1.0 CONTRACTOR REQUIREMENTS

1.1 PRE-INSTALLATION COORDINATION WITH OTHER SERVICES

THE CEILING CONTRACTOR SHALL COORDINATE WITH OTHER SERVICE CONTRACTORS TO ENSURE:

-THE CEILING STRUCTURE IS ADEQUATE TO SUPPORT THE IMPOSED SERVICE LOADS.
-ADEQUATE CLEARANCE DISTANCE BETWEEN SERVICES AND THEIR RESTRAINTS WILL BE ACHIEVED. REFER 2.5 CLEARANCE DISTANCES.
- NO ADVERSE INTERACTION BETWEEN SERVICES AND CEILINGS WILL OCCUR.

1.2 CONTRACTOR EXPERIENCE

THE CEILING CONTRACTOR IS ASSUMED TO BE FAMILIAR WITH THE INSTALLATION OF SUSPENDED CEILINGS AND THEIR SEISMIC RESTRAINT. A WORKING KNOWLEDGE OF THE FOLLOWING STANDARDS AND CODES OF PRACTICE IS EXPECTED:

- AS/NZS 2785:2000 SUSPENDED CEILINGS - DESIGN AND INSTALLATION
- NZS 4219:2009 SEISMIC PERFORMANCE OF ENGINEERING SYSTEMS IN BUILDINGS
- NZS 4541:2013 AUTOMATIC FIRE SPRINKLER SYSTEMS
- AWCI SUSPENDED CEILINGS CODE OF PRACTICE

1.3 CONTRACTOR QUALITY ASSURANCE

THE CEILING CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THE WORK IS INSTALLED AS PER THE DESIGN DOCUMENTATION.

1.4 VARIATIONS TO DESIGN

THE CEILING CONTRACTOR SHALL GET THE APPROVAL OF THE DESIGN ENGINEER PRIOR TO CARRYING OUT CHANGES TO THE CEILING INSTALLATION. REFER TO PS1 DOCUMENTATION FOR ENGINEER CONTACT DETAILS.

1.5 CONTRACTOR INSPECTIONS

THE CEILING CONTRACTOR SHALL PERIODICALLY CARRY OUT DETAILED VISUAL INSPECTION OF THE CEILING AND RESTRAINT INSTALLATION TO ENSURE IT IS IN ACCORDANCE WITH THE DESIGN DOCUMENTATION. RANDOM SAMPLING OF THE FOLLOWING SHALL BE CONDUCTED:

- PERIMETER FIXING: FIXED AND FLOATING EDGES
- CEILING HANGERS
- SEISMIC BRACE INSTALLATION
- SEISMIC SEPARATION JOINTS
- CLEARANCE DISTANCES BETWEEN SERVICES AND THEIR RESTRAINT
- FIXING OF SERVICES <10 KG TO THE CEILING GRID
- INDEPENDENT RESTRAINT AND CLEARANCE OF EQUIPMENT >10KG

FOLLOWING INSPECTION, THE CEILING CONTRACTOR SHALL PROVIDE A MARKED UP PLAN SHOWING AREAS INSPECTED AND ANY CLASHES, DEFECTS THAT NEED TO BE ADDRESSED PRIOR TO PROJECT COMPLETION.

1.6 PRODUCER STATEMENT PS-3 - CONSTRUCTION

THE CEILING CONTRACTOR SHALL PROVIDE A PRODUCER STATEMENT PS-3 TO THE ENGINEER AND A STATEMENT THAT ALL DEFECTS HAVE BEEN REMEDIED.

2.0 INSTALLATION REQUIREMENTS

2.1 CEILING GRID INSTALLATION

CEILING GRID TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. CEILING HANGERS SHALL NOT BE INSTALLED TO ANY EQUIPMENT OR SERVICES. WHERE THIS IS NOT POSSIBLE, A TRAPEZE HANGER MAY BE INSTALLED.

2.2 INSTALLATION OF PARTITIONS

FULL HEIGHT PARTITIONS SHALL BE INSTALLED WITH A DEFLECTION HEAD DETAIL TO ALLOW FOR DIFFERENTIAL MOVEMENT BETWEEN FLOORS.

PARTIAL HEIGHT PARTITIONS SHALL BE INDEPENDENTLY BRACED TO THE OVERHEAD STRUCTURE

PARTITIONS USED FOR SEIMSIC BRACING OF CEILINGS SHALL BE DESIGNED TO RESIST THE IMPOSED LOADS AS CALCULATED BY THE ENGINEER.

2.3 INSTALLATION OF SPRINKLERS

RIGID SPRINKLER DROPPERS AT CEILING LEVEL SHALL HAVE A MINIMUM CLEARANCE OF 25mm TO THE CEILING.

FLEXIBLE SPRINKLER DROPPERS MAY BE INSTALLED WITHOUT ANY CLEARNCE TO THE CEILING. REFER NZS 4541 FOR FUTHER DETAIL.

2.4 EQUIPMENT AT CEILING LEVEL

EQUIPMENT < 10 KG MAY BE SUSPENDED FROM THE CEILING WHEN COMPLIANT WITH FOLLOWING REQUIREMENTS:

- EQUIPMENT IS POSITIVELY FIXED TO THE CEILING GRID MAIN TEES.
- TOTAL EQUIPMENT LOAD DOES NOT EXCEED THE ALLOWABLE DISTRIBUTED SERVICE LOAD. REFER 3.4.

2.5 CLEARANCE DISTANCES

UNLESS OTHERWISE SPECIFIED, ALL CLEARANCE DISTANCES BETWEEN CEILING COMPONENTS AND OTHER SERVICES SHALL BE ACCORDANCE WITH TABLE 15 OF NZS 4219 (REPRODUCED BELOW).

CONDITION BEING CONSIDERED	MINIMUM CLEARANCE (mm)	
	HORIZONTAL	VERTICAL
UNRESTRAINED TO UNRESTRAINED COMPONENT	250	50
UNRESTRAINED TO RESTRAINED COMPONENT	150	50
RESTRAINED TO RESTRAINED COMPONENT	50	50
PENETRATION THROUGH STRUCTURE (E.G. WALLS, FLOORS)	50	50

CEILING HANGERS AND BRACES ARE CONSIDERED TO BE RESTRAINED COMPONENTS

3.0 DESIGN REQUIREMENTS

3.1 CONSTRUCTION MONITORING

CONSTRUCTION MONITORING BY THE ENGINEER AS PER THE CONSTRUCTION MONITORING SCHEDULE IS REQUIRED DURING CONSTRUCTION.

3.2 PRODUCER STATEMENT PS-4 CONSTRUCTION REVIEW

A PRODUCER STATEMENT PS-4 CANNOT BE PROVIDED WHEN COMPLIANCE WITH THE REQUIREMENTS OF THIS SPECIFICATION IS NOT ACHIEVED. A PRODUCER STATEMENT PS-3 IS REQUIRED PRIOR TO ISSUING A PS-4

3.3 DESIGN LOADS

EARTHQUAKE LOADS HAVE BEEN CALCULATED IN ACCORDANCE WITH AS/NZS 1170.5 SECTION 8 - PARTS ASSUMING THE PARAMETERS SHOWN IN TABLE 1 BELOW:

TABLE 1 - AS/NZS 1170.5 PARAMETERS

	P2/P3	P7
FALL HEIGHT	ANY	< 3m
WEIGHT	>7.5 kg	<7.5 kg
LIMIT STATE	ULS	SLS1
DUCTILITY	1.25	1

3.4 DISTRIBUTED SERVICE LOAD

THE DESIGN INCORPORATES A MAXIMUM ALLOWABLE DISTRIBUTED SERVICE LOAD OF 3 KG/M^2 AS PER AS/NZS 2785 CLAUSE 3.2.2. IF THE DISTRIBUTED LOAD IS TO EXCEED 3 KG/M^2 THEN CONSULTATION WITH THE DESIGN ENGINEER IS NECESSARY.

NOTES:

TO BE READ IN CONJUCTION WITH OTHER DRAWING SHEETS IN PS1 DRAWING SCHEDULE AND ARCHITECTURAL SPECIFICATION.

DESIGNER:

Brevity

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Tolerances (unless specified)	1-100	<1000	>1000
	± 2	± 10	± 70

All dim. in mm

Rev	Description
A	FOR CONSENT

Designed	BREVITY LTD	16/01/23
Drawn	BREVITY LTD	16/01/23

SUSPENDED CEILING SEISMIC DESIGN - SPECIFICATION, TWO-WAY GRID AND PLASTERBOARD CEILINGS

Scale: Do not Scale

DRG No.: 050-00