APPENDIX 5-STORMWATER PLAN PREPARED BY VAN LEEUWEN & STODDARD, CONSULTING ENGINEERS

PROJECT: PROPOSED ALTERATIONS AND EXTENSIONS FOR TATHRA HOTEL
STORMWATER PLAN AND SOIL AND WATER MANAGEMENT PLAN
DESIGN AND DETAILED DRAWINGS

LOCATION: LOT 30 DP 606559 TATHRA NSW

CLIENT: TATHRA HOTEL PTY LTD

SCHEDULE OF SHEETS

GENERAL STRUCTURAL SPECIFICATIONS

General Notes

1 All Dimensions on these plans should be checked on site by the builder and verified using architectural plans and other contract documents Discrepancies should be referred to the Architect or the Engineer
2 It is not implied or guaranteed that all structural designs and details shown in these plans are complete The scope of work has been determined by the engineer based on the information supplied by the client or the clients consultants Further designs may be required
3 Do not Scale from these plans
4 The structural details shown in these plans are applicable to the Architectural plans and building elements indicated thereon
Generally,
Roof Structure Steel Frame and sandwich panel construction
Walls Structure Sandwich panel walls
Floor Structure Concrete Slabs and steel joists
5 ref to UNO = "Unless Noted Otherwise"
6 Maintain the structure in a stable condition during construction Do not exceed the design live loads shown or cause any element to be over stressed
7 Handrails construction to comply with AS1170.1-1988 clause 6.3 live loads
8 Existing buildings must have bracing and tie-down investigated by the builder and referred to the engineer for compliance checking
9 Design loads in accordance with AS 1170 or Australroads Bridge Code - 1996
Live loads Wind load
Office corridor parking 3KPa Wind velocity Vu50, Vp4.1, Vs38 m/s. 41 m/s
Balconies stairs... 4KPa. Structural importance multiplier Mss 1
Factories, plant-rooms, shops 5KPa Terrain category. 2
Roofs .025 KPa.....Others
Roadways T4.1 Trucks 150mm thick pavements and Domestic vehicles 100mm thick pavements where subgrade CBR = min 20

Site Conditions

1 Vegetation... NIL
2 Drainage ..as per plans
3 Soil Types/Profile ..Undifferentiated sediments.....
4 Possible Seasonal Soil Movement ..... S
5 AS2870.1-1988 Site Classification class S(slightly reactive)

Foundations

1 Footings design based on allowable base bearing pressure of 100 Kpa and piers as specified on plans
2 The design only applies for ground and foundation levels as shown on the drawings
3 Backfill foundation walls so that the level of fill on one side of the wall is never more than 450 above the level on the other side except where detailed retaining walls are used

Masonry

1 All masonry (clay and concrete) mortars and grouts to comply with AS3700 Masonry Code
2 Control joints required at ..6.. metres centres (absolute maximum at 10m centres)
3 Core fill grout mix 200mm slump (in parts) Cement 1 Sand-3 Aggregate 10mm round-2
4 Mortar shall be freshly prepared uniformly mixed in the following ratio 1:1/10:3 cement, lime sand in accordance with ASA 123 and AS 3700 clauses 2.2.2
5 All perpends except where required for weepholes are to be fully filled with mortar
6 Bottom course of blocks to have inspection openings to all cores to be grouted, thoroughly clean all cores prior to reinforcement placing Tie vertical steel to starters
7 Grout all cores with grout strength grade 15 150mm slump, Max free drop in any one pour to be 1 metre Stop pour 50mm below top of block

Concrete

1 All concrete work in accordance with AS3600-2001
2 Concrete to be formed as required by AS3610 and compacted in accordance with AS3600 and AS3610 to achieve specified or relevant density durability and strength
3 All reinforcing fabric to be lapped one mesh panel minimum and reinforcement bars lapped 40 bar diameters UNO
4 Provide concrete strengths below to relevant structural items
Pad/Strip Footings f'c = 25 Mpa Ground Slabs f'c = 40 Mpa Crossover f'c = 40MPa Beams f'c = 40 Mpa
Suspended Slabs f'c = 40 MPa Other Specify exposed to exterior environment = Driveways/paths f'c = 40 MPa
Maximum slump of 75 mm Maximum aggregate size 20mm
Precautions against excessive slab shrinkage Cure slab / Control water
5 Sizes of concrete elements do not include thickness of applied finishes
6 Do not make any construction joints, holes or chases in the concrete elements unless shown or approved by the Engineer
7 Do not place pipes or conduits within the concrete cover to reinforcement
8 Reinforcement notation N = Grade 500 deformed bar to AS 4671 T = Top of element
SL= Grade 500 square mesh to AS 4671 B = Bottom of element
RL= Grade 500 rectangular mesh to AS 4671 ew = each way
L = Grade 500 trench mesh to AS 4671 uno = unless noted otherwise
R = Grade 250 plain round bar to AS 4671 c/s = courses
eg 8 - N 16 @ 200T = 8 deformed bars of 16 diameter at 200 centres placed in the top of the element
9 Provide clear concrete cover to reinforcement as follows UNO

ELEMENT	INTERIOR	EXTERIOR	EXTERIOR (against ground)
Footings	NA	NA	40mm
Columns, Pedestals	30mm	50mm	45mm
Slabs, Walls	20mm	50mm	45mm
Beams	25mm	50mm	45mm
Block work	20 mm from appropriate outside face		

10 Recommend using maximum bar chair spacing of 60 diameters for supporting bars and 35 diameters for fabric
11 Provide laps only at locations shown unless otherwise approved by the Engineer
12 For rectangular fabrics place top fabric main wires uppermost and bottom fabric main wires lowermost in direction of arrows
13 Supply and lay fabric in flat sheets, overlap 1st and 2nd cross wires of each sheet by 30mm at laps
14 Do not weld reinforcement unless shown or approved by the Engineer
15 Do not build brick or block work in suspended work until all shoring has been removed
16 Prop cantilever slabs and beams from a firm support for a minimum of 28 days
17 Reinforcement is shown diagrammatically and not necessarily in true position
18 All concrete shall be placed and cured in accordance with Section 19 AS 3600 Where curing compound is used it must be applied (A) onto slabs within 2 hrs of finishing operation and (B) onto walls and columns immediately after removal of framework
19 Horizontal framework shall be stripped when approved by the engineer
20 Slabs and beams shall bear on only the beam/walls etc shown on the drawings All other building elements shall be kept 15mm clear from soffits of structure
21 Where slabs or beams bear on masonry the top course shall be level, smooth and covered with slip joint as detailed UNO

Timber

1 All Timber construction to comply with AS1720 Timber Structures Code and AS1684 Timber Framing Code in addition to details shown
2 Timber durability to be selected based on exposure to elements such as weather water and vermin attack

Steel

1 All Steel construction to comply with AS4100 Steel Structures Code or AS1250 Steel structures code and welding as per AS1554 Welding Code All cold formed steel to be in accordance with AS1538 ASCE steel specification compliance required except as varied in contract documents
2 Unless Noted Otherwise use ,
- 10mm fin plates, gussets stiffeners and end plates
- M20 grade 4.6 block bolts
- 6mm continuous fillet welds with general purpose electrodes in accordance with AS1554

3 Shop drawings should be submitted to the Engineer for brief perusal prior to commencement of fabrication No responsibility is accepted by the Engineer for any incorrect details depicted on the Shop drawings
4 Steelwork shall be of minimum yield stress 250 MPa UNO
5 Steelwork shall be given at least one coat of approved metallic primer at least 48 hours before dispatch unless it is to be encased in concrete where a coat of cement wash shall be applied Concrete encased members shall be wrapped in F40 mesh or 5mm diameter wires @ 150mm cc and concrete shall be 20Mpa strength with 50mm cover
6 Proprietary items (purlins, bolts, brackets etc) shall be installed in accordance with manufacturers specification UNO
7 High Strength Friction Grip Bolts (HSFG) to be fitted with load indicating washers as per Steel Structures Code

			VAN LEEUWEN and STODDARD Consulting Engineers	TATHRA HOTEL ADDITIONS AND EXTENSIONS	
				K L & C M GORDON DRAFTING SERVICES	TATHRA NSW
				TATHRA HOTEL PTY LTD	LOT 30 DP606559 BEGA STREET TATHRA 2550
				TITLE SHEET	TYPE C
					SHEET 1 OF 5

SITE DRAINAGE PLAN (1:200) PROPOSED ALTERATIONS AND ADDITIONS FOR HOTEL AND MOTEL

PIPES AND PITS SCHEDULE

Pit No.	Top of Pit	Line	Pipe Diam.	Highest Convert	Inlet RL	Outlet RL	Btm. of Pit	Pit Depth	clear to pipe
GP14	95.75	-		95.39		95.165	94.96	0.79	0.36
HW3	95.00	L13	0.225	94.85	94.625	94.975	94.38	0.62	0.15

Pit No.	Top of Pit	Line	Pipe Diam.	Highest Convert	Inlet RL	Outlet RL	Btm. of Pit	Pit Depth	clear to pipe
GP4	98.00	-		97.48		97.175	96.98	1.02	0.60
GP5	98.00	L1	0.225	97.15	96.926	96.801	96.60	1.40	0.55
GP6	97.60	L2	0.300	97.09	96.700	96.680	96.48	1.15	0.60

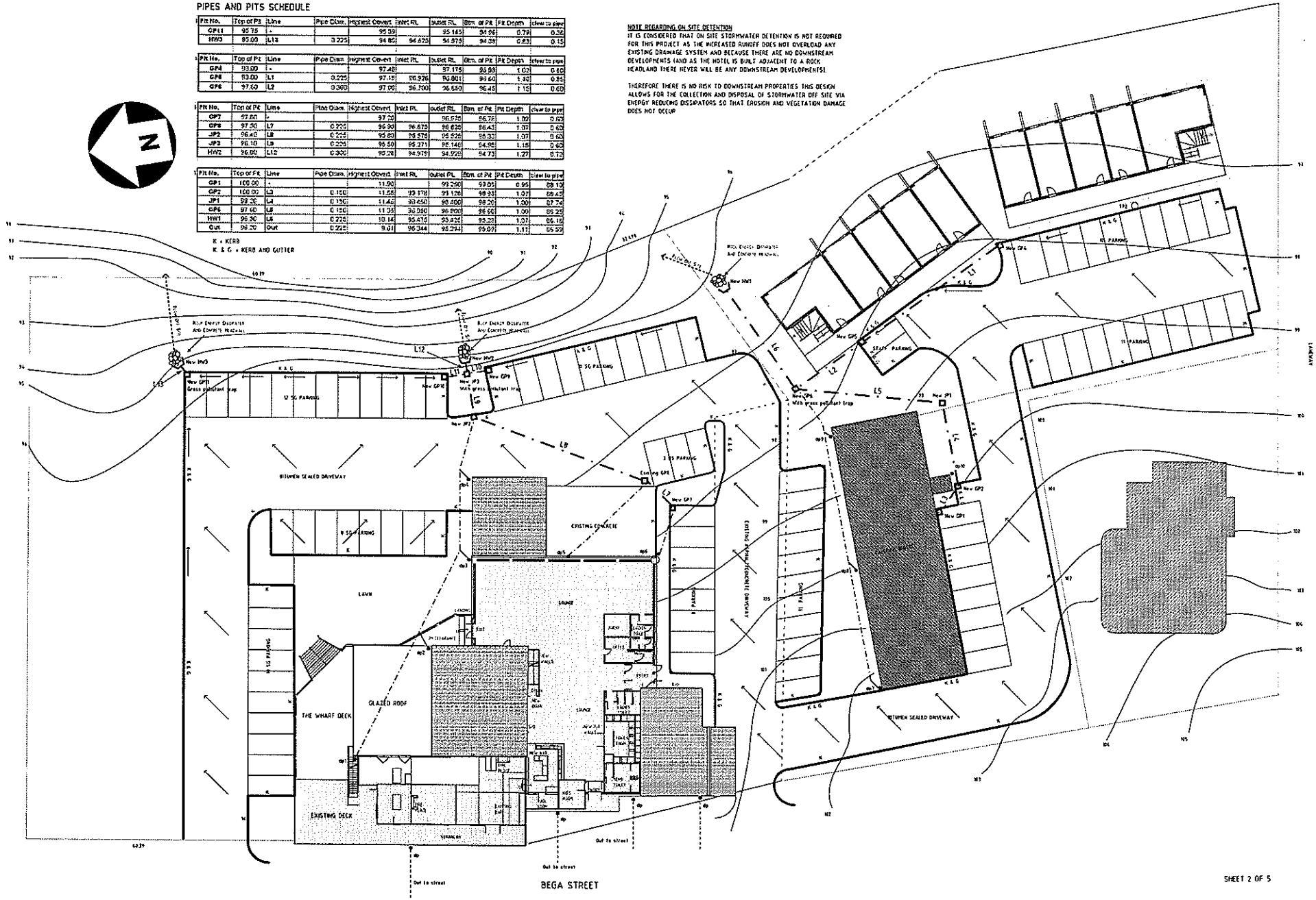
Pit No.	Top of Pit	Line	Pipe Diam.	Highest Convert	Inlet RL	Outlet RL	Btm. of Pit	Pit Depth	clear to pipe
GP7	97.60	-		97.29		96.575	96.76	1.09	0.82
GP8	97.50	L7	0.225	96.90	96.675	96.625	96.43	1.07	0.60
JP2	96.40	L8	0.225	95.89	95.575	95.525	95.33	1.07	0.50
JP3	96.10	L9	0.225	95.59	95.271	95.146	94.96	1.15	0.45
HW2	96.00	L12	0.300	95.28	94.979	94.929	94.73	1.27	0.72

Pit No.	Top of Pit	Line	Pipe Diam.	Highest Convert	Inlet RL	Outlet RL	Btm. of Pit	Pit Depth	clear to pipe
GP1	100.00	-		11.90		99.250	99.05	0.95	88.10
GP2	100.00	L3	0.150	11.55	99.178	99.128	98.93	1.07	88.45
JP1	99.30	L4	0.150	11.46	98.650	98.600	98.20	1.00	87.74
GP3	97.60	L6	0.150	11.35	98.050	98.000	96.60	1.00	86.25
HW1	96.30	L5	0.225	10.14	95.475	95.425	95.23	1.07	86.16
Out	98.20	Out	0.225	9.81	96.344	96.294	95.09	1.11	86.39

K = KERB
K & G = KERB AND GUTTER

NOTE REGARDING ON SITE DETENTION
IT IS CONSIDERED THAT ON SITE STORMWATER DETENTION IS NOT REQUIRED FOR THIS PROJECT AS THE INCREASED RUNOFF DOES NOT OVERLOAD ANY EXISTING DRAINAGE SYSTEM AND BECAUSE THERE ARE NO DOWNSTREAM DEVELOPMENTS (AND AS THE HOTEL IS BUILT ADJACENT TO A ROCK HEADLAND THERE NEVER WILL BE ANY DOWNSTREAM DEVELOPMENTS).

THEREFORE THERE IS NO RISK TO DOWNSTREAM PROPERTIES THIS DESIGN ALLOWS FOR THE COLLECTION AND DISPOSAL OF STORMWATER OFF SITE VIA ENERGY REDUCING DISSIPATORS SO THAT EROSION AND VEGETATION DAMAGE DOES NOT OCCUR



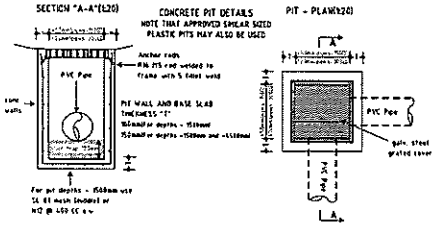
SHEET 2 OF 5

DRAINAGE DETAILS

GRATED PIT DETAILS(1:20)

PIT CONSTRUCTION NOTES

1. PVC or Polyethylene pits approved for such use may be used
2. Where concrete pits are to be adopted concrete strength to be minimum 25MPa
3. If concrete lid to be used it must be reinforced with SL81 mesh placed 30mm from the bottom
4. Walls and base of all pits deeper than 1500mm to be reinforced with SL81 mesh centrally placed
5. At 90 degrees change in direction of pipe at the pit outlet shroat to be lower than the inlet shroat by at least 50mm
6. For pit depths over 1500mm up to 4500mm increase wall thickness to 150mm maintaining reinforcement as noted
7. Minimum cover to reinforcing to be 50mm
8. Where surface runoff inlet is required allow 1 side of pit to be finished 200mm lowerthan the underside of the lid for stormwater entry



CONCRETE PIT DETAILS(1:20)

Notes

1. Concrete to be 25MPa
2. Concrete lid to be reinforced with SL81 mesh placed 30mm from the bottom
3. Walls and base of all pits deeper than 1500mm to be reinforced with SL81 mesh centrally placed
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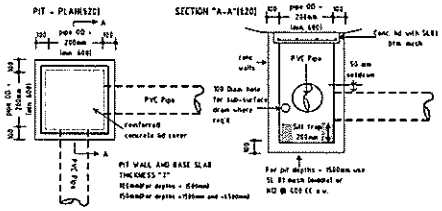
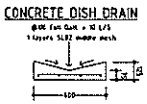
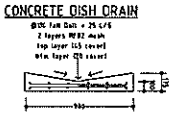


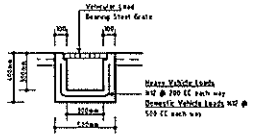
CONCRETE DISH DRAIN



CONCRETE DISH DRAIN



GRATED BOX GUTTER (1:20)



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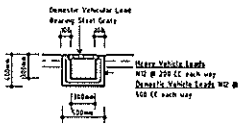
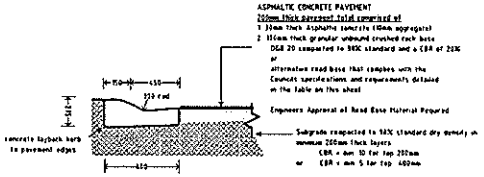


ROLLOVER KERB DETAIL (1:20)



CONCRETE PIT PLAN AND SECTION (1:20)

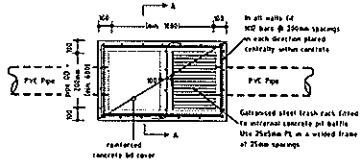
WITH ENERGY DISSIPATOR, SILT TRAP AND GROSS POLLUTANT TRAP

CONCRETE PIT JP

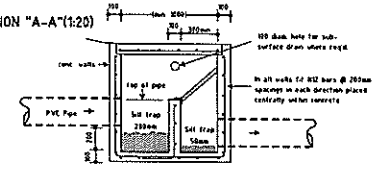
Notes

1. Concrete to be 32MPawith ENERGY DISSIPATOR , SILT TRAP AND TRASH RACKING
2. Concrete lid to be reinforced with SL81 mesh placed 30mm from the bottom
3. Walls and base of all pits to be reinforced with SL81 mesh or HD2 @ 200mm crosh way centrally placed
4. At 90 degrest change in direction of pipe at the pit outlet shroat to be lower than the inlet shroat by at least 50mm
5. Depth of pit not to exceed 3500mm
6. Minimum cover to reinforcing to be 50mm
7. Where surface runoff inlet is required allow 1 side of pit to be finished 200mm lowerthan the underside of the lid for stormwater entry

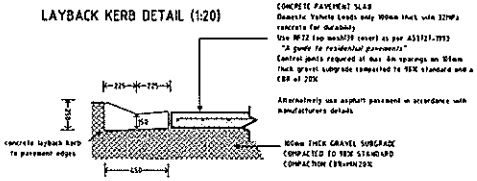
PIT - PLAN (1:20)



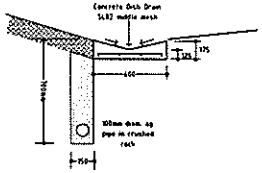
SECTION "A-A"(1:20)



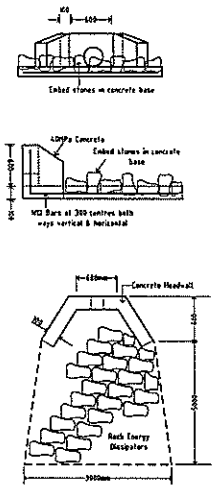
LAYBACK KERB DETAIL (1:20)



CONCRETE CATCH DRAIN and subsoil drain



ROCK ENERGY DISSIPATER IN CONCRETE HEADWALL



ATTACHMENTS

1. **Statement of Heritage Significance** – Extract from *Tathra Hotel – Statement of Heritage Significance* November 2006

2. **Drawings – Tathra Motel – KL & CM Gordon Drafting Services**

    1. Plan of Proposed Boundary Adjustment
    2. Plan of Proposed New Motel Wing – Site Plan
    3. Plan of Proposed New Motel Wing – Floor Plans
    4. Plan of Proposed New Motel wing – Elevations
    5. Plan of Proposed New Motel wing – Section/Perspectives