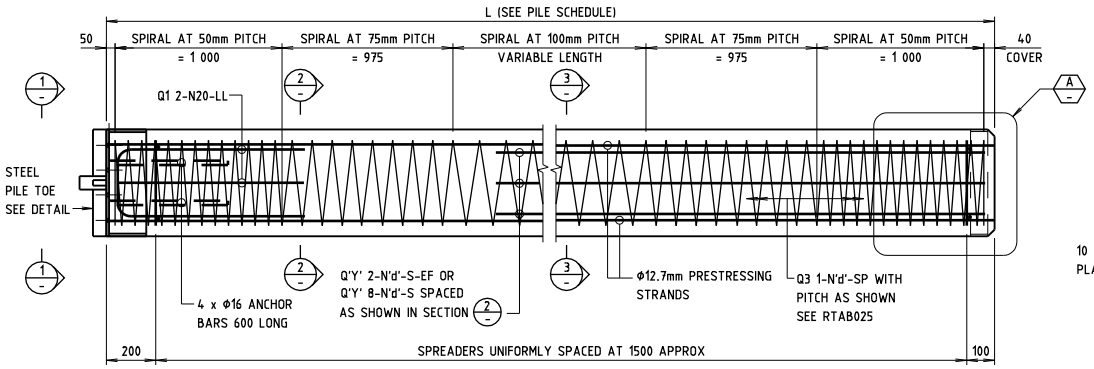
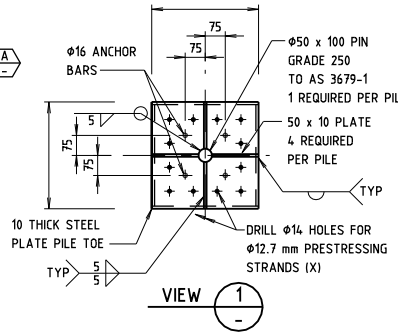
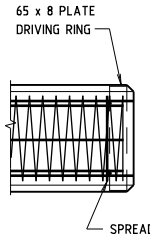


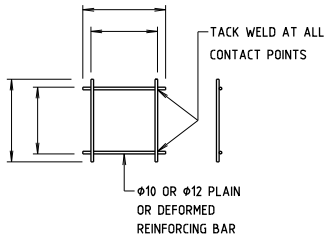
ELEVATION



VIEW 1



DETAIL A



SPREADER

FOR NUMBER REQUIRED PER PILE SEE PILE SCHEDULE

PILE SCHEDULE

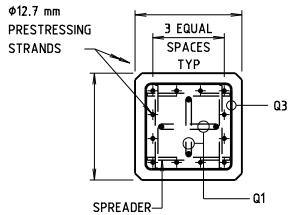
PILE No	LENGTH OF PILE L	No REQUIRED	No OF SPREADERS PER PILE

MINIMUM DEVELOPMENT AND LAP LENGTHS

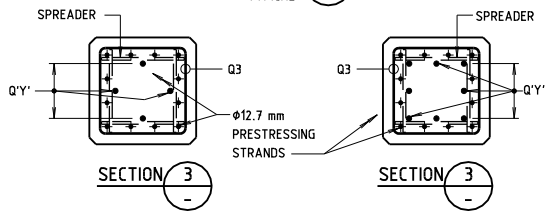
BAR SIZE d	EXP CLASSIF/CONCRETE STRENGTH(MPa)/COVER(mm)
	C/60/60
20	500
24	600
28	700
32	800

LIFTING HOOK SCHEDULE

PILE SIZE (mm)	APPPROXIMATE WEIGHT OF PILE PER METRE LENGTH (t/m)	LIFTING HOOK SIZE (d)	MAXIMUM LENGTH OF PILE FOR SINGLE POINT LIFT (m)
400 x 400	0.384	20	9
450 x 450	0.486	24	10
500 x 500	0.600	24	11



SECTION 2 TYPICAL



SECTION 3 SECTION 3

TYPICAL FOR 400 x 400 AND 450 x 450 PILES

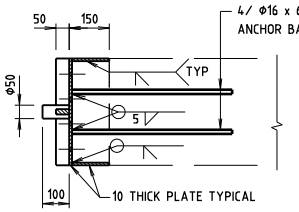
TYPICAL FOR 500 x 500 PILES

GENERAL NOTES

NOT TO SCALE.
CONCRETE EXPOSURE CLASSIFICATION : ...
MINIMUM 28 DAY COMPRESSIVE STRENGTH OF CONCRETE SHALL BE ... MPa.
CONCRETE EDGES SHALL BE CHAMFERED 25 x 25mm.
COVER TO REINFORCEMENT NEAREST TO THE CONCRETE SURFACE SHALL BE ... mm.
THE MINIMUM SPECIFIED COVER IS BASED ON THE PILE BEING CAST IN RIGID FORMWORK WITH INTENSE COMPACTION USING VIBRATING TABLE OR FORM VIBRATORS.
REINFORCING BARS SHALL BE GRADE D500N TO AS/NZS 4671.
REINFORCING BARS FOR SPIRALS SHALL BE GRADE R250N TO AS/NZS 4671.
REINFORCING WIRE FOR SPIRALS SHALL BE EQUIVALENT TO GRADE R500L TO AS/NZS 4671. DIAMETERS LESS THAN 12mm CAN BE OBTAINED FROM SPECIALIST STEEL REINFORCEMENT SUPPLIERS.
SPIRALS SHALL BE ANCHORED BY 1.5 TURNS AT ZERO PITCH AND A HOOK AROUND A MAIN BAR OR 1.5 TURNS AT ZERO PITCH AND A MINIMUM 300mm EXTENSION INTO CORE CONCRETE.
MINIMUM COMPRESSIVE STRENGTH OF CONCRETE AT TRANSFER OF PRESTRESS SHALL BE 32MPa.
STRANDS SHALL BE 7-WIRE, ORDINARY, DIAMETER 12.7mm, TENSILE STRENGTH 1870MPa, RELAX 2, TO AS/NZS 4672.1 WITH MINIMUM BREAKING LOAD OF 184kN.
THE FORCE IN EACH Φ12.7mm STRAND AFTER RELEASE OF THE TENSIONING JACK SHALL BE 147kN.
STEEL PLATE SHALL CONFORM TO AS/NZS 3678-250 OR 200.
THE WELD CATEGORY SHALL BE GP IN ACCORDANCE WITH AS 1554 PART 1.
WELDING SYMBOLS COMPLY WITH AS 1101 PART 3.
SPREADERS MAY BE OMITTED IF AN APPROVED METHOD OF HOLDING THE BARS IN THEIR CORRECT POSITION IS EMPLOYED DURING CASTING.
LIFTING HOOKS SHALL BE GRADE R250N TO AS/NZS 4671.
TWO POINT LIFT 0.2L FROM EACH END IS REQUIRED FOR PILES WHERE THE LENGTH EXCEEDS THE VALUES AS SHOWN IN THE LIFTING HOOK SCHEDULE. DURING LIFTING, SIDES OF THE PILE SHALL BE VERTICAL.
LIFTING HOOKS SHALL BE CUT OFF FLUSH WITH CONCRETE SURFACE AND ENDS EPOXY COATED AFTER THE PILE IS IN POSITION READY FOR DRIVING.
STEEL PILE TOE PLATE SHALL BE PROVIDED WITH HOLES (PREDRILLED) TO SUIT Φ12.7mm PRESTRESSING STRANDS SPECIFIED FOR THE PILE SIZE.

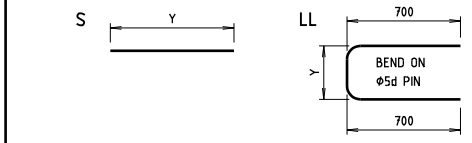
	ABUTMENTS	PIERS
PILE DESIGN AXIAL LOAD AT ULS	... kN COMPRESSION ... kN TENSION	... kN COMPRESSION ... kN TENSION
PILE DESIGN MOMENT AT ULS	... kNm	... kNm

THE NOMINATED LOADS AND MOMENTS APPLY TO THE STRUCTURE AS DESIGNED. AS ANY PROPOSED CHANGES TO THE PILES AND PILE LAYOUT MAY SIGNIFICANTLY ALTER THE BEHAVIOUR OF THE STRUCTURE, AS WELL AS THE PILE LOADS AND MOMENTS, THEY SHALL BE SUBMITTED TO THE PRINCIPAL FOR APPROVAL PRIOR TO COMMENCEMENT OF PILING OPERATIONS.
THE CALCULATED SET IS ... mm/BLOW AT A NET DRIVING ENERGY OF ... kJ.
(1kJ = 0.1 TONNE METRES).
THE MAXIMUM NET DRIVING ENERGY SHALL BE ... kJ.
THE MINIMUM PENETRATION DEPTH OF THE PILES SHALL BE ... m BELOW THE SOFFIT OF PILE CAP/EXISTING SURFACE LEVEL.

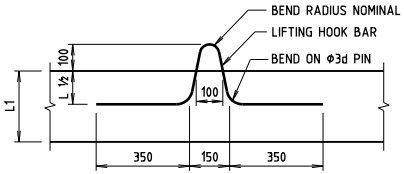


STEEL PILE TOE

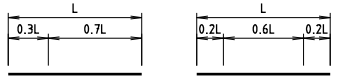
BAR SHAPES DIAGRAM



LIFTING HOOK DETAIL



SPIRAL DIAMETER AND "S" BAR DETAILS SHALL BE OBTAINED FROM ROADS AND MARITIME SERVICES DRAWING No B110 AND VALUES SHALL BE INSERTED AS REQUIRED



ONE POINT LIFT

TWO POINT LIFT AND SUPPORT

PILE LIFTING AND SUPPORT DETAILS

LIFTING POINTS AND SUPPORT POINTS FOR TRANSPORTATION AND STACKING SHALL BE PLAINLY MARKED ON ALL PILES AFTER REMOVAL OF FORMS.
LIFTING AND SUPPORT SHALL BE AT DESIGNATED POINTS ONLY.

NOT TO SCALE

ISSUE	DATE	REVISION	PREP	CHECK	AUTH

Transport Roads & Maritime Services

PREPARED BY
BRIDGE AND STRUCTURAL ENGINEERING BRANCH
110 GEORGE STREET PARRAMATTA NSW 2150
PHONE (02) 8837-0802 FACSIMILE (02) 8837-0055

CLIENT:

PREPARED	CHECKED	REGISTRATION No OF PLANS
DESIGN		
DRAWING		BRIDGE NUMBER
		ISSUE STATUS:
		SHEET No / ISSUE

APPROVED FOR USE

W ARIYARATNE 20.03.2012
PRINCIPAL BRIDGE AND STRUCTURES ENGINEER

SENIOR BRIDGE ENGINEER (NEW DESIGN)

CAD No PSPHARD.dgn

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