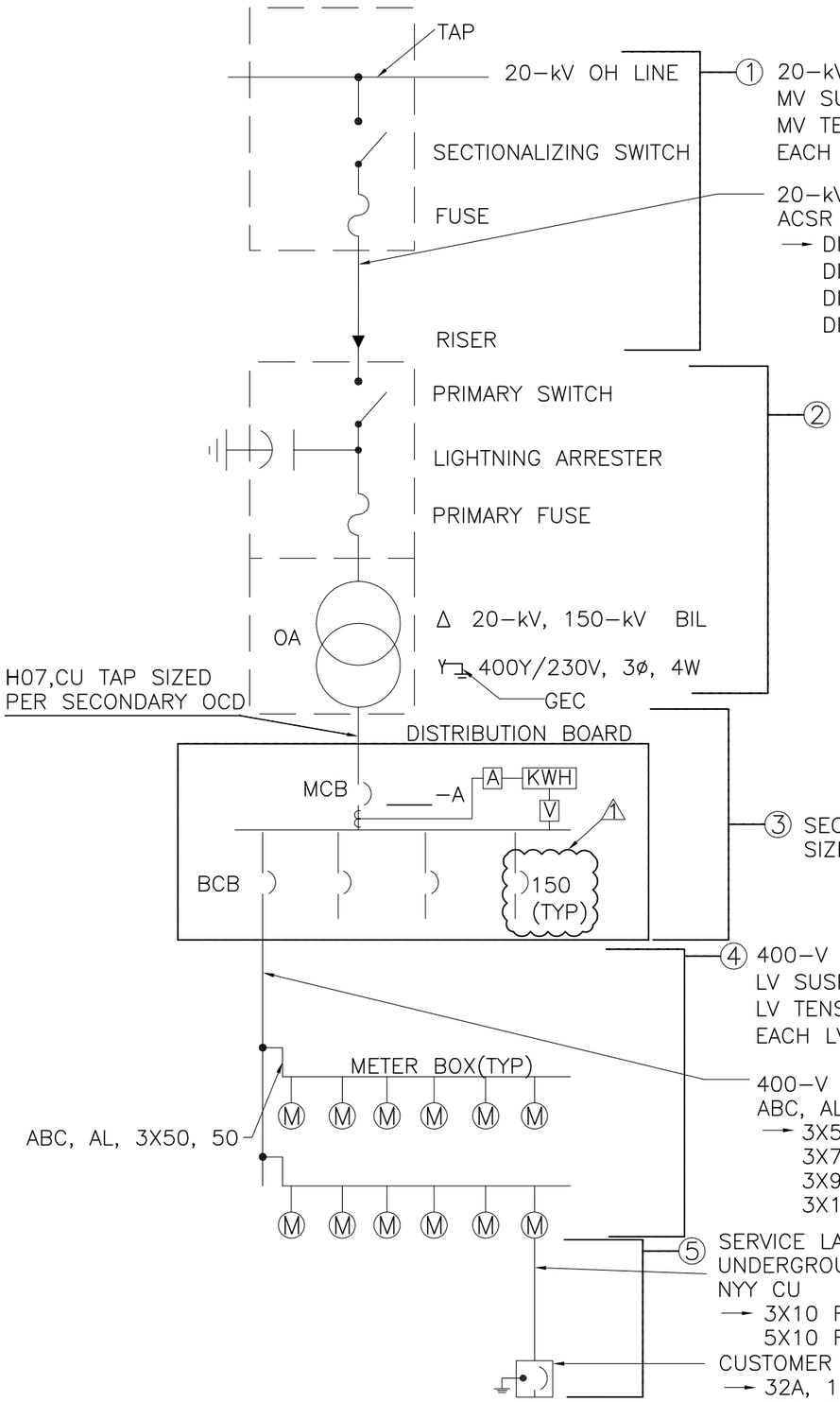

① 20-kV OHL
MV SUSPENSION (TANGENT) POLES, SINGLE 2,000-mm CROSS ARM, DABS AS-01, 2XAS-05, AS-07, MV-301C
MV TENSION (ANGLE) POLES, DOUBLE 2,000-mm CROSS ARMS, DABS AS-03, 1XAS-05, 6XAS-09, MV-308C
EACH MV TENSION (ANGLE) POLE IS GUYED. MV GUY; DABS AN-S1, GU-S1, GU-102C

20-kV OH LINE
ACSR
→ DIN 70/12
DIN 95/15
DIN 120/20
DIN 185/30

② SECONDARY TRANSFORMER SUBSTATION & DISTRIBUTION BOARD

TRANSFORMER kVA	MCB (A)	TAP C/ø, 3P+N (mm^2)	BCB (A)	GEC (mm^2)
25	50	1 X 50	NONE	25
40	80	1 X 50	NONE	35
63	120	1 X 50	NONE	35
100	200	1 X 120	2 X 150	35
160	300	1 X 240	3 X 150	70
250	500	2 X 150	5 X 150	70
400	800	3 X 185	7 X 150	95
630	1200	5 X 185	12 X 150	95
1000	2000	8 X 240	10 X 250	95

③ SECONDARY 400-V DISTRIBUTION
SIZE TRANSFORMER SECONDARY OCD PER TRANSFORMER SIZE

④ 400-V OH TO METER BOXES
LV SUSPENSION (TANGENT) POLES, DABS AS-11, LV-101
LV TENSION (ANGLE) POLES, DABS AS-12, AS-13, LV-102
EACH LV TENSION (ANGLE) POLE IS GUYED. LV GUY, DABS AN-S1, GU-S1, GU-101C

400-V OH LINE
ABC, AL
→ 3X50, 50
3X70, 50
3X95, 70
3X120, 70

⑤ SERVICE LATERALS AND SE DISCONNECTS
UNDERGROUND SERVICE LATERAL
NYY CU
→ 3X10 RE
5X10 RE
CUSTOMER SERVICE DISCONNECT
→ 32A, 1P
32A, 3P

NOTE:
MATERIALS SHALL CONFORM TO DABS DISTRIBUTION STANDARDS, CHAPTER U DABS STANDARD TECHNICAL DATA SHEETS, CHAPTER Y, DABS TECHNICAL SPECIFICATIONS, CHAPTERS A THROUGH S, AND DABS CHAPTER Z-3 INFORMATION ON SPECIFIC ITEMS OF SUPPLY, CHAPTERS D,H,I,N,O,S.

NOT FOR CONSTRUCTION

UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS.

This project was made possible by the United States Agency for International Development and the generous support of the American People through USAID Global Architecture and Engineering IQC Contracts.

CONCEPT DESIGN

	DESCRIPTION	DATE	APR
3	ADDED GEC SIZES	01/03/2011	
2	ADDED SECONDARY TABLE	12/20/2010	
1	CHANGED SIZE OF OCD	12/18/2010	
SYMB			

DESIGNED BY: MAL
DRN BY: AS
CHK BY: MAL
DATE: 12/31/2010
SUBMITTED BY: TETRA TECH
FILE NO.: LT0025-E-100

USAID FROM THE AMERICAN PEOPLE
AESP

USAID - OIEE
42 VILLAGES ELECTRIFICATION
ELECTRICAL
ONE-LINE DIAGRAM

DRAFT 1/6/2011 8:39 AM

SHEET REFERENCE NUMBER:
LT0025
E-100

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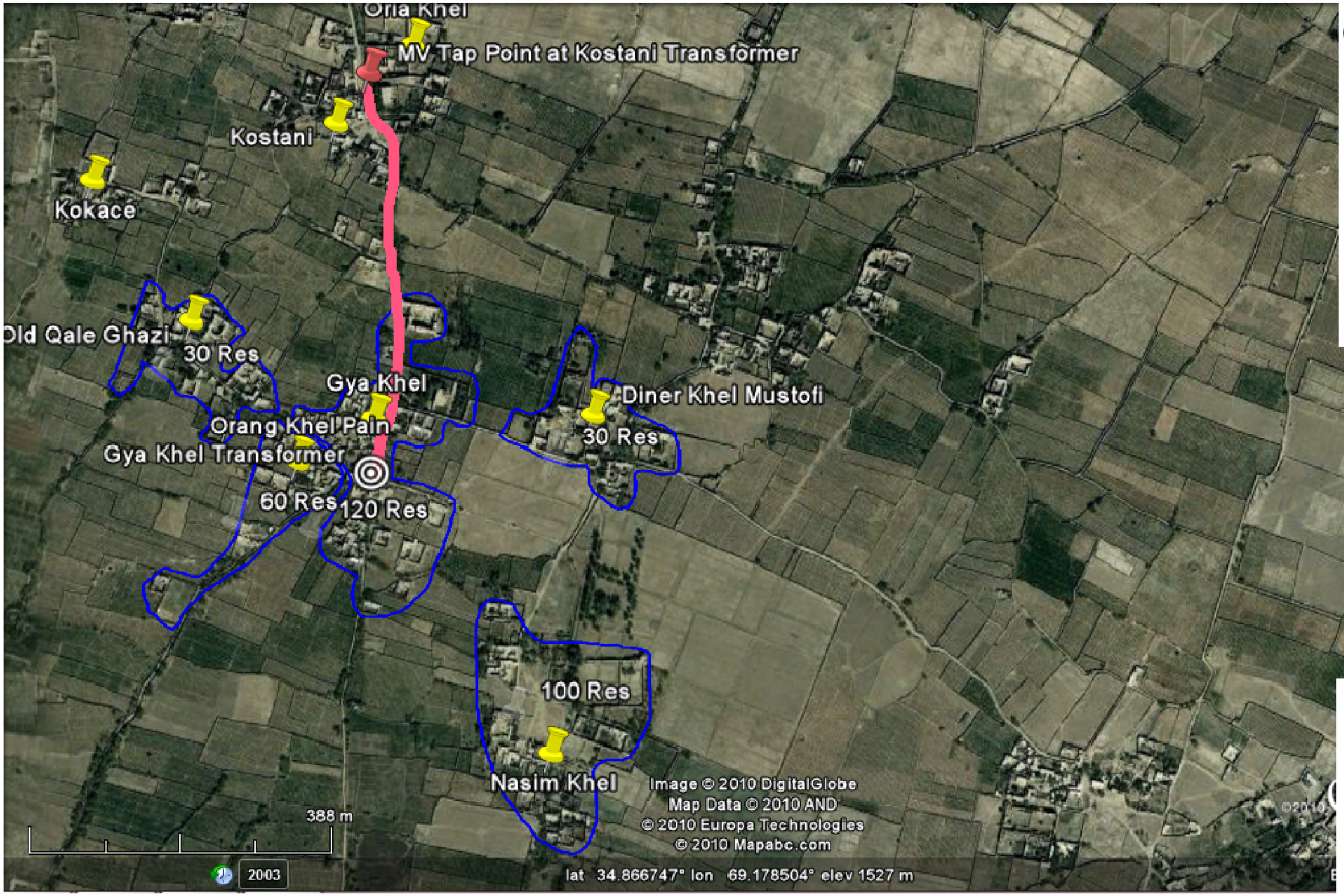

A B C D E F G H

1 2 3 4 5 6

N

CONCEPT DESIGN

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DESIGNED BY: AS	DATE: 01/13/2011
DWN BY: AS	SUBMITTED BY: TETRA TECH
CHK BY: MAL	FILE NO.: LT0025-E-153

USAID FROM THE AMERICAN PEOPLE

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DRAFT 1/6/2011 8:40 AM

USAID – OIEE
42 VILLAGES ELECTRIFICATION
GYA KHEL
AERIAL IMAGE

SHEET REFERENCE NUMBER:
LT0025 E-153

50 0 50 100 150 200
1:5000

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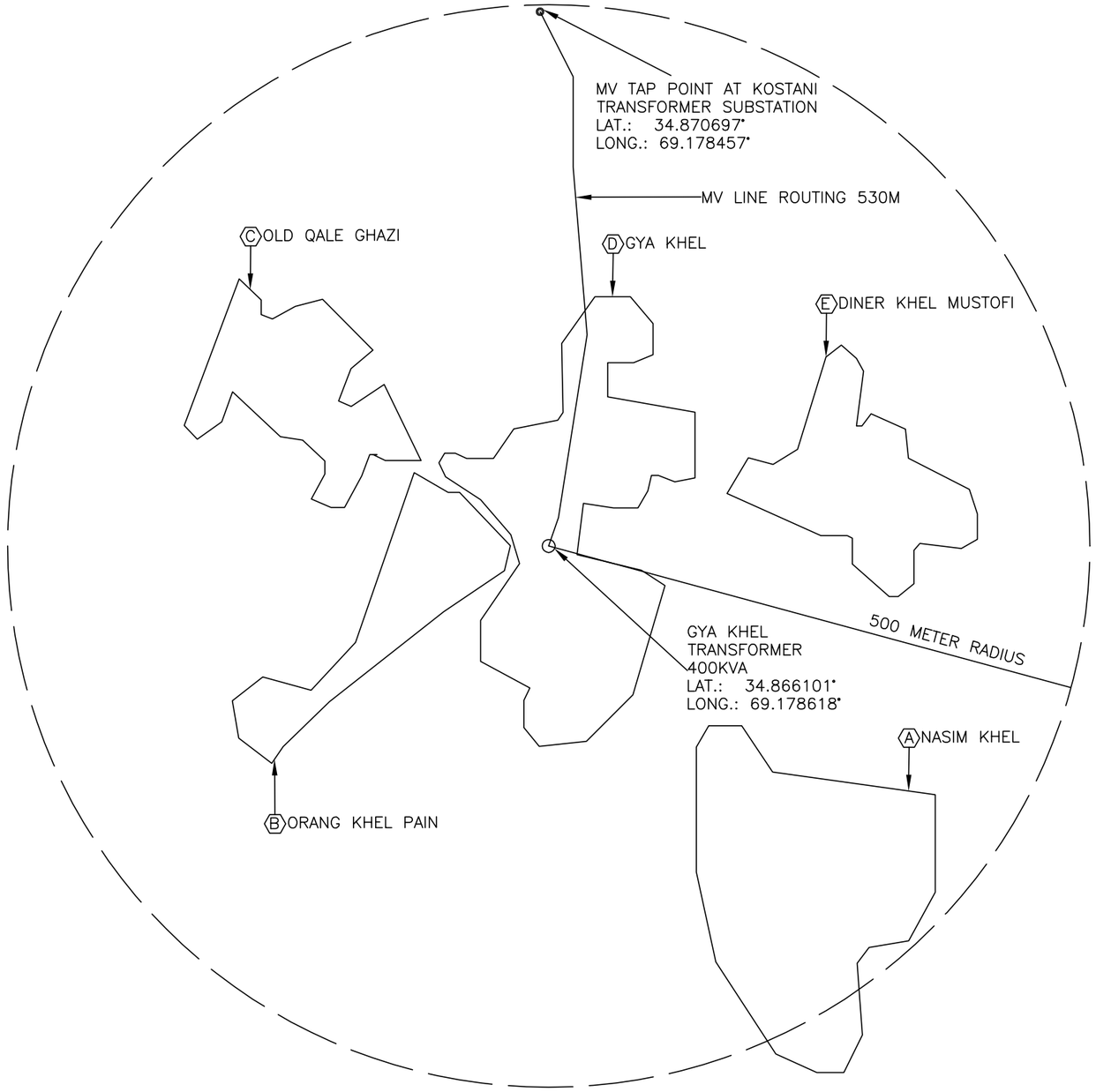

SUMMARY TABLE					
FIGURE	TYPE OF CUSTOMER	NUMBER OF CUSTOMER	AREA M^2	DENSITY M^2/CUSTOMER	ESTIMATED PEAK COINCIDENTAL KW
A	RESIDENTIAL COMPOUNDS	100	46,744	467	70
B	RESIDENTIAL COMPOUNDS	60	17,997	300	42
C	RESIDENTIAL COMPOUNDS	30	20,474	682	21
D	RESIDENTIAL COMPOUNDS	120	46,341	386	84
E	RESIDENTIAL COMPOUNDS	30	22,427	748	21
TOTAL LOAD		340	153,983	453	238

N

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NO.	DESCRIPTION	DATE	APP

DESIGNED BY: AS | DATE: 01/13/2011
DWN BY: AS | SUBMITTED BY: TETRA TECH
CHK BY: MAL | FILE NO.: LT0025-E-154

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USAID – OIEE
42 VILLAGES ELECTRIFICATION
GYA KHEL
CONCEPT DESIGN

SHEET REFERENCE NUMBER:
LT0025
E-154

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1:5000

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UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS.

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