum digunakan di lapangan jika dilihat dari kelas dan mutunya adalah sebagai berikut:

1. Klas A (K-500), kegunaan dan peruntukan kelas ini adalah untuk beton untuk precast atau prestressed.
2. Klas P (K-450), kelas jenis beton ini kegunaannya untuk rigid, jalan kelas 1 atau jalan negara dan jalan tol).
3. Klas B (K-350), jenis beton kelas ini diperuntukan untuk lantai biasanya lantai dasar bangunan pabrik.
4. Klas K-300, beton untuk konstruksi bangunan ruko/rumah bertingkat 3 lantai s/d 5 lantai.
5. Klas K-250, konstruksi bangunan bertingkat dua lantai, ruko/rumah tinggal standar.
6. Klas K-225 (mobil standar) konstruksi bangunan bertingkat dua lantai, ruko/rumah tinggal.
7. Klas 225 (MINI MIX mobil kecil), konstruksi bangunan bertingkat dua lantai, ruko/rumah tinggal.
8. Klas D (K-175) konstruksi bangunan ringan.
9. Klas E (K-125) konstruksi LC/lantai dasar.
10. Klas BO konstruksi LC/lantai dasar.

## **b) Analisis Kapasitas Elemen-elemen Struktur Eksisting**

Analisis kapasitas elemen-elemen struktur eksisting dilakukan berdasarkan hasil investigasi lapangan. Analisis ini dilakukan untuk mengetahui kapasitas (kemampuan, kekuatan) suatu elemen struktur eksisting dalam menahan beban yang bekerja padanya. Pemeriksaan kapasitas elemen struktur biasanya dilakukan pada elemen struktur kolom dan balok dikarenakan kedua elemen struktur ini merupakan komponen penyusun struktur utama. Pada analisis struktur dermaga pemeriksaan elemen struktur dilakukan pada balok gelagar dermaga karena balok gelagar dermaga merupakan struktur utama penopang beban dermaga sebelum diteruskan ke tanah melalui spun pile. Hasil analisis ini akan dibandingkan terhadap gaya-gaya hasil perancangan yang telah dilakukan konsultan.

## **2.2 Fondasi (Persyaratan Perancangan Pondasi)**

### **Persyaratan Dasar**

Fondasi dari suatu gedung/struktur harus direncanakan dan dibangun agar aman dalam memikul beban-beban yang bekerja padanya tanpa mengurangi kestabilan ataupun menyebabkan deformasi yang besar pada bangunan tersebut, atau bangunan lain di sekitarnya, jalan, ataupun lereng yang ada. Berdasarkan SNI 8460:2017 tentang Persyaratan Perancangan Geoteknik, untuk mengatasi kedua hal tersebut, maka perancangan fondasi harus:

- a. Memenuhi persyaratan kekuatan, baik untuk struktur fondasinya maupun untuk lapisan tanah pendukung fondasi tersebut (strength requirement);
- b. Memenuhi persyaratan penurunan yang ditentukan (serviceability requirement).

### **Daya Dukung Izin**

Daya dukung izin tanah, dimana fondasi tersebut akan dibangun, akibat beban kerja harus diambil yang terkecil dari:

- a. Kapasitas ultimit tanah dengan faktor keamanan yang cukup terhadap kemungkinan terjadinya keruntuhan, atau suatu nilai yang memberikan deformasi fondasi akibat beban yang bekerja masih dalam batas-batas yang diizinkan oleh bangunan tersebut, atau bangunan di sekitarnya.
- b. Daya dukung izin pada pondasi dangkal adalah nilai daya dukung tanah yang diizinkan untuk digunakan dalam perencanaan pondasi, yaitu nilai yang aman untuk menahan beban struktur di atasnya tanpa menyebabkan kegagalan atau penurunan yang berlebihan.
- c. Dalam konteks pondasi tusuk sate, ini mengacu pada kemampuan pondasi untuk menopang beban struktur tanpa mengalami kegagalan. Penelitian menunjukkan bahwa pondasi tusuk sate mampu menopang beban terpusat hingga fase kritis, seperti pada beban 22,3 Ton dengan penurunan 42 mm.
- d. pondasi bored pile adalah kapasitas beban maksimum yang diizinkan untuk ditanggung oleh tiang bor sebelum terjadi kegagalan.
- e. Daya dukung izin tiang pancang (atau daya dukung izin tiang pancang) adalah beban maksimum yang bisa ditahan oleh tiang pancang tanpa menyebabkan penurunan yang berlebihan atau kegagalan struktural. Ini adalah kapasitas tiang pancang untuk menahan beban yang diterapkan di atasnya setelah memasukkan faktor keamanan.

#### **a. Metode Rasional**

Metode rasional yang digunakan untuk menghitung kapasitas ultimit fondasi harus dilakukan berdasarkan data-data tanah yang diperoleh dari penyelidikan lapangan maupun laboratorium pada lokasi pekerjaan menggunakan:

- a. Metode analitik yang sudah baku (misalnya Terzaghi, Meyerhoff, Hansen, Vesic, Reese) yang memperhitungkan kondisi lapisan tanah yang ada serta geometri dari fondasi,
- b. Metode empiris yang sudah baku (terbukti).

Daya dukung izin fondasi diperoleh dari daya dukung ultimit fondasi tersebut dibagi dengan suatu faktor keamanan yang besarnya minimum 3 untuk fondasi dangkal atau minimum 2,5 untuk fondasi dalam menurut SNI 8460:2017.

#### **b. Metode Pengujian Pembebanan**

Daya dukung izin fondasi dapat juga diperoleh dari hasil uji pembebanan fondasi pada lokasi pekerjaan. Beberapa hal yang harus diperhatikan dalam menggunakan metode ini adalah sebagai berikut:

- a. Efek penskalaan dari uji pembebanan terhadap dimensi fondasi yang sebenarnya;
- b. Variasi lapisan tanah tempat dilakukannya uji pembebanan terhadap lokasi fondasi yang sebenarnya;
- c. Durasi pembebanan pada uji pembebanan dibandingkan dengan umur fondasi.

Uji pembebanan yang dilaksanakan pada suatu pelat uji (individual test plate) ataupun tiang tunggal hanya akan memberikan gambaran mengenai daya dukung ultimit (ultimate bearing capacity) tanah pada lokasi pengujian tersebut akibat beban uji yang diberikan. Dengan demikian hasil yang diperoleh dari uji pembebanan ini belum tentu menggambarkan karakteristik daya dukung (bearing capacity) fondasi yang sebenarnya atau kondisi daya dukung di lapangan secara keseluruhan.

## 2.3 Asumsi Perencanaan

1. Pelat lantai dianggap sebagai elemen shell (thin) yang bersifat menerima beban tegak lurus bidang (vertikal) dan beban lateral (horizontal) akibat gempa.
2. Taraf penjepitan dipakai jepit, karena desain fondasi menggunakan tipe fondasi dalam (tiang pancang), sehingga kedudukan pondasi diasumsikan tidak mengalami rotasi dan translasi.

## 2.4 Material Struktur

Struktur dermaga didesain menggunakan material beton bertulang dengan mutu persyaratan sesuai dengan standar peraturan yang digunakan, yang mana mutu material yang digunakan ini merupakan mutu material hasil pengujian terhadap elemen struktur eksisting pada dermaga antara lain sebagai berikut:

### 1. Beton

Mutu beton untuk bagian Balok, Pelat Lantai, dan Tambatan Kapal menggunakan mutu beton K-300. Namun, setelah dilakukan pengujian didapat nilai rata-rata mutu beton yang dapat dicapai sebesar K-153.727, sehingga digunakan mutu beton pada evaluasi struktur dermaga sebesar K-153.727 kg/cm<sup>2</sup>.

Kuat beton yang disyaratkan,  $f_c'$  = 12.76 MPa

Modulus elastisitas beton,  $E_c$  = 16788.503 MPa

Angka poisson,  $\nu$  = 0.2

Modulus geser,  $G$  = 8547.065 MPa

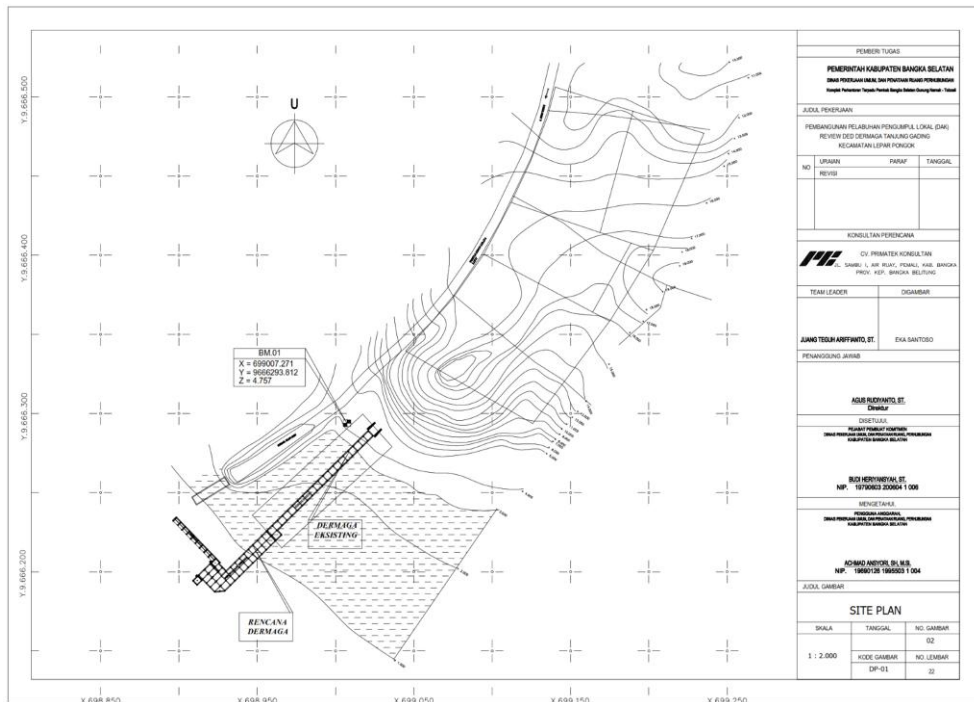
### 2. Baja tulangan

Kelas baja tulangan memakai baja tulangan BjTD 420 (Baja Tulangan Sirip), dengan mutu baja tulangan,  $f_y$  = 420 Mpa

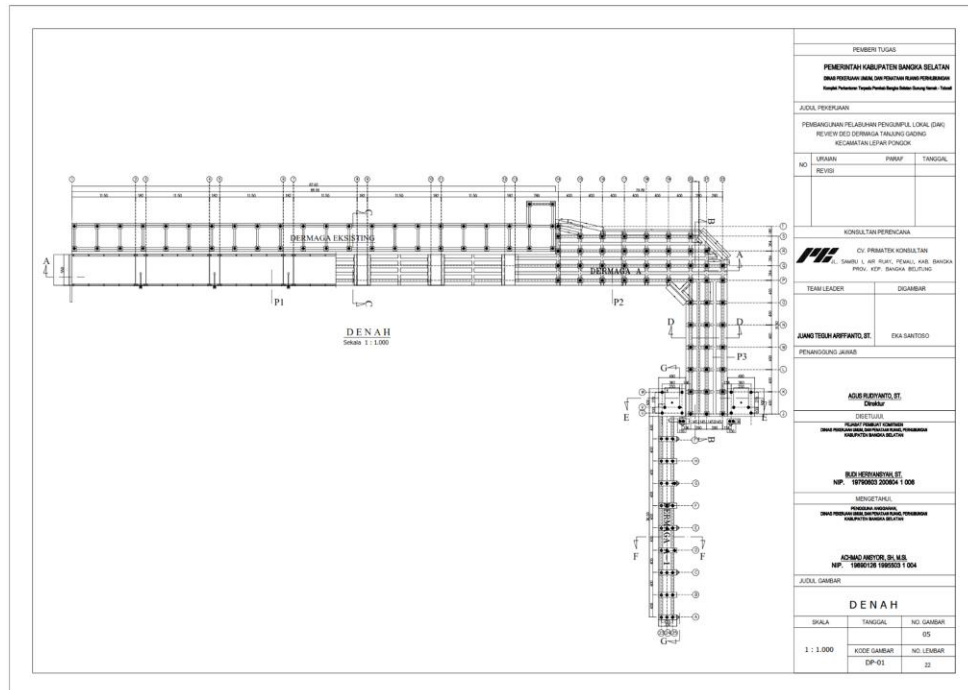
## 2.5 Kriteria Desain

Dermaga adalah suatu bangunan pelabuhan yang digunakan untuk merapat dan menambatkan kapal yang melakukan bongkar muat barang dan menaik-

turunkan penumpang. Dermaga yang hendak dievaluasi strukturnya berlokasi di kecamatan Lepar Pongok, Kepulauan Pongok, Bangka Selatan yang mempunyai panjang total 185 meter dimana tipe struktur dermaga adalah tipe struktur dermaga jetty yang merupakan struktur terbuka dan memakai tiang pancang. Gambar 2.1. merupakan Site Plan Dermaga dan Gambar 2.2. merupakan Denah Dermaga.



Gambar 2.1 Site Plan



Laporan Analisis Struktur ini terutama menyajikan hasil perhitungan struktur berupa *Engineering Judgment* yang berisi hasil analisis struktur dan evaluasi terhadap elemen struktur.

## 2.6 Sistem Stuktur

Sistem struktur dermaga tipe jetty yang dianalisis merupakan sistem struktur Portal Beton Bertulang, dimana diafragma (slab) digunakan sebagai pengaku antar elemen struktur.

## 2.7 Peraturan/Standar Yang Digunakan

Peraturan/Standar tata cara Perencanaan Struktur Bangunan mengacu pada peraturan yang berlaku di Indonesia yang merupakan peraturan terbaru (revisi dari peraturan sebelumnya), peraturan yang digunakan antara lain:

- SNI 1727:2020 "Beban desain minimum dan kriteria terkait untuk bangunan gedung dan struktur lain"
- SNI 8900:2020 "Panduan desain sederhana untuk bangunan beton bertulang"
- SNI 2847:2019 "Persyaratan beton struktural untuk bangunan gedung"

- SNI 1726:2019 "Tata Cara Perencanaan ketahanan Gempa untuk Struktur Bangunan Gedung dan Nongedung
- SNI 2052:2017 "Baja Tulangan Beton"
- SNI 1725:2016 "Pembebanan untuk Jembatan"

## **BAB III**

### **METODOLOGI PENELITIAN**

#### **3.1 Beban**

Beban yang digunakan dalam analisis struktur ini merupakan beban Envelope dari gabungan beban gravitasi dan beban lateral, diantaranya: berat sendiri dermaga (beban mati), beban di atas dermaga, gaya benturan kapal, gaya tarikan kapal (angin, aurs, dan gelombang), dan gaya gempa.

##### **3.1.1 Pembebanan Vertikal**

###### **a. Beban Mati**

Beban mati sendiri elemen struktur (self weight) yang terdiri dari kolom, balok, dan pelat sudah dihitung secara otomatis dalam software SAP2000 dengan memberikan faktor pengali berat sendiri (self weight multiplier) sebesar 1 (satu).

Beban mati elemen struktur antara lain:

Berat beton bertulang  $= 2400 \text{ Kg/m}^3$

Berat baja  $= 7850 \text{ Kg/m}^3$

###### **b. Beban Hidup**

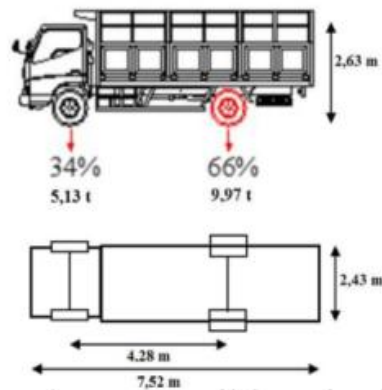
Beban merata dermaga akibat muatan  $= 40 \text{ kN/m}^2$

Beban air hujan (5 cm)  $= 0.5 \text{ kN/m}^2$

###### **c. Beban bergerak**

###### **- Truck**

Jenis truk yang direncanakan untuk menunjang aktivitas bongkar muat di dermaga ini adalah light truck dengan konfigurasi sumbu 1,2L. Truck ini memiliki berat total maksimum 15,1 ton dan berat kosong 4,6 ton. Dengan spesifikasi yang sama, berdasarkan spesifikasi truk hino FG 235 JJ, truk ini memiliki radius putar 7,3 m dan area kontak tiap roda adalah 20 cm x 40 cm. Konfigurasi beban sumbu truck ini dapat dilihat pada Gambar 3.1.



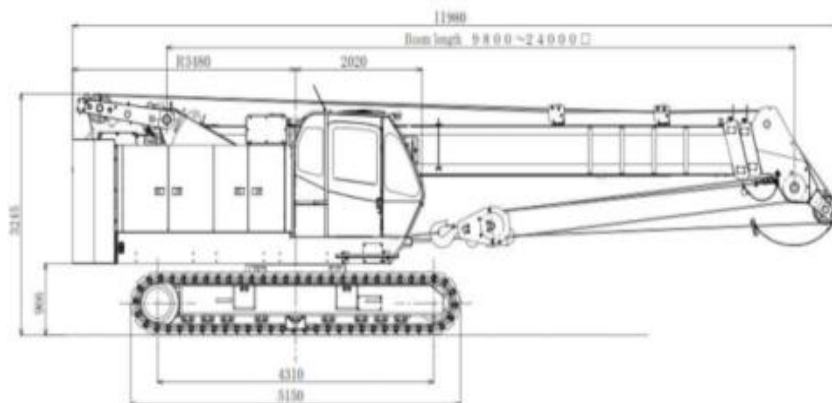
Gambar 3.1 Dimensi Truck

#### - **Crawler Crane**

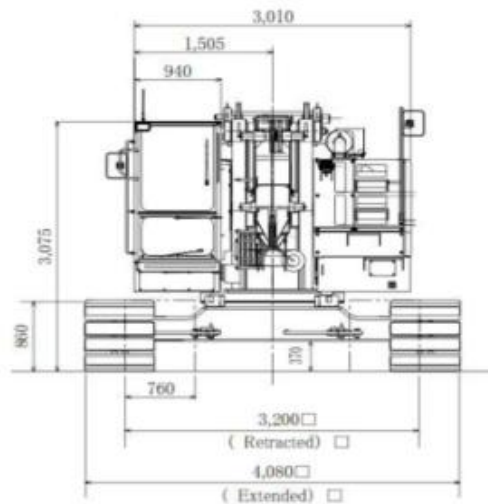
Crawler crane digunakan untuk melakukan aktivitas bongkar muat barang dengan berat yang cukup besar dari kapal MPSV atau PSV. Crawler Crane rencana yang akan digunakan adalah Kobelco TK 350, dengan spesifikasi dan dimensi yang dapat dilihat pada Tabel 3.1, Gambar 3.2, dan Gambar 3.3. Sedangkan kemampuan crane untuk mengangkat beban berdasarkan radius kerjanya dapat dilihat pada Tabel 3.2.

Tabel 3.1 Spesifikasi Crawler Crane

|                   |                          |
|-------------------|--------------------------|
| Daya angkat maks. | 35,0 ton x 2,7 m         |
| Panjang boom      | 9,8 - 24,0 m             |
| Tinggi hook       | 24,9 m                   |
| Kecepatan jelajah | 1,3 km/h                 |
| Berat             | 40,98 ton                |
| Ground pressure   | 0,625 kg/cm <sup>2</sup> |
| Luas kontak roda  | 2 x (4,31 x 0,76 m)      |



Gambar 3.2 Dimensi Crawler Crane Tampak Samping



Gambar 3.3 Dimensi Crawler Crane Tampak Depan

Tabel 3.2 Daya Angkat Crane berdasarkan Panjang Boom

| Boom length (m) | 9.88  | 16.98 | 20.45 | 24.68 |
|-----------------|-------|-------|-------|-------|
| 2.7             | 35.00 | 19.00 | 15.00 | 12.50 |
| 3.8             | 32.00 | 19.00 | 15.00 | 12.50 |
| 3.9             | 28.30 | 19.00 | 15.00 | 12.50 |
| 4.8             | 25.30 | 19.00 | 15.00 | 12.50 |
| 4.5             | 23.00 | 19.00 | 15.00 | 12.50 |
| 5.8             | 21.00 | 18.00 | 15.00 | 12.50 |
| 5.5             | 19.15 | 16.70 | 14.80 | 12.50 |
| 6.8             | 17.00 | 15.60 | 13.70 | 12.00 |
| 6.5             | 15.10 | 14.40 | 12.85 | 11.30 |
| 7.8             | 13.25 | 13.10 | 12.10 | 10.70 |
| 7.5             | 12.00 | 11.85 | 11.50 | 10.10 |
| 7.8             | 8.00  | 11.25 | 11.15 | 9.85  |
| 8.8             |       | 10.90 | 10.70 | 9.60  |
| 8.5             |       | 9.80  | 9.80  | 9.10  |
| 9.8             |       | 8.80  | 9.00  | 8.65  |
| 8.5             |       | 8.10  | 8.30  | 8.20  |
| 10.8            |       | 7.50  | 7.70  | 7.80  |
| 11.8            |       | 6.80  | 6.65  | 6.75  |
| 12.8            |       | 5.65  | 5.85  | 5.95  |
| 13.8            |       | 5.00  | 5.15  | 5.25  |
| 14.8            |       | 4.45  | 4.60  | 4.70  |
| 14.8            |       | 3.50  | 4.15  | 4.25  |
| 15.8            |       |       | 4.10  | 4.30  |
| 16.8            |       |       | 3.70  | 3.80  |
| 17.8            |       |       | 3.35  | 3.45  |
| 18.8            |       |       | 3.05  | 3.10  |
| 18.4            |       |       | 2.65  | 3.00  |
| 19.8            |       |       |       | 2.85  |
| 20.8            |       |       |       | 2.60  |
| 21.8            |       |       |       | 2.40  |
| 22.8            |       |       |       | 2.05  |
| Min. boom angle | 0°    | 0°    | 0°    | 0°    |

### 3.1.2 Pembebanan Horizontal

#### a. Gaya Tumbukan Akibat Kapal

Besarnya energi kinetik ( $E_f$ ) yang timbul saat kapal merapat ke dermaga dihitung sebagai berikut:

$$E_f = \left( \frac{1}{2} \times M_s \times V^2 \right) \times C_M \times C_E \times C_C \times C_S$$

Keterangan:

$E_f$  = Energi benturan normal (kJm)

Ms = Displacement tonnage (ton)

V = Kecepatan kapal saat merapat (m/s)

CM = Koefisien massa

CE = Koefisien eksentrisitas

CC = Koefisien benturan tambatan

CS = Koefisien kekerasan

#### 1. Menentukan Displacement tonnage (Ms)

Displacement tonnage merupakan berat total kapal dan muatannya pada saat kapal dimuati sampai draft maksimum. Dengan asumsi kapal cargo less than 10000 DWt, maka berdasarkan Tabel 3.3 dapat dihitung displacement tonnagenya.

**Tabel 3.3 Penentuan Displacement Tonnager Kapal**

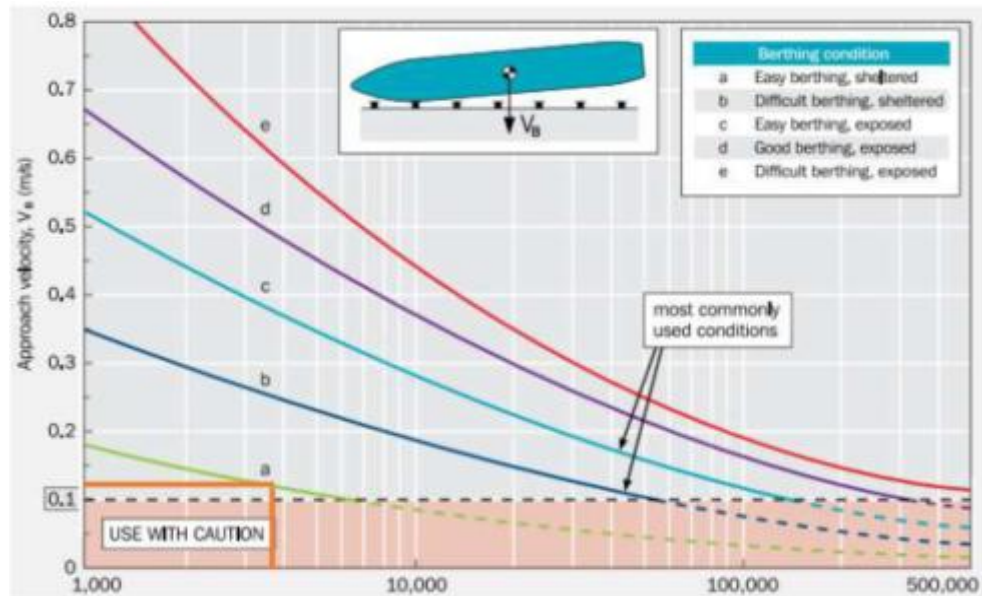
|                                      |                                        |
|--------------------------------------|----------------------------------------|
| Cargo ships (less than 10,000DWT) :  | $\log (DT) = 0.550 + 0.899 \log (DWT)$ |
| Cargo ships (10,000DWT or more) :    | $\log (DT) = 0.511 + 0.913 \log (DWT)$ |
| Container ships :                    | $\log (DT) = 0.365 + 0.953 \log (DWT)$ |
| Ferries (long distance) :            | $\log (DT) = 1.388 + 0.683 \log (GT)$  |
| Ferries (short-to-medium distance) : | $\log (DT) = 0.506 + 0.904 \log (GT)$  |
| Roll-on/roll-off vessels :           | $\log (DT) = 0.657 + 0.909 \log (DWT)$ |
| Passenger ships (Japanese) :         | $\log (DT) = 0.026 + 0.981 \log (GT)$  |
| Passenger ships (foreign) :          | $\log (DT) = 0.341 + 0.891 \log (GT)$  |
| Car carriers :                       | $\log (DT) = 1.915 + 0.588 \log (GT)$  |
| Oil tankers :                        | $\log (DT) = 0.332 + 0.956 \log (DWT)$ |

Sehingga:

$$\begin{aligned}\log (DT) &= 0.55 + 0.899 \log (DWT) \\ &= 0.55 + 2.697 \\ &= 1766.04 \text{ Ton}\end{aligned}$$

#### 2. Menentukan kecepatan kapal bertambat (v)

Dengan anggapan bahwa area dermaga merupakan area terlindung dan kapal mudah bertambat, maka dapat ditentukan kecepatan kapal saat merapat ke dermaga menurut Gambar 3.4. dan Tabel 3.4. untuk kondisi a (easy berthing, sheltered).



Gambar 3.4 Grafik kecepatan kapal bertambat

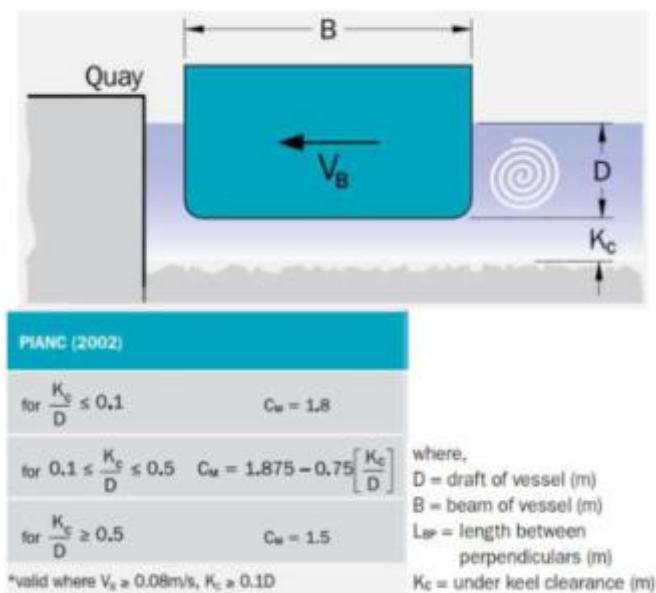
Tabel 3.4 Penentuan kecepatan kapal bertambat

| DWT     | VELOCITY, $V_a$ (m/s) |       |       |       |       |
|---------|-----------------------|-------|-------|-------|-------|
|         | a                     | b     | c     | d     | e     |
| 1,000   | 0.179                 | 0.343 | 0.517 | 0.669 | 0.865 |
| 2,000   | 0.151                 | 0.296 | 0.445 | 0.577 | 0.726 |
| 3,000   | 0.136                 | 0.269 | 0.404 | 0.524 | 0.649 |
| 4,000   | 0.125                 | 0.250 | 0.374 | 0.487 | 0.597 |
| 5,000   | 0.117                 | 0.236 | 0.352 | 0.459 | 0.558 |
| 10,000  | 0.094                 | 0.192 | 0.287 | 0.377 | 0.448 |
| 20,000  | 0.074                 | 0.153 | 0.228 | 0.303 | 0.355 |
| 30,000  | 0.064                 | 0.133 | 0.198 | 0.264 | 0.308 |
| 40,000  | 0.057                 | 0.119 | 0.178 | 0.239 | 0.279 |
| 50,000  | 0.052                 | 0.110 | 0.164 | 0.221 | 0.258 |
| 100,000 | 0.039                 | 0.083 | 0.126 | 0.171 | 0.201 |
| 200,000 | 0.028                 | 0.062 | 0.095 | 0.131 | 0.158 |
| 300,000 | 0.022                 | 0.052 | 0.080 | 0.111 | 0.137 |
| 400,000 | 0.019                 | 0.045 | 0.071 | 0.099 | 0.124 |
| 500,000 | 0.017                 | 0.041 | 0.064 | 0.090 | 0.115 |

Dari gambar dan tabel di atas dapat diperoleh nilai  $v$  dimana dengan DWT sebesar 1000, didapat nilai  $v$  sebesar 0.179 m/s.

### 3. Menentukan *virtual mass factor* (CM)

Dalam menentukan CM, digunakan peraturan standar PIANC (2002) yaitu dengan cara membandingkan nilai  $K_c$  yaitu kedalaman dari dasar kapal kondisi draft maksimum dengan  $D$  yaitu Draft maksimum kapal (Gambar 3.5.).



Gambar 3.5 Perhitungan koefisien CM

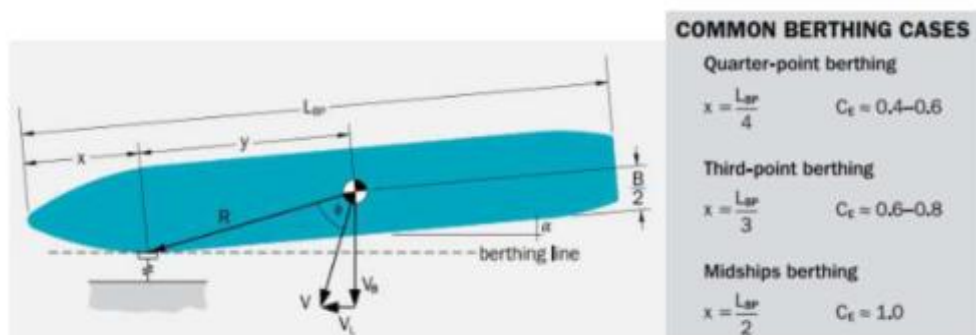
Sehingga nilai koefisien CM sebesar:

$$K_C/D = 0.826$$

karena  $K_C/D \geq 0.5$ , maka didapat nilai CM sebesar 1.5

#### 4. Menentukan *eccentricity factor* (CE)

Dalam menentukan koefisien eksentrisitas atau CE digunakan pendekatan asumsi kapal menumbuk fender pada saat berlabuh. Terdapat tiga kondisi ketika kapal berlabuh, yaitu seperempat bagian kapal menumbuk fender, sepertiga bagian kapal menumbuk fender, dan setengah bagian kapal menumbuk fender.

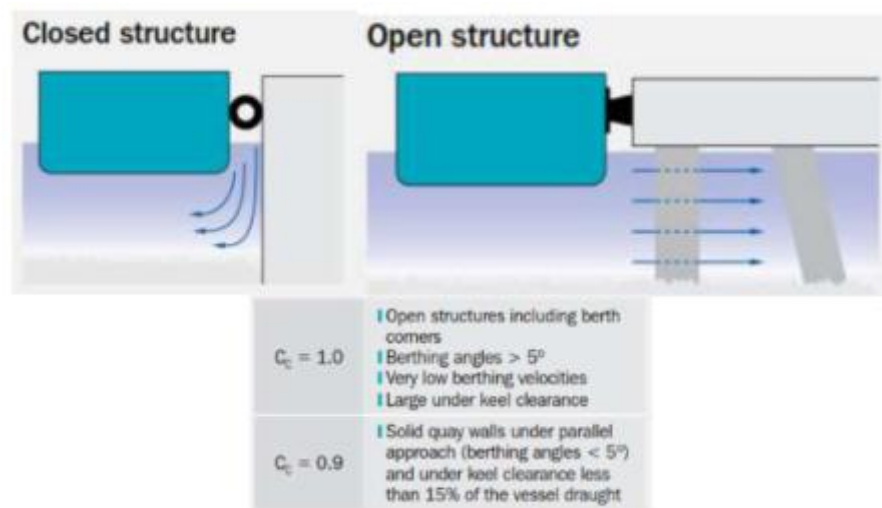


Gambar 3.6 Penentuan Koefisien CE

Ditentukan berdasarkan kasus umum continuous bert dengan asumsi awal kapal bertambat pada posisi sepertiga dari LoA. Maka dengan asumsi tersebut dapat ditentukan nilai CE sebesar  $CE = 0.8$

#### 5. Menentukan *Cushion coefficient* ( $C_c$ )

Untuk koefisien  $C_c$  dipilih berdasarkan tipe konstruksi yang digunakan pada struktur yang direncanakan. Baik merupakan tipe struktur terbuka, tertutup maupun semi terbuka. Penentuan koefisien  $C_c$  dapat dilihat pada Gambar 3.7. Untuk perhitungan efek dari bantalan dengan kondisi struktur dermaga berbentuk open pier, sehingga didapat nilai  $C_c = 1.0$



Gambar 3.7 Penentuan koefisien  $C_c$

#### 6. Menentukan *softness coefficient* ( $C_s$ )

Koefisien  $C_s$  ditentukan untuk mengantisipasi pengaruh deformasi elastis terhadap keadaan kapal maupun konstruksi tambatan (Gambar 3.8.). Ditentukan dengan asumsi tidak terjadinya deformasi, sehingga harga  $C_s = 1$

|             |                                               |
|-------------|-----------------------------------------------|
| $C_s = 1.0$ | Soft fenders ( $\delta_f > 150\text{mm}$ )    |
| $C_s = 0.9$ | Hard fenders ( $\delta_f \leq 150\text{mm}$ ) |

Gambar 3.8 Penentuan Koefisien  $C_s$

7. Menentukan Energi Kinetik Normal ( $E_f$ )

$$E_f = \left( \frac{1}{2} \times M_s \times V^2 \right) \times C_M \times C_E \times C_C \times C_S$$

$$E_f = (1/2 \times 1766.04 \times 0.179^2 \times 1.5 \times 0.8 \times 1.0 \times 1.0) = 33.95 \text{ kNm}$$

8. Menentukan energi kinetik kapal bertambat kondisi abnormal

$$E_A = F_s \times E_f$$

Keterangan:

$F_s$  = Faktor keamanan, (Tabel 3.5.)

$E_f$  = Energi kinetik tumbukan normal

Tabel 3.5 Faktor keamanan kapal bertambat abnormal

| VESSEL TYPE          | SIZE     | $F_s$      |
|----------------------|----------|------------|
| Tanker, bulk, cargo  | Largest  | 1.25       |
|                      | Smallest | 1.75       |
| Container            | Largest  | 1.5        |
|                      | Smallest | 2.0        |
| General cargo        | –        | 1.75       |
| RoRo, ferries        | –        | $\geq 2.0$ |
| Tugs, workboats, etc | –        | 2.0        |

Source: PIANC 2002; Table 4.2.5.

Diambil

$$F_s = 2$$

$$E_A = 67.90 \text{ kNm}$$

**b. Gaya Tarikan Kapal pada *Bollard***

Kapal rencana yang akan bertambat pada dermaga memiliki kapasitas 1.000 DWT dengan Gross Tonnage (GT) sebesar 810 ton. Dengan melihat tabel 3.6. dapat diketahui gaya tarik kapal ini sebesar 250 kN. Gaya tarik kapal tersebut selanjutnya akan dibandingkan dengan gaya tarik kapal akibat arus dan angin.

$$\text{Gaya tarik kapal terhadap bollard} = 250 \text{ kN}$$

Tabel 3.6 Penentuan gaya tarik kapal terhadap bollard

| Gross tonnage ( <i>GT</i> ) of vessel (tons) | Tractive force acting on a mooring post (kN) | Tractive force acting on a bollard (kN) |
|----------------------------------------------|----------------------------------------------|-----------------------------------------|
| $200 < GT \leq 500$                          | 150                                          | 150                                     |
| $500 < GT \leq 1,000$                        | 250                                          | 250                                     |
| $1,000 < GT \leq 2,000$                      | 350                                          | 250                                     |
| $2,000 < GT \leq 3,000$                      | 350                                          | 350                                     |
| $3,000 < GT \leq 5,000$                      | 500                                          | 350                                     |
| $5,000 < GT \leq 10,000$                     | 700                                          | 500                                     |
| $10,000 < GT \leq 20,000$                    | 1,000                                        | 700                                     |
| $20,000 < GT \leq 50,000$                    | 1,500                                        | 1,000                                   |

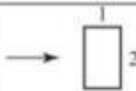
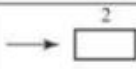
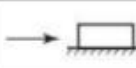
### c. Beban Angin yang Bekerja pada Kapal

Kecepatan angin digunakan sebesar 7-10 m/s sesuai dengan daerah lokasi dermaga (bangka selatan), sehingga untuk perhitungan gaya angin pada kapal digunakan angin dengan kecepatan 10 m/s. perhitungan gaya angin tersebut menggunakan persamaan berikut:

$$R_X = 0.5 \cdot \rho_a \times U^2 \times A_T \times C_x$$

$$R_Y = 0.5 \cdot \rho_a \times U^2 \times A_L \times C_y$$

Tabel 3.7 Koefisien Hambatan Angin

|                                                                                     |                                                            |     |
|-------------------------------------------------------------------------------------|------------------------------------------------------------|-----|
|  | Square cross-section                                       | 2.0 |
|  | "                                                          | 1.6 |
|  | Rectangular cross-section<br>(ratio of side lengths = 1:2) | 2.3 |
|  | "                                                          | 1.5 |
|  | "<br>(when one face is in contact with the ground)         | 1.2 |
|  | Circular cross-section<br>(smooth surface)                 | 1.2 |

Keterangan:

$R_X$  = Gaya angin arah X, searah kapal (kN)

$R_Y$  = Gaya angin arah Y, tegak lurus kapal (kN)

$C_X$  = Koefisien hambatan arah X = 1.5

$C_Y$  = Koefisien hambatan arah Y = 2.3

$\rho_a$  = Massa jenis angin =  $1.23 \times 10^{-3}$  (t/m<sup>3</sup>) = 0.00123

$U$  = Kecepatan angin (m/s) = 10

$A_T$  = Luas permukaan kapal di atas permukaan air arah memanjang ( $m^2$ )

Lebar x (depth - draft) = 28.32  $m^2$

$A_L$  = Luas permukaan kapal di atas permukaan air arah melintang ( $m^2$ )

Loa x (depth - draft) = 131.57  $m^2$

Sehingga,

$$R_x = 0.5 \cdot \rho_a \times U^2 \times A_T \times C_x$$

$$R_x = 0.5 \cdot 0.00123 \cdot 10^2 \cdot 28.32 \cdot 1.5 = 2.61 \text{ kN}$$

$$R_y = 0.5 \cdot \rho_a \times U^2 \times A_L \times C_y$$

$$R_y = 0.5 \cdot 0.00123 \cdot 10^2 \cdot 131.57 \cdot 2.3 = 18.61 \text{ kN}$$

#### d. Beban Arus yang Bekerja pada Kapal

Berdasarkan analisis data arus didapatkan sebesar 0.2 - 0.3 m/s, sehingga perhitungan gaya arus pada kapal digunakan arus sebesar 0.3 m/s. Untuk perhitungan gaya arus digunakan persamaan berikut:

$$R_f = 0.0014 \times S \times V_x^2$$

$$R = 0.5 \times \rho_0 \times C \times V_y^2 \times B$$

Keterangan :

$R_f$  = Beban tambat akibat arah arus sejajar dengan kapal (kN)

$R$  = Beban tambat akibat arah arus tegak lurus dengan kapal (kN)

$S$  = Luasan permukaan bawah kapal yang tenggelam dalam keadaan penuh ( $m^2$ )

= Panjang seluruh kapal (Loa) x Lebar kapal (B)

$$= 59 \times 12.7 = 749.30 \text{ m}^2$$

$V_x$  = Kecepatan arus sejajar pantai (m/s) = 0.3

$V_y$  = Kecepatan arus tegak lurus pantai (m/s) = 0.3

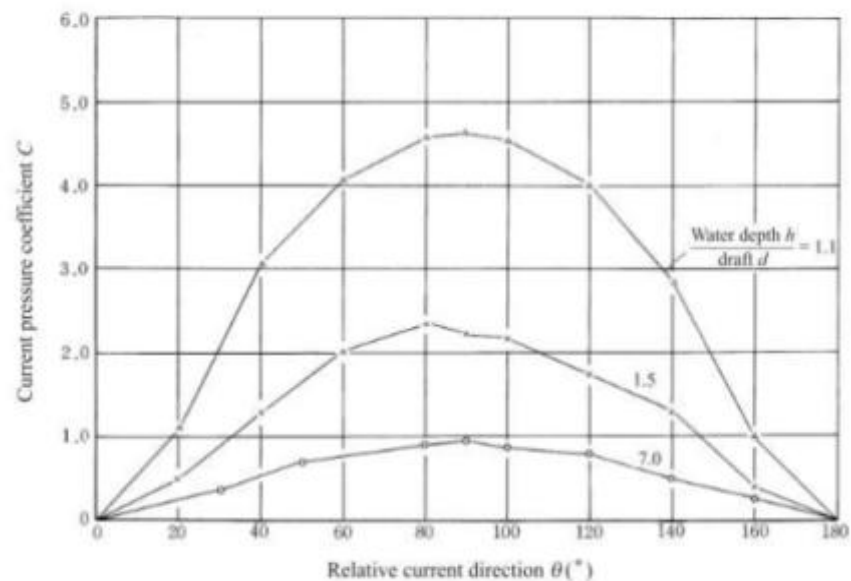
$\rho_0$  = Massa jenis air laut ( $t/m^3$ ) = 1.03

$C$  = Koefisien tekanan arus (Gambar 3.9.) = 1.8

$B$  = Proyeksi luas lambung kapal di bawah permukaan air ( $m^2$ )

$$= \text{LoA panjang Kapal} \times \text{draft}$$

$$= 59 \times 2.7 = 159.30 \text{ m}^2$$



Gambar 3.9 Koefisien tekanan arus

Sehingga:

$$R_f = 0.0014 \times 749.30 \times (0.3)^2 = 0.09 \text{ kN}$$

$$R = 0.5 \times 1.03 \times 1.8 \times (0.3)^2 \times 159.30 = 13.29 \text{ kN}$$

#### e. Beban Gempa

Analisis beban gempa dilakukan dengan analisis dinamik respons spektrum. Untuk analisis respons spektrum parameter gempanya diambil dari Aplikasi Desain Spektra Indonesia dengan software RSA

Data Desain Spektra Indonesia

Daerah : Pongok

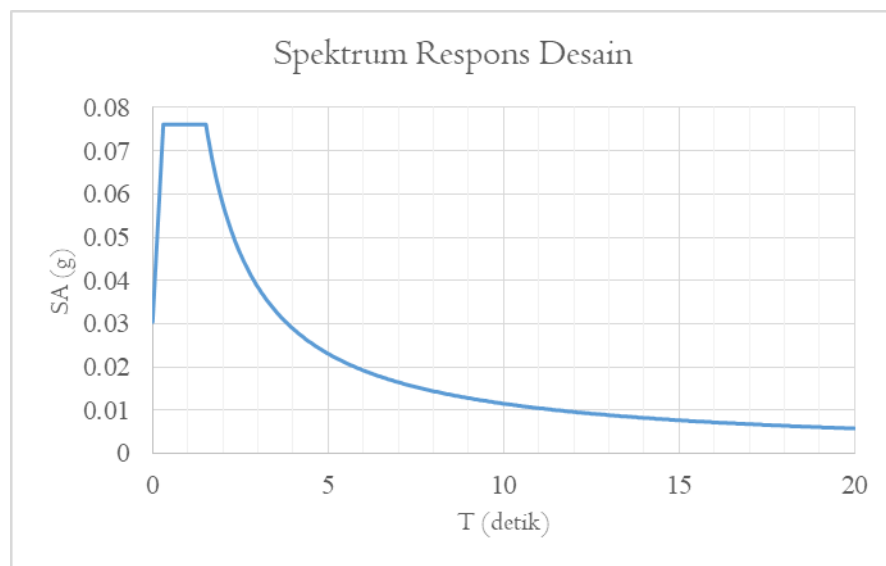
Bujur : 107.0585 Derajat

Lintang : -2.8857 Derajat

Kelas Situs : SC - Tanah Keras, Batuan Lunak

| Parameter | Nilai |
|-----------|-------|
| PGA (g)   | 0.04  |
| PGAM (g)  | 0.05  |
| CRs       | 0.00  |
| CR1       | 0.00  |

| Parameter     | Nilai |
|---------------|-------|
| $S_s$ (g)     | 0.09  |
| $S_1$ (g)     | 0.12  |
| TL (detik)    | 20.00 |
| $F_a$         | 1.30  |
| $F_v$         | 1.50  |
| SMS (g)       | 0.11  |
| SM1 (g)       | 0.17  |
| SDS (g)       | 0.08  |
| SD1 (g)       | 0.12  |
| $T_0$ (detik) | 0.30  |
| $T_s$ (detik) | 1.52  |



#### Parameter-Parameter Gempa

Fungsi bangunan gedung = Dermaga, Fasilitas perikanan

Kategori risiko bangunan = Kategori I

faktor keutamaan gempa,  $I_e$  = 1.0

Tinggi gedung,  $H$  (m) = 4.93

Klasifikasi situs = SC (Tanah Keras, Batuan Lunak)

Kategori desain seismik (KDS) = B

Sistem struktur yang digunakan:

Sistem rangka pemikul momen biasa (SRPMB)

Faktor reduksi sistem struktur:

Koefisien modifikasi respon,  $R = 3$

Faktor pembesaran defleksi,  $C_d = 2.5$

Faktor kuat lebih sistem,  $\Omega_o = 3$

Faktor skala  $= 3.27$

#### f. Kriteria *Fender* dan *Bollard*

##### f.1. *Fender*

Dari perhitungan gaya tumbukan kapal diperoleh  $E_f$  maksimum = 67.90 kNm

Tipe fender yang digunakan adalah Fender type M H400 x L2000, fender dipasang tiap 8 meter

##### f.2. *Bollard*

Gaya tarik bollard berdasarkan perhitungan gaya tarik kapal terhadap bollard serta beban angin dan arus yang bekerja pada kapal saat bertambat maka dapat diketahui:

- Gaya tarik kapal terhadap bollard sebesar 250 kN
- Gaya tarik arah memanjang (akibat angin dan arus) sebesar 2.71 kN
- gaya tarik arah melintang (akibat angin dan arus) sebesar 31.90 kN

Dari hasil tersebut maka gaya tarik bollard yang digunakan adalah gaya akibat tarikan kapal (yang terbesar) yakni:

$H_b = 250 \text{ kN}$

#### 3.1.3 Kombinasi Pembebanan

Kombinasi pembebanan yang digunakan untuk analisis struktur ini adalah sebagai berikut:

| Nomor | DL  | Ds  | LL  | Lr  | Fd  | Bl  | Truck | CC  | E-x | E-y |
|-------|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|
| 1     | 1.0 | 1.0 |     |     |     |     |       |     |     |     |
| 2     | 1.0 | 1.0 | 1.0 | 1.0 |     |     |       |     |     |     |
| 3     | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |     |       |     |     |     |
| 4     | 1.0 | 1.0 | 1.0 | 1.0 |     | 1.0 |       |     |     |     |
| 5     | 1.0 | 1.0 |     |     | 1.0 |     |       | 1.0 |     |     |
| 6     | 1.0 | 1.0 |     |     |     | 1.0 |       | 1.0 |     |     |
| 7     | 7.1 | 1.0 | 1.0 | 1.0 | 1.0 |     |       |     | 1.0 | 0.3 |

| Nomor | DL  | Ds  | LL  | Lr  | Fd  | Bl | Truck | CC  | E-x  | E-y  |
|-------|-----|-----|-----|-----|-----|----|-------|-----|------|------|
| 8     | 7.2 | 1.0 | 1.0 | 1.0 | 1.0 |    |       |     | 1.0  | -0.3 |
|       | 7.3 | 1.0 | 1.0 | 1.0 | 1.0 |    |       |     | -1.0 | -0.3 |
|       | 7.4 | 1.0 | 1.0 | 1.0 | 1.0 |    |       |     | -1.0 | 0.3  |
|       | 7.5 | 1.0 | 1.0 | 1.0 | 1.0 |    |       |     | 0.3  | 1.0  |
|       | 7.6 | 1.0 | 1.0 | 1.0 | 1.0 |    |       |     | 0.3  | -1.0 |
|       | 7.7 | 1.0 | 1.0 | 1.0 | 1.0 |    |       |     | -0.3 | -1.0 |
|       | 7.8 | 1.0 | 1.0 | 1.0 | 1.0 |    |       |     | -0.3 | 1.0  |
| 8     | 8.1 | 1.0 | 1.0 |     |     |    | 1.0   | 1.0 | 1.0  | 0.3  |
|       | 8.2 | 1.0 | 1.0 |     |     |    | 1.0   | 1.0 | 1.0  | -0.3 |
|       | 8.3 | 1.0 | 1.0 |     |     |    | 1.0   | 1.0 | -1.0 | -0.3 |
|       | 8.4 | 1.0 | 1.0 |     |     |    | 1.0   | 1.0 | -1.0 | 0.3  |
|       | 8.5 | 1.0 | 1.0 |     |     |    | 1.0   | 1.0 | 0.3  | 1.0  |
|       | 8.6 | 1.0 | 1.0 |     |     |    | 1.0   | 1.0 | 0.3  | -1.0 |
|       | 8.7 | 1.0 | 1.0 |     |     |    | 1.0   | 1.0 | -0.3 | -1.0 |
|       | 8.8 | 1.0 | 1.0 |     |     |    | 1.0   | 1.0 | -0.3 | 1.0  |

Keterangan :

DL = beban mati/berat sendiri struktur

Ds = berat bollard, fender, panel fender, dll

LL = beban hidup merata

Lr = beban hujan

Fd = beban tumbukan kapal pada fender

Bl = beban tarikan kapal pada bollard

Truck = beban roda truck

CC = beban roda crawler crane

E-x = beban gempa arah X

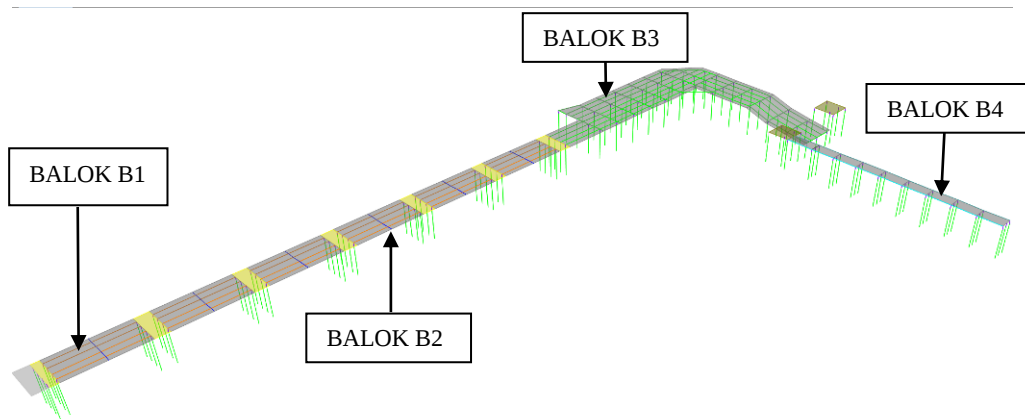
E-y = beban gempa arah Y

## BAB IV

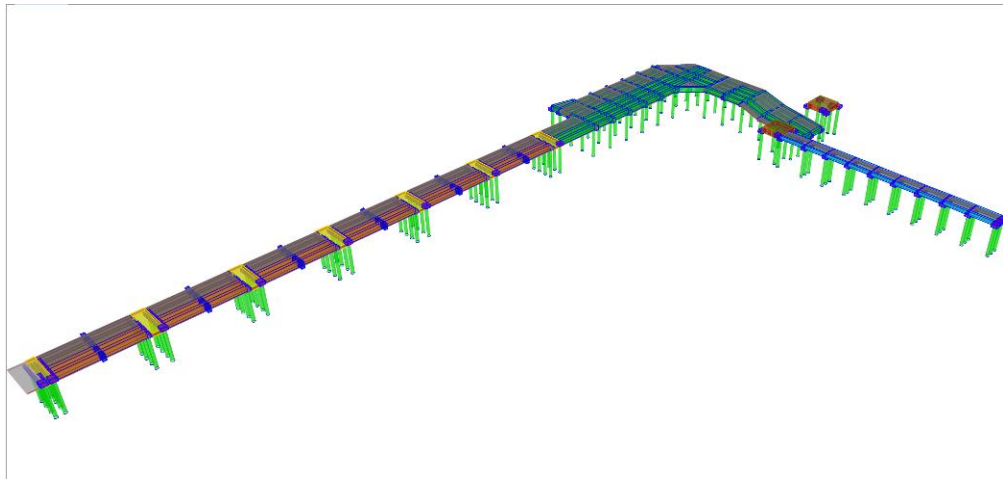
### ANALISIS STRUKTUR

#### 4.1 Pemodelan Struktur

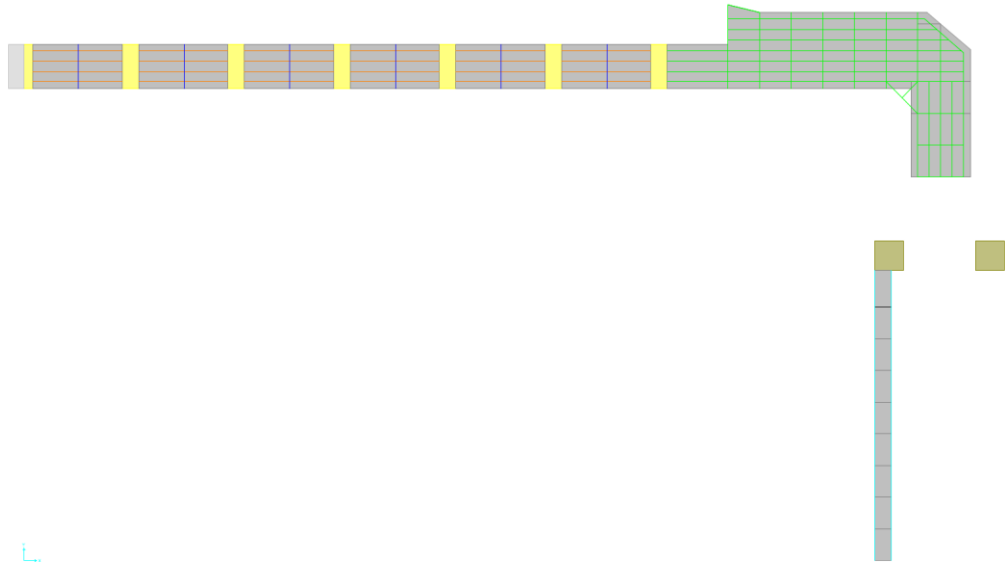
Struktur dimodelkan secara 3 dimensi pada software SAP2000 dengan tipe struktur portal beton bertulang dan denah struktur, sebagai berikut:



Gambar 4.1 3D View Struktur



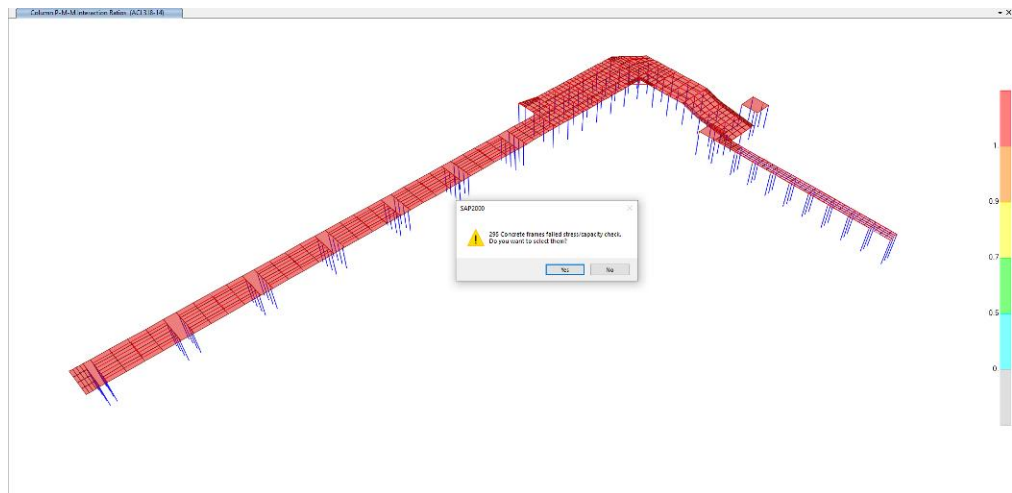
Gambar 4.2 3D View Struktur (Extrude)



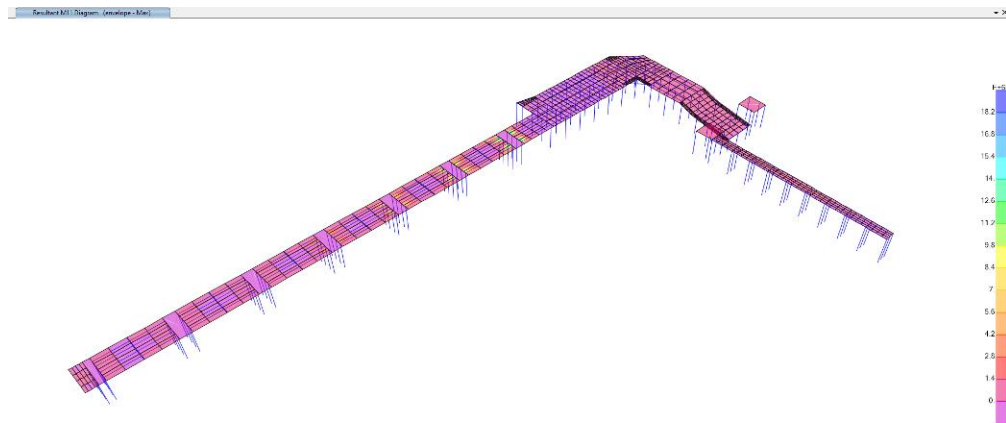
Gambar 4.3 X-Y Plane

## 4.2 Output Hasil Analisis

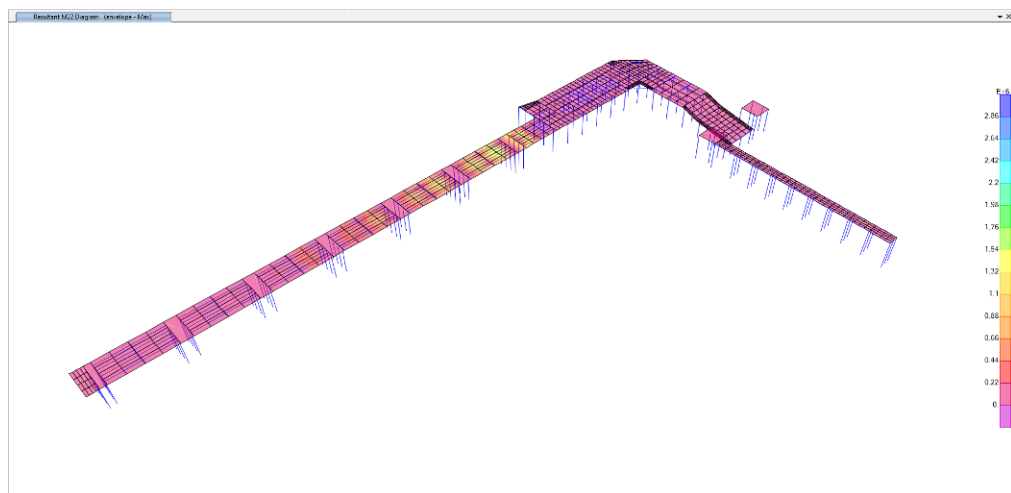
Output hasil analisis struktur ditunjukkan dengan capacity ratio dari struktur dan gaya dalam sebagai berikut:



Gambar 4.4 Capacity Ratio



Gambar 4.5 Contour M11 Slab



Gambar 4.6 Contour M22 Slab

Untuk Output tabulasi respons struktur berupa element forces dan design summary dapat dilihat pada lampiran.

### 4.3 Pemeriksaan Kapasitas Elemen Struktur

Kapasitas elemen struktur merupakan kemampuan suatu elemen untuk menahan beban yang bekerja padanya. Pemeriksaan kapasitas elemen struktur biasanya dilakukan pada elemen struktur kolom dan balok dikarenakan kedua elemen struktur ini merupakan komponen penyusun struktur utama. Pada analisis struktur dermaga pemeriksaan elemen struktur dilakukan pada balok gelagar dermaga karena balok gelagar dermaga merupakan struktur utama penopang beban dermaga sebelum diteruskan ke tanah melalui spun pile.

#### 4.4 Balok B1

Data elemen balok:

Lebar (b) = 500 mm

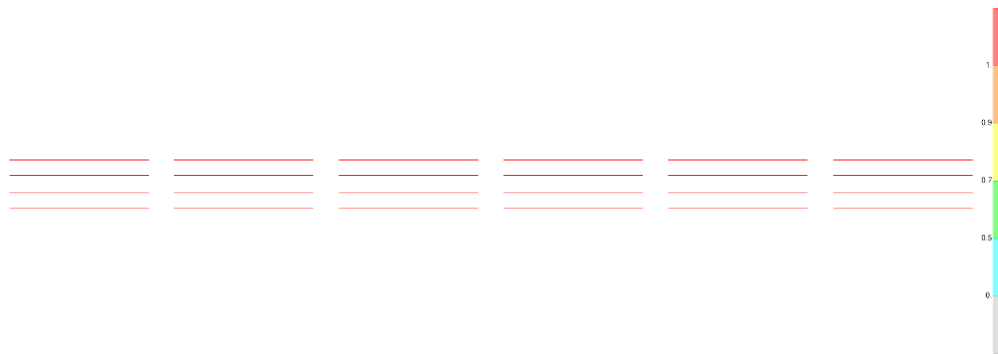
Tinggi (h) = 950 mm

Panjang bentangan (l) = 11500 mm

Mutu beton ( $f_c'$ ) = 19.05 Mpa

Mutu baja ( $f_y$ ) = 420 Mpa

Pada Balok B1, kapasitas elemen struktur balok ini tidak mencukupi dikarenakan dari hasil evaluasi struktur didapat nilai rasio kapasitas (capacity ratio) dari struktur kurang lebih dari 1 ( $CR > 1$ ), seperti yang ditunjukkan pada Gambar 4.7.



Gambar 4.7 Rasio Kapasitas Balok B1

Nilai capacity ratio pada balok B1 ini lebih besar dari 1 karena disebabkan oleh Tegangan geser yang mana gaya geser dan torsi yang terjadi pada balok melebihi dari tegangan yangizinkan. Penurunan mutu beton yang terjadi merupakan parameter utama yang membuat balok B1 mengalami kegagalan.

## 4.5 Balok B2

Data elemen balok:

Lebar (b) = 500 mm

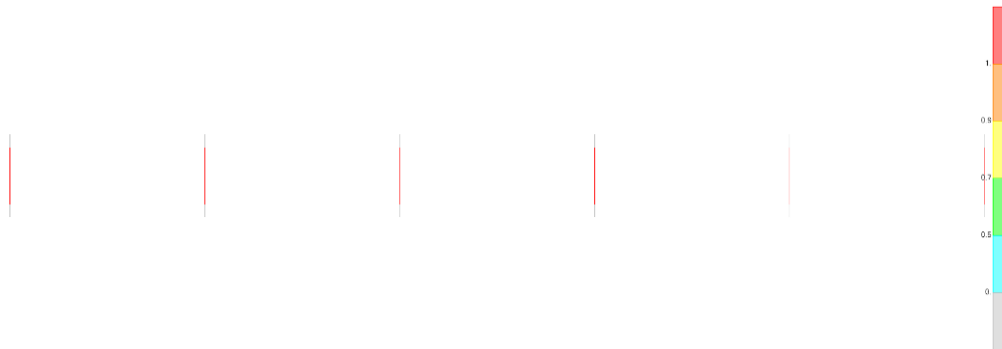
Tinggi (h) = 950 mm

Panjang bentangan (l) = 5500 mm

Mutu beton ( $f_c'$ ) = 19.05 Mpa

Mutu baja ( $f_y$ ) = 420 Mpa

Pada Balok B2, kapasitas elemen struktur balok ini tidak mencukupi dikarenakan dari hasil evaluasi struktur didapat nilai rasio kapasitas (capacity ratio) dari struktur kurang lebih dari 1 ( $CR > 1$ ), seperti yang ditunjukkan pada Gambar 4.8.



Gambar 4.8 Rasio Kapasitas Balok B2

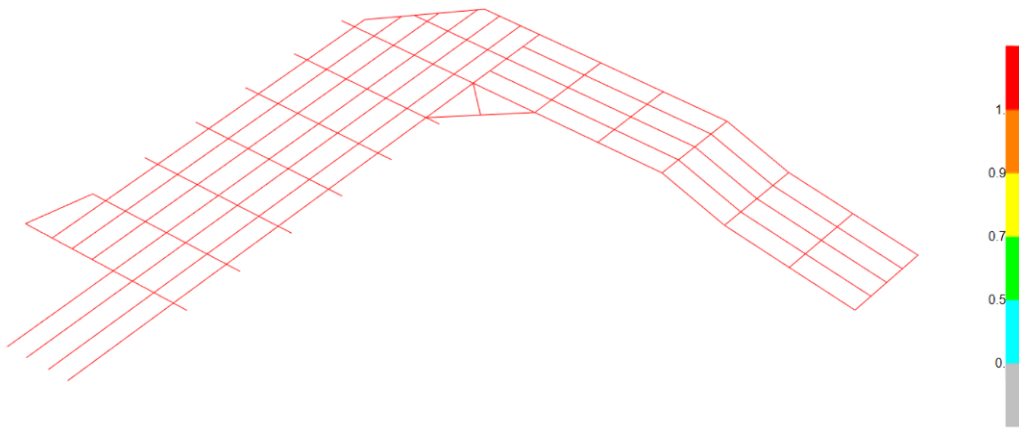
Nilai capacity ratio pada balok B2 ini lebih besar dari 1 karena disebabkan oleh Tegangan geser yang mana gaya geser dan torsi yang terjadi pada balok melebihi dari tegangan yangizinkan. Penurunan mutu beton yang terjadi merupakan parameter utama yang membuat balok B2 mengalami kegagalan.

#### 4.6 Balok B3

Data elemen balok:

|                       |             |
|-----------------------|-------------|
| Lebar (b)             | = 500 mm    |
| Tinggi (h)            | = 850 mm    |
| Panjang bentangan (l) | = 4000 mm   |
| Mutu beton ( $f_c'$ ) | = 19.05 Mpa |
| Mutu baja ( $f_y$ )   | = 420 Mpa   |

Pada Balok B3, kapasitas elemen struktur balok ini tidak mencukupi dikarenakan dari hasil evaluasi struktur didapat nilai rasio kapasitas (capacity ratio) dari struktur kurang lebih dari 1 ( $CR > 1$ ), seperti yang ditunjukkan pada Gambar 4.9.



Gambar 4.9 Rasio Kapasitas Balok B2

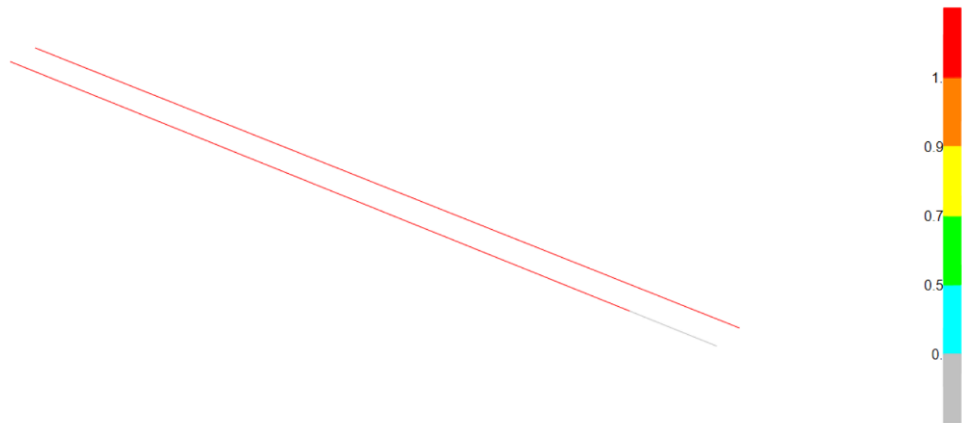
Nilai capacity ratio pada balok B3 ini lebih besar dari 1 karena disebabkan oleh Tegangan geser yang mana gaya geser dan torsi yang terjadi pada balok melebihi dari tegangan yang dizinkan. Penurunan mutu beton yang terjadi merupakan parameter utama yang membuat balok B3 mengalami kegagalan.

#### 4.7 Balok B4

Data elemen balok:

|                       |             |
|-----------------------|-------------|
| Lebar (b)             | = 350 mm    |
| Tinggi (h)            | = 600 mm    |
| Panjang bentangan (l) | = 4000 mm   |
| Mutu beton ( $f_c'$ ) | = 19.05 Mpa |
| Mutu baja ( $f_y$ )   | = 420 Mpa   |

Pada Balok B4, kapasitas elemen struktur balok ini tidak mencukupi dikarenakan dari hasil evaluasi struktur didapat nilai rasio kapasitas (capacity ratio) dari struktur kurang lebih dari 1 ( $CR > 1$ ), seperti yang ditunjukkan pada Gambar 4.10.



Gambar 4.10 Rasio Kapasitas Balok B4

Sama halnya dengan balok B3, Nilai capacity ratio pada balok B4 ini lebih besar dari 1 karena disebabkan oleh Tegangan geser yang mana gaya geser dan torsi yang terjadi pada balok melebihi dari tegangan yang dizinkan. Penurunan mutu beton yang terjadi merupakan parameter utama yang membuat balok B4 mengalami kegagalan.

## **BAB V**

### **PENUTUP**

#### **5.1 KESIMPULAN**

Berikut ini adalah hasil yang dapat disimpulkan dari analisis struktur yang dilakukan pada Dermaga Tanjung Gading :

1. Hasil Evaluasi Struktur Dermaga Tanjung Gading diketahui bahwa dari 4 tipe balok yang ada pada dermaga yakni balok B1 dengan dimensi 50x95 cm, balok B2 dengan dimensi 50x95 cm, balok B3 dengan dimensi 50x85 cm, dan balok B4 dengan dimensi 35x60 cm yang dievaluasi didapat bahwa seluruh elemen balok tidak kuat menahan beban yang bekerja (Rasio kapasitas  $> 1$ ) yang membuat struktur balok tidak kuat yaitu karena disebabkan karena adanya tegangan geser berlebih dari struktur yang membebani balok tersebut.
2. Penurunan kapasitas ini terjadi karena adanya perbedaan mutu struktur terpasang terhadap mutu rencana, dalam hal ini mutu beton yang ada pada struktur dermaga Tanjung Gading. Dari rencana memakai mutu beton K-300, namun mutu yang dicapai hanya setara dengan mutu beton K-153.727 (terdapat deviasi sebesar 48.75% dari mutu rencana). Ketidaksesuaian mutu struktur dengan yang direncanakan berpengaruh signifikan pada kekuatan elemen struktur.
3. Hasil Analisis Fondasi :
  - Fondasi dermaga dapat menahan beban vertikal dan horizontal dengan aman.
  - Kapasitas beban tiang pancang cukup untuk menahan beban yang diterima.
  - Fondasi stabil terhadap beban yang diterima.

## 5.2 SARAN

Penurunan kapasitas ini terjadi karena adanya perbedaan mutu struktur terpasang terhadap mutu rencana, dalam hal ini mutu beton yang ada pada struktur dermaga Tanjung Gading. Dari rencana memakai mutu beton K-300, namun mutu yang dicapai hanya setara dengan mutu beton K-153.727 (terdapat deviasi sebesar 48.75% dari mutu rencana). Ketidaksesuaian mutu struktur dengan yang direncanakan berpengaruh signifikan pada kekuatan elemen struktur. Oleh karena ini diperlukan perkuatan pada elemen struktur balok. Perkuatan yang bisa digunakan agar balok mempunyai kekuatan yang cukup untuk menahan beban yang bekerja dapat digunakan perkuatan struktur beton dengan serat carbon atau biasa dikenal dengan perkuatan CFRP (*Carbon Fiber Reinforced Polymer*) pada beton tersebut.

Rekomendasi terhadap Fondasi :

- Lakukan pemeliharaan rutin untuk memastikan kekuatan fondasi.
- Periksa kondisi tanah sekitar fondasi secara berkala.
- Pastikan bahwa beban yang diterima tidak melebihi kapasitas beban fondasi.

## **LAMPIRAN UJI KUAT TEKAN BETON**

| No | Kode Sampel Uji | Kuat Tekan Beton |         | Keterangan           |
|----|-----------------|------------------|---------|----------------------|
|    |                 | MPa              | Kg/cm2  |                      |
| 1  | CTO - 1         | 10,118           | 124,306 | Tidak Memenuhi K-300 |
| 2  | CTO - 2         | 11,553           | 141,936 | Tidak Memenuhi K-300 |
| 3  | CT - Pi 2       | 14,495           | 178,085 | Tidak Memenuhi K-300 |
| 4  | CT - B1         | 14,501           | 178,159 | Tidak Memenuhi K-300 |
| 5  | CT - B2         | 11,547           | 141,867 | Tidak Memenuhi K-300 |
| 6  | CT - B4         | 15,968           | 196,178 | Tidak Memenuhi K-300 |
| 7  | CT - PK 1       | 8,674            | 106,563 | Tidak Memenuhi K-300 |
| 8  | CT - PK 2       | 11,595           | 142,458 | Tidak Memenuhi K-300 |
| 9  | MR - 01         | 10,723           | 131,738 | Tidak Memenuhi K-300 |
| 10 | MR - 02         | 11,550           | 141,902 | Tidak Memenuhi K-300 |
| 11 | CT - P1         | 12,983           | 159,512 | Tidak Memenuhi K-300 |
| 12 | CT - P2         | 15,902           | 195,365 | Tidak Memenuhi K-300 |
| 13 | CT - P3         | 14,431           | 177,297 | Tidak Memenuhi K-300 |
| 14 | CT - P4         | 15,978           | 196,300 | Tidak Memenuhi K-300 |
| 15 | CT - P5         | 13,047           | 160,288 | Tidak Memenuhi K-300 |
| 16 | CT - P6         | 11,548           | 141,877 | Tidak Memenuhi K-300 |
| 17 | CT - P7         | 10,147           | 124,664 | Tidak Memenuhi K-300 |
| 18 | CT - P8         | 14,522           | 178,418 | Tidak Memenuhi K-300 |
| 19 | CT - P9         | 11,635           | 142,951 | Tidak Memenuhi K-300 |
| 20 | CT - P10        | 7,203            | 88,495  | Tidak Memenuhi K-300 |
| 21 | CT - P11        | 15,936           | 195,785 | Tidak Memenuhi K-300 |
| 22 | CT - P13        | 15,952           | 195,989 | Tidak Memenuhi K-300 |
| 23 | CT - P14        | 11,595           | 142,458 | Tidak Memenuhi K-300 |
| 24 | CT - P15        | 8,698            | 106,859 | Tidak Memenuhi K-300 |
| 25 | CTO - 1         | 10,118           | 124,306 | Tidak Memenuhi K-300 |
| 26 | CTO - 2         | 11,553           | 141,936 | Tidak Memenuhi K-300 |
| 27 | CT - Pi 2       | 14,495           | 178,085 | Tidak Memenuhi K-300 |

## **LAMPIRAN EVALUASI STRUKTUR DERMAGA TANJUNG GADING**

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**TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14**

| Frame | DesignSect | DesignType | Status      | Location          | FTopCombo         | FTopArea           | FBotCombo  | FBotArea           | VCombo     | VRebar     | TingCombo         | TingArea                                                  | TTrnCombo | TTrnRebar | ErrMsg      | WarnMsg |
|-------|------------|------------|-------------|-------------------|-------------------|--------------------|------------|--------------------|------------|------------|-------------------|-----------------------------------------------------------|-----------|-----------|-------------|---------|
| Text  | Text       | Text       | Text        | m                 | m2                | m2                 | Text       | m2                 | Text       | m2/m       | Text              | m2                                                        | Text      | m2/m      | Text        |         |
| 328   | BALOK B1   | Beam       | No Messages | 10.36656 envelope | 0.004888 envelope | 0.001442 envelope  | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.041238 envelope | 0.023946 No Messages                                      |           |           | No Messages |         |
| 328   | BALOK B1   | Beam       | No Messages | 10.83 envelope    | 0 envelope        | 0 envelope         | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.041238 envelope | 0.023946 No Messages                                      |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | No Messages | 0.45 envelope     | 0 envelope        | 0 envelope         | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | No Messages | 0.9302 envelope   | 0.000323 envelope | 0.001659 envelope  | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | No Messages | 1.4104 envelope   | 0.000663 envelope | 0.003641 envelope  | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | No Messages | 1.8906 envelope   | 0.001565 envelope | 0.005267 envelope  | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | No Messages | 2.3708 envelope   | 0.003196 envelope | 0.006856 envelope  | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | No Messages | 2.851 envelope    | 0.00482 envelope  | 0.008438 envelope  | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | No Messages | 3.3312 envelope   | 0.006435 envelope | 0.010011 envelope  | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | See ErrMsg  | 3.8114 envelope   | 0.008042 COMB7.1  | envelope           | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | See ErrMsg  | 4.2916 envelope   | 0.009641 COMB2    | envelope           | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | See ErrMsg  | 4.7718 envelope   | 0.011232 COMB2    | envelope           | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | See ErrMsg  | 5.252 envelope    | 0.012815 COMB2    | envelope           | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | See ErrMsg  | 5.7322 envelope   | 0.01439 COMB2     | envelope           | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | See ErrMsg  | 5.7322 envelope   | 0.015439 COMB2    | envelope           | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | See ErrMsg  | 6.19564 envelope  | 0.013766 COMB2    | envelope           | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | See ErrMsg  | 6.65908 envelope  | 0.012086 COMB2    | envelope           | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | See ErrMsg  | 7.12251 envelope  | 0.010397 COMB2    | envelope           | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | See ErrMsg  | 7.58595 envelope  | 0.008702 COMB2    | envelope           | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | No Messages | 8.04938 envelope  | 0.006999 envelope | 0.010156 envelope  | 0 envelope | 0.010156 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | No Messages | 8.51282 envelope  | 0.005288 envelope | 0.008084 envelope  | 0 envelope | 0.008084 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | No Messages | 8.97626 envelope  | 0.00357 envelope  | 0.00772 envelope   | 0 envelope | 0.00772 envelope   | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | No Messages | 9.43969 envelope  | 0.001844 envelope | 0.005539 envelope  | 0 envelope | 0.005539 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | No Messages | 9.90313 envelope  | 0.000696 envelope | 0.003851 envelope  | 0 envelope | 0.003851 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | No Messages | 10.36656 envelope | 0.00034 envelope  | 0.00176 envelope   | 0 envelope | 0.00176 envelope   | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 329   | BALOK B1   | Beam       | No Messages | 10.83 envelope    | 0 envelope        | 0 envelope         | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 0.45 envelope     | 0 envelope        | 0 envelope         | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 0.9302 envelope   | 0.001494 envelope | 0.000565 envelope  | 0 envelope | 0.000565 envelope  | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 1.4104 envelope   | 0.003166 envelope | 0.001141 envelope  | 0 envelope | 0.001141 envelope  | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 1.8906 envelope   | 0.004761 envelope | 0.001494 envelope  | 0 envelope | 0.001494 envelope  | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 2.3708 envelope   | 0.006213 envelope | 0.002536 envelope  | 0 envelope | 0.002536 envelope  | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 2.851 envelope    | 0.007673 envelope | 0.004034 envelope  | 0 envelope | 0.004034 envelope  | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 3.3312 envelope   | 0.00914 envelope  | 0.005541 envelope  | 0 envelope | 0.005541 envelope  | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 3.8114 envelope   | 0.010616 envelope | 0.007056 envelope  | 0 envelope | 0.007056 envelope  | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | See ErrMsg  | 4.2916 COMB2      | envelope          | 0.008578 envelope  | 0 envelope | 0.008578 envelope  | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | See ErrMsg  | 4.7718 COMB2      | envelope          | 0.010109 envelope  | 0 envelope | 0.010109 envelope  | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | See ErrMsg  | 5.252 COMB2       | envelope          | 0.011648 envelope  | 0 envelope | 0.011648 envelope  | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | See ErrMsg  | 5.7322 COMB2      | envelope          | 0.013195 envelope  | 0 envelope | 0.013195 envelope  | 0 envelope | 0 envelope | 0.050306 envelope | 0.029211 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | See ErrMsg  | 5.7322 COMB2      | envelope          | 0.014244 envelope  | 0 envelope | 0.014244 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | See ErrMsg  | 6.19564 COMB2     | envelope          | 0.012604 envelope  | 0 envelope | 0.012604 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | See ErrMsg  | 6.65908 COMB2     | envelope          | 0.010972 envelope  | 0 envelope | 0.010972 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | See ErrMsg  | 7.12251 COMB2     | envelope          | 0.009348 envelope  | 0 envelope | 0.009348 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 7.58595 envelope  | 0.011274 envelope | 0.007731 envelope  | 0 envelope | 0.007731 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 8.04938 envelope  | 0.009706 envelope | 0.006121 envelope  | 0 envelope | 0.006121 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 8.51282 envelope  | 0.008145 envelope | 0.004519 envelope  | 0 envelope | 0.004519 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 8.97626 envelope  | 0.006592 envelope | 0.002925 envelope  | 0 envelope | 0.002925 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 9.43969 envelope  | 0.005046 envelope | 0.001494 envelope  | 0 envelope | 0.001494 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 9.90313 envelope  | 0.003419 envelope | 0.001162 envelope  | 0 envelope | 0.001162 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 10.36656 envelope | 0.001561 envelope | 0.000575 envelope  | 0 envelope | 0.000575 envelope  | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 330   | BALOK B1   | Beam       | No Messages | 10.83 envelope    | 0 envelope        | 0 envelope         | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.041259 envelope | 0.023958 No Messages                                      |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | No Messages | 0.45 envelope     | 0 envelope        | 0 envelope         | 0 envelope | 0 envelope         | 0 envelope | 0 envelope | 0.050285 envelope | 0.029199 No Messages                                      |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | No Messages | 0.9302 envelope   | 0.001149 envelope | 0.0004801 envelope | 0 envelope | 0.0004801 envelope | 0 envelope | 0 envelope | 0.050285 envelope | 0.029199 No Messages                                      |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | No Messages | 1.4104 envelope   | 0.005543 envelope | 0.009142 envelope  | 0 envelope | 0.009142 envelope  | 0 envelope | 0 envelope | 0.050285 envelope | 0.029199 No Messages                                      |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 1.8906 envelope   | 0.009991 COMB2    | envelope           | 0 envelope | 0.009991 envelope  | 0 envelope | 0 envelope | 0.050285 envelope | 0.029199 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 2.3708 envelope   | 0.014491 COMB2    | envelope           | 0 envelope | 0.014491 envelope  | 0 envelope | 0 envelope | 0.050285 envelope | 0.029199 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 2.851 envelope    | 0.018863 COMB2    | envelope           | 0 envelope | 0.018863 envelope  | 0 envelope | 0 envelope | 0.050285 envelope | 0.029199 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 3.3312 envelope   | 0.023286 COMB2    | envelope           | 0 envelope | 0.023286 envelope  | 0 envelope | 0 envelope | 0.050285 envelope | 0.029199 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 3.8114 envelope   | 0.027702 COMB2    | envelope           | 0 envelope | 0.027702 envelope  | 0 envelope | 0 envelope | 0.050285 envelope | 0.029199 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 4.2916 envelope   | 0.03211 COMB2     | envelope           | 0 envelope | 0.03211 envelope   | 0 envelope | 0 envelope | 0.050285 envelope | 0.029199 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 4.7718 envelope   | 0.03651 COMB2     | envelope           | 0 envelope | 0.03651 envelope   | 0 envelope | 0 envelope | 0.050285 envelope | 0.029199 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 5.252 envelope    | 0.040901 COMB2    | envelope           | 0 envelope | 0.040901 envelope  | 0 envelope | 0 envelope | 0.050285 envelope | 0.029199 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 5.7322 envelope   | 0.045285 COMB2    | envelope           | 0 envelope | 0.045285 envelope  | 0 envelope | 0 envelope | 0.050285 envelope | 0.029199 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 5.7322 envelope   | 0.048319 COMB2    | envelope           | 0 envelope | 0.048319 envelope  | 0 envelope | 0 envelope | 0.041238 envelope | 0.023946 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 6.19564 envelope  | 0.043657 COMB2    | envelope           | 0 envelope | 0.043657 envelope  | 0 envelope | 0 envelope | 0.041238 envelope | 0.023946 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 6.65908 envelope  | 0.038987 COMB2    | envelope           | 0 envelope | 0.038987 envelope  | 0 envelope | 0 envelope | 0.041238 envelope | 0.023946 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 7.12251 envelope  | 0.03431 COMB2     | envelope           | 0 envelope | 0.03431 envelope   | 0 envelope | 0 envelope | 0.041238 envelope | 0.023946 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 7.58595 envelope  | 0.029625 COMB2    | envelope           | 0 envelope | 0.029625 envelope  | 0 envelope | 0 envelope | 0.041238 envelope | 0.023946 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 8.04938 envelope  | 0.024933 COMB2    | envelope           | 0 envelope | 0.024933 envelope  | 0 envelope | 0 envelope | 0.041238 envelope | 0.023946 The required reinforcing exceeds maximum allowed |           |           | No Messages |         |

TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14

| Frame | DesignSect | DesignType | Status      | Location | FTopCombo     | FBotCombo     | FBotArea       | VCombo      | VRebar            | TlngCombo | TlngArea       | TTrnCombo | TTrnRebar         | ErrMsg                                           | WarnMsg     |
|-------|------------|------------|-------------|----------|---------------|---------------|----------------|-------------|-------------------|-----------|----------------|-----------|-------------------|--------------------------------------------------|-------------|
| Text  | Text       | Text       | Text        | m        | Text          | Text          | m <sup>2</sup> | Text        | m <sup>2</sup> /m | Text      | m <sup>2</sup> | Text      | m <sup>2</sup> /m | Text                                             | Text        |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 8.51282  | envelope      | 0.020233      | COMB2          | envelope    | 0                 | envelope  | 0.041238       | envelope  | 0.023946          | The required reinforcing exceeds maximum allowed | No Messages |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 8.97626  | envelope      | 0.015526      | COMB2          | envelope    | 0                 | envelope  | 0.041238       | envelope  | 0.023946          | The required reinforcing exceeds maximum allowed | No Messages |
| 331   | BALOK B1   | Beam       | See ErrMsg  | 9.43969  | envelope      | 0.010811      | COMB2          | envelope    | 0                 | envelope  | 0.041238       | envelope  | 0.023946          | The required reinforcing exceeds maximum allowed | No Messages |
| 331   | BALOK B1   | Beam       | No Messages | 9.90313  | envelope      | 0.006089      | envelope       | 0.009674    | envelope          | 0         | envelope       | 0.041238  | envelope          | 0.023946                                         | No Messages |
| 331   | BALOK B1   | Beam       | No Messages | 10.36656 | envelope      | 0.00136       | envelope       | 0.005067    | envelope          | 0         | envelope       | 0.041238  | envelope          | 0.023946                                         | No Messages |
| 331   | BALOK B1   | Beam       | No Messages | 10.83    | envelope      | 0             | envelope       | 0           | envelope          | 0         | envelope       | 0.041238  | envelope          | 0.023946                                         | No Messages |
| 332   | BALOK B2   | Beam       | No Messages | 0        | envelope      | 0             | envelope       | 0           | envelope (Sp)     | 0.003891  | envelope       | 0         | envelope          | 0                                                | No Messages |
| 332   | BALOK B2   | Beam       | No Messages | 0.435    | envelope (Sp) | 0.000004112   | envelope (Sp)  | 0.000004108 | envelope (Sp)     | 0.003917  | envelope       | 0         | envelope          | 0                                                | No Messages |
| 332   | BALOK B2   | Beam       | No Messages | 0.87     | envelope      | 0.000016      | envelope (Sp)  | 0.000008218 | envelope (Sp)     | 0.003942  | envelope       | 0         | envelope          | 0                                                | No Messages |
| 332   | BALOK B2   | Beam       | See ErrMsg  | 0        | envelope      | 0.017573      | COMB2          | envelope    | 0                 | envelope  | 0.01325        | envelope  | 0.007694          | The required reinforcing exceeds maximum allowed | No Messages |
| 333   | BALOK B2   | Beam       | See ErrMsg  | 0.41667  | envelope (Sp) | 0.00961       | COMB2          | envelope    | 0                 | envelope  | 0.01325        | envelope  | 0.007694          | The required reinforcing exceeds maximum allowed | No Messages |
| 333   | BALOK B2   | Beam       | No Messages | 0.83333  | envelope (Sp) | 0.005554      | envelope (Sp)  | 0.005554    | envelope          | 0         | envelope       | 0.01325   | envelope          | 0.007694                                         | No Messages |
| 333   | BALOK B2   | Beam       | No Messages | 1.25     | envelope      | 0.003186      | envelope (Sp)  | 0.001494    | envelope          | 0         | envelope       | 0.01325   | envelope          | 0.007694                                         | No Messages |
| 334   | BALOK B2   | Beam       | See ErrMsg  | 0        | envelope      | 0.014639      | COMB2          | envelope    | 0                 | envelope  | 0.017831       | envelope  | 0.010354          | The required reinforcing exceeds maximum allowed | No Messages |
| 334   | BALOK B2   | Beam       | No Messages | 0.46333  | envelope (Sp) | 0.004848      | envelope       | 0.006299    | envelope          | 0         | envelope       | 0.017831  | envelope          | 0.010354                                         | No Messages |
| 334   | BALOK B2   | Beam       | No Messages | 0.92667  | envelope (Sp) | 0.006317      | envelope (Sp)  | 0.004848    | envelope          | 0         | envelope       | 0.017831  | envelope          | 0.010354                                         | No Messages |
| 334   | BALOK B2   | Beam       | See ErrMsg  | 1.39     | COMB2         | envelope (Sp) | 0.014673       | envelope    | 0                 | envelope  | 0.017831       | envelope  | 0.010354          | The required reinforcing exceeds maximum allowed | No Messages |
| 335   | BALOK B2   | Beam       | No Messages | 0        | envelope      | 0.00855       | envelope       | 0.003143    | envelope          | 0         | envelope       | 0.01325   | envelope          | 0.007694                                         | No Messages |
| 335   | BALOK B2   | Beam       | No Messages | 0.41667  | envelope (Sp) | 0.005561      | envelope (Sp)  | 0.005561    | envelope          | 0         | envelope       | 0.01325   | envelope          | 0.007694                                         | No Messages |
| 335   | BALOK B2   | Beam       | See ErrMsg  | 0.83333  | COMB2         | envelope (Sp) | 0.009627       | envelope    | 0                 | envelope  | 0.01325        | envelope  | 0.007694          | The required reinforcing exceeds maximum allowed | No Messages |
| 335   | BALOK B2   | Beam       | See ErrMsg  | 1.25     | COMB2         | envelope (Sp) | 0.017599       | envelope    | 0                 | envelope  | 0.01325        | envelope  | 0.007694          | The required reinforcing exceeds maximum allowed | No Messages |
| 336   | BALOK B2   | Beam       | No Messages | 0        | envelope      | 0.000016      | envelope (Sp)  | 0.000008218 | COMB7.8 (Sp)      | 0.003942  | envelope       | 0         | envelope          | 0                                                | No Messages |
| 336   | BALOK B2   | Beam       | No Messages | 0.435    | envelope (Sp) | 0.000004112   | envelope (Sp)  | 0.000004108 | COMB7.8 (Sp)      | 0.003917  | envelope       | 0         | envelope          | 0                                                | No Messages |
| 336   | BALOK B2   | Beam       | No Messages | 0.87     | envelope      | 0             | envelope       | 0           | COMB7.8 (Sp)      | 0.003891  | envelope       | 0         | envelope          | 0                                                | No Messages |
| 337   | BALOK B1   | Beam       | No Messages | 0.45     | envelope      | 0             | envelope       | 0           | envelope          | 0         | envelope       | 0.041009  | envelope          | 0.023813                                         | No Messages |
| 337   | BALOK B1   | Beam       | No Messages | 0.9302   | envelope      | 0.003703      | envelope       | 0.001228    | envelope          | 0         | envelope       | 0.041009  | envelope          | 0.023813                                         | No Messages |
| 337   | BALOK B1   | Beam       | No Messages | 1.4104   | envelope      | 0.006985      | envelope       | 0.003328    | envelope          | 0         | envelope       | 0.041009  | envelope          | 0.023813                                         | No Messages |
| 337   | BALOK B1   | Beam       | No Messages | 1.8906   | envelope      | 0.010263      | envelope       | 0.006694    | envelope          | 0         | envelope       | 0.041009  | envelope          | 0.023813                                         | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 2.3708   | COMB2         | envelope      | 0.010067       | envelope    | 0                 | envelope  | 0.041009       | envelope  | 0.023813          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 2.851    | COMB2         | envelope      | 0.013448       | envelope    | 0                 | envelope  | 0.041009       | envelope  | 0.023813          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 3.3312   | COMB2         | envelope      | 0.016837       | envelope    | 0                 | envelope  | 0.041009       | envelope  | 0.023813          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 3.8114   | COMB2         | envelope      | 0.020235       | envelope    | 0                 | envelope  | 0.041009       | envelope  | 0.023813          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 4.2916   | COMB2         | envelope      | 0.02364        | envelope    | 0                 | envelope  | 0.041009       | envelope  | 0.023813          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 4.7718   | COMB2         | envelope      | 0.027054       | envelope    | 0                 | envelope  | 0.041009       | envelope  | 0.023813          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 5.252    | COMB2         | envelope      | 0.030475       | envelope    | 0                 | envelope  | 0.041009       | envelope  | 0.023813          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | COMB2         | envelope      | 0.033905       | envelope    | 0                 | envelope  | 0.041009       | envelope  | 0.023813          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | COMB2         | envelope      | 0.037191       | envelope    | 0                 | envelope  | 0.031962       | envelope  | 0.018559          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 6.19564  | COMB2         | envelope      | 0.033465       | envelope    | 0                 | envelope  | 0.031962       | envelope  | 0.018559          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 6.65908  | COMB2         | envelope      | 0.029747       | envelope    | 0                 | envelope  | 0.031962       | envelope  | 0.018559          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 7.12251  | COMB2         | envelope      | 0.026037       | envelope    | 0                 | envelope  | 0.031962       | envelope  | 0.018559          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 7.58595  | COMB2         | envelope      | 0.022334       | envelope    | 0                 | envelope  | 0.031962       | envelope  | 0.018559          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 8.04938  | COMB2         | envelope      | 0.018638       | envelope    | 0                 | envelope  | 0.031962       | envelope  | 0.018559          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 8.51282  | COMB2         | envelope      | 0.01495        | envelope    | 0                 | envelope  | 0.031962       | envelope  | 0.018559          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | See ErrMsg  | 8.97626  | COMB2         | envelope      | 0.01127        | envelope    | 0                 | envelope  | 0.031962       | envelope  | 0.018559          | The required reinforcing exceeds maximum allowed | No Messages |
| 337   | BALOK B1   | Beam       | No Messages | 9.43969  | envelope      | 0.011143      | envelope       | 0.007596    | envelope          | 0         | envelope       | 0.031962  | envelope          | 0.018559                                         | No Messages |
| 337   | BALOK B1   | Beam       | No Messages | 9.90313  | envelope      | 0.007572      | envelope       | 0.003931    | envelope          | 0         | envelope       | 0.031962  | envelope          | 0.018559                                         | No Messages |
| 337   | BALOK B1   | Beam       | No Messages | 10.36656 | envelope      | 0.004008      | envelope       | 0.001268    | envelope          | 0         | envelope       | 0.031962  | envelope          | 0.018559                                         | No Messages |
| 337   | BALOK B1   | Beam       | No Messages | 10.83    | envelope      | 0             | envelope       | 0           | envelope          | 0         | envelope       | 0.031962  | envelope          | 0.018559                                         | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 0.45     | envelope      | 0             | envelope       | 0           | envelope          | 0         | envelope       | 0.041026  | envelope          | 0.023822                                         | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 0.9302   | envelope      | 0.000264      | envelope       | 0.001494    | envelope          | 0         | envelope       | 0.041026  | envelope          | 0.023822                                         | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 1.4104   | envelope      | 0.000543      | envelope       | 0.002794    | envelope          | 0         | envelope       | 0.041026  | envelope          | 0.023822                                         | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 1.8906   | envelope      | 0.000837      | envelope       | 0.004302    | envelope          | 0         | envelope       | 0.041026  | envelope          | 0.023822                                         | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 2.3708   | envelope      | 0.001875      | envelope       | 0.005569    | envelope          | 0         | envelope       | 0.041026  | envelope          | 0.023822                                         | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 2.851    | envelope      | 0.003168      | envelope       | 0.006829    | envelope          | 0         | envelope       | 0.041026  | envelope          | 0.023822                                         | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 3.3312   | envelope      | 0.004453      | envelope       | 0.008081    | envelope          | 0         | envelope       | 0.041026  | envelope          | 0.023822                                         | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 3.8114   | envelope      | 0.00573       | envelope       | 0.009325    | envelope          | 0         | envelope       | 0.041026  | envelope          | 0.023822                                         | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 4.2916   | envelope      | 0.006999      | envelope       | 0.010561    | envelope          | 0         | envelope       | 0.041026  | envelope          | 0.023822                                         | No Messages |
| 338   | BALOK B1   | Beam       | See ErrMsg  | 4.7718   | envelope      | 0.00826       | COMB7.1        | envelope    | 0                 | envelope  | 0.041026       | envelope  | 0.023822          | The required reinforcing exceeds maximum allowed | No Messages |
| 338   | BALOK B1   | Beam       | See ErrMsg  | 5.252    | envelope      | 0.009513      | COMB2          | envelope    | 0                 | envelope  | 0.041026       | envelope  | 0.023822          | The required reinforcing exceeds maximum allowed | No Messages |
| 338   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | envelope      | 0.010757      | COMB2          | envelope    | 0                 | envelope  | 0.041026       | envelope  | 0.023822          | The required reinforcing exceeds maximum allowed | No Messages |
| 338   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | envelope      | 0.011894      | COMB2          | envelope    | 0                 | envelope  | 0.031979       | envelope  | 0.018569          | The required reinforcing exceeds maximum allowed | No Messages |
| 338   | BALOK B1   | Beam       | See ErrMsg  | 6.19564  | envelope      | 0.010543      | COMB2          | envelope    | 0                 | envelope  | 0.031979       | envelope  | 0.018569          | The required reinforcing exceeds maximum allowed | No Messages |
| 338   | BALOK B1   | Beam       | See ErrMsg  | 6.65908  | envelope      | 0.009184      | COMB2          | envelope    | 0                 | envelope  | 0.031979       | envelope  | 0.018569          | The required reinforcing exceeds maximum allowed | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 7.12251  | envelope      | 0.007819      | envelope       | 0.011359    | envelope          | 0         | envelope       | 0.031979  | envelope          | 0.018569                                         | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 7.58595  | envelope      | 0.006445      | envelope       | 0.010021    | envelope          | 0         | envelope       | 0.031979  | envelope          | 0.018569                                         | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 8.04938  | envelope      | 0.005065      | envelope       | 0.008676    | envelope          | 0         | envelope       | 0.031979  | envelope          | 0.018569                                         | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 8.51282  | envelope      | 0.003676      | envelope       | 0.007324    | envelope          | 0         | envelope       | 0.031979  | envelope          | 0.018569                                         | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 8.97626  | envelope      | 0.002281      | envelope       | 0.005964    | envelope          | 0         | envelope       | 0.031979  | envelope          | 0.018569                                         | No Messages |

TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14

| Frame | DesignSect | DesignType | Status      | Location | FTopCombo     | FTopArea    | FBotCombo     | FBotArea    | VCombo        | VRebar   | TlmgCombo | TlmgArea | TTrnCombo | TTrnRebar | ErrMsg                                           | WarnMsg     |
|-------|------------|------------|-------------|----------|---------------|-------------|---------------|-------------|---------------|----------|-----------|----------|-----------|-----------|--------------------------------------------------|-------------|
| Text  | Text       | Text       | Text        | m        | m2            | m2          | Text          | m2          | Text          | m2/m     | Text      | m2       | Text      | m2/m      | Text                                             | Text        |
| 338   | BALOK B1   | Beam       | No Messages | 9.43969  | envelope      | 0.000891    | envelope      | 0.004597    | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | No Messages                                      | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 9.90313  | envelope      | 0.000579    | envelope      | 0.003043    | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | No Messages                                      | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 10.36656 | envelope      | 0.000282    | envelope      | 0.001494    | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | No Messages                                      | No Messages |
| 338   | BALOK B1   | Beam       | No Messages | 10.83    | envelope      | 0           | envelope      | 0           | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 0.45     | envelope      | 0           | envelope      | 0           | envelope      | 0        | envelope  | 0.041026 | envelope  | 0.023822  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 0.9302   | envelope      | 0.001481    | envelope      | 0.000505    | envelope      | 0        | envelope  | 0.041026 | envelope  | 0.023822  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 1.4104   | envelope      | 0.002361    | envelope      | 0.001016    | envelope      | 0        | envelope  | 0.041026 | envelope  | 0.023822  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 1.8906   | envelope      | 0.003795    | envelope      | 0.001494    | envelope      | 0        | envelope  | 0.041026 | envelope  | 0.023822  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 2.3708   | envelope      | 0.004926    | envelope      | 0.001547    | envelope      | 0        | envelope  | 0.041026 | envelope  | 0.023822  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 2.851    | envelope      | 0.006064    | envelope      | 0.002383    | envelope      | 0        | envelope  | 0.041026 | envelope  | 0.023822  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 3.3312   | envelope      | 0.007721    | envelope      | 0.003559    | envelope      | 0        | envelope  | 0.041026 | envelope  | 0.023822  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 3.8114   | envelope      | 0.008364    | envelope      | 0.004744    | envelope      | 0        | envelope  | 0.041026 | envelope  | 0.023822  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 4.2916   | envelope      | 0.009525    | envelope      | 0.005936    | envelope      | 0        | envelope  | 0.041026 | envelope  | 0.023822  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 4.7718   | envelope      | 0.010695    | envelope      | 0.007137    | envelope      | 0        | envelope  | 0.041026 | envelope  | 0.023822  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | See ErrMsg  | 5.252    | COMB3         |             | envelope      | 0.008345    | envelope      | 0        | envelope  | 0.041026 | envelope  | 0.023822  | The required reinforcing exceeds maximum allowed | No Messages |
| 339   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | COMB2         |             | envelope      | 0.009562    | envelope      | 0        | envelope  | 0.041026 | envelope  | 0.023822  | The required reinforcing exceeds maximum allowed | No Messages |
| 339   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | COMB2         |             | envelope      | 0.010698    | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | The required reinforcing exceeds maximum allowed | No Messages |
| 339   | BALOK B1   | Beam       | See ErrMsg  | 6.19564  | COMB2         |             | envelope      | 0.009381    | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | The required reinforcing exceeds maximum allowed | No Messages |
| 339   | BALOK B1   | Beam       | See ErrMsg  | 6.65908  | COMB7.1       |             | envelope      | 0.008071    | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | The required reinforcing exceeds maximum allowed | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 7.12251  | envelope      | 0.010337    | envelope      | 0.006769    | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 7.58595  | envelope      | 0.009075    | envelope      | 0.005474    | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 8.04938  | envelope      | 0.007822    | envelope      | 0.004187    | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 8.51282  | envelope      | 0.006575    | envelope      | 0.002908    | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 8.97626  | envelope      | 0.005336    | envelope      | 0.001636    | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 9.43969  | envelope      | 0.004104    | envelope      | 0.001494    | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 9.90313  | envelope      | 0.002611    | envelope      | 0.00104     | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 10.36656 | envelope      | 0.001494    | envelope      | 0.000516    | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | No Messages                                      | No Messages |
| 339   | BALOK B1   | Beam       | No Messages | 10.83    | envelope      | 0           | envelope      | 0           | envelope      | 0        | envelope  | 0.031979 | envelope  | 0.018569  | No Messages                                      | No Messages |
| 340   | BALOK B1   | Beam       | No Messages | 0.45     | envelope      | 0           | envelope      | 0           | envelope      | 0        | envelope  | 0.041009 | envelope  | 0.023813  | No Messages                                      | No Messages |
| 340   | BALOK B1   | Beam       | No Messages | 0.9302   | envelope      | 0.000975    | envelope      | 0.003899    | envelope      | 0        | envelope  | 0.041009 | envelope  | 0.023813  | No Messages                                      | No Messages |
| 340   | BALOK B1   | Beam       | No Messages | 1.4104   | envelope      | 0.003691    | envelope      | 0.007338    | envelope      | 0        | envelope  | 0.041009 | envelope  | 0.023813  | No Messages                                      | No Messages |
| 340   | BALOK B1   | Beam       | No Messages | 1.8906   | envelope      | 0.007213    | envelope      | 0.010769    | envelope      | 0        | envelope  | 0.041009 | envelope  | 0.023813  | No Messages                                      | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 2.3708   | envelope      | 0.010727    | COMB2         |             | envelope      | 0        | envelope  | 0.041009 | envelope  | 0.023813  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 2.851    | envelope      | 0.014233    | COMB2         |             | envelope      | 0        | envelope  | 0.041009 | envelope  | 0.023813  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 3.3312   | envelope      | 0.017731    | COMB2         |             | envelope      | 0        | envelope  | 0.041009 | envelope  | 0.023813  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 3.8114   | envelope      | 0.021221    | COMB2         |             | envelope      | 0        | envelope  | 0.041009 | envelope  | 0.023813  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 4.2916   | envelope      | 0.024703    | COMB2         |             | envelope      | 0        | envelope  | 0.041009 | envelope  | 0.023813  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 4.7718   | envelope      | 0.028177    | COMB2         |             | envelope      | 0        | envelope  | 0.041009 | envelope  | 0.023813  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 5.252    | envelope      | 0.031643    | COMB2         |             | envelope      | 0        | envelope  | 0.041009 | envelope  | 0.023813  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | envelope      | 0.035101    | COMB2         |             | envelope      | 0        | envelope  | 0.041009 | envelope  | 0.023813  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | envelope      | 0.038387    | COMB2         |             | envelope      | 0        | envelope  | 0.031962 | envelope  | 0.018559  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 6.19564  | envelope      | 0.034628    | COMB2         |             | envelope      | 0        | envelope  | 0.031962 | envelope  | 0.018559  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 6.65908  | envelope      | 0.030861    | COMB2         |             | envelope      | 0        | envelope  | 0.031962 | envelope  | 0.018559  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 7.12251  | envelope      | 0.027087    | COMB2         |             | envelope      | 0        | envelope  | 0.031962 | envelope  | 0.018559  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 7.58595  | envelope      | 0.023305    | COMB2         |             | envelope      | 0        | envelope  | 0.031962 | envelope  | 0.018559  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 8.04938  | envelope      | 0.019516    | COMB2         |             | envelope      | 0        | envelope  | 0.031962 | envelope  | 0.018559  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 8.51282  | envelope      | 0.015719    | COMB2         |             | envelope      | 0        | envelope  | 0.031962 | envelope  | 0.018559  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 8.97626  | envelope      | 0.011915    | COMB2         |             | envelope      | 0        | envelope  | 0.031962 | envelope  | 0.018559  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | See ErrMsg  | 9.43969  | envelope      | 0.008103    | COMB7.1       |             | envelope      | 0        | envelope  | 0.031962 | envelope  | 0.018559  | The required reinforcing exceeds maximum allowed | No Messages |
| 340   | BALOK B1   | Beam       | No Messages | 9.90313  | envelope      | 0.004283    | envelope      | 0.007915    | envelope      | 0        | envelope  | 0.031962 | envelope  | 0.018559  | No Messages                                      | No Messages |
| 340   | BALOK B1   | Beam       | No Messages | 10.36656 | envelope      | 0.001022    | envelope      | 0.004187    | envelope      | 0        | envelope  | 0.031962 | envelope  | 0.018559  | No Messages                                      | No Messages |
| 340   | BALOK B1   | Beam       | No Messages | 10.83    | envelope      | 0           | envelope      | 0           | envelope      | 0        | envelope  | 0.031962 | envelope  | 0.018559  | No Messages                                      | No Messages |
| 341   | BALOK B2   | Beam       | No Messages | 0        | envelope      | 0           | envelope      | 0           | COMB7.8 (Sp)  | 0.003891 | envelope  | 0        | envelope  | 0         | No Messages                                      | No Messages |
| 341   | BALOK B2   | Beam       | No Messages | 0.435    | envelope (Sp) | 0.000004111 | envelope (Sp) | 0.000004108 | envelope (Sp) | 0.003917 | envelope  | 0        | envelope  | 0         | No Messages                                      | No Messages |
| 341   | BALOK B2   | Beam       | No Messages | 0.87     | envelope      | 0.000016    | envelope (Sp) | 0.000008217 | envelope (Sp) | 0.003942 | envelope  | 0        | envelope  | 0         | No Messages                                      | No Messages |
| 342   | BALOK B2   | Beam       | See ErrMsg  | 0        | envelope      | 0.013323    | COMB2         |             | envelope      | 0        | envelope  | 0.014353 | envelope  | 0.008334  | The required reinforcing exceeds maximum allowed | No Messages |
| 342   | BALOK B2   | Beam       | No Messages | 0.41667  | envelope (Sp) | 0.006976    | envelope      | 0.010538    | envelope      | 0        | envelope  | 0.014353 | envelope  | 0.008334  | No Messages                                      | No Messages |
| 342   | BALOK B2   | Beam       | No Messages | 0.83333  | envelope (Sp) | 0.004519    | envelope (Sp) | 0.004519    | envelope      | 0        | envelope  | 0.014353 | envelope  | 0.008334  | No Messages                                      | No Messages |
| 342   | BALOK B2   | Beam       | No Messages | 1.25     | envelope      | 0.002456    | envelope (Sp) | 0.001494    | envelope      | 0        | envelope  | 0.014353 | envelope  | 0.008334  | No Messages                                      | No Messages |
| 343   | BALOK B2   | Beam       | See ErrMsg  | 0        | envelope      | 0.010983    | COMB2         |             | envelope      | 0        | envelope  | 0.019314 | envelope  | 0.011215  | The required reinforcing exceeds maximum allowed | No Messages |
| 343   | BALOK B2   | Beam       | No Messages | 0.46333  | envelope (Sp) | 0.003958    | envelope      | 0.005112    | envelope      | 0        | envelope  | 0.019314 | envelope  | 0.011215  | No Messages                                      | No Messages |
| 343   | BALOK B2   | Beam       | No Messages | 0.92667  | envelope (Sp) | 0.00513     | envelope (Sp) | 0.003958    | envelope      | 0        | envelope  | 0.019314 | envelope  | 0.011215  | No Messages                                      | No Messages |
| 343   | BALOK B2   | Beam       | See ErrMsg  | 1.39     | COMB2         |             | envelope (Sp) | 0.011017    | envelope      | 0        | envelope  | 0.019314 | envelope  | 0.011215  | The required reinforcing exceeds maximum allowed | No Messages |
| 344   | BALOK B2   | Beam       | No Messages | 0        | envelope      | 0.000745    | envelope      | 0.002416    | envelope      | 0        | envelope  | 0.014352 | envelope  | 0.008334  | No Messages                                      | No Messages |
| 344   | BALOK B2   | Beam       | No Messages | 0.41667  | envelope (Sp) | 0.004526    | envelope (Sp) | 0.004526    | envelope      | 0        | envelope  | 0.014352 | envelope  | 0.008334  | No Messages                                      | No Messages |
| 344   | BALOK B2   | Beam       | No Messages | 0.83333  | envelope (Sp) | 0.010554    | envelope (Sp) | 0.006992    | envelope      | 0        | envelope  | 0.014352 | envelope  | 0.008334  | No Messages                                      | No Messages |
| 344   | BALOK B2   | Beam       | See ErrMsg  | 1.25     | COMB2         |             | envelope (Sp) | 0.01335     | envelope      | 0        | envelope  | 0.014352 | envelope  | 0.008334  | The required reinforcing exceeds maximum allowed | No Messages |
| 345   | BALOK B2   | Beam       | No Messages | 0        | envelope      | 0.000016    | envelope (Sp) | 0.000008217 | COMB7.8 (Sp)  | 0.003942 | envelope  | 0        | envelope  | 0         | No Messages                                      | No Messages |

**TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14**

| Frame | DesignSect | DesignType | Status      | Location | FTopCombo     | FTopArea    | FBotCombo     | FBotArea    | VCombo       | VRebar   | TlmgCombo | TlmgArea | TTrnCombo | TTrnRebar | ErrMsg                                                                  | WarnMsg     |
|-------|------------|------------|-------------|----------|---------------|-------------|---------------|-------------|--------------|----------|-----------|----------|-----------|-----------|-------------------------------------------------------------------------|-------------|
| Text  | Text       | Text       | Text        | m        | Text          | m2          | Text          | m2          | Text         | m2/m     | Text      | m2       | Text      | m2/m      | Text                                                                    | Text        |
| 345   | BALOK B2   | Beam       | No Messages | 0.435    | envelope (Sp) | 0.000004111 | envelope (Sp) | 0.000004108 | COMB7.8 (Sp) | 0.003917 | envelope  | 0        | envelope  | 0         | No Messages                                                             | No Messages |
| 345   | BALOK B2   | Beam       | No Messages | 0.87     | envelope      | 0           | envelope      | 0           | COMB7.8 (Sp) | 0.003891 | envelope  | 0        | envelope  | 0         | No Messages                                                             | No Messages |
| 346   | BALOK B1   | Beam       | No Messages | 0.45     | envelope      | 0           | envelope      | 0           | envelope     | 0        | envelope  | 0.031734 | envelope  | 0.018427  | No Messages                                                             | No Messages |
| 346   | BALOK B1   | Beam       | No Messages | 0.9302   | envelope      | 0.002529    | envelope      | 0.001053    | envelope     | 0        | envelope  | 0.031734 | envelope  | 0.018427  | No Messages                                                             | No Messages |
| 346   | BALOK B1   | Beam       | No Messages | 1.4104   | envelope      | 0.005181    | envelope      | 0.001632    | envelope     | 0        | envelope  | 0.031734 | envelope  | 0.018427  | No Messages                                                             | No Messages |
| 346   | BALOK B1   | Beam       | No Messages | 1.8906   | envelope      | 0.007557    | envelope      | 0.003916    | envelope     | 0        | envelope  | 0.031734 | envelope  | 0.018427  | No Messages                                                             | No Messages |
| 346   | BALOK B1   | Beam       | No Messages | 2.3708   | envelope      | 0.009942    | envelope      | 0.006364    | envelope     | 0        | envelope  | 0.031734 | envelope  | 0.018427  | No Messages                                                             | No Messages |
| 346   | BALOK B1   | Beam       | See ErrMsg  | 2.851    | COMB2         |             | envelope      | 0.008819    | envelope     | 0        | envelope  | 0.031734 | envelope  | 0.018427  | The required reinforcing exceeds maximum allowed                        | No Messages |
| 346   | BALOK B1   | Beam       | See ErrMsg  | 3.3312   | COMB2         |             | envelope      | 0.011283    | envelope     | 0        | envelope  | 0.031734 | envelope  | 0.018427  | The required reinforcing exceeds maximum allowed                        | No Messages |
| 346   | BALOK B1   | Beam       | See ErrMsg  | 3.8114   | COMB2         |             | envelope      | 0.013754    | envelope     | 0        | envelope  | 0.031734 | envelope  | 0.018427  | The required reinforcing exceeds maximum allowed                        | No Messages |
| 346   | BALOK B1   | Beam       | See ErrMsg  | 4.2916   | COMB2         |             | envelope      | 0.016234    | envelope     | 0        | envelope  | 0.031734 | envelope  | 0.018427  | The required reinforcing exceeds maximum allowed                        | No Messages |
| 346   | BALOK B1   | Beam       | See ErrMsg  | 4.7718   | COMB2         |             | envelope      | 0.018722    | envelope     | 0        | envelope  | 0.031734 | envelope  | 0.018427  | The required reinforcing exceeds maximum allowed                        | No Messages |
| 346   | BALOK B1   | Beam       | See ErrMsg  | 5.252    | COMB2         |             | envelope      | 0.021217    | envelope     | 0        | envelope  | 0.031734 | envelope  | 0.018427  | The required reinforcing exceeds maximum allowed                        | No Messages |
| 346   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | COMB2         |             | envelope      | 0.023721    | envelope     | 0        | envelope  | 0.031734 | envelope  | 0.018427  | The required reinforcing exceeds maximum allowed                        | No Messages |
| 346   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | COMB2         |             | envelope      | 0.02726     | envelope     | 0        | envelope  | 0.022687 | envelope  | 0.013173  | The required reinforcing exceeds maximum allowed                        | No Messages |
| 346   | BALOK B1   | Beam       | See ErrMsg  | 6.19564  | COMB2         |             | envelope      | 0.024437    | envelope     | 0        | envelope  | 0.022687 | envelope  | 0.013173  | The required reinforcing exceeds maximum allowed                        | No Messages |
| 346   | BALOK B1   | Beam       | See ErrMsg  | 6.65908  | COMB2         |             | envelope      | 0.021622    | envelope     | 0        | envelope  | 0.022687 | envelope  | 0.013173  | The required reinforcing exceeds maximum allowed                        | No Messages |
| 346   | BALOK B1   | Beam       | See ErrMsg  | 7.12251  | COMB2         |             | envelope      | 0.018814    | envelope     | 0        | envelope  | 0.022687 | envelope  | 0.013173  | The required reinforcing exceeds maximum allowed                        | No Messages |
| 346   | BALOK B1   | Beam       | See ErrMsg  | 7.58595  | COMB2         |             | envelope      | 0.016014    | envelope     | 0        | envelope  | 0.022687 | envelope  | 0.013173  | The required reinforcing exceeds maximum allowed                        | No Messages |
| 346   | BALOK B1   | Beam       | See ErrMsg  | 8.04938  | COMB2         |             | envelope      | 0.013221    | envelope     | 0        | envelope  | 0.022687 | envelope  | 0.013173  | The required reinforcing exceeds maximum allowed                        | No Messages |
| 346   | BALOK B1   | Beam       | See ErrMsg  | 8.51282  | COMB2         |             | envelope      | 0.010436    | envelope     | 0        | envelope  | 0.022687 | envelope  | 0.013173  | The required reinforcing exceeds maximum allowed                        | No Messages |
| 346   | BALOK B1   | Beam       | No Messages | 8.97626  | envelope      | 0.011203    | envelope      | 0.007658    | envelope     | 0        | envelope  | 0.022687 | envelope  | 0.013173  | No Messages                                                             | No Messages |
| 346   | BALOK B1   | Beam       | No Messages | 9.43969  | envelope      | 0.008504    | envelope      | 0.004888    | envelope     | 0        | envelope  | 0.022687 | envelope  | 0.013173  | No Messages                                                             | No Messages |
| 346   | BALOK B1   | Beam       | No Messages | 9.90313  | envelope      | 0.005813    | envelope      | 0.002125    | envelope     | 0        | envelope  | 0.022687 | envelope  | 0.013173  | No Messages                                                             | No Messages |
| 346   | BALOK B1   | Beam       | No Messages | 10.36656 | envelope      | 0.002923    | envelope      | 0.001097    | envelope     | 0        | envelope  | 0.022687 | envelope  | 0.013173  | No Messages                                                             | No Messages |
| 346   | BALOK B1   | Beam       | No Messages | 10.83    | envelope      | 0           | envelope      | 0           | envelope     | 0        | envelope  | 0.022687 | envelope  | 0.013173  | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 0.45     | envelope      | 0           | envelope      | 0           | envelope     | 0        | envelope  | 0.031746 | envelope  | 0.018434  | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 0.9302   | envelope      | 0.000205    | envelope      | 0.001289    | envelope     | 0        | envelope  | 0.031746 | envelope  | 0.018434  | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 1.4104   | envelope      | 0.000423    | envelope      | 0.00202     | envelope     | 0        | envelope  | 0.031746 | envelope  | 0.018434  | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 1.8906   | envelope      | 0.000655    | envelope      | 0.003192    | envelope     | 0        | envelope  | 0.031746 | envelope  | 0.018434  | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 2.3708   | envelope      | 0.000901    | envelope      | 0.004282    | envelope     | 0        | envelope  | 0.031746 | envelope  | 0.018434  | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 2.851    | envelope      | 0.001517    | envelope      | 0.00522     | envelope     | 0        | envelope  | 0.031746 | envelope  | 0.018434  | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 3.3312   | envelope      | 0.002472    | envelope      | 0.00615     | envelope     | 0        | envelope  | 0.031746 | envelope  | 0.018434  | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 3.8114   | envelope      | 0.003418    | envelope      | 0.007073    | envelope     | 0        | envelope  | 0.031746 | envelope  | 0.018434  | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 4.2916   | envelope      | 0.004357    | envelope      | 0.007987    | envelope     | 0        | envelope  | 0.031746 | envelope  | 0.018434  | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 4.7718   | envelope      | 0.005288    | envelope      | 0.008894    | envelope     | 0        | envelope  | 0.031746 | envelope  | 0.018434  | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 5.252    | envelope      | 0.00621     | envelope      | 0.009792    | envelope     | 0        | envelope  | 0.031746 | envelope  | 0.018434  | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 5.7322   | envelope      | 0.007125    | envelope      | 0.010683    | envelope     | 0        | envelope  | 0.031746 | envelope  | 0.018434  | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | envelope      | 0.008348    | COMB2         |             | envelope     | 0        | envelope  | 0.022699 | envelope  | 0.01318   | The required reinforcing exceeds maximum allowed                        | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 6.19564  | envelope      | 0.007319    | envelope      | 0.010873    | envelope     | 0        | envelope  | 0.022699 | envelope  | 0.01318   | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 6.65908  | envelope      | 0.006283    | envelope      | 0.009864    | envelope     | 0        | envelope  | 0.022699 | envelope  | 0.01318   | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 7.12251  | envelope      | 0.00524     | envelope      | 0.008847    | envelope     | 0        | envelope  | 0.022699 | envelope  | 0.01318   | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 7.58595  | envelope      | 0.004189    | envelope      | 0.007823    | envelope     | 0        | envelope  | 0.022699 | envelope  | 0.01318   | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 8.04938  | envelope      | 0.003131    | envelope      | 0.006792    | envelope     | 0        | envelope  | 0.022699 | envelope  | 0.01318   | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 8.51282  | envelope      | 0.002065    | envelope      | 0.005754    | envelope     | 0        | envelope  | 0.022699 | envelope  | 0.01318   | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 8.97626  | envelope      | 0.000991    | envelope      | 0.004708    | envelope     | 0        | envelope  | 0.022699 | envelope  | 0.01318   | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 9.43969  | envelope      | 0.000713    | envelope      | 0.003621    | envelope     | 0        | envelope  | 0.022699 | envelope  | 0.01318   | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 9.90313  | envelope      | 0.000462    | envelope      | 0.002267    | envelope     | 0        | envelope  | 0.022699 | envelope  | 0.01318   | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 10.36656 | envelope      | 0.000224    | envelope      | 0.001436    | envelope     | 0        | envelope  | 0.022699 | envelope  | 0.01318   | No Messages                                                             | No Messages |
| 347   | BALOK B1   | Beam       | No Messages | 10.83    | envelope      | 0           | envelope      | 0           | envelope     | 0        | envelope  | 0.022699 | envelope  | 0.01318   | No Messages                                                             | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 0.45     | envelope      | 0           | envelope      | 0           | COMB2        |          | envelope  | 0.031746 | envelope  | 0.018434  | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 0.9302   | envelope      | 0.001035    | envelope      | 0.000445    | COMB2        |          | envelope  | 0.031746 | envelope  | 0.018434  | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 1.4104   | envelope      | 0.00162     | envelope      | 0.000893    | COMB2        |          | envelope  | 0.031746 | envelope  | 0.018434  | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 1.8906   | envelope      | 0.002551    | envelope      | 0.001344    | COMB2        |          | envelope  | 0.031746 | envelope  | 0.018434  | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 2.3708   | envelope      | 0.003598    | envelope      | 0.001494    | COMB2        |          | envelope  | 0.031746 | envelope  | 0.018434  | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 2.851    | envelope      | 0.004455    | envelope      | 0.001693    | COMB2        |          | envelope  | 0.031746 | envelope  | 0.018434  | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 3.3312   | envelope      | 0.005279    | envelope      | 0.002039    | COMB2        |          | envelope  | 0.031746 | envelope  | 0.018434  | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 3.8114   | envelope      | 0.006112    | envelope      | 0.002432    | COMB2        |          | envelope  | 0.031746 | envelope  | 0.018434  | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 4.2916   | envelope      | 0.006951    | envelope      | 0.003294    | COMB2        |          | envelope  | 0.031746 | envelope  | 0.018434  | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 4.7718   | envelope      | 0.007799    | envelope      | 0.004164    | COMB2        |          | envelope  | 0.031746 | envelope  | 0.018434  | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 5.252    | envelope      | 0.008655    | envelope      | 0.005043    | COMB2        |          | envelope  | 0.031746 | envelope  | 0.018434  | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | envelope      | 0.009518    | envelope      | 0.005929    | COMB2        |          | envelope  | 0.031746 | envelope  | 0.018434  | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | envelope      | 0.01071     | envelope      | 0.007152    | COMB2        |          | envelope  | 0.022699 | envelope  | 0.01318   | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 6.19564  | envelope      | 0.009741    | envelope      | 0.006157    | COMB2        |          | envelope  | 0.022699 | envelope  | 0.01318   | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 6.65908  | envelope      | 0.008779    | envelope      | 0.00517     | COMB2        |          | envelope  | 0.022699 | envelope  | 0.01318   | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 7.12251  | envelope      | 0.007825    | envelope      | 0.00419     | COMB2        |          | envelope  | 0.022699 | envelope  | 0.01318   | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 7.58595  | envelope      | 0.006877    | envelope      | 0.003218    | COMB2        |          | envelope  | 0.022699 | envelope  | 0.01318   | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 8.04938  | envelope      | 0.005937    | envelope      | 0.002253    | COMB2        |          | envelope  | 0.022699 | envelope  | 0.01318   | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |

TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14

| Frame | DesignSect | DesignType | Status      | Location | FTopCombo     | FTopArea       | FBotCombo     | FBotArea       | VCombo        | VRebar            | TlngCombo | TlngArea       | TTrnCombo | TTrnRebar                                                                                                      | ErrMsg      | WarnMsg     |
|-------|------------|------------|-------------|----------|---------------|----------------|---------------|----------------|---------------|-------------------|-----------|----------------|-----------|----------------------------------------------------------------------------------------------------------------|-------------|-------------|
| Text  | Text       | Text       | Text        | m        | Text          | m <sup>2</sup> | Text          | m <sup>2</sup> | Text          | m <sup>2</sup> /m | Text      | m <sup>2</sup> | Text      | m <sup>2</sup> /m                                                                                              | Text        | Text        |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 8.51282  | envelope      | 0.005005       | envelope      | 0.001752       | COMB2         | envelope          | 0.022699  | envelope       | 0.01318   | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |             |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 8.97626  | envelope      | 0.00408        | envelope      | 0.001494       | COMB2         | envelope          | 0.022699  | envelope       | 0.01318   | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |             |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 9.43969  | envelope      | 0.002965       | envelope      | 0.001386       | COMB2         | envelope          | 0.022699  | envelope       | 0.01318   | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |             |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 9.90313  | envelope      | 0.001869       | envelope      | 0.00092        | COMB2         | envelope          | 0.022699  | envelope       | 0.01318   | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |             |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 10.36656 | envelope      | 0.001187       | envelope      | 0.000458       | COMB2         | envelope          | 0.022699  | envelope       | 0.01318   | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |             |
| 348   | BALOK B1   | Beam       | See ErrMsg  | 10.83    | envelope      | 0              | envelope      | 0              | COMB2         | envelope          | 0.022699  | envelope       | 0.01318   | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |             |
| 349   | BALOK B1   | Beam       | No Messages | 0.45     | envelope      | 0              | envelope      | 0              | envelope      | 0                 | envelope  | 0.031734       | envelope  | 0.018427                                                                                                       | No Messages | No Messages |
| 349   | BALOK B1   | Beam       | No Messages | 0.9302   | envelope      | 0.00803        | envelope      | 0.002757       | envelope      | 0                 | envelope  | 0.031734       | envelope  | 0.018427                                                                                                       | No Messages | No Messages |
| 349   | BALOK B1   | Beam       | No Messages | 1.4104   | envelope      | 0.001839       | envelope      | 0.005534       | envelope      | 0                 | envelope  | 0.031734       | envelope  | 0.018427                                                                                                       | No Messages | No Messages |
| 349   | BALOK B1   | Beam       | No Messages | 1.8906   | envelope      | 0.004436       | envelope      | 0.008064       | envelope      | 0                 | envelope  | 0.031734       | envelope  | 0.018427                                                                                                       | No Messages | No Messages |
| 349   | BALOK B1   | Beam       | No Messages | 2.3708   | envelope      | 0.007024       | envelope      | 0.010585       | envelope      | 0                 | envelope  | 0.031734       | envelope  | 0.018427                                                                                                       | No Messages | No Messages |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 2.851    | envelope      | 0.009604       | COMB2         | envelope       | 0             | envelope          | 0.031734  | envelope       | 0.018427  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 3.3312   | envelope      | 0.012177       | COMB2         | envelope       | 0             | envelope          | 0.031734  | envelope       | 0.018427  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 3.8114   | envelope      | 0.014741       | COMB2         | envelope       | 0             | envelope          | 0.031734  | envelope       | 0.018427  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 4.2916   | envelope      | 0.017297       | COMB2         | envelope       | 0             | envelope          | 0.031734  | envelope       | 0.018427  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 4.7718   | envelope      | 0.019845       | COMB2         | envelope       | 0             | envelope          | 0.031734  | envelope       | 0.018427  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 5.252    | envelope      | 0.022385       | COMB2         | envelope       | 0             | envelope          | 0.031734  | envelope       | 0.018427  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | envelope      | 0.024917       | COMB2         | envelope       | 0             | envelope          | 0.031734  | envelope       | 0.018427  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | envelope      | 0.028456       | COMB2         | envelope       | 0             | envelope          | 0.022687  | envelope       | 0.013173  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 6.19564  | envelope      | 0.025599       | COMB2         | envelope       | 0             | envelope          | 0.022687  | envelope       | 0.013173  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 6.65908  | envelope      | 0.022735       | COMB2         | envelope       | 0             | envelope          | 0.022687  | envelope       | 0.013173  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 7.12251  | envelope      | 0.019864       | COMB2         | envelope       | 0             | envelope          | 0.022687  | envelope       | 0.013173  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 7.58595  | envelope      | 0.016985       | COMB2         | envelope       | 0             | envelope          | 0.022687  | envelope       | 0.013173  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 8.04938  | envelope      | 0.014098       | COMB2         | envelope       | 0             | envelope          | 0.022687  | envelope       | 0.013173  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 8.51282  | envelope      | 0.011205       | COMB2         | envelope       | 0             | envelope          | 0.022687  | envelope       | 0.013173  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | See ErrMsg  | 8.97626  | envelope      | 0.008303       | COMB3         | envelope       | 0             | envelope          | 0.022687  | envelope       | 0.013173  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 349   | BALOK B1   | Beam       | No Messages | 9.43969  | envelope      | 0.005394       | envelope      | 0.008997       | envelope      | 0                 | envelope  | 0.022687       | envelope  | 0.013173                                                                                                       | No Messages | No Messages |
| 349   | BALOK B1   | Beam       | No Messages | 9.90313  | envelope      | 0.002478       | envelope      | 0.006156       | envelope      | 0                 | envelope  | 0.022687       | envelope  | 0.013173                                                                                                       | No Messages | No Messages |
| 349   | BALOK B1   | Beam       | No Messages | 10.36656 | envelope      | 0.000854       | envelope      | 0.003154       | envelope      | 0                 | envelope  | 0.022687       | envelope  | 0.013173                                                                                                       | No Messages | No Messages |
| 349   | BALOK B1   | Beam       | No Messages | 10.83    | envelope      | 0              | envelope      | 0              | envelope      | 0                 | envelope  | 0.022687       | envelope  | 0.013173                                                                                                       | No Messages | No Messages |
| 350   | BALOK B2   | Beam       | No Messages | 0        | envelope      | 0              | envelope      | 0              | COMB7.8 (Sp)  | 0.003891          | envelope  | 0              | envelope  | 0                                                                                                              | No Messages | No Messages |
| 350   | BALOK B2   | Beam       | No Messages | 0.435    | envelope (Sp) | 0.00000411     | envelope (Sp) | 0.000004108    | COMB7.8 (Sp)  | 0.003917          | envelope  | 0              | envelope  | 0                                                                                                              | No Messages | No Messages |
| 350   | BALOK B2   | Beam       | No Messages | 0.87     | envelope      | 0.000016       | envelope (Sp) | 0.000008216    | COMB7.8 (Sp)  | 0.003942          | envelope  | 0              | envelope  | 0                                                                                                              | No Messages | No Messages |
| 351   | BALOK B2   | Beam       | See ErrMsg  | 0        | envelope      | 0.009074       | COMB2         | envelope       | 0             | envelope          | 0.015455  | envelope       | 0.008974  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 351   | BALOK B2   | Beam       | No Messages | 0.41667  | envelope (Sp) | 0.004341       | envelope      | 0.007972       | envelope      | 0                 | envelope  | 0.015455       | envelope  | 0.008974                                                                                                       | No Messages | No Messages |
| 351   | BALOK B2   | Beam       | No Messages | 0.83333  | envelope (Sp) | 0.003388       | envelope (Sp) | 0.003388       | envelope      | 0                 | envelope  | 0.015455       | envelope  | 0.008974                                                                                                       | No Messages | No Messages |
| 351   | BALOK B2   | Beam       | No Messages | 1.25     | envelope      | 0.001779       | envelope (Sp) | 0.001137       | envelope      | 0                 | envelope  | 0.015455       | envelope  | 0.008974                                                                                                       | No Messages | No Messages |
| 352   | BALOK B2   | Beam       | See ErrMsg  | 0        | envelope      | 0.007328       | envelope      | 0.010881       | COMB2         | envelope          | 0.020797  | envelope       | 0.012076  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |             |
| 352   | BALOK B2   | Beam       | See ErrMsg  | 0.46333  | envelope (Sp) | 0.002846       | envelope      | 0.003925       | COMB2         | envelope          | 0.020797  | envelope       | 0.012076  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |             |
| 352   | BALOK B2   | Beam       | See ErrMsg  | 0.92667  | envelope (Sp) | 0.003943       | envelope (Sp) | 0.002846       | COMB2         | envelope          | 0.020797  | envelope       | 0.012076  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |             |
| 352   | BALOK B2   | Beam       | See ErrMsg  | 1.39     | envelope      | 0.010914       | envelope (Sp) | 0.007362       | COMB2         | envelope          | 0.020797  | envelope       | 0.012076  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |             |
| 353   | BALOK B2   | Beam       | No Messages | 0        | envelope      | 0.000635       | envelope      | 0.001741       | envelope      | 0                 | envelope  | 0.015455       | envelope  | 0.008974                                                                                                       | No Messages | No Messages |
| 353   | BALOK B2   | Beam       | No Messages | 0.41667  | envelope (Sp) | 0.003397       | envelope (Sp) | 0.003397       | envelope      | 0                 | envelope  | 0.015455       | envelope  | 0.008974                                                                                                       | No Messages | No Messages |
| 353   | BALOK B2   | Beam       | No Messages | 0.83333  | envelope (Sp) | 0.007988       | envelope (Sp) | 0.004358       | envelope      | 0                 | envelope  | 0.015455       | envelope  | 0.008974                                                                                                       | No Messages | No Messages |
| 353   | BALOK B2   | Beam       | See ErrMsg  | 1.25     | COMB2         | envelope (Sp)  | 0.009101      | envelope       | 0             | envelope          | 0.015455  | envelope       | 0.008974  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 354   | BALOK B2   | Beam       | No Messages | 0        | envelope      | 0.000016       | envelope (Sp) | 0.000008216    | envelope (Sp) | 0.003942          | envelope  | 0              | envelope  | 0                                                                                                              | No Messages | No Messages |
| 354   | BALOK B2   | Beam       | No Messages | 0.435    | envelope (Sp) | 0.00000411     | envelope (Sp) | 0.000004108    | envelope (Sp) | 0.003917          | envelope  | 0              | envelope  | 0                                                                                                              | No Messages | No Messages |
| 354   | BALOK B2   | Beam       | No Messages | 0.87     | envelope      | 0              | envelope      | 0              | envelope (Sp) | 0.003891          | envelope  | 0              | envelope  | 0                                                                                                              | No Messages | No Messages |
| 355   | BALOK B1   | Beam       | No Messages | 0.45     | envelope      | 0              | envelope      | 0              | envelope      | 0                 | envelope  | 0.022459       | envelope  | 0.013041                                                                                                       | No Messages | No Messages |
| 355   | BALOK B1   | Beam       | No Messages | 0.9302   | envelope      | 0.001494       | envelope      | 0.00088        | envelope      | 0                 | envelope  | 0.022459       | envelope  | 0.013041                                                                                                       | No Messages | No Messages |
| 355   | BALOK B1   | Beam       | No Messages | 1.4104   | envelope      | 0.003246       | envelope      | 0.001494       | envelope      | 0                 | envelope  | 0.022459       | envelope  | 0.013041                                                                                                       | No Messages | No Messages |
| 355   | BALOK B1   | Beam       | No Messages | 1.8906   | envelope      | 0.004852       | envelope      | 0.002086       | envelope      | 0                 | envelope  | 0.022459       | envelope  | 0.013041                                                                                                       | No Messages | No Messages |
| 355   | BALOK B1   | Beam       | No Messages | 2.3708   | envelope      | 0.006335       | envelope      | 0.00287        | envelope      | 0                 | envelope  | 0.022459       | envelope  | 0.013041                                                                                                       | No Messages | No Messages |
| 355   | BALOK B1   | Beam       | No Messages | 2.851    | envelope      | 0.007825       | envelope      | 0.004191       | envelope      | 0                 | envelope  | 0.022459       | envelope  | 0.013041                                                                                                       | No Messages | No Messages |
| 355   | BALOK B1   | Beam       | No Messages | 3.3312   | envelope      | 0.009323       | envelope      | 0.005729       | envelope      | 0                 | envelope  | 0.022459       | envelope  | 0.013041                                                                                                       | No Messages | No Messages |
| 355   | BALOK B1   | Beam       | No Messages | 3.8114   | envelope      | 0.010829       | envelope      | 0.007274       | envelope      | 0                 | envelope  | 0.022459       | envelope  | 0.013041                                                                                                       | No Messages | No Messages |
| 355   | BALOK B1   | Beam       | See ErrMsg  | 4.2916   | COMB2         | envelope       | 0.008828      | envelope       | 0             | envelope          | 0.022459  | envelope       | 0.013041  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 355   | BALOK B1   | Beam       | See ErrMsg  | 4.7718   | COMB2         | envelope       | 0.01039       | envelope       | 0             | envelope          | 0.022459  | envelope       | 0.013041  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 355   | BALOK B1   | Beam       | See ErrMsg  | 5.252    | COMB2         | envelope       | 0.011961      | envelope       | 0             | envelope          | 0.022459  | envelope       | 0.013041  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 355   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | COMB2         | envelope       | 0.013539      | envelope       | 0             | envelope          | 0.022459  | envelope       | 0.013041  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 355   | BALOK B1   | Beam       | See ErrMsg  | 5.7322   | COMB2         | envelope       | 0.017329      | envelope       | 0             | envelope          | 0.031412  | envelope       | 0.007788  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 355   | BALOK B1   | Beam       | See ErrMsg  | 6.19564  | COMB2         | envelope       | 0.015409      | envelope       | 0             | envelope          | 0.031412  | envelope       | 0.007788  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 355   | BALOK B1   | Beam       | See ErrMsg  | 6.65908  | COMB2         | envelope       | 0.013497      | envelope       | 0             | envelope          | 0.031412  | envelope       | 0.007788  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 355   | BALOK B1   | Beam       | See ErrMsg  | 7.12251  | COMB2         | envelope       | 0.011592      | envelope       | 0             | envelope          | 0.031412  | envelope       | 0.007788  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 355   | BALOK B1   | Beam       | See ErrMsg  | 7.58595  | COMB2         | envelope       | 0.009694      | envelope       | 0             | envelope          | 0.031412  | envelope       | 0.007788  | The required reinforcing exceeds maximum allowed                                                               | No Messages |             |
| 355   | BALOK B1   | Beam       | No Messages | 8.04938  | envelope      | 0.011345       | envelope      | 0.007804       | envelope      | 0                 | envelope  | 0.031412       | envelope  | 0.007788                                                                                                       | No Messages | No Messages |
| 355   | BALOK B1   | Beam       | No Messages | 8.51282  | envelope      | 0.009511       | envelope      | 0.005922       | envelope      | 0                 | envelope  | 0.031412       | envelope  | 0.007788                                                                                                       | No Messages | No Messages |
| 355   | BALOK B1   | Beam       | No Messages | 8.97626  | envelope      | 0.007685       | envelope      | 0.004047       | envelope      | 0                 | envelope  | 0.031412       | envelope  | 0.007788                                                                                                       | No Messages | No Messages |

TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14

| Form | Design   | Section | DesignType  | Status   | Location | FTopCombo | FTopArea | FBotCombo | FBotArea | VCombo   | VRebar   | TLngCombo | TLngArea | TrnCombo                                                                | TrnRebar                                         | ErrMsg      | WarnMsg     |
|------|----------|---------|-------------|----------|----------|-----------|----------|-----------|----------|----------|----------|-----------|----------|-------------------------------------------------------------------------|--------------------------------------------------|-------------|-------------|
| Test | Text     | Text    | Text        | Text     | m        | Text      | m2       | Text      | m2       | Text     | m2/m     | Text      | m2       | Text                                                                    | m2/m                                             | Text        | Text        |
| 355  | BALOK B1 | Beam    | No Messages | 9.43969  | envelope | 0.005866  | envelope | 0.002214  | envelope | 0        | envelope | 0.013412  | envelope | 0.007788                                                                | No Messages                                      | No Messages | No Messages |
| 355  | BALOK B1 | Beam    | No Messages | 9.90313  | envelope | 0.004054  | envelope | 0.001494  | envelope | 0        | envelope | 0.013412  | envelope | 0.007788                                                                | No Messages                                      | No Messages | No Messages |
| 355  | BALOK B1 | Beam    | No Messages | 10.36656 | envelope | 0.001867  | envelope | 0.000928  | envelope | 0        | envelope | 0.013412  | envelope | 0.007788                                                                | No Messages                                      | No Messages | No Messages |
| 355  | BALOK B1 | Beam    | No Messages | 10.83    | envelope | 0         | envelope | 0         | envelope | 0        | envelope | 0.013412  | envelope | 0.007788                                                                | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 0.45     | envelope | 0         | envelope | 0         | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 0.9302   | envelope | 0.000147  | envelope | 0.000849  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 1.4104   | envelope | 0.000305  | envelope | 0.001494  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 1.8906   | envelope | 0.000475  | envelope | 0.002007  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 2.3708   | envelope | 0.000657  | envelope | 0.002755  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 2.851    | envelope | 0.000853  | envelope | 0.003561  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 3.3312   | envelope | 0.001061  | envelope | 0.004422  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 3.8114   | envelope | 0.001284  | envelope | 0.004821  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 4.2916   | envelope | 0.001715  | envelope | 0.005414  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 4.7718   | envelope | 0.002316  | envelope | 0.005998  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 5.252    | envelope | 0.002908  | envelope | 0.006576  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 5.7322   | envelope | 0.003493  | envelope | 0.007145  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 5.7322   | envelope | 0.004803  | envelope | 0.008421  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 6.19564  | envelope | 0.004096  | envelope | 0.007733  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 6.65908  | envelope | 0.003383  | envelope | 0.007038  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 7.12251  | envelope | 0.002662  | envelope | 0.006335  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 7.58595  | envelope | 0.001933  | envelope | 0.005625  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 8.04938  | envelope | 0.001197  | envelope | 0.004908  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 8.51282  | envelope | 0.000954  | envelope | 0.004184  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 8.97626  | envelope | 0.000738  | envelope | 0.003345  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 9.43969  | envelope | 0.000536  | envelope | 0.002409  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 9.90313  | envelope | 0.000346  | envelope | 0.001551  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 10.36656 | envelope | 0.000167  | envelope | 0.001002  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 356  | BALOK B1 | Beam    | See ErrMsg  | 10.83    | envelope | 0         | envelope | 0         | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 0.45     | envelope | 0         | envelope | 0         | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 0.9302   | envelope | 0.000602  | envelope | 0.000386  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 1.4104   | envelope | 0.00124   | envelope | 0.000771  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 1.8906   | envelope | 0.001494  | envelope | 0.001155  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 2.3708   | envelope | 0.001985  | envelope | 0.001494  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 2.851    | envelope | 0.002571  | envelope | 0.001494  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 3.3312   | envelope | 0.003209  | envelope | 0.001729  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 3.8114   | envelope | 0.00386   | envelope | 0.002015  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 4.2916   | envelope | 0.004378  | envelope | 0.002301  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 4.7718   | envelope | 0.004904  | envelope | 0.002586  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 5.252    | envelope | 0.005438  | envelope | 0.00287   | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 5.7322   | envelope | 0.00598   | envelope | 0.003153  | COMB2    | envelope | 0.023467 | envelope  | 0.013046 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 5.7322   | envelope | 0.007256  | envelope | 0.003607  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 6.19564  | envelope | 0.006601  | envelope | 0.003037  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 6.65908  | envelope | 0.005953  | envelope | 0.002728  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 7.12251  | envelope | 0.005313  | envelope | 0.002421  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 7.58595  | envelope | 0.004679  | envelope | 0.002114  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 8.04938  | envelope | 0.004054  | envelope | 0.00181   | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 8.51282  | envelope | 0.003322  | envelope | 0.001506  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 8.97626  | envelope | 0.002543  | envelope | 0.001494  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 9.43969  | envelope | 0.001833  | envelope | 0.001201  | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 9.90313  | envelope | 0.001494  | envelope | 0.0008    | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 10.36656 | envelope | 0.00076   | envelope | 0.0004    | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 357  | BALOK B1 | Beam    | See ErrMsg  | 10.83    | envelope | 0         | envelope | 0         | COMB2    | envelope | 0.01342  | envelope  | 0.007793 | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages                                      | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | No Messages | 0.45     | envelope | 0         | envelope | 0         | envelope | 0        | envelope | 0.022459  | envelope | 0.013041                                                                | No Messages                                      | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | No Messages | 0.9302   | envelope | 0.000633  | envelope | 0.001693  | envelope | 0        | envelope | 0.022459  | envelope | 0.013041                                                                | No Messages                                      | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | No Messages | 1.4104   | envelope | 0.001304  | envelope | 0.003726  | envelope | 0        | envelope | 0.022459  | envelope | 0.013041                                                                | No Messages                                      | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | No Messages | 1.8906   | envelope | 0.001659  | envelope | 0.005358  | envelope | 0        | envelope | 0.022459  | envelope | 0.013041                                                                | No Messages                                      | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | No Messages | 2.3708   | envelope | 0.003321  | envelope | 0.006978  | envelope | 0        | envelope | 0.022459  | envelope | 0.013041                                                                | No Messages                                      | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | No Messages | 2.851    | envelope | 0.004976  | envelope | 0.00859   | envelope | 0        | envelope | 0.022459  | envelope | 0.013041                                                                | No Messages                                      | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | No Messages | 3.3312   | envelope | 0.006623  | envelope | 0.010194  | envelope | 0        | envelope | 0.022459  | envelope | 0.013041                                                                | No Messages                                      | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | See ErrMsg  | 3.8114   | envelope | 0.008261  | COMB7.1  | envelope  | envelope | 0        | envelope | 0.022459  | envelope | 0.013041                                                                | The required reinforcing exceeds maximum allowed | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | See ErrMsg  | 4.2916   | envelope | 0.009892  | COMB2    | envelope  | envelope | 0        | envelope | 0.022459  | envelope | 0.013041                                                                | The required reinforcing exceeds maximum allowed | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | See ErrMsg  | 4.7718   | envelope | 0.011514  | COMB2    | envelope  | envelope | 0        | envelope | 0.022459  | envelope | 0.013041                                                                | The required reinforcing exceeds maximum allowed | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | See ErrMsg  | 5.252    | envelope | 0.013128  | COMB2    | envelope  | envelope | 0        | envelope | 0.022459  | envelope | 0.013041                                                                | The required reinforcing exceeds maximum allowed | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | See ErrMsg  | 5.7322   | envelope | 0.014735  | COMB2    | envelope  | envelope | 0        | envelope | 0.022459  | envelope | 0.013041                                                                | The required reinforcing exceeds maximum allowed | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | See ErrMsg  | 5.7322   | envelope | 0.018525  | COMB2    | envelope  | envelope | 0        | envelope | 0.013412  | envelope | 0.007788                                                                | The required reinforcing exceeds maximum allowed | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | See ErrMsg  | 6.19564  | envelope | 0.016571  | COMB2    | envelope  | envelope | 0        | envelope | 0.013412  | envelope | 0.007788                                                                | The required reinforcing exceeds maximum allowed | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | See ErrMsg  | 6.65908  | envelope | 0.01461   | COMB2    | envelope  | envelope | 0        | envelope | 0.013412  | envelope | 0.007788                                                                | The required reinforcing exceeds maximum allowed | No Messages | No Messages |
| 358  | BALOK B1 | Beam    | See ErrMsg  | 7.12251  | envelope | 0.012642  | COMB2    | envelope  | envelope | 0        | envelope | 0.013412  | envelope | 0.007788                                                                | The required reinforcing exceeds maximum allowed | No Messages | No Messages |

| Frame | Design   | Design | Status      | Location | FTopCombo     | FTopA       | FBotCombo     | FBotArea    | VCombo        | VRebar   | TngCombo | TngArea  | TTrnCombo | TTrnRebar | ErrMsg                                                                                                         | WarnMsg     |
|-------|----------|--------|-------------|----------|---------------|-------------|---------------|-------------|---------------|----------|----------|----------|-----------|-----------|----------------------------------------------------------------------------------------------------------------|-------------|
| Text  | Text     | Text   | Text        | m        | Text          | m2          | Text          | m2          | Text          | m2/m     | Text     | m2       | Text      | m2/m      | Text                                                                                                           |             |
| 358   | BALOK B1 | Beam   | See ErrMsg  | 7.58595  | envelope      | 0.010665    | COMB2         |             | envelope      | 0        | envelope | 0.013412 | envelope  | 0.007788  | The required reinforcing exceeds maximum allowed                                                               | No Messages |
| 358   | BALOK B1 | Beam   | See ErrMsg  | 8.04938  | envelope      | 0.008682    | COMB2         |             | envelope      | 0        | envelope | 0.013412 | envelope  | 0.007788  | The required reinforcing exceeds maximum allowed                                                               | No Messages |
| 358   | BALOK B1 | Beam   | No Messages | 8.51282  | envelope      | 0.006691    | envelope      | 0.01026     | envelope      | 0        | envelope | 0.013412 | envelope  | 0.007788  | No Messages                                                                                                    | No Messages |
| 358   | BALOK B1 | Beam   | No Messages | 8.97626  | envelope      | 0.004692    | envelope      | 0.008313    | envelope      | 0        | envelope | 0.013412 | envelope  | 0.007788  | No Messages                                                                                                    | No Messages |
| 358   | BALOK B1 | Beam   | No Messages | 9.43969  | envelope      | 0.002686    | envelope      | 0.006359    | envelope      | 0        | envelope | 0.013412 | envelope  | 0.007788  | No Messages                                                                                                    | No Messages |
| 358   | BALOK B1 | Beam   | No Messages | 9.90313  | envelope      | 0.001418    | envelope      | 0.004397    | envelope      | 0        | envelope | 0.013412 | envelope  | 0.007788  | No Messages                                                                                                    | No Messages |
| 358   | BALOK B1 | Beam   | No Messages | 10.36656 | envelope      | 0.000687    | envelope      | 0.002072    | envelope      | 0        | envelope | 0.013412 | envelope  | 0.007788  | No Messages                                                                                                    | No Messages |
| 358   | BALOK B1 | Beam   | No Messages | 10.83    | envelope      | 0           | envelope      | 0           | envelope      | 0        | envelope | 0.013412 | envelope  | 0.007788  | No Messages                                                                                                    | No Messages |
| 359   | BALOK B2 | Beam   | No Messages | 0        | envelope      | 0           | envelope      | 0           | envelope (Sp) | 0.003891 | envelope | 0        | envelope  | 0         | No Messages                                                                                                    | No Messages |
| 359   | BALOK B2 | Beam   | No Messages | 0.435    | envelope (Sp) | 0.000004109 | envelope (Sp) | 0.000004107 | envelope (Sp) | 0.003917 | envelope | 0        | envelope  | 0         | No Messages                                                                                                    | No Messages |
| 359   | BALOK B2 | Beam   | No Messages | 0.87     | envelope      | 0.000016    | envelope (Sp) | 0.000008215 | envelope (Sp) | 0.003942 | envelope | 0        | envelope  | 0         | No Messages                                                                                                    | No Messages |
| 360   | BALOK B2 | Beam   | See ErrMsg  | 0        | envelope      | 0.004825    | envelope      | 0.000843    | COMB2         |          | envelope | 0.016558 | envelope  | 0.009615  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 360   | BALOK B2 | Beam   | See ErrMsg  | 0.41667  | envelope (Sp) | 0.002097    | envelope      | 0.005406    | COMB2         |          | envelope | 0.016558 | envelope  | 0.009615  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 360   | BALOK B2 | Beam   | See ErrMsg  | 0.83333  | envelope (Sp) | 0.002097    | envelope (Sp) | 0.002097    | COMB2         |          | envelope | 0.016558 | envelope  | 0.009615  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 360   | BALOK B2 | Beam   | See ErrMsg  | 1.25     | envelope      | 0.001494    | envelope (Sp) | 0.000744    | COMB2         |          | envelope | 0.016558 | envelope  | 0.009615  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 361   | BALOK B2 | Beam   | See ErrMsg  | 0        | envelope      | 0.003673    | envelope      | 0.007321    | COMB2         |          | envelope | 0.02228  | envelope  | 0.012937  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 361   | BALOK B2 | Beam   | See ErrMsg  | 0.46333  | envelope (Sp) | 0.001785    | envelope      | 0.002439    | COMB2         |          | envelope | 0.02228  | envelope  | 0.012937  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 361   | BALOK B2 | Beam   | See ErrMsg  | 0.92667  | envelope (Sp) | 0.002461    | envelope (Sp) | 0.001785    | COMB2         |          | envelope | 0.02228  | envelope  | 0.012937  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 361   | BALOK B2 | Beam   | See ErrMsg  | 1.39     | envelope      | 0.007354    | envelope (Sp) | 0.003903    | COMB2         |          | envelope | 0.02228  | envelope  | 0.012937  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 362   | BALOK B2 | Beam   | See ErrMsg  | 0        | envelope      | 0.000527    | envelope      | 0.00148     | COMB2         |          | envelope | 0.016558 | envelope  | 0.009615  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 362   | BALOK B2 | Beam   | See ErrMsg  | 0.41667  | envelope (Sp) | 0.002105    | envelope (Sp) | 0.002105    | COMB2         |          | envelope | 0.016558 | envelope  | 0.009615  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 362   | BALOK B2 | Beam   | See ErrMsg  | 0.83333  | envelope (Sp) | 0.005422    | envelope (Sp) | 0.002105    | COMB2         |          | envelope | 0.016558 | envelope  | 0.009615  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 362   | BALOK B2 | Beam   | See ErrMsg  | 1.25     | envelope      | 0.008469    | envelope (Sp) | 0.004852    | COMB2         |          | envelope | 0.016558 | envelope  | 0.009615  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 363   | BALOK B2 | Beam   | No Messages | 0        | envelope      | 0.000016    | envelope (Sp) | 0.000008215 | envelope (Sp) | 0.003942 | envelope | 0        | envelope  | 0         | No Messages                                                                                                    | No Messages |
| 363   | BALOK B2 | Beam   | No Messages | 0.435    | envelope (Sp) | 0.000004109 | envelope (Sp) | 0.00000410  |               |          |          |          |           |           |                                                                                                                |             |

**TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14**

| Frame | Design   | Design | Status      | Location | FTopCombo     | FTopArea    | FBotCombo     | FBotArea    | VCombo        | VRebar   | TlmgCombo | TlmgArea | TTrnCombo | TTrnRebar | ErrMsg                                                                                                         | WarnMsg     |
|-------|----------|--------|-------------|----------|---------------|-------------|---------------|-------------|---------------|----------|-----------|----------|-----------|-----------|----------------------------------------------------------------------------------------------------------------|-------------|
| Text  | Text     | Text   | Text        | m        | Text          | m2          | Text          | m2          | Text          | m2/m     | Text      | m2       | Text      | m2/m      | Text                                                                                                           | Text        |
| 365   | BALOK B1 | Beam   | See ErrMsg  | 8.51282  | envelope      | 0.000656    | envelope      | 0.002291    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 365   | BALOK B1 | Beam   | See ErrMsg  | 8.97626  | envelope      | 0.000503    | envelope      | 0.001807    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 365   | BALOK B1 | Beam   | See ErrMsg  | 9.43969  | envelope      | 0.000361    | envelope      | 0.001494    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 365   | BALOK B1 | Beam   | See ErrMsg  | 9.90313  | envelope      | 0.000231    | envelope      | 0.001175    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 365   | BALOK B1 | Beam   | See ErrMsg  | 10.36656 | envelope      | 0.00011     | envelope      | 0.000581    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 365   | BALOK B1 | Beam   | See ErrMsg  | 10.83    | envelope      | 0           | envelope      | 0           | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 0.45     | envelope      | 0           | envelope      | 0           | COMB2         |          | envelope  | 0.01319  | envelope  | 0.007659  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 0.9302   | envelope      | 0.000182    | envelope      | 0.000326    | COMB2         |          | envelope  | 0.01319  | envelope  | 0.007659  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 1.4104   | envelope      | 0.000376    | envelope      | 0.000649    | COMB2         |          | envelope  | 0.01319  | envelope  | 0.007659  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 1.8906   | envelope      | 0.000583    | envelope      | 0.000969    | COMB2         |          | envelope  | 0.01319  | envelope  | 0.007659  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 2.3708   | envelope      | 0.000803    | envelope      | 0.001285    | COMB2         |          | envelope  | 0.01319  | envelope  | 0.007659  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 2.851    | envelope      | 0.001038    | envelope      | 0.001494    | COMB2         |          | envelope  | 0.01319  | envelope  | 0.007659  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 3.3312   | envelope      | 0.001287    | envelope      | 0.001494    | COMB2         |          | envelope  | 0.01319  | envelope  | 0.007659  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 3.8114   | envelope      | 0.001494    | envelope      | 0.001655    | COMB2         |          | envelope  | 0.01319  | envelope  | 0.007659  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 4.2916   | envelope      | 0.001494    | envelope      | 0.001878    | COMB2         |          | envelope  | 0.01319  | envelope  | 0.007659  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 4.7718   | envelope      | 0.001598    | envelope      | 0.002098    | COMB2         |          | envelope  | 0.01319  | envelope  | 0.007659  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 5.252    | envelope      | 0.001836    | envelope      | 0.002313    | COMB2         |          | envelope  | 0.01319  | envelope  | 0.007659  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 5.7322   | envelope      | 0.002089    | envelope      | 0.002523    | COMB2         |          | envelope  | 0.01319  | envelope  | 0.007659  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 5.7322   | envelope      | 0.003803    | envelope      | 0.002718    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 6.19564  | envelope      | 0.003358    | envelope      | 0.002482    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 6.65908  | envelope      | 0.002922    | envelope      | 0.002244    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 7.12251  | envelope      | 0.002516    | envelope      | 0.002003    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 7.58595  | envelope      | 0.002135    | envelope      | 0.001759    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 8.04938  | envelope      | 0.001777    | envelope      | 0.001513    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 8.51282  | envelope      | 0.001494    | envelope      | 0.001494    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 8.97626  | envelope      | 0.001494    | envelope      | 0.001354    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 9.43969  | envelope      | 0.001091    | envelope      | 0.001019    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 9.90313  | envelope      | 0.000709    | envelope      | 0.000681    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 10.36656 | envelope      | 0.000346    | envelope      | 0.000342    | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 366   | BALOK B1 | Beam   | See ErrMsg  | 10.83    | envelope      | 0           | envelope      | 0           | COMB2         |          | envelope  | 0.004282 | envelope  | 0.002487  | Shear stress due to shear and torsion together exceeds maximum allowed.                                        | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 0.45     | envelope      | 0           | envelope      | 0           | envelope      | 0        | envelope  | 0.013186 | envelope  | 0.007656  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 0.9302   | envelope      | 0.000464    | envelope      | 0.000976    | envelope      | 0        | envelope  | 0.013186 | envelope  | 0.007656  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 1.4104   | envelope      | 0.000954    | envelope      | 0.001508    | envelope      | 0        | envelope  | 0.013186 | envelope  | 0.007656  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 1.8906   | envelope      | 0.001471    | envelope      | 0.002338    | envelope      | 0        | envelope  | 0.013186 | envelope  | 0.007656  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 2.3708   | envelope      | 0.001515    | envelope      | 0.003238    | envelope      | 0        | envelope  | 0.013186 | envelope  | 0.007656  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 2.851    | envelope      | 0.001953    | envelope      | 0.004082    | envelope      | 0        | envelope  | 0.013186 | envelope  | 0.007656  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 3.3312   | envelope      | 0.00242     | envelope      | 0.004785    | envelope      | 0        | envelope  | 0.013186 | envelope  | 0.007656  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 3.8114   | envelope      | 0.002923    | envelope      | 0.005479    | envelope      | 0        | envelope  | 0.013186 | envelope  | 0.007656  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 4.2916   | envelope      | 0.003466    | envelope      | 0.006166    | envelope      | 0        | envelope  | 0.013186 | envelope  | 0.007656  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 4.7718   | envelope      | 0.003964    | envelope      | 0.006845    | envelope      | 0        | envelope  | 0.013186 | envelope  | 0.007656  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 5.252    | envelope      | 0.004393    | envelope      | 0.007516    | envelope      | 0        | envelope  | 0.013186 | envelope  | 0.007656  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 5.7322   | envelope      | 0.004831    | envelope      | 0.008179    | envelope      | 0        | envelope  | 0.013186 | envelope  | 0.007656  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | See ErrMsg  | 5.7322   | envelope      | 0.008596    | COMB7.1       |             | envelope      | 0        | envelope  | 0.00428  | envelope  | 0.002485  | The required reinforcing exceeds maximum allowed                                                               | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 6.19564  | envelope      | 0.007545    | envelope      | 0.011093    | envelope      | 0        | envelope  | 0.00428  | envelope  | 0.002485  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 6.65908  | envelope      | 0.006487    | envelope      | 0.010062    | envelope      | 0        | envelope  | 0.00428  | envelope  | 0.002485  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 7.12251  | envelope      | 0.005421    | envelope      | 0.009023    | envelope      | 0        | envelope  | 0.00428  | envelope  | 0.002485  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 7.58595  | envelope      | 0.004347    | envelope      | 0.007977    | envelope      | 0        | envelope  | 0.00428  | envelope  | 0.002485  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 8.04938  | envelope      | 0.003266    | envelope      | 0.006924    | envelope      | 0        | envelope  | 0.00428  | envelope  | 0.002485  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 8.51282  | envelope      | 0.002204    | envelope      | 0.005864    | envelope      | 0        | envelope  | 0.00428  | envelope  | 0.002485  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 8.97626  | envelope      | 0.001708    | envelope      | 0.004796    | envelope      | 0        | envelope  | 0.00428  | envelope  | 0.002485  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 9.43969  | envelope      | 0.001494    | envelope      | 0.003712    | envelope      | 0        | envelope  | 0.00428  | envelope  | 0.002485  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 9.90313  | envelope      | 0.001074    | envelope      | 0.00232     | envelope      | 0        | envelope  | 0.00428  | envelope  | 0.002485  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 10.36656 | envelope      | 0.000523    | envelope      | 0.001467    | envelope      | 0        | envelope  | 0.00428  | envelope  | 0.002485  | No Messages                                                                                                    | No Messages |
| 367   | BALOK B1 | Beam   | No Messages | 10.83    | envelope      | 0           | envelope      | 0           | envelope      | 0        | envelope  | 0.00428  | envelope  | 0.002485  | No Messages                                                                                                    | No Messages |
| 368   | BALOK B2 | Beam   | No Messages | 0        | envelope      | 0           | envelope      | 0           | envelope (Sp) | 0.003891 | envelope  | 0        | envelope  | 0         | No Messages                                                                                                    | No Messages |
| 368   | BALOK B2 | Beam   | No Messages | 0.435    | envelope (Sp) | 0.000004108 | envelope (Sp) | 0.000004107 | envelope (Sp) | 0.003917 | envelope  | 0        | envelope  | 0         | No Messages                                                                                                    | No Messages |
| 368   | BALOK B2 | Beam   | No Messages | 0.87     | envelope      | 0.000016    | envelope (Sp) | 0.000008215 | envelope (Sp) | 0.003942 | envelope  | 0        | envelope  | 0         | No Messages                                                                                                    | No Messages |
| 369   | BALOK B2 | Beam   | See ErrMsg  | 0        | envelope      | 0.002345    | envelope      | 0.004305    | COMB2         |          | envelope  | 0.01766  | envelope  | 0.010255  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 369   | BALOK B2 | Beam   | See ErrMsg  | 0.41667  | envelope (Sp) | 0.001494    | envelope      | 0.002563    | COMB2         |          | envelope  | 0.01766  | envelope  | 0.010255  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 369   | BALOK B2 | Beam   | See ErrMsg  | 0.83333  | envelope (Sp) | 0.00128     | envelope (Sp) | 0.00128     | COMB2         |          | envelope  | 0.01766  | envelope  | 0.010255  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 369   | BALOK B2 | Beam   | See ErrMsg  | 1.25     | envelope      | 0.000729    | envelope      | 0.000376    | COMB2         |          | envelope  | 0.01766  | envelope  | 0.010255  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 370   | BALOK B2 | Beam   | See ErrMsg  | 0        | envelope      | 0.001199    | envelope      | 0.003761    | COMB2         |          | envelope  | 0.023763 | envelope  | 0.013799  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 370   | BALOK B2 | Beam   | See ErrMsg  | 0.46333  | envelope (Sp) | 0.001104    | envelope      | 0.00147     | COMB2         |          | envelope  | 0.023763 | envelope  | 0.013799  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 370   | BALOK B2 | Beam   | See ErrMsg  | 0.92667  | envelope (Sp) | 0.001494    | envelope (Sp) | 0.001104    | COMB2         |          | envelope  | 0.023763 | envelope  | 0.013799  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 370   | BALOK B2 | Beam   | See ErrMsg  | 1.39     | envelope      | 0.003794    | envelope      | 0.001952    | COMB2         |          | envelope  | 0.023763 | envelope  | 0.013799  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 371   | BALOK B2 | Beam   | See ErrMsg  | 0        | envelope      | 0.000419    | envelope      | 0.000685    | COMB2         |          | envelope  | 0.01766  | envelope  | 0.010255  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 371   | BALOK B2 | Beam   | See ErrMsg  | 0.41667  | envelope (Sp) | 0.001289    | envelope (Sp) | 0.001289    | COMB2         |          | envelope  | 0.01766  | envelope  | 0.010255  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |
| 371   | BALOK B2 | Beam   | See ErrMsg  | 0.83333  | envelope (Sp) | 0.002583    | envelope      | 0.001494    | COMB2         |          | envelope  | 0.01766  | envelope  | 0.010255  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages |



**TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14**

[illegible]

**TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14**

[illegible]

**TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14**

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TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14

[illegible]

**TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14**

[illegible]

**TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14**

[illegible]

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TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14

| Frame | DesignSect | DesignType | Status      | Location | FTopCombo | FTopArea | FBotCombo     | FBotArea | VCombo   | VRebar   | TTopCombo | TTopArea | TTrnCombo | TTrnRebar                                                                                                      | ErrMsg                                            | WarnMsg                                          |             |
|-------|------------|------------|-------------|----------|-----------|----------|---------------|----------|----------|----------|-----------|----------|-----------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|-------------|
| Test  | Test       | Test       | Test        | m        | Test      | m2       | Test          | m2       | Test     | m2/m     | Test      | m2       | Test      | m2/m                                                                                                           | Test                                              | Test                                             |             |
| 576   | BALOK B3   | Beam       | See ErrMsg  | 0.885    | CM82 (Sp) |          | CM82          |          | envelope | 0        | envelope  | 0.382598 | envelope  | 0.178094                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 576   | BALOK B3   | Beam       | See ErrMsg  | 1.32     | CM82 (Sp) |          | CM82          |          | envelope | 0        | envelope  | 0.282588 | envelope  | 0.178094                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 576   | BALOK B3   | Beam       | See ErrMsg  | 1.32     | CM82 (Sp) |          | CM82          |          | envelope | 0        | envelope  | 0.553904 | envelope  | 0.349072                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 576   | BALOK B3   | Beam       | See ErrMsg  | 1.39     | CM82 (Sp) |          | CM82          |          | envelope | 0        | envelope  | 0.553904 | envelope  | 0.349072                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 576   | BALOK B3   | Beam       | See ErrMsg  | 1.39     | CM82 (Sp) |          | CM82          |          | envelope | 0        | envelope  | 3.822918 | envelope  | 2.409215                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 576   | BALOK B3   | Beam       | See ErrMsg  | 1.79     | CM82 (Sp) |          | CM82          |          | envelope | 0        | envelope  | 3.822918 | envelope  | 2.409215                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 576   | BALOK B3   | Beam       | See ErrMsg  | 2.19     | envelope  | 0.768142 | CM82          |          | envelope | 0        | envelope  | 3.822918 | envelope  | 2.409215                                                                                                       | The required reinforcing exceeds maximum allowed  |                                                  | No Messages |
| 577   | BALOK B3   | Beam       | See ErrMsg  | 0.45     | envelope  | 0.531932 | CM82          |          | envelope | 0        | envelope  | 2.025564 | envelope  | 1.276517                                                                                                       | The required reinforcing exceeds maximum allowed  |                                                  | No Messages |
| 577   | BALOK B3   | Beam       | See ErrMsg  | 0.7725   | CM82 (Sp) |          | CM82          |          | envelope | 0        | envelope  | 2.025564 | envelope  | 1.276517                                                                                                       | The required reinforcing exceeds maximum allowed  | The required reinforcing exceeds maximum allowed | No Messages |
| 577   | BALOK B3   | Beam       | See ErrMsg  | 1.095    | CM82 (Sp) |          | CM82          |          | envelope | 0        | envelope  | 2.025564 | envelope  | 1.276517                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 577   | BALOK B3   | Beam       | See ErrMsg  | 1.095    | CM82 (Sp) |          | CM82          |          | envelope | 0        | envelope  | 2.257389 | envelope  | 1.422613                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 577   | BALOK B3   | Beam       | See ErrMsg  | 1.39     | CM82 (Sp) |          | CM82          |          | envelope | 0        | envelope  | 2.257389 | envelope  | 1.422613                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 577   | BALOK B3   | Beam       | See ErrMsg  | 1.39     | CM82 (Sp) |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 4.666606 | envelope  | 2.940909                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 577   | BALOK B3   | Beam       | See ErrMsg  | 1.79     | CM82 (Sp) |          | CM82          |          | envelope | 0        | envelope  | 4.666606 | envelope  | 2.940909                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 577   | BALOK B3   | Beam       | See ErrMsg  | 2.19     | envelope  | 0.254155 | CM82          |          | envelope | 0        | envelope  | 4.666606 | envelope  | 2.940909                                                                                                       | The required reinforcing exceeds maximum allowed  |                                                  | No Messages |
| 578   | BALOK B3   | Beam       | See ErrMsg  | 0.45     | envelope  | 0.06453  | CM82          |          | envelope | 0        | envelope  | 0.154796 | envelope  | 0.097553                                                                                                       | The required reinforcing exceeds maximum allowed  |                                                  | No Messages |
| 578   | BALOK B3   | Beam       | See ErrMsg  | 0.87     | envelope  | 0.023212 | CM82          |          | envelope | 0        | envelope  | 0.154796 | envelope  | 0.097553                                                                                                       | The required reinforcing exceeds maximum allowed  |                                                  | No Messages |
| 579   | BALOK B3   | Beam       | No Messages | 0        | envelope  | 0.003647 | envelope      | 0.006584 | envelope | 0        | envelope  | 0.119324 | envelope  | 0.075198                                                                                                       | No Messages                                       |                                                  | No Messages |
| 579   | BALOK B3   | Beam       | See ErrMsg  | 0.42     | envelope  | 0.02292  | CM82          |          | envelope | 0        | envelope  | 0.119324 | envelope  | 0.075198                                                                                                       | The required reinforcing exceeds maximum allowed  |                                                  | No Messages |
| 580   | BALOK B3   | Beam       | See ErrMsg  | 0.45     | envelope  | 0.093044 | CM82          |          | envelope | 0        | envelope  | 0.186367 | envelope  | 0.117449                                                                                                       | The required reinforcing exceeds maximum allowed  |                                                  | No Messages |
| 580   | BALOK B3   | Beam       | See ErrMsg  | 0.885    | CM82 (Sp) |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.186367 | envelope  | 0.117449                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 580   | BALOK B3   | Beam       | See ErrMsg  | 1.32     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.186367 | envelope  | 0.117449                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 580   | BALOK B3   | Beam       | See ErrMsg  | 1.32     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 1.3532   | envelope  | 0.852791                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 580   | BALOK B3   | Beam       | See ErrMsg  | 1.545    | CM82 (Sp) |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 1.3532   | envelope  | 0.852791                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 580   | BALOK B3   | Beam       | See ErrMsg  | 1.545    | CM82 (Sp) |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 1.524723 | envelope  | 0.960885                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 580   | BALOK B3   | Beam       | See ErrMsg  | 1.8675   | CM82 (Sp) |          | CM82          |          | envelope | 0        | envelope  | 1.524723 | envelope  | 0.960885                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 580   | BALOK B3   | Beam       | See ErrMsg  | 2.19     | envelope  | 0.098336 | CM82          |          | envelope | 0        | envelope  | 1.524723 | envelope  | 0.960885                                                                                                       | The required reinforcing exceeds maximum allowed  |                                                  | No Messages |
| 581   | BALOK B3   | Beam       | See ErrMsg  | 0.45     | envelope  | 0.06507  | CM82          |          | envelope | 0        | envelope  | 0.74396  | envelope  | 0.468846                                                                                                       | The required reinforcing exceeds maximum allowed  |                                                  | No Messages |
| 581   | BALOK B3   | Beam       | See ErrMsg  | 0.885    | CM82 (Sp) |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.74396  | envelope  | 0.468846                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 581   | BALOK B3   | Beam       | See ErrMsg  | 1.32     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.74396  | envelope  | 0.468846                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 581   | BALOK B3   | Beam       | See ErrMsg  | 1.32     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.88159  | envelope  | 0.555581                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 581   | BALOK B3   | Beam       | See ErrMsg  | 1.39     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.88159  | envelope  | 0.555581                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 581   | BALOK B3   | Beam       | See ErrMsg  | 1.39     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 2.518788 | envelope  | 1.587348                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 581   | BALOK B3   | Beam       | See ErrMsg  | 1.79     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 2.518788 | envelope  | 1.587348                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 581   | BALOK B3   | Beam       | See ErrMsg  | 2.19     | envelope  | 0.022449 | CM82          |          | envelope | 0        | envelope  | 2.518788 | envelope  | 1.587348                                                                                                       | The required reinforcing exceeds maximum allowed  |                                                  | No Messages |
| 582   | BALOK B3   | Beam       | See ErrMsg  | 0.45     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 1.661518 | envelope  | 1.047094                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 582   | BALOK B3   | Beam       | See ErrMsg  | 0.7725   | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 1.661518 | envelope  | 1.047094                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 582   | BALOK B3   | Beam       | See ErrMsg  | 1.095    | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 1.661518 | envelope  | 1.047094                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 582   | BALOK B3   | Beam       | See ErrMsg  | 1.095    | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 1.760419 | envelope  | 1.109422                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 582   | BALOK B3   | Beam       | See ErrMsg  | 1.39     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 1.760419 | envelope  | 1.109422                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 582   | BALOK B3   | Beam       | See ErrMsg  | 1.39     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 3.247187 | envelope  | 2.046387                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 582   | BALOK B3   | Beam       | See ErrMsg  | 1.79     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 3.247187 | envelope  | 2.046387                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 582   | BALOK B3   | Beam       | See ErrMsg  | 2.19     | envelope  | 0.025738 | CM82          |          | envelope | 0        | envelope  | 3.247187 | envelope  | 2.046387                                                                                                       | The required reinforcing exceeds maximum allowed  |                                                  | No Messages |
| 583   | BALOK B3   | Beam       | See ErrMsg  | 0.45     | envelope  | 0.025633 | CM82          |          | envelope | 0        | envelope  | 0.143786 | envelope  | 0.090615                                                                                                       | The required reinforcing exceeds maximum allowed  |                                                  | No Messages |
| 583   | BALOK B3   | Beam       | No Messages | 0.87     | envelope  | 0.00094  | envelope      | 0.004246 | envelope | 0        | envelope  | 0.143786 | envelope  | 0.090615                                                                                                       | No Messages                                       |                                                  | No Messages |
| 584   | BALOK B3   | Beam       | See ErrMsg  | 0        | envelope  | 0.002321 | envelope (Sp) | 0.00133  | COMB2    | envelope | 0.064807  | envelope | 0.040842  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. |                                                   | No Messages                                      |             |
| 584   | BALOK B3   | Beam       | See ErrMsg  | 0.42     | envelope  | 0.002284 | envelope      | 0.005556 | COMB2    | envelope | 0.064807  | envelope | 0.040842  | Shear stress exceeds maximum allowed.; Shear stress due to shear and torsion together exceeds maximum allowed. |                                                   | No Messages                                      |             |
| 585   | BALOK B3   | Beam       | See ErrMsg  | 0.45     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.23101  | envelope  | 0.145583                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 585   | BALOK B3   | Beam       | See ErrMsg  | 0.885    | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.23101  | envelope  | 0.145583                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 585   | BALOK B3   | Beam       | See ErrMsg  | 1.32     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.23101  | envelope  | 0.145583                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 585   | BALOK B3   | Beam       | See ErrMsg  | 1.32     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.717557 | envelope  | 0.452207                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 585   | BALOK B3   | Beam       | See ErrMsg  | 1.3275   | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.717557 | envelope  | 0.452207                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 585   | BALOK B3   | Beam       | See ErrMsg  | 1.3275   | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.762932 | envelope  | 0.480802                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 585   | BALOK B3   | Beam       | See ErrMsg  | 1.545    | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.762932 | envelope  | 0.480802                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 585   | BALOK B3   | Beam       | See ErrMsg  | 1.545    | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.76643  | envelope  | 0.489443                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 585   | BALOK B3   | Beam       | See ErrMsg  | 1.8675   | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.76643  | envelope  | 0.489443                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 586   | BALOK B3   | Beam       | See ErrMsg  | 2.19     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.76643  | envelope  | 0.489443                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 586   | BALOK B3   | Beam       | See ErrMsg  | 0.45     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.481072 | envelope  | 0.303173                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 586   | BALOK B3   | Beam       | See ErrMsg  | 0.885    | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.481072 | envelope  | 0.303173                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 586   | BALOK B3   | Beam       | See ErrMsg  | 0.885    | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.547716 | envelope  | 0.345172                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 586   | BALOK B3   | Beam       | See ErrMsg  | 1.32     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.547716 | envelope  | 0.345172                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 586   | BALOK B3   | Beam       | See ErrMsg  | 1.32     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.528725 | envelope  | 0.333204                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 586   | BALOK B3   | Beam       | See ErrMsg  | 1.39     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.528725 | envelope  | 0.333204                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 586   | BALOK B3   | Beam       | See ErrMsg  | 1.39     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 1.073977 | envelope  | 0.676824                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 586   | BALOK B3   | Beam       | See ErrMsg  | 1.79     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 1.073977 | envelope  | 0.676824                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 586   | BALOK B3   | Beam       | See ErrMsg  | 2.19     | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 1.073977 | envelope  | 0.676824                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 587   | BALOK B3   | Beam       | See ErrMsg  | 0.4425   | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.854364 | envelope  | 0.538423                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |
| 587   | BALOK B3   | Beam       | See ErrMsg  | 0.76875  | CM82      |          | CM82 (Sp)     |          | envelope | 0        | envelope  | 0.854364 | envelope  | 0.538423                                                                                                       | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed | No Messages |

| TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14 |           |            |             |         |               |                |                |           |                |           |                   |           |                                                                                                    |                                                                         |                   |             |         |
|-----------------------------------------------------------|-----------|------------|-------------|---------|---------------|----------------|----------------|-----------|----------------|-----------|-------------------|-----------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------|-------------|---------|
| Frame                                                     | DesignSet | DesignType | Status      | Loc     | 1314          | FTopCombo      | FTopArea       | FBotCombo | FBotArea       | VCombo    | VRebar            | T1ngCombo | T1ngArea                                                                                           | T1rnCombo                                                               | T1rnRebar         | ErrMsg      | WarnMsg |
| Test                                                      | Text      | Text       | Text        | m       | Text          | m <sup>2</sup> | m <sup>2</sup> | Text      | m <sup>2</sup> | Text      | m <sup>2</sup> /m | Text      | m <sup>2</sup>                                                                                     | Text                                                                    | m <sup>2</sup> /m | Text        | Text    |
| 587                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.095   | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.854364  | envelope          | 0.538423  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 587                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.095   | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.754869  | envelope          | 0.475721  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 587                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.39    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.754869  | envelope          | 0.475721  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 587                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.39    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 1.294188  | envelope          | 0.815601  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 587                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.79    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 1.294188  | envelope          | 0.815601  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 587                                                       | BALOK B3  | Beam       | See ErrMsg  | 2.19    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 1.294188  | envelope          | 0.815601  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 588                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.2175  | envelope      | 0.02948        | COMB2          | envelope  | 0              | envelope  | 0.224208          | envelope  | 0.141297                                                                                           | The required reinforcing exceeds maximum allowed                        | No Messages       |             |         |
| 588                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.435   | envelope (Sp) | 0.019757       | COMB2          | envelope  | 0              | envelope  | 0.224208          | envelope  | 0.141297                                                                                           | The required reinforcing exceeds maximum allowed                        | No Messages       |             |         |
| 588                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.435   | envelope (Sp) | 0.018362       | COMB2          | envelope  | 0              | envelope  | 0.220871          | envelope  | 0.139193                                                                                           | The required reinforcing exceeds maximum allowed                        | No Messages       |             |         |
| 588                                                       | BALOK B3  | Beam       | No Messages | 0.6525  | envelope (Sp) | 0.008302       | envelope       | 0.009965  | envelope       | 0         | envelope          | 0.220871  | envelope                                                                                           | 0.139193                                                                | No Messages       | No Messages |         |
| 588                                                       | BALOK B3  | Beam       | No Messages | 0.6525  | envelope (Sp) | 0.008302       | envelope       | 0.008405  | envelope       | 0         | envelope          | 0.218154  | envelope                                                                                           | 0.137481                                                                | No Messages       | No Messages |         |
| 588                                                       | BALOK B3  | Beam       | No Messages | 0.87    | envelope      | 0.005147       | envelope (Sp)  | 0.002583  | envelope       | 0         | envelope          | 0.218154  | envelope                                                                                           | 0.137481                                                                | No Messages       | No Messages |         |
| 589                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.45    | COMB1         | COMB2 (Sp)     | envelope       | 0         | envelope       | 23.882338 | envelope          | 15.050723 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 589                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.73834 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 23.882338 | envelope          | 15.050723 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 589                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.02667 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 24.022469 | envelope          | 15.39034  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 589                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.3689  | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 24.022469 | envelope          | 15.39034  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 589                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.71112 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 24.022469 | envelope          | 15.39034  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 589                                                       | BALOK B3  | Beam       | See ErrMsg  | 2.05334 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 24.022469 | envelope          | 15.39034  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 589                                                       | BALOK B3  | Beam       | See ErrMsg  | 2.05334 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 24.022469 | envelope          | 15.39034  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 589                                                       | BALOK B3  | Beam       | See ErrMsg  | 2.39557 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 22.505756 | envelope          | 14.83197  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 589                                                       | BALOK B3  | Beam       | See ErrMsg  | 2.73779 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 22.505756 | envelope          | 14.83197  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 589                                                       | BALOK B3  | Beam       | See ErrMsg  | 3.08002 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 22.505756 | envelope          | 14.83197  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 589                                                       | BALOK B3  | Beam       | See ErrMsg  | 3.08002 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 19.619799 | envelope          | 12.378436 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 589                                                       | BALOK B3  | Beam       | See ErrMsg  | 3.42224 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 19.619799 | envelope          | 12.378436 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 589                                                       | BALOK B3  | Beam       | See ErrMsg  | 3.76447 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 19.619799 | envelope          | 12.378436 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 589                                                       | BALOK B3  | Beam       | See ErrMsg  | 4.10669 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 19.619799 | envelope          | 12.378436 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 590                                                       | BALOK B3  | Beam       | See ErrMsg  | 0       | envelope      | 0.001455       | envelope (Sp)  | 0.000934  | COMB2          | envelope  | 0.036017          | envelope  | 0.022698                                                                                           | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages       |             |         |
| 590                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.37006 | envelope      | 0.00271        | envelope (Sp)  | 0.000611  | COMB2          | envelope  | 0.036017          | envelope  | 0.022698                                                                                           | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages       |             |         |
| 590                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.37006 | envelope      | 0.002631       | envelope (Sp)  | 0.000611  | COMB2          | envelope  | 0.015896          | envelope  | 0.010018                                                                                           | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages       |             |         |
| 590                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.74012 | envelope      | 0.001981       | envelope (Sp)  | 0.001252  | COMB2          | envelope  | 0.015896          | envelope  | 0.010018                                                                                           | Shear stress due to shear and torsion together exceeds maximum allowed. | No Messages       |             |         |
| 591                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.24018 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.030606  | envelope          | 0.019288  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 591                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.61024 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.030606  | envelope          | 0.019288  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 591                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.61024 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.077808  | envelope          | 0.049035  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 591                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.96512 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.077808  | envelope          | 0.049035  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 591                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.32    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.077808  | envelope          | 0.049035  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 591                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.32    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.007318  | envelope          | 0.004612  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 591                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.3275  | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.007318  | envelope          | 0.004612  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 591                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.3275  | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.115335  | envelope          | 0.072685  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 591                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.69756 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.115335  | envelope          | 0.072685  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 591                                                       | BALOK B3  | Beam       | See ErrMsg  | 2.06762 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.115335  | envelope          | 0.072685  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 591                                                       | BALOK B3  | Beam       | See ErrMsg  | 2.43768 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.025235  | envelope          | 0.016285  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 592                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.45    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.05325   | envelope          | 0.032991  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 592                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.885   | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.05325   | envelope          | 0.032991  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 592                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.885   | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.1848    | envelope          | 0.116461  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 592                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.1375  | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.1848    | envelope          | 0.116461  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 592                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.39    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.1848    | envelope          | 0.116461  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 592                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.39    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.35654   | envelope          | 0.224692  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 592                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.62512 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.35654   | envelope          | 0.224692  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 592                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.62512 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.241415  | envelope          | 0.152141  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 592                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.90756 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.241415  | envelope          | 0.152141  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 592                                                       | BALOK B3  | Beam       | See ErrMsg  | 2.19    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.241415  | envelope          | 0.152141  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 593                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.4425  | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.360427  | envelope          | 0.227142  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 593                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.81256 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.360427  | envelope          | 0.227142  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 593                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.10128 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.272005  | envelope          | 0.171418  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 593                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.39    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.272005  | envelope          | 0.171418  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 593                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.39    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.593147  | envelope          | 0.373803  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 593                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.79    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.593147  | envelope          | 0.373803  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 593                                                       | BALOK B3  | Beam       | See ErrMsg  | 2.19    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.593147  | envelope          | 0.373803  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 594                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.45    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.484934  | envelope          | 0.305607  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 594                                                       | BALOK B3  | Beam       | See ErrMsg  | 0.92    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.484934  | envelope          | 0.305607  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 594                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.39    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.484934  | envelope          | 0.305607  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 594                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.39    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.736467  | envelope          | 0.464124  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 594                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.62512 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.736467  | envelope          | 0.464124  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 594                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.62512 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.756304  | envelope          | 0.476625  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 594                                                       | BALOK B3  | Beam       | See ErrMsg  | 1.90756 | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.756304  | envelope          | 0.476625  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |
| 594                                                       | BALOK B3  | Beam       | See ErrMsg  | 2.19    | COMB2         | COMB2 (Sp)     | envelope       | 0         | envelope       | 0.756304  | envelope          | 0.476625  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages                                                             |                   |             |         |

**TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14**

| Form | DesignSet | DesignType | Status     | Location | FTopCombo |            | FTopArea | FBotCombo  |       | FBotArea | VCombo   |            | VRebar     | TLngCombo |          | TLngArea | TTrnsCombo                                                                                         |                                                  | TTrnsRebar | ErrMsg      |             | WarnMsg |
|------|-----------|------------|------------|----------|-----------|------------|----------|------------|-------|----------|----------|------------|------------|-----------|----------|----------|----------------------------------------------------------------------------------------------------|--------------------------------------------------|------------|-------------|-------------|---------|
|      |           |            |            |          | Text      | m          |          | Text       | m2    |          | Text     | m2         |            | Text      | m2       |          | Text                                                                                               | m2                                               |            | Text        | m2          |         |
| 595  | BALOK B3  | Beam       | See ErrMsg |          | 0.45      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.750515  | envelope | 0.472977 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 595  | BALOK B3  | Beam       | See ErrMsg |          | 0.81256   | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.750515  | envelope | 0.472977 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 595  | BALOK B3  | Beam       | See ErrMsg |          | 0.81256   | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.768646  | envelope | 0.484403 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 595  | BALOK B3  | Beam       | See ErrMsg |          | 1.10178   | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.768646  | envelope | 0.484403 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 595  | BALOK B3  | Beam       | See ErrMsg |          | 1.39      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.768646  | envelope | 0.484403 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 595  | BALOK B3  | Beam       | See ErrMsg |          | 1.39      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.113236  | envelope | 0.701565 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 595  | BALOK B3  | Beam       | See ErrMsg |          | 1.79      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.113236  | envelope | 0.701565 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 595  | BALOK B3  | Beam       | See ErrMsg |          | 2.19      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.113236  | envelope | 0.701565 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 596  | BALOK B3  | Beam       | See ErrMsg |          | 0.45      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.849953  | envelope | 0.535643 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 596  | BALOK B3  | Beam       | See ErrMsg |          | 0.92      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.849953  | envelope | 0.535643 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 596  | BALOK B3  | Beam       | See ErrMsg |          | 1.39      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.849953  | envelope | 0.535643 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 596  | BALOK B3  | Beam       | See ErrMsg |          | 1.39      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.129577  | envelope | 0.711863 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 596  | BALOK B3  | Beam       | See ErrMsg |          | 1.79      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.129577  | envelope | 0.711863 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 596  | BALOK B3  | Beam       | See ErrMsg |          | 2.19      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.129577  | envelope | 0.711863 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 602  | BALOK B3  | Beam       | See ErrMsg |          | 0.45      | envelope   |          | 0.405884   | COMB2 |          | envelope |            | 0 envelope |           | 0.196205 | envelope | 0.123649                                                                                           | The required reinforcing exceeds maximum allowed |            |             | No Messages |         |
| 604  | BALOK B3  | Beam       | See ErrMsg |          | 0.87      | envelope   |          | 0.355309   | COMB2 |          | envelope |            | 0 envelope |           | 0.196205 | envelope | 0.123649                                                                                           | The required reinforcing exceeds maximum allowed |            |             | No Messages |         |
| 604  | BALOK B3  | Beam       | See ErrMsg |          | 0.45      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.627147  | envelope | 0.39523  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 604  | BALOK B3  | Beam       | See ErrMsg |          | 0.725     | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.627147  | envelope | 0.39523  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 604  | BALOK B3  | Beam       | See ErrMsg |          | 1         | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.627147  | envelope | 0.39523  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 0         | envelope   |          | 0.052371   | COMB2 |          | envelope |            | 0 envelope |           | 0.699829 | envelope | 0.441034                                                                                           | The required reinforcing exceeds maximum allowed |            |             | No Messages |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 0.38135   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.699829  | envelope | 0.441034 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 0.38135   | COMB2 (Sp) |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.755719  | envelope | 0.476256 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 0.8054    | COMB2 (Sp) |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.755719  | envelope | 0.476256 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 1.22946   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.755719  | envelope | 0.476256 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 1.65352   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.755719  | envelope | 0.476256 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 2.07758   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.755719  | envelope | 0.476256 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 2.50163   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.755719  | envelope | 0.476256 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 2.50163   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.563626  | envelope | 0.355199 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 2.94788   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.563626  | envelope | 0.355199 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 3.39413   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.563626  | envelope | 0.355199 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 3.84037   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.563626  | envelope | 0.355199 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 3.84037   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 1.219856  | envelope | 0.768757 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 4.17776   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 1.219856  | envelope | 0.768757 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 4.51514   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 1.219856  | envelope | 0.768757 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 4.51514   | COMB2 (Sp) |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.79808   | envelope | 0.502953 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 4.91784   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.79808   | envelope | 0.502953 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 5.32055   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.79808   | envelope | 0.502953 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 5.72325   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.79808   | envelope | 0.502953 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 6.12595   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.79808   | envelope | 0.502953 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 605  | BALOK B3  | Beam       | See ErrMsg |          | 6.52865   | envelope   |          | 0.299497   | COMB2 |          | envelope |            | 0 envelope |           | 0.79808  | envelope | 0.502953                                                                                           | The required reinforcing exceeds maximum allowed |            |             | No Messages |         |
| 606  | BALOK B3  | Beam       | See ErrMsg |          | 0.20232   | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.533334  | envelope | 0.336109 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 606  | BALOK B3  | Beam       | See ErrMsg |          | 0.53998   | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.533334  | envelope | 0.336109 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 606  | BALOK B3  | Beam       | See ErrMsg |          | 0.87764   | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 0.533334  | envelope | 0.336109 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 609  | BALOK B3  | Beam       | See ErrMsg |          | 0         | envelope   |          | 0.252929   | COMB2 |          | envelope |            | 0 envelope |           | 0.570082 | envelope | 0.359268                                                                                           | The required reinforcing exceeds maximum allowed |            |             | No Messages |         |
| 609  | BALOK B3  | Beam       | See ErrMsg |          | 0.43534   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.570082  | envelope | 0.359268 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 609  | BALOK B3  | Beam       | See ErrMsg |          | 0.87068   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.570082  | envelope | 0.359268 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 609  | BALOK B3  | Beam       | See ErrMsg |          | 1.30602   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.570082  | envelope | 0.359268 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 609  | BALOK B3  | Beam       | See ErrMsg |          | 1.74136   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.570082  | envelope | 0.359268 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 609  | BALOK B3  | Beam       | See ErrMsg |          | 2.17669   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.570082  | envelope | 0.359268 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 609  | BALOK B3  | Beam       | See ErrMsg |          | 2.61203   | envelope   |          | 0.138763   | COMB2 |          | envelope |            | 0 envelope |           | 0.570082 | envelope | 0.359268                                                                                           | The required reinforcing exceeds maximum allowed |            |             | No Messages |         |
| 610  | BALOK B3  | Beam       | See ErrMsg |          | 0.45      | envelope   |          | 0.337116   | COMB2 |          | envelope |            | 0 envelope |           | 0.450526 | envelope | 0.283923                                                                                           | The required reinforcing exceeds maximum allowed |            |             | No Messages |         |
| 610  | BALOK B3  | Beam       | See ErrMsg |          | 0.73047   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.450526  | envelope | 0.283923 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 610  | BALOK B3  | Beam       | See ErrMsg |          | 1.01093   | envelope   |          | 0.198552   | COMB2 |          | envelope |            | 0 envelope |           | 0.450526 | envelope | 0.283923                                                                                           | The required reinforcing exceeds maximum allowed |            |             | No Messages |         |
| 612  | BALOK B3  | Beam       | See ErrMsg |          | 0         | envelope   |          | 0.357604   | COMB2 |          | envelope |            | 0 envelope |           | 0.239849 | envelope | 0.151153                                                                                           | The required reinforcing exceeds maximum allowed |            |             | No Messages |         |
| 612  | BALOK B3  | Beam       | See ErrMsg |          | 0.47809   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.239849  | envelope | 0.151153 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 612  | BALOK B3  | Beam       | See ErrMsg |          | 0.95619   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.239849  | envelope | 0.151153 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 612  | BALOK B3  | Beam       | See ErrMsg |          | 1.43428   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.239849  | envelope | 0.151153 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 612  | BALOK B3  | Beam       | See ErrMsg |          | 1.91237   | COMB2 (Sp) |          | COMB2      |       | envelope |          | 0 envelope |            | 0.239849  | envelope | 0.151153 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 612  | BALOK B3  | Beam       | See ErrMsg |          | 2.39047   | envelope   |          | 0.225288   | COMB2 |          | envelope |            | 0 envelope |           | 0.239849 | envelope | 0.151153                                                                                           | The required reinforcing exceeds maximum allowed |            |             | No Messages |         |
| 613  | BALOK B3  | Beam       | See ErrMsg |          | 0.45      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.443452  | envelope | 0.909668 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 613  | BALOK B3  | Beam       | See ErrMsg |          | 0.89286   | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.443452  | envelope | 0.909668 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 613  | BALOK B3  | Beam       | See ErrMsg |          | 1.33571   | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.443452  | envelope | 0.909668 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 613  | BALOK B3  | Beam       | See ErrMsg |          | 1.77857   | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.443452  | envelope | 0.909668 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 613  | BALOK B3  | Beam       | See ErrMsg |          | 2.22143   | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.443452  | envelope | 0.909668 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 613  | BALOK B3  | Beam       | See ErrMsg |          | 2.66429   | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.443452  | envelope | 0.909668 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 613  | BALOK B3  | Beam       | See ErrMsg |          | 3.10714   | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.443452  | envelope | 0.909668 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 613  | BALOK B3  | Beam       | See ErrMsg |          | 3.55      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.443452  | envelope | 0.909668 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |
| 614  | BALOK B3  | Beam       | See ErrMsg |          | 0.45      | COMB2      |          | COMB2 (Sp) |       | envelope |          | 0 envelope |            | 1.475648  | envelope | 0.929958 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed |                                                  |            | No Messages |             |         |



**TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14**

| Item | Design   | Design | Status      | Location | FTopCombo     | FTopArea | FBotCombo     | FBotArea | VCombo   | VRebar | TungCombo | TungArea | TTrnCombo | TTrnRebar | ErrMsg   | WarnMsg                                                                                            |             |
|------|----------|--------|-------------|----------|---------------|----------|---------------|----------|----------|--------|-----------|----------|-----------|-----------|----------|----------------------------------------------------------------------------------------------------|-------------|
| Text | Text     | Text   | Text        | m        | Text          | m2       | Text          | m2       | Text     | m2/m   | Text      | m2       | Text      | m2/m      | Text     | Text                                                                                               |             |
| 622  | BALOK B3 | Brace  | See ErrMsg  | 1.05149  | COMB2         |          | envelope (Sp) | 0.008175 | envelope |        | 0         | envelope | 1.844911  | envelope  | 1.162669 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 622  | BALOK B3 | Brace  | See ErrMsg  | 1.05149  | COMB2         |          | envelope (Sp) | 0.00772  | envelope |        | 0         | envelope | 1.836486  | envelope  | 1.157359 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 622  | BALOK B3 | Brace  | No Messages | 2.10297  | envelope (Sp) | 0.006948 | envelope (Sp) | 0.006948 | envelope |        | 0         | envelope | 1.836486  | envelope  | 1.157359 | No Messages                                                                                        | No Messages |
| 622  | BALOK B3 | Brace  | No Messages | 2.10297  | envelope (Sp) | 0.006948 | envelope (Sp) | 0.006948 | envelope |        | 0         | envelope | 1.807439  | envelope  | 1.139054 | No Messages                                                                                        | No Messages |
| 622  | BALOK B3 | Brace  | See ErrMsg  | 3.15446  | envelope (Sp) | 0.010031 | COMB2         |          | envelope |        | 0         | envelope | 1.807439  | envelope  | 1.139054 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 622  | BALOK B3 | Brace  | See ErrMsg  | 3.15446  | envelope (Sp) | 0.010366 | COMB2         |          | envelope |        | 0         | envelope | 1.767973  | envelope  | 1.114182 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 622  | BALOK B3 | Brace  | See ErrMsg  | 4.20595  | envelope      | 0.019182 | COMB2         |          | envelope |        | 0         | envelope | 1.767973  | envelope  | 1.114182 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 623  | BALOK B3 | Brace  | See ErrMsg  | 0        | envelope      | 0.027835 | COMB2         |          | envelope |        | 0         | envelope | 1.322614  | envelope  | 0.833515 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 623  | BALOK B3 | Brace  | See ErrMsg  | 1.01272  | envelope (Sp) | 0.022549 | COMB2         |          | envelope |        | 0         | envelope | 1.322614  | envelope  | 0.833515 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 623  | BALOK B3 | Brace  | See ErrMsg  | 1.01272  | envelope (Sp) | 0.02237  | COMB2         |          | envelope |        | 0         | envelope | 1.269758  | envelope  | 0.800205 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 623  | BALOK B3 | Brace  | See ErrMsg  | 2.02544  | envelope (Sp) | 0.016897 | COMB2         |          | envelope |        | 0         | envelope | 1.269758  | envelope  | 0.800205 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 623  | BALOK B3 | Brace  | See ErrMsg  | 2.02544  | envelope (Sp) | 0.016708 | COMB2         |          | envelope |        | 0         | envelope | 1.201155  | envelope  | 0.756971 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 623  | BALOK B3 | Brace  | See ErrMsg  | 3.03816  | envelope (Sp) | 0.010758 | COMB2         |          | envelope |        | 0         | envelope | 1.201155  | envelope  | 0.756971 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 623  | BALOK B3 | Brace  | See ErrMsg  | 3.03816  | envelope (Sp) | 0.010555 | COMB2         |          | envelope |        | 0         | envelope | 1.144517  | envelope  | 0.721278 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 623  | BALOK B3 | Brace  | No Messages | 4.05088  | envelope      | 0.003787 | envelope      | 0.00702  | envelope |        | 0         | envelope | 1.144517  | envelope  | 0.721278 | No Messages                                                                                        | No Messages |
| 624  | BALOK B3 | Brace  | See ErrMsg  | 0        | envelope      | 0.015888 | COMB2         |          | envelope |        | 0         | envelope | 0.770671  | envelope  | 0.485679 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 624  | BALOK B3 | Brace  | See ErrMsg  | 1.01233  | envelope (Sp) | 0.008036 | COMB2         |          | envelope |        | 0         | envelope | 0.770671  | envelope  | 0.485679 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 624  | BALOK B3 | Brace  | See ErrMsg  | 1.01233  | envelope (Sp) | 0.00777  | COMB2         |          | envelope |        | 0         | envelope | 0.73297   | envelope  | 0.46192  | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 624  | BALOK B3 | Brace  | No Messages | 2.02465  | envelope (Sp) | 0.004991 | envelope (Sp) | 0.004991 | envelope |        | 0         | envelope | 0.73297   | envelope  | 0.46192  | No Messages                                                                                        | No Messages |
| 624  | BALOK B3 | Brace  | No Messages | 2.02465  | envelope (Sp) | 0.004991 | envelope (Sp) | 0.004991 | envelope |        | 0         | envelope | 0.68707   | envelope  | 0.432993 | No Messages                                                                                        | No Messages |
| 624  | BALOK B3 | Brace  | No Messages | 3.03698  | envelope (Sp) | 0.006766 | envelope (Sp) | 0.004991 | envelope |        | 0         | envelope | 0.68707   | envelope  | 0.432993 | No Messages                                                                                        | No Messages |
| 624  | BALOK B3 | Brace  | No Messages | 3.03698  | envelope (Sp) | 0.007053 | envelope (Sp) | 0.004991 | envelope |        | 0         | envelope | 0.645718  | envelope  | 0.406933 | No Messages                                                                                        | No Messages |
| 624  | BALOK B3 | Brace  | See ErrMsg  | 4.04931  | COMB2         |          | envelope (Sp) | 0.014013 | envelope |        | 0         | envelope | 0.645718  | envelope  | 0.406933 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 625  | BALOK B3 | Beam   | See ErrMsg  | 0.45     | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.393279  | envelope  | 0.878049 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 625  | BALOK B3 | Beam   | See ErrMsg  | 0.725    | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.393279  | envelope  | 0.878049 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 625  | BALOK B3 | Beam   | See ErrMsg  | 1        | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.393279  | envelope  | 0.878049 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 625  | BALOK B3 | Beam   | See ErrMsg  | 1        | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.400459  | envelope  | 0.882574 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 625  | BALOK B3 | Beam   | See ErrMsg  | 1.5      | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.400459  | envelope  | 0.882574 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 625  | BALOK B3 | Beam   | See ErrMsg  | 2        | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.400459  | envelope  | 0.882574 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 625  | BALOK B3 | Beam   | See ErrMsg  | 2        | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.385978  | envelope  | 0.873448 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 625  | BALOK B3 | Beam   | See ErrMsg  | 2.5      | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.385978  | envelope  | 0.873448 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 625  | BALOK B3 | Beam   | See ErrMsg  | 3        | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.385978  | envelope  | 0.873448 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 625  | BALOK B3 | Beam   | See ErrMsg  | 3        | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.312142  | envelope  | 0.826916 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 625  | BALOK B3 | Beam   | See ErrMsg  | 3.275    | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.312142  | envelope  | 0.826916 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 625  | BALOK B3 | Beam   | See ErrMsg  | 3.55     | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.312142  | envelope  | 0.826916 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 626  | BALOK B3 | Beam   | See ErrMsg  | 0.89286  | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 0.541222  | envelope  | 1.924717 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 626  | BALOK B3 | Beam   | See ErrMsg  | 1.33571  | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 0.541222  | envelope  | 1.924717 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 626  | BALOK B3 | Beam   | See ErrMsg  | 1.7857   | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 0.541222  | envelope  | 1.924717 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 626  | BALOK B3 | Beam   | See ErrMsg  | 2.22143  | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 0.541222  | envelope  | 1.924717 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 626  | BALOK B3 | Beam   | See ErrMsg  | 2.66429  | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 0.541222  | envelope  | 1.924717 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 626  | BALOK B3 | Beam   | See ErrMsg  | 3.10714  | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 0.541222  | envelope  | 1.924717 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 626  | BALOK B3 | Beam   | See ErrMsg  | 3.55     | envelope      | 0.234074 | COMB2         |          | envelope |        | 0         | envelope | 0.541222  | envelope  | 1.924717 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 627  | BALOK B3 | Beam   | See ErrMsg  | 0.45     | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 2.14382   | envelope  | 1.351042 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 627  | BALOK B3 | Beam   | See ErrMsg  | 0.89286  | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 2.14382   | envelope  | 1.351042 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 627  | BALOK B3 | Beam   | See ErrMsg  | 1.33571  | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 2.14382   | envelope  | 1.351042 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 627  | BALOK B3 | Beam   | See ErrMsg  | 1.7857   | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 2.14382   | envelope  | 1.351042 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 627  | BALOK B3 | Beam   | See ErrMsg  | 2.22143  | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 2.14382   | envelope  | 1.351042 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 627  | BALOK B3 | Beam   | See ErrMsg  | 2.66429  | COMB2 (Sp)    |          | COMB2         |          | envelope |        | 0         | envelope | 2.14382   | envelope  | 1.351042 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 627  | BALOK B3 | Beam   | See ErrMsg  | 3.10714  | COMB2 (Sp)    |          | COMB2         |          | envelope |        | 0         | envelope | 2.14382   | envelope  | 1.351042 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 627  | BALOK B3 | Beam   | See ErrMsg  | 3.55     | envelope      | 0.131071 | COMB2         |          | envelope |        | 0         | envelope | 2.14382   | envelope  | 1.351042 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 628  | BALOK B3 | Brace  | See ErrMsg  | 0        | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.831175  | envelope  | 1.154012 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 628  | BALOK B3 | Brace  | See ErrMsg  | 1.05149  | COMB2         |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.831175  | envelope  | 1.154012 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 628  | BALOK B3 | Brace  | See ErrMsg  | 1.05149  | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.823035  | envelope  | 1.148882 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 628  | BALOK B3 | Brace  | See ErrMsg  | 2.10297  | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.823035  | envelope  | 1.148882 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 628  | BALOK B3 | Brace  | See ErrMsg  | 2.10297  | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope |        | 0         | envelope | 1.797458  | envelope  | 1.132764 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 628  | BALOK B3 | Brace  | See ErrMsg  | 3.15446  | COMB2 (Sp)    |          | COMB2         |          | envelope |        | 0         | envelope | 1.797458  | envelope  | 1.132764 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 628  | BALOK B3 | Brace  | See ErrMsg  | 3.15446  | COMB2 (Sp)    |          | COMB2         |          | envelope |        | 0         | envelope | 1.767752  | envelope  | 1.114043 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 628  | BALOK B3 | Brace  | See ErrMsg  | 4.20595  | envelope      | 0.330333 | COMB2         |          | envelope |        | 0         | envelope | 1.767752  | envelope  | 1.114043 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 629  | BALOK B3 | Brace  | See ErrMsg  | 0        | envelope      | 0.026233 | COMB2         |          | envelope |        | 0         | envelope | 1.262059  | envelope  | 0.795354 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 629  | BALOK B3 | Brace  | See ErrMsg  | 1.01272  | COMB2 (Sp)    |          | COMB2         |          | envelope |        | 0         | envelope | 1.262059  | envelope  | 0.795354 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 629  | BALOK B3 | Brace  | See ErrMsg  | 1.01272  | COMB2 (Sp)    |          | COMB2         |          | envelope |        | 0         | envelope | 1.233483  | envelope  | 0.777345 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 629  | BALOK B3 | Brace  | See ErrMsg  | 2.02544  | COMB2 (Sp)    |          | COMB2         |          | envelope |        | 0         | envelope | 1.233483  | envelope  | 0.777345 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 629  | BALOK B3 | Brace  | See ErrMsg  | 2.02544  | COMB2 (Sp)    |          | COMB2         |          | envelope |        | 0         | envelope | 1.195984  | envelope  | 0.753713 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 629  | BALOK B3 | Brace  | See ErrMsg  | 3.03816  | COMB2 (Sp)    |          | COMB2         |          | envelope |        | 0         | envelope | 1.195984  | envelope  | 0.753713 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 629  | BALOK B3 | Brace  | See ErrMsg  | 3.03816  | COMB2 (Sp)    |          | COMB2         |          | envelope |        | 0         | envelope | 1.166062  | envelope  | 0.734856 | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 629  | BALOK B3 | Brace  | See ErrMsg  | 4.05088  | envelope      | 0.221642 | COMB2         |          | envelope |        | 0         | envelope | 1.166062  | envelope  | 0.734856 | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 630  | BALOK B3 | Brace  | See ErrMsg  | 0        | envelope      | 0.046942 | COMB2         |          | envelope |        | 0         | envelope | 0.689922  | envelope  | 0.434791 | The required reinforcing exceeds maximum allowed                                                   | No Messages |

**TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14**

[illegible]

TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14

[illegible]

**TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14**

| Frame | DesignSet | DesignType | Status      | Location | FTopCombo     | FTopArea | FBotCombo     | FBotArea | VCombo        | VRebar   | TungCombo | TungArea | TTrnCombo | TTrnRebar | ErrMsg                                                                                             | WarnMsg     |
|-------|-----------|------------|-------------|----------|---------------|----------|---------------|----------|---------------|----------|-----------|----------|-----------|-----------|----------------------------------------------------------------------------------------------------|-------------|
| Text  | Text      | Text       | Text        | m        | m2            | m2       | Text          | m2       | Text          | m2/m     | Text      | m2       | Text      | m2/m      | Text                                                                                               | Text        |
| 657   | BALOK B3  | Beam       | See ErrMsg  | 2.45     | envelope      | 0.232348 | COMB2         |          | envelope      | 0        | envelope  | 1.915346 | envelope  | 1.207057  | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 658   | BALOK B3  | Beam       | See ErrMsg  | 0.45     | envelope      | 0.222928 | COMB2         |          | envelope      | 0        | envelope  | 1.661116 | envelope  | 1.046814  | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 658   | BALOK B3  | Beam       | See ErrMsg  | 0.95     | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 1.661116 | envelope  | 1.046814  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 658   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 1.661116 | envelope  | 1.046814  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 658   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 1.382801 | envelope  | 0.871445  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 658   | BALOK B3  | Beam       | See ErrMsg  | 1.885    | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 1.382801 | envelope  | 0.871445  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 658   | BALOK B3  | Beam       | See ErrMsg  | 1.885    | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 1.360219 | envelope  | 0.857214  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 658   | BALOK B3  | Beam       | See ErrMsg  | 2.1675   | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 1.360219 | envelope  | 0.857214  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 658   | BALOK B3  | Beam       | See ErrMsg  | 2.45     | envelope      | 0.017361 | COMB2         |          | envelope      | 0        | envelope  | 1.360219 | envelope  | 0.857214  | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 659   | BALOK B3  | Beam       | See ErrMsg  | 0.45     | envelope      | 0.095012 | COMB2         |          | envelope      | 0        | envelope  | 1.628617 | envelope  | 1.026359  | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 659   | BALOK B3  | Beam       | See ErrMsg  | 0.7325   | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 1.628617 | envelope  | 1.026359  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 659   | BALOK B3  | Beam       | See ErrMsg  | 1.015    | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 1.628617 | envelope  | 1.026359  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 659   | BALOK B3  | Beam       | See ErrMsg  | 1.015    | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 1.63281  | envelope  | 1.029002  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 659   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 1.63281  | envelope  | 1.029002  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 659   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 1.785843 | envelope  | 1.125444  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 659   | BALOK B3  | Beam       | See ErrMsg  | 1.95     | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 1.785843 | envelope  | 1.125444  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 659   | BALOK B3  | Beam       | See ErrMsg  | 2.45     | envelope      | 0.015733 | COMB2         |          | envelope      | 0        | envelope  | 1.785843 | envelope  | 1.125444  | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 660   | BALOK B3  | Beam       | See ErrMsg  | 0.45     | envelope      | 0.034673 | COMB2         |          | envelope      | 0        | envelope  | 1.73395  | envelope  | 1.09274   | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 660   | BALOK B3  | Beam       | See ErrMsg  | 0.95     | envelope (Sp) | 0.024817 | COMB2         |          | envelope      | 0        | envelope  | 1.73395  | envelope  | 1.09274   | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 660   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | envelope (Sp) | 0.015059 | COMB2         |          | envelope      | 0        | envelope  | 1.73395  | envelope  | 1.09274   | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 660   | BALOK B3  | Beam       | No Messages | 1.45     | envelope (Sp) | 0.009566 | envelope (Sp) | 0.009566 | envelope      | 0        | envelope  | 1.437533 | envelope  | 0.905938  | No Messages                                                                                        | No Messages |
| 660   | BALOK B3  | Beam       | No Messages | 1.885    | envelope (Sp) | 0.009566 | envelope (Sp) | 0.009566 | envelope      | 0        | envelope  | 1.437533 | envelope  | 0.905938  | No Messages                                                                                        | No Messages |
| 660   | BALOK B3  | Beam       | No Messages | 1.885    | envelope (Sp) | 0.009566 | envelope (Sp) | 0.009566 | envelope      | 0        | envelope  | 1.427497 | envelope  | 0.899613  | No Messages                                                                                        | No Messages |
| 660   | BALOK B3  | Beam       | No Messages | 2.1675   | envelope (Sp) | 0.009566 | envelope (Sp) | 0.009566 | envelope      | 0        | envelope  | 1.427497 | envelope  | 0.899613  | No Messages                                                                                        | No Messages |
| 660   | BALOK B3  | Beam       | See ErrMsg  | 2.45     | COMB2         |          | envelope (Sp) | 0.009587 | envelope      | 0        | envelope  | 1.427497 | envelope  | 0.899613  | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 661   | BALOK B3  | Beam       | See ErrMsg  | 0.45     | envelope      | 0.122802 | COMB2         |          | envelope      | 0        | envelope  | 1.295942 | envelope  | 0.816706  | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 661   | BALOK B3  | Beam       | See ErrMsg  | 0.95     | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 1.295942 | envelope  | 0.816706  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 661   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 1.295942 | envelope  | 0.816706  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 661   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 1.519147 | envelope  | 0.957371  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 661   | BALOK B3  | Beam       | See ErrMsg  | 1.95     | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 1.519147 | envelope  | 0.957371  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 661   | BALOK B3  | Beam       | See ErrMsg  | 2.45     | COMB2         |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 1.519147 | envelope  | 0.957371  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 662   | BALOK B3  | Beam       | See ErrMsg  | 0.45     | envelope      | 0.043048 | COMB2         |          | envelope      | 0        | envelope  | 1.526793 | envelope  | 0.96219   | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 662   | BALOK B3  | Beam       | See ErrMsg  | 0.95     | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 1.526793 | envelope  | 0.96219   | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 662   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2         |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 1.526793 | envelope  | 0.96219   | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 662   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 1.273189 | envelope  | 0.802368  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 662   | BALOK B3  | Beam       | See ErrMsg  | 1.95     | COMB2         |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 1.273189 | envelope  | 0.802368  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 662   | BALOK B3  | Beam       | See ErrMsg  | 2.45     | COMB2         |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 1.273189 | envelope  | 0.802368  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 663   | BALOK B3  | Beam       | See ErrMsg  | 0.45     | envelope      | 0.151442 | COMB2         |          | envelope      | 0        | envelope  | 0.775142 | envelope  | 0.488497  | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 663   | BALOK B3  | Beam       | See ErrMsg  | 0.95     | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 0.775142 | envelope  | 0.488497  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 663   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.775142 | envelope  | 0.488497  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 663   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 0.889742 | envelope  | 0.560718  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 663   | BALOK B3  | Beam       | See ErrMsg  | 1.95     | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.889742 | envelope  | 0.560718  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 663   | BALOK B3  | Beam       | See ErrMsg  | 2.45     | COMB2         |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.889742 | envelope  | 0.560718  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 664   | BALOK B3  | Beam       | See ErrMsg  | 0.45     | envelope      | 0.038455 | COMB2         |          | envelope      | 0        | envelope  | 0.902747 | envelope  | 0.568914  | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 664   | BALOK B3  | Beam       | See ErrMsg  | 0.95     | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.902747 | envelope  | 0.568914  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 664   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2         |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.902747 | envelope  | 0.568914  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 664   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.754704 | envelope  | 0.475617  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 664   | BALOK B3  | Beam       | See ErrMsg  | 1.95     | COMB2         |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.754704 | envelope  | 0.475617  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 664   | BALOK B3  | Beam       | See ErrMsg  | 2.45     | COMB2         |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.754704 | envelope  | 0.475617  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 665   | BALOK B3  | Beam       | See ErrMsg  | 0.45     | envelope      | 0.216284 | COMB2         |          | envelope      | 0        | envelope  | 0.442284 | envelope  | 0.278729  | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 665   | BALOK B3  | Beam       | See ErrMsg  | 0.95     | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 0.442284 | envelope  | 0.278729  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 665   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.442284 | envelope  | 0.278729  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 665   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2 (Sp)    |          | COMB2         |          | envelope      | 0        | envelope  | 0.530786 | envelope  | 0.334503  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 665   | BALOK B3  | Beam       | See ErrMsg  | 1.95     | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.530786 | envelope  | 0.334503  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 665   | BALOK B3  | Beam       | See ErrMsg  | 2.45     | COMB2         |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.530786 | envelope  | 0.334503  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 666   | BALOK B3  | Beam       | See ErrMsg  | 0.45     | envelope      | 0.061169 | COMB2         |          | envelope      | 0        | envelope  | 0.562889 | envelope  | 0.354734  | The required reinforcing exceeds maximum allowed                                                   | No Messages |
| 666   | BALOK B3  | Beam       | See ErrMsg  | 0.95     | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.562889 | envelope  | 0.354734  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 666   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2         |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.562889 | envelope  | 0.354734  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 666   | BALOK B3  | Beam       | See ErrMsg  | 1.45     | COMB2 (Sp)    |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.399445 | envelope  | 0.251731  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 666   | BALOK B3  | Beam       | See ErrMsg  | 1.95     | COMB2         |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.399445 | envelope  | 0.251731  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 666   | BALOK B3  | Beam       | See ErrMsg  | 2.45     | COMB2         |          | COMB2 (Sp)    |          | envelope      | 0        | envelope  | 0.399445 | envelope  | 0.251731  | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |
| 667   | BALOK B4  | Beam       | No Messages | 0.45     | envelope      | 0.000039 | envelope      | 0.000084 | COMB7.8 (Sp)  | 0.002345 | envelope  | 0.000527 | envelope  | 0.000148  | No Messages                                                                                        | No Messages |
| 667   | BALOK B4  | Beam       | No Messages | 0.725    | envelope (Sp) | 0.000128 | envelope      | 0.000131 | COMB7.8 (Sp)  | 0.002333 | envelope  | 0.000527 | envelope  | 0.000148  | No Messages                                                                                        | No Messages |
| 667   | BALOK B4  | Beam       | No Messages | 1        | envelope (Sp) | 0.000128 | envelope      | 0.000176 | COMB7.8 (Sp)  | 0.002322 | envelope  | 0.000527 | envelope  | 0.000148  | No Messages                                                                                        | No Messages |
| 667   | BALOK B4  | Beam       | No Messages | 1        | envelope (Sp) | 0.000128 | envelope      | 0.000177 | COMB7.8 (Sp)  | 0.002239 | envelope  | 0.000409 | envelope  | 0.000334  | No Messages                                                                                        | No Messages |
| 667   | BALOK B4  | Beam       | No Messages | 1.5      | envelope (Sp) | 0.00014  | envelope      | 0.00022  | COMB7.8 (Sp)  | 0.002218 | envelope  | 0.000409 | envelope  | 0.000334  | No Messages                                                                                        | No Messages |
| 667   | BALOK B4  | Beam       | No Messages | 2        | envelope (Sp) | 0.000198 | envelope      | 0.000256 | COMB7.8 (Sp)  | 0.002197 | envelope  | 0.000409 | envelope  | 0.000334  | No Messages                                                                                        | No Messages |
| 667   | BALOK B4  | Beam       | No Messages | 2        | envelope (Sp) | 0.000199 | envelope      | 0.000256 | envelope (Sp) | 0.002128 | envelope  | 0.000447 | envelope  | 0.000428  | No Messages                                                                                        | No Messages |

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TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14

| Form | Design   | Text | Type        | Status | Location      | FToPCombo  |               | FToPArea | FBoTCombo     |          | FBoTArea | VCombo   |             | VRebar                                                                                             | TLngCombo   |      | TLngArea | TLTrnCombo |      | TLTrnRebar | ErrMsg | WarnMsg |
|------|----------|------|-------------|--------|---------------|------------|---------------|----------|---------------|----------|----------|----------|-------------|----------------------------------------------------------------------------------------------------|-------------|------|----------|------------|------|------------|--------|---------|
|      |          |      |             |        |               | m          | Text          |          | m2            | Text     |          | m2       | Text        |                                                                                                    | m2/m        | Text |          | m2/m       | Text |            |        |         |
| 673  | BALOK B4 | Beam | See ErrMsg  | 1      | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.003886 | envelope | 0.003718    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 673  | BALOK B4 | Beam | See ErrMsg  | 1.5    | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.003886 | envelope | 0.003718    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 673  | BALOK B4 | Beam | See ErrMsg  | 2      | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.003886 | envelope | 0.003718    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 673  | BALOK B4 | Beam | See ErrMsg  | 2      | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.0007   | envelope | 0.00067     | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 673  | BALOK B4 | Beam | See ErrMsg  | 2.5    | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.0007   | envelope | 0.00067     | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 673  | BALOK B4 | Beam | See ErrMsg  | 3      | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.0007   | envelope | 0.00067     | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 673  | BALOK B4 | Beam | See ErrMsg  | 3      | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.002806 | envelope | 0.002685    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 673  | BALOK B4 | Beam | See ErrMsg  | 3.275  | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.002806 | envelope | 0.002685    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 673  | BALOK B4 | Beam | See ErrMsg  | 3.55   | envelope      | 0.056315   | COMB4         | envelope | 0             | envelope | 0.002806 | envelope | 0.002685    | The required reinforcing exceeds maximum allowed                                                   | No Messages |      |          |            |      |            |        |         |
| 674  | BALOK B4 | Beam | See ErrMsg  | 0.45   | envelope      | 0.061488   | COMB4         | envelope | 0             | envelope | 0.009824 | envelope | 0.009398    | The required reinforcing exceeds maximum allowed                                                   | No Messages |      |          |            |      |            |        |         |
| 674  | BALOK B4 | Beam | See ErrMsg  | 0.725  | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.009824 | envelope | 0.009398    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 674  | BALOK B4 | Beam | See ErrMsg  | 1      | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.009824 | envelope | 0.009398    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 674  | BALOK B4 | Beam | See ErrMsg  | 1      | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.007408 | envelope | 0.007087    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 674  | BALOK B4 | Beam | See ErrMsg  | 1.5    | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.007408 | envelope | 0.007087    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 674  | BALOK B4 | Beam | See ErrMsg  | 2      | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.007408 | envelope | 0.007087    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 674  | BALOK B4 | Beam | See ErrMsg  | 2      | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.00447  | envelope | 0.004276    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 674  | BALOK B4 | Beam | See ErrMsg  | 2.5    | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.00447  | envelope | 0.004276    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 674  | BALOK B4 | Beam | See ErrMsg  | 3      | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.00447  | envelope | 0.004276    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 674  | BALOK B4 | Beam | See ErrMsg  | 3      | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.00207  | envelope | 0.001981    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 674  | BALOK B4 | Beam | See ErrMsg  | 3.275  | COMB4 (Sp)    |            | COMB4         | envelope | 0             | envelope | 0.00207  | envelope | 0.001981    | The required reinforcing exceeds maximum allowed; The required reinforcing exceeds maximum allowed | No Messages |      |          |            |      |            |        |         |
| 674  | BALOK B4 | Beam | See ErrMsg  | 3.55   | envelope      | 0.072767   | COMB4         | envelope | 0             | envelope | 0.00207  | envelope | 0.001981    | The required reinforcing exceeds maximum allowed                                                   | No Messages |      |          |            |      |            |        |         |
| 675  | BALOK B4 | Beam | No Messages | 0.45   | envelope      | 0.00009351 | envelope (Sp) | 0.000084 | COMB7.8 (Sp)  | 0.002357 | envelope | 0.000527 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 675  | BALOK B4 | Beam | No Messages | 0.725  | envelope (Sp) | 0.000149   | envelope (Sp) | 0.000149 | COMB7.8 (Sp)  | 0.002345 | envelope | 0.000527 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 675  | BALOK B4 | Beam | No Messages | 1      | envelope (Sp) | 0.000149   | envelope      | 0.000177 | COMB7.8 (Sp)  | 0.002334 | envelope | 0.000527 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 675  | BALOK B4 | Beam | No Messages | 1      | envelope (Sp) | 0.000149   | envelope      | 0.000177 | COMB7.8 (Sp)  | 0.00225  | envelope | 0.000519 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 675  | BALOK B4 | Beam | No Messages | 1.5    | envelope (Sp) | 0.000149   | envelope      | 0.000221 | COMB7.8 (Sp)  | 0.002229 | envelope | 0.000519 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 675  | BALOK B4 | Beam | No Messages | 2      | envelope (Sp) | 0.000166   | envelope      | 0.000256 | COMB7.8 (Sp)  | 0.002208 | envelope | 0.000519 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 675  | BALOK B4 | Beam | No Messages | 2      | envelope (Sp) | 0.000168   | envelope      | 0.000256 | envelope (Sp) | 0.002138 | envelope | 0.000455 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 675  | BALOK B4 | Beam | No Messages | 2.5    | envelope (Sp) | 0.000276   | envelope      | 0.000254 | COMB7.8 (Sp)  | 0.002146 | envelope | 0.000455 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 675  | BALOK B4 | Beam | No Messages | 3      | envelope (Sp) | 0.000395   | envelope      | 0.000243 | COMB7.8 (Sp)  | 0.002167 | envelope | 0.000455 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 675  | BALOK B4 | Beam | No Messages | 3      | envelope (Sp) | 0.000391   | envelope      | 0.000242 | COMB7.8 (Sp)  | 0.002234 | envelope | 0.000387 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 675  | BALOK B4 | Beam | No Messages | 3.275  | envelope (Sp) | 0.000502   | envelope      | 0.000217 | COMB7.8 (Sp)  | 0.002246 | envelope | 0.000387 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 675  | BALOK B4 | Beam | No Messages | 3.55   | envelope      | 0.000618   | envelope (Sp) | 0.000302 | COMB7.8 (Sp)  | 0.002257 | envelope | 0.000387 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 676  | BALOK B4 | Beam | See ErrMsg  | 0.45   | envelope      | 0.00068    | envelope (Sp) | 0.000437 | COMB7.1 (Sp)  | 0.000451 | envelope | 0.000451 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 676  | BALOK B4 | Beam | See ErrMsg  | 0.725  | envelope (Sp) | 0.00072    | envelope (Sp) | 0.000569 | COMB7.1 (Sp)  | 0.000451 | envelope | 0.000451 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 676  | BALOK B4 | Beam | See ErrMsg  | 1      | envelope (Sp) | 0.000764   | envelope (Sp) | 0.000569 | COMB7.1 (Sp)  | 0.000451 | envelope | 0.000451 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 676  | BALOK B4 | Beam | See ErrMsg  | 1      | envelope (Sp) | 0.00077    | envelope (Sp) | 0.000569 | COMB7.1 (Sp)  | 0.000397 | envelope | 0.000397 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 676  | BALOK B4 | Beam | See ErrMsg  | 1.5    | envelope (Sp) | 0.000916   | envelope (Sp) | 0.000569 | COMB7.1 (Sp)  | 0.000397 | envelope | 0.000397 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 676  | BALOK B4 | Beam | See ErrMsg  | 2      | envelope (Sp) | 0.001075   | envelope (Sp) | 0.000569 | COMB7.1 (Sp)  | 0.000397 | envelope | 0.000397 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 676  | BALOK B4 | Beam | See ErrMsg  | 2      | envelope (Sp) | 0.001078   | envelope (Sp) | 0.000569 | COMB7.1 (Sp)  | 0.000554 | envelope | 0.000554 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 676  | BALOK B4 | Beam | See ErrMsg  | 2.5    | envelope (Sp) | 0.001297   | envelope (Sp) | 0.000569 | COMB7.1 (Sp)  | 0.000554 | envelope | 0.000554 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 676  | BALOK B4 | Beam | See ErrMsg  | 3      | envelope (Sp) | 0.001538   | envelope (Sp) | 0.000569 | COMB7.1 (Sp)  | 0.000554 | envelope | 0.000554 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 676  | BALOK B4 | Beam | See ErrMsg  | 3      | envelope (Sp) | 0.001523   | envelope (Sp) | 0.000569 | COMB4         | envelope | 0.000769 | envelope | 0.000735    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 676  | BALOK B4 | Beam | See ErrMsg  | 3.275  | envelope (Sp) | 0.001729   | envelope (Sp) | 0.000569 | COMB4         | envelope | 0.000769 | envelope | 0.000735    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 676  | BALOK B4 | Beam | See ErrMsg  | 3.55   | envelope      | 0.001914   | envelope (Sp) | 0.000897 | COMB4         | envelope | 0.000769 | envelope | 0.000735    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 677  | BALOK B4 | Beam | See ErrMsg  | 0.45   | envelope      | 0.002212   | envelope (Sp) | 0.001069 | COMB7.1 (Sp)  | 0.000507 | envelope | 0.000507 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 677  | BALOK B4 | Beam | See ErrMsg  | 0.725  | envelope (Sp) | 0.002206   | envelope (Sp) | 0.00081  | COMB7.1 (Sp)  | 0.000507 | envelope | 0.000507 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 677  | BALOK B4 | Beam | See ErrMsg  | 1      | envelope (Sp) | 0.002202   | envelope (Sp) | 0.00081  | COMB7.1 (Sp)  | 0.000507 | envelope | 0.000507 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 677  | BALOK B4 | Beam | See ErrMsg  | 1      | envelope (Sp) | 0.002217   | envelope (Sp) | 0.00081  | COMB7.1 (Sp)  | 0.000751 | envelope | 0.000751 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 677  | BALOK B4 | Beam | See ErrMsg  | 1.5    | envelope (Sp) | 0.00235    | envelope (Sp) | 0.00081  | COMB7.1 (Sp)  | 0.000751 | envelope | 0.000751 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 677  | BALOK B4 | Beam | See ErrMsg  | 2      | envelope (Sp) | 0.002489   | envelope (Sp) | 0.0009   | COMB7.1 (Sp)  | 0.000751 | envelope | 0.000751 | No Messages | No Messages                                                                                        |             |      |          |            |      |            |        |         |
| 677  | BALOK B4 | Beam | See ErrMsg  | 2      | envelope (Sp) | 0.002492   | envelope (Sp) | 0.000903 | COMB4         | envelope | 0.001092 | envelope | 0.001045    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 677  | BALOK B4 | Beam | See ErrMsg  | 2.5    | envelope (Sp) | 0.00269    | envelope (Sp) | 0.001107 | COMB4         | envelope | 0.001092 | envelope | 0.001045    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 677  | BALOK B4 | Beam | See ErrMsg  | 3      | envelope (Sp) | 0.002895   | envelope (Sp) | 0.001317 | COMB4         | envelope | 0.001092 | envelope | 0.001045    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 677  | BALOK B4 | Beam | See ErrMsg  | 3      | envelope (Sp) | 0.002874   | envelope (Sp) | 0.001296 | COMB4         | envelope | 0.001092 | envelope | 0.001045    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 677  | BALOK B4 | Beam | See ErrMsg  | 3.275  | envelope (Sp) | 0.003115   | envelope (Sp) | 0.001543 | COMB4         | envelope | 0.001092 | envelope | 0.001045    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 677  | BALOK B4 | Beam | See ErrMsg  | 3.55   | envelope      | 0.003362   | envelope (Sp) | 0.001796 | COMB4         | envelope | 0.001092 | envelope | 0.001045    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 678  | BALOK B4 | Beam | See ErrMsg  | 0.45   | envelope      | 0.003428   | envelope (Sp) | 0.001864 | COMB4         | envelope | 0.001139 | envelope | 0.001089    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 678  | BALOK B4 | Beam | See ErrMsg  | 0.725  | envelope (Sp) | 0.003213   | envelope (Sp) | 0.001643 | COMB4         | envelope | 0.001139 | envelope | 0.001089    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 678  | BALOK B4 | Beam | See ErrMsg  | 1      | envelope (Sp) | 0.003009   | envelope (Sp) | 0.001434 | COMB4         | envelope | 0.001139 | envelope | 0.001089    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 678  | BALOK B4 | Beam | See ErrMsg  | 1      | envelope (Sp) | 0.003031   | envelope (Sp) | 0.001456 | COMB4         | envelope | 0.001612 | envelope | 0.001542    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 678  | BALOK B4 | Beam | See ErrMsg  | 1.5    | envelope (Sp) | 0.002892   | envelope (Sp) | 0.001314 | COMB4         | envelope | 0.001612 | envelope | 0.001542    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 678  | BALOK B4 | Beam | See ErrMsg  | 2      | envelope (Sp) | 0.00276    | envelope (Sp) | 0.001178 | COMB4         | envelope | 0.001612 | envelope | 0.001542    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 678  | BALOK B4 | Beam | See ErrMsg  | 2      | envelope (Sp) | 0.002758   | envelope (Sp) | 0.001176 | COMB4         | envelope | 0.002098 | envelope | 0.002007    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 678  | BALOK B4 | Beam | See ErrMsg  | 2.5    | envelope (Sp) | 0.002688   | envelope (Sp) | 0.001104 | COMB4         | envelope | 0.002098 | envelope | 0.002007    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 678  | BALOK B4 | Beam | See ErrMsg  | 3      | envelope (Sp) | 0.002624   | envelope (Sp) | 0.001039 | COMB4         | envelope | 0.002098 | envelope | 0.002007    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 678  | BALOK B4 | Beam | See ErrMsg  | 3      | envelope (Sp) | 0.002607   | envelope (Sp) | 0.001021 | COMB4         | envelope | 0.002646 | envelope | 0.002531    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |
| 678  | BALOK B4 | Beam | See ErrMsg  | 3.275  | envelope      | 0.002683   | envelope (Sp) | 0.001099 | COMB4         | envelope | 0.002646 | envelope | 0.002531    | No Messages                                                                                        | No Messages |      |          |            |      |            |        |         |

**TABLE: Concrete Design 2 - Beam Summary Data - ACI 318-14**

| Frame | Design   | Design | Status      | Location | FTopCombo     | FTopArea | FBotCombo     | FBotArea | VCombo   | VRebar    | TingCombo | TingArea                                         | TTrnCombo                                         | TTrnRebar                                                               | ErrMsg      | WarnMsg     |
|-------|----------|--------|-------------|----------|---------------|----------|---------------|----------|----------|-----------|-----------|--------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------|-------------|-------------|
| Text  | Text     | Text   | Text        | m        | m2            | m2       | m2            | m2       | m2       | m2/m      | m2        | m2                                               | m2                                                | m2/m                                                                    | Text        | Text        |
| 678   | BALOK B4 | Beam   | See ErrMsg  | 3.55     | envelope      | 0.002762 | envelope (Sp) | 0.001407 | COMB4    | envelope  | 0.002646  | envelope                                         | 0.002531                                          | Shear stress due to shear and torsion together exceeds maximum allowed. |             | No Messages |
| 679   | BALOK B4 | Beam   | No Messages | 0.45     | envelope      | 0.001803 | envelope (Sp) | 0.000835 | envelope | 0.002811  | envelope  | 0.002689                                         | No Messages                                       |                                                                         | No Messages | No Messages |
| 679   | BALOK B4 | Beam   | No Messages | 0.725    | envelope (Sp) | 0.001275 | envelope (Sp) | 0.001275 | envelope | 0.002811  | envelope  | 0.002689                                         | No Messages                                       |                                                                         | No Messages | No Messages |
| 679   | BALOK B4 | Beam   | No Messages | 1        | envelope (Sp) | 0.001275 | envelope (Sp) | 0.001275 | envelope | 0.002811  | envelope  | 0.002689                                         | No Messages                                       |                                                                         | No Messages | No Messages |
| 679   | BALOK B4 | Beam   | No Messages | 1        | envelope (Sp) | 0.001275 | envelope (Sp) | 0.001275 | envelope | 0.00344   | envelope  | 0.003291                                         | No Messages                                       |                                                                         | No Messages | No Messages |
| 679   | BALOK B4 | Beam   | No Messages | 1.5      | envelope (Sp) | 0.001275 | envelope (Sp) | 0.001275 | envelope | 0.00344   | envelope  | 0.003291                                         | No Messages                                       |                                                                         | No Messages | No Messages |
| 679   | BALOK B4 | Beam   | No Messages | 2        | envelope (Sp) | 0.001275 | envelope      | 0.001732 | envelope | 0.00344   | envelope  | 0.003291                                         | No Messages                                       |                                                                         | No Messages | No Messages |
| 679   | BALOK B4 | Beam   | No Messages | 2        | envelope (Sp) | 0.001275 | envelope      | 0.001748 | envelope | 0.003719  | envelope  | 0.003558                                         | No Messages                                       |                                                                         | No Messages | No Messages |
| 679   | BALOK B4 | Beam   | No Messages | 2.5      | envelope (Sp) | 0.001275 | envelope      | 0.002686 | envelope | 0.003719  | envelope  | 0.003558                                         | No Messages                                       |                                                                         | No Messages | No Messages |
| 679   | BALOK B4 | Beam   | No Messages | 3        | envelope (Sp) | 0.002065 | envelope      | 0.003623 | envelope | 0.003719  | envelope  | 0.003558                                         | No Messages                                       |                                                                         | No Messages | No Messages |
| 679   | BALOK B4 | Beam   | No Messages | 3        | envelope (Sp) | 0.002035 | envelope      | 0.003594 | envelope | 0.003963  | envelope  | 0.003792                                         | No Messages                                       |                                                                         | No Messages | No Messages |
| 679   | BALOK B4 | Beam   | No Messages | 3.275    | envelope (Sp) | 0.002732 | envelope      | 0.004274 | envelope | 0.003963  | envelope  | 0.003792                                         | No Messages                                       |                                                                         | No Messages | No Messages |
| 679   | BALOK B4 | Beam   | See ErrMsg  | 3.55     | envelope      | 0.003428 | COMB4         | envelope | envelope | 0.003963  | envelope  | The required reinforcing exceeds maximum allowed |                                                   |                                                                         | No Messages | No Messages |
| 680   | BALOK B4 | Beam   | See ErrMsg  | 0.45     | envelope      | 0.006646 | COMB4         | envelope | envelope | 0.006229  | envelope  | 0.005959                                         | The required reinforcing exceeds maximum allowed  |                                                                         | No Messages | No Messages |
| 680   | BALOK B4 | Beam   | See ErrMsg  | 0.725    | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.006229  | envelope  | 0.005959                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 680   | BALOK B4 | Beam   | See ErrMsg  | 1        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.006229  | envelope  | 0.005959                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 680   | BALOK B4 | Beam   | See ErrMsg  | 1        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.006555  | envelope  | 0.006271                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 680   | BALOK B4 | Beam   | See ErrMsg  | 1.5      | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.006555  | envelope  | 0.006271                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 680   | BALOK B4 | Beam   | See ErrMsg  | 2        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.005772  | envelope  | 0.005522                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 680   | BALOK B4 | Beam   | See ErrMsg  | 2        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.005772  | envelope  | 0.005522                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 680   | BALOK B4 | Beam   | See ErrMsg  | 2.5      | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.005772  | envelope  | 0.005522                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 680   | BALOK B4 | Beam   | See ErrMsg  | 3        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.005772  | envelope  | 0.005522                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 680   | BALOK B4 | Beam   | See ErrMsg  | 3        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.007479  | envelope  | 0.004543                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 680   | BALOK B4 | Beam   | See ErrMsg  | 3.275    | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.007479  | envelope  | 0.004543                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 680   | BALOK B4 | Beam   | See ErrMsg  | 3.55     | envelope      | 0.023843 | COMB4         | envelope | envelope | 0.007479  | envelope  | 0.004543                                         | The required reinforcing exceeds maximum allowed  |                                                                         | No Messages | No Messages |
| 681   | BALOK B4 | Beam   | See ErrMsg  | 0.45     | envelope      | 0.029726 | COMB4         | envelope | envelope | 0.011487  | envelope  | 0.010989                                         | The required reinforcing exceeds maximum allowed  |                                                                         | No Messages | No Messages |
| 681   | BALOK B4 | Beam   | See ErrMsg  | 0.725    | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.011487  | envelope  | 0.010989                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 681   | BALOK B4 | Beam   | See ErrMsg  | 1        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.011487  | envelope  | 0.010989                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 681   | BALOK B4 | Beam   | See ErrMsg  | 1        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.010571  | envelope  | 0.010113                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 681   | BALOK B4 | Beam   | See ErrMsg  | 1.5      | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.010571  | envelope  | 0.010113                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 681   | BALOK B4 | Beam   | See ErrMsg  | 2        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.010571  | envelope  | 0.010113                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 681   | BALOK B4 | Beam   | See ErrMsg  | 2        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.007763  | envelope  | 0.007426                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 681   | BALOK B4 | Beam   | See ErrMsg  | 2.5      | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.007763  | envelope  | 0.007426                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 681   | BALOK B4 | Beam   | See ErrMsg  | 3        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.007763  | envelope  | 0.007426                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 681   | BALOK B4 | Beam   | See ErrMsg  | 3        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.004581  | envelope  | 0.004383                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 681   | BALOK B4 | Beam   | See ErrMsg  | 3.275    | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.004581  | envelope  | 0.004383                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 681   | BALOK B4 | Beam   | See ErrMsg  | 3.55     | envelope      | 0.056062 | COMB4         | envelope | envelope | 0.004581  | envelope  | 0.004383                                         | The required reinforcing exceeds maximum allowed  |                                                                         | No Messages | No Messages |
| 682   | BALOK B4 | Beam   | See ErrMsg  | 0.45     | envelope      | 0.06134  | COMB4         | envelope | envelope | 0.01731   | envelope  | 0.016559                                         | The required reinforcing exceeds maximum allowed  |                                                                         | No Messages | No Messages |
| 682   | BALOK B4 | Beam   | See ErrMsg  | 0.725    | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.01731   | envelope  | 0.016559                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 682   | BALOK B4 | Beam   | See ErrMsg  | 1        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.01731   | envelope  | 0.016559                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 682   | BALOK B4 | Beam   | See ErrMsg  | 1        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.014732  | envelope  | 0.014093                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 682   | BALOK B4 | Beam   | See ErrMsg  | 1.5      | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.014732  | envelope  | 0.014093                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 682   | BALOK B4 | Beam   | See ErrMsg  | 2        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.014732  | envelope  | 0.014093                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 682   | BALOK B4 | Beam   | See ErrMsg  | 2        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.011458  | envelope  | 0.010961                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 682   | BALOK B4 | Beam   | See ErrMsg  | 2.5      | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.011458  | envelope  | 0.010961                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 682   | BALOK B4 | Beam   | See ErrMsg  | 3        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.011458  | envelope  | 0.010961                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 682   | BALOK B4 | Beam   | See ErrMsg  | 3        | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.009441  | envelope  | 0.009031                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 682   | BALOK B4 | Beam   | See ErrMsg  | 3.275    | COMB4 (Sp)    |          | COMB4         | envelope | envelope | 0.009441  | envelope  | 0.009031                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 682   | BALOK B4 | Beam   | See ErrMsg  | 3.55     | envelope      | 0.074487 | COMB4         | envelope | envelope | 0.009441  | envelope  | 0.009031                                         | The required reinforcing exceeds maximum allowed  |                                                                         | No Messages | No Messages |
| 683   | BALOK B3 | Beam   | See ErrMsg  | 0.45     | COMB2         |          | COMB2 (Sp)    | envelope | envelope | 0.210504  | envelope  | 0.202369                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 683   | BALOK B3 | Beam   | See ErrMsg  | 0.92569  | COMB2         |          | COMB2 (Sp)    | envelope | envelope | 0.210504  | envelope  | 0.202369                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 683   | BALOK B3 | Beam   | See ErrMsg  | 1.40137  | COMB2 (Sp)    |          | COMB2 (Sp)    | envelope | envelope | 0.210504  | envelope  | 0.202369                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 683   | BALOK B3 | Beam   | See ErrMsg  | 1.87706  | COMB2 (Sp)    |          | COMB2 (Sp)    | envelope | envelope | 0.210504  | envelope  | 0.202369                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 683   | BALOK B3 | Beam   | See ErrMsg  | 2.35274  | COMB2 (Sp)    |          | COMB2         | envelope | envelope | 0.210504  | envelope  | 0.202369                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 683   | BALOK B3 | Beam   | See ErrMsg  | 2.82843  | COMB2 (Sp)    |          | COMB2         | envelope | envelope | 0.210504  | envelope  | 0.202369                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 683   | BALOK B3 | Beam   | See ErrMsg  | 2.82843  | COMB2 (Sp)    |          | COMB2 (Sp)    | envelope | envelope | 0.3178457 | envelope  | 0.203073                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 683   | BALOK B3 | Beam   | See ErrMsg  | 3.30411  | COMB2 (Sp)    |          | COMB2 (Sp)    | envelope | envelope | 0.3178457 | envelope  | 0.203073                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 683   | BALOK B3 | Beam   | See ErrMsg  | 3.7798   | COMB2 (Sp)    |          | COMB2         | envelope | envelope | 0.3178457 | envelope  | 0.203073                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 683   | BALOK B3 | Beam   | See ErrMsg  | 4.25548  | COMB2 (Sp)    |          | COMB2         | envelope | envelope | 0.3178457 | envelope  | 0.203073                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 683   | BALOK B3 | Beam   | See ErrMsg  | 4.73117  | COMB2 (Sp)    |          | COMB2         | envelope | envelope | 0.3178457 | envelope  | 0.203073                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 683   | BALOK B3 | Beam   | See ErrMsg  | 5.20685  | envelope      | 1.275621 | COMB2         | envelope | envelope | 0.3178457 | envelope  | 0.203073                                         | The required reinforcing exceeds maximum allowed  |                                                                         | No Messages | No Messages |
| 684   | BALOK B3 | Beam   | See ErrMsg  | 0.45     | envelope      | 0.048639 | COMB2         | envelope | envelope | 0.263062  | envelope  | 1.657473                                         | The required reinforcing exceeds maximum allowed  |                                                                         | No Messages | No Messages |
| 684   | BALOK B3 | Beam   | See ErrMsg  | 0.84018  | COMB2 (Sp)    |          | COMB2         | envelope | envelope | 0.263062  | envelope  | 1.657473                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 684   | BALOK B3 | Beam   | See ErrMsg  | 1.23037  | COMB2 (Sp)    |          | COMB2         | envelope | envelope | 0.263062  | envelope  | 1.657473                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 684   | BALOK B3 | Beam   | See ErrMsg  | 1.23037  | COMB2 (Sp)    |          | COMB2         | envelope | envelope | 0.265046  | envelope  | 1.670326                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 684   | BALOK B3 | Beam   | See ErrMsg  | 1.62988  | COMB2 (Sp)    |          | COMB2         | envelope | envelope | 0.265046  | envelope  | 1.670326                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 684   | BALOK B3 | Beam   | See ErrMsg  | 2.0294   | COMB2 (Sp)    |          | COMB2         | envelope | envelope | 0.265046  | envelope  | 1.670326                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |
| 684   | BALOK B3 | Beam   | See ErrMsg  | 2.42891  | COMB2 (Sp)    |          | COMB2         | envelope | envelope | 0.265046  | envelope  | 1.670326                                         | The required reinforcing exceeds maximum allowed; | The required reinforcing exceeds maximum allowed                        | No Messages | No Messages |



## **LAMPIRAN DOKUMENTASI**



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