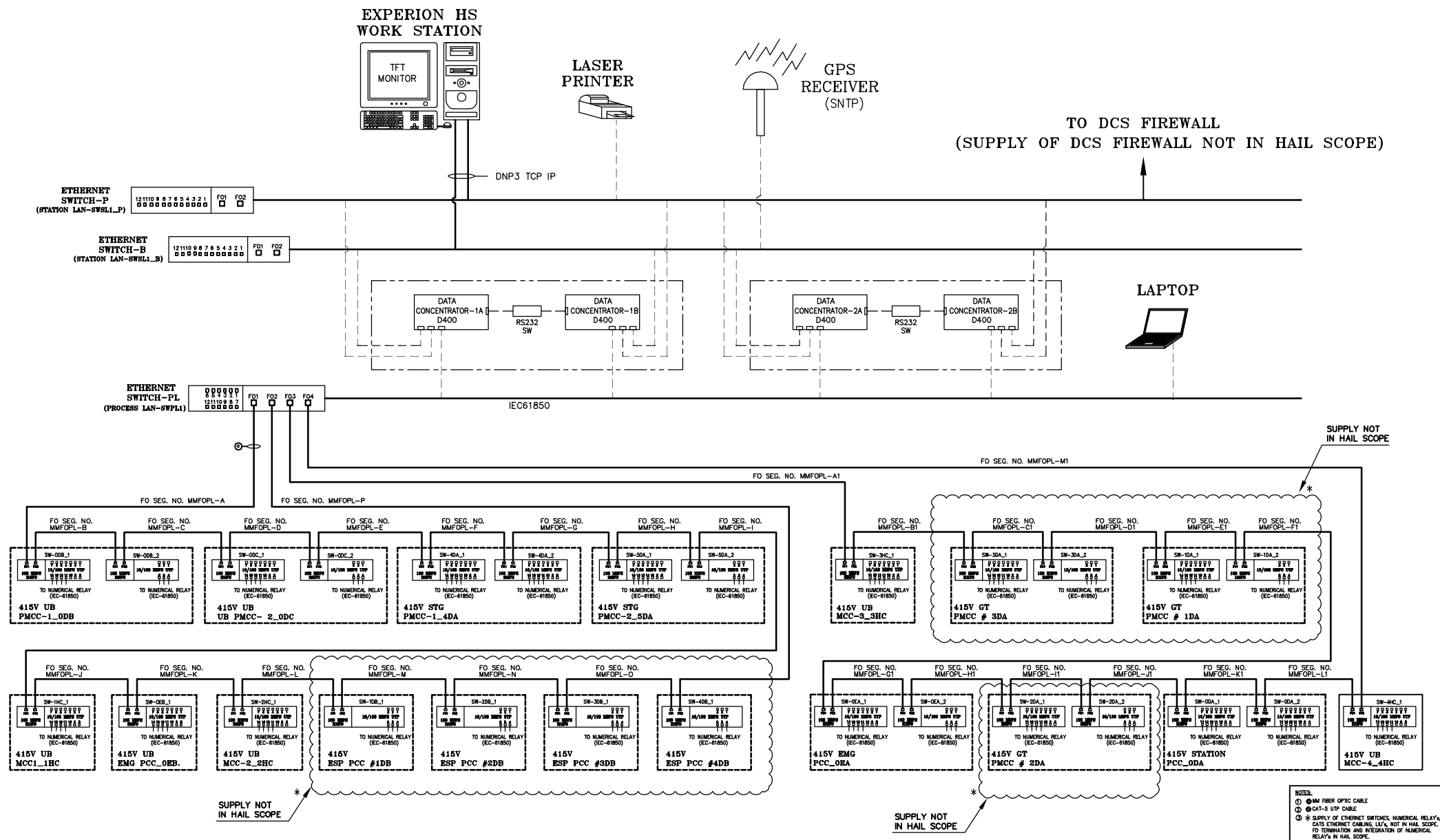
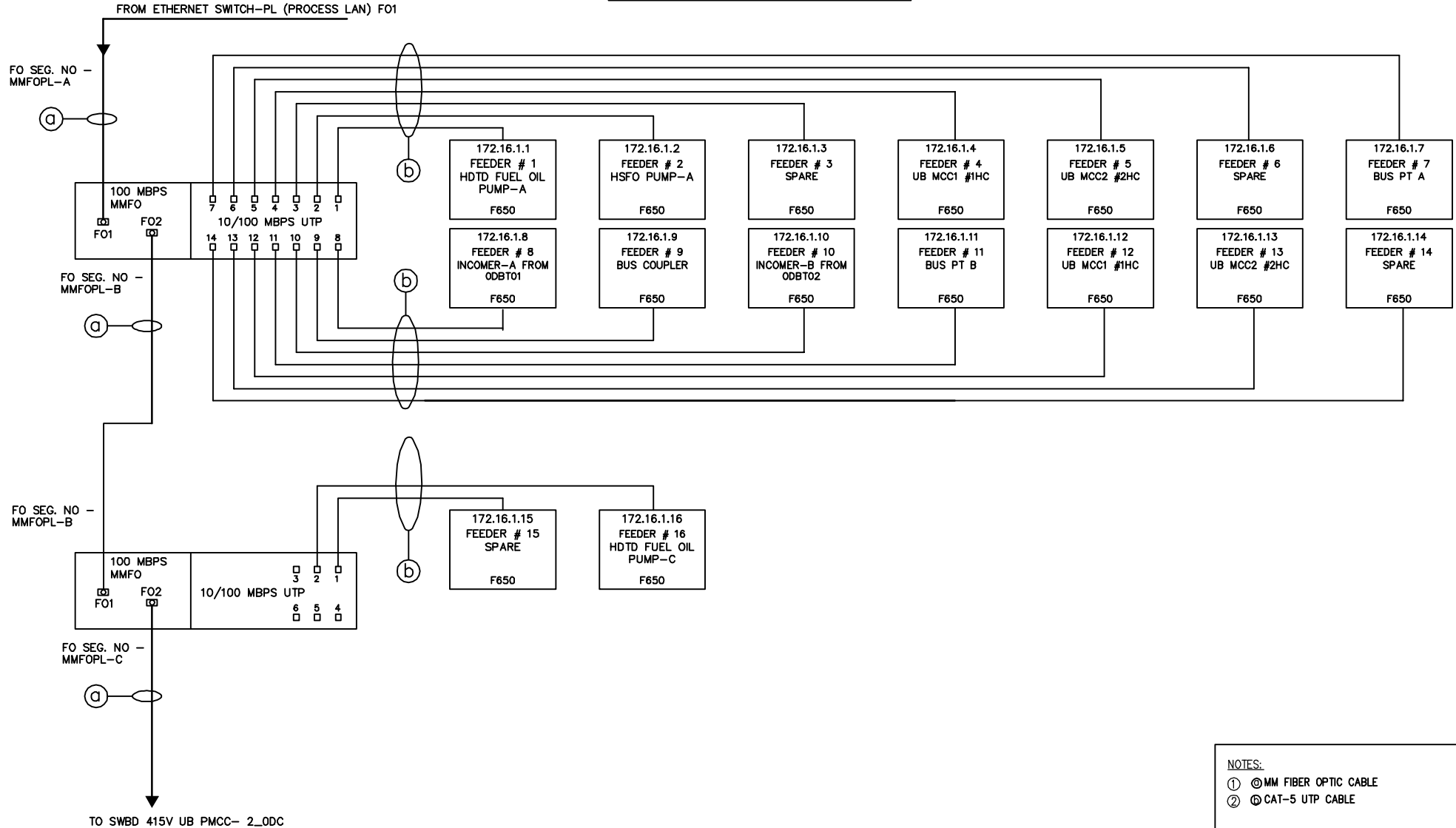


SYSTEM ARCHITECTURE -- IOCL PARADIP CPP LT AUTOMATION



REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE	PROJECT: IOCL PARADIP CPP LT AUTOMATION	Honeywell HONEYWELL AUTOMATION INDIA LTD.				TITLE: HARDWARE DESIGN MANUAL IOCL PARADEEP – SYSTEM ARCHITECTURE				
0	ORIGINAL	VR	SZ	AKD	PA	24/03/11						CUSTOMER : IOCL PARADIP CONTRACTOR : BHEL END–USER : IOCL CPP, PARADIP				DOC. NO: D10T1065–101–02
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11		SHT:01		OF:19	DATE: 23/12/2011					2
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11										
								SCALE: NTS	ORN NO.: D10T1065							
							CAD FILE: 1010201									

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION
SWBD 415V UB PMCC-1_ODB

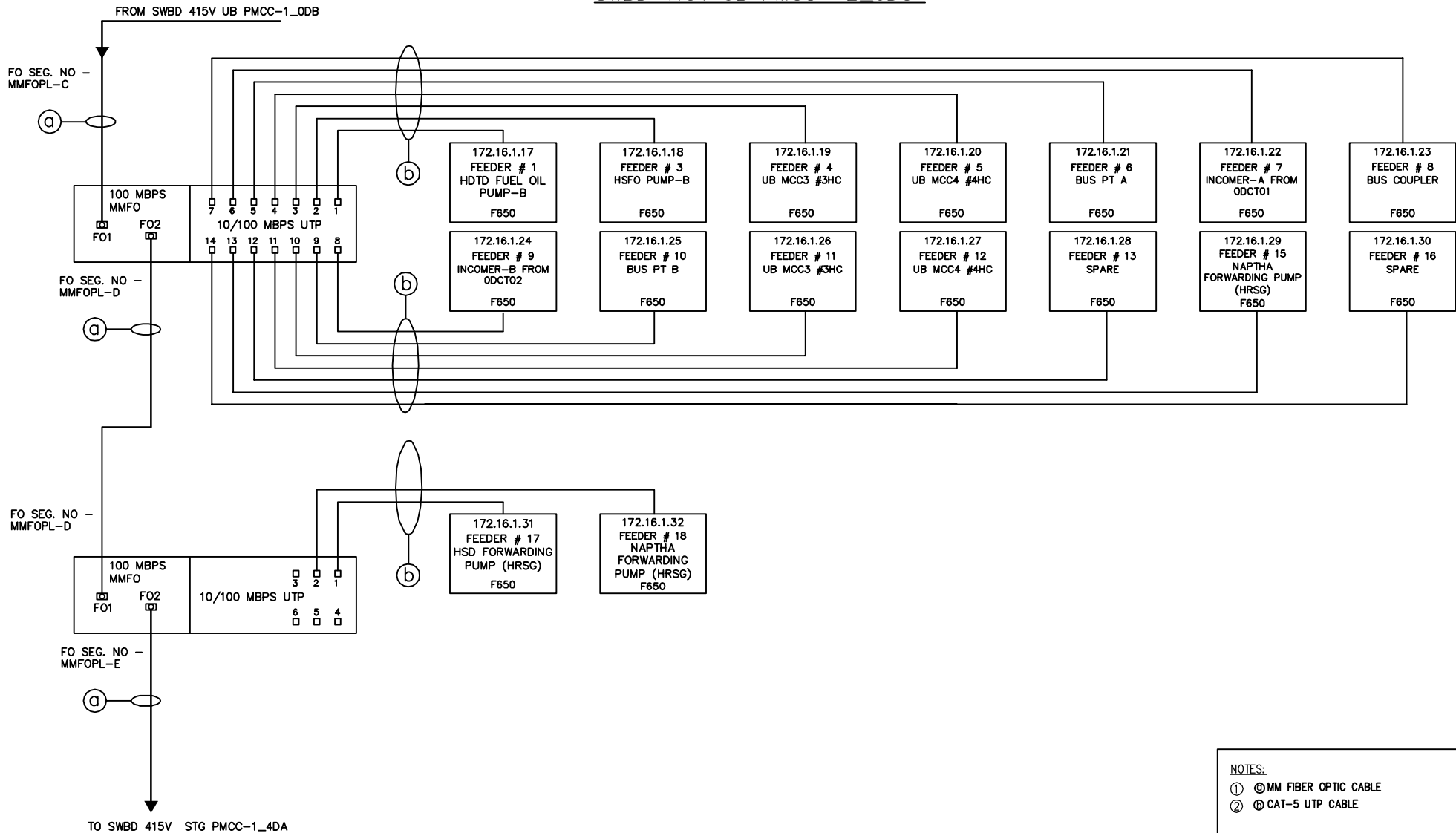


- NOTES:
- ① MM FIBER OPTIC CABLE
 - ② CAT-5 UTP CABLE

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE	PROJECT:	Honeywell		TITLE:	
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11	ATOZ IOCL-PARADIP LT AUTOMATION	HONEYWELL AUTOMATION INDIA LTD.		ETHERNET SWITCH CONNECTION DIAGRAM	
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11		CUSTOMER : KMG ATOZ SYSTEMS PVT LTD		SWBD NAME-SWBD 415V UB PMCC-1_ODB	
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11		CONTRACTOR : BHEL		DOC. NO: D10T1065-101-02	
							SCALE: NTS	END-USER : IOCL-PARADIP		SHT:02 OF:19	
							CAD FILE: 1010202			DATE: 23/12/2011	
										REV. 2	

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V UB PMCC- 2_ODC



NOTES:

- ① MM FIBER OPTIC CABLE
- ② CAT-5 UTP CABLE

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

PROJECT: ATOZ IOCL-PARADIP LT AUTOMATION

SCALE: NTS ORN NO.: D10T1065
CAD FILE: 1010203

Honeywell

HONEYWELL AUTOMATION INDIA LTD.

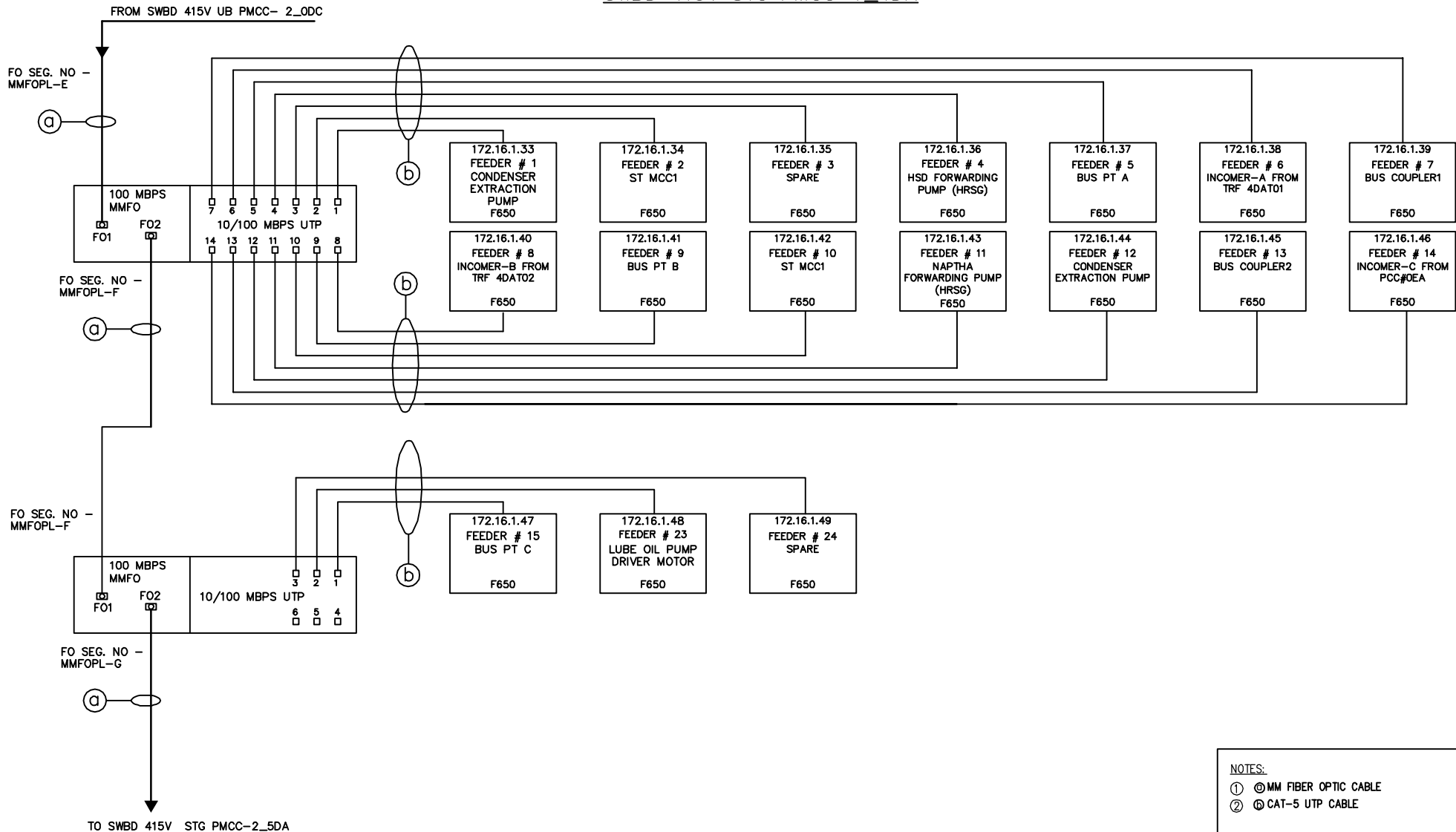
CUSTOMER : KMG ATOZ SYSTEMS PVT LTD
CONTRACTOR : BHEL
END-USER : IOCL-PARADIP

TITLE: ETHERNET SWITCH CONNECTION DIAGRAM
SWBD NAME-SWBD 415V UB PMCC- 2_ODC

DOC. NO: D10T1065-101-02 REV. 2
SHT:03 OF:19 DATE: 23/12/2011

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V STG PMCC-1_4DA



NOTES:

- ① MM FIBER OPTIC CABLE
- ② CAT-5 UTP CABLE

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

PROJECT: ATOZ IOCL-PARADIP LT AUTOMATION

SCALE: NTS ORN NO.: D10T1065
CAD FILE: 1010204

Honeywell

HONEYWELL AUTOMATION INDIA LTD.

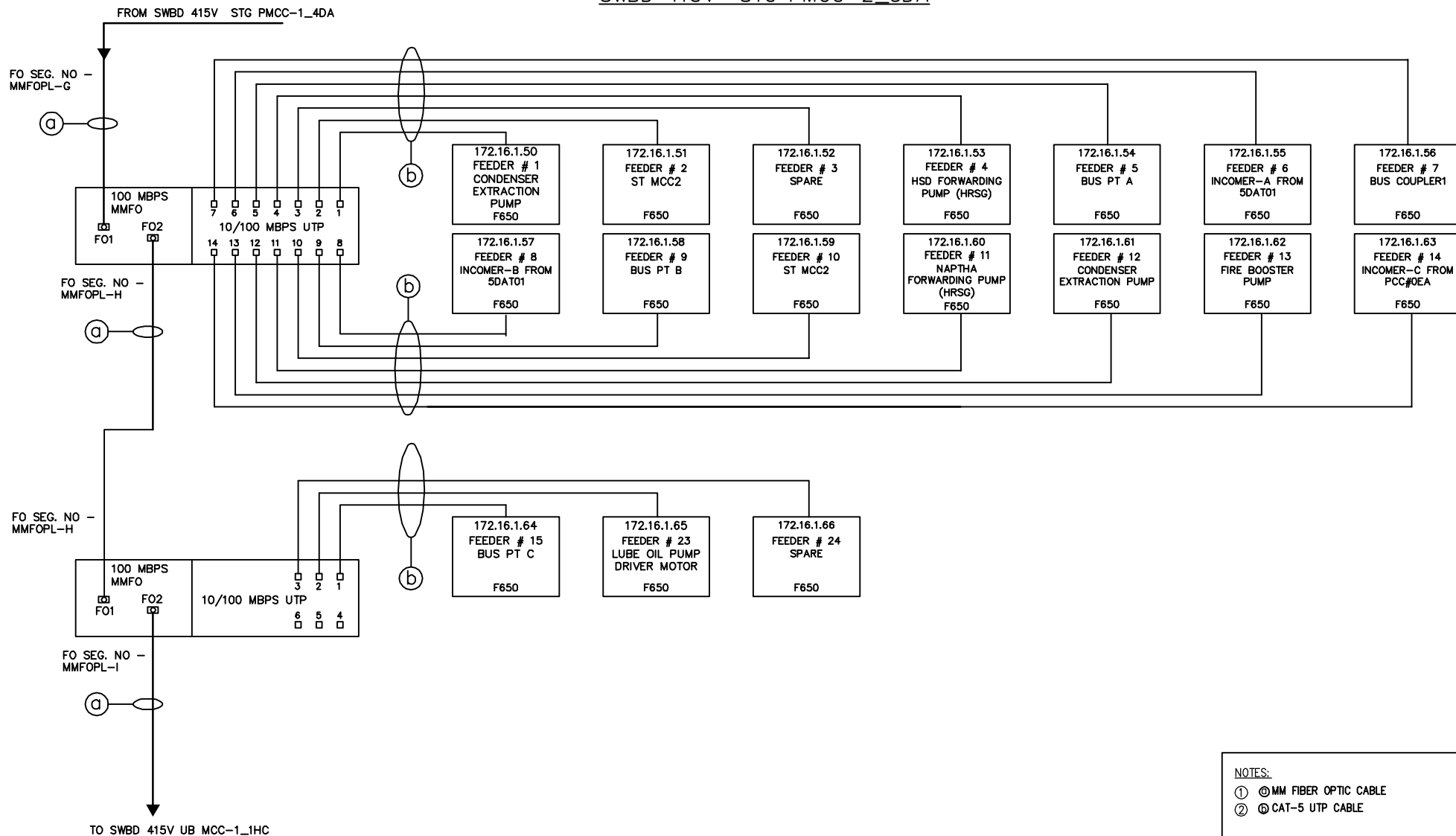
CUSTOMER : KMG ATOZ SYSTEMS PVT LTD
CONTRACTOR : BHEL
END-USER : IOCL-PARADIP

TITLE: ETHERNET SWITCH CONNECTION DIAGRAM
SWBD NAME-SWBD 415V STG PMCC-1_4DA

DOC. NO: D10T1065-101-02 REV. 2
SHT: 04 OF: 19 DATE: 23/12/2011

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V STG PMCC-2_5DA



NOTES:

- ① MM FIBER OPTIC CABLE
- ② CAT-5 UTP CABLE

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

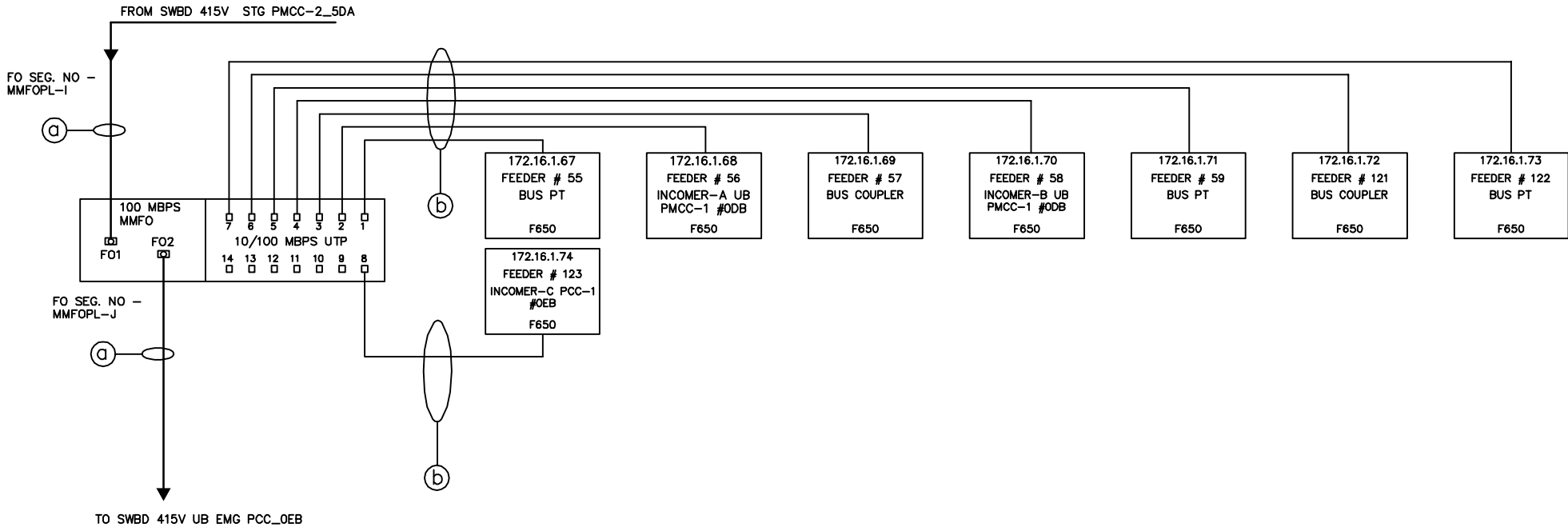
PROJECT:	ATOZ IOCL-PARADIP LT AUTOMATION
SCALE: NTS	ORN NO.: D10T1065
CAD FILE:	1010205

Honeywell HONEYWELL AUTOMATION INDIA LTD.	
CUSTOMER :	KMG ATOZ SYSTEMS PVT LTD
CONTRACTOR :	BHEL
END-USER :	IOCL-PARADIP

TITLE: ETHERNET SWITCH CONNECTION DIAGRAM SWBD NAME-SWBD 415V STG PMCC-2_5DA	
DOC. NO: D10T1065-101-02	REV.
SHT:05 OF:19	DATE: 23/12/2011
	2

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V UB MCC-1_1HC



NOTES:

- ① MM FIBER OPTIC CABLE
- ② CAT-5 UTP CABLE

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

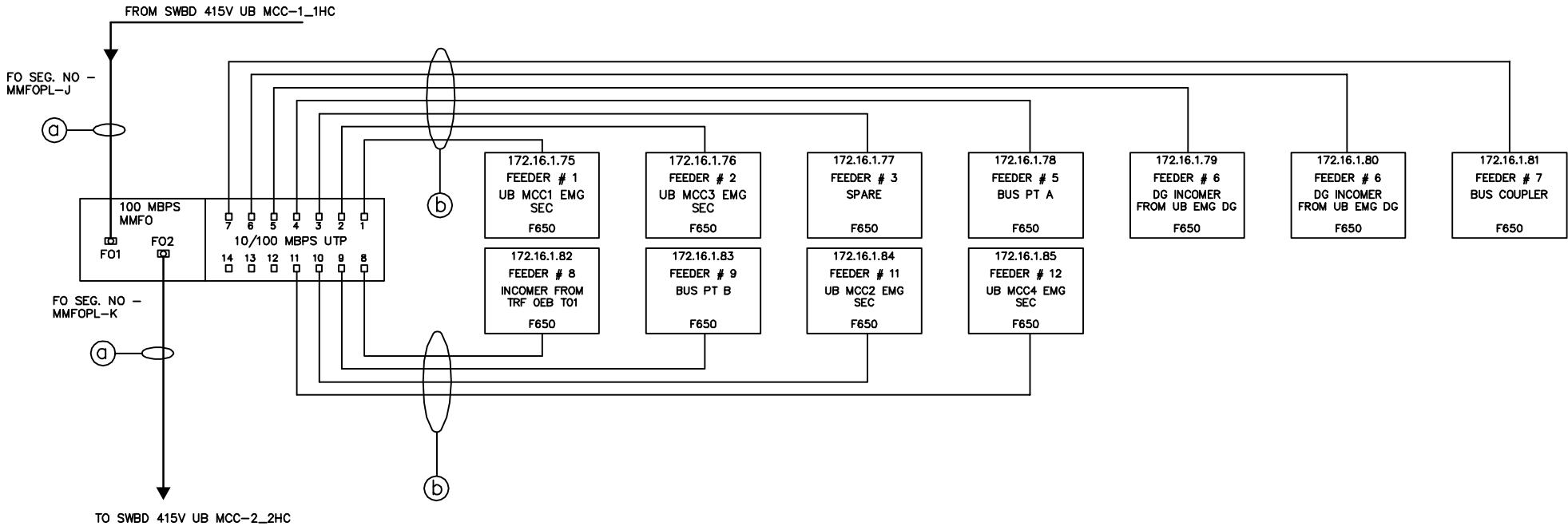
PROJECT: ATOZ IOCL-PARADIP LT AUTOMATION	
SCALE: NTS	ORN NO.: D10T1065
CAD FILE: 1010206	

Honeywell HONEYWELL AUTOMATION INDIA LTD.	
CUSTOMER :	KMG ATOZ SYSTEMS PVT LTD
CONTRACTOR :	BHEL
END-USER :	IOCL-PARADIP

TITLE: ETHERNET SWITCH CONNECTION DIAGRAM SWBD NAME-SWBD 415V UB MCC-1_1HC			
DOC. NO: D10T1065-101-02			REV.
SHT: 06	OF: 19	DATE: 23/12/2011	2

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V UB EMG PCC_OEB



NOTES:

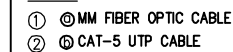
- ① MM FIBER OPTIC CABLE
- ② CAT-5 UTP CABLE

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

PROJECT: ATOZ IOCL-PARADIP LT AUTOMATION	
SCALE: NTS	ORN NO.: D10T1065
CAD FILE: 1010207	

Honeywell HONEYWELL AUTOMATION INDIA LTD.	
CUSTOMER :	KMG ATOZ SYSTEMS PVT LTD
CONTRACTOR :	BHEL
END-USER :	IOCL-PARADIP

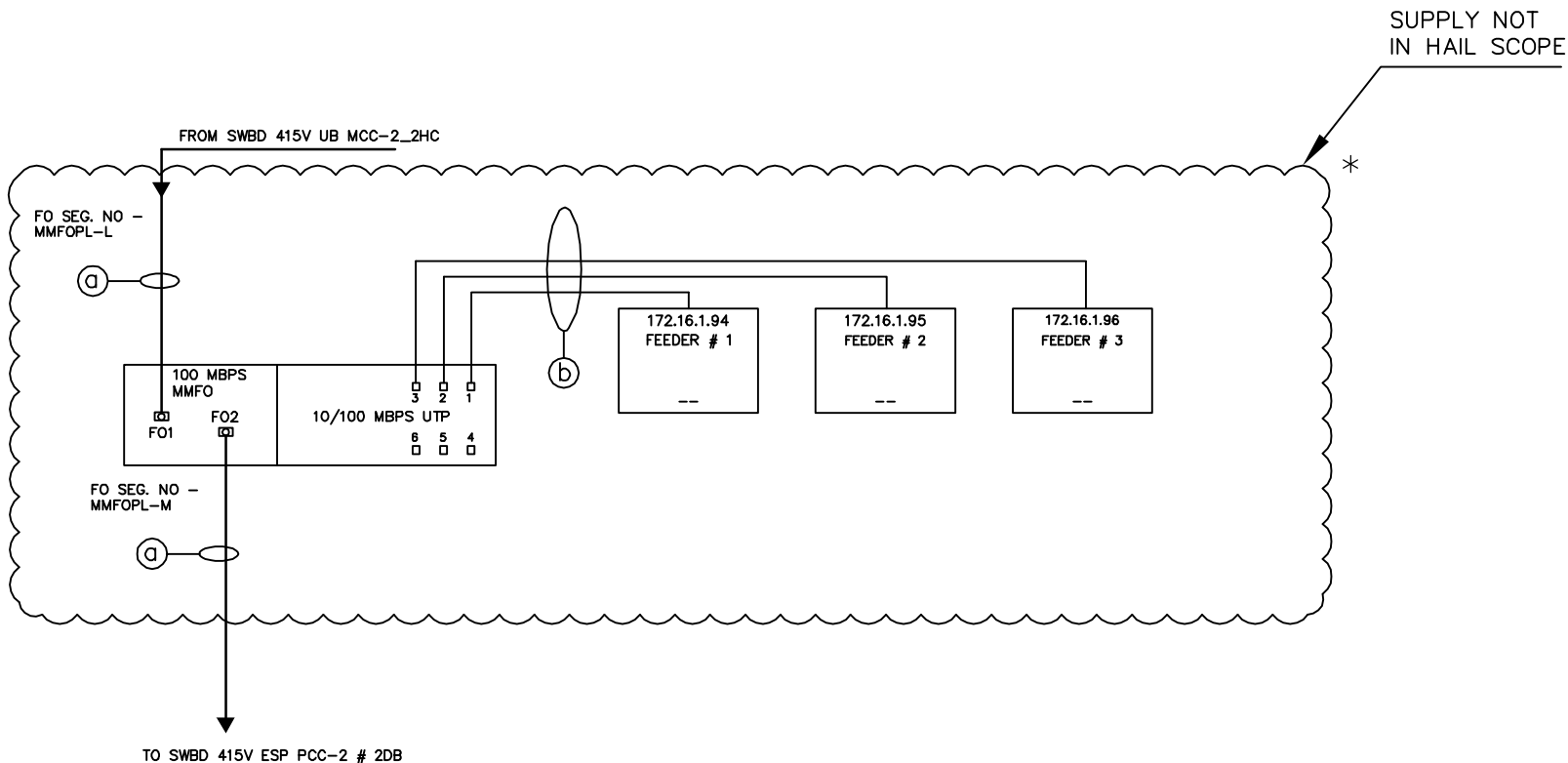
TITLE: ETHERNET SWITCH CONNECTION DIAGRAM SWBD NAME-SWBD 415V UB EMG PCC_OEB			
DOC. NO: D10T1065-101-02			REV.
SHT: 07	OF: 19	DATE: 23/12/2011	2



REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE	PROJECT:		Honeywell HONEYWELL AUTOMATION INDIA LTD.			TITLE:		
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11	ATOZ IOCL-PARADIP LT AUTOMATION					ETHERNET SWITCH CONNECTION DIAGRAM		
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11			CUSTOMER : KMG ATOZ SYSTEMS PVT LTD			SWBD NAME-SWBD 415V UB MCC-2_2HC		
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11						CONTRACTOR : BHEL		
							SCALE: NTS		ORN NO.: D10T1065		DOC. NO: D10T1065-101-02			REV.
							CAD FILE: 1010208		END-USER : IOCL-PARADIP		SHT: 08 OF: 19		DATE: 23/12/2011	2

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V ESP PCC-1 # 1DB



NOTES:

- ① MM FIBER OPTIC CABLE
- ② CAT-5 UTP CABLE
- ③ * SUPPLY OF ETHERNET SWITCHES, NUMERICAL RELAY's, CAT5 ETHERNET CABLING, LIU's, NOT IN HAIL SCOPE. FO TERMINATION AND INTEGRATION OF NUMERICAL RELAY's IN HAIL SCOPE.

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

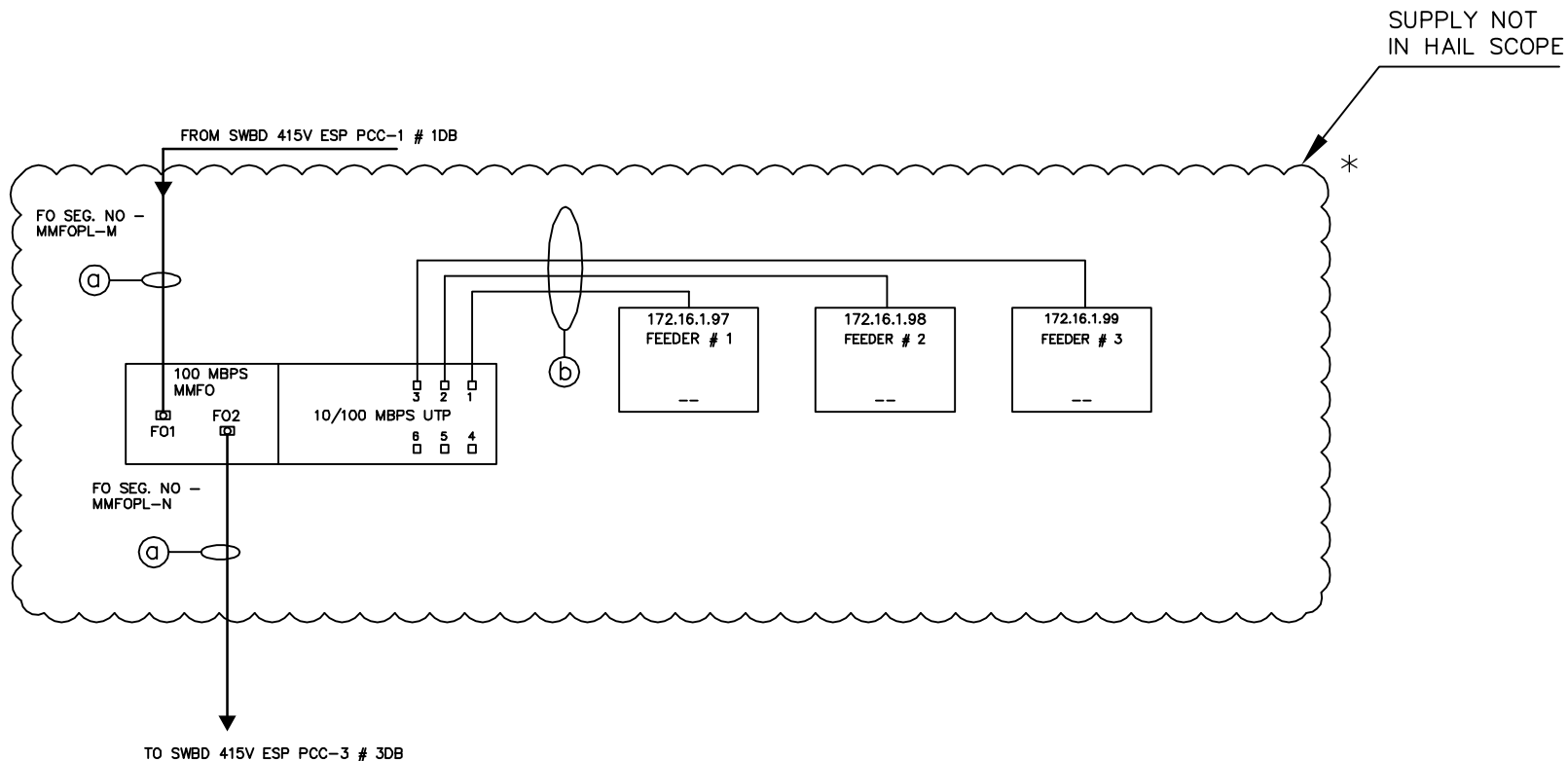
PROJECT:		ATOZ IOCL-PARADIP LT AUTOMATION	
SCALE: NTS		ORN NO.: D10T1065	
CAD FILE: 1010209			

Honeywell HONEYWELL AUTOMATION INDIA LTD.		CUSTOMER : KMG ATOZ SYSTEMS PVT LTD	
		CONTRACTOR : BHEL	
		END-USER : IOCL-PARADIP	

TITLE:			
ETHERNET SWITCH CONNECTION DIAGRAM			
SWBD NAME-SWBD 415V ESP PCC-1 # 1DB			
DOC. NO: D10T1065-101-02			REV.
SHT: 09	OF: 19	DATE: 23/12/2011	2

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V ESP PCC-2 # 2DB



NOTES:

- ① MM FIBER OPTIC CABLE
- ② CAT-5 UTP CABLE
- ③ * SUPPLY OF ETHERNET SWITCHES, NUMERICAL RELAY'S, CAT5 ETHERNET CABLING, LIU'S, NOT IN HAIL SCOPE. FO TERMINATION AND INTEGRATION OF NUMERICAL RELAY'S IN HAIL SCOPE.

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

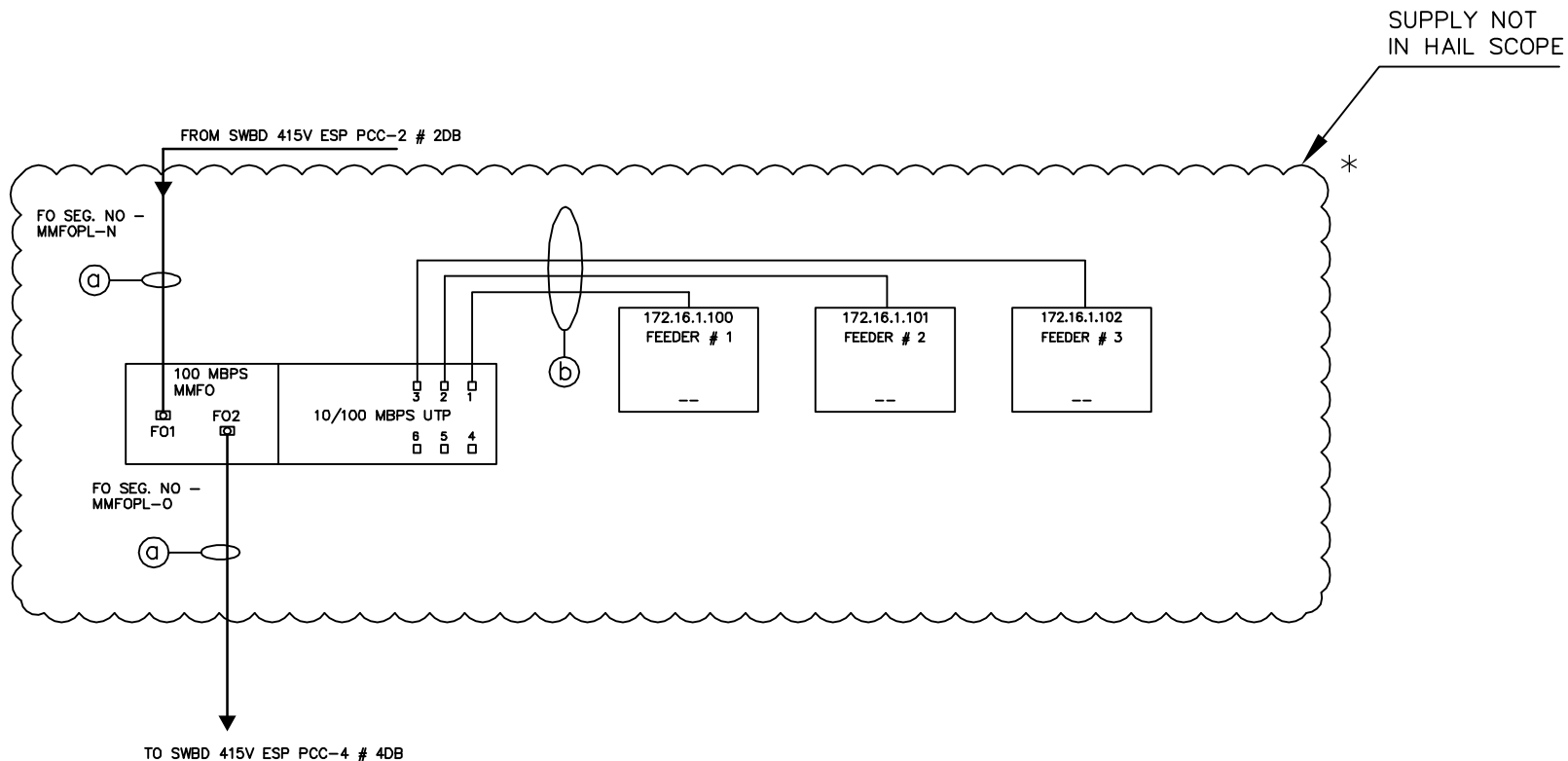
PROJECT:	ATOZ IOCL-PARADIP LT AUTOMATION
SCALE: NTS	ORN NO.: D10T1065
CAD FILE: 1010210	

Honeywell HONEYWELL AUTOMATION INDIA LTD.	
CUSTOMER :	KMG ATOZ SYSTEMS PVT LTD
CONTRACTOR :	BHEL
END-USER :	IOCL-PARADIP

TITLE: ETHERNET SWITCH CONNECTION DIAGRAM SWBD NAME-SWBD 415V ESP PCC-2 # 2DB	
DOC. NO: D10T1065-101-02	REV.
SHT: 10 OF: 19	DATE: 23/12/2011
	2

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V ESP PCC-3 # 3DB



NOTES:

- ① MM FIBER OPTIC CABLE
- ② CAT-5 UTP CABLE
- ③ * SUPPLY OF ETHERNET SWITCHES, NUMERICAL RELAY's, CAT5 ETHERNET CABLING, LIU's, NOT IN HAIL SCOPE. FO TERMINATION AND INTEGRATION OF NUMERICAL RELAY's IN HAIL SCOPE.

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

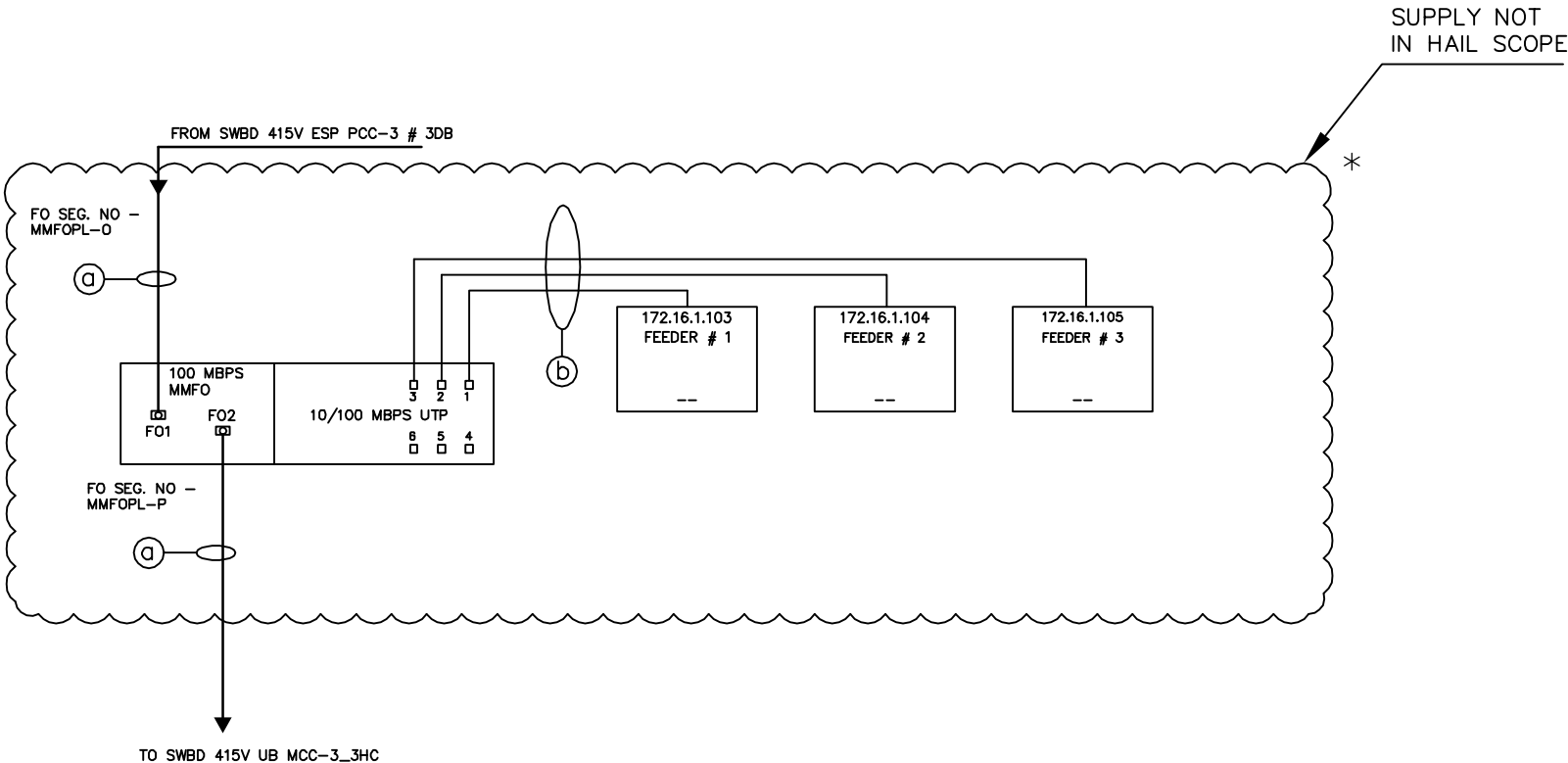
PROJECT:		ATOZ IOCL-PARADIP LT AUTOMATION	
SCALE: NTS		ORN NO.: D10T1065	
CAD FILE: 10102011			

Honeywell HONEYWELL AUTOMATION INDIA LTD.		CUSTOMER : KMG ATOZ SYSTEMS PVT LTD	
		CONTRACTOR : BHEL	
		END-USER : IOCL-PARADIP	

TITLE:			
ETHERNET SWITCH CONNECTION DIAGRAM			
SWBD NAME-SWBD 415V ESP PCC-3 # 3DB			
DOC. NO: D10T1065-101-02			REV.
SHT: 11	OF: 19	DATE: 23/12/2011	2

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V ESP PCC-4 # 4DB



- NOTES:
- ① MM FIBER OPTIC CABLE
 - ② CAT-5 UTP CABLE
 - ③ * SUPPLY OF ETHERNET SWITCHES, NUMERICAL RELAY's, CAT5 ETHERNET CABLING, LIU's, NOT IN HAIL SCOPE. FO TERMINATION AND INTEGRATION OF NUMERICAL RELAY's IN HAIL SCOPE.

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

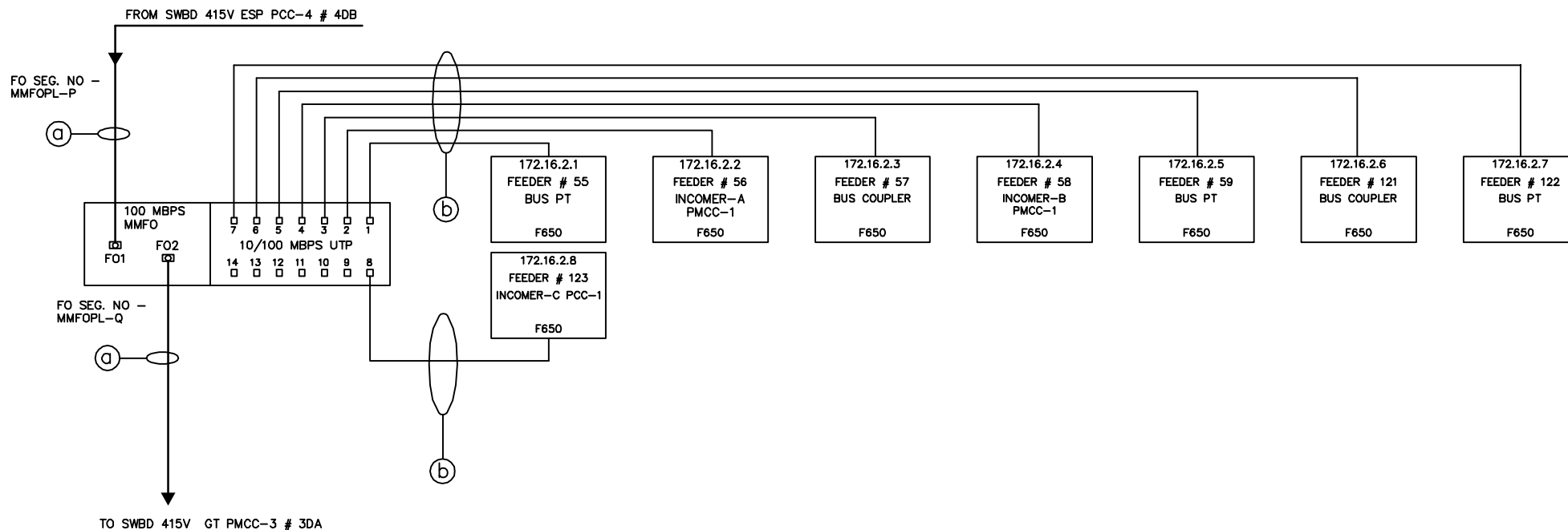
PROJECT:		ATOZ IOCL-PARADIP LT AUTOMATION	
SCALE: NTS		ORN NO.: D10T1065	
CAD FILE: 10102012			

Honeywell	
HONEYWELL AUTOMATION INDIA LTD.	
CUSTOMER :	KMG ATOZ SYSTEMS PVT LTD
CONTRACTOR :	BHEL
END-USER :	IOCL-PARADIP

TITLE:		ETHERNET SWITCH CONNECTION DIAGRAM	
		SWBD NAME-SWBD 415V ESP PCC-4 # 4DB	
DOC. NO: D10T1065-101-02		REV.	
SHT: 12	OF: 19	DATE: 23/12/2011	2

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V UB MCC -3_3HC



NOTES:

- ① MM FIBER OPTIC CABLE
- ② CAT-5 UTP CABLE

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

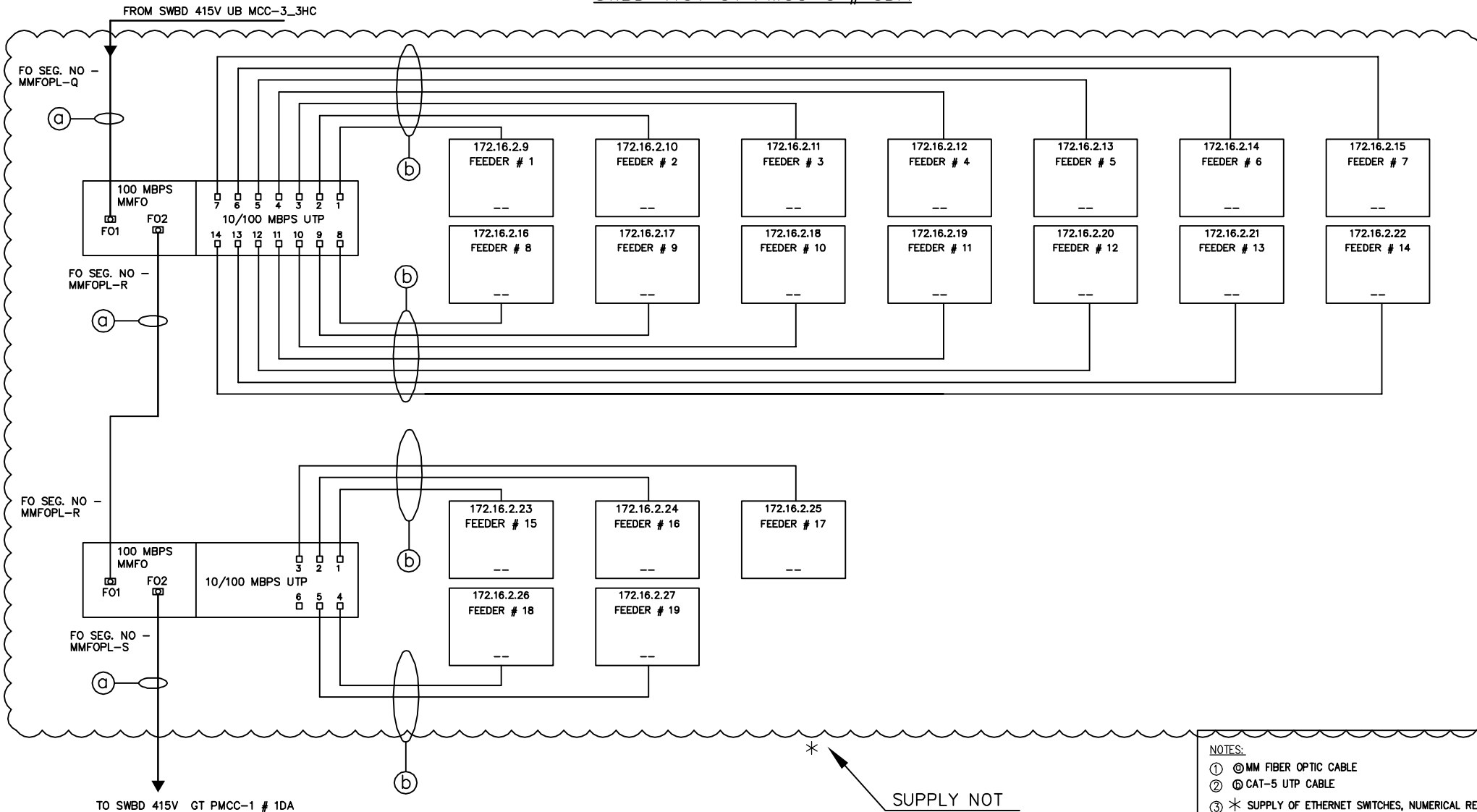
PROJECT:	
ATOZ IOCL-PARADIP LT AUTOMATION	
SCALE: NTS	ORN NO.: D10T1065
CAD FILE: 1010213	

Honeywell HONEYWELL AUTOMATION INDIA LTD.		CUSTOMER : KMG ATOZ SYSTEMS PVT LTD	
		CONTRACTOR : BHEL	
		END-USER : IOCL-PARADIP	

TITLE:			
ETHERNET SWITCH CONNECTION DIAGRAM			
SWBD NAME-SWBD 415V UB MCC -3_3HC			
DOC. NO: D10T1065-101-02			REV.
SHT: 13	OF: 19	DATE: 23/12/2011	2

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V GT PMCC-3 # 3DA



NOTES:

- ① MM FIBER OPTIC CABLE
- ② CAT-5 UTP CABLE
- ③ * SUPPLY OF ETHERNET SWITCHES, NUMERICAL RELAY's, CAT5 ETHERNET CABLING, LIU's, NOT IN HAIL SCOPE. FO TERMINATION AND INTEGRATION OF NUMERICAL RELAY's IN HAIL SCOPE.

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

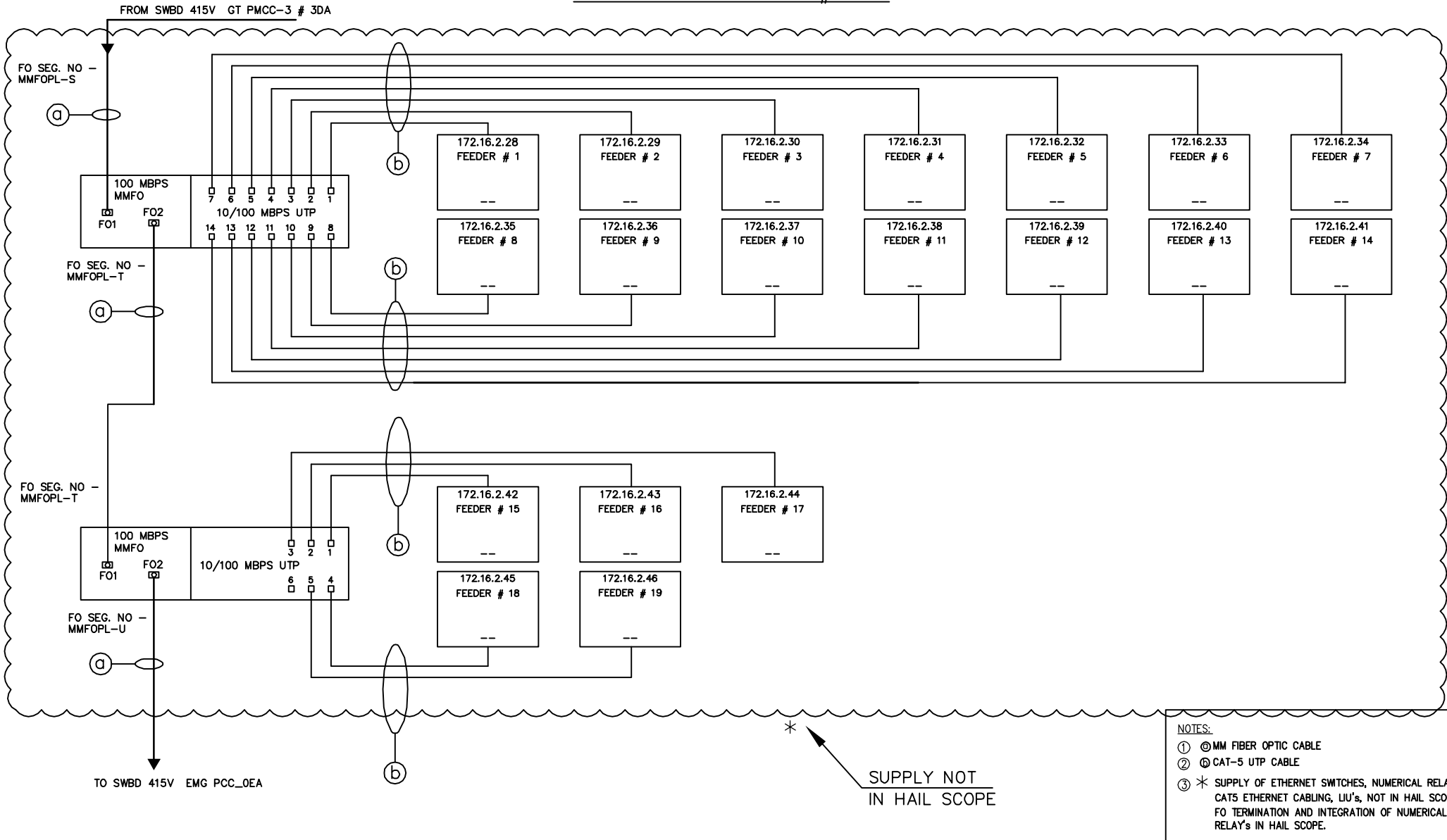
PROJECT:	ATOZ IOCL-PARADIP LT AUTOMATION
SCALE: NTS	ORN NO.: D10T1065
CAD FILE: 1010214	

Honeywell HONEYWELL AUTOMATION INDIA LTD.	
CUSTOMER :	KMG ATOZ SYSTEMS PVT LTD
CONTRACTOR :	BHEL
END-USER :	IOCL-PARADIP

TITLE: ETHERNET SWITCH CONNECTION DIAGRAM SWBD NAME-SWBD 415V GT PMCC-3 # 3DA	
DOC. NO: D10T1065-101-02	REV.
SHT: 14 OF: 19	DATE: 23/12/2011
	2

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V GT PMCC-1 # 1DA



REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

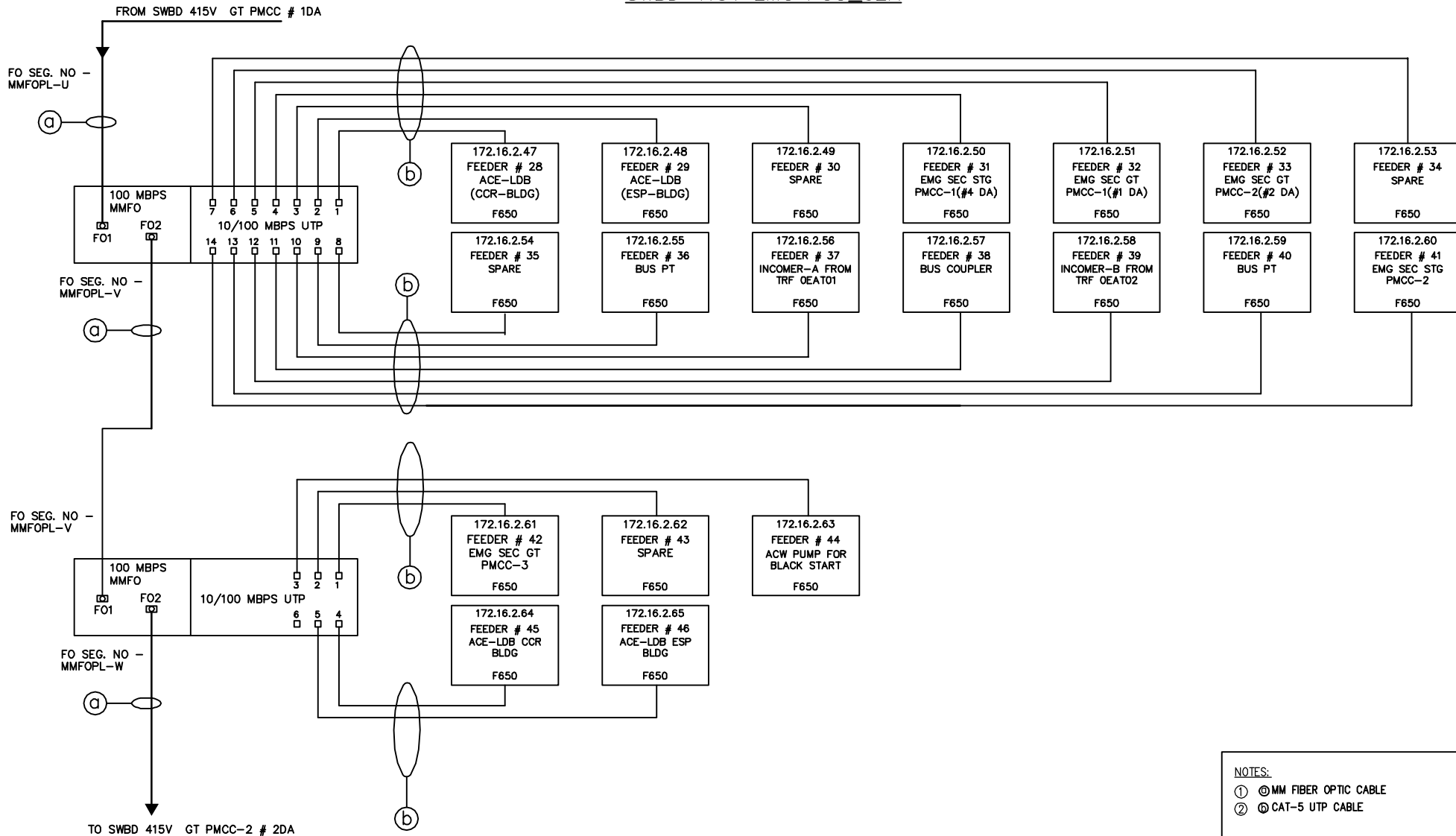
PROJECT: ATOZ IOCL-PARADIP LT AUTOMATION	
SCALE: NTS	ORN NO.: D10T1065
CAD FILE: 1010215	

Honeywell HONEYWELL AUTOMATION INDIA LTD.	
CUSTOMER :	KMG ATOZ SYSTEMS PVT LTD
CONTRACTOR :	BHEL
END-USER :	IOCL-PARADIP

TITLE: ETHERNET SWITCH CONNECTION DIAGRAM SWBD NAME-SWBD 415V GT PMCC-1 # 1DA	
DOC. NO: D10T1065-101-02	REV.
SHT:15 OF:19	DATE: 23/12/2011
	2

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V EMG PCC_OEA



NOTES:

- ① MM FIBER OPTIC CABLE
- ② CAT-5 UTP CABLE

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

PROJECT: ATOZ IOCL-PARADIP LT AUTOMATION

SCALE: NTS ORN NO.: D10T1065
CAD FILE: 1010216

Honeywell

HONEYWELL AUTOMATION INDIA LTD.

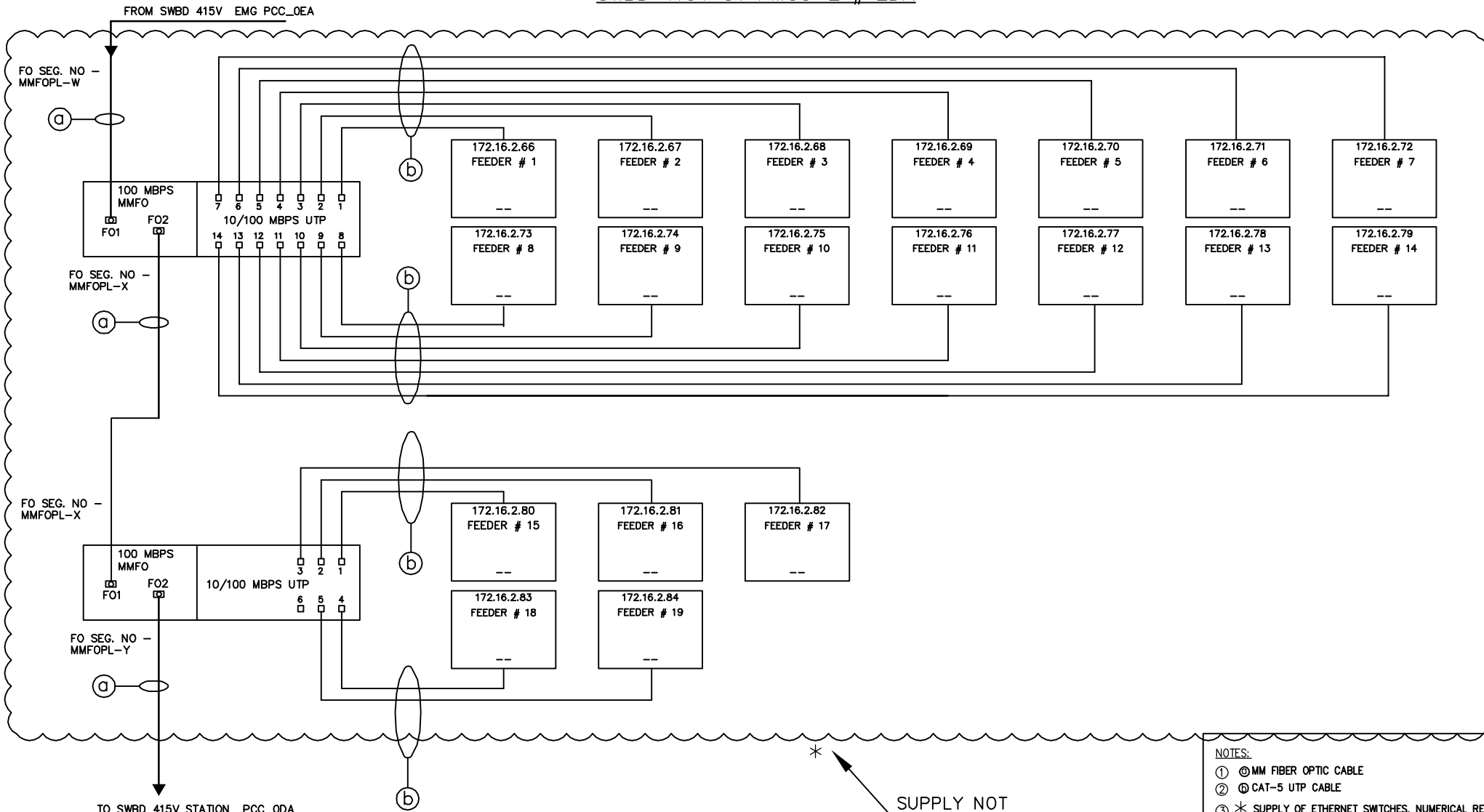
CUSTOMER : KMG ATOZ SYSTEMS PVT LTD
CONTRACTOR : BHEL
END-USER : IOCL-PARADIP

TITLE: ETHERNET SWITCH CONNECTION DIAGRAM
SWBD NAME-SWBD 415V EMG PCC_OEA

DOC. NO: D10T1065-101-02 REV. 2
SHT:16 OF:19 DATE: 23/12/2011

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V GT PMCC-2 # 2DA



*
SUPPLY NOT
IN HAIL SCOPE

- NOTES:
- ① MM FIBER OPTIC CABLE
 - ② CAT-5 UTP CABLE
 - ③ * SUPPLY OF ETHERNET SWITCHES, NUMERICAL RELAY's, CAT5 ETHERNET CABLING, LIU's, NOT IN HAIL SCOPE. FO TERMINATION AND INTEGRATION OF NUMERICAL RELAY's IN HAIL SCOPE.

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

PROJECT: ATOZ IOCL-PARADIP LT AUTOMATION

SCALE: NTS ORN NO.: D10T1065
CAD FILE: 1010217

Honeywell
HONEYWELL AUTOMATION INDIA LTD.

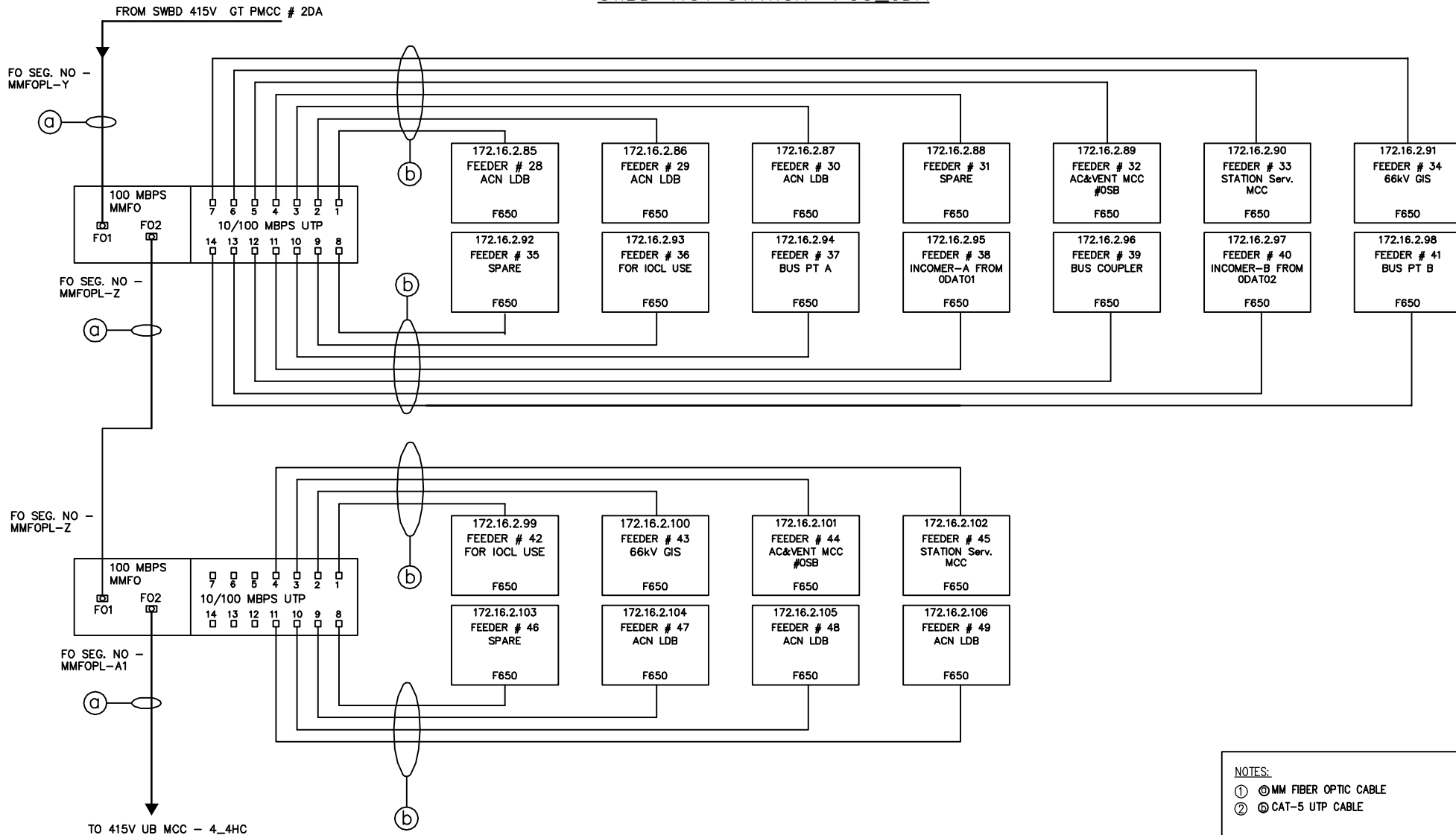
CUSTOMER : KMG ATOZ SYSTEMS PVT LTD
CONTRACTOR : BHEL
END-USER : IOCL-PARADIP

TITLE: ETHERNET SWITCH CONNECTION DIAGRAM
SWBD NAME-SWBD 415V GT PMCC-2 # 2DA

DOC. NO: D10T1065-101-02
SHT:17 OF:19 DATE: 23/12/2011 REV. 2

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

SWBD 415V STATION PCC_ODA



REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

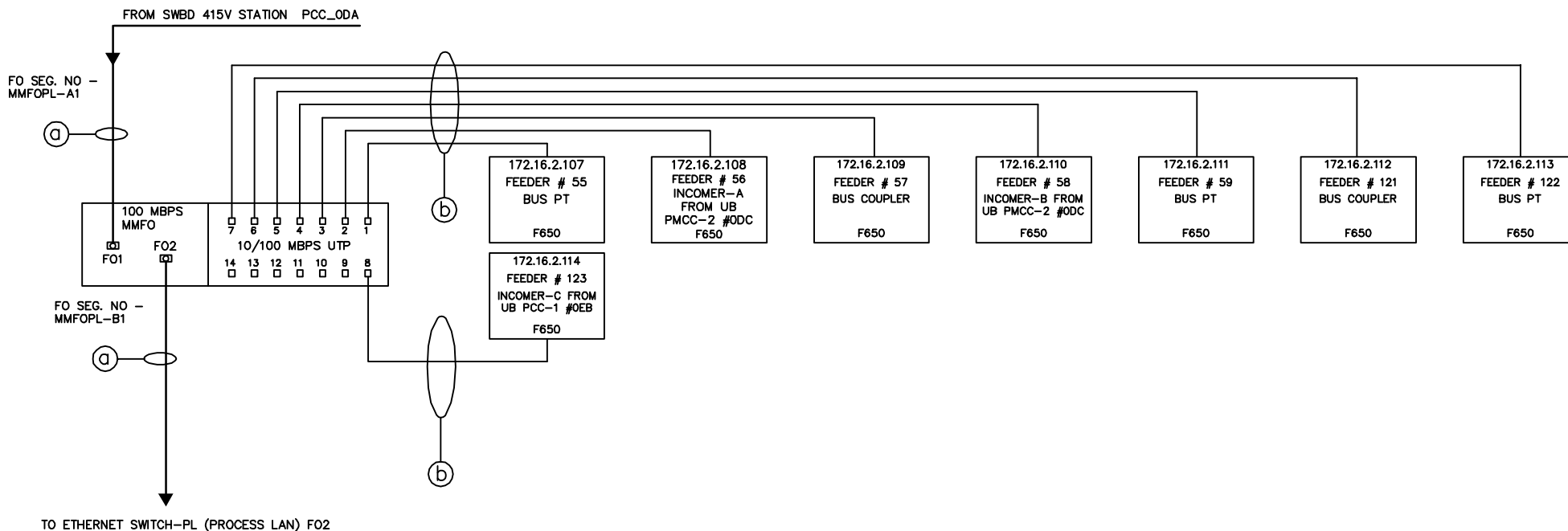
PROJECT: ATOZ IOCL-PARADIP LT AUTOMATION	
SCALE: NTS	ORN NO.: D10T1065
CAD FILE: 1010218	

Honeywell HONEYWELL AUTOMATION INDIA LTD.	
CUSTOMER :	KMG ATOZ SYSTEMS PVT LTD
CONTRACTOR :	BHEL
END-USER :	IOCL-PARADIP

TITLE: ETHERNET SWITCH CONNECTION DIAGRAM SWBD NAME-SWBD 415V STATION PCC_ODA	
DOC. NO: D10T1065-101-02	REV.
SHT:18 OF:19	DATE: 23/12/2011
	2

SYSTEM ARCHITECTURE-IOCL PARADEEP CPP LT AUTOMATION

415V UB MCC - 4_4HC



NOTES:

- ① MM FIBER OPTIC CABLE
- ② CAT-5 UTP CABLE

REV	DESCRIPTION	PRPD	DRAWN	APPRV	CHKD	DATE
0	ORIGINAL	VR	SZ	AKD	PK	15/02/11
1	AS PER COMMENTS	KK	SZ	AKD	PA	08/12/11
2	AS PER COMMENTS	KK	SZ	AKD	PA	23/12/11

PROJECT:	
ATOZ IOCL-PARADIP LT AUTOMATION	
SCALE: NTS	ORN NO.: D10T1065
CAD FILE: 1010219	

Honeywell	
HONEYWELL AUTOMATION INDIA LTD.	
CUSTOMER :	KMG ATOZ SYSTEMS PVT LTD
CONTRACTOR :	BHEL
END-USER :	IOCL-PARADIP

TITLE:		ETHERNET SWITCH CONNECTION DIAGRAM	
		SWBD NAME-415V UB MCC - 4_4HC	
DOC. NO:	D10T1065-101-02	REV.	
SHT: 19	OF: 19	DATE: 23/12/2011	2