

AS CONSTRUCTED
DEVELOPER DETAILS AMENDED
LAYOUT, PILLAR SCHEDULE & LEGEND AMENDED
ISSUED FOR CONSTRUCTION

AMENDMENTS

AGA CONSULTING

ENGINEERS PTY LTD

ELECTRICAL & MECHANICAL

TELEPHONE: 08 89416582 FACSIMILE: 08 89421400 EMAIL: alekg@agaeng.com.

TERRITORY LIFE

GPO Box 1782 DARWIN NT 0801

PHONE: 8943 0641 FACSIMILE: 8941 0848

CONTACT: ROBERT COOK

PILLAR SCHEDULE						
PILLAR	630A STRIPPLE FUSE UNIT	160A STRIPPLE FUSE UNIT				
P103ZU	3	2				
P104ZU	2	2				
P105ZU	2	2				
P106ZU	1	4				
P107ZU	1	2				
P108ZU	2	3				

# PROPERTY BOUNDARY 750 NBN Co. CONDUIT - ALSO REFER REFER NOTE 8. 600x500x40mm REINFORCED CONCRETE SLAB CABLE COVER/S. CONCRETE SLABS SHALL EXTEND MINIMUM 1.5m BOTH SIDES OF NBN Co. PIT PROVIDE NUMBER OF CONCRETE SLABS TO SUIT HV CABLES (IN 150mm HD uPVC CONDUIT) 35 Sq mm Cu, BARE EARTH 4.15V DISTRIBUTION CABLES

<u>DETAIL C -</u>
TYPICAL CABLE TRENCH WITH NBN Co. PIT N.T.S.

AI AS INSTALLED

AGA406-8

SINGLE LINE DIAGRAM & LEGEND NOTES, HV SCHEMATICS & POLE SCHEDULE MASTER SERVICES PLAN CONDUTZOUCT LAYOUT STREET LIGHTING RETICULATION

ASSOCIATED DRAWINGS

DRN DATE APPD

DRAWING STATUS

T TENDERING PURPOSES ONLY

CANCELLED/SUPERSEDED

P PRELIMINARY/PROPOSED

AC APP. FOR CONSTRUCTION

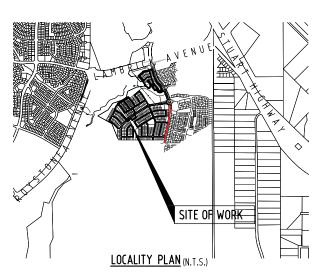
APPD DATE

### NOTES

- 1 REFER DWG No. B15-3307 FOR DETAILS OF ITEMS LISTED IN LEGEND.
- 2 CONTRACTOR SHALL LOCATE EXISTING EARTH CABLING IN LOCATIONS SHOWN, JOINT NEW 1x1C 70 Sq mm Cu, BARE EARTH CABLING & EXTEND TO AND CONNECT TO NEW DIST. PILLARS P103ZU/P105ZU/P107ZU/P108ZU.
- 3 CONTRACTOR SHALL LOCATE SAND PITS AT LOCATIONS SHOWN & INSTALL NEW DIST. CABLING WITHIN EXISTING SPARE 1x100mm HD upvc conduit & then direct buried (except at road crossings) to New Dist. PILLARS P103ZU/P105ZU/P105ZU/P107ZU/P108ZU.
- 4 CONTRACTOR SHALL LEAVE SUFFICIENT LENGTHS NEW LV DIST. CABLING COILED WITHIN EXISTING SAND PIT IN FRONT OF EXISTING SUB 3357 & ARRANGE FOR POWER AND WATER TO PULL NEW LV DIST. CABLING THROUGH EXISTING SPARE 1x100mm SWEEP BEND INTO EXISTING SUB 3357 LV SECTION & CONNECT/TERMINATE.
- 5 CONTRACTOR SHALL LEAVE SUFFICIENT LENGTHS NEW LV DIST. CABLING COILED WITHIN EXISTING SAND PIT IN FRONT OF EXISTING DIST. PILLARS P093ZU/P094ZU/P102ZU & ARRANGE FOR POWER AND WATER TO PULL NEW LV DIST. CABLING THROUGH EXISTING SPARE 1x100mm SWEEP BEND INTO EXISTING DIST. PILLAR P093ZU/SPARE 1x100mm SWEEP BEND INTO EXISTING DIST. PILLAR P102ZU & CONNECT/TERMINATE.
- 6 CONTRACTOR SHALL LEAVE SUFFICIENT LENGTHS NEW LV SERVICE CABLING COILED WITHIN EXISTING SAND PIT IN FRONT OF EXISTING DIST. PILLAR P093ZU & ARRANGE FOR POWER AND WATER TO PULL NEW LV SERVICE CABLING THROUGH EXISTING SPARE 1x100mm SWEEP BEND INTO EXISTING DIST. PILLAR P093ZU & CONNECT/TERMINATE.
- 7 LV CABLING SHALL BE RUN BELOW (DEEPER THAN STANDARD ELECTRICAL TRENCH DEPTH/COVER) SEWER AND/OR STORMWATER MAINS WITH A MINIMUM OF 300mm (LEARANCE AT CROSSOVER LOCATIONS, COORDINATE ON SITE WITH CIVIL CONTRACTOR.
- 8 MINIMUM 300mm HORIZONTAL SEPARATION REQUIRED BETWEEN EDGE OF NBN Co. CONDUIT/S & LV CABLING. TRENCH WIDTH MAYBE EXTENDED BY 200mm TOWARDS PROPERTY BOUNDARY TO ENSURE 300mm HORIZONTAL SEPARATION PROVIDED. WHERE 300mm SEPARATION NOT PROVIDED, LV CABLING SHALL BE INSTALLED IN 100mm HD upvc conduit. ALSO REFER DETAILS B & C.

### **LEGEND**

- EXISTING PACKAGE SUBSTATION (RATING AS SHOWN).
- DISTRIBUTION DOUBLE LINK PILLAR FUSED TYPE.
  'E' INDICATES EXISTING/'F' INDICATES FUTURE.
- DISTRIBUTION LINK PILLAR FUSED TYPE. 'E' INDICATES EXISTING.
- DISTRIBUTION PILLAR FUSED TYPE.
  'E' INDICATES EXISTING/'F' INDICATES FUTURE.
- LV DISTRIBUTION CABLE 0.6/1kV 4 x 1C 240 Sq mm AL, XLPE/NJ/PVC DIRECT BURIED (OR WITHIN CONDUIT AT ROAD CROSSING) & 1 x 1C 70 Sq mm Cu, BARE EARTH DIRECT BURIED. ALSO REFER NOTE 8. 'E' INDICATES EXISTING/'F' INDICATES FUTURE.
- \_\_\_\_ LV SERVICE CABLE 0.6/1kV 2 x 1C 25 Sq mm Cu, XLPE/NJ/PVC -DIRECT BURIED (OR WITHIN CONDUIT AT ROAD CROSSING). ALSO REFER NOTE 8.
- 3 PHASE LV SERVICE CABLE 0.6/1kV 4 x 1C 25 Sq mm Cu, XLPE/NJ/PVC DIRECT BURIED (OR WITHIN CONDUIT AT ROAD CROSSING). ALSO REFER NOTE 8.
- E EXISTING SAND PIT.
  - ISP EXISTING SAND PIT.



PowerWater 1
NODTHEDN TEDDITODY

DES	A.GANGUR	POWER	NETWORKS - PALMERSTON DISTRIBUTION	1
DRN	K.TAVENER	Subdivi	SION OF LOT 12087	
CKD	A.GANGUR	ZUCCOL	I SUBDIVISION - STAGE 2 : STAGE 2E	
APPD		LV ELEC	CTRICAL RETICULATION	
SCALE	1:1000 AT A1			
ISSUED	15-4-16		DRAWING DAE 7707	$\overline{}$

ISSUED 15-4-16
ALL DIM. IN mm

ALL DIM. IN mm

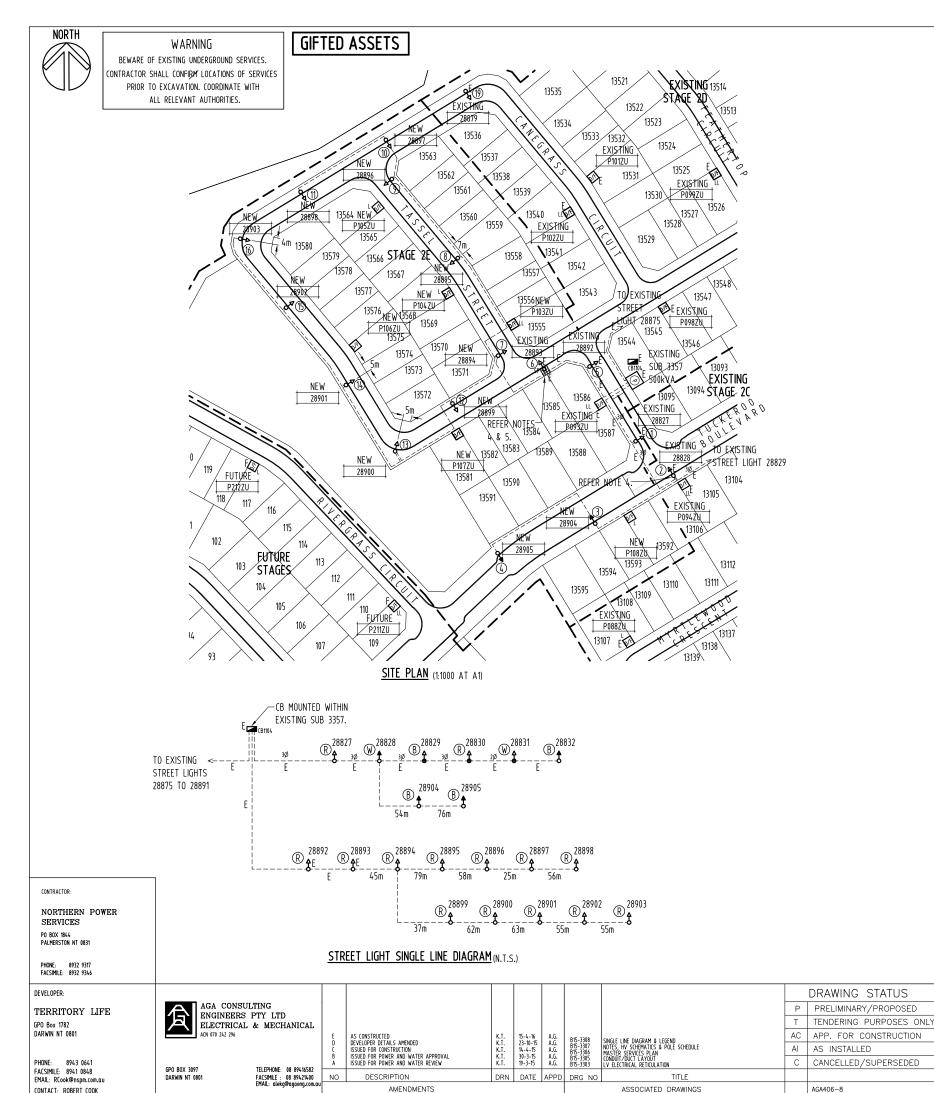
ALL DIM. STANDARD TO A.S.1100

PRAWING B15-3303

PRAFTING STANDARD TO A.S.1100

FILE No: NE590/12087

AMD.



### **NOTES**

- 1 REFER DWG No. B15-3307 FOR DETAILS OF ITEMS LISTED IN LEGEND.
- 2 EXTEND CONDUIT FROM STREET LIGHT ELBOW TO WITHIN ELECTRICAL SERVICES TRENCH ALLOCATION.
- 3 STREET LIGHTING SHALL BE CONNECTED TO EXISTING SUB 3357 (SUB INCORPORATES TIME CLOCK CONTROL PANEL).
- 4 CONTRACTOR SHALL LOCATE EXISTING EARTH CABLING IN LOCATION SHOWN, JOINT NEW 1x1C 35 Sq mm Cu, BARE EARTH CABLING & EXTEND TO AND CONNECT TO NEW STREET LIGHTS 28894 & 28904.
- 5 CONTRACTOR SHALL ARRANGE FOR POWER AND WATER TO DE-ENERGISE EXISTING STREET LIGHT CIRCUIT TO ENABLE CONTRACTOR TO PULL THROUGH NEW STREET LIGHT CABLING INTO EXISTING STREET LIGHT 28893/EXISTING STREET LIGHT 28828 POLE & CONNECT/TERMINATE.
- 6 STREET LIGHTING CABLING SHALL BE RUN BELOW (DEEPER THAN STANDARD ELECTRICAL TRENCH DEPTH/COVER) SEWER AND/OR STORMWATER MAIN WITH A MINIMUM OF 300mm CLEARANCE AT CROSSOVER LOCATIONS. COORDINATE ON SITE WITH CIVIL CONTRACTOR
- 7 MINIMUM 300mm HORIZONTAL SEPARATION REQUIRED BETWEEN EDGE OF NBN Co. CONDUIT/S & LV CABLING. TRENCH WIDTH MAYBE EXTENDED BY 200mm TOWARDS PROPERTY BOUNDARY TO ENSURE 300mm HORIZONTAL SEPARATION PROVIDED. WHERE 300mm SEPARATION NOT PROVIDED, STREET LIGHTING CABLING SHALL BE INSTALLED IN 80mm HD uPVC CONDUIT. ALSO REFER DWG No. B15-3303, DETAILS B & C.

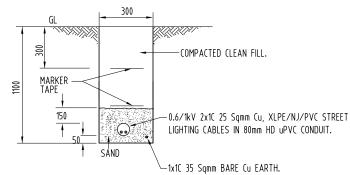
### **LEGEND**

- EXISTING PACKAGE SUBSTATION (RATING AS SHOWN).
- DISTRIBUTION DOUBLE LINK PILLAR FUSED TYPE.
  'E' INDICATES EXISTING/'F' INDICATES FUTURE.
- DISTRIBUTION LINK PILLAR FUSED TYPE. 'E' INDICATES EXISTING.
- DISTRIBUTION PILLAR FUSED TYPE.
  'E' INDICATES EXISTING/'F' INDICATES FUTURE.
- SINGLE PHASE STREET LIGHT CABLE 0.6/1kV 2x1C 25 Sq mm Cu, XLPE/NJ/PVC DIRECT BURIED (OR WITHIN CONDUIT AT ROAD CROSSINGS/INTO STREET LIGHT POLE).

  NOTE: STREET LIGHT CIRCUITS INCLUDE 1x1C 35 Sq mm Cu BARE EARTH CONNECTED TO STREET LIGHTING CIRCUITS ON SUBSTATION. ALSO REFER NOTE 7.

  'E' INDICATES EXISTING.
- EXISTING 3 PHASE STREET LIGHT CABLE 0.6/1kV 4x1C 25 Sq mm Cu, XLPE/NJ/PVC DIRECT BURIED (OR WITHIN CONDUIT AT ROAD CROSSINGS/INTO STREET LIGHT POLE).

  NOTE: STREET LIGHT CIRCUITS INCLUDE 1x1C 35 Sq mm Cu BARE EARTH CONNECTED TO STREET LIGHTING CIRCUITS ON SUBSTATION.
- ◆► STREET LIGHT 250W HPS 'REXEL' OPTISPAN LUMINAIRE MOUNTED ON 9m POLE WITH 1.5m OUTREACH. SET BACK 1.1m FROM KERB. 'E' INDICATES EXISTING.
- STREET LIGHT 70W HPS 'REXEL' OPTIMA LUMINAIRE MOUNTED ON 6.5m POLE WITH 1.5m CURVED OUTREACH. SET BACK 1.1m FROM KERB. 'E' INDICATES EXISTING.
- B EXISTING STREET LIGHT CONTROL PANEL (MOUNTED WITHIN SUB SHOWN).



DETAIL D - TYPICAL STREET LIGHTING CABLE (BETWEEN COLUMN & ELECTRICAL SERVICE TRENCH) DETAIL N.T.S.



APPD DATE

DES	A.GANGUR	POWER NETWORKS - PALMERSTON DISTRIBUTION	
DRN	K.TAVENER	SUBDIVISION OF LOT 12087	
CKD	A.GANGUR	ZUCCOLI SUBDIVISION - STAGE 2 : STAGE 2E	
APPD		STREET LIGHTING RETICULATION	
SCALE	1:1000 AT A1		
ISSUED	15-4-16	DRAWING DAE 3704	7

ALL DIM. IN mm A1 DRAWING B15-3304

DRAFTING STANDARD TO A.S.1100 FILE No: NE590/12087

AMD

### **GIFTED ASSETS** WARNING BEWARE OF EXISTING UNDERGROUND SERVICES. CONTRACTOR SHALL CONFIRM LOCATIONS OF SERVICES PRIOR TO EXCAVATION. COORDINATE WITH ALL RELEVANT AUTHORITIES. NOTE STREET LIGHT 13522 28897 LOCATION. 13523 13536 13533/13532 13524 EXISTING P101ZU 13563 13537 13525 <del>\(\)</del>13538 EXISTING L REFER 13562 13531 WOTES 13561 13539 13530 P099ZU 13526 13540 \13527<sup>\</sup> 13560 13559 **EXISTING** 13528 P105ZU P102ZU ĮÒ₹E **1**3529 13580 13541 13579 13558 13566 STAGE 22 -refer 13542 2 6 13578 13557 13567 \13548\ NOTE 4 13547 . 3556NEW P104ZU P103ZU / 13569 P106ZU 13575 \ P098ZN | 13555 -13545 -REFER 13570 NOTE 4. 13574 EXISTING > NOTE 4 13571 SUB 3357 E 500kyA 13093 EXISTING 13094 STAGE 2C E 13586 13572 13585 LL EXISTING E P893ZU 3587 REFER NOTES 4 TO 6 13584 REPER NOTE 4. NEW 13582 13583 -REPER NOTE 4. 13589 13588 P107ZU FUTURE 13104 13581 13590 P2/12/ZU \_13105 \ 118 / 13591 117 EXISTING P094ZU E 150 STREET LIGH 13106 E (100) **PROVIDE** SWEEP PUTURE BENDS. ⁄STAGĘS EXISTING P211ZU P088Z\ 13107 E \_RFFFR NOTE 7.

SITE PLAN (1:1000 AT A1)

NORTHERN POWER SERVICES PO BOX 1844 PALMERSTON NT 0831 PHONE: 8932 9317 FACSIMILE: 8932 9346

DEVELOPER: TERRITORY LIFE

GPO Box 1782 DARWIN NT 0801

EMAIL: RCook@nspm.com.au

CONTACT: ROBERT COOK

PHONE: 8943 0641 FACSIMILE: 8941 0848

TELEPHONE: 08 89416582 FACSIMILE: 08 89421400 EMAIL: alekg@agaeng.com.

AGA CONSULTING

ENGINEERS PTY LTD

ELECTRICAL & MECHANICAL

DRAWING STATUS APPD DATE P PRELIMINARY/PROPOSED T TENDERING PURPOSES ONLY AS CONSTRUCTED
DEVELOPER DETAILS AMENDED
ISSUED FOR CONSTRUCTION
ISSUED FOR POWER AND WATER APPROVAL
ISSUED FOR POWER AND WATER REVIEW AC APP. FOR CONSTRUCTION SINGLE LINE DIAGRAM & LEGEND NOTES, HV SCHEMATICS & POLE SCHEDULE MASTER SERVICES PLAN STREET LIGHTING RETICULATION LV ELECTRICAL RETICULATION AI AS INSTALLED CANCELLED/SUPERSEDED DRN DATE APPD AMENDMENTS ASSOCIATED DRAWINGS AGA406-8

### NOTES

- 1 REFER DWG No. B15-3307 FOR DETAILS OF ITEMS LISTED IN LEGEND.
- 2 ALL SPARE CONDUITS SHALL INCLUDE DRAW WIRES/FITTED WITH END CAPS.
- 3 PROVIDE CONTINUOUS SWEEP BENDS IN ALL CHANGES IN CONDUIT ROUTE DIRECTIONS
- 4 CONTRACTOR SHALL LOCATE EXISTING SAND PITS AT LOCATIONS SHOWN & INSTALL NEW LV DIST. CABLING WITHIN EXISTING 1x100mm HD upvc CONDUIT BETWEEN EXISTING SAND PITS & THEN DIRECT BURIED (EXCEPT IN NEW 1x100mm HD uPVC CONDUIT AT ROAD CROSSING) TO NEW DIST. PILLARS P103ZU/P105ZU/P107ZU/P108ZU.
- 5 CONTRACTOR SHALL LOCATE EXISTING SAND PITS AT LOCATIONS SHOWN & INSTALL NEW LV SERVICE CABLING WITHIN EXISTING SPARE 1x100mm HD uPVC CONDUIT BETWEEN EXISTING SAND PITS & THEN DIRECT BURIED TO LOT 126.
- 6 CONTRACTOR SHALL LOCATE EXISTING EARTH CABLING IN LOCATIONS SHOWN, JOINT NEW 1x1C 70 Sq mm Cu, BARE EARTH CABLING & EXTEND TO AND CONNECT TO NEW DIST. PILLARS P103ZU/P105ZU/P107ZU/P108ZU.
- 7 CONTRACTOR SHALL SUPPLY & INSTALL 1x1C 70 Sq mm Cu, BARE EARTH TO SAND PIT SHOWN & LEAVE 3m COILED IN SAND PIT FOR FUTURE STAGE CONNECTION.
- 8 CONTRACTOR SHALL SUPPLY & INSTALL 1x100mm HD upvc sweep bend conduit to within New Dist. Pillar P108ZU and extend to within NEW SAND PIT IN ROAD RESERVE IN FRONT OF NEW DIST. PILLAR P108ZU - FOR FUTURE STAGE LV DIST. CABLING.
- 9 EXTEND ALL CONDUITS AT ROAD CROSSINGS TO WITHIN ELECTRICAL SERVICES TRENCH ALLOCATION.
- 10 CONDUITS SHALL BE INSTALLED IN A CONTINUOUS SWEEP CURVE.
- 11 MINIMUM 300mm HORIZONTAL SEPARATION REQUIRED BETWEEN EDGE OF NBN Co. CONDUIT/S & LY CABLING. TRENCH WIDTH MAYBE EXTENDED BY 200mm TOWARDS PROPERTY BOUNDARY TO ENSURE 300mm HORIZONTAL SEPARATION PROVIDED. WHERE 300mm SEPARATION NOT PROVIDED, LV CABLING SHALL BE INSTALLED IN 100mm HD uPVC CONDUIT/STREET LIGHTING CABLING IN 80mm HD uPVC CONDUIT. ALSO REFER DWG No. B15-3303, DETAILS B & C.

### LEGEND

EXISTING PACKAGE SUBSTATION (RATING AS SHOWN).

DISTRIBUTION DOUBLE LINK PILLAR - FUSED TYPE. 'E' INDICATES EXISTING/'F' INDICATES FUTURE. D/F

DISTRIBUTION LINK PILLAR - FUSED TYPE. D/F

'E' INDICATES EXISTING.

DISTRIBUTION PILLAR - FUSED TYPE. 'F' INDICATES FUTURE.

ELECTRICAL CONDUIT/DUCT. CONDUIT/DUCT TYPE AS FOLLOWS:

- HD UPVC FOR ALL HV CABLING. - HD UPVC FOR LV DIST./SERVICE/STREET LIGHT CABLING FOR ROAD CROSSINGS/RESERVE.

- NUMBER INSIDE INDICATES CONDUIT/DUCT SIZE. - NUMBER SHOWN/DRAWN INDICATES NUMBER OF CONDUITS REQUIRED.

SAND PIT - 1000x1000x600D WITH A MINIMUM COVER OF 0.9m TO TOP OF CONDUITS.

'E' INDICATES EXISTING.

SAND PIT - 1500x1000x600D WITH A MINIMUM COVER OF 0.9m TO TOP OF CONDUITS.

'E' INDICATES EXISTING.



DES	A.GANGUR	POWER NETWORKS - PALMERSTON DISTRIBUTION	_
DRN	K.TAVENER	SUBDIVISION OF LOT 12087	
CKD	A.GANGUR	ZUCCOLI SUBDIVISION - STAGE 2 : STAGE 2E	
APPD		CONDUIT/DUCT LAYOUT	
SCALE	1:1000 AT A1	•	
CCLIED	15 / 10		

AMD<sup>-</sup>

DRAWING B15-3305 -| A1 | ALL DIM. IN mm DRAFTING STANDARD TO A.S.1100 FILE No: NE590/12087



## LEGEND

EXISTING PACKAGE SUBSTATION (RATING AS SHOWN).

DISTRIBUTION DOUBLE LINK PILLAR - FUSED TYPE. 'E' INDICATES EXISTING/'F' INDICATES FUTURE. D/F L

DISTRIBUTION LINK PILLAR - FUSED TYPE. 'E' INDICATES EXISTING.

DISTRIBUTION PILLAR - FUSED TYPE. 'F' INDICATES FUTURE.

---- LV SERVICE CABLE/CONNECTION.

 $-\frac{30}{3}$  - 3 PHASE LV SERVICE CABLE/CONNECTION.

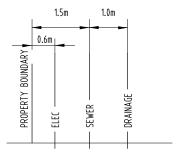
WATER CONNECTION.

 $\odot$ SEWER CONNECTION.

DRAINAGE CONNECTION. 0

### NOTES

1 - REFER DWG No. B15-3307 FOR DETAILS OF ITEMS LISTED IN LEGEND (EXCLUDING WATER/SEWER/DRAINAGE CONNECTION).



DETAIL E - TYPICAL SERVICE CONNECTION WHERE ELEC/SEWER/DRAINAGE IN SAME LOT CORNER (N.T.S.)

NORTHERN POWER SERVICES

PO BOX 1844 PALMERSTON NT 0831

PHONE: 8932 9317 FACSIMILE: 8932 9346

DEVELOPER:

TERRITORY LIFE

GPO Box 1782 DARWIN NT 0801

PHONE: 8943 0641 FACSIMILE: 8941 0848 EMAIL: RCook@nspm.com.au CONTACT: ROBERT COOK

AGA CONSULTING ENGINEERS PTY LTD ELECTRICAL & MECHANICAL

TELEPHONE: 08 89416582 FACSIMILE: 08 89421400 EMAIL: alekg@agaeng.com.

AS CONSTRUCTED
DEVELOPER DETAILS AMENDED
LAYOUT & LEGEND AMENDED
ISSUED FOR CONSTRUCTION
ISSUED FOR POWER AND WATER APPROVAL
ISSUED FOR POWER AND WATER REVIEW B15-3308 B15-3307 B15-3305 B15-3304 B15-3303 SINGLE LINE DIAGRAM & LEGEND NOTES, HV SCHEMATICS & POLE SCHEDULE CONDUIT/DUCT LAYOUT STREET LIGHTING RETICULATION LV ELECTRICAL RETICULATION DRN DATE APPD DRG NO AMENDMENTS ASSOCIATED DRAWINGS

	DRAWING STATUS	APPD	DATE	
Р	PRELIMINARY/PROPOSED			
T	TENDERING PURPOSES ONLY			
AC	APP. FOR CONSTRUCTION			WWW
Al	AS INSTALLED			
С	CANCELLED/SUPERSEDED			

AGA406-8

PowerWater
NORTHERN TERRITORY

DES	A.GANGUR	POWER	NETWORKS - PALMERSTON DISTRIBUTION	N
DRN	K.TAVENER	Subdivi	SION OF LOT 12087	
CKD	A.GANGUR	ZUCCOL	I SUBDIVISION - STAGE 2 : STAGE 2E	
APPD		MASTER	SERVICES PLAN	
SCALE	1:1000 AT A1			
ICCLIED	45 4 40		DDAWNO	

ISSUED 15-4-16	۸ 1	DRAWING B15-3306
ALL DIM. IN mm	$A \mid  $	NUMBER DIS-3300
DRAFTING STANDARD TO A.S.1	100	FILE No: NE590/12087

# GIFTED ASSETS

### NOTES - WORKS BY DEVELOPERS CONTRACTOR

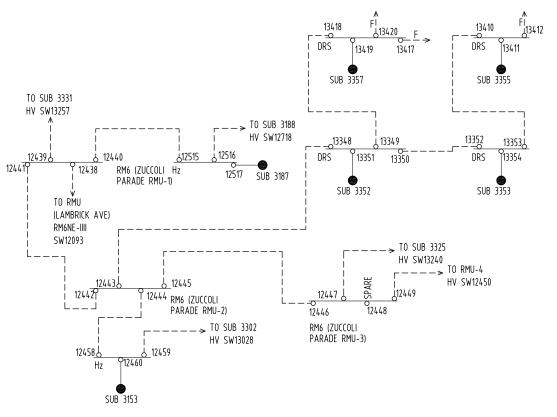
- 1 ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH CURRENT POWER AND WATER CONSTRUCTION METHODS REQUIREMENTS & STANDARDS AS DETAILED IN POWER AND WATER DESIGN AND CONSTRUCTION GUIDELINES STREET LIGHTING/UNDERGROUND MANUALS & ACCESS TO APPARATUS RULES. ROAD OWNER IS RESPONSIBLE FOR APPROVING SPECIFIC STREET LIGHTING CATEGORY COMPLIANCE AND DESIGNATED STREET LIGHTING LOCATIONS. POWER AND WATER'S APPROVAL FOR STREET LIGHTING IS ONLY FOR COMPLIANCE WITH ELECTRICAL INSTALLATION AND AUTHORISED STANDARD STREET LIGHTING COMPONENTS AS PER POWER AND WATER STANDARD MANUALS.
- 2 ALL PURCHASED MATERIALS/EQUIPMENT TO CONSTRUCT ELECTRICAL RETICULATION SHALL BE IN ACCORDANCE WITH POWER AND WATER'S RELEVANT STANDARDS/TECHNICAL REQUIREMENTS AND FROM A POWER AND WATER AUTHORISED MANUFACTURER, SPECIFICALLY FOR HIGH VOLTAGE AND LOW VOLTAGE DISTRIBUTION NETWORKS. ANY NON-STANDARD MATERIALS/EQUIPMENT USED WITHOUT OBTAINING PRIOR APPROVAL IN WRITING FROM POWER NETWORKS. ASSET MANAGEMENT QUALITY GROUP CAN BE REJECTED AND REPLACED BY THE APPROVED STANDARD ITEM BEFORE POWER AND WATER ACCEPTS THE HANDOVER OF ELECTRICAL ASSETS AND ISSUING POWER CLEARANCE FOR THE CONSTRUCTION/DEVELOPMENT. IF UNSURE, CONTACT POWER AND WATER POWER NETWORK ASSET MANAGEMENT QUALITY GROUP ON standardsengineers@powerwater.com.au.
- 3 CONTRACTOR SHALL CONTACT & SUBMIT AN UNDERGROUND INSTALLATION PROGRAM" TO POWER AND WATER'S PROGRAM DELIVERY VIA E-MAIL (programdelivery.pwc@powerwater.com.au) THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS. THE UNDERGROUND INSTALLATION IS SUBJECT TO APPROVAL BY PROGRAM DELIVERY 7 DAYS PRIOR TO WORK COMMENCING.
- 4 FUSED DISTRIBUTION PILLARS SHALL BE SUPPLIED AND INSTALLED BY CONTRACTOR AND LABELLED IN ACCORDANCE WITH POWER AND WATER REQUIREMENTS. LABELS SHALL BE PROVIDED BY CONTRACTOR. PILLARS SHALL BE TYPE IN ACCORDANCE WITH POWER AND WATER STANDARD DWG'S S02-2-3-08 & INSTALLATION IN ACCORDANCE WITH POWER AND WATER STD DWG S02-2-3-12.
- 5 STREET LIGHTS SHALL BE SUPPLIED & INSTALLED BY CONTRACTOR IN ACCORDANCE WITH POWER AND WATER STANDARD DWG'S S3-1-1-1, S3-1-1-6, S3-1-1-10, S3-1-2-1, S3-1-2-3, S3-1-2-6, S3-1-4-1 & S3-1-4-6. SWITCHPACK WITHIN EACH POLE SHALL BE TYPE IN ACCORDANCE WITH POWER AND WATER STANDARD DWG S3-1-5-7 & S3-1-5-12. LABEL IN ACCORDANCE WITH POWER AND WATER REQUIREMENTS. COLUMNS SHALL BE GALVANISED.
- 6 UNLESS OTHERWISE INDICATED, ALL SERVICE CABLES ARE LOCATED AS FOLLOWS:
- GENERAL: 300mm FROM FRONT BOUNDARY/600mm FROM SIDE BOUNDARY/600mm FROM EASEMENT
- CABLES ADJACENT TO PILLARS: 300mm FROM FRONT BOUNDARY/600mm FROM PILLAR EASEMENT.
- CABLES ADJACENT TO SEWERAGE SERVICES, LOCATED 600mm FROM EASEMENT/SIDE BOUNDARY/300mm FROM FRONT
- SERVICE ALLOCATIONS SHALL BE AS PER DWG No. B15-3303, DETAIL A AND SHALL BE INSTALLED IN ACCORDANCE WITH POWER AND WATER STANDARD DWG'S S2-2-6-2 AND S2-2-6-3 (TRENCH DETAILS). ALSO REFER DWG No. B15-3303, DETAILS B & C.
- 8 ELECTRICITY EASEMENTS SHALL BE IN ACCORDANCE WITH POWER AND WATER STANDARD DWG'S S2-2-6-17. FUSED PILLARS: 1m x 1m FOR 3 & 5 SLOT FUSED PILLAR.
- WHERE FRONT/SIDE OF PILLARS EASEMENTS DO NOT ALIGN WITH FRONT OF SIDE LOT BOUNDARIES, ELECTRICITY EASEMENTS SHALL EXTEND TO FRONT OR SIDE LOT BOUNDARY. DEVELOPER SHALL SURVEY & REGISTER ELECTRICITY EASEMENTS REQUIRED IN FAVOUR OF POWER AND WATER (AT NO COST TO POWER AND WATER).
- 9 LV & STREET LIGHT CABLES SUPPLIED AND INSTALLED BY CONTRACTOR SHALL BE TYPE IN ACCORDANCE WITH POWER AND WATER STANDARD DWG'S S2-1-1-19 AND S2-1-1-20.
- 10 22 METRES OF SERVICE CABLE SHALL BE LEFT BURIED WITHIN EACH PROPERTY BOUNDARY SHOWN IN ACCORDANCE WITH POWER AND WATER STANDARD DWG'S S2-2-1-3.
- 11 EXTEND CONDUIT FROM STREET LIGHT ELBOW TO WITHIN ELECTRICAL SERVICES TRENCH ALLOCATION. ALSO EXTEND CONDUITS AT ROAD CROSSINGS TO WITHIN ELECTRICAL SERVICES TRENCH ALLOCATION.
- 12 CONTRACTOR SHALL LIAISE WITH NBN Co. CONTRACTOR TO ENABLE CONDUITS AND COMMUNICATIONS PITS TO BE INSTALLED BY NBN Co. CONTRACTOR AT THE APPROPRIATE CONSTRUCTION STAGE (INCLUDING CONDUITS AT ROAD CROSSINGS). THE CONTRACTOR SHALL BACKFILL/COMPACT TRENCHES, UPON INSTALLATION OF ELECTRICAL SERVICES CABLING, TO A LEVEL IN ACCORDANCE WITH STANDARD POWER AND WATER DWG'S \$2-2-6-2 TO ENABLE NBN Co. CONTRACTOR TO INSTALL COMMUNICATIONS CONDUITS AND PITS. THE CONTRACTOR SHALL THEN COMPLETE BACKFILL/COMPACTION OF TRENCHES.

- 13 CONTRACTOR SHALL INSTALL ALL NUMBER PLATES (LABELS) REQUIRED BY POWER AND WATER IE PILLARS & STREET LIGHTS. NOTE - STREET LIGHT NUMBER PLATES WILL BE PROVIDED BY POWER AND WATER TO CONTRACTOR. CONTRACTOR SHALL LABEL ALL CABLE DESTINATIONS IN ACCORDANCE WITH POWER AND WATER STANDARD DRAWING S02-1-8-25.
- 14 ALL WORKS REQUIRED ON EXISTING ENERGISED RETICULATION SHALL ONLY BE CARRIED OUT BY POWER AND WATER PERSONNEL. DEVELOPER/CONTRACTOR SHALL LIAISE WITH POWER AND WATER TO COORDINATE CONNECTION OF THE WORK INTO EXISTING UNDERGROUND RETICULATION. ALL COSTS ASSOCIATED SHALL BE PAID BY DEVELOPER.
- 15 DEVELOPER SHALL ENSURE THAT ONLY POWER AND WATER ACREDITED ELECTRICAL CONTRACTOR IS EMPLOYED TO CARRY OUT WORK ON THIS ELECTRICAL SYSTEM (CONTACT MANAGER NETWORK ENGINEERING - 8924 5191).
- 16 DEVELOPER SHALL LIAISE WITH POWER AND WATER TO OBTAIN "HANDOVER OF WORK BY DEVELOPER". CONTRACTOR SHALL SUBMIT TO POWER AND WATER ON COMPLETION OF WORK, SIGNED COPY OF "CONTRACTOR'S CERTIFICATE OF COMPLETION & HANDOVER - POWER NETWORK ASSETS" & SIGNED COPY OF "ELECTRICAL CERTIFICATE OF COMPLIANCE"
- 17 CABLE ROUTE LENGTHS NOMINATED ON SINGLE LINE DIAGRAM ARE FOR POWER AND WATER INFORMATION ONLY & SHALL NOT BE USED FOR TENDERING PURPOSES.
- 18 COORDINATE WITH CIVIL SERVICES FOR LOCATION OF WATER, SEWERAGE AND STORMWATER SERVICES.
- 19 CONTRACTOR SHALL PROVIDE "AS CONSTRUCTED" DRAWINGS IN ACCORDANCE WITH POWER AND WATER'S "POWER NETWORKS DEISGN AND CONSTRUCTION GUIDELINES", INCLUDING A COPY OF THE FINAL SURVEY PLAN. THE "AS CONSTRUCTED" DRAWINGS
- 1 x A1 PAPER PRINT INDICATING "AS INSTALLED" (OF ALL DRAWINGS).
- 1 x A3 PAPER PRINT INDICATING "AS INSTALLED" (OF ALL DRAWINGS)
- 1 DIGITAL (CD) COPY OF ALL DRAWINGS (MICROSTATION .DGN FILES).

### NOTES - WORKS BY POWER AND WATER (AT DEVELOPERS COST)

- 1 CONTRACTOR SHALL ARRANGE FOR POWER AND WATER TO CARRY OUT THE FOLLOWING WORKS:
- PULL THROUGH NEW LV DIST. CABLING (FROM NEW DIST. PILLAR P103ZU) LEFT COILED IN EXISTING SAND PIT IN FRONT OF EXISTING SUB 3357 & CONNECT/TERMINATE TO EXISTING SUB 3357 1 OFF SPARE LV STRIPPLE FUSE UNIT.
- PULL THROUGH NEW LV DIST. CABLING (FROM NEW DIST. PILLAR P105ZU) LEFT COILED IN EXISTING SAND PIT IN FRONT OF EXISTING DIST. PILLAR P102ZU & CONNECT/TERMINATE TO EXISTING DIST. PILLAR P102ZU.
- PULL THROUGH NEW LV DIST. CABLING (FROM NEW DIST. PILLAR P107ZU) & NEW LV SERVICE CABLING FROM LOT 126 LEFT COILED IN EXISTING SAND PIT IN FRONT OF EXISTING DIST. PILLAR PO93ZU & CONNECT/TERMINATE TO EXISTING DIST. PILLAR PO93ZU.
- PULL THROUGH NEW LV DIST. CABLING (FROM NEW DIST. PILLAR P108ZU) LEFT COILED IN EXISTING SAND PIT IN FRONT OF
- EXISTING DIST. PILLAR P094ZU & CONNECT/TERMINATE TO EXISTING DIST. PILLAR P094ZU
- CARRY OUT FARTH TESTS
- DE-ENERGISE EXISTING STREET LIGHT CIRCUITS (STREET LIGHTS 28892/28893 & STREET LIGHTS 28827 28832) TO ENABLE CONTRACTOR TO CONNECT NEW STREET LIGHTS TO EXISTING STREET LIGHTS 28828 & 28893
- COMPLETE FINAL CONNECTION, TESTING & COMMISSIONING OF NEW DISTRIBUTION PILLARS, STREET LIGHTING & ASSOCIATED
- 2 DEVELOPER SHALL PAY ALL ASSOCIATED COSTS FOR POWER AND WATER TO CARRY OUT ABOVE WORKS.

	STREET LIGHTING POLE/LUMINAIRE SCHEDULE						
POLE No.	STREET LIGHT No.	SIZE	TYPE	OUTREACH	LUMINAIRE TYPE	REMARKS	
1	28827	EXIST	EXIST	EXIST	EXIST	EXISTING STREET LIGHT TO REMAIN.	
2	28828	EXIST	EXIST	EXIST	EXIST	EXISTING STREET LIGHT TO REMAIN.	
3	28904	9m	RIGID	1.5m	250W HPS	NEW 'INGAL/EPS' POLE/OUTREACH WITH 'REXEL' OPTISPAN 250W HPS LUMINAIRE.	
4	28905	9m	RIGID	1.5m	250W HPS	NEW 'INGAL/EPS' POLE/OUTREACH WITH 'REXEL' OPTISPAN 250W HPS LUMINAIRE.	
5	28892	EXIST	EXIST	EXIST	EXIST	EXISTING STREET LIGHT TO REMAIN.	
6	28893	EXIST	EXIST	EXIST	EXIST	EXISTING STREET LIGHT TO REMAIN.	
7	28894	6.5m	RIGID	1.5m	70W HPS	NEW 'INGAL/EPS' POLE/CURVED/OUTREACH WITH 'REXEL' OPTIMA 70W HPS LUMINAIRE.	
8	28895	6.5m	RIGID	1.5m	70W HPS	NEW 'INGAL/EPS' POLE/CURVED/OUTREACH WITH 'REXEL' OPTIMA 70W HPS LUMINAIRE.	
9	28896	6.5m	RIGID	1.5m	70W HPS	NEW 'INGAL/EPS' POLE/CURVED/OUTREACH WITH 'REXEL' OPTIMA 70W HPS LUMINAIRE.	
10	28897	6.5m	RIGID	1.5m	70W HPS	NEW 'INGAL/EPS' POLE/CURVED/OUTREACH WITH 'REXEL' OPTIMA 70W HPS LUMINAIRE.	
11	28898	6.5m	RIGID	1.5m	70W HPS	NEW 'INGAL/EPS' POLE/CURVED/OUTREACH WITH 'REXEL' OPTIMA 70W HPS LUMINAIRE.	
12	28899	6.5m	RIGID	1.5m	70W HPS	NEW 'INGAL/EPS' POLE/CURVED/OUTREACH WITH 'REXEL' OPTIMA 70W HPS LUMINAIRE.	
13	28900	6.5m	RIGID	1.5m	70W HPS	NEW 'INGAL/EPS' POLE/CURVED/OUTREACH WITH 'REXEL' OPTIMA 70W HPS LUMINAIRE.	
14	28901	6.5m	RIGID	1.5m	70W HPS	NEW 'INGAL/EPS' POLE/CURVED/OUTREACH WITH 'REXEL' OPTIMA 70W HPS LUMINAIRE.	
15	28902	6.5m	RIGID	1.5m	70W HPS	NEW 'INGAL/EPS' POLE/CURVED/OUTREACH WITH 'REXEL' OPTIMA 70W HPS LUMINAIRE.	
16	28903	6.5m	RIGID	1.5m	70W HPS	NEW 'INGAL/EPS' POLE/CURVED/OUTREACH WITH 'REXEL' OPTIMA 70W HPS LUMINAIRE.	



EXISTING HV SCHEMATIC DIAGRAM (11AR07 MITCHELL CREEK)(N.T.S.)

PHONE: 8932 9317 FACSIMILE: 8932 9346	
DEVELOPER: TERRITORY LIFE GPO Box 1782 DARWIN NT 0801	AGA CONSULTIN ENGINEERS PTY ELECTRICAL &

NORTHERN POWER

SERVICES

FACSIMILE: 8941 0848

EMAIL: RCook@nspm.com.au

CONTACT: ROBERT COOK

食	AGA CONSULTING ENGINEERS PTY LTD ELECTRICAL & MECHANICAL ACN 070 242 296	

	E D C B
HONE: 08 89416582 IILE: 08 89421400 alekg@agaeng.com.au	NO
, , , , ,	

							DRAWING STATUS		
							Р	PRELIMINARY/PROPOSED	
							T	TENDERING PURPOSES ONLY	
E	AS CONSTRUCTED DEVELOPER DETAILS AMENDED	K.T.	15-4-16 23-10-15	A.G. A.G.	B15-3308	SINGLE LINE DIAGRAM & LEGEND	AC	APP. FOR CONSTRUCTION	
(	ISSUED FOR CONSTRUCTION ISSUED FOR POWER AND WATER APPROVAL	K.T. K.T.	23-10-15 14-4-15 30-3-15 19-3-15	A.G. A.G. A.G.	B15-3306 B15-3305 B15-3304	MASTER SERVICES PLAN CONDUIT/DUCT LAYOUT STREET LIGHTING PETICULATION LV ELECTRICAL RETICULATION	Al	AS INSTALLED	
A A	ISSUED FOR POWER AND WATER APPROVAL						C	CANCELLED/SUPERSEDED	
10	DESCRIPTION	DRN	DATE	APPD	DRG NO	TITLE			
	AMENDMENTS					ASSOCIATED DRAWINGS		AGA406-8	



APPD DATE

DES	A.GANGUR	POWER NETWORKS - PALMERSTON DISTRIBU	TION
DRN	K.TAVENER	SUBDIVISION OF LOT 12087	
CKD	A.GANGUR	ZUCCOLI SUBDIVISION - STAGE 2 : STAGE 2	2E
APPD		NOTES, HV SCHEMATICS & POLE SCHEDULE	
SCALE	N.T.S.		
ISSUED	15-4-16	DRAWING DAE 7707	

A1 | NUMBER B15-330/ ALL DIM. IN mm DRAFTING STANDARD TO A.S.1100

