Request for Quote

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
ONE CAPITOL HILL
PROVIDENCE RI 02908

CREATION DATE : 16-APR-12
BID NUMBER: 7449636
TITLE: DOOR LOCK AND SECURITY UPGRADE - CCRI

BLANKET START : 01-JUN-12
BLANKET END : 31-DEC-12
BID CLOSING DATE AND TIME:21-MAY-2012 02:00:00

BUYER: Mosca, Gary
PHONE #: 401-574-8124

BILL TO
CCRI CONTROLLER'S OFFICE
ACCOUNTS PAYABLE
400 EAST AVENUE
WARWICK, RI 02886
US

SHIP TO
CCRI KNIGHT CAMPUS
400 EAST AVE
WARWICK, RI 02886-1807
US

Requistion Number: 1266255

Note to Bidders: Questions concerning this solicitation may be emailed to gary.mosca@purchasing ri gov no later than 5/09/12 @ 12:00 NOON (EST) Questions should be submitted in a Microsoft word attachment Please reference the RFQ # on all correspondence

Questions received if any will be posted on the internet as an addendum to this solicitation It is the responsibility of all interested parties to download this information.

Line	Description	Quantity	Unit	Unit Price	Total
	THERE WILL BE A MANDATORY PRE-BID CONFERENCE ON MAY 7, 2012 FROM 9:00 AM TO 11:30 AM KNIGHT CAMPUS 400 EAST AVENUE WARWICK, RI *** THIS SOLICITATION REQUIRES ALL VENDORS TO SUBMIT A THREE PAGE COVER FORM AND HARD COPY OF BID ALONG WITH A READABLE "CD" DISK AT TIME OF BID*** BIDDERS PLEASE BE AWARE OF ATTACHED DOCUMENTS MARKED AS ATTACHMENT "A" ATTACHMENT "B" AND ATTACHMENT "C" Bidders must be aware of all conditions referenced in R.I General Laws, Section 5-6-2 entitled "Work for Which License required" Please provide your license number and a copy of the required license along with your bid proposal COMPANY/NAME:_____ LICENSE NUMBER: _____ Any person submitting a bid proposal for the above referenced Door Lock and Security Upgrade solicitation MUST hold a current Rhode Island Certificate "A" Electrical License issued by the Department of Labor and Training After award vendor(s) must pay prevailing wages set forth by the Department of Labor and Training at the rate established for licensed electricians				
1	WARWICK CAMPUS DOOR LOCK AND SECURITY UPGRADE	1 00	Job		
2	LINCOLN CAMPUS DOOR LOCK AND SECURITY UPGRADE	1 00	Job		

It is the Vendor's responsibility to check and download any and all addenda from the RIVIP This offer may not be considered unless a signed RIVIP generated Bidder Certification Cover Form is attached and the Unit Price column is completed. The signed Certification Cover Form must be attached to the front of the offer

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Line	Description	Quantity	Unit	Unit Price	Total
3	PROVIDENCE CAMPUS DOOR LOCK AND SECURITY UPGRADE	1 00	Job		

Delivery: _____

Terms of Payment: _____

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Contract Terms and Conditions

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Terms and Conditions

BID STANDARD TERMS AND CONDITIONS

TERMS AND CONDITIONS FOR THIS BID

SURETY REQUIREMENTS

BIDDER IS REQUIRED TO PROVIDE A BID SURETY IN THE FORM OF A BID BOND, OR A CERTIFIED CHECK PAYABLE TO THE STATE OF RHODE ISLAND, IN THE AMOUNT OF A SUM NOT LESS THAN FIVE PERCENT (5%) OF THE BID PRICE. BID SURETY MUST BE ATTACHED TO THE BID FORM. THE SUCCESSFUL BIDDER WILL ALSO BE REQUIRED TO FURNISH PERFORMANCE AND LABOR AND PAYMENT BONDS AT TIME OF TENTATIVE CONTRACT AWARD

START DATE

STARTING DATE _____ NO. OF WORKING DAYS REQUIRED FOR COMPLETION _____

INSPECTION REQUIREMENTS

BIDDERS ARE RESPONSIBLE FOR INSPECTION OF EQUIPMENT AND/OR LOCATION, TAKING MEASUREMENTS* WHEN REQUIRED, AND MAKING THEMSELVES AWARE OF THE TOTAL REQUIREMENT BEFORE SUBMITTING A BID *MEASUREMENTS PROVIDED WITH ANY BID ARE FOR REFERENCE PURPOSES AND ARE NOT GUARANTEED TO BE COMPLETELY ACCURATE

INSURANCE REQUIREMENTS

AN INSURANCE CERTIFICATE IN COMPLIANCE WITH PROVISIONS OF ITEM 31 (INSURANCE) OF THE GENERAL CONDITIONS OF PURCHASE IS REQUIRED FOR COMPREHENSIVE GENERAL LIABILITY, AUTOMOBILE LIABILITY, AND WORKERS' COMPENSATION AND MUST BE SUBMITTED BY THE SUCCESSFUL BIDDER(S) TO THE DIVISION OF PURCHASES PRIOR TO AWARD. THE INSURANCE CERTIFICATE MUST NAME THE STATE OF RHODE ISLAND AS CERTIFICATE HOLDER AND AS AN ADDITIONAL INSURED. FAILURE TO COMPLY WITH THESE PROVISIONS MAY RESULT IN REJECTION OF THE OFFEROR'S BID. ANNUAL RENEWAL CERTIFICATES MUST BE SUBMITTED TO THE AGENCY IDENTIFIED ON THE PURCHASE ORDER. FAILURE TO DO SO MAY BE GROUNDS FOR CANCELLATION OF CONTRACT.

NOTE: IF THIS BID COVERS CONSTRUCTION, SCHOOL BUSING, HAZARDOUS WASTE, OR VESSEL OPERATION, APPLICABLE COVERAGES FROM THE FOLLOWING LIST MUST ALSO BE SUBMITTED TO THE DIVISION OF PURCHASES PRIOR TO AWARD: * PROFESSIONAL LIABILITY INSURANCE (AKA ERRORS & OMISSIONS) - $1 MILLION OR 5% OF ESTIMATED PROJECT COST, WHICHEVER IS GREATER. * BUILDER'S RISK INSURANCE - COVERAGE EQUAL TO FACE AMOUNT OF CONTRACT FOR CONSTRUCTION. * SCHOOL BUSING - AUTO LIABILITY COVERAGE IN THE AMOUNT OF $5 MILLION * ENVIRONMENTAL IMPAIRMENT (AKA POLLUTION CONTROL) - $1 MILLION OR 5% OF FACE AMOUNT OF CONTRACT, WHICHEVER IS GREATER * VESSEL OPERATION - (MARINE OR AIRCRAFT) - PROTECTION & INDEMNITY COVERAGE REQUIRED IN THE AMOUNT OF $1 MILLION

WAGE REQUIREMENTS

BIDDERS ARE ADVISED THAT ALL PROVISIONS OF TITLE 37 CHAPTER 13 OF THE GENERAL LAWS OF RHODE ISLAND APPLY TO THE WORK COVERED BY THIS REQUEST, AND THAT PAYMENT OF THE GENERAL PREVAILING RATE OF PER DIEM WAGES AND THE GENERAL PREVAILING RATE FOR REGULAR, OVERTIME, AND OTHER WORKING CONDITIONS EXISTING IN THE LOCALITY FOR EACH CRAFT, MECHANIC, TEAMSTER, OR TYPE OF WORKMAN NEEDED TO EXECUTE THIS WORK IS A REQUIREMENT FOR BOTH CONTRACTORS AND SUBCONTRACTORS. THE PREVAILING WAGE TABLE MAY BE OBTAINED AT THE RI DIVISION OF PURCHASES HOME PAGE BY INTERNET at www.purchasing.state.ri.us SELECT "INFORMATION" AND THEN SELECT "PREVAILING WAGE TABLE". THE STATE OF RHODE ISLAND USES THE GENERAL DECISION NUMBER RI20100001 PRINTING THE ENTIRE DOCUMENT AVERAGES APPROXIMATELY ONE MINUTE PER PAGE - YOU MAY WANT TO PRINT ONLY THE PAGES APPLICABLE TO YOUR BID BIDDERS NOTE: IN THE EVENT THIS BID SPECIFIES PRICE OFFERS ON A TIME-AND-MATERIALS BASIS, i e , AN HOURLY RATE, ANY OR ALL BIDS SUBMITTED IN AN AMOUNT LESS THAN THE PREVAILING RATE IN EFFECT FOR THE WORK COVERED BY THIS REQUEST AS OF THE DATE OF BID ISSUANCE SHALL BE REJECTED BY THE DIVISION OF PURCHASES

DELIVERY PER AGENCY

DELIVERY OF GOODS OR SERVICES AS REQUESTED BY AGENCY

RIVIP INFO - BID SUBMISSION REQUIREMENTS

It is the Vendor's responsibility to check and download any and all addenda from the RIVIP This offer may not be considered unless a signed RIVIP generated Bidder Certification Cover Form is attached and the Unit Price column is completed. The signed Certification Cover Form must be attached to the front of the offer When delivering offers in person to One Capitol Hill, vendors are advised to allow at least one hour additional time for clearance through security checkpoints.

AWARD

THE STATE, AT ITS SOLE DISCRETION, SHALL RESERVE THE RIGHT TO MAKE ONE OR MULTIPLE AWARDS FOR THIS REQUIREMENT AND/OR TO REJECT ANY OR ALL BIDS

LICENSE REQUIREMENTS

VENDOR (OWNER OF COMPANY) IS RESPONSIBLE TO COMPLY WITH ALL LICENSING OR STATE PERMITS REQUIRED FOR THIS TYPE OF SERVICE. A COPY OF LICENSE/PERMIT SHOULD BE SUBMITTED WITH THIS BID. IN ADDITION TO THESE LICENSE REQUIREMENTS, BIDDER, BY SUBMISSION OF THIS BID, CERTIFIES THAT ANY/ALL WORK RELATED TO THIS BID, AND ANY SUBSEQUENT AWARD WHICH REQUIRES A RHODE ISLAND LICENSE(S), SHALL BE PERFORMED BY AN INDIVIDUAL(S) HOLDING A VALID RHODE ISLAND LICENSE

LICENSE NUMBER

In compliance with the requirements of Rhode Island General Law, Section 5-65-23, my Rhode Island license number for the work to be performed by this firm as prime contractor is:

LICENSE NUMBER:_____

BID ALL ITEMS

BIDDERS MUST BID ALL ITEMS TO BE CONSIDERED. AWARD WILL BE BASED ON TOTAL LOW.

VENDOR SPECIFICATIONS

ALL VENDORS MUST INCLUDE SPECIFICATIONS WITH BID PROPOSAL (EVEN THOSE BIDDING BRAND SPECIFIED). FAILURE TO SUBMIT SPECIFICATIONS WITH BID PROPOSAL MAY RESULT IN DISQUALIFICATION OF BID ITEMS IN CATALOGS MUST BE CLEARLY MARKED AND PAGES TABBED

FISCAL YEAR - AWARD EXTENDING PAST FISCAL YR END

AWARDS EXTENDING BEYOND JUNE 30TH ARE SUBJECT TO AVAILABILITY OF FUNDS. CONTINUATION OF THE CONTRACT BEYOND THE INITIAL FISCAL YEAR WILL BE AT THE DISCRETION OF THE STATE. TERMINATION MAY BE EFFECTED BY THE STATE BASED UPON DETERMINING FACTORS SUCH AS UNSATISFACTORY PERFORMANCE OR THE DETERMINATION BY THE STATE TO DISCONTINUE THE GOODS/SERVICES, OR TO REVISE THE SCOPE AND NEED FOR THE TYPE OF GOODS/SERVICES; ALSO MANAGEMENT OWNER DETERMINATIONS THAT MAY PRECLUDE THE NEED FOR GOODS/SERVICES

STATE OF RHODE ISLAND
Department of Administration
DIVISION OF PURCHASES
One Capitol Hill
Providence, RI 02908-5855

Gary P. Mosca
401-574-8124
gary.mosca@purchasing.ri.gov
Purchasing Website: www.purchasing.ri.gov

BID 7449363 – DOOR LOCK AND SECURITY UPGRADE
ATTACHMENT "A"

OPENING DATE AND TIME: 5/21/11 AT 2:00 PM
MANDATORY SITE VISIT FORM
YOU MUST SUBMIT A SEPARATE MANDATORY SITE VISIT FORM FOR EACH LOCATION BIDDING. NO EXCEPTION.

I (NAME)_____, REPRESENTING

(COMPANY)_____, OF

(CITY/STATE)_____,HAVE VIEWED THE SITE

(NAME OF SITE AS IT IS LISTED ON BID)_____,

AND ARE FULLY AWARE AND UNDERSTAND ALL BID REQUIREMENTS.

DATE OF MANDATORY SITE VISIT_____.

VENDOR (PRINT NAME)_____DATE_____

VENDOR (SIGNATURE)_____DATE_____

AUTHORIZED AGENCY REPRESENTATIVE (PRINT NAME)

_____DATE_____

AUTHORIZED AGENCY REPRESENTATIVE (SIGNATURE)

_____DATE_____

YOU MUST SUBMIT A SEPARATE MANDATORY SITE VISIT FORM FOR EACH LOCATION BIDDING. NO EXCEPTION. IT IS YOUR RESPONSIBILITY TO ACQUIRE THE PROPER AGENCY SIGNATURE.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Administration
DIVISION OF PURCHASES
One Capitol Hill
Providence, RI 02908-5855

Tel: (401) 574-8100
Fax: (401) 574-8387
Website: www.purchasing.ri.gov

April 16, 2012

ATTACHMENT "B"

THERE WILL BE A MANDATORY PRE-BID CONFERENCE FOR EACH OF THE THREE LOCATIONS SPECIFIED IN BID. PRE-BID WILL BE A GENERAL OVERVIEW OF PROJECT VENDORS MUST COMPLY WITH SITE SURVEY – SEE ATTACHMENT "A".

MANDATORY PRE BID:
DATE – 5/7/12

LOCATION: KNIGHT CAMPUS WARWICK 400 EAST AVE. WARWICK RI 02886 @ 9:00 AM
PLEASE REPORT TO PHYSICAL PLANT DIRECTORS OFFICE

PRE-BID WILL CONTINUE TO LISTON CAMPUS PROVIDENCE ONE HILTON STREET PROVIDENCE 02905 @ 9:45 AM
PLEASE REPORT TO SECURITY GUARD OFFICE

PRE-BID WILL CONTINUE TO FLANAGAN CAMPUS LINCOLN 1762 LOUISQUISSET PIKE, LINCOLN RI 02865 @ 10:45 AM.
PLEASE REPORT TO PHYSICAL PLANT DIRECTORS OFFICE.

BIDDERS MUST ATTEND PRE-BID AT ALL LOCATIONS.

NOTICE TO VENDORS:

REFERENCE TO ATTACHMENT "A"

ALL BIDDERS MUST CONDUCT A FULL SURVEY AT EACH OF THE THREE CAMPUSES TO CONFIRM ALL MEASUREMENTS, MATERIAL QUANTITIES ETC. EACH BIDDER MUST INCLUDE AS PART OF THEIR BID SUBMITTAL A DOCUMENT SIGNED BY EITHER THE CCRI DIRECTOR OR ASSOCIATE DIRECTOR PHYSICAL PLANT CONFIRMING THE DATE AND TIME OF EACH SURVEY.

ALL THREE CAMPUS LOCATIONS WILL BE AWARDED TO ONE VENDOR – TOTAL LOW. VENDORS WILL BE REQUIRED TO SUBMIT WITH BID THREE SURVEY SHEETS, ONE FOR EACH LOCATION.

NOTICE TO VENDORS:

PUBLIC WORKS PROJECTS

ALL BIDDERS MUST COMPLY WITH REQUIREMENTS SET FORTH IN R.I. GENERAL LAWS 37-2-18 (j) (P.L. 342).

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

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NOTICE

RFQ #7449363

PUBLIC COPY RI GENERAL LAWS

ATTACHMENT "C"

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Administration
DIVISION OF PURCHASES
One Capitol Hill
Providence, RI 02908-5855

NOTICE TO VENDORS

Effective **January 1, 2012** all *public works project* related bids or proposals exceeding **seven hundred fifty thousand ($750,000) dollars** are required to include a "public copy." All agency contract solicitations and invitations for bids, etc. shall state that any bid or proposal that exceeds seven hundred fifty thousand ($750,000) dollars must include a copy to be available for public inspection upon the opening of the bids. Any bid or proposal in excess of seven hundred fifty thousand ($750,000) dollars which does not include a copy for public inspection shall be deemed to be non-responsive. For further information, please see R. I. Gen. Laws §37-2-18(j) (P.L. 342). http://www.rilin.state.ri.us/PublicLaws/law11/law11342.htm .

Dated: December 13, 2011

State of Rhode Island Department of Administration
Division of Purchases

REVISED
December 13, 2011

NOTICE TO CONTRACTORS AND VENDORS BIDDING ON PUBLIC WORKS PROJECTS

Effective **January 1, 2012** all Public Works related project proposals exceeding Seven Hundred Fifty Thousand ($750,000) dollars are required to include a "public copy." All agency contract solicitations, requests for proposals, invitations for bids, etc. shall state that any bid or proposal that exceeds Seven Hundred Fifty Thousand ($750,000) dollars must include a copy to be available for public inspection upon the opening of the bids. Any bid or proposal in excess of Seven Hundred Fifty Thousand ($750,000) dollars which does not include a copy for public inspection shall be deemed to be non-responsive Additionally, proposals submitted for a Master Price Agreement, when the total amount potentially may exceed Seven Hundred Fifty Thousand ($750,000) and the solicitation expressly requires any or all vendors to submit a public copy, must include a copy to be available for public inspection.

For further information, please see R.I. Gen. Laws Section 37-2-18(j) and State Procurement Regulations at www.purchasing.ri.gov. This requirement applies to all public works projects (vertical and horizontal) exceeding Seven Hundred Fifty Thousand ($750,000) dollars and any combination of base bid plus all alternates.

In accordance to the State Procurement Regulations that will become effective January 2, 2012 the following conditions are required:

1. All bid proposals shall be opened publicly and read aloud.
2. Each bid, together with the name of the bidder, shall be recorded and an abstract made available "immediately" for public inspection.

3. Copy of the redacted bid proposal shall be available for public inspection by the close of the business the day the subject bid(s) and/or contract(s) is opened by the Division of Purchases.

4 The burden to identify and withhold from the public copy that is released at the bid opening any trade secrets, commercial or financial information, or other information the bidder deems not subject to public disclosure pursuant to Chapter 38-2, the Access to Public Records Act, shall rest solely and exclusively with the bidder submitting the bid proposal.

5. At the time that a proposal is submitted, a bidder must submit a redacted copy of the bid proposal in a PDF (Portable Document File) file format on a read only CD-R Media Disk (hereinafter referred to as a "CD"). Vendors are required to provide all documents submitted in response to the bid solicitation on the CD.
    a The acceptable media is a CD-R. Media that is read/writable (CD RW) will not be accepted.
    b. Only readable, not writeable media is acceptable.
    c. Vendor is responsible for supplying their own CD-R media
    d. Vendor is responsible for the integrity of the CD.

6. Failure of the bidder to submit a public copy on a readable CD, as required by RIGL 37-2-18 as amended, shall result in the disqualification of said bid.

7. CD must be enclosed in a protective cover and the protective cover clearly labeled with the following:
    a. Marked "Public Copy"
    b. Title of Solicitation as it appears on the RIVIP cover letter.
    c. Name of Company and Vendor ID as it appears on the RIVIP cover letter.
    d Bid Response Number as it appears on the RIVIP cover letter.
    e. Date of Bid as it appears on the RIVIP cover letter.

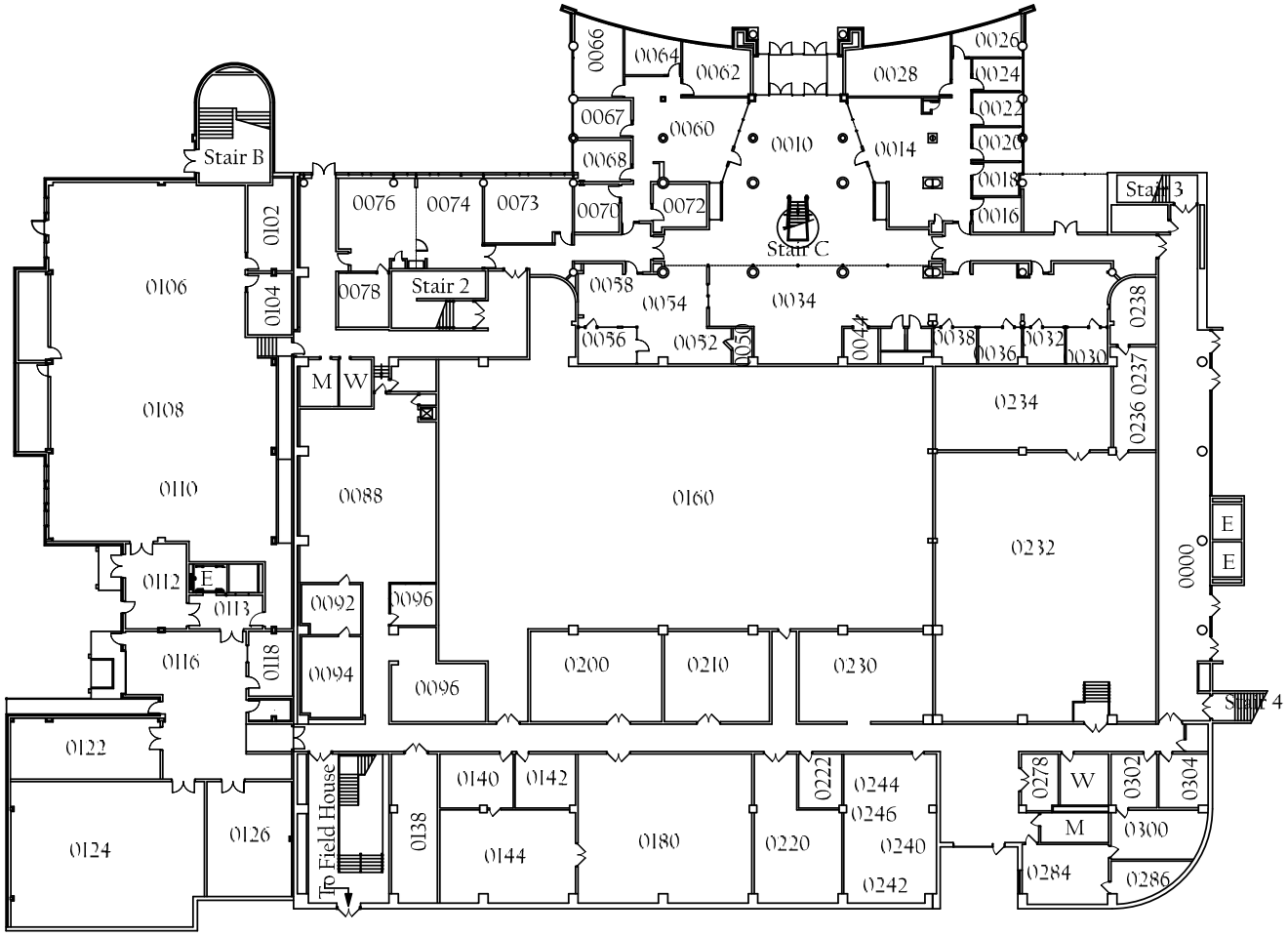
8 Bid response on CD-R to be in a PDF (Portable Document Format)
    a. One PDF file will be on the CD-R. File to meet the following requirements:
        i. Only one file will contain all documents in response to the bid. If you have more than one document for the response, the documents must be concatenated or merged into one PDF document. Failure to submit only one PDF file may result in disqualification of bid.
        ii. File should be named in the following manner:
            1. BidNumber_DateofBid_VendorName_VendorID pdf. Where:
                1. Bid Number is the bid number for which the response is for as it appears on the RIVIP cover sheet.
                2. Dateofbid is date of bid using the format (mm-dd-yyyy).
                3. VendorName is the name of the vendor as one word – no spaces or punctuation.
                4 Vendor ID as it appears on the RIVIP vendor cover sheet.

Note: you must use underscores in separating the fields. Do not use underscores anywhere else in the filename other than to separate the fields.

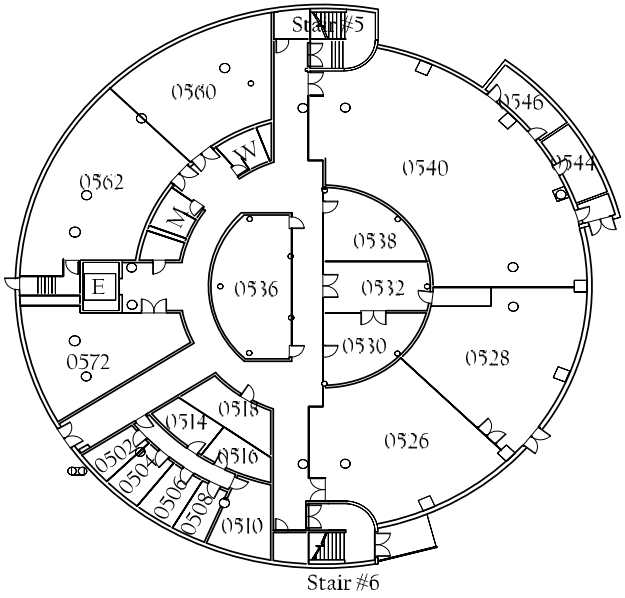
Example: 1234567_06-01-2011_Vendor1_9876.pdf

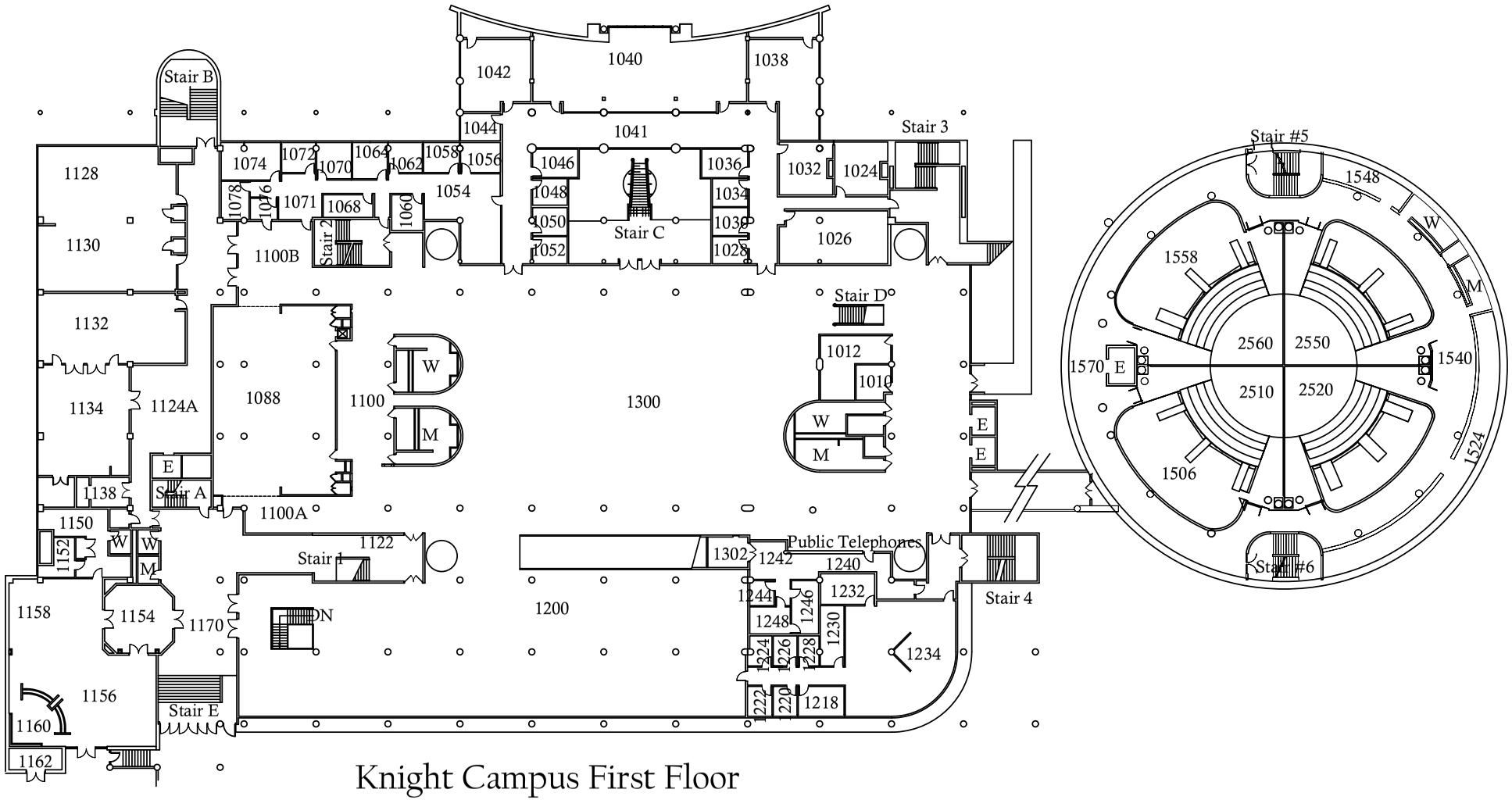
9. Purchasing staff will officially conclude the bid opening and all loaded proposals will be posted to the Purchasing web site. All proposals will be available immediately after bid opening www.purchasing.ri.gov.

For technical assistance, contact the Division of Purchases office at 574-8100.

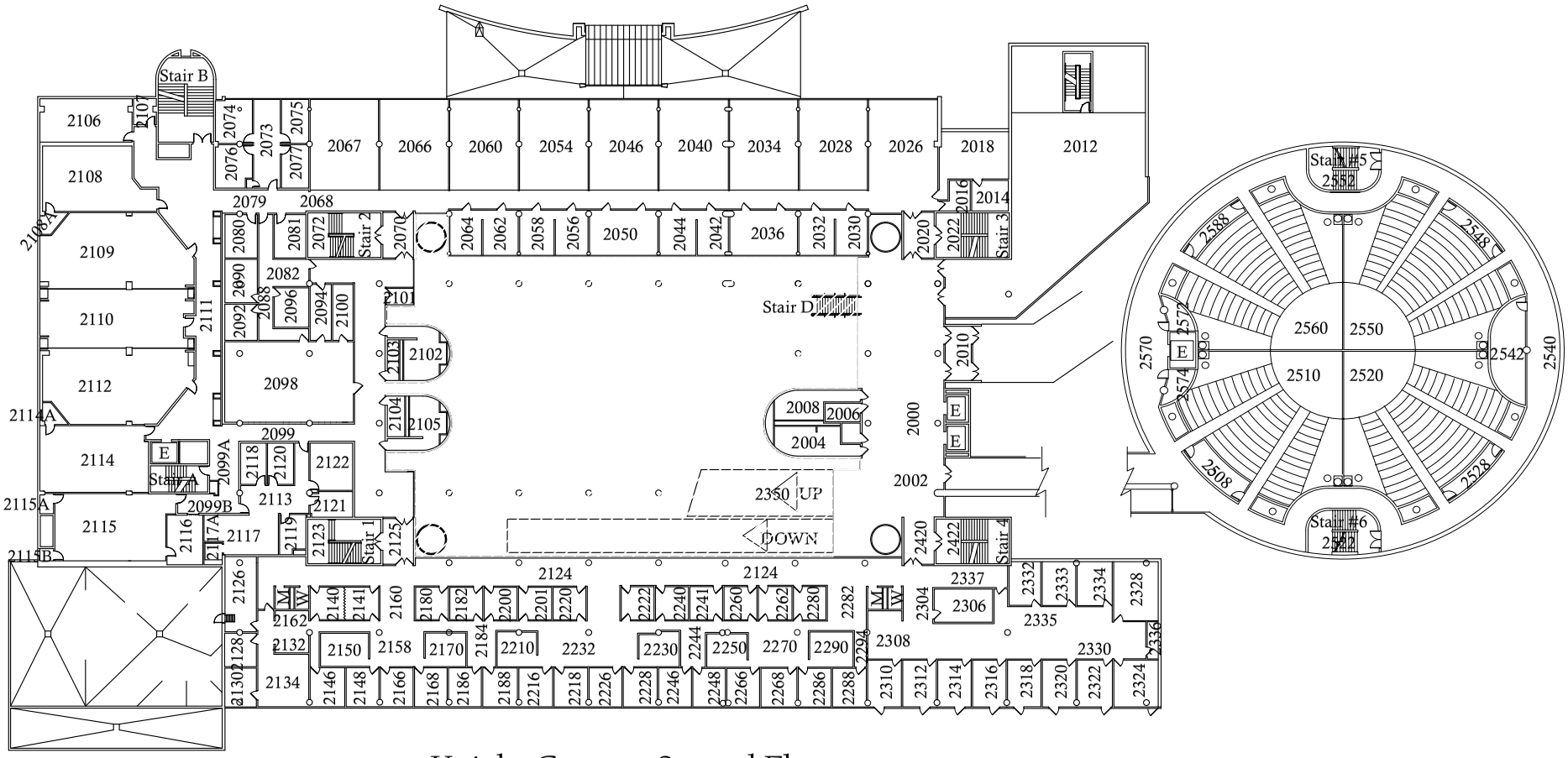


Knight Campus Ground Floor

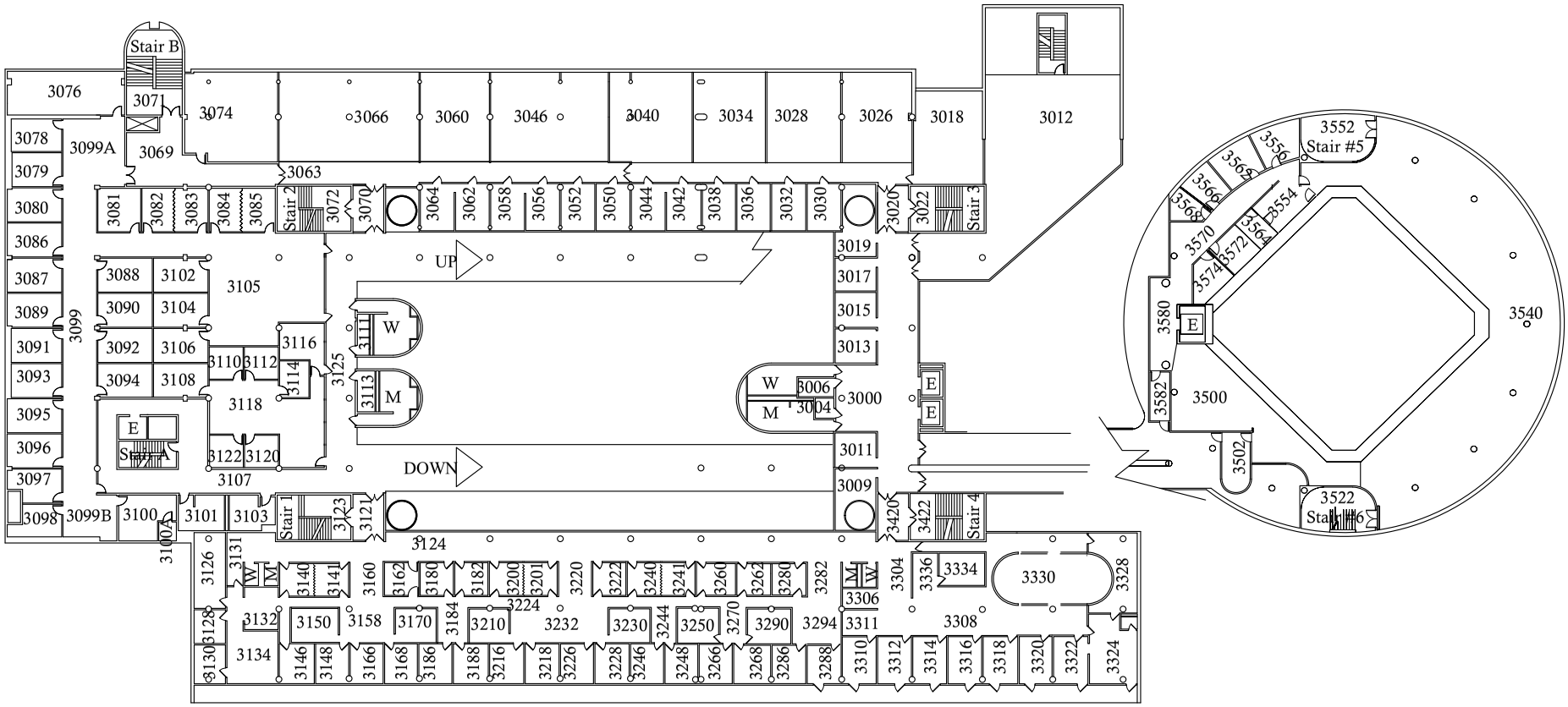




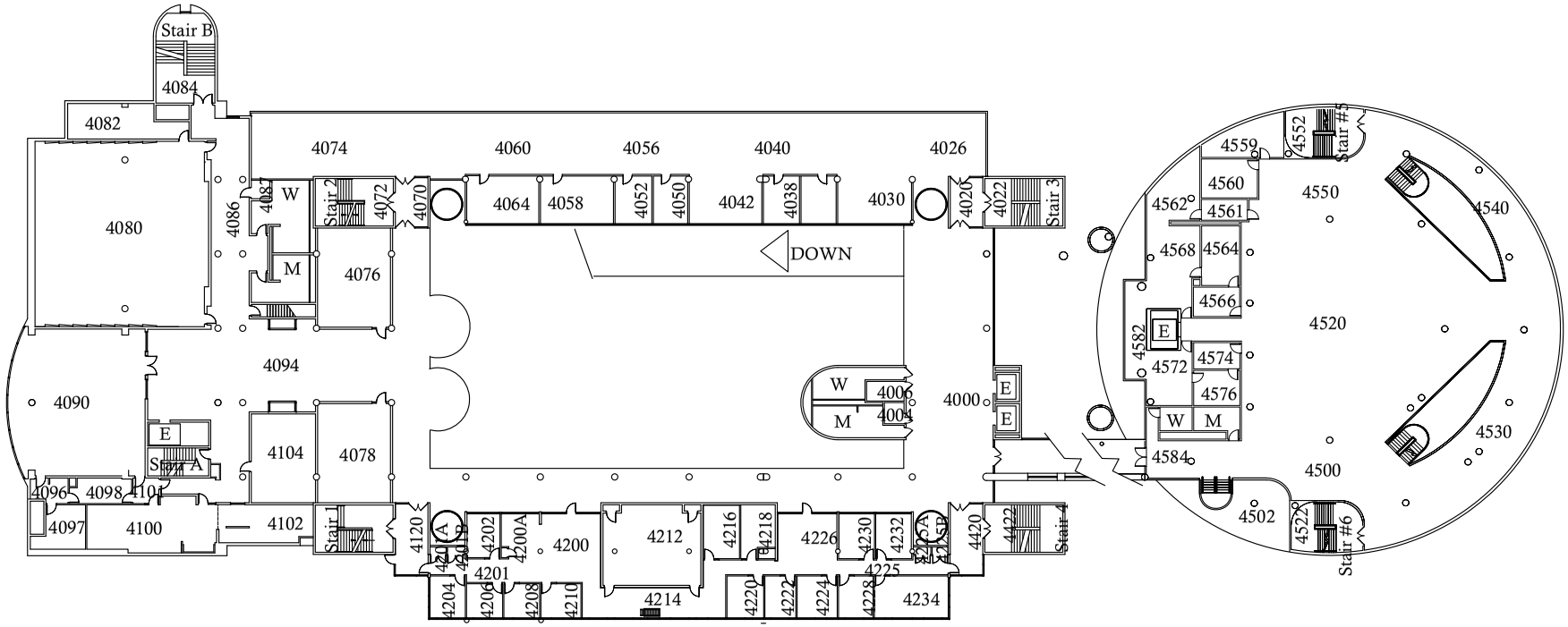
Knight Campus First Floor



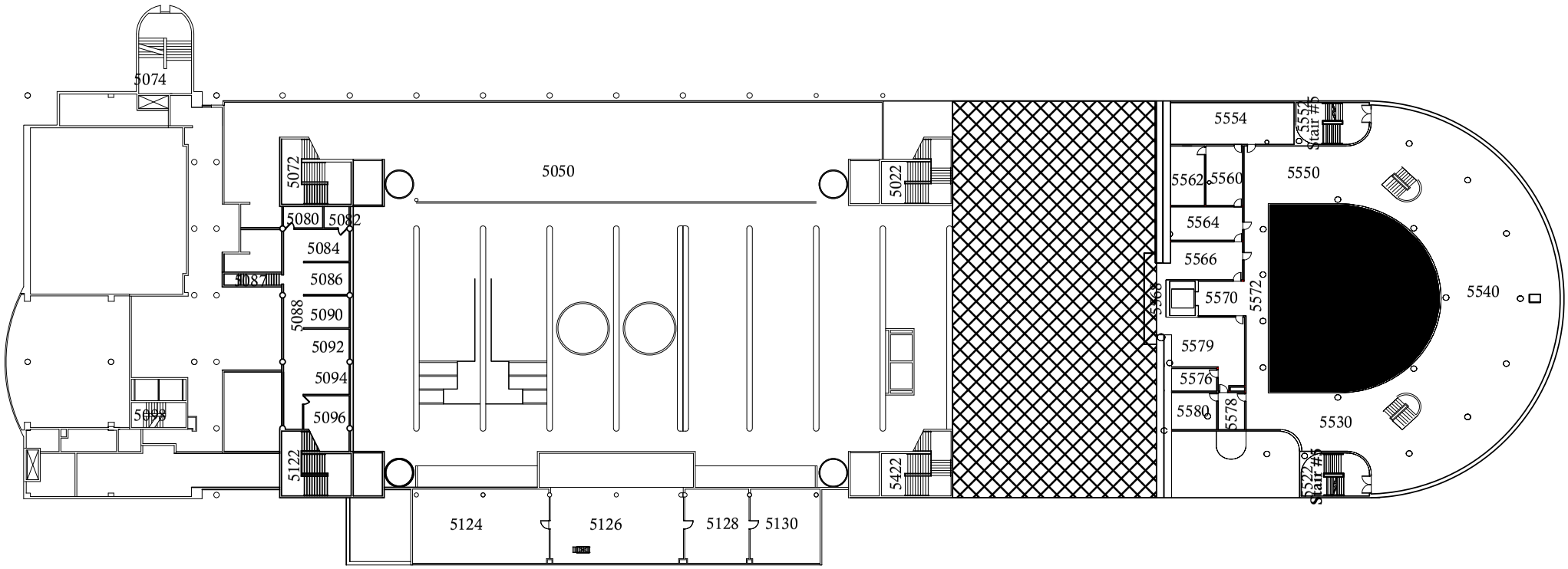
Knight Campus Second Floor



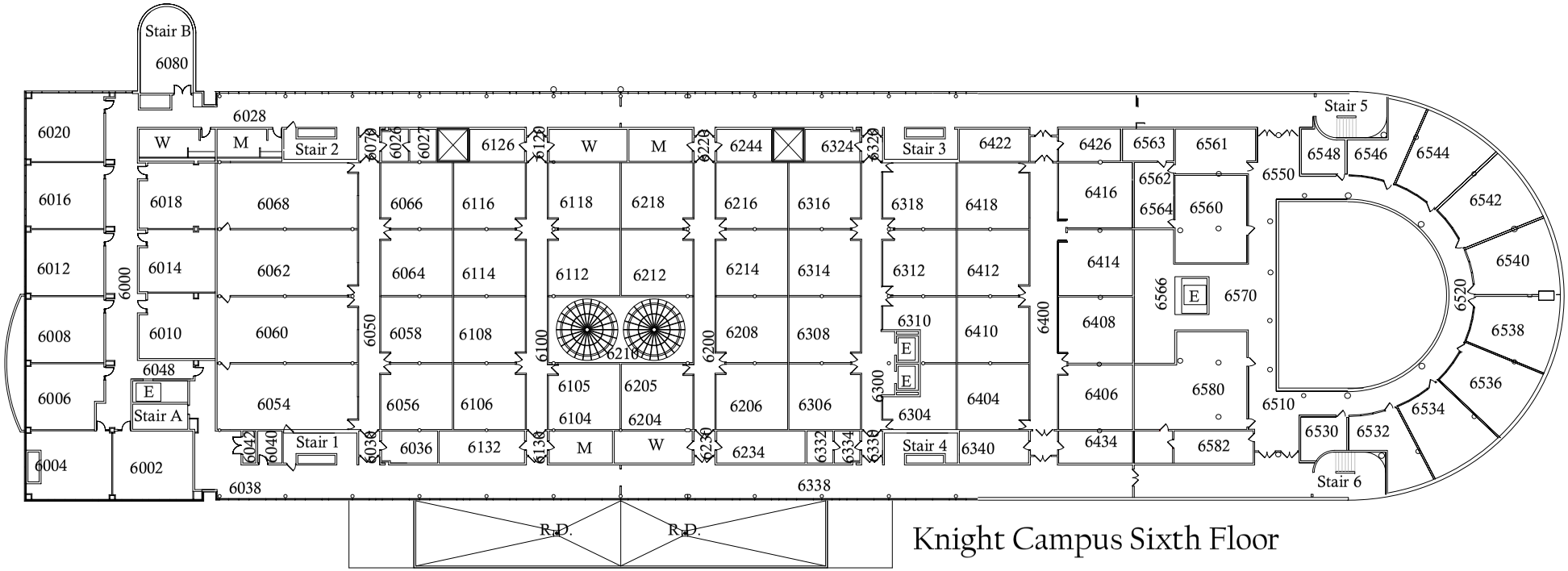
Knight Campus Third Floor



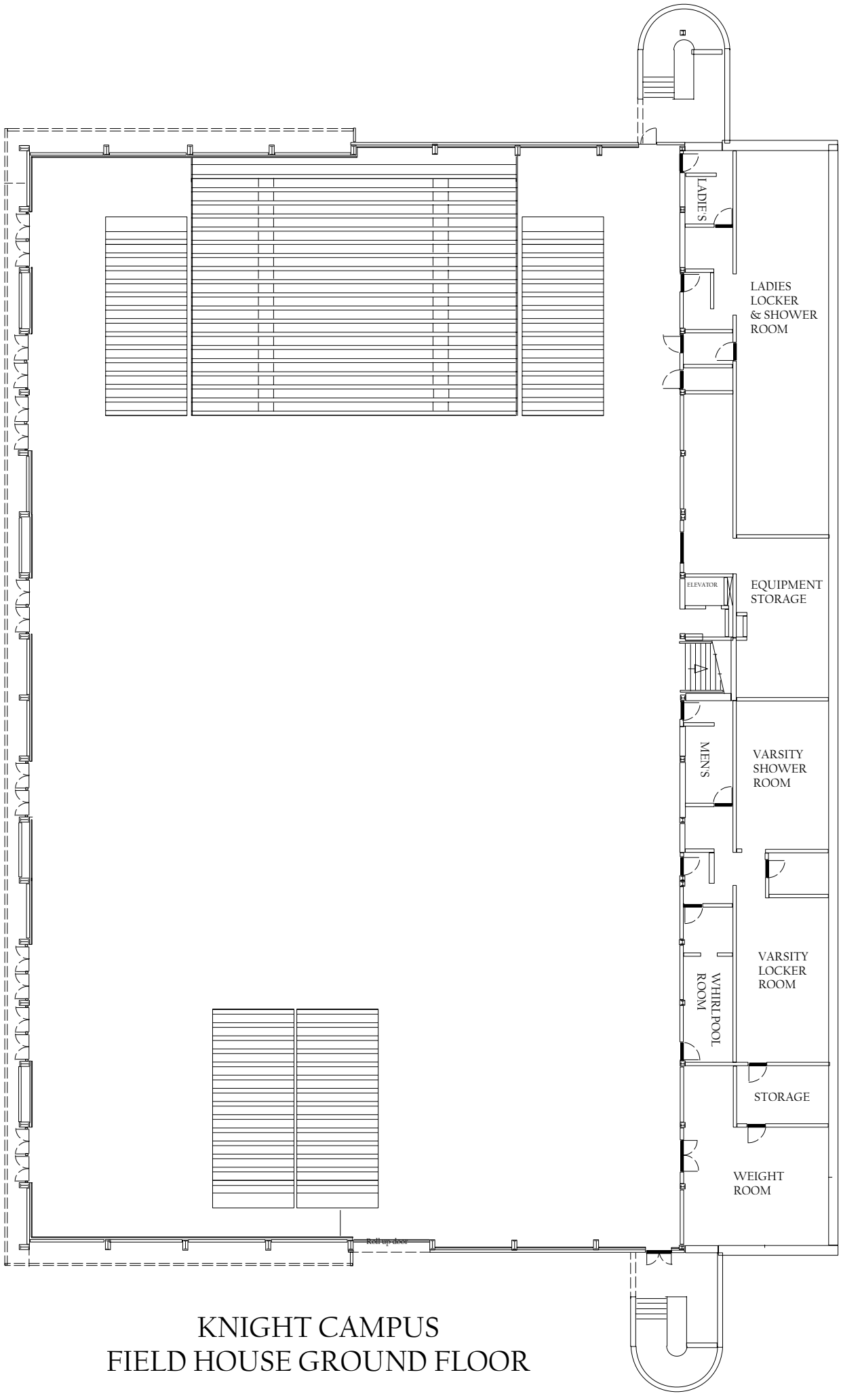
Knight Campus Fourth Floor



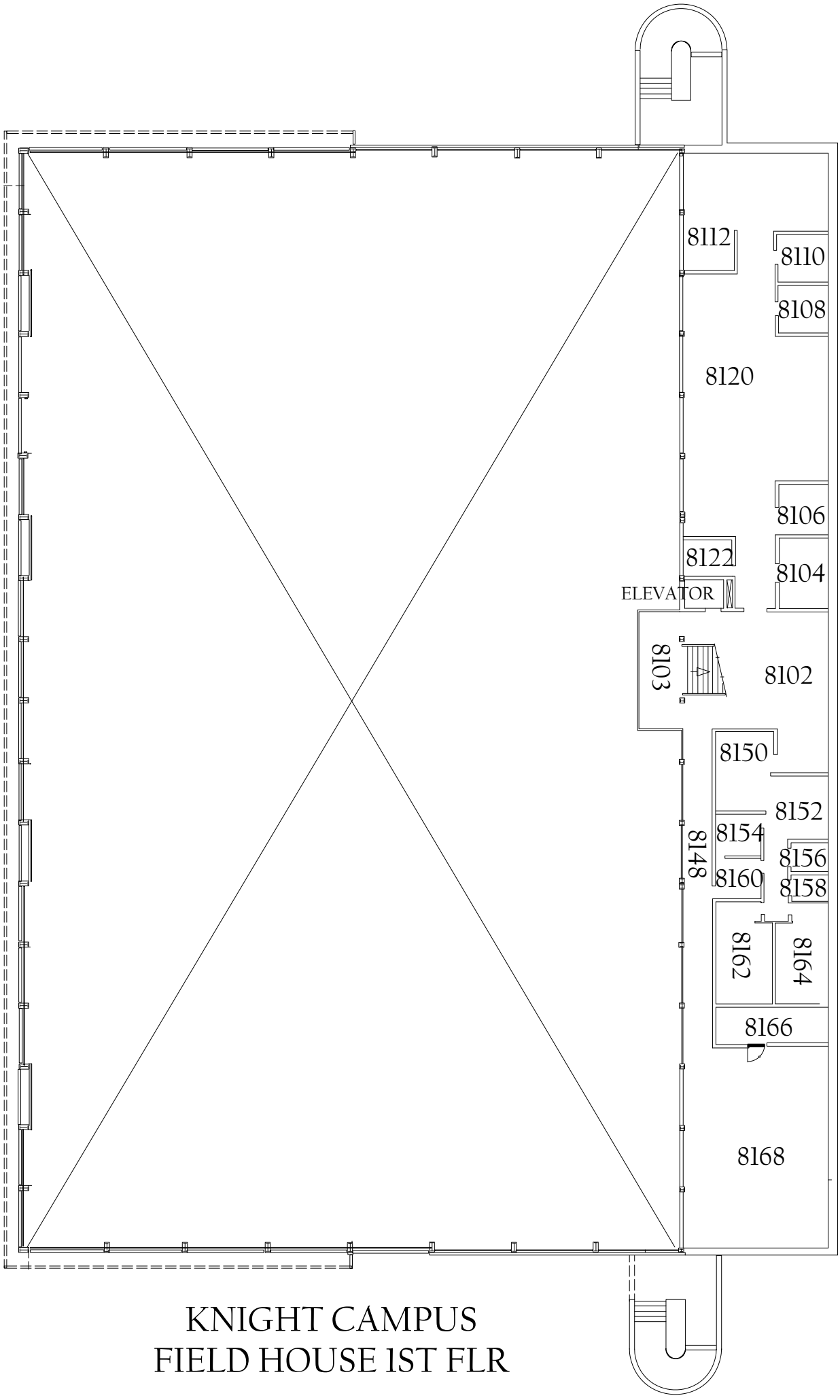
Knight Campus Fifth Floor



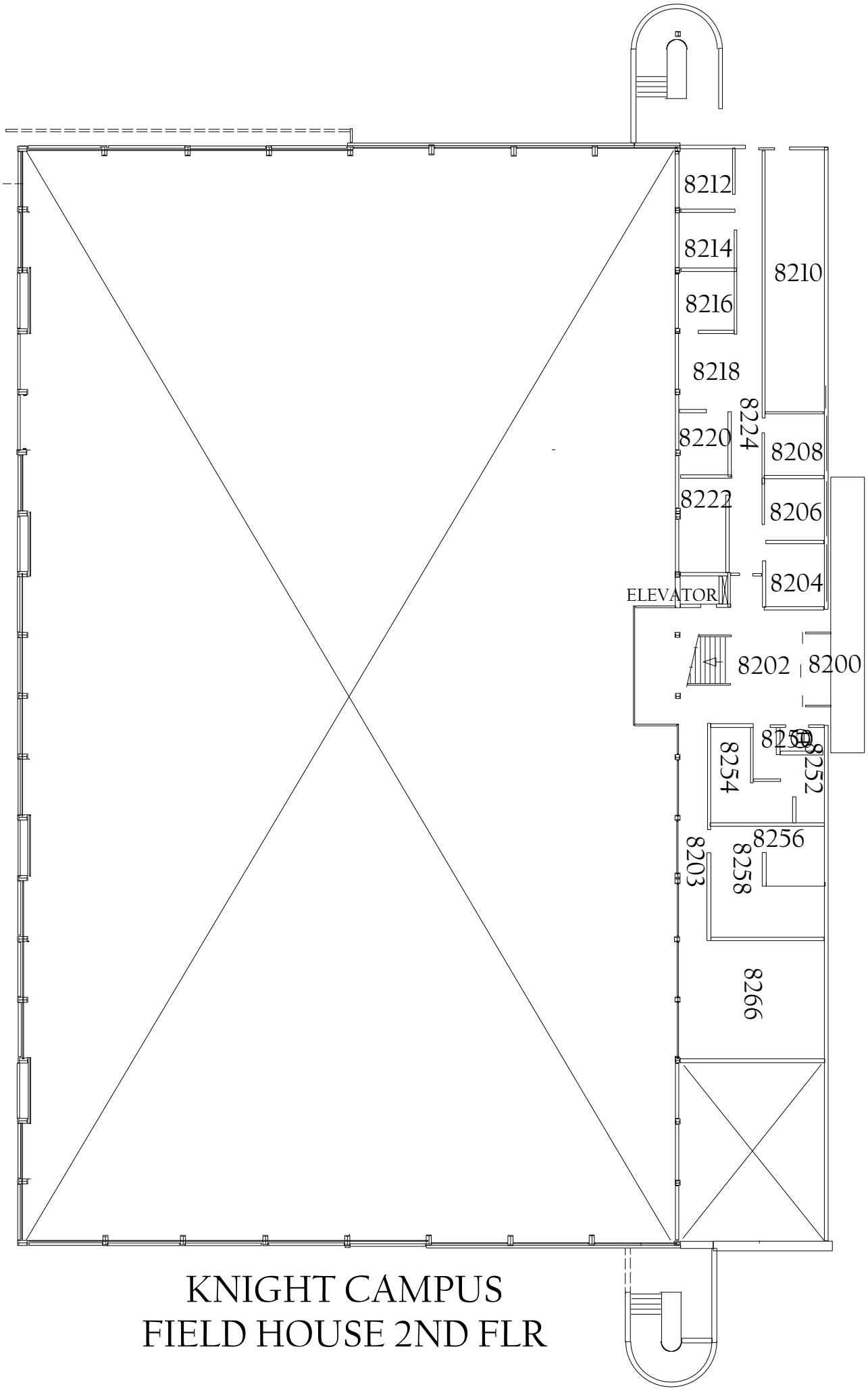
Knight Campus Sixth Floor



KNIGHT CAMPUS
FIELD HOUSE GROUND FLOOR



KNIGHT CAMPUS
FIELD HOUSE 1ST FLR



KNIGHT CAMPUS
FIELD HOUSE 2ND FLR

LINE 1 - CCRI WARWICK KNIGHT CAMPUS
HARDWARE DETAILS

HW SET: 01 NEW WIRELESS ELECTRONIC LOCK ONLY - BALANCE OF HARDWARE TO REMAIN

DOOR NUMBER:

1010	1012	102	1024	1026	1028
1030	1032	1034	1036	1038	104
1042	1044	1046	1048	1050	1052
1056	1058	1060	1062	1064	1068
1070	1071	1072	1074	1076	1078
1128	113	1130	1132	1134A	1138
1140	1150	1150A	1152	118	120
1218	122	1220	1222	1224	1226
1228	1230	1232	1234A	1234B	124
1240A	1246	126	1302	138	14
140	142	16	18	20	200
2014	2016	2018	2030	2032	2036
2036A	2042	2044	2050	2050A	2056
2058	2062	2064	2073	2074	2075
2076	2077	2080	2081	2082	2082A
2088	2090	2094	2096	2098	2098A
210	2106	2108	2109	2112	2113
2114	2115	2116	2117A	2118	2119
2120	2122	2126	2128	2130	2140A
2146	2148	2166	2168	2180B	2182B
2186	2188	22	220	2200A	2216
2218	222	2220B	2222B	2226	2228
2241B	2246	2248	2260B	2262B	2266
2268	2280B	2286	2288	2306	2310B
2312B	2314B	2316B	2318B	2320B	2322B
2324B	2328	2332	2333	2334	2336
236	237	24	242	244	2508B
2528B	2542	2548B	2572	2574	2588B
26	278	28	284	286	30
3009	3011	3013	3015	3017	3018
3019	302	3030	3032	3036	3038
304	3042	3044	3050	3052	3056
3058	3062	3064	3074	3076	3078
3079	3080	3081	3082	3083	3084
3085	3086	3087	3088	3089	3090
3091	3092	3093	3094	3095	3096
3097	3098	3100	3100A	3101	3102
3103	3104	3106	3108	3110	3112
3114	3116	3120	3122	3126	3128
3130	3140A	3141A	3146	3148	3162A
3166	3168	3180A	3182A	3186	3188
32	3200A	3201A	3216	3218	3222A
3226	3228	3240A	3241A	3246	3248
3250	3260A	3262A	3266	3268	3280A
3286	3288A	3290	3306	3310A	3312A
3314A	3316A	3318	3320A	3322A	3328A
3328B	3334	3540	3554	3556	3562
3564	3566	3568	3572	3574	36
38	40	4036	4038	4050	4052

LINE 1 - CCRI WARWICK KNIGHT CAMPUS
HARDWARE DETAILS

4058	4064	4076	4078	4082	4087
4090B	4096	4097	4098	4100	4101
4114	42	4200	4201A	4201B	4202
4204	4206	4208	4210	4212A	4212B
4216	4218	4220	4222	4224	4226
4228	4230	4232	4234	44	4559
4560	4561	4564B	4566	4568	4572
4574	4576B	4TELDATA	4THSTAIR	502	504
506	508	510	512	514	516
518	524	530	532	536A	538
542	544	546	546A	554	5554
5560B	5562	5564	5566B	5568	5576
5578A	5579	5580	566	56A	58
60	6002	6004	6006	6008	6010
6012	6014	6016	6018	6020	6026
6027	6036	6040	6042	6054	6056
6058	6060	6062	6064	6066	6068
6105	6106	6108	6112	6114	6116
6118	6126	6132	62	6205	6206
6208	6212	6214	6216	6218	6234
6244	6304	6306	6308	6310	6312A
6312B	6314	6316	6318	6324	6332
6334	64	6404	6406	6408	6410
6412	6414	6416	6418	6426	6434
6530	6532	6534	6536	6538	6540
6542	6544	6546	6548	6560	6561
6562	6563	6564	6580A	6580B	6582
66	68	70	72	73	76
78	8104	8108	8110	8120	8122
8150	8154	8156	8158	8160	8162
8164	8168	8204	8206	8208	8212
8214	8216	8220	8222	8250	8258
8266	96	LADIES	LADIES1	LADIES2	LOCKER
MENS	OFFICE	STORAGE1	STORAGE2	STORAGE3	WEIGHTS
WHIRL POOL					

EACH TO HAVE:

1	EA	ELECTRONIC LOCK	AD-400-MS-70-**MT**-RHO-**JD**	626	SCE
1	**EA**	**EVEREST 29 CORE ONLY 23-030**		**626**	**SCH**
		BALANCE OF HARDWARETO REMAIN.			

LINE 1 - CCRI WARWICK KNIGHT CAMPUS
HARDWARE DETAILS

HW SET: 02 NEW WIRELESS ELECTRONIC EXIT DEVICE TRIM AND EXIT DEVICE
DOOR NUMBER:

1040B	1134	1154	1558A	160	160A
2100	232	3099A	4080A	4090	4225B
526	528	540	560	562	572
74A					

EACH TO HAVE:

1	EA	FIRE EXIT HARDWARE	9927EO-F	626	VON
1	EA	ELECTRONIC EXIT TRIM	AD-400-993S-70-**MT**-RHO-**JD**	626	SCE
1	**EA**	**EVEREST 29 CORE ONLY 23-030**		**626**	**SCH**
		BALANCE OF HARDWARETO REMAIN.			

HW SET: 03 ATTIC STOCK - WIRELESS LOCKS/EXIT DEVICE TRIM
DOOR NUMBER:
ATTIC

EACH TO HAVE:

2	EA	ELECTRONIC EXIT TRIM	AD-400-993S-70-**MT**-RHO-**JD**	626	SCE
4	EA	ELECTRONIC LOCK	AD-400-MS-70-**MT**-RHO-**JD**	626	SCE
6	**EA**	**EVEREST 29 CORE ONLY 23-030**		**626**	**SCH**

HW SET: 04 ELECTRONIC ITEMS/SOFTWARE/TRAINING
DOOR NUMBER:
SOFTWARE

EACH TO HAVE:

1	EA	HANDHELD DEVICE	HHD KIT	SCE
1	EA	MAINT AGREEMENT	MNT-SFT-1	SCE
2	EA	TRAINING COURSE	SEUONSITE (PER DAY)	SCE
1	EA	GUEST PASS LICENSE	SGUEST-LIC	SCE
1	EA	SMS SOFTWARE	SPRE-SFT-1	SCE
1000	EA	SMART CARD	SXF9520	SCE

HW SET: 05 ELECTRONIC ITEMS REQUIRED FOR WIRELESS LOCKS
DOOR NUMBER:
ELECT.

EACH TO HAVE:

60	EA	POWER SUPPLY	PS902-900BBK	SCE
60	EA	SMART CONTROLLER	SSRC	SCE
60	EA	ANTENNA MODULE	ANT400-REM-I/O (IF NECESSARY)	SCE
60	EA	PANEL INTERFACE	PIM400-485-SMS	SCE
			QUANTITY OF EACH OF THESE ITEMS TO BE BASED ON THE NUMBER OF DOORS IN RANGE OF THE PANEL INTERFACE MODULE	

LINE 1 - CCRI WARWICK KNIGHT CAMPUS
HARDWARE DETAILS

HW SET: 06 RIM/MORTISE CYLINDERS - FOR INTERIOR DOOR/STAIRWELL DOORS/CORRIDOR DOORS/LABS
DOOR NUMBER:
KEYS

EACH TO HAVE:

240	EA	CYLINDER	20-057 **ICX**/20-061 **ICX** (VERIFY CAM REQUIREMENTS & RIM VS. MORTISE)	626	SCH
240	**EA**	**EVEREST 29 CORE ONLY**	**23-030**	**626**	**SCH**
15	EA	DUMMY MORT CYLINDER	985D	626	FAL
200	**EA**	**KEY BLANKS**	**EVEREST 29**		**SCH**
200	**EA**	**KEY BLANKS**	**EVEREST 29 PRIMUS**		**SCH**
1	**EA**	**KEY MGMT. SOFTWARE**	**SM01-287 (SITEMASTER)**		**SCH**
1	EA	BITTING LIST			SCH
1	**EA**	**PINNING KIT**	**40-070 PRIMUS**		**SCH**
1	EA	KEY BITTING PUNCH	40-099		SCH
1	EA	PINNING KIT	40-119		SCH
5	**EA**	**KEY BLANKS**	**EVEREST 29 - CONTROL KEY**		**SCH**
5	**EA**	**KEY BLANKS**	**EVEREST 29 PRIMUS - CONTROL KEY**		**SCH**

HW SET: 07 EXTERIOR - EXISTING DOOR - NEW CYLINDER ONLY

EACH TO HAVE:

48	EA	CYLINDER	20-057 **ICX**/20-061 **ICX** (VERIFY CAM REQUIREMENTS & RIM VS. MORTISE)	626	SCH
48	**EA**	**EVEREST 29 PRIMUS CORE ONLY**	**20-740 (FOR EXTERIOR DOORS)**	**626**	**SCH**

HW SET: 08 NEW WIRELESS ELECTRONIC EXIT DEVICE TRIM AND EXIT DEVICE
DOOR NUMBER:
3099

EACH TO HAVE:

1	EA	FIRE EXIT HARDWARE	9975EO-F	626	VON
1	EA	ELECTRONIC EXIT TRIM	AD-400-993M-70-**MT**-RHO-**JD**	626	SCE
6	**EA**	**EVEREST 29 CORE ONLY**	**23-030**	**626**	**SCH**
		BALANCE OF HARDWARE	TO REMAIN.		

HW SET: 09 GYM EXIT DOORS WITH NEW CLOSERS ONLY
DOOR NUMBER:
GYMEXIT

EACH TO HAVE:

6	EA	SURFACE CLOSER	SC61 HD/PA	689	FAL
		BALANCE OF HARDWARE	TO REMAIN.		

LINE 1 - CCRI WARWICK KNIGHT CAMPUS
HARDWARE DETAILS

HW SET: 10 EXTERIOR - EXISTING DOOR - NEW CYLINDER ONLY AT ALUMINUM DOOR
DOOR NUMBER:
A4

EACH TO HAVE:

2	EA	MORTISE CYLINDER	20-061 **ICX** (CONFIRM CAM)	626	SCH
2	**EA**	**EVEREST 29 PRIMUS CORE ONLY**	**20-740 (FOR EXTERIOR DOORS)**	**626**	**SCH**

HW SET: 11 EXISTING DOOR - NEW CYLINDER ONLY - CORBIN CAM
DOOR NUMBER:
BOILER MANUF MANUF1 TRASH1 TUNNEL1

EACH TO HAVE:

1	EA	MORTISE CYLINDER	20-061 **ICX** B520-253 (CONFIRM CAM)	626	SCH
1	**EA**	**EVEREST 29 PRIMUS CORE ONLY**	**20-740 (FOR EXTERIOR DOORS)**	**626**	**SCH**

HW SET: 12 EXISTING DOOR - NEW CYLINDER ONLY - SARGENT CAM
DOOR NUMBER:
FIELDHS1 FIELDHS2 FIELDHS3

EACH TO HAVE:

1	EA	MORTISE CYLINDER	20-061 **ICX** B520-296 (CONFIRM CAM)	626	SCH
1	**EA**	**EVEREST 29 PRIMUS CORE ONLY**	**20-740**	**626**	**SCH**

HW SET: 13 EXISTING DOOR - NEW LOCKSET ONLY
DOOR NUMBER:
COMPACTOR

EACH TO HAVE:

1	EA	STOREROOM LOCK	L9080**T** 06N	626	SCH
1	**EA**	**EVEREST 29 PRIMUS CORE ONLY**	**20-740**	**626**	**SCH**

BALANCE OF HARDWARETO REMAIN.

LINE 1 - CCRI WARWICK KNIGHT CAMPUS
HARDWARE DETAILS

HW SET: 14 PAIR SURFACE VERTICAL ROD FIRE EXIT HARDWARE X SMOKE GASKETING
DOOR NUMBER:
TUNNEL2

EACH TO HAVE:

2	EA	CONTINUOUS HINGE	700	630	IVE
2	EA	FIRE EXIT DEVICE	F-25-V-L-NL 712L DANE	32D	FAL
2	EA	MORTISE CYLINDER	20-061-**ICX**	626	SCH
2	**EA**	**EVEREST 29 CORE ONLY**	**23-030**	**626**	**SCH**
2	EA	SURFACE CLOSER	SC71 HD/PA	689	FAL
2	EA	KICK PLATE	8400 10" X 1" LDW	630	IVE
2	EA	MAGNETIC HOLD-OPEN	SEM7800 SERIES AS REQUIRED	AL	LCN
1	SET	DOOR SEAL	798B	BLK	REE
1	SET	BRUSH ASTRAGAL	959C X 2 PCS	AL	REE

ALL WIRING AND CONNECTIONS BY DIVISION 26.
OPERATIONAL DESCRIPTION:
DOORS NORMALLY HELD OPEN BY MAGNETIC HOLDERS. MAGNETIC HOLDERS TO BE CONNECTED TO BUILDING'S FIRE/SMOKE ALARM SYSTEM TO RELEASE IMMEDIATELY UPON ACTIVATION.

HW SET: 15 SCENE SHOP EXISTING DOORS - NEW CLOSERS ONLY
DOOR NUMBER:
SCENE

EACH TO HAVE:

2	EA	SURFACE CLOSER	SC71 HD/PA	689	FAL
		BALANCE OF HARDWARE	TO REMAIN.		

HW SET: 16 NEW ELECTRONIC LOCK ONLY - BALANCE OF HARDWARE TO REMAIN
DOOR NUMBER:

1004	1006	1104	1106	2004	2006
2103	2104	3004	3006	3111	3113

EACH TO HAVE:

1	EA	ELECTRONIC LOCK	AD-200-MS-70-**MT**-RHO-**JD**	626	SCE
1	**EA**	**EVEREST 29 CORE ONLY**	**23-030**	**626**	**SCH**
		BALANCE OF HARDWARE	TO REMAIN.		

HW SET: 17 NEW WIRELESS ELECTRONIC EXIT DEVICE TRIM ONLY - BALANCE OF HARDWARE TO REMAIN
DOOR NUMBER:
1506B 1558B

EACH TO HAVE:

1	EA	ELECTRONIC EXIT TRIM	AD-400-993S-70-**MT**-RHO-**JD**	626	SCE
1	**EA**	**EVEREST 29 CORE ONLY**	**23-030**	**626**	**SCH**
		BALANCE OF HARDWARE	TO REMAIN.		

LINE 1 - CCRI WARWICK KNIGHT CAMPUS
HARDWARE DETAILS

HW SET: 18 NEW WIRELESS ELECTRONIC EXIT DEVICE TRIM AND EXIT DEVICE

DOOR NUMBER:
2510 2520 2550 2560

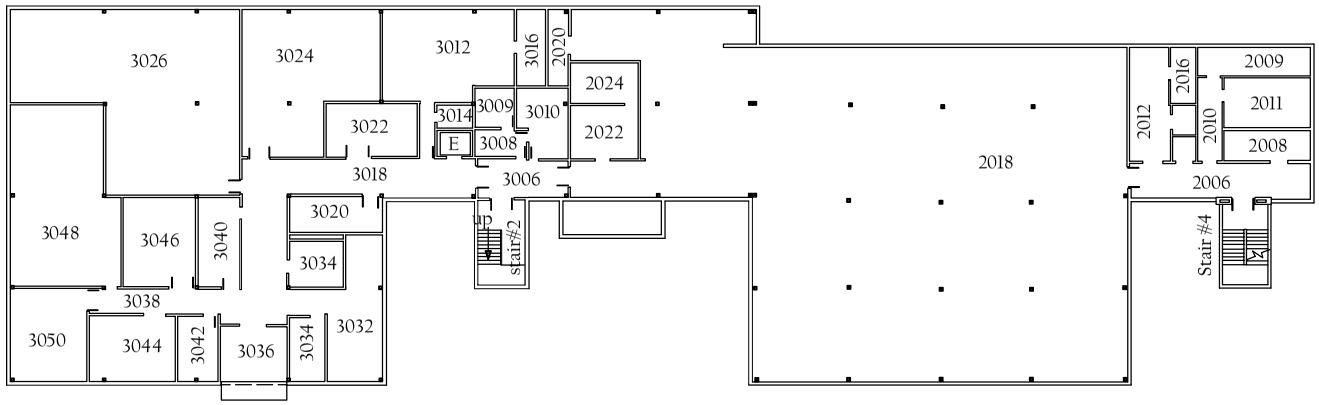
EACH TO HAVE:

2	EA	FIRE EXIT HARDWARE	9927EO-F	626	VON
2	EA	ELECTRONIC EXIT TRIM	AD-400-993S-70-**MT**-RHO-**JD**	626	SCE
2	**EA**	**EVEREST 29 CORE ONLY 23-030**		**626**	**SCH**
		BALANCE OF HARDWARE TO REMAIN.			

HW SET: 19 NEW WIRELESS ELECTRONIC LOCK ONLY - BALANCE OF HARDWARE TO REMAIN
DOOR NUMBER:
180

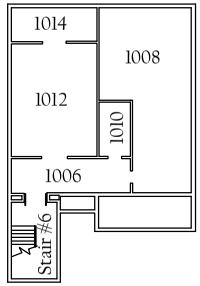
EACH TO HAVE:

1	EA	ELECTRONIC LOCK	AD-400-CY-70-**MT**-RHO-**JD**	626	SCE
1	**EA**	**EVEREST 29 CORE ONLY 23-030**		**626**	**SCH**
		BALANCE OF HARDWARE TO REMAIN.			

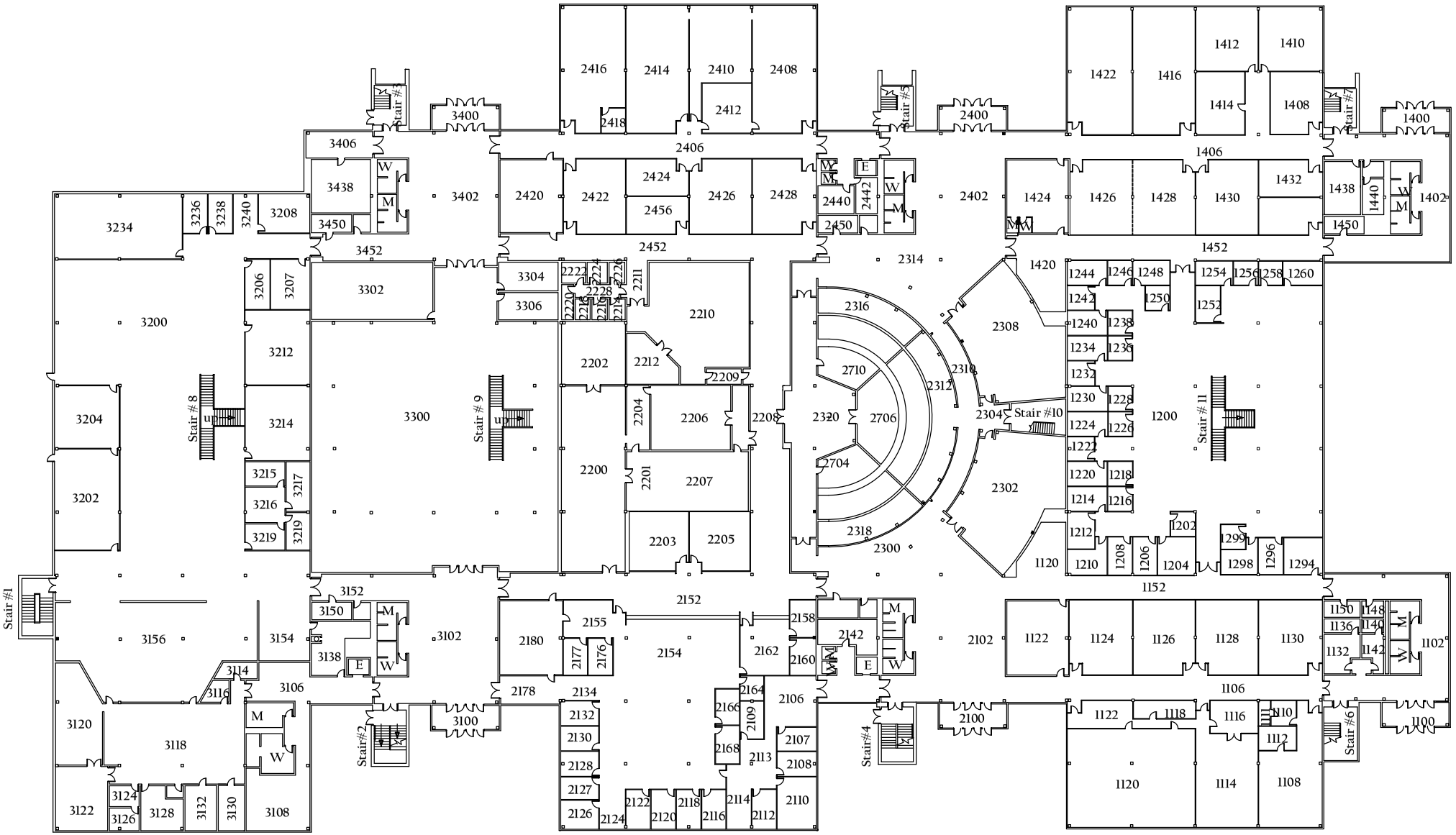


BASEMENT MOD 3

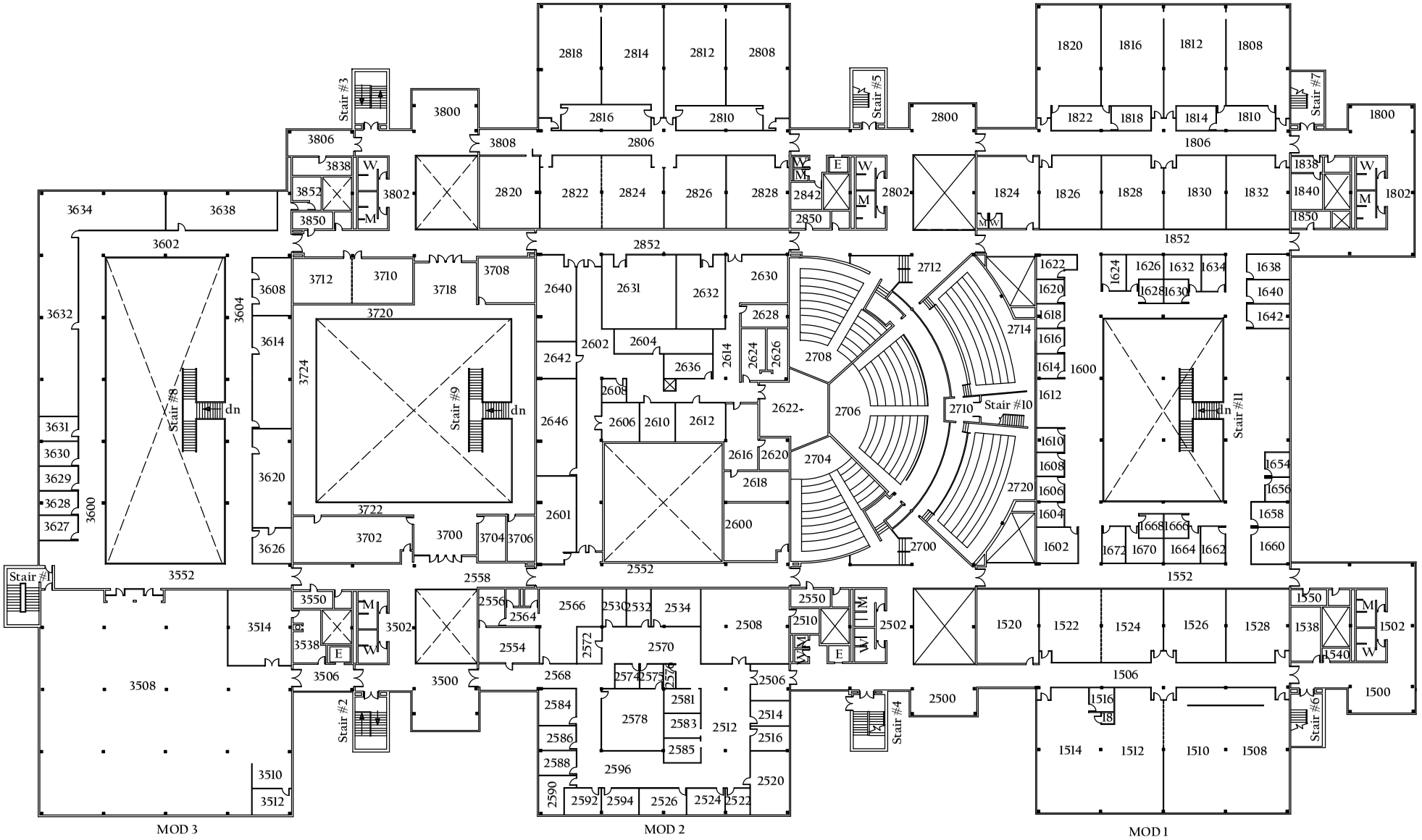
BASEMENT MOD. 2



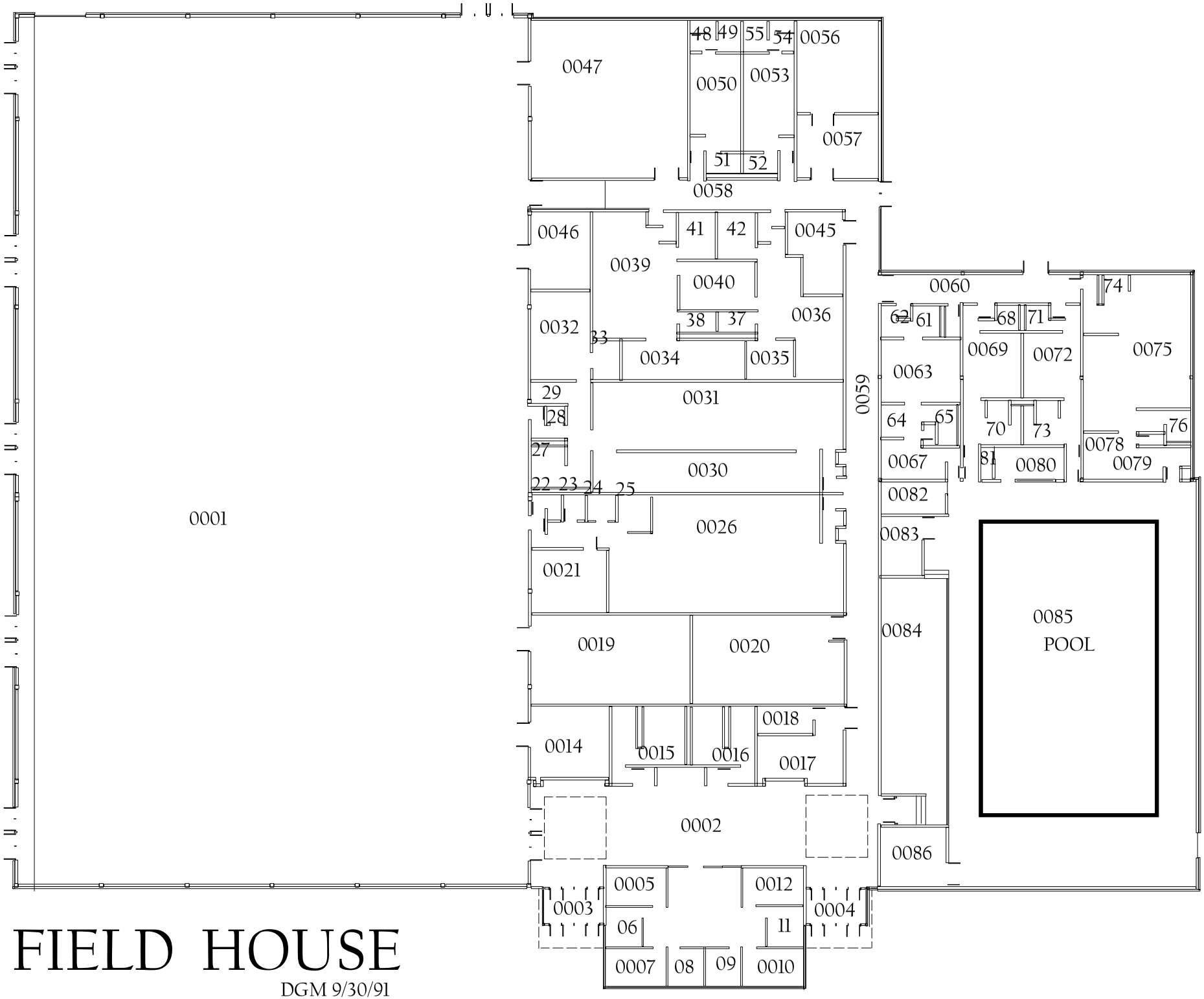
BASEMENT MOD 1



Flanagan Campus First Floor



Flanagan Campus Second Floor



FIELD HOUSE

DGM 9/30/91

LINE 2 - CCRI LINCOLN FLANAGAN CAMPUS
HARDWARE DETAILS

HW SET: 01 NEW WIRELESS ELECTRONIC LOCK ONLY - BALANCE OF HARDWARE TO REMAIN

DOOR NUMBER:

01D	01E	10	1008	1010	1012
1014	11	1108	1110	1112	1114
1116A	1116B	1118	1120A	1120B	1122A
1122C	1124	1126	1128	1130	1132
1136	1140	1142	1148	1150	12
1202	1204	1206	1208	1210	1212
1214	1216	1218	1220	1222	1222B
1222D	1224	1226	1228	1230	1232
1234	1236	1238	1240	1242	1244
1246	1248	1250	1252	1254	1256
1258	1260	1294	1296	1298	1299
1408	1410	1412	1414	1416	1422
1424	1426	1428	1430	1432A	1432B
1438	1440	1450	15	1508	1510
1512	1514	1515	1518	1520	1522
1524	1526	1528	1538	1540	1550
1550A	16	1602	1604	1608	1610
1614	1616	1618	1620	1622	1624
1626	1628	1630	1632	1634	1638
1640	1642	1654	1656	1658	1660
1662	1664	1666	1668	1670	1672
17	18	1808	1810	1812B	1814
1816A	1816B	1818	1820	1822	1824A
1824B	1826	1828	1830	1832	1838
1838A	1840	1850	1912A	20	2008
2009	2010	2011	2012	2014	2016
2018	2022	2024	21	2107	2109
2110	2112	2114	2116	2118	2120
2122	2124	2126	2127	2128	2130
2132	2142A	2142B	2142C	2153B	2154A
2155	2158	2160	2162	2176	2177
2180A	2180B	2180C	22	2200	2201
2202	2203	2204	2206	2207	2209A
2209B	2212	2214	2216	2218	2220
2222	2224	2226	2228	23	2302B
2305	24	2408	2410	2412	2414
2416	2418	2420A	2420B	2422A	2422B
2424	2426	2428A	2428B	2440	2442
2450	2456	25	2508	2514	2516
2520	2522	2524	2526	2530	2532
2534	2550	2550A	2554	2556	2564A
2564B	2566	2572	2574	2575	2576
2578A	2578B	2581	2583	2584	2585
2586	2588	2592	2594	26	2600
2601A	2601B	2602	2604	2606	2608
2610	2612	2616	2618	2620	2624
2626	2628	2630	2631	2632	2636
2640	2642	2646	27	2704	2706

LINE 2 - CCRI LINCOLN FLANAGAN CAMPUS
HARDWARE DETAILS

2710	28	2808	2810A	2810B	2812
2814	2816A	2818	2820	2822	2824
2826	2828	2842	2850	2850A	29
2916B	30	3009	3010	~~3012~~	3014
3016	3020	3022	3024	3026	3032
3034	3034A	3036	3040	3042	3044
3046	3048	3050	31	3106	3108
3114	3116	3118	3120	3122	3124
3126	3128	3130	3132	3138	3150
3152	32	3202	3204	3206	3207
3208	3212	3214	3215	3216	3217
3219	3219A	3234	3236	3238	3240
33	3302	3304	3306	34	3406
3438	3450	3452	35	3510	3512
3514	3538	3550	3558	3590	36
3608A	3608B	3614A	3614B	3620A	3620B
3626	3627	3628	3629	3630	3631
3632	3634	3638	37	3702	3704
3706	3708	3710	3712	38	3806
3838	3850	3850A	3852	39	40
40B	41	42	45	47	48
49	5	50	51	52	53
54	55	56	57	6	61
62	63	64	65	66	67
68	69	69B	7	70	71
72	72B	73	74	75	76
78	79	8	80	81	82
83	84	86	9		

EACH TO HAVE:

1	EA	ELECTRONIC LOCK	AD-400-MS-70-**MT**-RHO-**JD**	626	SCE
1	**EA**	**EVEREST 29 CORE ONLY 23-030**		**626**	**SCH**
		BALANCE OF HARDWARETO REMAIN.			

HW SET: 02 NEW WIRELESS ELECTRONIC EXIT DEVICE TRIM AND EXIT DEVICE

DOOR NUMBER:

01A	01B	01C	01F	01G	1200A
1200B	2106	2178	2302A	2304	2308
2308A	2308B	2312	2506	2622	3300A
3300B	3500	3508B	3700	3718	85A
3012					

EACH TO HAVE:

1	EA	FIRE EXIT HARDWARE	9927EO-F	626	VON
1	EA	ELECTRONIC EXIT TRIM	AD-400-993S-70-**MT**-RHO-**JD**	626	SCE
1	**EA**	**EVEREST 29 CORE ONLY 23-030**		**626**	**SCH**
		BALANCE OF HARDWARETO REMAIN.			

LINE 2 - CCRI LINCOLN FLANAGAN CAMPUS
HARDWARE DETAILS

HW SET: 03 ATTIC STOCK - WIRELESS LOCKS/EXIT DEVICE TRIM
DOOR NUMBER:
ATTIC

EACH TO HAVE:

2	EA	ELECTRONIC EXIT TRIM	AD-400-993S-70-**MT**-RHO-**JD**	626	SCE
4	EA	ELECTRONIC LOCK	AD-400-MS-70-**MT**-RHO-**JD**	626	SCE
6	**EA**	**EVEREST 29 CORE ONLY**	**23-030**	**626**	**SCH**

HW SET: 04 ELECTRONIC ITEMS/SOFTWARE/TRAINING
DOOR NUMBER:
MISC2

EACH TO HAVE:

1	EA	HANDHELD DEVICE	HHD KIT	SCE
1	EA	MAINT AGREEMENT	MNT-SFT-1	SCE
2	EA	TRAINING COURSE	SEUONSITE (PER DAY)	SCE
1	EA	GUEST PASS LICENSE	SGUEST-LIC	SCE
1	EA	SMS SOFTWARE	SPRE-SFT-1	SCE
1000	EA	SMART CARD	SXF9520	SCE

HW SET: 05 ELECTONIC ITEMS REQUIRED FOR WIRELESS LOCKS
DOOR NUMBER:
MISC1

EACH TO HAVE:

48	EA	POWER SUPPLY	PS902-900BBK	SCE
48	EA	SMART CONTROLLER	SSRC	SCE
48	EA	ANTENNA MODULE	ANT400-REM-I/O (IF NECESSARY)	SCE
48	EA	PANEL INTERFACE	PIM400-485-SMS	SCE
			QUANTITY OF EACH OF THESE ITEMS TO BE BASED ON THE NUMBER OF DOORS IN RANGE OF THE PANEL INTERFACE MODULE	

HW SET: 06 RIM/MORTISE CYLINDERS - FOR EXTERIOR DOOR/STAIRWELL DOORS/CORRIDOR DOORS
DOOR NUMBER:
CYL

EACH TO HAVE:

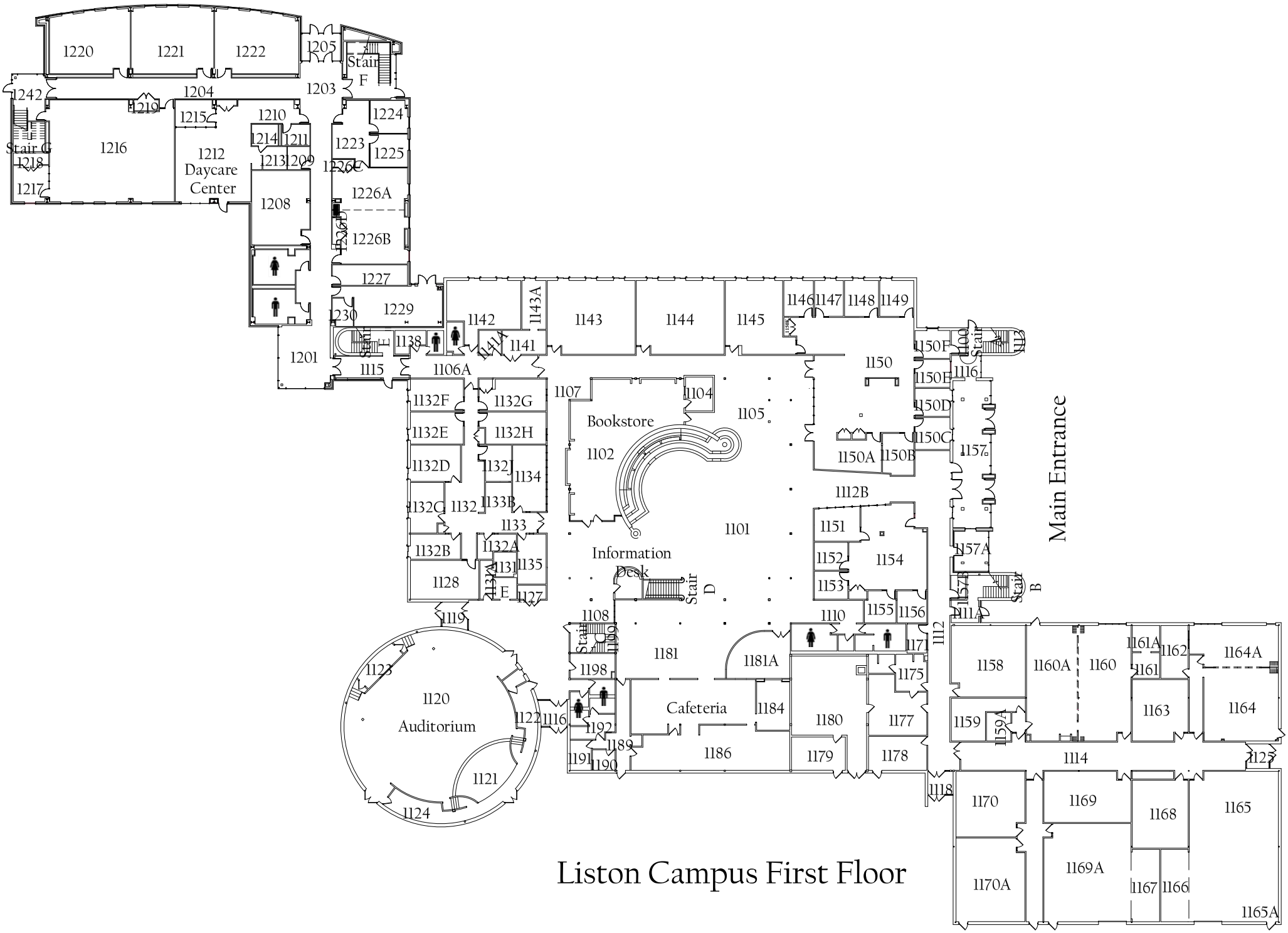
128	EA	RIM CYLINDER	**20-057-ICX/20-061 ICX (VERIFY CAM REQUIREMENTS & RIM VS. MORTISE)**	626	SCH
110	**EA**	**EVEREST 29 CORE ONLY**	**23-030**	**626**	**SCH**
18	**EA**	**EVEREST 29 PRIMUS CORE ONLY**	**20-740 (FOR EXTERIOR DOORS)**	**626**	**SCH**
20	EA	DUMMY MORT CYLINDER	985D	626	FAL
200	EA	KEY BLANKS	**EVEREST 29**		SCH

LINE 2 - CCRI LINCOLN FLANAGAN CAMPUS
HARDWARE DETAILS

HW SET: 07 NEW MAGNETIC LOCK AND CARD READER - BALANCE OF HARDWARE TO REMAIN
DOOR NUMBER:
3508A

EACH TO HAVE:

1	EA	ELECTROMAGNETIC LOCK	M450P	628	SCE
1	EA	POWER SUPPLY	PS902-900BBK		SCE
1	EA	SMART CONTROLLER	SSRC		SCE
1	EA	REX SENSOR	SCAN II-W	WHT	SCE
1	EA	CARD READER	SXF1560	BLK	SCE
		BALANCE OF HARDWARE TO REMAIN.			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1221
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1205
Stair F
1242
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1203
1219
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1210
1224
Stair G
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1214
1211
1223
1225
1218
1212
Daycare
Center
1213
209
1226C
1217
1208
1226A
1226D
1226B
1227
1229
1230
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1143A
1143
1144
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1201
Stair E
1138
1141A
1141
1150F
1100
Stair A
113
1115
1106A
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1132F
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1132E
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Bookstore
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1150D
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1132D
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1150A
1150B
1150C
1157
1132C
1132
1133B
1112B
1133
1101
1151
1132B
1132A
Information
Desk
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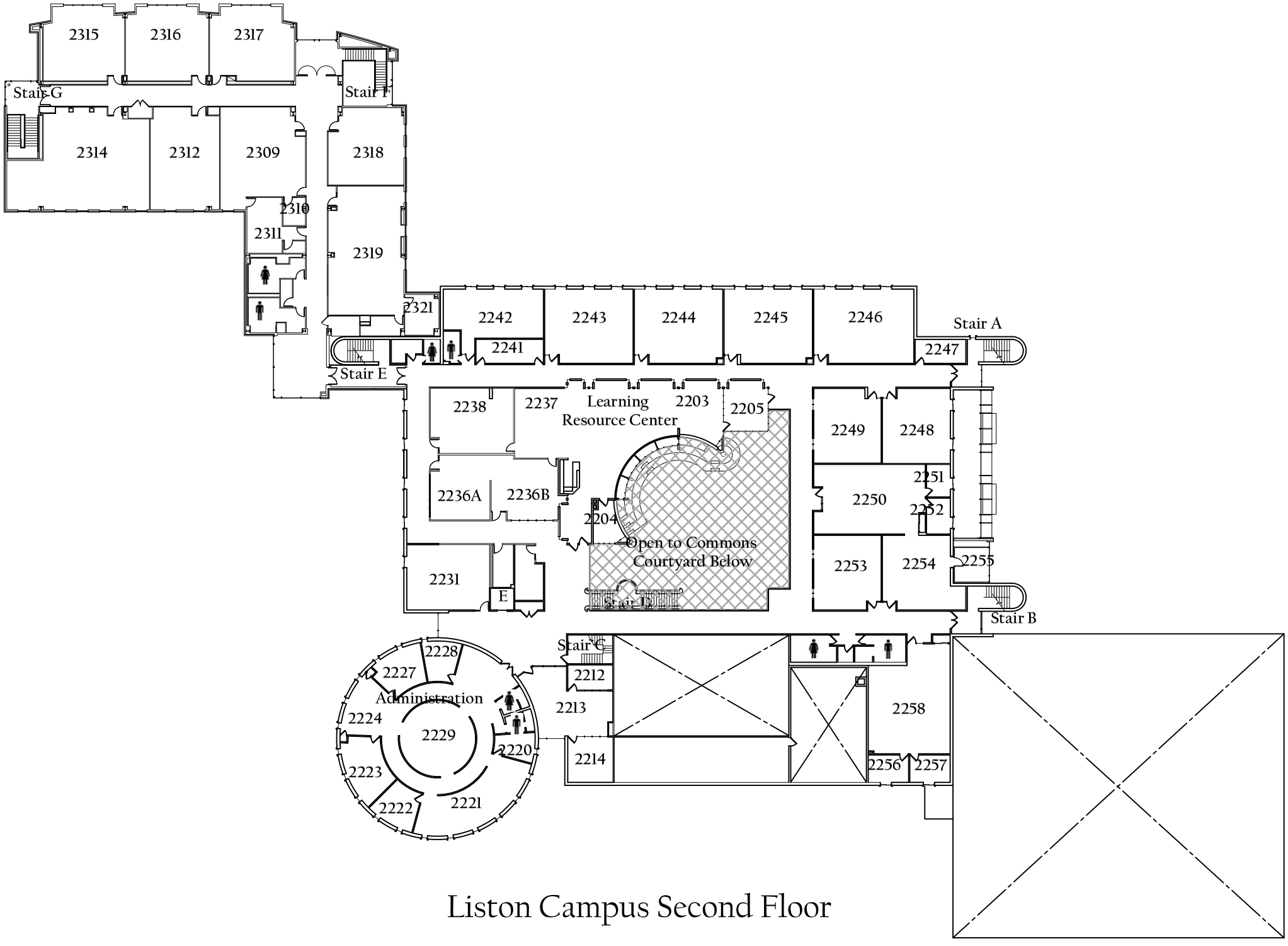
1157A
1131
1135
1152
1128
1134A
E
1127
Stair D
1153
Stair B
1157B
1155
1156
1119
1108
1110
1111A
Stair C
1109
1112
1181
1181A
1171
1123
1198
1175
1158
1160A
1160
1161A
1162
1164A
1120
Auditorium
Cafeteria
1184
1180
1177
1161
1163
1164
1122
1116
1192
1159
1159A
1189
1186
1179
1178
1114
1125
1121
1191
1190
1118
1170
1169
1168
1165
1124
1169A
1170A
1167
1166
1165A
Main Entrance
Liston Campus First Floor



Liston Campus Second Floor

LINE 3 - CCRI PROVIDENCE LISTON CAMPUS
HARDWARE DETAILS

HW SET: 01 NEW WIRELESS ELECTRONIC LOCK ONLY - BALANCE OF HARDWARE TO REMAIN
DOOR NUMBER:

1100	1104	1122	1123A	1123B	1124
1127	1128	1131	1131A	1132	1132A
1132B	1132C	1132CL	1132D	1132E	1132F
1132G	1132H	1132I	1133	1134	1138
1141	1141A	1142	1143	1143A	1144
1145	1146	1147	1148	1149	1150A
1150B	1150C	1150CL	1150D	1150E	1150F
1151	1152	1153	1154	1154CL	1155
1156	1157A	1157B	1158	1159A	1159B
1159C	1160	1160A	1161	1162	1163
1164	1164A	1165	1168	1169	1170
1170A	1171	1175	1175A	1176	1177
1179	1180	1181A	1186	1186A	1189
1190	1191	1192	1198	1208	1209
1210	1211	1212CL	1215	1216	1217
1218	1219	1220	1221	1222	1223
1224	1225	1226A	1226B	1227	1229
1230	2212	2213	2214	2220	2222
2223	2227	2228	2231	2236A	2236B
2236C	2238A	2238B	2241A	2241B	2242
2243	2244	2245	2246	2247	2248
2249	2250	2251	2252	2253	2254
2255	2256	2257	2258	2309A	2309B
2310	2311A	2311B	2311C	2312	2314
2314CL	2315	2316	2317	2318	2319
2319CL	2320	2321	2322	2323	2340A
E1	E2	ECLOSET			

EACH TO HAVE:

1	EA	ELECTRONIC LOCK	AD-400-MS-70-**MT**-RHO-**JD**	626	SCE
1	**EA**	**EVEREST 29 CORE ONLY 23-030**		**626**	**SCH**
		BALANCE OF HARDWARETO REMAIN.			

HW SET: 02 NEW WIRELESS ELECTRONIC EXIT DEVICE TRIM AND EXIT DEVICE
DOOR NUMBER:

1120	1150G	1150H	1201	2229

EACH TO HAVE:

1	EA	FIRE EXIT HARDWARE	9927EO-F	626	VON
1	EA	ELECTRONIC EXIT TRIM	AD-400-993S-70-**MT**-RHO-**JD**	626	SCE
1	**EA**	**EVEREST 29 CORE ONLY 23-030**		**626**	**SCH**
		BALANCE OF HARDWARETO REMAIN.			

LINE 3 - CCRI PROVIDENCE LISTON CAMPUS
HARDWARE DETAILS

HW SET: 03 ATTIC STOCK - WIRELESS LOCKS/EXIT DEVICE TRIM
DOOR NUMBER:
ATTIC

EACH TO HAVE:

2	EA	ELECTRONIC EXIT TRIM	AD-400-993S-70-**MT**-RHO-**JD**	626	SCE
4	EA	ELECTRONIC LOCK	AD-400-MS-**70**-MT-RHO-JD	626	SCE
6	**EA**	**EVEREST 29 CORE ONLY**	**23-030**	**626**	**SCH**

HW SET: 04 ELECTRONIC ITEMS/SOFTWARE/TRAINING
DOOR NUMBER:
MISC2

EACH TO HAVE:

1	EA	HANDHELD DEVICE	HHD KIT	SCE
1	EA	MAINT AGREEMENT	MNT-SFT-1	SCE
2	EA	TRAINING COURSE	SEUONSITE (PER DAY)	SCE
1	EA	GUEST PASS LICENSE	SGUEST-LIC	SCE
1	EA	SMS SOFTWARE	SPRE-SFT-1	SCE
1000	EA	SMART CARD	SXF9520	SCE

HW SET: 05 ELECTONIC ITEMS REQUIRED FOR WIRELESS LOCKS
DOOR NUMBER:
MISC1

EACH TO HAVE:

16	EA	POWER SUPPLY	PS902-900BBK	SCE
16	EA	SMART CONTROLLER	SSRC	SCE
16	EA	ANTENNA MODULE	ANT400-REM-I/O (IF NECESSARY)	SCE
16	EA	PANEL INTERFACE	PIM400-485-SMS	SCE
			QUANTITY OF EACH OF THESE ITEMS TO BE BASED ON THE NUMBER OF DOORS IN RANGE OF THE PANEL INTERFACE MODULE	

HW SET: 06 RIM/MORTISE CYLINDERS - FOR EXTERIOR DOOR/STAIRWELL DOORS/CORRIDOR DOORS
DOOR NUMBER:
MISC3

53	EA	CYLINDER	**20-057-ICX/20-061-ICX (VERIFY CAM REQUIREMENTS & RIM VS. MORTISE)**	626	SCH
35	**EA**	**EVEREST 29 CORE ONLY**	**23-030**	**626**	**SCH**
18	**EA**	**EVEREST 29 PRIMUS CORE ONLY**	**20-740 (FOR EXTERIOR DOORS)**	**626**	**SCH**
15	EA	DUMMY MORT CYLINDER	985D	626	FAL
200	EA	KEY BLANKS	**EVEREST 29**		SCH

VON DUPRIN® 9827/9927 Surface Mounted Vertical Rod Device

299 Top Strike

248L4
Bottom Strike
for use with
flat threshold

304L
Bottom Strike

Top Latch

Bottom Latch

9827/9927 surface mounted vertical rod device for all types of single or double doors, UL listed for Panic Exit Hardware. Devices are ANSI A156.3 – 2001 Grade 1. Covers stock hollow metal doors with 86 or 161 cutouts. The 9827 device has a smooth mechanism case and the 9927 device has a grooved case. The surface vertical rod device is non-handed except when the following device options are used: SD (Special Dogging), or SS (Signal Switch). See Opposite page for available outside trim and functions.

The 9827/9927 devices are available in the following finishes: US3, US4, US10, US26, US26D, US28, 313AN, 315AN and US32D for the 9827 device only. See page 52 for component finishes and the inside cover for finish chips.

Vertical rod and latch guards are available to protect the bottom rod of the exit device from damage by impacts of carts or gurneys passing through doors. ***Refer to page 49***

Specifications

Device Functions	Device ships EO/DT/NL. Field selectable. For TP,K,or L remove NL drive screw from device	
Device Lengths	3' 2'4" to 3' (711mm to 914 mm) Door Size 4' 2'10" to 4' (864 mm to 1219 mm) Door Size	
Strikes	Top - 299 – Dull Black, Bottom – 248L4 & 304L - Unfinished Optional Strikes – see page 39	
Dogging Feature	Hex key dogging standard	
Dogging Options	CD Cylinder Dogging SD Special Center Case Dogging LD Less Dogging	see page 48 see page 48 see page 48
Electric Options	LX Latchbolt Monitor Switch RX Pushpad Monitor Switch RX2 Double Pushpad Monitor Switch EL Electric Latch Retraction SS Signal Switch CX Chexit Delayed Exit ALK Alarm Exit Kit	see page 42 see page 42 see page 42 see page 43 see page 43 see page 45 see page 42
Miscellaneous Options	PN Pneumatic Latch Retraction LBR Less Bottom Rod GBK Glass Bead Kit PL Pullman Latch	see page 48 see page 49 see page 49 see page 49
Fasteners & Sex Bolts (SNB)	Includes 1 ¾" (19mm) – 2 ¼" (57mm) Wood & Metal Doors SNB furnished for top & bottom latches Optional SNB available for device, see next page for quantities	
Latch Bolt	Deadlocking Anti-friction Top & Bottom Bolt, ⅝ " (16mm) throw	
Device Centerline from Finished Floor	39 ⅝" (1006 mm)	
Door Undercut	¼" (7mm)	
Center Case Dimensions	8" x 2 ¾" x 2 ⅜" (203mm x 70mm x 60mm)	
Mechanism Case Dimensions	2 ¼" x 2 ¼" (57mm x 57mm)	
Top & Bottom Latch Case	4 ½" x 2 ⅛" x 1 ½" (114mm x 54mm x 38mm)	
Vertical Rods	½" square tubing, standard rods accommodate 7' (2134mm) door Top rod length is 34 15⁄16" (887mm) Bottom rod length is 31 ¼" (794mm) Extension rods available, 1' (205mm) or 3' (914mm) for doors over 7' One piece top rod available for 8' (2438mm) – 10' (3048mm) door	
Projection	Pushbar Neutral – 3 13⁄16" (97 mm) Pushbar Depressed – 3 1⁄16" (78 mm)	

See page 53 for How to Order specification

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VON DUPRIN®

9827/9927 Surface Mounted Vertical Rod Device
Standard Trim

	Exit only	**Dummy Trim** Pull when Dogged 	**Night Latch** Key Retracts Latchbolt 	**Night Latch** Key Retracts Latchbolt Optional Pull Required 	**Thumbturn** Key Locks & Unlocks (Use with DT Trim) 	**Thumbturn** Blank Escutcheon Always Operable (No Cylinder) (Use with DT Trim)
Product Description	9827EO 9927EO	9827DT 9927DT	9827NL 9927NL	9827NL-OP 9927NL-OP	9827TL 9927TL	9827TL-BE 9927TL-BE
Trim Description	—	990DT	990NL-R/V	110NL-MD 110NL-WD	374T x 990DT	374T-BE x 990DT
Escutcheon Plate Size	—	3" x 14³⁄₁₆" x ³⁄₃₂" *(76x360x2mm)*	3" x 14³⁄₁₆" x ³⁄₃₂" *(76x360x2mm)*	—	2⁹⁄₁₆" x 5½" x 2⅝" *(65x140x67mm)*	2¾" x 10¾" x ²⁷⁄₃₂" *(70x273x21mm)*
Pull Center to Center	—	5½" *(140mm)*	5½" *(140mm)*	—	—	—
Projection	—	2" *(51mm)*	2" *(51mm)*	—	3¼" *(83mm)*	3¼" *(83mm)*
ANSI Function	01	02	03	03	11	—
Cylinder Type	—	—	Rim	Rim	1¼" Mortise	—
Optional Trim (See pages 32 – 34)	x990EO x992EO x994EO x996EO	x991K-DT x992L-DT x994L-DT x996L-DT x696DT x697DT	x991K-NL x992L-NL x994L-NL x996L-NL x696NL x697NL			
Optional #425 Sex Bolt Quantity for Device	6	2	2	6	2	2

	Lever Key Locks & Unlocks 	**Lever – Night Latch** Key Retracts Latchbolt 	**Lever – Blank Escutcheon** Always operable (No Cylinder) 	**Lever Dummy Trim** Pull when Dogged
Product Description	9827L 9927L	9827L-NL 9927L-NL	9827L-BE 9927L-BE	9827L-DT 9927L-DT
Trim Description	996L-R/V	996L-NL-R/V	996L-BE-R/V	996L-DT-RV
Escutcheon Plate Size	2¾" x 10¾" x ²⁷⁄₃₂" *(70x273x21mm)*	2¾" x 10¾" x ²⁷⁄₃₂" *(70x273x21mm)*	2¾" x 10¾" x ²⁷⁄₃₂" *(70x273x21mm)*	2¾" x 10¾" x ²⁷⁄₃₂" *(70x273x21mm)*
Pull Center to Center	—	—	—	—
Projection	2⅞" *(73mm)*	2⅞" *(73mm)*	2⅞" *(73mm)*	2⅞" *(73mm)*
ANSI Function	08	09	—	02
Cylinder Type	Rim	Rim	—	—
Optional Trim (See pages 32 – 34)	x992L x994L	x992L-NL x994L-NL	x992L-BE x994L-BE	x992L-DT x994L-DT
Optional #425 Sex Bolt Quantity for Device	2	2	2	2

For optional trims and functions see pages 32-34

Nomenclature - How To Order

EL 99 27 -L -16 -F LBR 3' US3 RHR

SD — Special Dogging - Panic Only
CD — Cylinder Dogging - Panic Only
CX — Chexit
E — Electric Locking (Rim or Mortise)
EL — Electric Latch Retraction
LX — Latch Bolt Monitoring
PL — Pullman Latch
PN — Pneumatic Latch Retraction
RX — Request to Exit
RX2 — Double Request to Exit
SS — Signal Switch

98 — Series 98-smooth
99 — Series 99-grooved

None — Rim Device
27 — Surface Mounted Vertical Rod Device
47 — Concealed Vertical Rod Device
47WDC — Concealed Vertical Rod Wood Door Device
48 — Concealed Vertical Rod Device
57 — Three Point Latch Device
75 — Mortise Lock Device

DT — Dummy Trim
EO — Exit Only
K — Knob (Classroom)
K-BE — Knob-Blank Escutcheoon
K-DT — Knob-Dummy Trim
K-NL — Rigid Knob - NightLatch (Key retracts Latchbolt)
L — Lever (Classroom)
L-BE — Lever-Blank Escutcheon
L-DT — Lever-Dummy Trim
L-NL — Rigid Lever - Night Latch (Key retracts Latchbolt)
NL — Night Latch (Key retracts Latchbolt)
NL-OP — Night Latch Cylinder Assembly — Optional Pull
TL — Turn Lever
TL-BE — Turn Lever-Blank Escutcheon
TP — Thumbpiece
TP-BE — Thumbpiece-Blank Escutcheon

XX — Lever Style 06 standard
optional — 01, 02, 03, 05, 07, 12, 16, 17, 18

F — Fire Exit Device

LBR — Less Bottom Rod
2 — Double Cylinder (Rim & Mortise Only)
ALK — Standard Alarm Kit
ALK-EI — External Inhibit Alarm Kit
ALK-AR1 — Auto-Reset 1½ minute Alarm Kit
ALK-AR3 — Auto-Reset 3 minute Alarm kit
ALK-AR6 — Auto-Reset 6 minute Alarm Kit

3' — 3' Device (2' 4" — 3' Door Size)
4' — 4' Device (2' 10" — 4' Door Size)

US3, US4, US10, US26, US26D, 313AN, 315AN
US32D – 98 ONLY

– HR — Handing – RHR or LHR

SCHLAGE

AD-Series

Exit Trim Compatibility

The AD-Series Electronic Lock is available in 993 Exit Trim for use on openings that require exit devices for either retrofit or new construction applications. Offline and networked solutions are available.

The 993 Exit Trim was designed to suite with AD-Series cylindrical and mortise locksets to ensure that the facility remains aesthetically consistent.

The AD-Series 993 Exit Trim utilizes universal hardware to simplify installation of offline trim to a variety of exit devices, including Rim style from Von Duprin, Falcon, Sargent, Corbin Russwin, Dorma, and Yale.

Available Exit Trim Styles:

- 993R – Rim or Concealed Vertical Rod (CVR for metal doors only)
- 993S – Surface Vertical Rod
- 993M – Mortise

Compatibility

Devices	AD-200/250	AD-300	AD-400
Von Duprin 98/99 Rim/SVR/CVR/Mortise	X	X	X
Von Duprin 22/22F Rim/SVR	X		
Falcon 25 Rim/SVR	X		
Sargent 80 Rim	X		
Precision 21 Rim 2100 converts to 21 with Precision's BP21 kit	X		
Yale 7000 Rim	X		
Corbin Russwin 5000 Rim	X		
Dorma 9300 Rim	X		

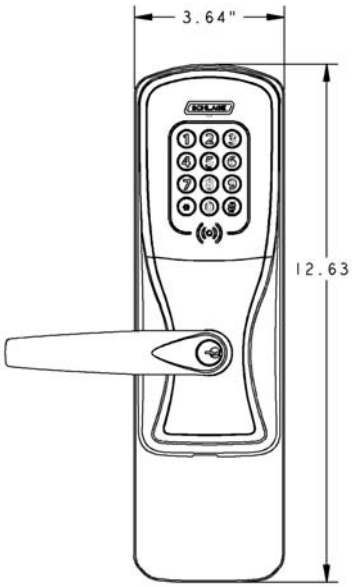
Note: The AD-300 and AD-400 Exit Trim are exclusively compatible with the Von Duprin 98/99 exit devices utilizing a low current request-to-exit switch (LC-RX).

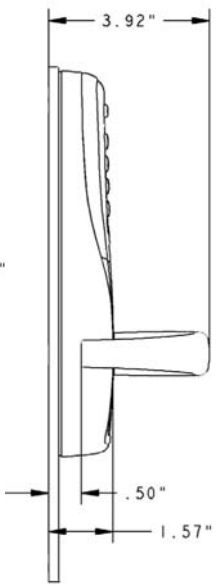
Features

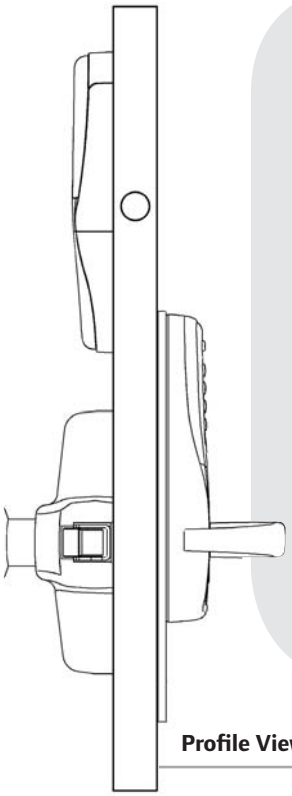
- Multiple Credential Reader Options
- Offline and Networked Communication Options
- A wide variety of finishes and lever styles
- Power options that include hardwired (12 VDC or 24 VDC) or batteries (4AA or 8AA)
- Compatible with most Standard, FSIC or SFIC keyways from major brands of master key systems including Schlage, Sargent, Corbin, Medeco and Yale

IR Ingersoll Rand
Security Technologies

DIMENSIONS







Exterior View

Profile View

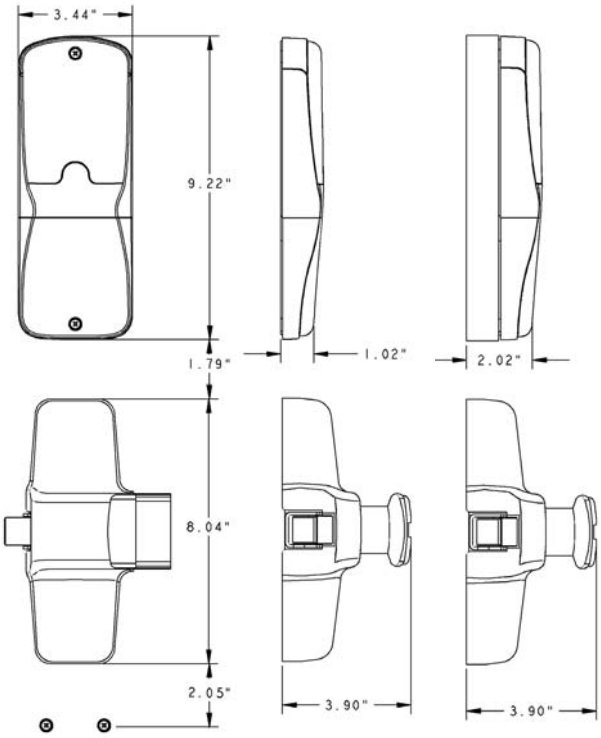
AD-Series - 993 Exit Trim

Available AD-Series Reader Modules

- Proximity (125 kHz)
- Smart Card (13.56 MHz)
- Multi-Technology (125 kHz proximity and 13.56 MHz smart card)
- Magnetic Stripe
- Keypad Only
- All credential readers available + Keypad
  - * unlike other AD-Series chassis styles, upgrading reader modules on the 993 Exit Trim requires the exterior escutcheon to be removed from the door

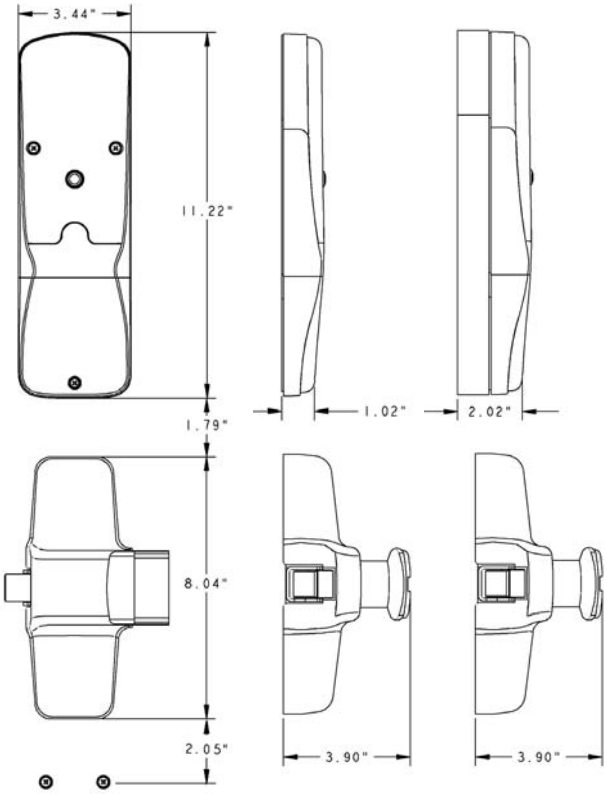
Available Communication Options

- AD-400: Networked Wireless Locks
- AD-300: Networked Hardwired Locks
- AD-250: Offline, access rights stored on the magnetic stripe credential
- AD-200: Offline, access rights stored on the lock



Interior View | **Side View** | **Side View**

AD-200/250/300 - all styles | AD-200/250/300 - RIM/CVR or Mortise | AD-200/250/300 SVR



Interior View | **Side View** | **Side View**

AD-400 all styles | AD-400 RIM/CVR or Mortise | AD-400 SVR

** AD-300 includes LED indicator*

Note: (2) #7 fasteners with decorative washers located 11.88″ below bottom edge of lock

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Security Technologies

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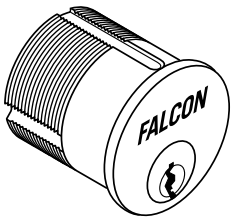
Mortise, Rim and Cam Lock Cylinders

FALCON Locks & Security Products

Mortise Cylinders

Mortise, Rim and Cam Lock for Standard Cylinders



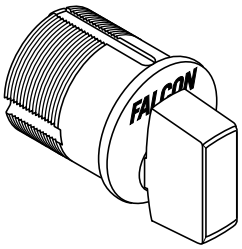
Note: Specify finish: 605, 606, 612, 613, 626, 629, 630

Mortise Cylinder

900 Series cylinders are furnished with #4 straight cam and 250 Series with #1 cloverleaf cam unless otherwise specified.

See table for product numbers.

See pages 23-25 for optional cams and 26 for collars.



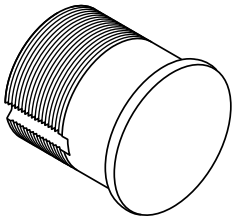
Note: Specify finish: 605, 606, 612, 613, 626, 629, 630

Thumbturn Cylinder

Furnished with #4 straight cam except 970 Series furnished with #1 cloverleaf cam unless otherwise specified.

See table for product numbers.

See pages 23-25 for optional cams and 26 for collars.



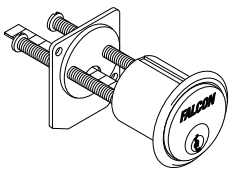
Note: Specify finish: 605, 606, 612, 613, 625, 626

Dummy Cylinder

Used to plug hole in door where lock remains but cylinder operation is no longer needed.

984D 1″

985D 1-1/8″



Note: Specify finish: 605, 606, 612, 613, 626, 629, 630

Rim Cylinder

Horizontal tailpiece standard. May be changed to vertical orientation in the field. Furnished with collar, back plate and 12-24 break off screws.

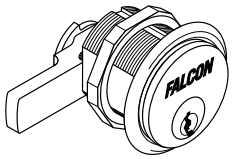
951 Specify 5, 6 or 7-pin

Keyed Mortise Cylinders

Catalog Number	Length	Pins	Application
985	1-1/8"	5 or 6	Generic
986	1-1/4"	5 or 6	Generic
987	1-3/8"	6 or 7	Generic
988	1-1/2"	6 or 7	Generic
990	1-3/4"	6 or 7	Generic
992	2"	6 or 7	Generic
250	1-1/8"	6	M451 hotel function
251	1-1/4"	6	M451 hotel function
252	1-3/8"	6	M451 hotel function
253	1-3/8"	7	M451 hotel function

Thumbturn Mortise Cylinders

Catalog Number	Length	Pins	Application
985T	1-1/8"	—	Generic
986T	1-1/4"	—	Generic
973	1-1/8"	—	M911 Classroom Thumbturn, RH (CCW)
974	1-1/8"	—	M911 Classroom Thumbturn, LH (CW)

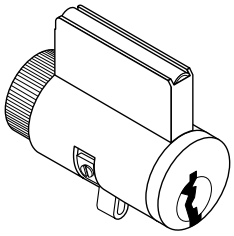


Note: Specify finish: 605, 606, 612, 613, 626, 629, 630

Cam Lock - Heavy Cam

Includes stop washers for rigid and lazy cam operation. Field reversible for RH or LH doors by positioning of stop screw on back of housing. Requires 1-3/16″ cylinder hole and fits doors up to 1-1/8″ thick.

945 Specify 5 or 6-pin



Note: Specify finish: 606, 626

Mailbox Cylinder

U.S. Postal regulations prohibit master keying of mailbox locks. Mailboxes must be ordered specifically for Falcon cylinders from the mailbox manufacturer.

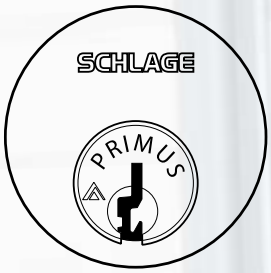
954 Specify 5, 6 or 7-pin

To order, specify cylinder number, keyway and finish.

Cylinder Types

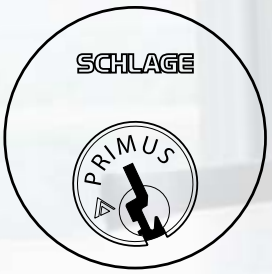
Standard Cylinders

Schlage locks are provided with cylinders precision-built to extremely close tolerances and the highest standards of accuracy. Using only solid brass bar stock plugs and shells, phosphor bronze springs, and nickel silver keys and bottom pins ensures long life and ease of operation. Our 6-pin Everest cylinders in C123 keyway with two patented keys are standard for stock. C145 is standard for new master key systems.



Primus® High Security Cylinders

Primus high-security cylinders are available to add patented key control and varying degrees of geographical exclusivity to most Schlage 6-pin key systems, whether Everest or Classic keyways. In addition to a conventional pin tumbler mechanism, Primus cylinders incorporate a patented finger pin and sidebar design, providing a "dual-locking" cylinder that is virtually pick-proof. Resistance to drilling and other physical attack is optional by specifying 20-500 Series UL437 Listed cylinders.

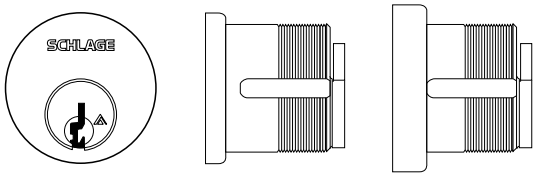


Primus Lockout Cylinders

For doors where it is frequently desirable to disable all keys from operating the lock temporarily use lockout cylinders. The special lockout key can be removed while the plug is turned to the 11 o'clock position, preventing all normal operating keys, including master keys, from fully entering the cylinder.

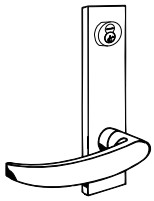
Suggested applications for lockout cylinders include laboratories, dark rooms, clean rooms and exterior doors to dormitories.

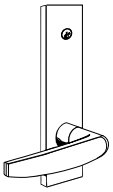
Schlage will not master key lockout cylinders.

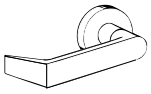


Standard (Non-IC) Cylinders

Standard (Non-IC) Mortise Cylinders







Design	Function	Cylinder Mechanism				
		Conventional	Primus	Primus UL437	Primus Lockout	Primus UL437 Lockout
L & N Escutcheons (cylinders and spring only)	All Except Below	30-021	20-793	20-593	20-717**	20-517**
	L9060P Outside	26-021	20-701	20-501	20-501	20-515**
	L9485, L9486 Hotel Functions	30-022*	N/A	N/A	N/A	N/A
L Escutcheon with concealed shell cylinder (C suffix)	All Except Below	30-004	20-789	20-589	N/A	N/A
	L9080P Outside	26-023	N/A	N/A	N/A	N/A
	L9485, L9486 Hotel Functions	30-005*	N/A	N/A	N/A	N/A
Sectional Trim and L400-Series (cylinder with compression ring & spring)	All Except Below	30-001	20-787	20-587	20-717	20-517
	L9060P Outside	20-001	20-700	20-500	20-715	20-515
	L9060P Outside	30-002*	N/A	N/A	N/A	N/A

* Specify door hand for hotel function cylinders.
** Discard compression ring for Lockout cylinders with escutcheon trim.

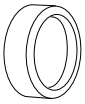
Finishes: 605, 606, 611, 612, 613, 619, 625, 626, 629 and 630.
Concealed shell cylinders available in 606 and 626 only.
6-pin Everest C123 keyway standard for stock cylinders; C145 standard for new key systems.
Standard cylinder lengths: sectionals (rose) trim = 1 1/8" (29 mm), escutcheon trim = 1 1/4" (32 mm).
Optional cylinder lengths are in 1/8" (4 mm) increments ranging from 1 1/8" to 1 3/4" (29 mm to 44 mm).

Blocking and Compression Rings

36-079

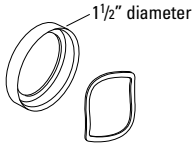
Blocking Ring. Specify finish and dimension. Not to be used with 36-083.

36-082



Blocking Ring. Specify finish and dimension. Use with 36-083.

36-083



Compression Ring and Spring. Specify finish and dimension.

L538-195

Compression Ring.

Dimensions for Blocking Rings

Blocking Ring Length	Dimension
1/8"	012
3/16"	018
1/4"	025
5/16"	031
3/8"	037
7/16"	043
1/2"	050

Full-Size Core Blocking Ring Requirements

Function	Trim	Door Thickness			
		1 3/8"	1 3/4"	2"	2 1/4"
		Dimension			
L9050, L9070, L9080, L9410 (disc), L9453, L9456,L9460 per XL11-886 or XL11-635, L9464 per XL11-886, L9465, L9473, L9480, L9496	Rose	050	037	025	025
	Escutcheon	025	012	N/R	N/R
L9485	Rose	—	037	025	025
	Escutcheon	—	012	N/R	N/R
L9486	Rose	012	N/R	N/R	N/R
	Escutcheon	025	012	N/R	N/R
L9060, L9071, L9077, L9082, L9457, L9462 per XL11-886, L9466, L9482	Rose	—	050	043	031
	Escutcheon	025	012	N/R	N/R
L460, L464, L496, L9460, L9464	Rose Trim	050	037	025	025
L462, L463, L9462, L9463	Rose Trim	—	050	043	031

Full-Size Core Blocking Ring Requirements

Function	Trim	Door Thickness			
		1 3/8"	1 3/4"	2"	2 1/4"
		Dimension			
L9050, L9060, L9070, L9071, L9077, L9080, L9082, L9453, L9456, L9457, L9462 per XL11-886, L9465, L9466, L9473, L9482	Rose	037	025	012	N/R
	Escutcheon	N/R	N/R	N/R	N/R
L9050, L9060, L9070, L9080, L9082, L9410 (disc), L9453, L9456,L9460 per XL11-886 or XL11-635, L9464 per XL11-886, L9465, L9466, L9473, L9480, L9496	Rose	—	050	037	025
	Escutcheon	018	N/R	N/R	N/R
L460, L464, L496, L9460, L9464	Rose Trim	037	025	012	N/R
L462, L463, L9462, L9463	Rose Trim	—	050	037	025

SCHLAGE

AD-400
Wireless Electronic Lock

AD-Series electronic locks from Schlage are designed to be modular and provide more options to choose from, more functionality in the lock and more compatibility with existing systems. Its patent-pending modular design allows the lock to be customized to fit the needs of an application now, and can change to meet future needs without removing it from the door.

Factory orderable options include choices of credential readers, chassis type, network configurations, locking functions, power options, lever styles and finishes. It also offers a wide selection of features that can be configured in the field to customize your openings.

To simplify installation, the AD-Series combines all the hardware components required at the door for a complete access control system into one integrated design that includes the electrified lock, credential reader, request-to-exit and -enter sensors, door position switch, tamper guard and more.

The AD-400 wireless networked lock gives you all the benefits of a hardwired access control system—without the wires. This allows you to secure doors that were traditionally difficult to run wires to in the past—and increase the security throughout your facility.

The AD-400 has a number of features built in that are configurable in the field and a long list of items that can be monitored by access control software.

Features

- Open Architecture platform
- Panel interface options ensure seamless communication with your system
- Non-invasive installations for historic buildings and sensitive areas
- Secure encrypted data transmission
- Unique communication protocols that won't interfere with other wireless networks
- Patent-pending wireless feature that enables efficient centralized lockdown in less than 10 seconds while still optimizing battery life up to 2 years
- Available in cylindrical, mortise, mortise with deadbolt and exit trim
- Compatible with major brands of master key systems

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Reliable Communications

Secure and reliable wireless communication with the Panel Interface Module (PIM) is accomplished using 900 MHz frequency. 900 MHz band enables longer transmission ranges because signal propagation with longer wavelengths travels a greater distance and better penetrates typical building construction – allowing for simplified system design.

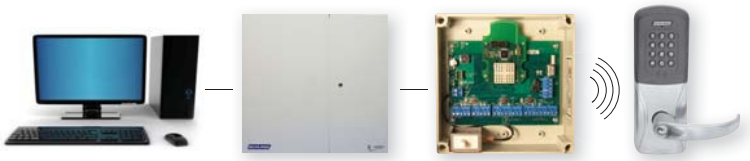
Wake-Up On Radio

This feature enables implementation of wireless locks in applications where centralized lockdown or unlock is required. 'Wake Up on Radio' utilizes patent-pending technology to enable real-time activation at a remote battery-powered wireless lock. The technology is configurable from 10 to 1 second increments.

Panel Interface Module (PIM400)

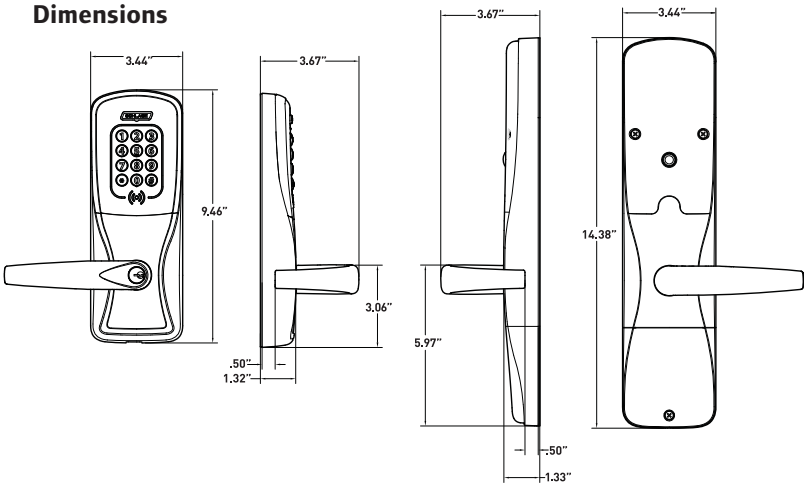
The PIM400 (sold seperately) is required for communication between the AD-400 wireless lock and the access control panel, and can support up to 16 locks epending on your access control system.

System Configuration



ACCESS CONTROL MANAGEMENT SYSTEM — ACCESS CONTROL PANEL (ACP) — PANEL INTERFACE MODULE (PIM400) — AD-400 (UP TO 16 LOCKS)

Dimensions



AD-400 Electronic Lock Specifications	
Modulation	900 MHz spread spectrum, direct sequence, 10 channels
Frequency Range	902-928 MHz
Transmission/Encryption	AES-128 bit Key
Credential Verification Time	< 1 second*
Response to Command Initiated by Host	Responds to lock/unlock command in less than 10 seconds in battery powered applications (field configurable)
Communication Range	Up to 200 ft w/ obstructions (normal building construction), up to 1000 ft clear line of site
RF Interference Avoidance	Configurable Dynamic Channel Switching
Data Rate	RF: 40 kbps
Visual/Audible Communications	Tri-colored LED's & audible indicators (field configurable)
System Interface	RS485, Wiegand, or Clock & Data via PIM400
Power Supply	4AA, 8AA, 12 VDC or 24 VDC
Voltage Range	4 VDC to 26 VDC
Max Current Requirement	Up to 250 mA
Battery Life	Up to 2 yrs with 4AA (8AA option available for extended battery life)
Operating Temperature/Exterior	-31° to 151°F (-35° to 66°C) (no battery)
Operating Temperature/Interior	32° to 120°F (0° to 49°C) (battery)
Operating Humidity	0 - 100% condensing
Certifications	ANSI/BHMA A156.25 Grade 1, UL294**, UL10 C, FCC Part 15, ADA, RoHS
Accessories	Panel Interface Module (PIM400), Handheld Device (HHD), Remote antennas for PIM400 to extend range

*Lock requires less than 100 msec, response time does not include latency time of ACP.
**Pre-launch datasheet. UL294 certification pending. Certification will be achieved prior to shipment.

Functions

- *Classroom/Storeroom*
- *Office*
- *Privacy*
- *Apartment*

Note: Office function not available with Mortise Deadbolt option. To ensure safety all functions always allow for free egress.

Standard Status Signals

- *Lock/Unlock Status (Clutch Position)*
- *Request-to-Exit Switch*
- *Door Position Switch*
- *Mechanical Key Override*
- *Deadbolt Position*
- *Interior Cover Tamper Guard*
- *Battery Status*
- *Communication Status*
- *Request-to-Enter*

Mechanical Specifications

Chassis	Cylindrical (Based on Schlage ND-Series)	Mortise (Based on Schlage L-Series)
Handing	Handed to Order, Field Reversible	
ANSI Standard	Meets or exceeds A156.25 and A156.2 Series 4000, Grade 1 strength and operational requirements	Meets or exceeds A156.25 and A156.13 Series 1000, Grade 1 Operational and Security
Door Thickness	1-3/4″ standard, 1-3/8″ to 2-3/4″ optional (available in 1/8″ increments)	
Backset	2-3/4″ standard, 2-3/8″, 3-3/4″ and 5″ optional	2-3/4″ only
Latch Bolt	1/2″ throw security latch standard, 3/4″ throw optional	3/4″ throw with anti-friction tongue standard, **1″ throw deadbolt on Mortise Deadbolt option**
Levers	Pressure cast zinc, plated to match finish symbols	Steel, plated to match finish symbols
Strike	ANSI curved lip strike 1-1/4″ x 4-7/8″ x 1-3/16″ lip to center standard, optional strikes, lip lengths and ANSI strike box available	ANSI curved lip strike 1-1/4″ x 4-7/8″ x 1-3/16″ lip to center with dust box standard, optional strikes lip lengths available
Cylinder & Keys	6-pin Everest C123 keyway cylinder with two patented keys standard Additional options available including SFIC, FSIC and competitor brands	

AD-Series Exit Trim

The AD-Series Exit Trim (installed with a universal mounting plate) is compatible with Von Duprin 98/99 exit devices with a low current request-to-exit switch.

Reader Specifications

	Multi-Technology	Smart Card	Proximity
Frequency or Track	125 kHz proximity and 13.56 MHz smart card	13.56 MHz	125 kHz
Standards	ISO 15693 and ISO 14443		None
Maximum Read Range	up to 0.75″		
Compatibility (secure sector)	Schlage, XceedID ISO-X, MIFARE, ISO-X Lite, my-d, FIPS 201/PIV II, DESFire 8-EV1		
Compatibility (serial number only)	MIFARE, DESFire, iCLASS, Inside Pictotag, ST Micro, TI Tagit		Schlage, XceedID, HID, GE/CASI ProxLite and AWID
Compatible Schlage Credentials	Reads same credentials as AD-Series smart card and proximity readers	13.56 MHz Clamshell (SXF9420 & SXF9440), 13.56 MHz Smart card ISOX or MIFARE Glossy White (SXF9520, SXF9540, SXF9551, SXF9558 & SXF9574), 13.56 MHz Key Tag (SXF9640 & SXF9651), 13.56 MHz PVC Patch (SXF9740, SXF9751 & SXF97), Schlage EV1	125 kHz Clamshell Proximity (SXF7410), 125 kHz ISO Card Proximity (SXF7510), 125 kHz ISO Card w/ Magnetic Stripe (SXF7510MS)
Certifications/ Standards	FCC, Canadian FCC, UL294 Listed*, ISO 15693 and ISO 14443	FCC, Canadian FCC, UL294 Listed*	FCC, Canadian FCC, UL294 Listed*
Style/Layout	Option for 12-button, 3x4 matrix backlit keypad		

*Pre-launch datasheet. UL294 certification pending. Certification will be achieved prior to shipment.

Additional Readers

Magnetic Stripe
- Triple Track Reader (1, 2 or 3), field configurable
- Illuminated Card Slot
- ABA, ISO76XX Standard
- Reader can be cleaned without removing lock from door
- Option for 12 button, 3x4 matrix backlit keypad

Keypad
- Backlit keypad
- 12 button, 3x4 matrix

Available AD-Series Reader Modules

- **Proximity**
- **Smart Card**
- **Multi-Technology**
- **+ KEYPAD**

- **Proximity**
- **Smart Card**
- **Multi-Technology**

- **Magnetic Stripe**
- **+ KEYPAD**

- **Magnetic Stripe**

- **Keypad**

Ordering Information

AD-	400-	CY-	70-	MG-	SPA-	626-	PD-	C123-	RH-	4B-	13-047-	10-025-	1-3/4
Series	Class	Chassis	Function	Reader	Lever Style	Finish	Lever Cylinder	Keying Type	Handing	Battery	Backset & Latch	Strike	Door Thickness
1	2	3	4	5	6	7	8	9	10	11	12	13	14

Selections Correspond With the Numbers Above

Standard options are indicated in bold.

3 Chassis

CY	Cylindrical
MS	Mortise
MD	Mortise Deadbolt
993R	Exit Trim – Rim/CVR
993S	Exit Trim – SVR
993M	Exit Trim – Mortise

4 Function

70	Classroom/Storeroom
50	Office
40	Privacy
60	Apartment

5 Reader

KP	Keypad
MG	Magnetic Stripe
MGK	Magnetic Stripe + Keypad
PR	Proximity
PRK	Proximity + Keypad
SM	Smart Card
SMK	Smart Card + Keypad
MT	Multi-Technology
MTK	Multi-Technology + Keypad

6 Lever

SPA	Sparta
RHO	Rhodes
ATH	Athens
TLR	Tubular

Available with knurled surface

7 Finish

626	Satin Chrome
605	Bright Brass
606	Satin Brass
612	Satin Bronze
619	Satin Nickel
625	Bright Chrome
643e	Aged Bronze
626AM	Satin Chrome

8 Lever Cylinder Type

PD 6-pin Full Cylinder

See price book for other FSIC, LFIC and Less Cores options available. Compatible with Schlage, Sargent, Corbin, Medeco and Yale

9 Keyway Type

C123 Everest

See price book for other available keyway options including master keying

10 Handing

RH	Right Handed
LH	Left Handed

Field reversible

11 Battery

4B	**4AA**
8B	8AA

12 Backset and Latch

13-047 2-3/4" Backset, Deadlatch, square corner, 1-1/8" x 2-1/4"

See price book for other backset and latch options

13 Strike

Cylindrical

10-025 1-3/16 Lip, ANSI, no box, 1-1/4" x 4-7/8"

See price book for other available cylindrical strikes

Mortise Options

10-072 1-3/16" Lip, 1-1/4" x 4-7/8" square corner, box

See price book for other available mortise strikes

14 Door Thickness

1-3/4"

Other thicknesses available between 1-3/8" and 2-3/4"

See price book for detail

Lever styles

Standard cylinders shown, SFIC and FSIC also available.

Sparta

Rhodes

Athens

Tubular

Warm tone finishes

605
Bright Brass

606
Satin Brass

612
Satin Bronze

643e
Aged Bronze

Cool tone finishes

619
Satin Nickel

625
Bright Chrome

626
Satin Chrome

626AM
Satin Chrome with Antimicrobial

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M450/M452

High Security Series Electromagnetic Lock

Overview

The M400 Series line of electromagnetic locks from Schlage are designed with the customer in mind to be robust, easy to install, and secure. The new bayonet mounting feature makes installs easier, allowing the installer to have their hands free during the mounting process. There is no need to consider door handing as all the M400 Series electromagnetic locks are both non-handed and symmetrical, allowing optimum placement of the magnet no matter the application.

All M400 Series locks have automatic voltage sensing for 12 and 24 volts along with polarity protection to make wiring less complex. The M450 is tested and certified to meet or exceed UL1034 and BHMA 1000lb. hold force requirements.

The M450 electromagnetic lock comes in two configurations to meet your specific security needs. The M450 provides basic security, while the M450P provides intelligent sensing and reporting features needed to integrate with access control systems. Additional options are available for the M450P. Kits are available for top jam, double door, and glass door applications.

Features

- Bayonet mount makes installation simpler by not requiring magnet to be held overhead while mounting screws are installed
- New design allows for RH/LH configuration in the field
- Armature mount allows armature to pivot compesating for slight opening imperfections
- Limited Lifetime Warranty
- UL1034 and BHMA Grade1 certified
- 1000 lb. Hold Force
- See page 2 for additional features and options

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ADDITIONAL FEATURES

M490/M492

- **Automatic Voltage Selection (AVS)** senses the voltage applied to the lock and responds accordingly

M490P/M492P

- **Magnetic Bond Sensor (MBS)** monitors the strength of the bond between the lock and armature so you know the door is secure
- **Door Position Switch (DPS)** monitors whether the door is open or closed
- **Relock Time Delay (RTD)** provides a relock delay that is adjustable from 0.5 to 30 second

Optional

- **Anti-Tamper Switch (ATS)**; MBS indicator (LED) for M490P/M492P

OPTIONS (for all)

- Herculite Door Bracket
- Top Jamb (inswinging doors)

M450/M452 Electromagnetic Lock Specifications

Specification	M450/M450P	M452/M452P
Holding Force	meets or exceeds BHMA standard of 1000 lbs.	1000 lbs. per door leaf
Input Voltage (Standard Unit)	12/24 VDC	12/24 VDC
Current Draw (Amps Standard Unit)	.75A @ 12 VDC	1.5A @ 12 VDC
Automatic Dual Voltage 12/24 VDC	.38A @ 24 VDC	.75A @ 24 VDC
Height	2-1/8"	3"
Length	10 - 1/4"	20 - 9/16"
Width	1 - 3/4"	1 - 3/4"
Weight (approximate)	10 lbs.	20 lbs.
Certifications	UL1034, UL10C, ANSI/BHMA156.23	
Temperature	0º-49º C (32º-120º F)	
Wire Gauge	14-22 AWG	

Filler Plates and Angle Brackets Specifications

	M450	M452
Length	12-1/2"	25"
Width x Height	**Plate No.**	**Plate No.**
1-1/4" x 1/8"	M4501F	M4521F
1-1/4" x 1/4"	M4502F	M4522F
1-1/4" x 3/8"	M4503F	M4523F
1-1/4" x 1/2"	M4504F	M4524F
1-1/4" x 5/8"	M4505F	M4525F
3/4" x 1/2"	M4506F	M4526F
3/4" x 5/8"	M4507F	M4527F
3/4" x 3/4"	M4508F	M4528F

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PS902

2 amp Power Supply

Overview

Schlage's comprehensive line of power supplies and option boards were designed to address the changing needs of the access control market.

Installation is simplified by utilizing a flat mounting design and polarized locking connectors for option boards. This new design eliminates the need for racks and side connectors. The flat mounting of the option boards also provides for easier access to the terminal blocks for connection of electrified devices (such as electrified strikes, maglocks, card readers, etc).

Common to the line of PS900 series power supplies is a constant output rating at both 12v and 24v settings, universal 120 VAC to 240 VAC input, and polarized option board connectors. New fire alarm interface board mounting allows outputs to be configured as switched (power cut) or unswitched (power continues) when signal provided.

All PS900 Series of power supplies and option boards have been tested and certified to meet UL294.

Features

- 2A @ 12/24 VDC output, field selectable with jumper
- Class 2 Rated power limited output
- Universal 120 -240 VAC input
- Low voltage DC, regulated and filtered
- Single polarized connector for distribution board
- Fused primary input
- AC input and DC output monitoring circuit w/ LED indicators
- Cover mounted AC input indication
- NEMA 1 enclosure
- Hinged cover w/ lock down screws
- High voltage protective cover

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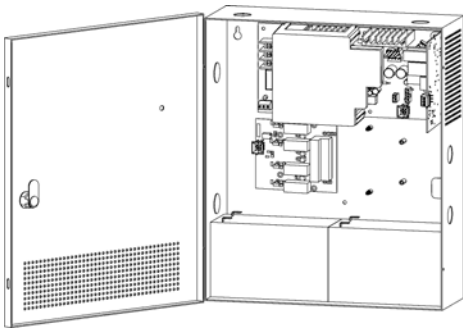
OPTIONS

- Emergency Interface Relay (FA)
- Battery Backup
- 2 relay QEL panic device control board
- 4 relay distribution board
- 4 relay distribution board with logic
  - Field configurable for:
    - Time delay function
    - Auto operator
    - Security interlock
- 8 fused output distribution board
- 8 PTC output distribution board

UL294 Listed



ORDERING INFORMATION

PS902 - 2A Base Power Supply.

PS902 Power Supply Specifications	
Specification	**Description**
Input Voltage	120/240 VAC, 50/60 Hz, universal input
Output Voltage	2ADC @ 12 or 24 VDC Field selectable with jumper Switching supply, 5% regulation, 240mVpp max ripple
Enclosure	Grey / Baked enamel 14"H x 12"W x 4"D Eight 1/2" x 3/4" Knockouts NEMA Grade 1 Hinged cover with lock down screws
Operating Temperature	32º-120º F (0º-49º C)
Certifications	UL 294 Class 2 RoHS FCC Part 15
Option Board Compatibility	900-BB: Battery Backup 900-FA: Fire Alarm 900-2Q: 2 Relay QEL control Board 900-4R: 4 Relay Output Board 900-4RL: 4 Relay Logic Board 900-8F: Fused 8 Zone Distribution Board 900-8P: PTC 8 Zone Distribution Board
AC Primary Fuse Size	3.15A, 250V, 5 x 20mm SLOW-BLOW
Battery Fuse Size	7.5A 32V ATO blade style
DC Output Protection	Overload protection - current limited foldback circuit
Indicators	LED indicators: -AC input (visible on outside of enclosure) -DC output Isolated SPDT contacts to monitor AC power status
Weight (Power Supply)	Approx. 9.0 lbs
Weight (Each Battery)	4.0 lbs
AC Input Termination	3 position terminal block with protective cover Wire capacity: 10 AWG max.
DC Output Termination	2 position terminal block Wire capacity: 12 AWG max.
Distribution board connectors	1
Fire Alarm board connector	Yes
Keylock	Optional

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SCHLAGE®

Security Management System

SSRC

Smart Reader Controller

Overview

The Schlage Smart Reader Controller (SSRC) is an intelligent device with a modular approach. The SSRC is an independently programmable device that effectively combines the capabilities of a controller and reader interface into a single board. It communicates with the Security Management System software via TCP/IP protocol and can be connected to a variety of different read head technologies and electronic locking devices. The communication architecture is capable of being fully networked thereby saving the customer wiring and expensive installation labor costs. Includes enclosure with a tamper switch, lock and key.

FEATURES

- Software selectable options allow support for:
  - A single card reader, or
  - Up to (8) AD-300 Hardwired Locks, or
  - One PIM400-485-SMS for support of up to (16) AD-400 Wireless Locks
- Linux operating system
- 64Mb flash memory & 64Mb RAM
- Clock/data, Wiegand or serial (RS232 or RS485; jumper selectable)
- Supports proximity, smart card, magnetic stripe, biometrics, bar code and Wiegand technologies
- Communicates via network protocol 10 Base-T Ethernet
- Connection for on-board unsupervised tamper switch
- Includes four supervised or unsupervised input contacts for devices such as exit request (REX), door position switch (DOD), etc.
- Two Form 'C' single pole/double throw, mechanically latching, 1 A relays

SPECIFICATIONS

- Dimensions: 3-13/16″ H x 3-13/16″ W x 3/4″ D
- Enclosure: 8-1/4″ H x 7-1/2″ W x 3-1/2″ D
- Power requirements: 20 - 32VDC; powered locally
- Power consumption: 100mA (without read heads)
- Ambient temperature: 0° to 49° C or 32° to 120° F
- Humidity: 10% to 90% (non-condensing)
- Recommended cable: Network protocol 10 Base-T Ethernet
- Compatible with Schlage Security Management System software version 5.3.5 and higher
- Requires a UL 294 power limited power supply
- UL 294 Approved with UL approved ethernet data suppressor

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ORDERING INFORMATION

SSRC – Smart Reader Controller

Note: SSRC can be ordered without enclosure. Use (NB) to specify no box.

OPTIONS

SMS-3APS
3 A @ 24 VDC power supply

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SCHLAGE

Accessories
Exit Sensors

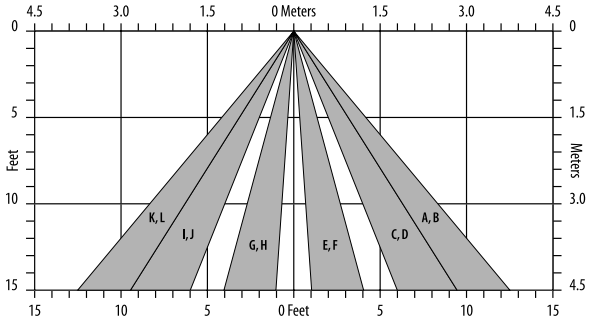
Scan II™

Specifications

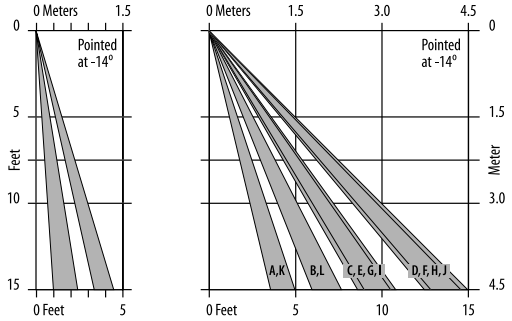
- 12/24 VDC, 26 mA @ 12 VDC or 24 VDC
- Output Two Form "C" relay contacts rated 1A @ 30 VDC for DC resistive loads
- Operating Temperature -20°F to 120°F (-29°C to 49°C)
- Size 1-1/2" (38mm) H x 6-1/4" (159mm) W x 1-1/2" (38mm) D
- UL Listed

Features

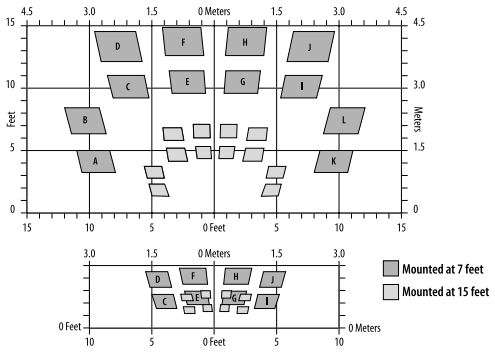
- The Scan II™ is a Passive Infrared Detector specifically designed for "request to exit" applications. It has an adjustable relay latch time, is internally pointable, and provides two Form "C" sets of relay contacts.
- Enclosure design consists of a three piece, high impact ABS plastic enclosure with fresnel lens. Available in white or black.
- Coverage area is up to 8 by 10 feet (2.4m by 3m). Coverage is dependent upon mounting height and pattern angle.
- Pattern Pointability is ± 14° @ vertical.
- Surface mounting height range is from 7 to 15 feet (2.1m to 4.5m).
- Output – Two Form "C" relay contacts rated 1A @ 30 VDC for DC resistive loads.
- Relay Latch Time is adjustable up to 60 seconds.
- The relay mode can be programmed by the installer to reset when the timer expires or to remain activated until motion stops. The fail safe/fail secure mode can also be selected.
- Unit features an externally visible activation LED.



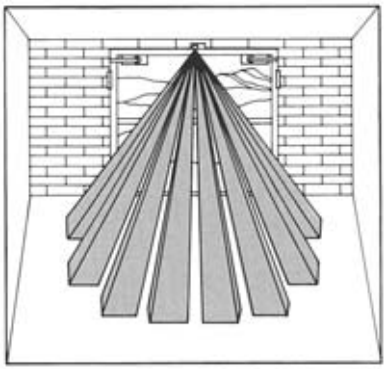
Front View



Side View



Standard Pattern
Shown wall mounted, angled 14° down.



Standard Pattern
Shown wall mounted, angled 14° down.

SCHLAGE

PIM400-485
Panel Interface Module
For RS485 Communication

The PIM400-485 seamlessly integrates to select access control panels via RS485, eliminating the need for reader interface modules. Each PIM400-485 supports up to 16 wireless access devices such as AD-400 locks.

Reliability

Reliable communications result from several technological advances and incorporated features. 900 MHz spread spectrum technology enables high transmission power in a license-free band. Error detection algorithm maintains data integrity on each transmission and redundant transmissions ensure communication success. Periodic "heartbeat" signals provide supervision and assure reliable RF communications are maintained. Lastly, Dynamic Channel Switching (DCS) can be enabled to overcome harsh RF environments by automatically changing channels to avoid potential interference.

Security

Used extensively by government and military organizations, spread spectrum technology provides significant security advantages over conventional transmission methods. Wireless access devices utilize spread spectrum transmissions, which are encrypted with AES 128-bit keys, to yield a system that is virtually uncompromisable. In addition, scalability is virtually unlimited as each AD-Series wireless access module has nearly a million addresses to choose from during the linking process.

Centralized Lock/Unlock Command in 10 Seconds or Less

Patent-pending Wake-up On Radio (WOR) feature drives communication from the PIM400 to any or all linked wireless devices in 10 seconds or less. This innovative feature works efficiently in parallel with periodic "heartbeat" to maintain up to 2 year battery life on wireless devices such as the AD-400 locks. Response rate can be field configured down to 1 second with consideration of battery life.

Features

- 900 MHz Spread Spectrum RF technology for long range, reliable communications
- Automatic linking to remote wireless access points with 10 channel frequencies to select from enables easy commissioning
- AES-128 bit Encrypted Spread Spectrum transmissions
- 5 visual indicators to quickly pinpoint and display status
- Flash memory for easy firmware upgrades

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ADDITIONAL FEATURES

Reliable Communications
900 MHz band enables longer transmission ranges. In general, signal propagation with longer wavelengths travel a greater distance and penetrate through, and around objects better than signals with shorter wavelengths.

Online Communications (Heartbeat)
Regular communications between the AD-Series wireless access module and PIM400 monitor transmission presence and integrity. Online communications enable the PIM400 to download information or instructions such as unlock and relock.

Auto Addressing (Linking)
One of the final steps in the installation process is called "linking". Linking ties a specific wireless access module to a selected PIM400 and assigns a unique address. There are over 65,000 unique addresses available per channel, providing nearly a million combinations for virtually unlimited scalability.

Assured Communications
A Packet-Error-Rate-Test (PERT) is performed during linking, assuring greater than 99.0% of all messages get through.

Encoded Transmissions
Each RF transmission is encrypted with AES-128 bit keys to provide virtually uncompromisable security.

Tamper
The PIM400 cover is monitored by a tamper switch.

Visual Indications
- Power on
- Microprocessor running
- Linking status
- PIM receiving RF data
- PIM transmitting RF data
- PIM receiving RS485 data
- PIM transmitting RS485 data
- PIM firmware version
- PIM tamper status

Access Point Status Available Through RS485 Connection
- Card and Keypad Data
- Door position
- Loss of RF communication
- Request-to-Exit
- Request-to-Enter
- Low battery
- PIM tamper
- Mechanical Key override
- Deadbolt position
- Interior Cover tamper guard
- Lock/Unlock status
- Interior push button

Configurable Items from PIM400-485
- Wake up On Radio (WOR)
- Heartbeat frequency
- Relock parameters
- Card data format conversion
- Extended unlock
- Fail Safe/Fail Secure/Fail As-Is
- Door held pre-alarm
- Cache memory parameters
- Dynamic channel switching (DCS)
- Reader Configuration
- Keypad Configuration
- Inside pushbutton configuration
- User interface configuration

PIM400-485 Specifications

Frequency Range	902-928 MHz
Modulation	900 MHz spread spectrum, direct sequence, 10 channels
RF Interference Avoidance	Optional Dynamic Channel Switching
Transmission/Encryption	AES-128 bit Key (optional)
Credential Verification Time	< 1 second*
Communication Range	Up to 200 ft (61 m) with obstructions Up to 1000 ft (305 m) clear line of site Up to 2000 ft (609 m) line of site with high gain antenna on PIM400 Up to 4000 ft (1219 m) line of site with high gain antennas on PIM400 and WRI400
Visual/Audible Communications	5 LEDs for Status Indicators
System Interface	RS485
Power Supply	12 VDC or 24 VDC
Voltage Range	9.5 VDC to 26 VDC
Max Current Requirement	Up to 250 mA
Operating Temperature	-31° to 151°F (-35° to 66°C)
Operating Humidity	0 - 100% condensing
Dimensions (HWD)	7.1" x 7.1" x 3.0" (18.0 cm x 18.0 cm x 7.6 cm)
Weight	1.25 lb (.56 kg)
Cable Specifications	DC Power Input: 18AWG, 2 Conductor, Belden 8760 or equivalent up to 1000 ft (305 m) PIM400-485 to ACP: 24AWG, 3 Conductor Shielded, Belden 9842, 9841 or equivalent up to 4000 ft (1219 m)
Data Rate	RF: 40 kbps; RS485: 9.6 kbps
Certifications	NEMA 1, 4, 4X, 6; UL294, FCC Part 15; Canada RSS 210; RoHS

*Dependant on latency time of access control panel.

ORDERING INFORMATION

PIM400-485 – Panel Interface Module with outdoor enclosure standard. Supports up to 16 access points via RS485 with select brands of access control panels.

Optional Accessories
- **ANT400-REM-I/O** – Omni-directional remote indoor/ outdoor antenna module with grounding kit
- **ANT400-REM-I/O+6DB** – Directional, flat panel, remote indoor/outdoor antenna with 6db of gain. Requires available Grounding Kit (MGB+MCA5) for outdoor installations
- **ANT400-REM-Ceiling** – Omni-directional ceiling mount indoor remote antenna
- **ANT400-REM-Hall** – Bi-directional indoor hall application remote antenna
- **HHD** – Handheld Device with SUS installed and HH-USB cable
- **593PI-12DC** – 12 VDC power supply

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SXF1560
Wall Mount Reader
Contactless Smart Card Reader

Overview

The SXF1560 Contactless Smart Card Wall Mount Reader supports 13.56 MHz contactless smart card technology. The SXF1560 is ideal for new installations for a smart card environment.

The SXF1560 supports high security and provides multiple applications including access control ID numbers and biometrics. Additional security measures include mutual authentication and message authentication coding.

The SXF1560 Contactless Smart Card Wall Mount Reader is compatible to all applicable ISO standards (14443 and 15693).

Features

- Modular Design: Allows easy, upgradeable changes in the field
- Read Range: up to 4.5 inches
- Tri-state LED (red, green, amber): Visual indicator and audio feedback representing status and activity information
- Advanced tamper detection with optical sensor
- Environment: accommodates interior, exterior, metal and non-metal installation environments
- Security/Key Management: several options to ensure the greatest choice between "open" or high security credential security
- Warranty: limited lifetime against defective workmanship and materials

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FEATURES AND SPECIFICATIONS

Durability/Warranty

The SXF1560 is manufactured with the highest quality UV-resistant materials. These plastics inhibit discoloration in all types of environmental conditions, including direct sunlight. The readers feature potted electronics and circuitry for protection against inclement weather. We protect our customers with a limited lifetime warranty, providing full confidence in your reader products.

SXF1560 Specifications

Frequency	13.56 MHz
Certifications	FCC Certification UL 294 Listed (Pending) CE Mark
Voltage Range	5-16 VDC
Power Supply	Linear DC
Max. Current Requirement	Average 110 mA DC Peak 160 mA DC
Cable Specification	18 AWG, 5 Conductor Stranded/Shielded
System Interfaces	Wiegand
Cabling Distance	Wiegand Output: 500 ft. (152 m)
Operating Temperature	-31 to 151F (-35 to 67C)
Physical Dimensions (HWD)	5.1″ x 3.25″ x 0.76″ 12.9 cm x 8.3 cm x 1.9 cm
Weight	0.6 lbs
Material	PBT Polymer
Color Options	Black (standard) Charcoal (optional)
Additional Technologies Supported	Schlage, XceedID™, MIFARE® Secure Sector, MIFARE® CSN▲, MIFARE DESFire™ EV1 with PACSA, DESFire® EV1 Secure Sector, DESFire® CSN, HID iClass® CSN, Inside Contactless PicoTag® CSN, ST Microelectronics® CSN, Texas Instruments Tag-It® Serial Number, Phillips I-Code® CSN
Maximum Read Range■	Up to 4.5″ (11.4cm)

▲ CSN = Card Serial Number
■ Maximum read range depends on credential type/form factor and installation conditions

ORDERING INFORMATION

SXF1560 - Contactless Smart Card Reader – Wall Mount

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Schlage Utility Software (SUS) on the Handheld Device (HHD)

Schlage Utility Software (SUS) is designed specifically for use on the Handheld Device (HHD) as the link between your access control management software and Schlage electronic offline and networked locks and accessories. This solution consolidates and simplifies programming and managing your access control system.

The SUS and HHD is used to initialize, configure and test product operation, and also provides an easy way to manage people, audits, locks and other network panel interface devices for simple access control. The intuitive screen layout for the SUS provides easy navigation during use.

For offline products the SUS is utilized to transfer access control data, such as authorized user lists, via the HHD to the locks. The SUS is also utilized to download audit trail information from offline devices to the HHD and then transfer that data to the access control management software.

In addition the SUS can configure other networked electronic devices (including PIM and PIB) and update firmware revision updates to the devices as desired.

The HHD connects with Schlage AD-Series electronic locks and accessories via a USB interface and utilizes Active Synch or Win Mobile Device Manager to communicate with your PC via the USB port. The HHD is also able to connect to the SPED, KC2, CM, CL, CT500, CT1000, CL Controller and WA-Series PIMs via a serial cable connection.

Features

- Handheld Device with Schlage Utility Software installed
- Touch Screen operation
- Initialize Lock and Accessories with SUS
- Configure and Test Devices

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FEATURES AND SPECIFICATIONS

Schlage Utility Software

- Initialize Lock and Accessories
- Field Configure Devices
  - Credential Reader Formats
  - Lock Function
  - Unlock Period
  - Failure Mode
  - Audible Alarm ON/OFF
- Off-line Devices
  - Manage up to 100 unique door files
  - Retrieve Audit trails from up to 100 devices
- Networked Devices
  - Communication Settings
  - Validate Status Monitor
- Service & Diagnostics
  - Battery Status
  - Validate hardware and software revision
  - Troubleshooting Status Signals
  - Firmware Upgrades

HHD Specifications

- 3.5 in LCD display
- Touch Screen with Backlit Keypad
- 32-bit processor
- Operating System: Windows Mobile 5.0
- Memory: 128 MB RAM / 256 MB ROM
- Battery: Rechargeable 3.7 V, 1,230mAH, Li-ion
- Dimensions (HWD): 5.3″ X 2.9″ X 0.7″ (13.5 cm x 7.3 cm x 1.8 cm)
- Weight: 0.42 lbs (190 g)
- 4 ft. (1.2 m) drop to steel surface, 2 drops per 6 sides

HHD Compatible Devices and Required Cable and Adaptors

Devices	Cable and Adaptors
AD-Series Locks and Accessories	HH-USB
BE367, KC-2, CM, CL, CT500, CT1000, CL-Controller	HH-Serial + CIP
WA-Series PIM	HH-Serial + PIMWA-CV

ORDERING INFORMATION

HHD – Handheld Device with SUS installed and HH-USB cable
HH-USB – USB Cable
HH-SERIAL – Serial Cable used to connect HHD to CIP
PIMWA-CV – Converter used to connect HH-SERIAL to WA-Series PIM
P512112 – CIP, utilized with HH-SERIAL to connect to CM, CL and KC-2 locks

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Contactless Smart Credentials using MIFARE® Technology

Simply Smarter

Overview

Schlage's contactless smart credentials put you in control by delivering smarter solutions. Schlage's Contactless Smart Credentials using MIFARE® technology provide the choice of 2.5k, 8k or 32k bits of storage to meet the most demanding data storage requirements. This enhanced data storage allows for a wide range of card applications such as biometrics, transit and point of sale applications such as cashless vending and cafeteria services. ISO 14443A standards providing a faster data transfer speed (up to 424 kBd).

The contactless smart credential by Schlage operates on a 13.56 MHz frequency and also utilizes high security encrypted data which is mutually authenticated in communication between the card and reader, providing an infinite number (many trillions) of unique badge ID codes.

With the Contactless Smart Credentials using MIFARE technology, there is very little wear and tear on the cards ensuring longer life for your cards. These credentials also have a passive design which requires no batteries or maintenance for the life of the card.

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Contactless Smart Card Credential Specifications

	ISO Glossy White	Clamshell	Key Tag	PVC Patch
Dimensions	Inches: 3.37 x 2.125 x 0.033 cm: 8.6 x 5.4 x 0.08	Inches: 3.37 x 2.125 x 0.075 cm: 8.6 x 5.4 x 0.2	Inches: 2 x 1.24 x 0.38 cm: 5.1 x 3.1 x 1.0	Inches: 3.37 x 2.125 x 0.033 cm: 8.6 x 5.4 x 0.08
Weight	0.212 oz. (6 g)	0.317 oz. (9 g)	0.18 oz. (5 g)	0.045 oz. (1.33 g)
Frequency	13.56 MHz	13.56 MHz	13.56 MHz	13.56 MHz
Read Range*	Up to 4 inches	Up to 4 inches	Up to 2.5 inches	Up to 2 inches
Certifications	GSC-IS**	GSC-IS**	GSC-IS**	GSC-IS**
Operating Temperature	-50 to 160F (-45 to 70C)	-50 to 160F (-45 to 70C)	-50 to 160F (-45 to 70C)	-50 to 160F (-45 to 70C)
Material	PVC	Hard shell: ABS Cover label: PVC	Polycarbonate	PVC/adhesive backing
ISO Standard	ISO 14443	ISO 14443	ISO 14443	ISO 14443
Baud rate (data transfer)	Up to 424 kBd	Up to 424 kBd	Up to 424 kBd	Up to 424 kBd
Memory options	0.3K, 1K and 4K bytes (2.5k, 8k, and 32K bits)	0.3K bytes (2.5k bits)	1K byte (8k bits)	1K and 4K bytes (8K and 32K bits)
Smart Card Chip	MIFARE®	MIFARE	MIFARE	MIFARE
Part Numbers†	SXF9520 (2.5k bit) SXF9520MS (2.5k bit) SXF9551 (8k bit) SXF9551MS (8k bit) SXF9558 (32k bit) SXF9558MS (32k bit)	SXF9420 (2.5k bit)	SXF9651 (8k bit) IBF-151 (8k bit) IBWF-151 (8k bit)	SXF9751 (8k bit) SXF9758 (32k bit)

* Factors affecting read range include installation conditions such as voltage, location of power supply and mounting material.
** Government Smart Card Interoperability Specifications.
† Contact a Schlage representative for additional configurations and part numbers.

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Security Management System

Enterprise Software

Overview

The Schlage Security Management System delivers a powerful, single source solution for integrating a facility's access-control technologies, digital video, and alarm monitoring systems. Four software levels are provided to meet your current security requirements and can expand to meet your growing business needs, while satisfying your budget constraints.

The Enterprise system is perfect for large, multi-site or global organizations. It supports an unlimited number of cardholders and readers and gives you unparalleled flexibility. The Enterprise system also enables an organization to manage facility administration from any location and provides real-time monitoring and audit trails.

FEATURES & BENEFITS

Access Control Features

- Anti-passback
- Two-man rule and occupancy rule
- First card in capability
- Temporary usage badges
- Reliability and power of MS SQL available
- Portrait monitoring
- Unlimited reports

(continued)

ORDERING INFORMATION

Software Only

E-SENT-SFT-1 - Enterprise software with 1 license

E-SENT-SFT-5 - Enterprise software with 5 client licenses

E-SENT-SFT-10 - Enterprise software with 10 client licenses

E-SENT-SFT-25 - Enterprise software with 25 client licenses

E-SENT-SFT-EXP - 1 client expansion license (for greater than 25 licenses)

Software & Server

E-SENT-SVR-1 - Includes server, monitor, keyboard, mouse and software with 1 license

E-SENT-SVR-5 - Includes server, monitor, keyboard and mouse sold separately and software with 5 client licenses

E-SENT-SVR-10 - Includes server, monitor, keyboard and mouse sold separately and software with 10 client licenses

E-SENT-SVR-25 - Includes server, monitor, keyboard and mouse sold separately and software with 25 client licenses

Servers are also available in rack mount versions. Call factory for details.

FEATURES & BENEFITS *(continued)*

- Report scheduling
- ODBC Compliant
- Operates in Windows 2000, 2003, XP Professional, Vista and Windows 7 (except Home Editions)
- Online and offline lock integration
- Manual and automatic overrides
- Full-featured Guest Pass system
- Design and print badges
- Programmable flash for downloads and firmware updates
- Wireless reader devices
- Unlimited holidays
- Unlimited cardholders and readers
- Unlimited number of concurrent users available
- Unlimited time zones
- Universal triggers
- Schlage AD-Series and CO-Series lock support
- Video retrieval tied to access control events (optional)

Alarm Management Features

- Color coded Alarms
- User-definable individual alarm instructions
- Pre-defined responses
- Send alarms to operator or email
- Keypad duress alarm
- Alarm anunciation
- Alarm graphics

Video Features (See SEVMS datasheets for specifications)

- Full integration with Schlage DVR/NVR
- High resolution video motion detection with masking capabilities
- Search on video motion detection
- Uninterrupted recording during playback and image archiving
- Remote viewing
- Send video clips via email
- Customizable pre and post-recording upon an event
- Proprietary viewer software for viewing encrypted files
- Scalable
- 100% date/time synchronization
- Full PTZ functionality
- Virtual camera grouping across servers
- Advanced security permissions
- Database backup and recovery
- Audio per camera available
- Web-based option
- Optional intelligent video and Mobile DVR
- Accepts analog/digital or IP addressable cameras

Usability Features

- Configuration wizards
- Easy-to-navigate
- Customizable views per operator
- Unlimited User-defined fields

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A. Exit Devices

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1, and UL listed for Panic Exit and/or Fire Exit Hardware. Cylinders: Refer to 2.04 KEYING.

2. Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to the standard architectural finishes to match the balance of the door hardware.

3. Exit devices shall incorporate a fluid damper or other device that eliminates noise associated with exit device operation. Touchpad shall extend a minimum of one half of the door width, but not the full length of the exit device rail. End-cap will have two-point attachment to door. Touch-pad shall match exit device finish, and shall be stainless steel for US26, US26D, US28, US32, and US32D finishes; for all other finishes, the touch-pad finish shall be of compatible finish to exit device. Only compression springs will be used in devices, latches, and outside trims or controls.

4. Devices to incorporate a deadlatching feature for security and/or for future addition of alarm kits and/or other electrical requirements.

5. Vertical rod devices shall be capable of being field modified to less bottom rod devices by removal of bottom rod and adding firing pin(s), if required at fire rated openings.

6. Provide manufacturer's standard strikes.

7. Provide exit devices cut to door width and height. Locate exit devices at a height recommended by the exit device manufacturer, allowable by governing building codes, and approved by the Architect.

8. Mechanism case shall sit flush on the face of all flush doors, or spacers shall be furnished to fill gaps behind devices. Where glass trim or molding projects off the face of the door, provide glass bead kits.

9. Exit devices for fire rated openings shall be UL labeled fire exit hardware.

10. Acceptable manufacturers and/or products: Von Duprin 99 series, No Substitute.

B. Provide a new key system from the same manufacturer as the locks conforming to the following requirements:

1. Provide patented standard cylinders at all keyed items. Patent shall protect against the unauthorized manufacturing and duplication of the products. Patented cores shall not be operable by non-patented key blanks. Patented cores shall incorporate a mechanism to check for the patented features on the keys.

2. Provide permanent cylinders keyed by the manufacturer or authorized distributor as directed by the Owner. Provide owner with a copy of the bitting list, return receipt requested.

3. The hardware supplier, accompanied by a qualified factory representative for the manufacturer of the cores and cylinders, shall meet with Owner and Architect to review keying requirements and lock functions prior to ordering finish hardware. Submit a keying schedule to Architect for approval.

4. Provide cylinders, unless noted otherwise, operated by a Grand Master Key System to be established for this project (Do not use the letter "I", “O”, or “X” for any of the grand masters). Allow for twenty-four Master Keys under each Grand Master, and sixty-four changes under each master key. All cylinders shall be keyed in alike or different sets as noted by their respective key set number. Do not use the letter "I" or “O” in any of the master key sets.

5. Provide patented keys as follows:

    a. Ten grand master keys for each set.
    b. Ten master keys for each set.
    c. Three keys per core.

6. Visual key control:

    a. Keys shall be stamped with their respective key set number and stamped “DO NOT DUPLICATE".
    b. Grand master and master keys shall be stamped with their respective key set letters.
    c. Do not stamp any keys with the factory key change number.
    d. Do not stamp any cores with key set on face (front) of Core. Stamp on back or side of cores so not to be visible when core is in cylinder.

7. Deliver grand master keys, master keys, change keys, and/or key blanks from the factory or authorized distributor directly to the Owner in sealed containers, return receipt requested. Failure to comply with these requirements may be cause to require replacement of all or any part of the keying system that was compromised at no additional cost to the Owner.

8. Approved products: Schlage Everest C, No Substitute.

2.1 ELECTRONIC ACCESS CONTROLLED LOCKSETS

2.1.1 AD-SERIES - WIRELESS COMMUNICATION

2.1.1.1 AD-400

A. General Requirements

1. Lockset and Exit device listed to UL294.
2. Lockset and Exit device trim to meet or exceed A156.25 Grade 1 Operational and Security.
3. Lockset and Exit device trim listed to UL10C, FCC Part15, Florida Building Code Standards TAS 201 large missile impact, TAS 202 and TAS 203. Lockset and Exit device trim shall be compliant with ICC / ANSI A117.1 NFPA 101, NFPA 80, and Industry Canada RSS-210.
4. Modulation to be 900 MHz spread spectrum, direct sequence, 10 channels.
5. Wireless Transmission / Encryption: AES-128 bit Key minimum.
6. Lockset and Exit Device Trim to be manufactured with open architecture characteristics capable of handling new and existing access control software and credential reading technology.
7. Lockset to be modular in design, to have the ability to change credential reader without being removed from door.
8. Exit Device Trim to be modular in design, to have the ability to change credential reader in the field.
9. Locking escutcheon, security lever trim and to be non-handed, operate independently of non-locking levers for extended life cycles. Handing to be field reversible.
10. Lockset and Exit Device Trim to have the following standard status switches: Lock/Unlock Status (Clutch Position), Request-to-Exit Switch, Request to Enter Switch, Door Position Switch, Deadbolt Position, Interior Cover Tamper Guard.
11. Exterior lever to be designed with ability to rotate freely while door remains securely locked, preventing damage to internal lock components from vandalism by excessive force.
12. Lockset and Exit Device Trim to communicate Battery Status and Communication Status.
13. Furnish locks with following functions which will be field configurable without taking the lock off the door:
    a. Office 70.
14. Lockset powered by four AA batteries.
15. Should power be lost to device, Lockset and Exit Device Trim to have the ability to be field configured to manage access control in one of the three field configurable methods below:
    a. Fail locked (secured)
    b. Fail unlocked (unsecured)
    c. Fail As-Is
16. Should communication be lost between device and network, Lockset and Exit Device Trim to have ability to manage access control offline in one of four field configurable methods below:
    a. Fail locked (secured)
    b. Fail unlocked (unsecured)
    c. Fail As-Is
    d. Fail to Degraded/cache mode utilizing cache memory with following selectable options:
       (1) Grant access up to the last 1,000 unique previously accepted User IDs

(2) Grant access up to the last 1,000 unique previously accepted Facility/Site codes

17. Lockset and Exit Trim system interface to be:
    a. Wiegand or Clock & Data via PIM400 (Panel Interface Module).
18. Lockset and Exit Device Trim to have real-time communication with access control system, such that all events at Lockset and Exit Device Trim are communicated real-time to network control software.
19. Lockset and Exit Device Trim utilized with SMS Premier/Enterprise software to have capability to be remotely locked down real-time, within 10 seconds or less, without user interface at the device.
20. Lockset and Exit Device Trim utilized with SMS Premier/Enterprise software to have capability to be remotely unlocked real-time without user interface at the device.
21. Lockset and Exit Device Trim to have visual tri-colored LED to indicate operational systems status, system error conditions and low power conditions.
22. Lockset and Exit Device Trim to have audible feedback that can be enabled or disabled.
23. Credential reader capabilities for SMS Select/Premier/Enterprise Software may include and may not be limited to:
    a. 13.56 MHz Smart card credentials:
        (1) Secure section (Multi-Technology and Smartcard): Schlage, XceedID ISO-X, MIFARE, ISO-X Lite, my-d, DESFire 8-EV1.
24. The lock and exit device trim will have the ability to utilize multiple manufacturer's key systems in the lever including:
    a. Full Size cylinders from Schlage, up to 6-pin cylinders
25. Provide option for tamper torx screws on inside escutcheon for Higher Security

B. Wireless electronic mortise type locksets:
1. Mortise type lockset to have with 3-piece, beveled, stainless steel latchbolts with ¾" throw and equipped with an anti-friction latch. Chassis will accommodate ANSI standard mortise lock prep with a 2 3/4" nominal backset for 1 3/4" doors as a standard, with 1 3/8" to 2 3/4" thick doors in 1/8" increments available. Locksets will be non-handed. Lockset to meet or exceed A156.25 and A156.13 Series 1000, Grade 1 Operational and Security.
2. Lockset to meet UL10C, FCC Part15, ADA compliant, NFPA 101, NFPA 80, IBC-Ch10
3. Modulation to be 900 MHz spread spectrum, direct sequence, 10 channels.
4. Wireless Transmission / Encryption: AES-128 bit Key minimum.
5. Lockset to be manufactured with open architecture characteristics capable of handling new and existing access control software and credential reading technology.
6. Lockset to be modular in design, to have the ability to change credential reader without being removed from door.
7. Locking escutcheon, security lever trim and to be non-handed, operate independently of non-locking levers for extended life cycles. Handing to be field reversible.
8. Exterior lever to be designed with ability to rotate freely while door remains securely locked, preventing damage to internal lock components from vandalism by excessive force.
9. Lockset and Exit Device Trim to have the following standard status switches: Lock/Unlock Status (Clutch Position), Request-to-Exit Switch, Request to Enter Switch, Door Position Switch, Deadbolt Position, Interior Cover Tamper Guard.
10. Lockset to communicate Battery Status and Communication Status.
11. Furnish locks with following functions which will be field configurable without taking the lock off the door:
    a. Classroom/Storeroom 70.
12. Lockset powered by four AA batteries.
13. Should power be lost to device, Lockset to have the ability to be field configured to manage access control in one of the three field configurable methods below:

a. Fail locked (secured)
b. Fail unlocked (unsecured)
c. Fail As-Is

14. Should communication be lost between device and network, Lockset to have ability to manage access control offline in one of four field configurable methods below:
    a. Fail locked (secured)
    b. Fail unlocked (unsecured)
    c. Fail As-Is
    d. Fail to Degraded/cache mode utilizing cache memory with following selectable options:
        (1) Grant access up to the last 1,000 unique previously accepted User IDs
        (2) Grant access up to the last 1,000 unique previously accepted Facility/Site codes
15. Lever style:
    a. 06 (Rhodes)
    b. Knurling option to provide tactile feedback to be available.
16. Lockset and Exit Trim system interface to be:
    a. Wiegand or Clock & Data via PIM400 (Panel Interface Module).
17. Lockset to have real-time communication with access control system, such that all events at Lockset are communicated real-time to network control software.
18. Lockset and Exit Device Trim utilized with SMS Premier/Enterprise software, to have capability to be remotely locked down real-time, within 10 seconds or less, without user interface at the device.
19. Lockset and Exit Device Trim utilized with SMS Premier/Enterprise software to have capability to be remotely unlocked real-time without user interface at the device.
20. Lockset to have visual tri-colored LED to indicate operational systems status, system error conditions and low power conditions.
21. Lockset to have audible feedback that can be enabled or disabled.
22. Credential reader capabilities for SMS Select/Premier/Enterprise Software may include and may not be limited to:
    a. 13.56 MHz Smart card credentials:
        (1) Secure section (Multi-Technology and Smartcard): Schlage, XceedID ISO-X, MIFARE, ISO-X Lite, my-d, DESFire 8-EV1.
23. The lock and exit device trim will have the ability to utilize multiple manufacturer's key systems in the lever including:
    a. Full Size cylinders from Schlage, up to 6-pin cylinders
24. Provide option for tamper torx screws on inside escutcheon for Higher Security
25. Acceptable Manufacturers: Schlage Electronics Model: AD-400-MS/MD Series

C. Wireless Electronic Access Controlled Exit Device Trim

1. Exterior lever to be designed with ability to rotate freely while door remains securely locked, preventing damage to internal lock components from vandalism by excessive force.
2. Modulation to be 900 MHz spread spectrum, direct sequence, 10 channels.
3. Transmission / Encryption: AES-128 bit Key minimum.
4. Exit device trim to have Wake-Up on radio feature which enables implementation of wireless locks in applications where centralized lockdown or unlock is required. This is to enable real-time activation at a remote battery-powered wireless lock.
5. Exit device trim to retract the Von Duprin latch bolt of following exit device applications: rim, surface vertical rod, concealed vertical rod and mortise.
6. Exit devices to be equipped with low current request to exit switch.
7. Exit Device Trim to meet UL10C, FCC Part15, ADA compliant, NFPA 101, NFPA 80, IBC-Ch10.

8. Exit Device Trim to be manufactured with open architecture characteristics capable of handling new and existing access control software and credential reading technology.
9. Exit Device Trim to be modular in design, to have the ability to change credential reader in the field.
10. Locking escutcheon, security lever trim and to be non-handed, operate independently of non-locking levers for extended life cycles. Handing to be field reversible.
11. Exterior lever to be designed with ability to rotate freely while door remains securely locked, preventing damage to internal lock components from vandalism by excessive force.
12. Exit Device Trim to have the following standard status switches: Lock/Unlock Status (Clutch Position), Request-to-Exit Switch, Request to Enter Switch, Door Position Switch, Interior Cover Tamper Guard.
13. Exit Device Trim to communicate Battery Status and Communication Status.
14. Furnish locks with following functions which will be field configurable without taking the lock off the door:
    a. Classroom/Storeroom 70.
15. Lever style:
    a. 06 (Rhodes)
    b. Knurling option to provide tactile feedback to be available.
16. Exit Device Trim powered by four AA batteries. Options: Eight AA batteries or a 12V or 24V DC power supply.
17. Should power be lost to device, Exit Device Trim to have the ability to be field configured to manage access control in one of the three field configurable methods below:
    a. Fail locked (secured)
    b. Fail unlocked (unsecured)
    c. Fail As-Is
18. Should communication be lost between device and network, Exit Device Trim to have ability to manage access control offline in one of four field configurable methods below:
    a. Fail locked (secured)
    b. Fail unlocked (unsecured)
    c. Fail As-Is
    d. Fail to Degraded/cache mode utilizing cache memory with following selectable options:
        (1) Grant access up to the last 1,000 unique previously accepted User IDs
        (2) Grant access up to the last 1,000 unique previously accepted Facility/Site codes
19. Lockset and Exit Trim system interface to be:
    a. Wiegand or Clock & Data via PIM400 (Panel Interface Module).
20. Exit Device Trim to have real-time communication with access control system, such that all events at Exit Device Trim are communicated real-time to network control software.
21. Exit Device Trim utilized with SMS Premier/Enterprise software, to have capability to be remotely locked down real-time, within 10 seconds or less, without user interface at the device.
22. Exit Device Trim utilized with SMS Premier/Enterprise software to have capability to be remotely unlocked real-time without user interface at the device.
23. Exit Device Trim to have visual tri-colored LED to indicate operational systems status, system error conditions and low power conditions.
24. Exit Device Trim to have audible feedback that can be enabled or disabled.
25. Credential reader capabilities for SMS Select/Premier/Enterprise Software may include and may not be limited to:
    a. 13.56 MHz Smart card credentials:

(1) Secure section (Multi-Technology and Smartcard): Schlage, XceedID ISO-X, MIFARE, ISO-X Lite, my-d, DESFire 8-EV1.

26. The lock and exit device trim will have the ability to utilize multiple manufacturer's key systems in the lever including:
    a. Full Size cylinders from Schlage, up to 6-pin cylinders
27. Provide option for tamper torx screws on inside escutcheon for Higher Security
28. Acceptable Manufacturers: Schlage Electronics Model: AD-400-993 Series Exit Device Trim

D. Panel Interface Module
1. Used for communication of wireless lockset or exit device trim to the access control panel.
2. To have the following certifications: NEMA1, 4, 4X, 6; 294, FCC Part 15; RoHS.
3. Modulation to be 900 MHz spread spectrum, direct sequence, 10 channels.
4. Wireless Transmission / Encryption: AES-128 bit Key minimum.
5. Power supply required 12VDC or 24VDC.
6. Acceptable Manufacturer: Schlage Electronics Model: PIM400 Panel Interface Module.

E. Hand held programming device:
1. Capable of initializing lock and accessories using preloaded Schlage Utility Software
2. Used to field configure devices:
    a. Credential Reader Formats
    b. Lock Function
    c. Unlock Period
    d. Power Failure Mode
    e. Audible Alarm ON/OFF
    f. Battery Status
    g. Validate hardware and software revision
    h. Troubleshooting Status Signals
    i. Special Access Delay (ADA)
    j. Delayed Egress (Release Delay)
    k. Door Propped open Delay
    l. Lockdown Cancel Delay TimeOut between credential and PIM
    m. Number of Key presses without valid PIN before lockout
    n. Current Date/Time
    o. Enable/Disable Manual Programming

3. Utilized to download firmware updates and door files to device

4. Hand Held Device to have:
    a. 3.5 inch LCD display minimum
    b. Touch Screen/Keypad Backlit
    c. 32-bit processor minimum
    d. Memory: 128MB RAM/256 MB ROM
    e. Battery: Rechargeable Li-ion
5. Acceptable Manufactures: Schlage Electronics – HHD series with Schlage Utility Software

END OF SECTION

Cisco Catalyst Access Switching

Cisco Modular Access Switches

Cisco® Catalyst® 4500E Series:

- Cisco's leading platform for borderless access and price/performance distribution offering up to 848 Gbps in Layer 2 and Layer 3 switching capacity
- First Cisco switch supporting Cisco Universal Power Over Ethernet (60W per port) and Energy-Efficient Ethernet
- Full Borderless Networks services support, including Flexible NetFlow for application visibility and malware detection, medianet, Cisco TrustSec® security, and EnergyWise
- Lowers TCO with simplified operations such as sub-200msec In-Service Software Upgrade (ISSU), Embedded Event Manager, Smart Call Home, Auto Smartports, Limited Lifetime Warranty (LLW)
- Industry's best investment protection in its class with backward and forward compatibility across all generations dating back to 1999
- Single platform for access and distribution supporting up to 384 Fast Ethernet or Gigabit Ethernet (GE) ports (PoE or data) and up to 100 10 Gigabit Ethernet (10 GE) ports per chassis

http://www.cisco.com/en/US/products/hw/switches/ps4324/indesx.html

4500E Value Bundles:

- WS-C4503E-S7L-48V+
- WS-C4506E-S7L-96V+
- WS-C4507RE+96V+, WS-C4510RE-S7+96V+

4500E borderless offering chassis:

- WS-C4503-E: 3-slot chassis
- WS-C4506-E: 6-slot chassis
- WS-C4507R+E: 7-slot chassis supporting redundancy
- WS-C4510R+E: 10-slot chassis supporting redundancy

Supervisor engines:

- WS-X45-SUP7-E: 4500E Series Supervisor, 848Gbps
- WS-X45-SUP7L-E: 4500E Series Supervisor 7-E Lite, 520Gbps

Line cards:

- WS-X4748-UPOE+E: 4500 E-Series 48-port 802.3af PoE, 802.3at PoEP and UPOE 10/100/1000
- WS-X4748-RJ45-E: 4500E Series, 48-port 10/100/1000 (RJ-45)
- WS-X4748-RJ45V+E: 4500E 48-port PoE 802.3at 10/100/1000 (RJ-45)
- WS-X4648-RJ45V+E: 4500E Series, 48-port 802.3af PoE 10/100/1000 (RJ-45)
- WS-X4648-GB-RJ45: 4500E Series, 48-port 10/100/1000 (RJ-45)

Cisco Fixed Access Switches

Cisco Catalyst 3750-X Series:

- GE copper and fiber stackable switches with support for advanced Layer 3 and IPv6 capabilities Higher availability and resiliency using StackWise® Plus and Cisco StackPower™ technology combined with dual redundant, hot-swappable power supplies and fan modules
- Feature rich BN services platform with Cisco TrustSec, Medianet & EnergyWise
- Support more PoE devices with 30W power available on all ports simultaneously
- Configuration flexibility and future-proofing with four hot-swappable network modules (GE and 10 GE ports) and the choice of LAN Base, IP Base, and IP Services software
- Ensure data confidentiality and integrity with Media Access Control Security (MACsec) hardware-based line-rate encryption
- EnergyWise for operational cost optimization by measuring actual power consumption of the PoE devices, reporting, and reducing energy consumption across the network
- Smart Operations to simplify LAN deployment, configuration, and troubleshooting
- Investment protection with enhanced limited lifetime warranty (eLLW)

http://www.cisco.com/en/US/products/ps10745/index.html

- WS-C3750X-24T-L: Stackable 24 10/100/1000 Ethernet ports, 350W PS, LAN Base
- WS-C3750X-48T-L: Stackable 48 10/100/1000 Ethernet ports, 350W PS, LAN Base
- WS-C3750X-24P-L: Stackable 24 10/100/1000 PoE+ ports, 715W PS, LAN Base
- WS-C3750X-48P-L: Stackable 48 10/100/1000 Ethernet ports, 350W PS, LAN Base
- WS-C3750X-48PF-L: Stackable 24 10/100/1000 Ethernet ports, 1100W PS, LAN Base
- WS-C3750X-24T-S: Stackable 24 10/100/1000 Ethernet ports, 350W PS, IP Base
- WS-C3750X-48T-S: Stackable 48 10/100/1000 Ethernet ports, 350W PS, IP Base
- WS-C3750X-24P-S: Stackable 24 10/100/1000 PoE+ ports, 715W PS, IP Base
- WS-C3750X-48P-S: Stackable 48 10/100/1000 Ethernet ports, 350W PS, IP Base
- WS-C3750X-48PF-S: Stackable 24 10/100/1000 Ethernet ports, 1100W PS, IP Base
- WS-C3750X-12S-S: Stackable 12 Gigabit Ethernet SFP ports, 350W PS, IP Base
- WS-C3750X-24S-S: Stackable 24 Gigabit Ethernet SFP ports, 350W PS, IP Base
- WS-C3750X-12S-E: Stackable 12 Gigabit Ethernet SFP ports, 350W PS, IP Services
- WS-C3750X-24S-E: Stackable 24 Gigabit Ethernet SFP ports, 350W PS, IP Services

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Cisco Fixed Access Switches

	Cisco Catalyst 3560-X Series: • GE stand-alone switch with support for advanced Layer 3 and IPv6 • Feature rich BN services platform with Cisco TrustSec, Medianet & EnergyWise • Support more PoE devices with 30W power available on all ports simultaneously • Configuration flexibility and future-proofing with four hot-swappable network modules (GE and 10 GE ports) and the choice of LAN Base, IP Base, and IP Services software • High availability with dual redundant, hot-swappable power supplies and fan modules • Ensure data confidentiality and integrity with MACsec hardware-based line-rate encryption • EnergyWise for operational cost optimization by measuring actual power consumption of the PoE devices, reporting, and reducing energy consumption across the network • Smart Operations to simplify LAN deployment, configuration, and troubleshooting • Investment protection with eLLW http://www.cisco.com/en/US/products/ps10744/index.html	• WS-C3560X-24T-L: 24 10/100/1000 Ethernet ports, 350W PS, LAN Base • WS-C3560X-48T-L: 48 10/100/1000 Ethernet ports, 350W PS, LAN Base • WS-C3560X-24P-L: 24 10/100/1000 PoE+ ports, 715W PS, LAN Base • WS-C3560X-48P-L: 48 10/100/1000 PoE+ ports, 715W PS, LAN Base • WS-C3560X-48PF-L: 48 10/100/1000 PoE+ ports, 1100W PS, LAN Base • WS-C3560X-24T-S: 24 10/100/1000 Ethernet ports, 350W PS, IP Base • WS-C3560X-48T-S: 48 10/100/1000 Ethernet ports, 350W PS, IP Base • WS-C3560X-24P-S: 24 10/100/1000 PoE+ ports, 715W PS, IP Base • WS-C3560X-48P-S: 48 10/100/1000 PoE+ ports, 715W PS, IP Base • WS-C3560X-48PF-S: 48 10/100/1000 PoE+ ports, 1100W PS, IP Base
	Cisco Catalyst 2960-S Series: • GE switch with support for advanced Layer 2, static routing, and IPv6 manageability • Cisco FlexStack stacking for ease of operation with Cisco Catalyst Smart Operations • PoE+ with up to 30W per port • Standards based 802.1x and identity based solution • Lower operational costs through efficient switch operation • EnergyWise for operational cost optimization by measuring actual power consumption of the PoE devices, reporting, and reducing energy consumption across the network • Smart Operations to simplify LAN deployment, configuration, and troubleshooting • Investment protection with eLLW http://www.cisco.com/en/US/products/ps6406/index.html	• WS-2960S-48TS-S: 48 10/100/1000 Ethernet ports, GE SFP uplink ports, LAN Lite • WS-C2960S-24TS-S: 24 10/100/1000 Ethernet ports, GE SFP uplink ports, LAN Lite • WS-C2960S-48FPD-L: 48 10/100/1000 PoE+ ports, 10 GE uplink ports, 740W PoE power, operational Cisco FlexStack, LAN Base • WS-C2960S-48LPD-L: 48 10/100/1000 PoE+ ports, 10 GE uplink ports, 370W PoE power, optional Cisco FlexStack, LAN Base • WS-C2960S-24PD-L: 24 10/100/1000 PoE+ ports, 10 GE uplink ports, 370W PoE power, optional Cisco FlexStack, LAN Base • WS-C2960S-48TD-L: 48 10/100/1000 Ethernet ports, 10 GE uplink ports, optional Cisco FlexStack, LAN Base • WS-C2960S-24TD-L: 24 Ethernet 10/100/1000 Ethernet, 10 GE uplink ports, LAN Base • WS-C2960S-48FPS-L: 48 10/100/1000 PoE+ ports, GE SFP uplink ports, 740W PoE power, operational Cisco FlexStack, LAN Base • WS-C2960S-48LPS-L: 48 10/100/1000 PoE+ ports, GE SFP uplink ports, 370W PoE power, optional Cisco FlexStack, LAN Base • WS-C2960S-24PS-L: 24 10/100/1000 PoE+ ports, GE SFP uplink ports, 370W PoE power, optional Cisco FlexStack, LAN Base • WS-C2960S-48TS-L: 48 10/100/1000 Ethernet ports, GE SFP uplink ports, optional Cisco FlexStack, LAN Base • WS-C2960S-24TS-L: 24 Ethernet 10/100/1000 Ethernet, GE SFP uplink ports, LAN Base

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Cisco Catalyst C Series Compact Switches		
	Cisco Catalyst 3560-C Series: • Fanless small form factor switch with support for Layer 3 and IPv6 • Designed specifically to be depoyed outside the wiring closet • PoE+ with up to 30W per port • Featuring PoE pass-through, an innovative feature and industry first for passing PoE power from the compact switch to end devices • MACsec hardware-based line-rate encryption • Ease of deployment with Cisco Catalyst Smart Operations • Investment protection with eLLW http://www.cisco.com/en/US/products/ps11290/index.html	• WS-C3560CG-8TC-S -8 GE, 2 s dual-purpose uplink, IP Base • WS-C3560CG-8PC-S -8 GE PoE, 2 x dual-purpose uplink, IP Base • WS-C3560CPD-8PT-S: Cisco Catalyst 3560C PD PSE Switch 8 GE PoE 2 x 1G, IP Base • WS-C3560C-8PC-S: Cisco Catalyst 3560C Switch 8 FE PoE, 2 x Dual Purpose Uplink, IP Base • WS-C3560C-12PC-S: Cisco Catalyst 3560C Switch 12 FE PoE, 2 x Dual Purpose Uplink, IP Base
	Cisco Catalyst 2960-C Series: • Fanless small form factor switch with support with comprehensive Layer 2 features • Designed specifically to be deployed outside the wiring closet • Models with and without power supplies • Featuring PoE passthrough, an innovative feature and industry first for passing PoE power from the compact switch to end devices • Ease of deployment with Cisco Catalyst Smart Operations • Investment protection with Enhanced Limited Lifetime Warranty (eLLW) http://www.cisco.com/en/US/products/ps11289/index.html	• WS-C2960CPD-8TT-L: Cisco Catalyst 2960-C PSE Switch 8 FE, 2 x GE, PoE+ LAN Base • WS-C2960CPD-8PT-L: Cisco Catalyst 2960-C PD PSE Switch 8 FE PoE, 2 x GE, PoE+ LAN Base • WS-C2960CG-8TC-L: Cisco Catalyst 2960-C Switch 8 GE, 2 x dual-purpose uplink, LAN Base • WS-C2960C-8TC-L: Cisco Catalyst 2960C Switch 8 FE, 2 x Dual Purpose Uplink, LAN Base • WS-C2960C-8TC-S: Cisco Catalyst 2960C Switch 8 FE, 2 x Dual Purpose Uplink, LAN Lite • WS-C2960C-8PC-L: Cisco Catalyst 2960C PoE Switch 8 FE PoE, 2 x Dual Purpose Uplink, LAN Base • WS-C2960C-12PC-L: Cisco Catalyst 2960C PoE Switch 12 FE PoE, 2 x Dual Purpose Uplink, LAN Base

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Cisco Catalyst 3750 v2 Series Switches

At-A-Glance

The Cisco® Catalyst® 3750 v2 Series is the next generation energy-efficient Layer 3 fast Ethernet, stackable switches. This new series of switches support Cisco EnergyWise technology, which enables companies to measure and manage power consumption of network infrastructure and network-attached devices, thereby reducing their energy costs and their carbon footprint. The Cisco Catalyst 3750 v2 Series consumes less power than its predecessors and is the ideal access layer switch for enterprise, retail, and branch-office environments, as it maximizes productivity and investment protection by enabling a unified network for data, voice, and video (figure 1).

Figure 1 Cisco Catalyst 3750 v2 Series Switches

Product Highlights

- Lower power consumption than its predecessors
- Backward compatible with Cisco Catalyst 3750 and 3750-E Series
- Full Energy Wise support to monitor energy consumption of network infrastructure and implement energy saving programs to reduce energy costs
- Compatible with Cisco Redundant Power System (RPS) 2300
- All units have a uniform depth of 11.9 inches for better cable management
- Preconfigurable with the Cisco IOS Software release at the time of ordering
- IPv6 routing included in the IP Services feature set

Cisco EnergyWise

The Cisco Catalyst 3750 v2 Series supports Cisco EnergyWise, which is a technology that enables monitoring, reporting, and management of energy consumption by end devices that are Cisco EnergyWise enabled. This technology enables companies to reduce their energy cost carbon footprint. These are some of the EnergyWise features available:

- Discover all Cisco EnergyWise enabled devices on the network
- Monitor and report power consumption by these devices
- Implement business rules to control power to these end devices

Cisco StackWise Technology

The Cisco Catalyst 3750 v2 Series are stackable switches with Cisco StackWise® technology. Cisco StackWise technology unites up to nine individual switches into a single logical unit, using special stack-interconnect cables and stacking software. Cisco StackWise stacking creates a 32-Gbps switch interconnection and does not require user ports for stacking. The Catalyst 3750 v2 Series are also fully compatible with Catalyst 3750 and 3750-E stackable switches.

Ease of Use and Deployment

With features such as auto smart ports, smart install, configuration replace and rollback, and auto QoS, the Cisco Catalyst 3750 v2 Series Switches are easy to deploy and manage.

Enhanced Security

The Cisco Catalyst 3750 v2 Series Switches have several security features, such as IEEE 802.1x, flexible authentication, multi-authentication, Web authentication, multi-domain authentication, VLAN ACLs, and port-based ACLs that enable a secure network.

Configurable Cisco IOS Software

The Cisco Catalyst 3750 v2 Series can be preconfigured with a specific Cisco IOS Software release at the time of ordering. This option eliminates the need to reload a specific Cisco IOS Software release during deployment, thereby reducing deployment time and cost. The Cisco IOS Software release to be preloaded can be selected from a list of supported Cisco IOS Software releases, including the crypto version.

Redundant Power System

The Cisco Catalyst 3750 v2 Series Switches support the Cisco RPS 2300, which increases availability in a converged data, voice, and video network by providing transparent power backup to two of six attached devices. The Cisco Catalyst 3750 v2 Series Switches are capable of reverting back to their internal power supply without any service interruption. In addition, the RPS 2300 can be managed using a Cisco Catalyst 3750 v2 Series Switch that is connected to the RPS 2300.

Ordering Information

Part Number	Description
WS-C3750V2-24TS-S	24 10/100 + 2 SFP IP Base
WS-C3750V2-24TS-E	24 10/100 + 2 SFP IP Services
WS-C3750V2-48TS-S	48 10/100 + 4 SFP IP Base
WS-C3750V2-48TS-E	48 10/100 + 4 SFP IP Services
WS-C3750V2-24PS-S	24 10/100 PoE + 2 SFP IP Base
WS-C3750V2-24PS-E	24 10/100 PoE + 2 SFP IP Services
WS-C3750V2-48PS-S	48 10/100 PoE + 4 SFP IP Base
WS-C3750V2-48PS-E	48 10/100 PoE + 4 SFP IP Services

For More Information

http://www.cisco.com/en/US/products/hw/switches/ps5023/index.html

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C45-529673-00 04/09

MASTER SPECIFICATION

XGO™ UTP CABLE

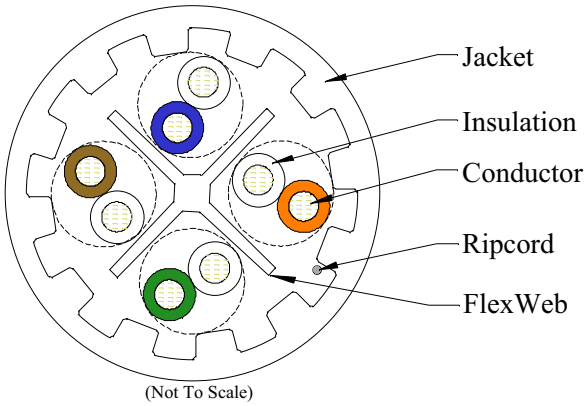
4 PAIR #23 AWG CATEGORY 6A PLENUM

Design Number:
HT54074

DESCRIPTION

UNSHIELDED TWISTED PAIR (UTP) XGO(TM) CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER ANSI/TIA-568-C AND ISO/IEC 11801:2002 CLASS EA. THE CABLE EXCEEDS ANSI/TIA-568-C.2 AND ISO/IEC 11801:2002 CATEGORY 6A ELECTRICAL CHARACTERISTICS. THIS PATENTED CABLE CONSISTS OF #23 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS, WITH A FLEXWEB® CORE SEPARATOR, WITH A RIPCORD, UNDER A FLUTED JACKET WHICH MITIGATES ALIEN CROSSTALK. PRINT INCLUDES DESCENDING FOOTAGE MARKERS FROM 1000 TO 0 ON EACH 1000 FT REEL. THIS PRODUCT AND/OR ITS MANUFACTURE IS COVERED BY US PATENT NOS. 6074503, 7135641, 7154043, 7663061 & 7977575.

THE CABLE IS PLENUM RATED FOR USE IN AIR HANDLING DUCTS AND SPACES IN ACCORDANCE WITH ARTICLE 800 OF THE NATIONAL ELECTRICAL CODE (NEC). THE CABLE IS UL (USA) & cUL (CANADA) LISTED FOR THIS APPLICATION BY PASSING NFPA 262 (FT6 OR PREVIOUSLY UL 910 STEINER TUNNEL) TEST.



(Not To Scale)

SUPPORTED APPLICATIONS

IEEE 802.3an 10GBASE-T (10 GIGABIT ETHERNET), 1000BASE-T (GIGABIT ETHERNET), 100BASE-T (FAST ETHERNET), AND IEEE 802.3 10BASE-T (ETHERNET), IEEE 802.3af POWER OVER ETHERNET FOR VoIP, ANSI.X3.263 FDDI TP-PMD, IEEE 802.5 4 AND 16 Mbps TOKEN RING, ATM UP TO 1.2 Gbps, 550 MHz BROADBAND VIDEO AND STANDARDS UNDER DEVELOPMENT SUCH AS ATM AT 2.4 AND 4.8 Gbps.

CONSTRUCTION

PRIMARIES: CONDUCTOR: 23 AWG (.6 mm) SOLID BARE COPPER
INSULATION: FEP ON ALL 4PAIRS

PAIR ASSEMBLY: 2 PRIMARIES TWISTED IN VARIED LAYS

COLOR CODE: SEE TABLE 1

CABLE ASSEMBLY: 4 PAIRS CABLED TOGETHER WITH A FLEXWEB CORE SEPARATOR

JACKET: NO LEAD PLENUM RATED THERMOPLASTIC
JACKET COLOR: SEE TABLE 2
NOMINAL CABLE OD: .340" (8.64 mm)

LISTINGS: C(UL)US OR C(ETL)US TYPE CMP
UL OR ETL VERIFIED CAT.6A

PHYSICAL CHARACTERISTICS

CABLE WEIGHT: 57 lbs/1000ft (85 kg/km)

BENDING RADIUS: 1.4" (35 mm) MIN (4 x CABLE OD)

PULLING TENSION: 25 lbf (110 N) MAX

OPERATING TEMP.: -20°C to +60°C (-4°F to +140°F)

STORAGE TEMP.: -20°C to +75°C (-4°F to +167°F)

***INSTALLATION TEMP.:** 0°C to +60°C (+32°F to +140°F)

TABLE 1

PAIR NUMBER	PAIR COLOR CODE	
1	WHITE	BLUE
2	WHITE	ORANGE
3	WHITE	GREEN
4	WHITE	BROWN

TABLE 2

MOHAWK PART NUMBER	MOHAWK DESIGN NUMBER	JACKET COLOR
M58865	HT56984	BLUE
M58866	HT56985	WHITE
M58867	HT56986	YELLOW
M58868	HT56987	GRAY
M58869	HT56988	PINK
M58870	HT56989	GREEN
M58871	HT56990	RED
M58873	HT56991	ORANGE
M58874	HT56992	BLACK
M58875	HT56993	VIOLET

*THE INSTALLATION TEMPERATURE REFERS TO THE TEMPERATURE OF THE *CABLE* WHILE BEING INSTALLED OR PULLED. DO NOT INSTALL BELOW 0°C (+32°F).

RoHS

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Rev	Description	Date	Init.
L	UPDATE DESC, LISTINGS, WGT, STDS	08/12/10	JS
M	UPDATE PATENT INFO & STDS	05/27/11	JS
N	UPDATE DESC, PATENT INFO, CABLE WGT	08/09/11	JS
O	UPD DESC; ADD ICEA TO STANDARDS	10/28/11	JS

Date: 03/10/05 Page 1 of 2

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This cable complies with the EU-RoHS directive 2002/95/EC (restrictions on hazardous substances) regulations.

MASTER SPECIFICATION

XGO™ UTP CABLE

4 PAIR #23 AWG CATEGORY 6A PLENUM

Design Number:
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ELECTRICAL CHARACTERISTICS (REF TABLE 3)

STANDARDS: EXCEEDS ANSI/TIA-568-C.2 CAT 6A, ICEA S-90-661-1997 CAT 6, ISO/IEC 11801 ed 2.0 AMEND 1 CLASS EA & IEC 61156-5 ed 2.0 HORIZONTAL CABLE

CONDUCTOR DCR: 6.6 Ω/100m (20.0 Ω/Mft) MAX

DCR UNBALANCE: 3% MAX

MUTUAL CAPACITANCE: 46 pF/m (14 pF/ft) NOM

CAPACITANCE UNBALANCE PAIR/GROUND: 33 pF/100m (100 pF/Mft) MAX

CHARACTERISTIC IMPEDANCE: 100 Ω ± 7% (10-550 MHz)

INPUT IMPEDANCE: 100 Ω ± 10% (1-100 MHz)
100 Ω ± 15% (>100-350 MHz)
100 Ω ± 22% (>350 MHz)

RETURN LOSS (RL): $20 + 5 \log_{10}(f)$ dB MIN (1-10 MHz)
25 dB MIN (>10-20 MHz)
$25 - 7 \log_{10}(f/20)$ dB MIN (>20 MHz)

PROPAGATION DELAY: $534+36 / \sqrt{f}$ ns/100m MAX

PROPAGATION DELAY SKEW: 45 ns/100m MAX

INSERTION LOSS (ATTENUATION): $1.82\sqrt{f} + .0091f + .25/\sqrt{f}$ dB/100m MAX

NEAR END CROSSTALK (NEXT): $44.3 - 15 \log_{10}(f/100)$ dB/100m MIN

POWER SUM NEAR END CROSSTALK (PS NEXT): $42.3 - 15 \log_{10}(f/100)$ dB/100m MIN

ATTENUATION TO CROSSTALK RATIO FAR END (ACRF): $27.8 - 20 \log_{10}(f/100)$ dB/100m MIN

POWER SUM ATTENUATION TO CROSSTALK RATIO FAR END (PS ACRF): $24.8 - 20 \log_{10}(f/100)$ dB/100m MIN

POWER SUM ALIEN NEAR END CROSSTALK (PS ANEXT): $62.5 - 15 \log_{10}(f/100)$ dB/100m MIN
67 dB MIN

POWER SUM ALIEN ATTENUATION TO CROSSTALK RATIO FAR END (PS AACRF): $38.2 - 20 \log_{10}(f/100)$ dB/100m MIN
67 dB MIN

NOMINAL VELOCITY OF PROPAGATION (NVP): 72%

NOTE: Attenuation To Crosstalk Ratio Far End (ACRF) was previously referred to as Equal Level Far End Crosstalk (ELFEXT).

WHERE f = Frequency In MHz from 1 to 500 MHz.

TABLE 3
REFERENCE ELECTRICAL CHARACTERISTICS

FREQ (MHz)	INSERTION LOSS (dB/100m)	NEXT (dB/100m)	PS NEXT (dB/100m)	ACRF (dB/100m)	PS ACRF (dB/100m)	RETURN LOSS (dB)	PROP. DELAY (ns/100m)	ALIEN CROSSTALK PS ANEXT (dB/100m)	ALIEN CROSSTALK PS AACRF (dB/100m)
	max	min	min	min	min	min	max	min	min
1.0	2.0	74.3	72.3	67.8	64.8	20.0	570.0	67.0	67.0
4.0	3.8	65.3	63.3	55.8	52.8	23.0	552.0	67.0	66.2
8.0	5.3	60.8	58.8	49.7	46.7	24.5	546.7	67.0	60.1
10.0	5.9	59.3	57.3	47.8	44.8	25.0	545.4	67.0	58.2
16.0	7.4	56.2	54.2	43.7	40.7	25.0	543.0	67.0	54.1
20.0	8.3	54.8	52.8	41.8	38.8	25.0	542.0	67.0	52.2
25.0	9.3	53.3	51.3	39.8	36.8	24.3	541.2	67.0	50.2
31.25	10.5	51.9	49.9	37.9	34.9	23.6	540.4	67.0	48.3
62.5	14.9	47.4	45.4	31.9	28.9	21.5	538.6	65.6	42.3
100.0	19.1	44.3	42.3	27.8	24.8	20.1	537.6	62.5	38.2
155.0	24.0	41.4	39.4	24.0	21.0	18.8	536.9	59.6	34.4
200.0	27.5	39.8	37.8	21.8	18.8	18.0	536.5	58.0	32.2
250.0	31.0	38.3	36.3	19.8	16.8	17.3	536.3	56.5	30.2
300.0	34.2	37.1	35.1	18.3	15.3	16.8	536.1	55.3	28.7
350.0	37.2	36.1	34.1	16.9	13.9	16.3	535.9	54.3	27.3
400.0	40.0	35.3	33.3	15.8	12.8	15.9	535.8	53.5	26.2
500.0	45.2	33.8	31.8	13.8	10.8	15.2	535.6	52.0	24.2
550.0	47.7	33.2	31.2	13.0	10.0	14.9	–	–	–
600.0	50.0	32.6	30.6	12.2	9.2	14.7	–	–	–
650.0	52.3	32.1	30.1	11.54	8.5	14.4	–	–	–
750.0	56.6	31.2	29.2	10.3	7.3	14.0	–	–	–

VALUES ABOVE 500 MHz ARE FOR ENGINEERING INFORMATION ONLY.

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