**DESIGN REVIEW REPORT**

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| **REFERENCE:** ${REF} | | | **TIS AGENCY:** ${TIS\_AGENCY} |
| **TECHNICAL/S RESPONSIBLE/S:**  **Design:** ${DESIGN}  **Project Control:** ${PC}  **Design review manager:** Mahmoud Elmasry | | | |
| **Revision:** ${REVISION} | | **CONTACT:** ${CONTACT} | |
| **DATE OF ISSUE:**  ${DATE\_OF\_ISSUE} | **FAX:** ${FAX} | **PHONE:** ${PHONE} | **EMAIL:** ${EMAIL} |

**TITLE I**

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| **PRINCIPAL/OWNER:** ${OWNER}  **PROPOSER (IF DIFFERENT):** ${PROPOSER}  **PROJECT TITLE:** ${PROJECT\_TITLE}  **ADDRESS:** ${ADDRESS}  **PROPOSED USE/OCCUPATION:** ${OCCUPATION}  **NUMBER OF BUILDINGS:** ${NUMBER\_OF\_BUILDINGS} |
| **PARTIES INVOLVED** |
| **DESIGN:**   * **ARCHITECT:** ${**ARCHITECT**} * **STRUCTURAL DESIGNER**: ${**STRUCTURAL\_DESIGNER**} * **SOIL REPORT:** ${**SOIL\_REPORT**}   **CONSTRUCTION:**   * **MAIN CONTRACTOR: ${CONTRACTOR****}** * **SUBCONTRACTORS:** **${SUBCONTRACTORS}** * **PROJECT SUPERVISOR**: **${Project\_SUPERVISOR}** * **QUALITY TESTING FIRMS:** * **OTHER (SPECIFY):**   **COMMENTS ON REFERENCES OF ARCHITECTS, ENGINEERING CONSULTANTS, AND CONTRACTORS OF THE OPERATION, PURPOSE OF THE INSPECTION, IF ANY:** |
| **Contents:**   1. Concept of design review.  Project description and structural system.  1. Design codes and standards. 2. Modeling and design. 3. Design criteria and loads.  Load combinations.Risk assessment |
| * **Concept of design review:**   The purpose of design review is to review the structural system, codes, loads, programs, and the standards that were used in the design of the project.  More specific design information will be provided on calculation note was received from designer. |
| Project description and structural system. ${B148}  ${B149} Design review codes and standards. The design review as per specification of work and accordance with the following codes and standards:  - Saudi building code (SBC). - Materials will generally follow the Saudi Standards, Metrology and Quality Organization (SASO) & standard specifications of the American Society for Testing and Materials (ASTM). Modeling and design. Powerful structural programs ETABS and SAFE were used to institute a complete model of the project and the partial models of any of its component as per our received from owner. Program and Excel sheet will be used for design review for the elements of the structure as needed. Design criteria and loads review. Design loads review are determined according to SBC 1101,301,304 and the requirements of the building occupancy and architectural design. |

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| Load Combination. Design review for every building’s component to withstand the most critical effect resulting from the combination of factored loads as specified in the Saudi building code.   * + **Combination of factored loads (as per SBC 301-304)**   CASE 1 = 1.4 D  CASE 2 = 1.4 D + 1.7 L + 0.5 Lr  CASE 3 = 1.2 D + + 1.6 Lr + 1.0 (L or 0.5W)  CASE 4 = 1.2 D + 1.0 W + 1.0 L+ 0.5 Lr  CASE 5 = 1.2 D + 1.0 E + 1.0 L  CASE 6 = 0.9 D + 1.0 W  CASE 7 = 0.9 D + 1.0 E   * + **Combination of nominal loads**   CASE 1 = D  CASE 2 = D + L  CASE 3 = D + Lr  CASE 4 = D + 0.75 L+ 0.75 Lr  CASE 5 = D + (0.6W OR 0.7E)  CASE 6a = D + 0.75 L + 0.75(0.6W) + 0.75 Lr  CASE 6b = D + 0.75 L + 0.75(0.7W)  CASE 7 = 0.6 D + 0.6 W  CASE 8 = 0.6 D + 0.7 E |

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| * **Risk assessment (Conclusions):**   ${Q983}  ${Q900t} ${DRans1}  |  | | --- | | ${B987} |  ${DRans2}  |  | | --- | | ${B991} |  ${Q992t}  |  | | --- | | ${B992} |  ${Q995t}${Q995}  |  | | --- | | ${B994} | |

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| **Identified aggravating risks and additional information:**  **Design (RD5):**  ${RD5}  **Inspection (RD5):**  ${RD5in}  **Technical reservations:**  ${TR}  **Notes:** ${NOTE} |

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| Riyadh, ${DATE\_OF\_ISSUE}  The Technician/S In Charge Of The Control  ${B4770}  Eng. ${curusernameRD0}  Civil Engineer  Structure Specialist  ${B477}  Eng. ${curusername}  Civil Engineer  Quality Control Manager  ${B4771}  Eng. ${curusernameQC}  Civil Engineer  Project Analysis Department Manager    Eng. Mahmoud Elmasry  Civil Engineer |