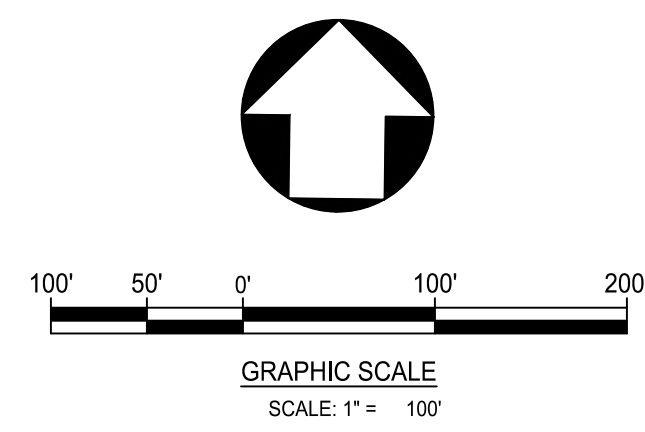
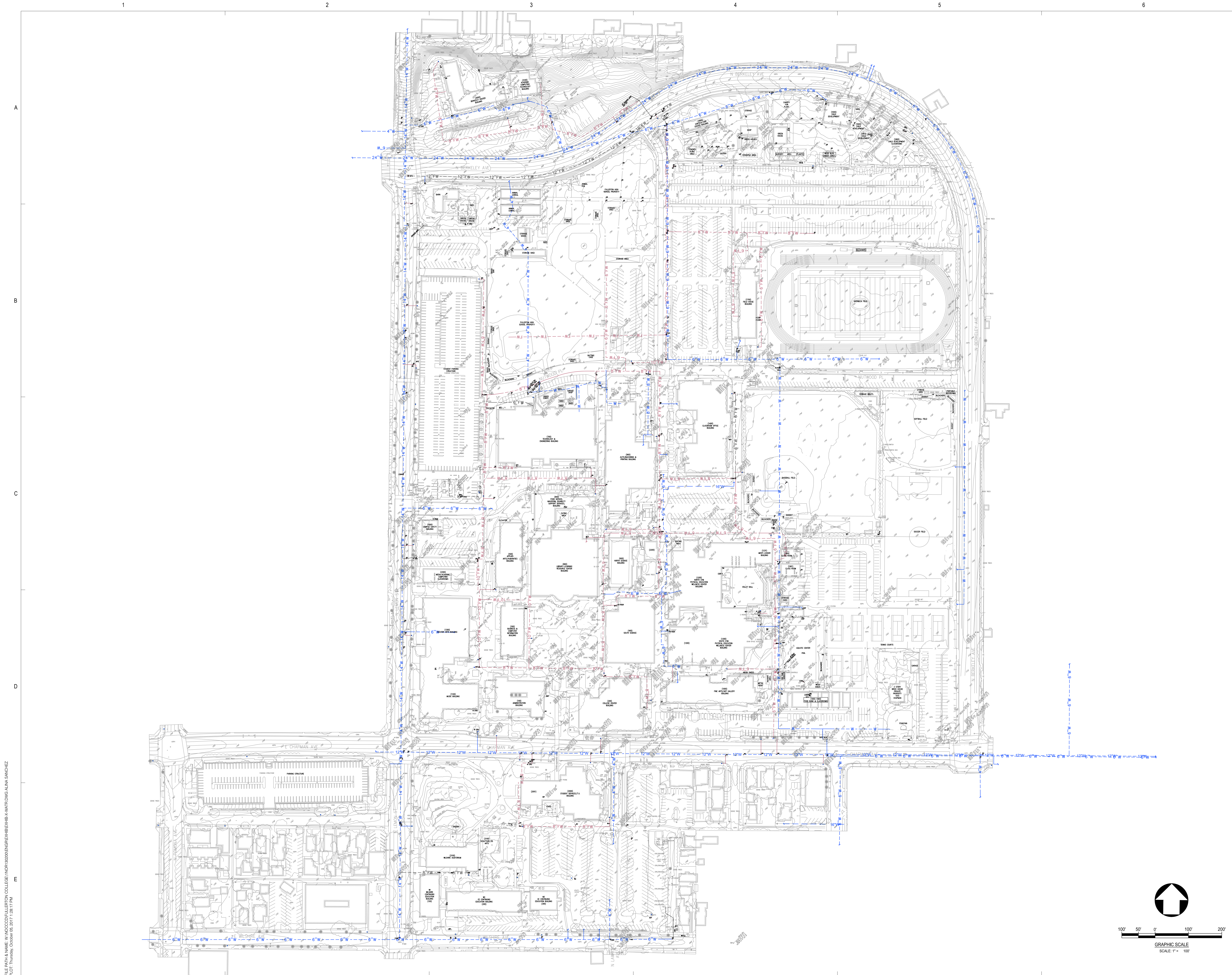


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PLOT: Thursday, October 05, 2017 1:28:17 PM



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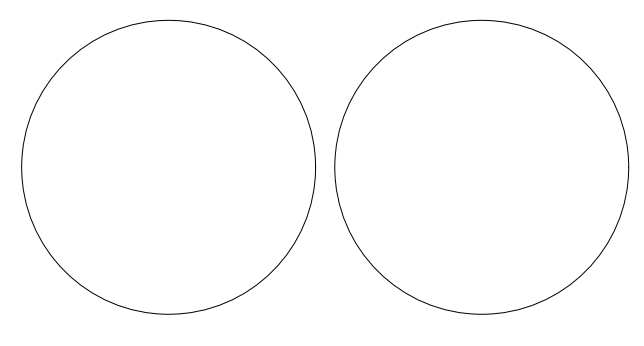
Project Title

SITE UTILITY

Owner
FULLERTON COLLEGE



321 E CHAPMAN AVENUE
FULLERTON, CA. 92632-2095



Revisions		
Number	Description	Date

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Drawn
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Date 10/02/2017

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Scale 100 SCALE

Sheet Title

**DOMESTIC WATER
SITE PLAN**

Sheet Number

C101

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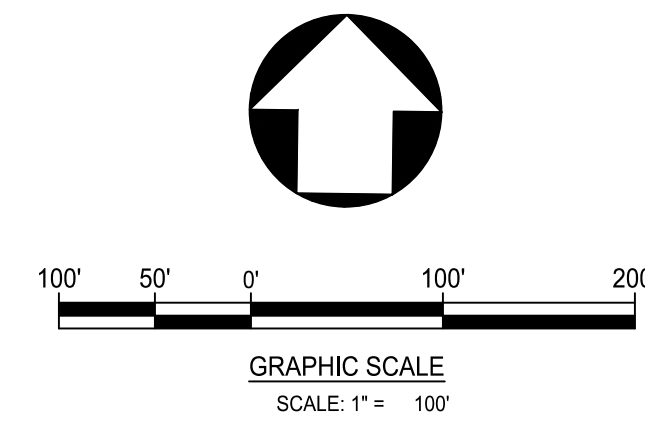
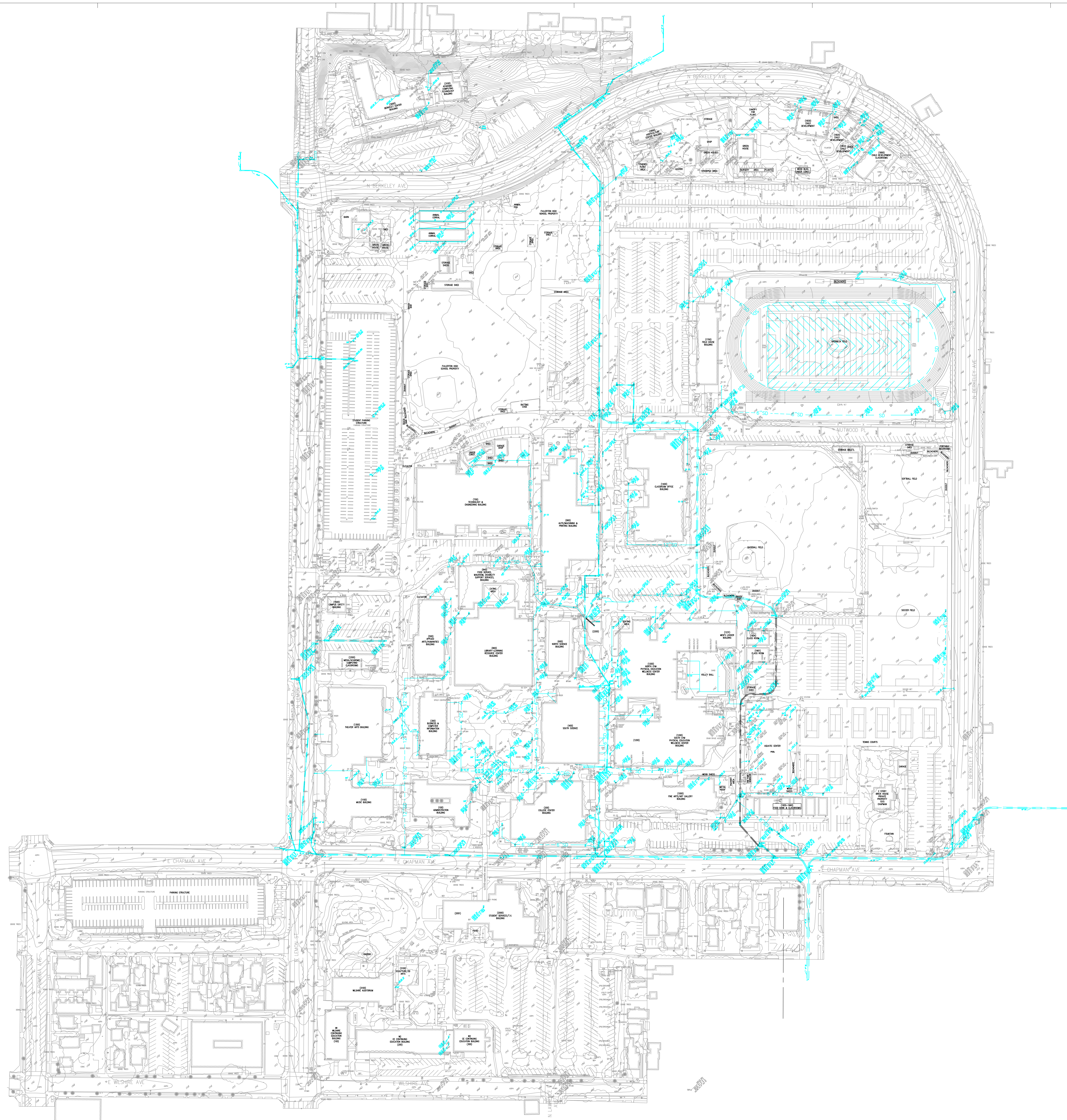
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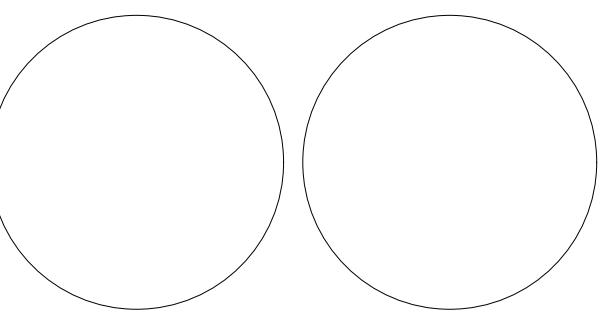
SITE UTILITY

Owner

FULLERTON COLLEGE



321 E CHAPMAN AVENUE
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Revisions
Number Description Date

1		

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Sheet Title

**STORM DRAIN
SITE PLAN**

Sheet Number

C102

P2S No. 8490

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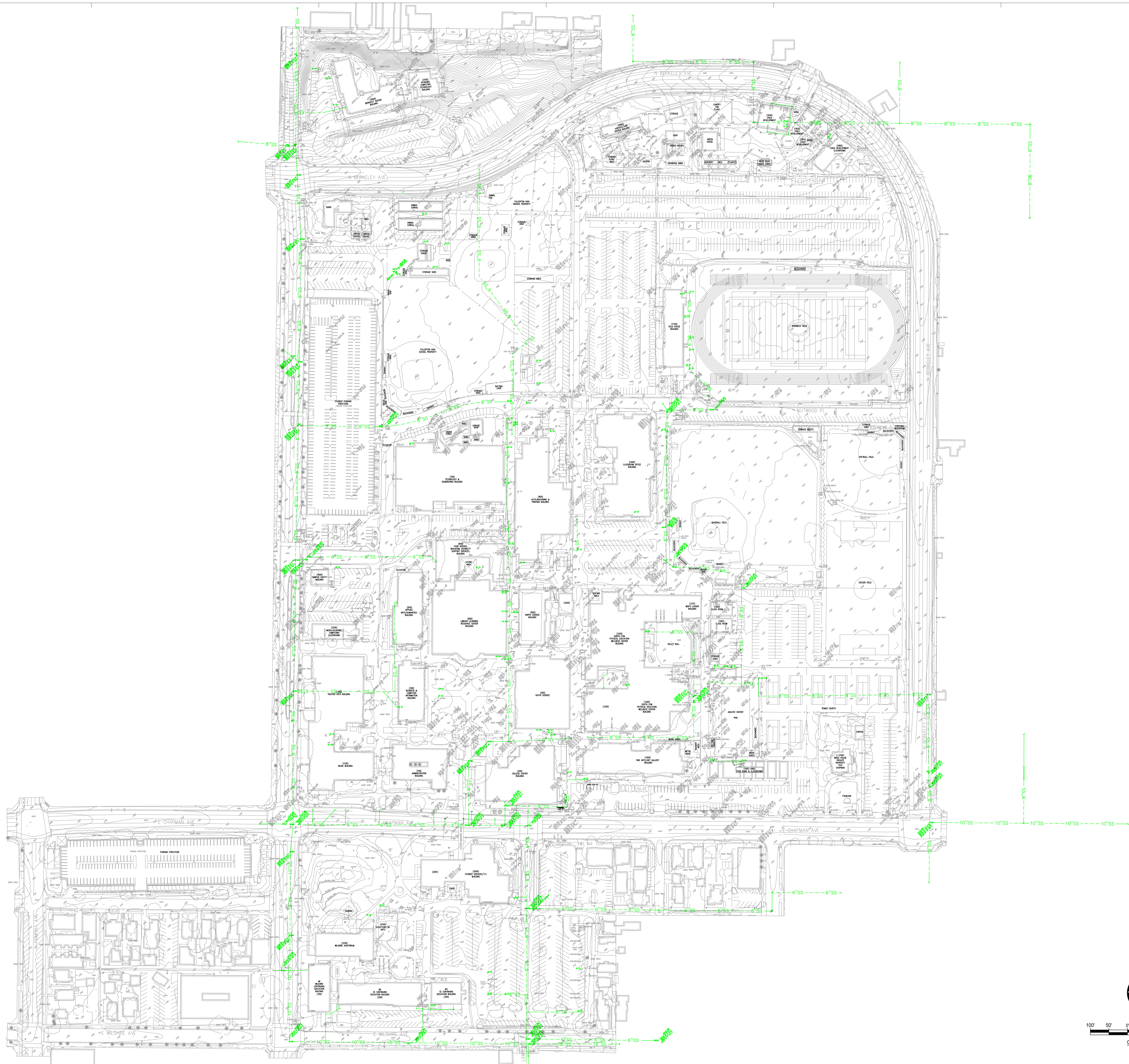
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Project Title

SITE UTILITY

Owner

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Scale

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Sheet Title

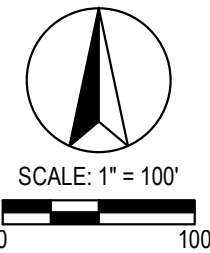
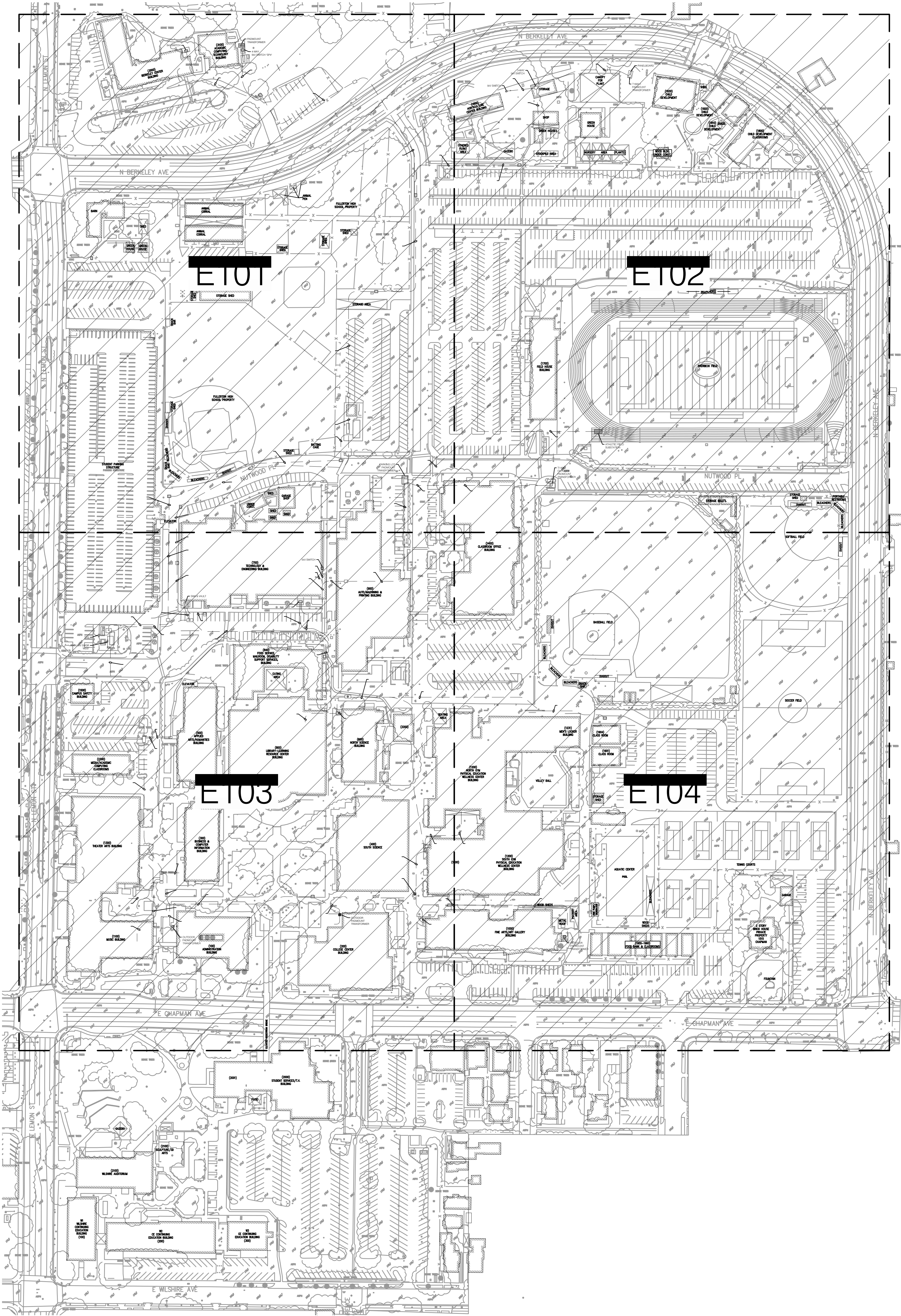
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Sheet Number

C103

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Project Title

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Number Description Date

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Drawn
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Date 06/08/2017

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Scale 1"=100'

Sheet Title

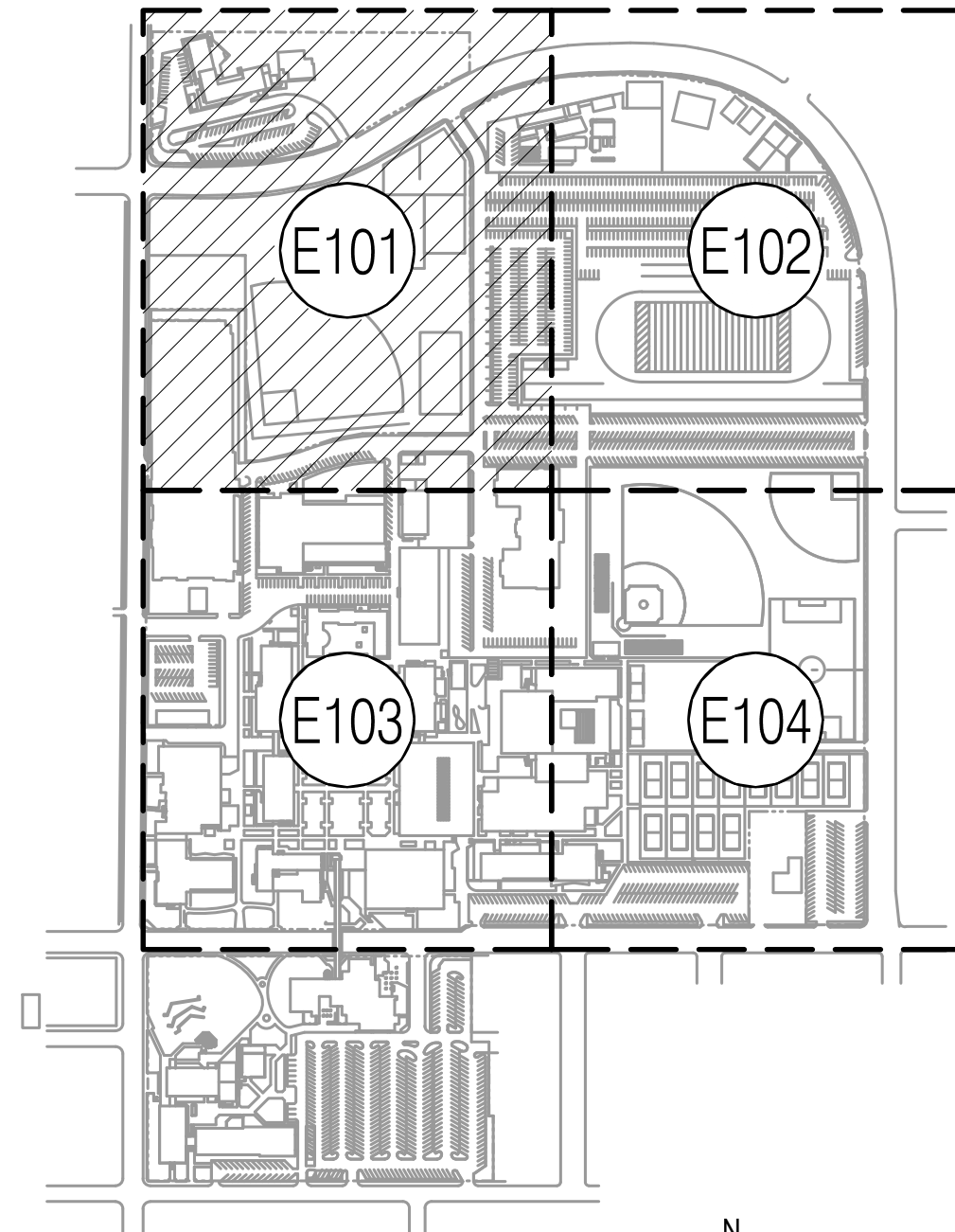
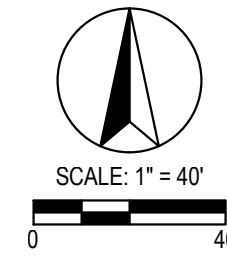
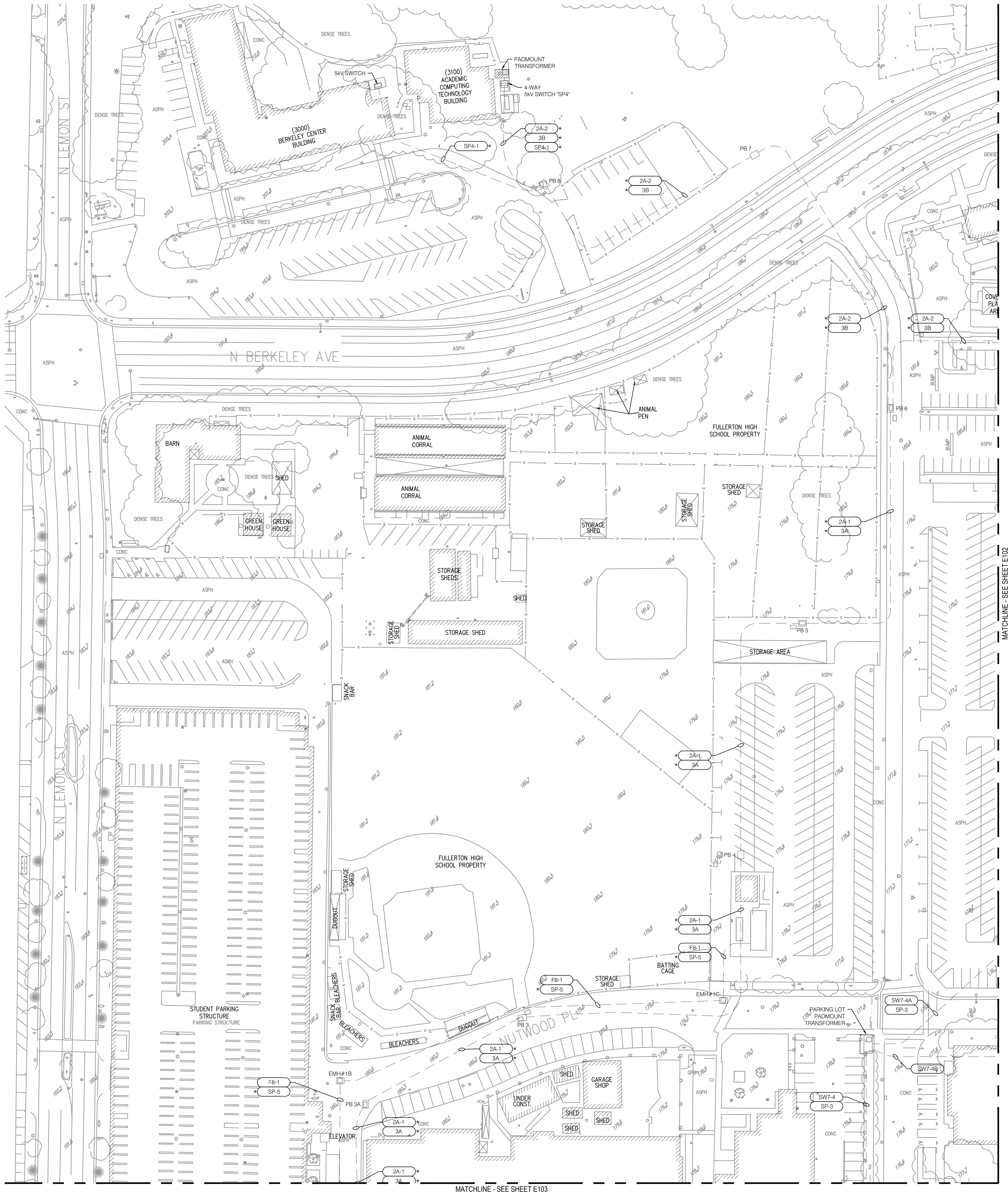
**Overall Site
Electrical Plan**

Sheet Number

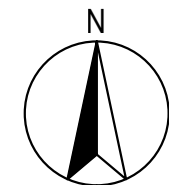
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P2S No. 8723

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PLOT: P101A, 06/28/2017 2:28:37 PM



KEY MAP



(*) CONDUCTORS INSTALLED PRIOR TO 2002, SIZE NOT VERIFIED.

PSOMAS

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Project Title

SITE UTILITY

Owner

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321 E CHAPMAN AVENUE
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Revisions	Number	Description	Date
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Drawn			
Checked			
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Date	06/08/2017
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Submittal

Scale	1"=40'
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Sheet Title

Sheet Number


Enlarged Site
Electrical Plan

E101

p2s

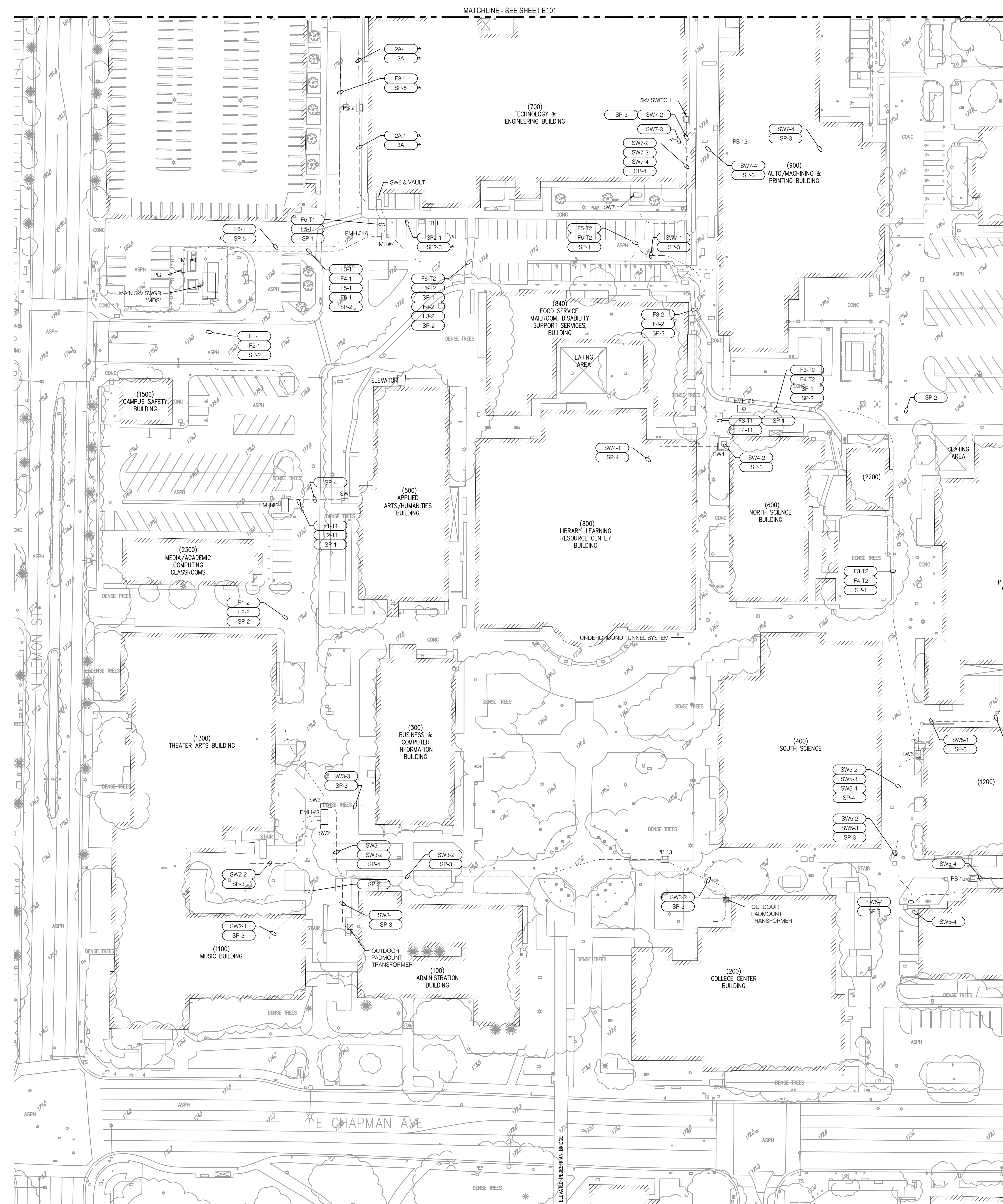
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SITE UTILITY

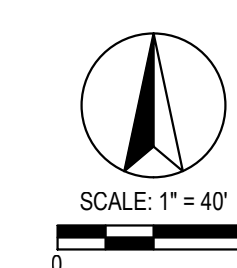
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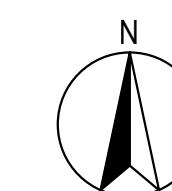
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(*) CONDUCTORS INSTALLED PRIOR TO 2002, SIZE NOT VERIFIED



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Project Title

Owner
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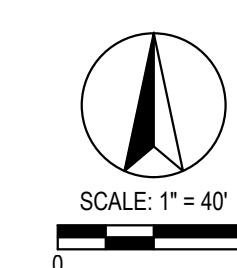


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FULLERTON, CA. 92832-2095

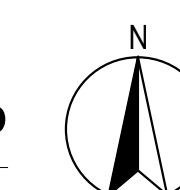
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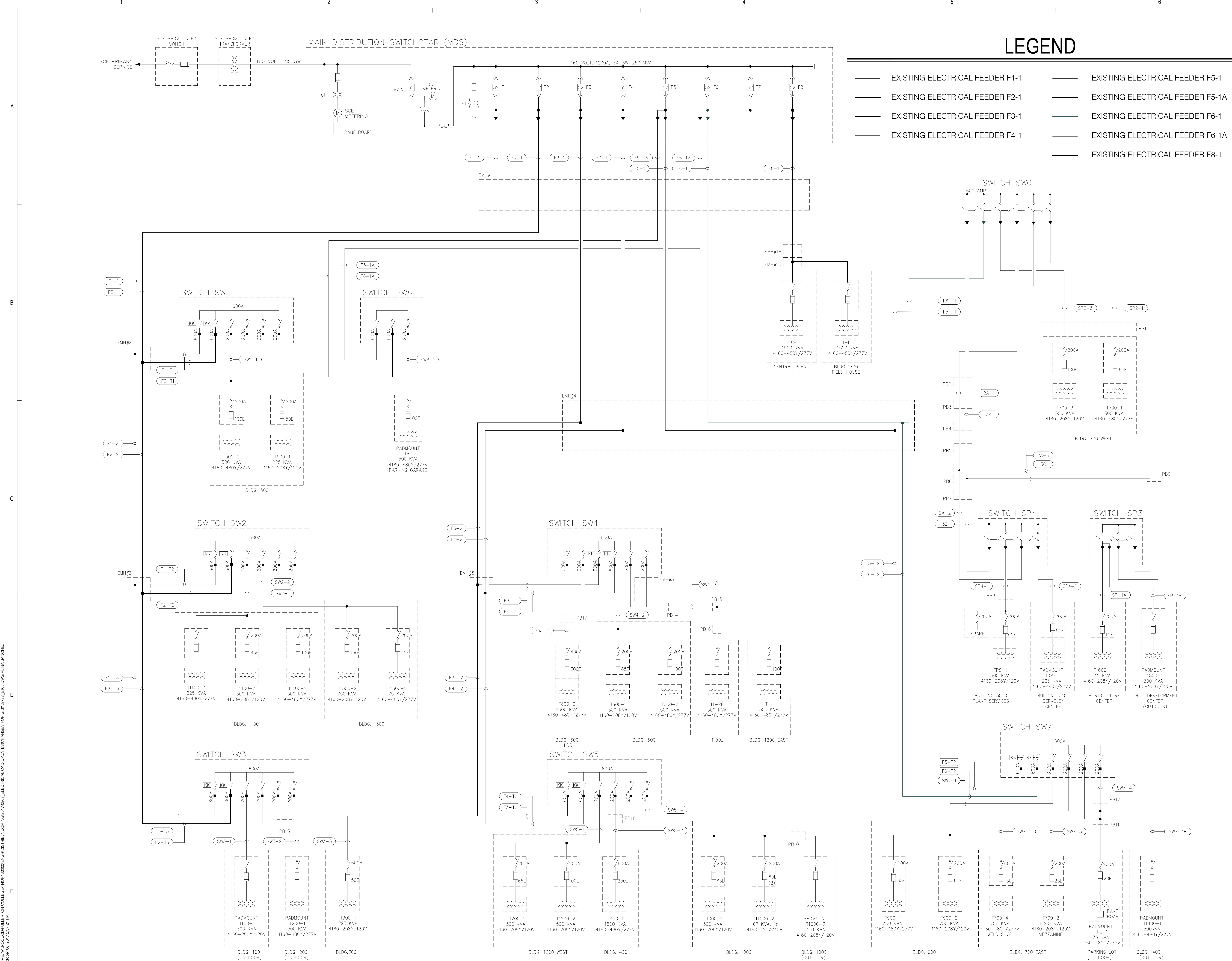
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KEY MAP



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PLOT: Friday, October 06, 2017 2:37:14 PM



LEGEND

- | | |
|---------------------------------|----------------------------------|
| EXISTING ELECTRICAL FEEDER F1-1 | EXISTING ELECTRICAL FEEDER F5-1 |
| EXISTING ELECTRICAL FEEDER F2-1 | EXISTING ELECTRICAL FEEDER F5-1A |
| EXISTING ELECTRICAL FEEDER F3-1 | EXISTING ELECTRICAL FEEDER F6-1 |
| EXISTING ELECTRICAL FEEDER F4-1 | EXISTING ELECTRICAL FEEDER F6-1A |
| | EXISTING ELECTRICAL FEEDER F8-1 |

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Project Title

SITE UTILITY

Owner

FULLERTON COLLEGE



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Revisions		
Number	Description	Date

Designed

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Date 06/08/2011

Submittal

Scale	No Scale
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Sheet Title

Single Line Diagram

Sheet Number

E105

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PLOT PATH: C:\Users\alinas\OneDrive\Documents\2017-0803_ELECTRICAL\CAD-UPDATES\CHANGES FOR GIS\31735_E106.DWG

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E

CONDUIT AND FEEDER SCHEDULE						
FEEDER	VOLTAGE	CONDUIT	SKV CONDUCTORS	FROM	TO	REMARKS
F1-1	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	MAIN SKV SWITCHGEAR "MDS"	EMH #2	
F1-2	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #2	EMH #3	
F1-T1	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #2	SWITCH SW1	
F1-T2	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #3	SWITCH SW2	
F1-T3	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #3	SWITCH SW3	
F2-1	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	MAIN SKV SWITCHGEAR "MDS"	EMH #2	
F2-2	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #2	EMH #3	
F2-T1	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #2	SWITCH SW1	
F2-T2	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #3	SWITCH SW2	
F2-T3	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #3	SWITCH SW3	
F3-1	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	MAIN SKV SWITCHGEAR "MDS"	EMH #4	
F3-2	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #4	EMH #5	
F3-T1	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #5	SWITCH SW4	
F3-T2	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #5	SWITCH SW5	
F4-1	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	MAIN SKV SWITCHGEAR "MDS"	EMH #4	
F4-2	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #4	EMH #5	
F4-T1	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #5	SWITCH SW4	
F4-T2	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #5	SWITCH SW5	
F5-1	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	MAIN SKV SWITCHGEAR "MDS"	EMH #4	
F5-1A	4160V	(1) 4"	3#2/0 & 1#2/0 GND	MAIN SKV SWITCHGEAR "MDS"	PARKING GARAGE	
F5-T1	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #4	SWITCH SW6	
F5-T2	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #4	SWITCH SW7	
F6-1	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	MAIN SKV SWITCHGEAR "MDS"	EMH #4	
F6-1A	4160V	(1) 4"	3#2/0 & 1#2/0 GND	MAIN SKV SWITCHGEAR "MDS"	PARKING GARAGE	
F6-T1	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #4	SWITCH SW6	
F6-T2	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	EMH #4	SWITCH SW7	
F8-1	4160V	(1) 5"	3#500 KCMIL & 1#4/0 GND	MAIN SKV SWITCHGEAR "MDS"	CENTRAL PLANT	
SP1-B	4160V	(1) 4"	3#2/0 & 1#2/0 GND	HORTICULTURE	T1800-1	
SW1-1	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW1	BUILDING 500	
SW2-1	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW2	BUILDING 1100	
SW2-2	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW2	BUILDING 1300	
SW3-1	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW3	BUILDING 100	
SW3-2	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW3	BUILDING 200	
SW3-3	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW3	BUILDING 300	
SW4-1	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW4	BUILDING 800	
SW4-2	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW4	BUILDING 600	
SW4-3	4160V	(1) 4"	3#1/0 & 1#2 GND	SWITCH SW4	BUILDING 1200 EAST AND POOL	
SW5-1	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW5	BUILDING 1200	
SW5-2	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW5	BUILDING 400	
SW5-3	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW5	BUILDING 400	
SW5-4	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW5	BUILDING 1000	
SW7-1	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW7	BUILDING 900	
SW7-2	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW7	BUILDING 700 EAST	
SW7-3	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW7	BUILDING 700 EAST	
SW7-4	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SWITCH SW7	PARKING LOT SUB	
SW7-4A	4160V	(1) 4"	3#2/0 & 1#2/0 GND	PB11	ATHLETIC FIELD SUB	
SW7-4B	4160V	(1) 4"	3#2/0 & 1#2/0 GND	PB11	BUILDING 1400	
SW8-1	4160V	(1) 4"	3#2/0 & 1#2/0 GND	SW8	PARKING GARAGE	
SP-1		(2) 5" SPARE				
SP-2		(4) 5" SPARE				SPARE CONDUITS WITH PULLROPE
SP-3		(1) 4" SPARE				SPARE CONDUITS WITH PULLROPE
SP-4		(2) 4" SPARE				SPARE CONDUITS WITH PULLROPE
SP-5		(1) 5" SPARE				SPARE CONDUITS WITH PULLROPE

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Project Title

SITE UTILITY

Owner

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321 E CHAPMAN AVENUE
FULLERTON, CA. 92832-2095

Revisions

Number	Description	Date
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06/08/2017

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Scale

No Scale

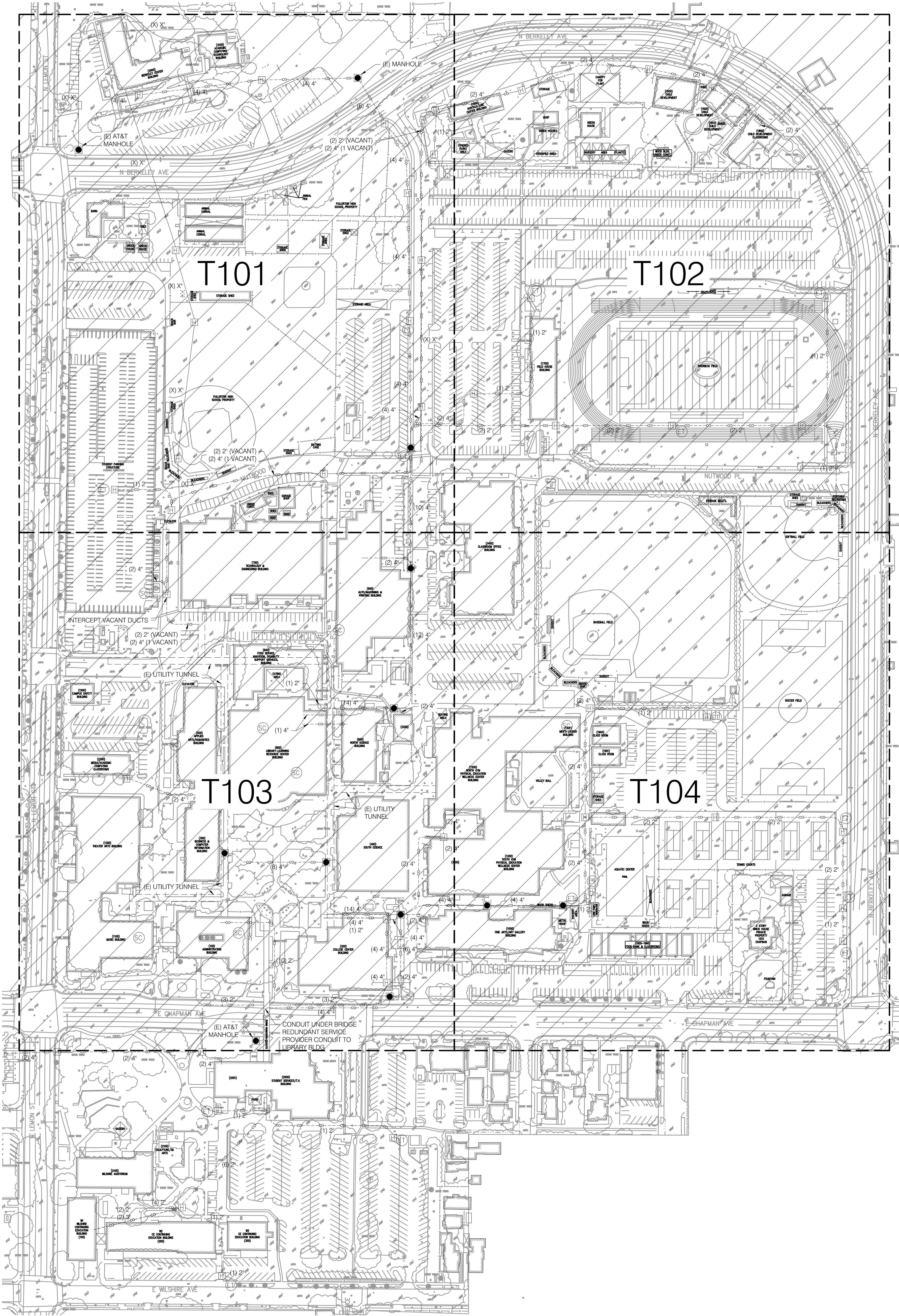
Sheet Title

Conduit And Feeder
Schedule

Sheet Number

E106

P2S No. 8723



LEGEND

(2) 4" (DUCT QTY) DUCT SIZE

● EXISTING MANHOLE

□ EXISTING PULLBOX

--- CO --- EXISTING CONDUIT

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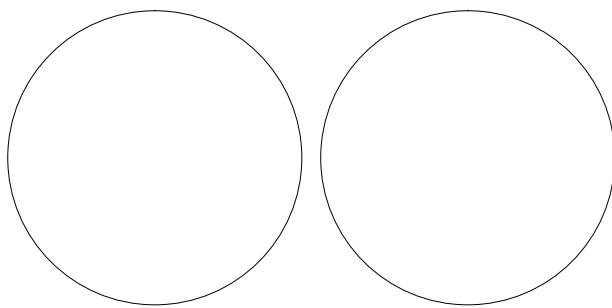
Project Title

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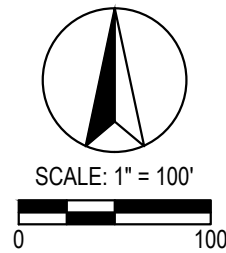
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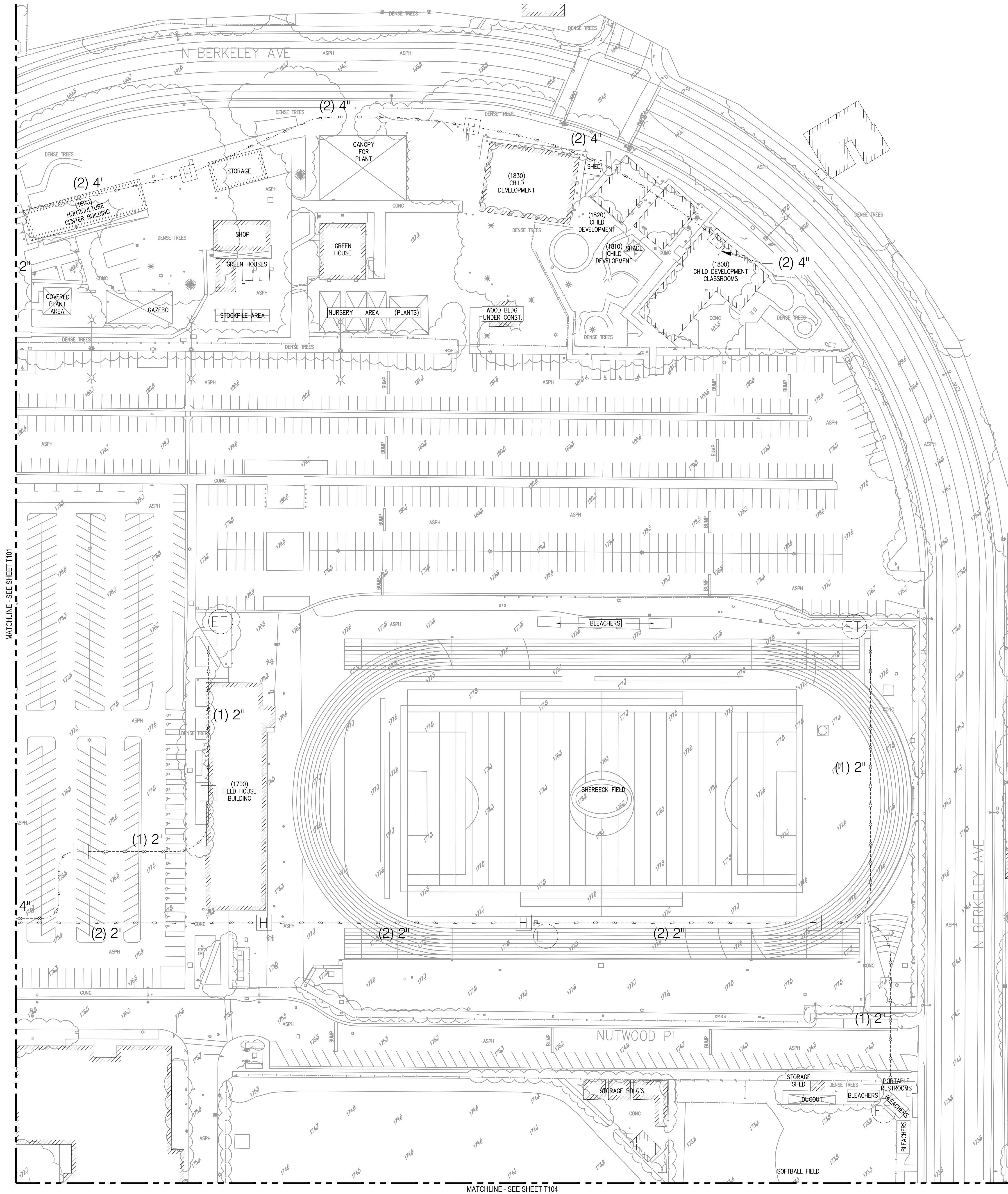
Overall Site
Telecom Plan

Sheet Number

T100

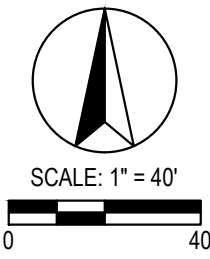
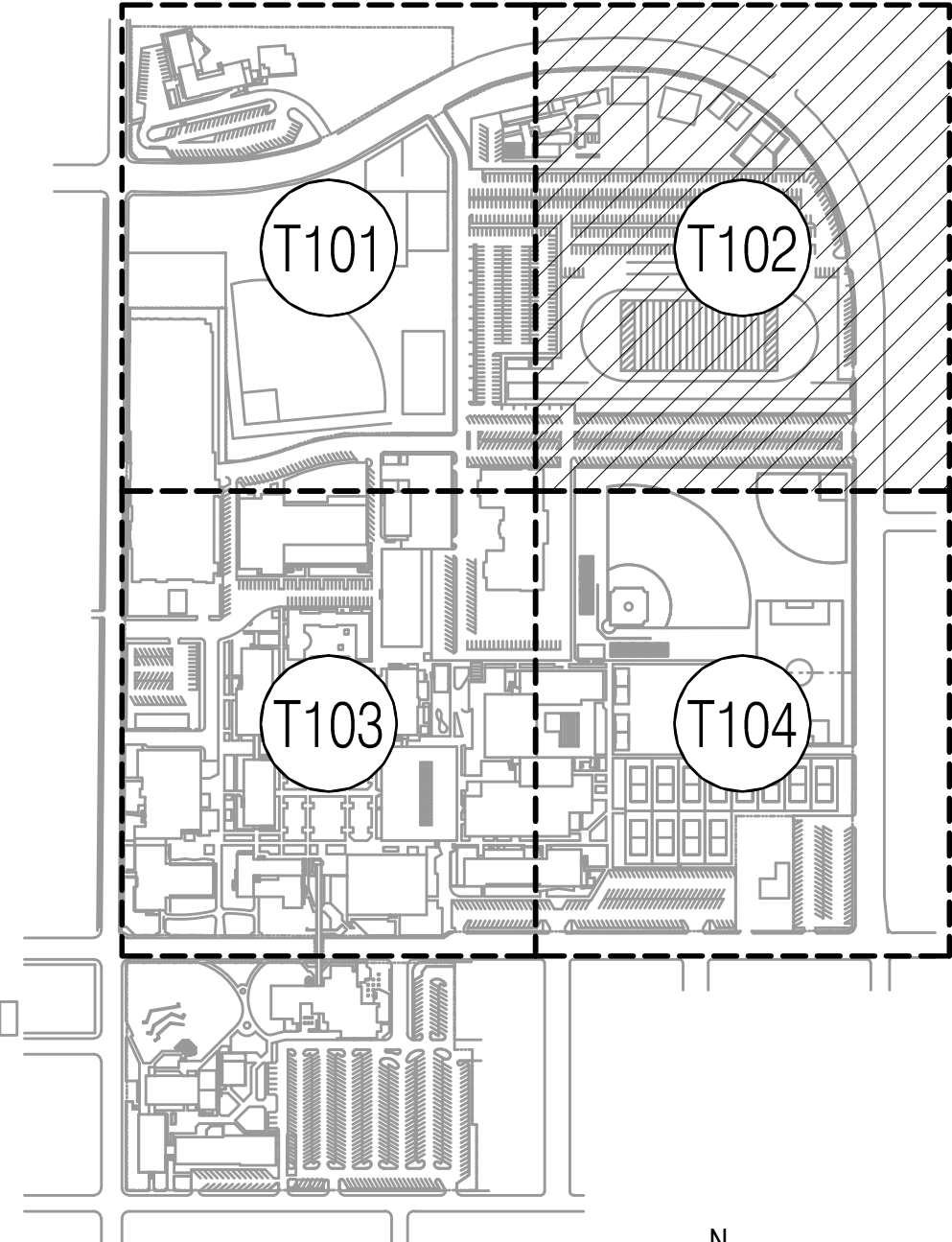


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LEGEND

(2) 4"	(DUCT QTY) DUCT SIZE
●	EXISTING MANHOLE
□	EXISTING PULLBOX
---	EXISTING CONDUIT



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Project Title

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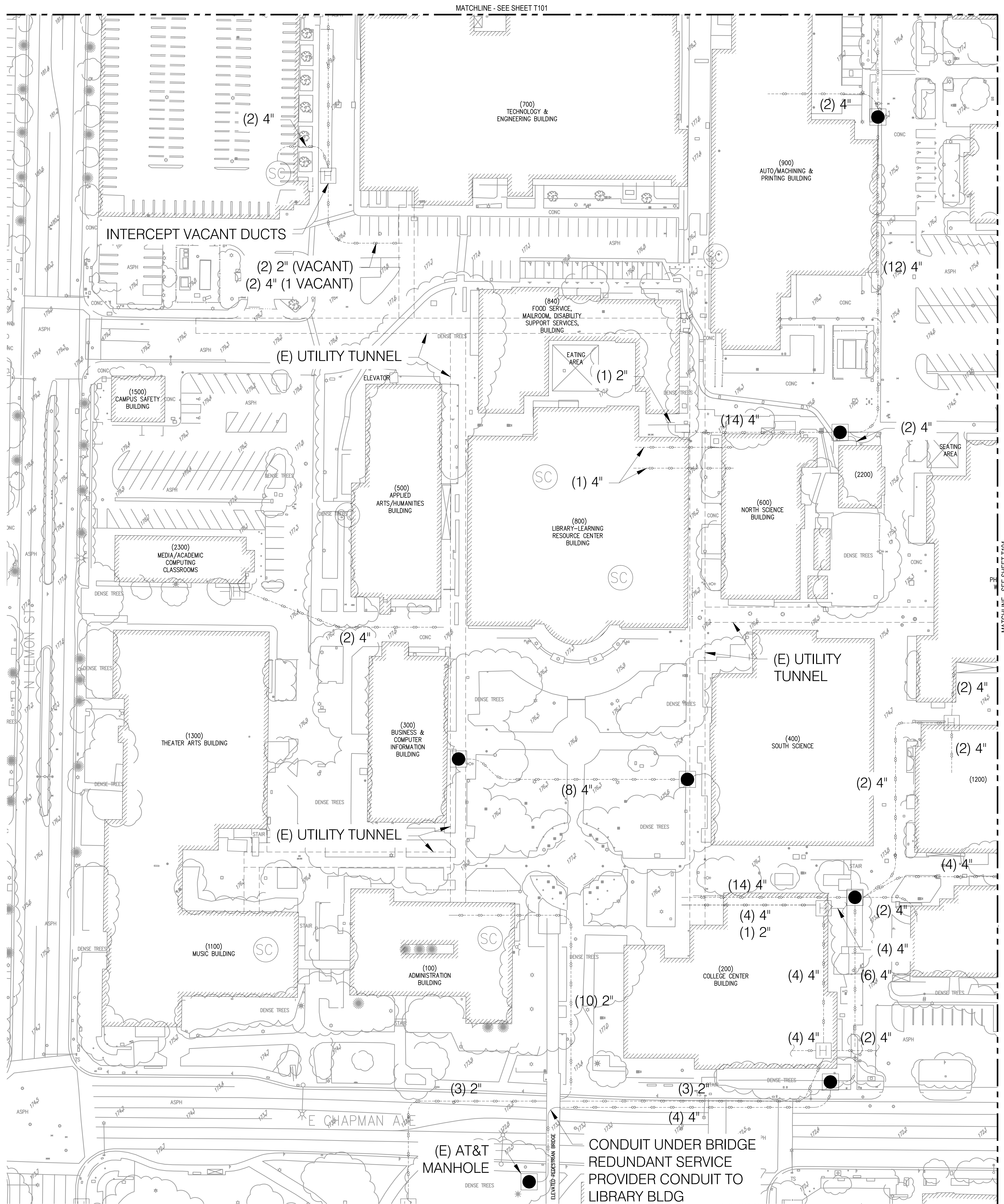
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**Enlarged Site
Telecom Plan**

Sheet Number

T102

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LEGEND

(2) 4"	(DUCT QTY) DUCT SIZE
●	EXISTING MANHOLE
□	EXISTING PULLBOX
---	EXISTING CONDUIT

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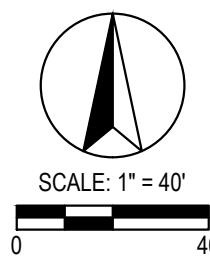
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Enlarged Site
Telecom Plan

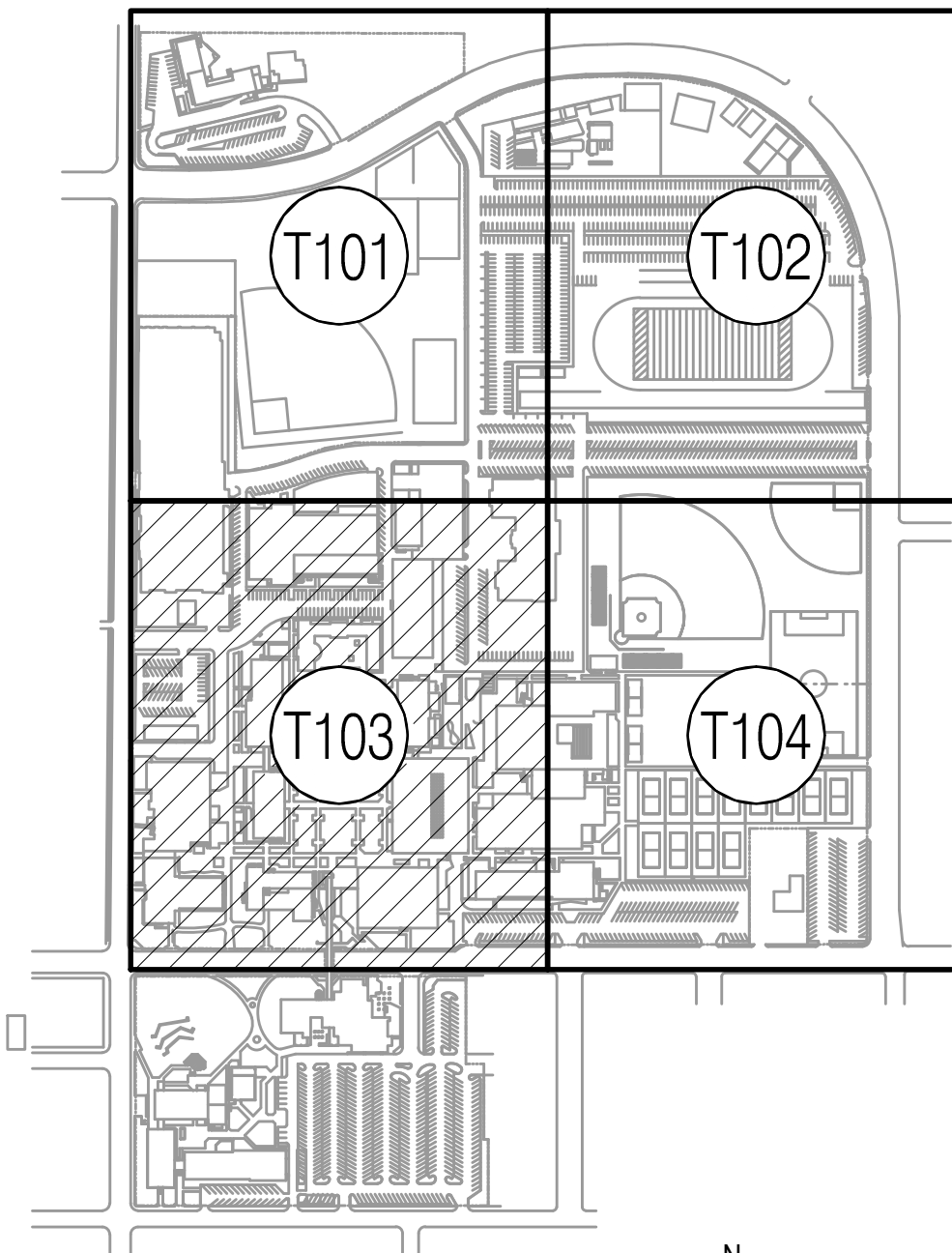
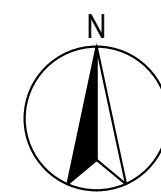
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T103

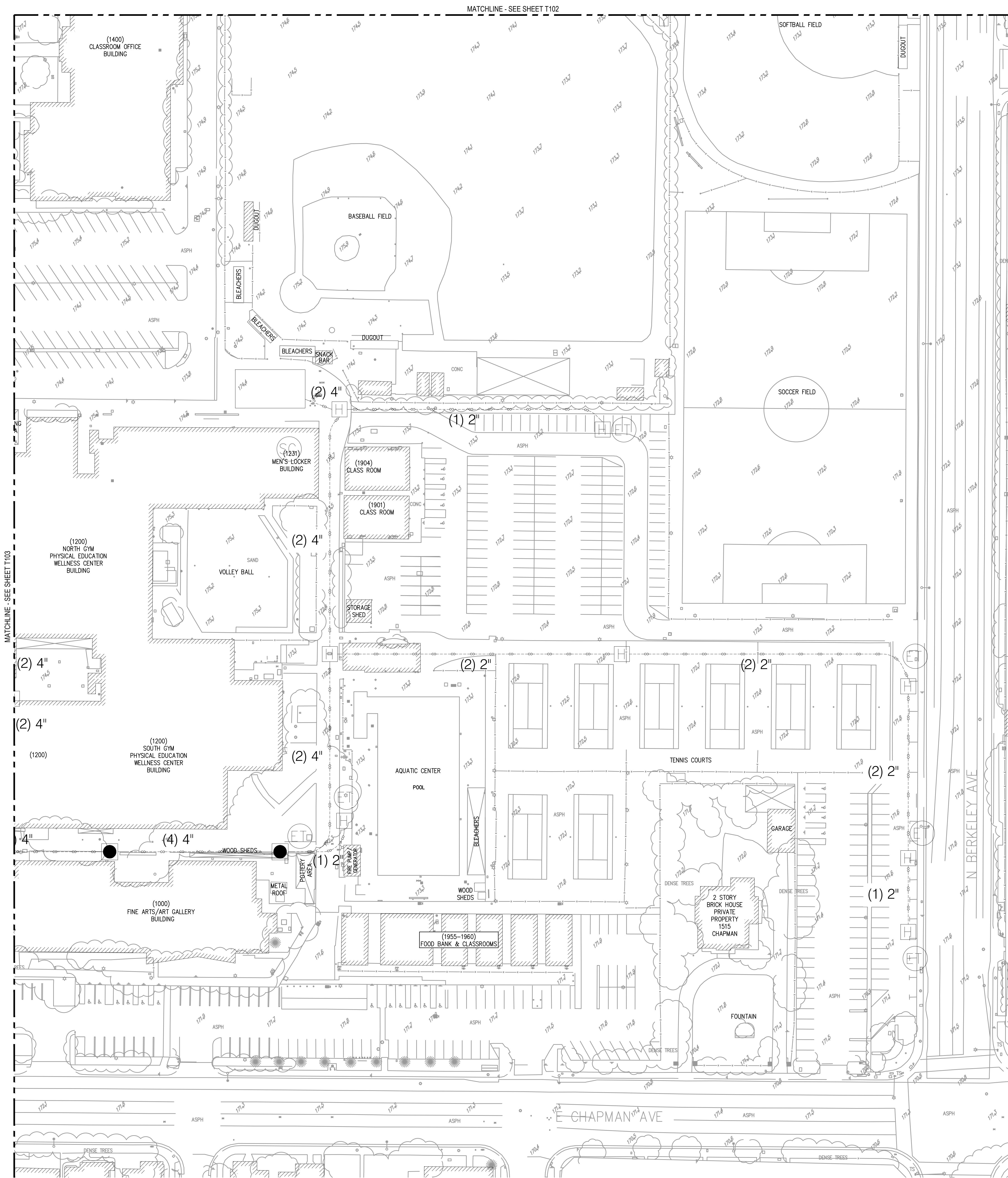
P2S No. 8723



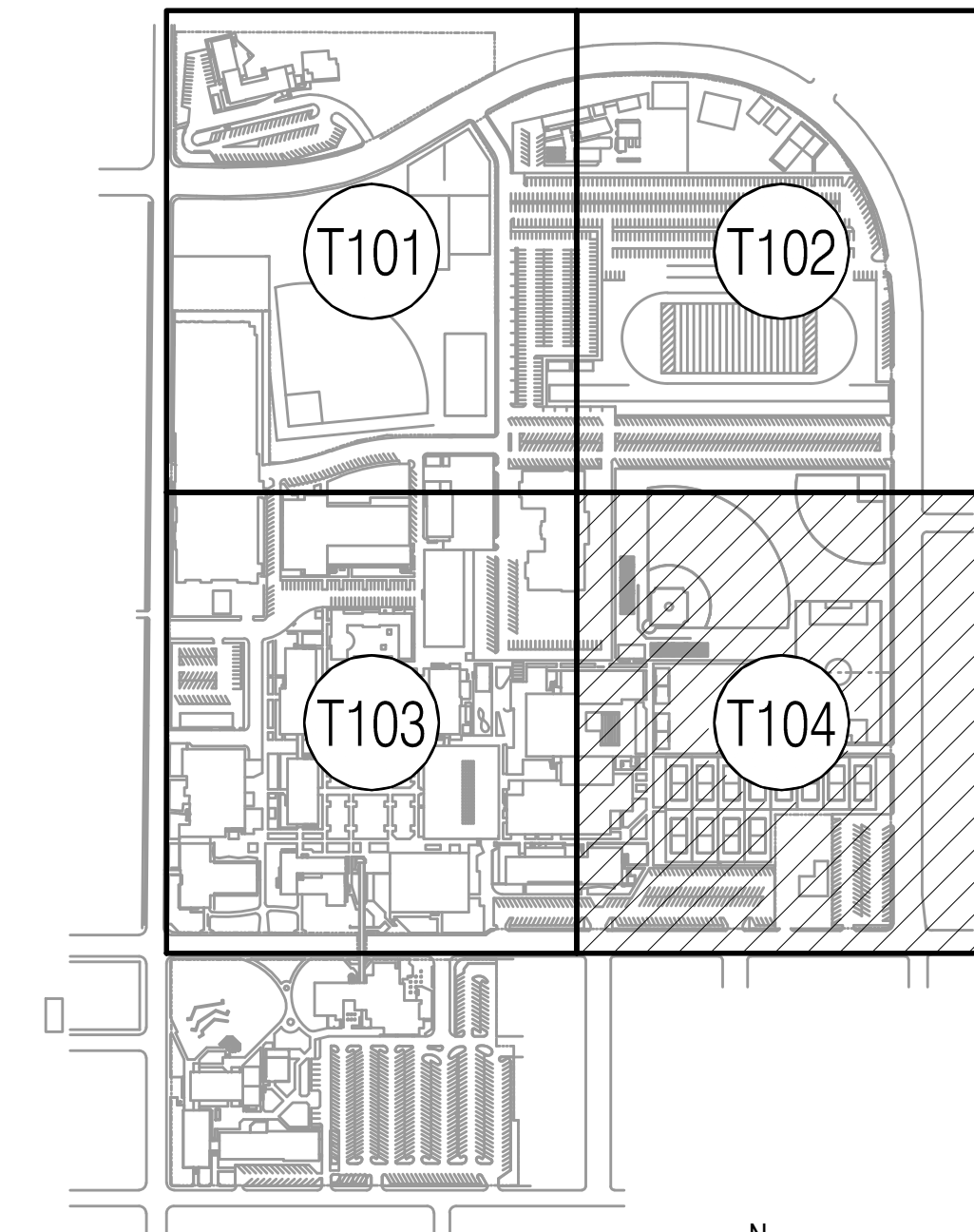
KEY MAP



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PLOT: Thursday, June 8, 2017 8:02:25 AM



LEGEND	
(2) 4"	(DUCT QTY) DUCT SIZE
●	EXISTING MANHOLE
□	EXISTING PULLBOX
---	EXISTING CONDUIT



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SITE UTILITY

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321 E CHAPMAN AVENUE
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Revisions		
Number	Description	Date

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Date 06/08/2017

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Sheet Title

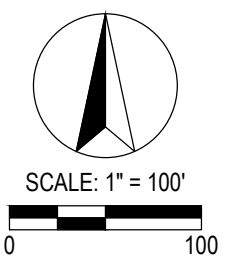
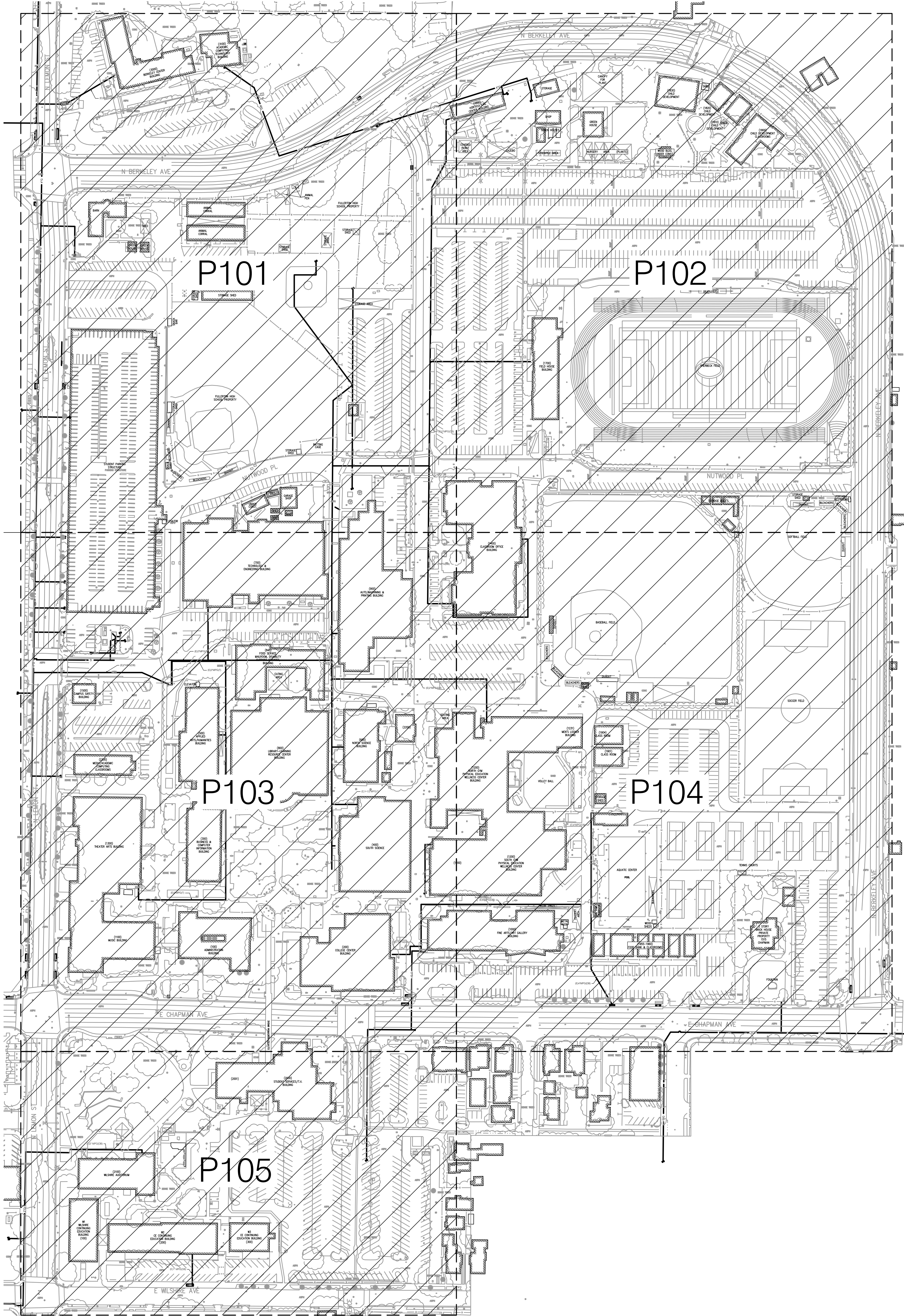
Enlarged Site
Telecom Plan

Sheet Number

T104

P2S No. 8723

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PLOT: Wednesday, September 6, 2017 9:28:11 AM



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Scale

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Sheet Title

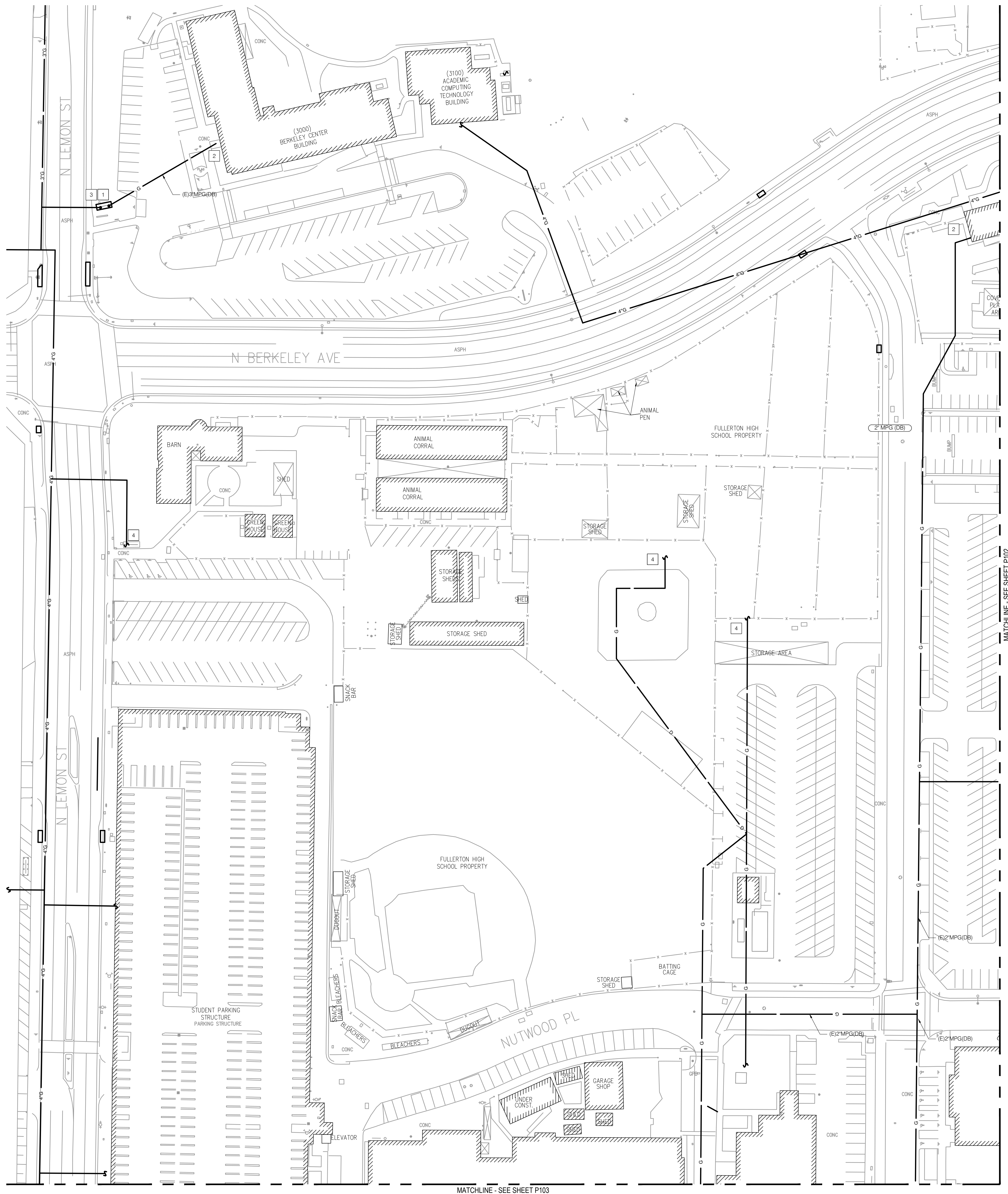
Overall Site
Gas Plan

Sheet Number

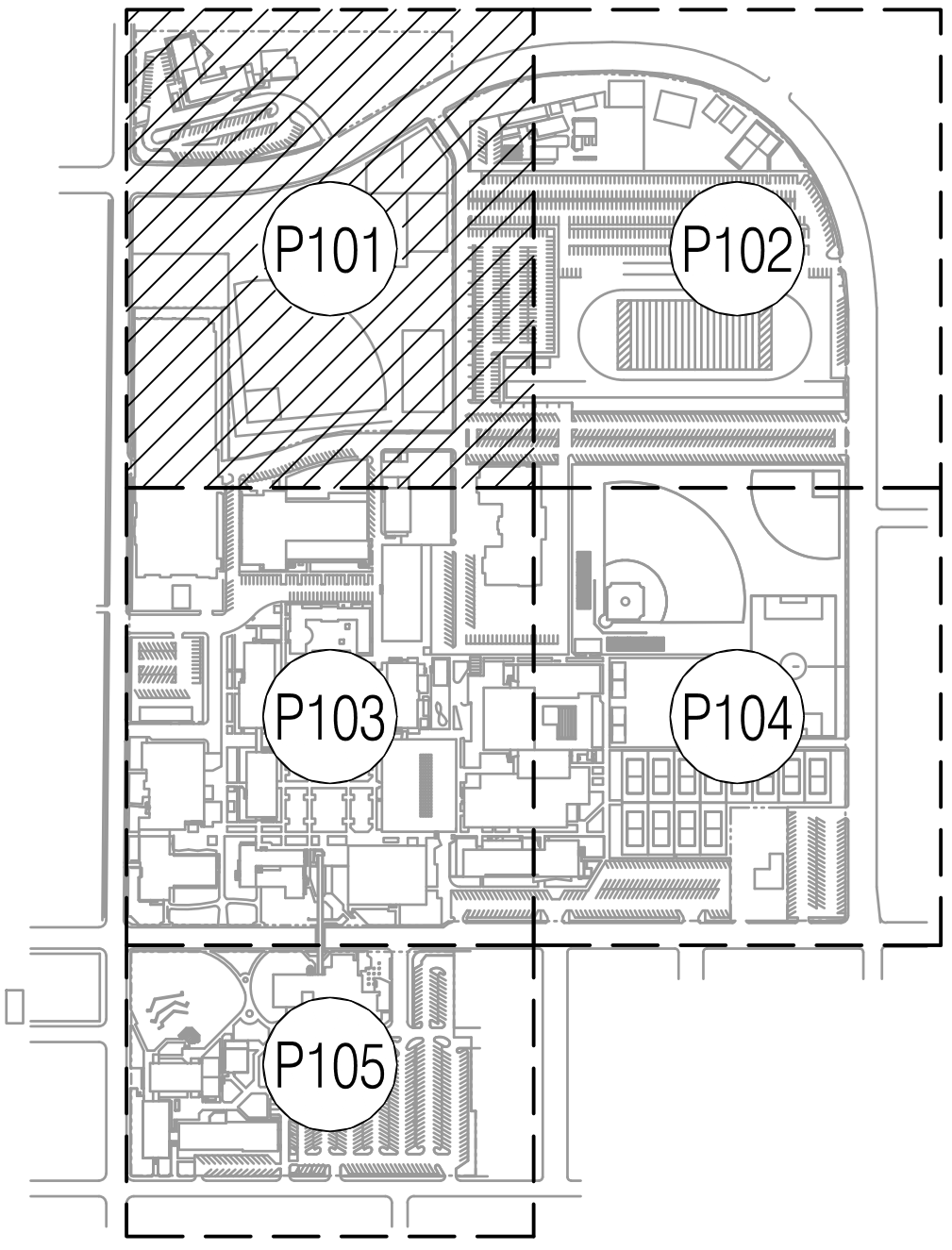
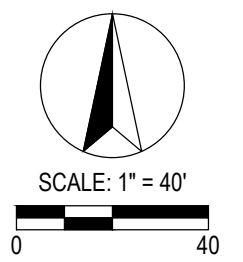
P100

P2S No. 8723

FILE PATH & NAME: R:\3723\PLUMBING\3723_P101.DWG JAMES VALENSI
PLOT: Wednesday, September 6, 2017 9:36:42 AM



- NOTES
- 1 GAS COMPANY'S GAS METER AND PRESSURE REDUCING REGULATOR. GAS CO. METER #14089151
 - 2 POINT OF CONNECTION TO CAMPUS BUILDING FROM MEDIUM PRESSURE GAS.
 - 3 UNDER GROUND GAS REGULATOR AND METER IN VALVE BOX.
 - 4 OUT OF SERVICE GAS LINE.



KEY MAP

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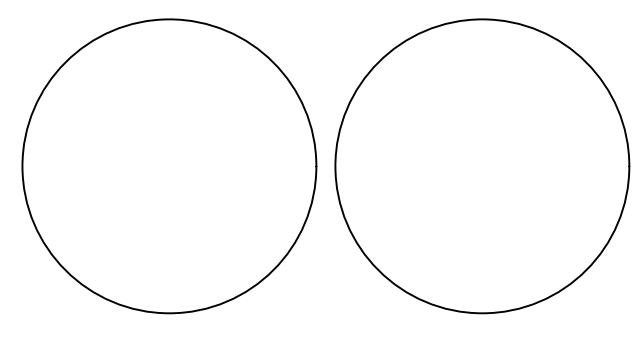
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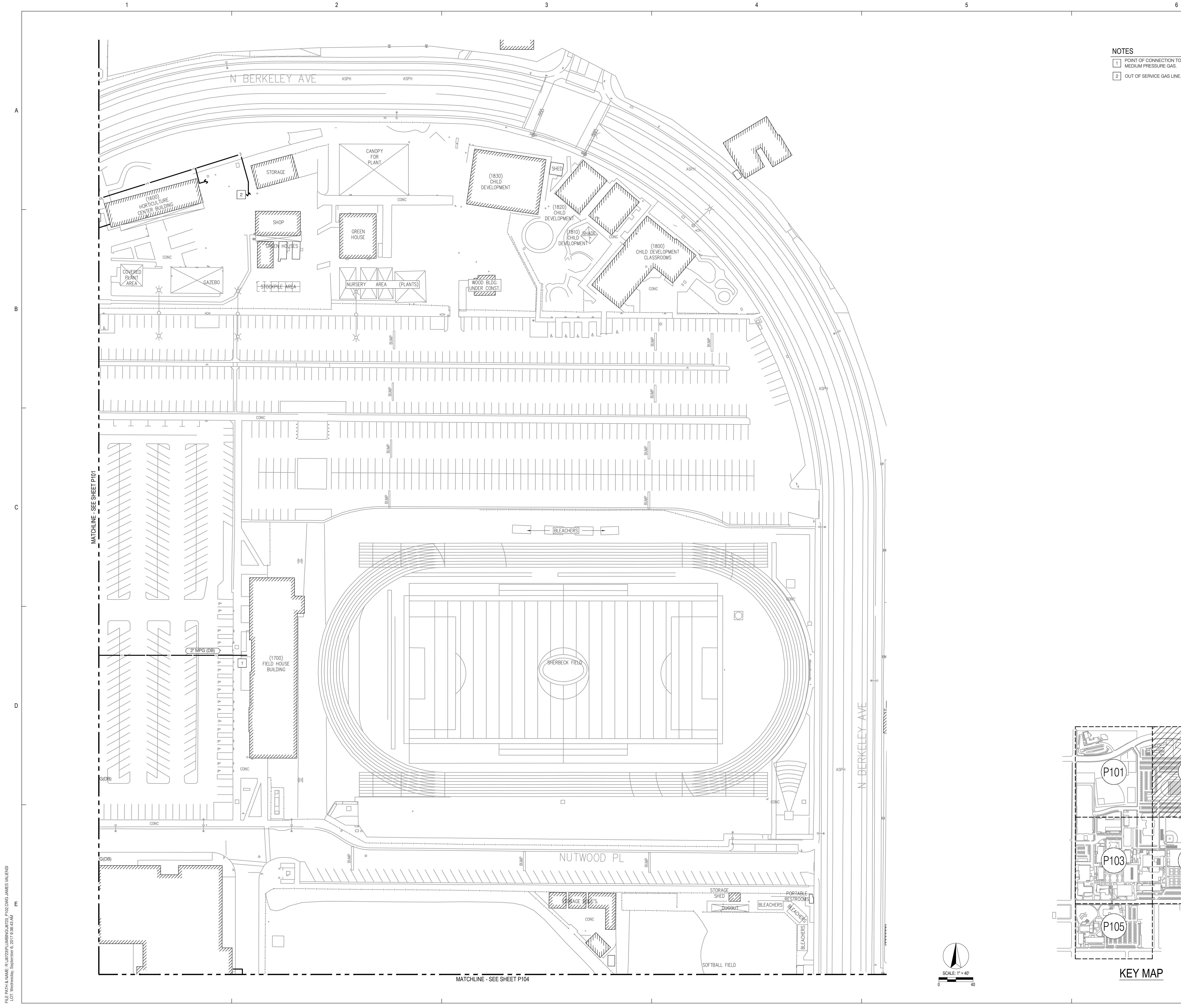
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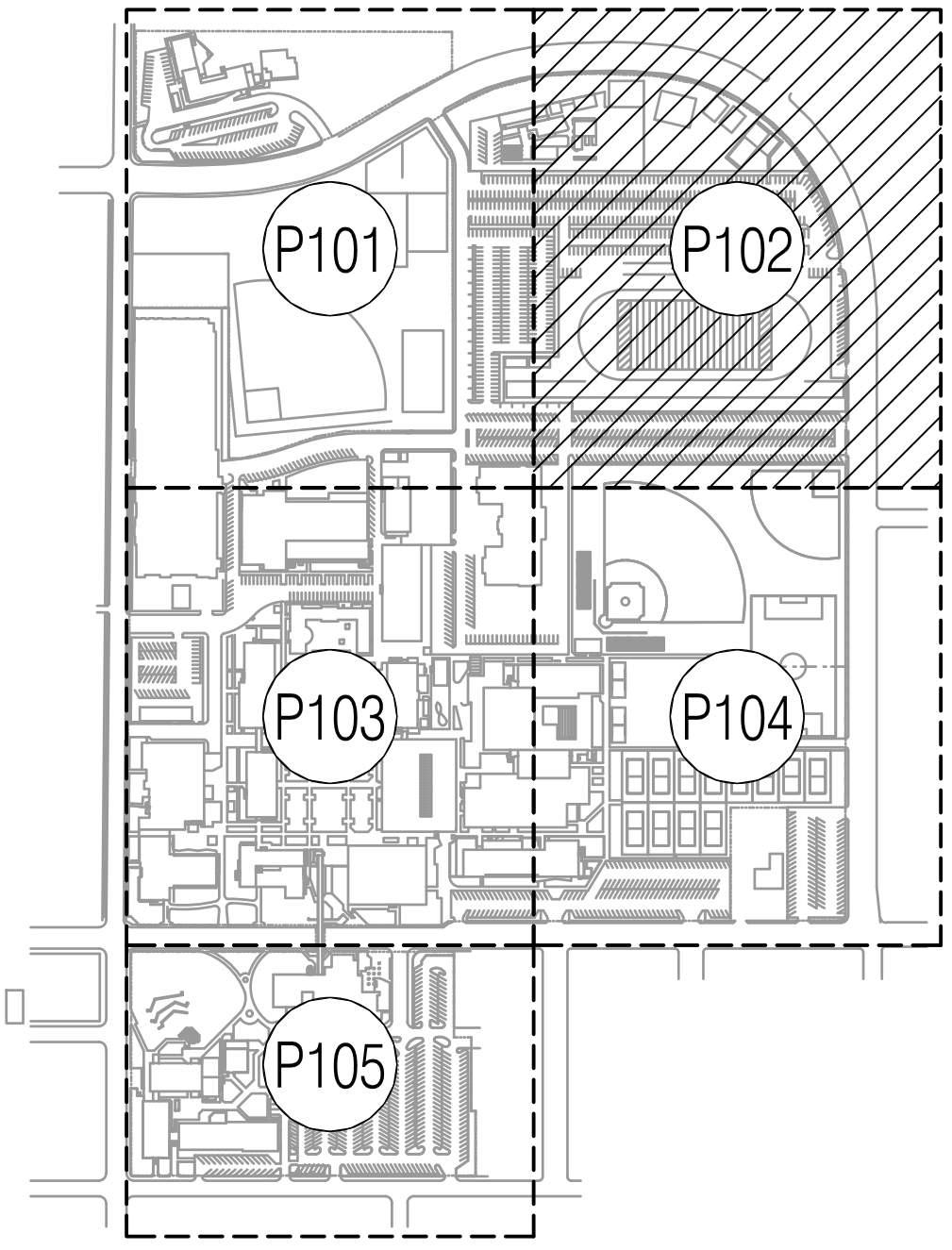
Sheet Title

Enlarged Site
Gas Plan

Sheet Number
P101



- NOTES
- 1 POINT OF CONNECTION TO CAMPUS BUILDING FROM MEDIUM PRESSURE GAS.
 - 2 OUT OF SERVICE GAS LINE.



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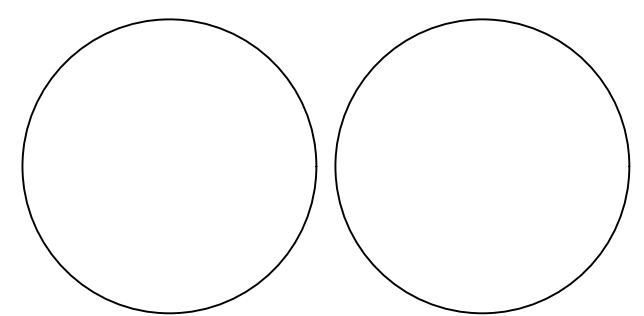
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Date September 6, 2018

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Scale 1"=40'

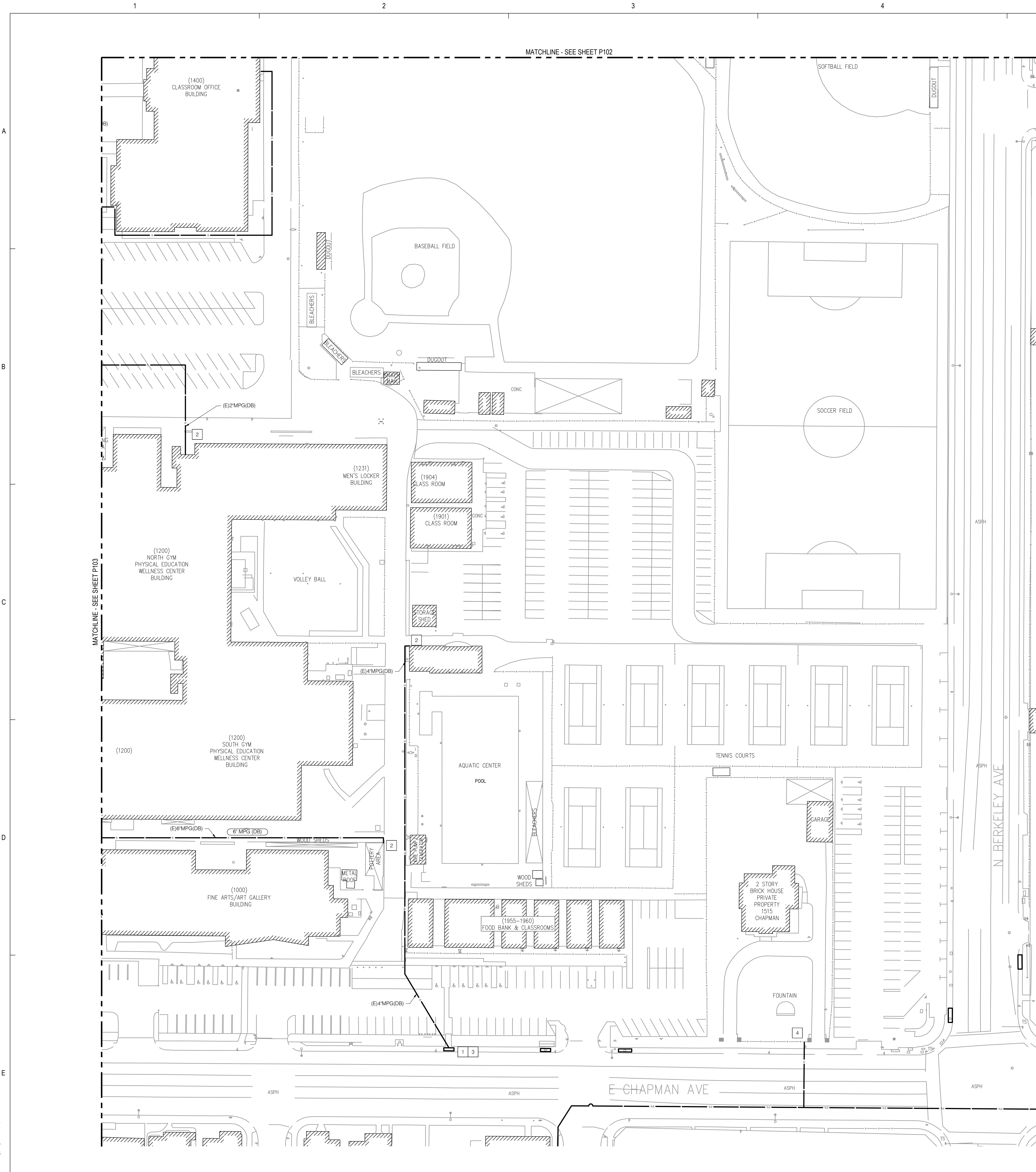
Sheet Title

Enlarged Site
Gas Plan

Sheet Number

P102

FILE PATH & NAME: R:\3723\PLUMBING\3723_P102.DWG JAMES VALENTI
LOT: Wednesday, September 6, 2017 9:38:59 AM



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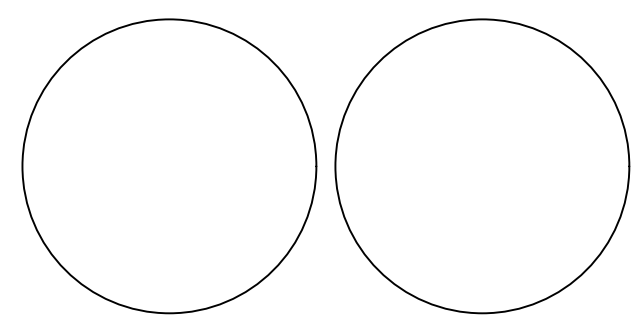
SITE UTILITY

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Number	Description	Date

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Scale 1"=40'

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Enlarged Site
Gas Plan


Sheet Number

P104

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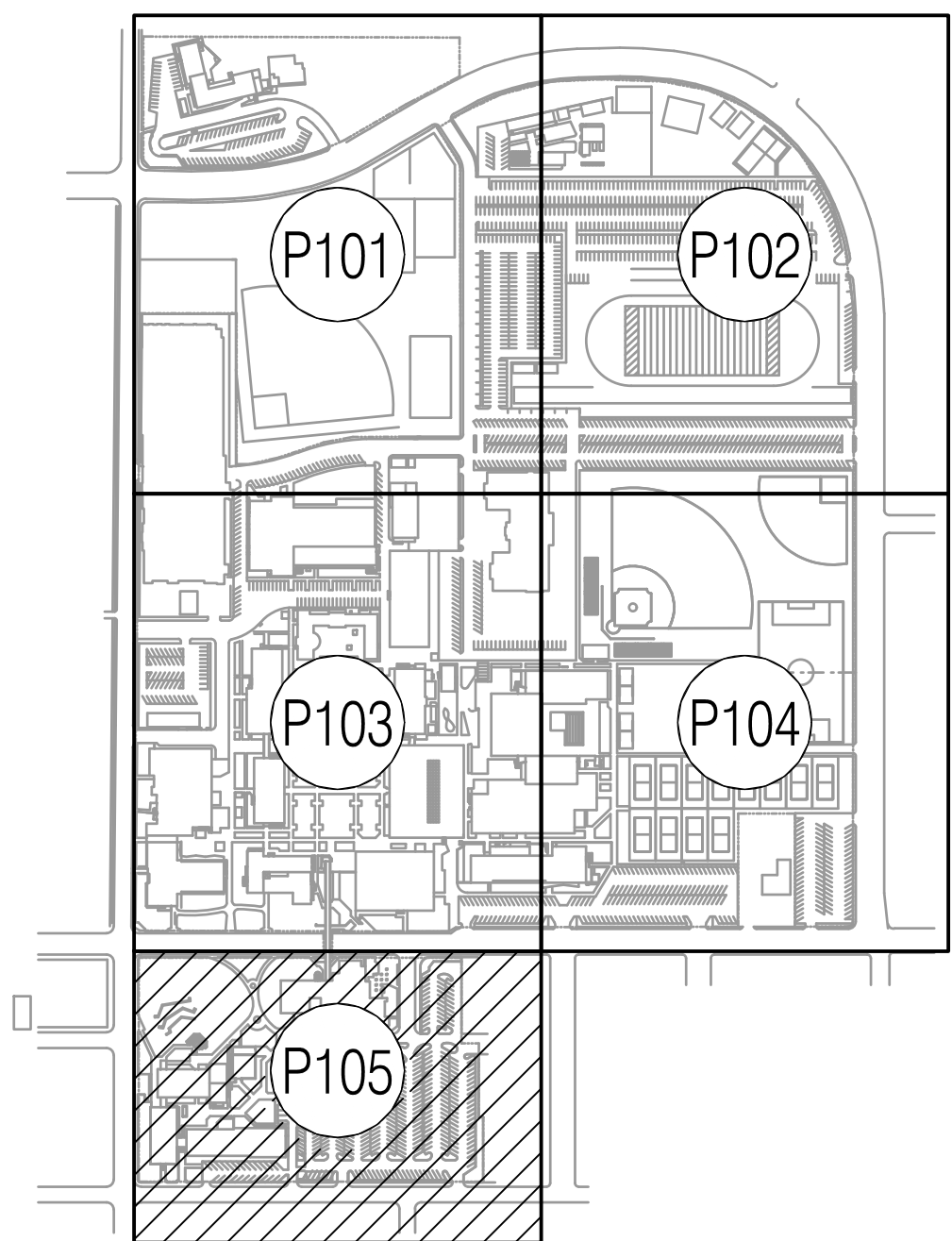


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Enlarged Site Gas Plan

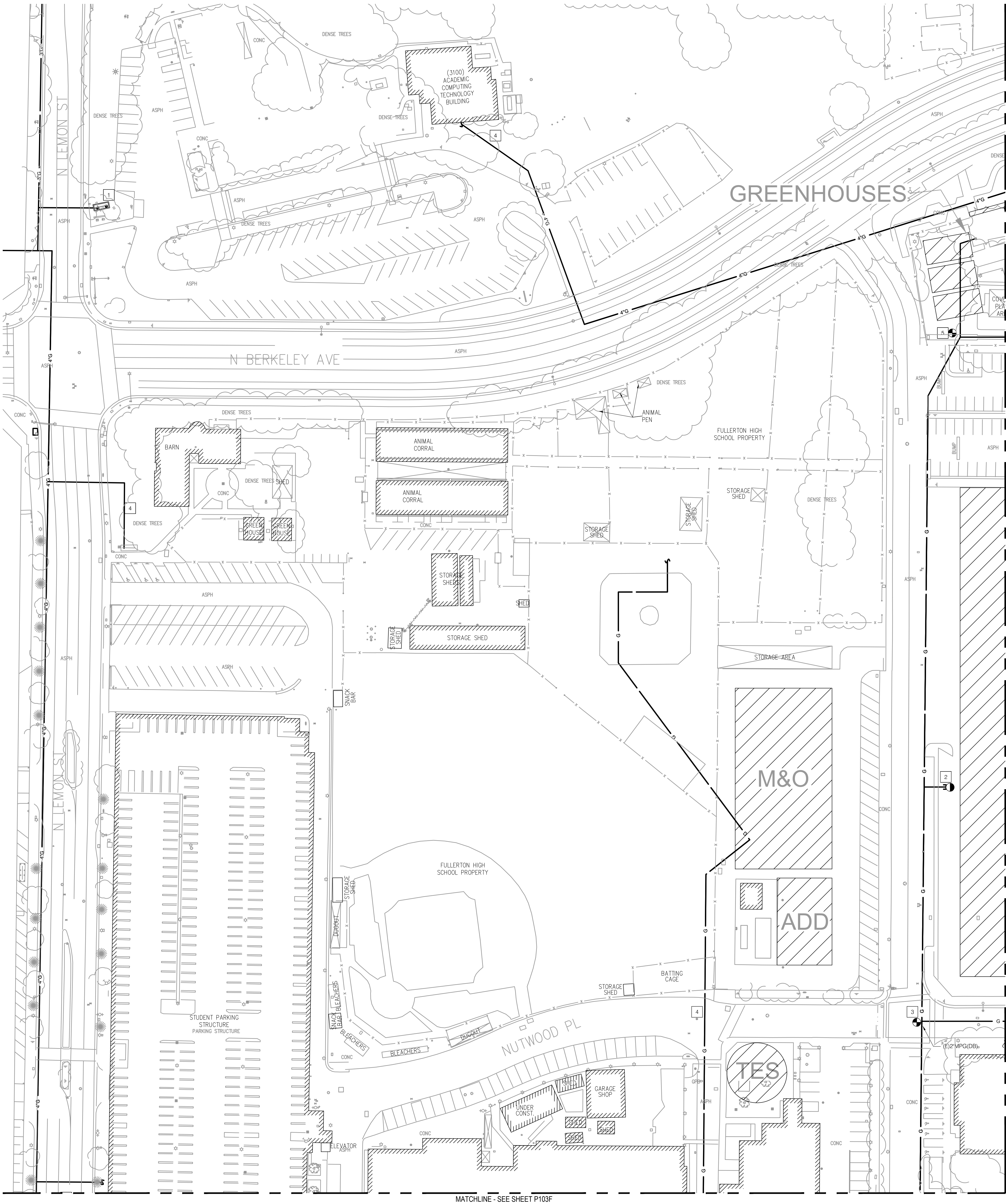
P105

- 1 GAS COMPANY'S GAS METER AND PRESSURE REDUCING REGULATOR.
- 2 POINT OF CONNECTION TO CAMPUS BUILDING FROM MEDIUM PRESSURE GAS.
- 3 ABOVE GROUND GAS REGULATOR AND METER IN VALVE BOX.
- 4 OUT OF SERVICE GAS LINE.

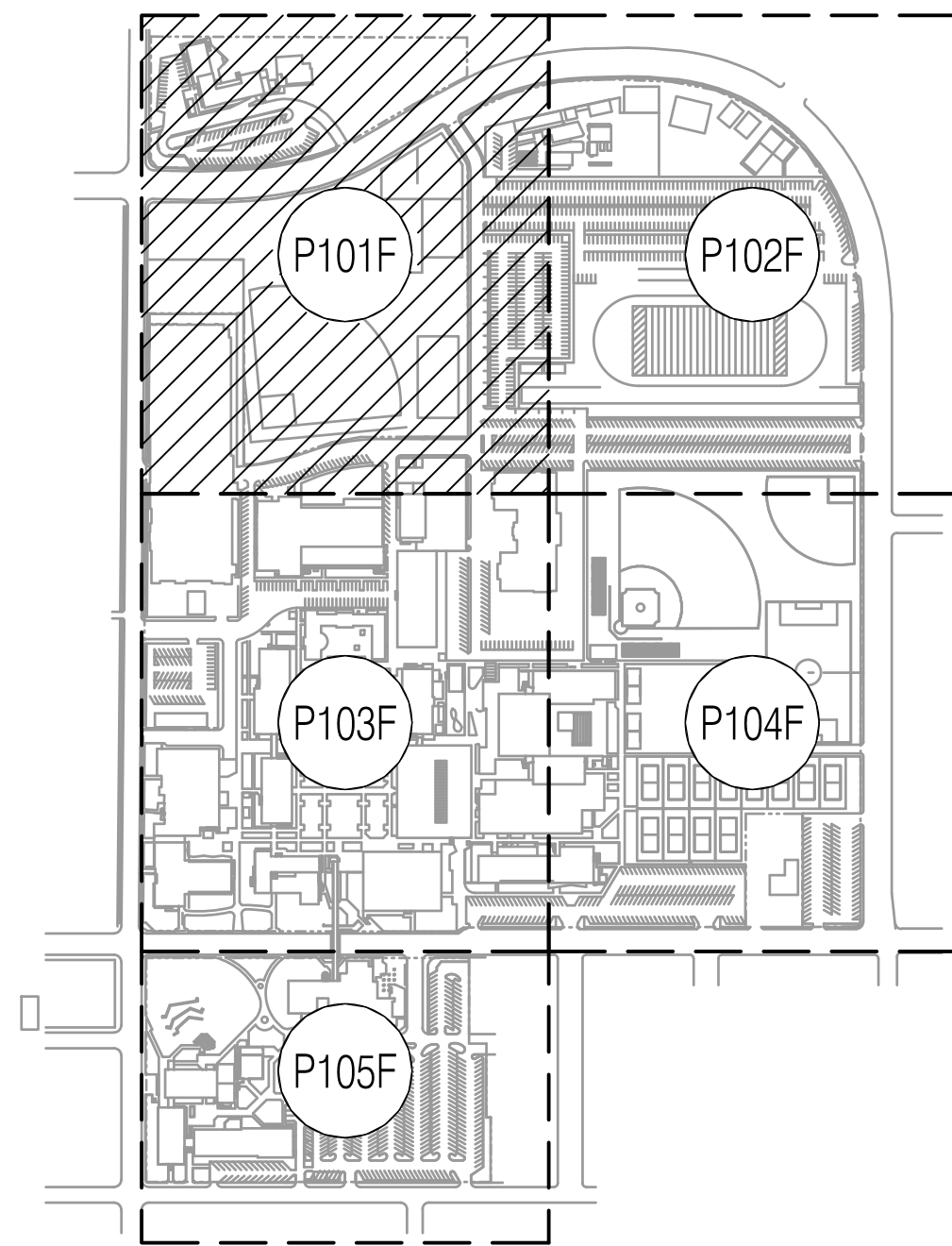
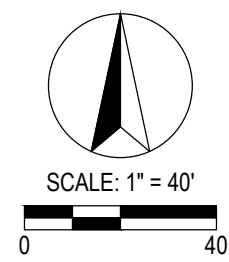


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PLOT: Wednesday, September 6, 2017 9:38:48 AM



- NOTES
- 1 DISCONNECT GAS SERVICE.
 - 2 CUT AND CAP GAS LINE FOR PARKING STRUCTURE CONSTRUCTION.
 - 3 PROVIDE POC FOR GAS SERVICE TO FIELD HOUSE
 - 4 OUT OF SERVICE GAS LINE.
 - 5 PROVIDE POC FOR GAS SERVICE TO HORTICULTURE COMPLEX



KEY MAP

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Number	Description	Date

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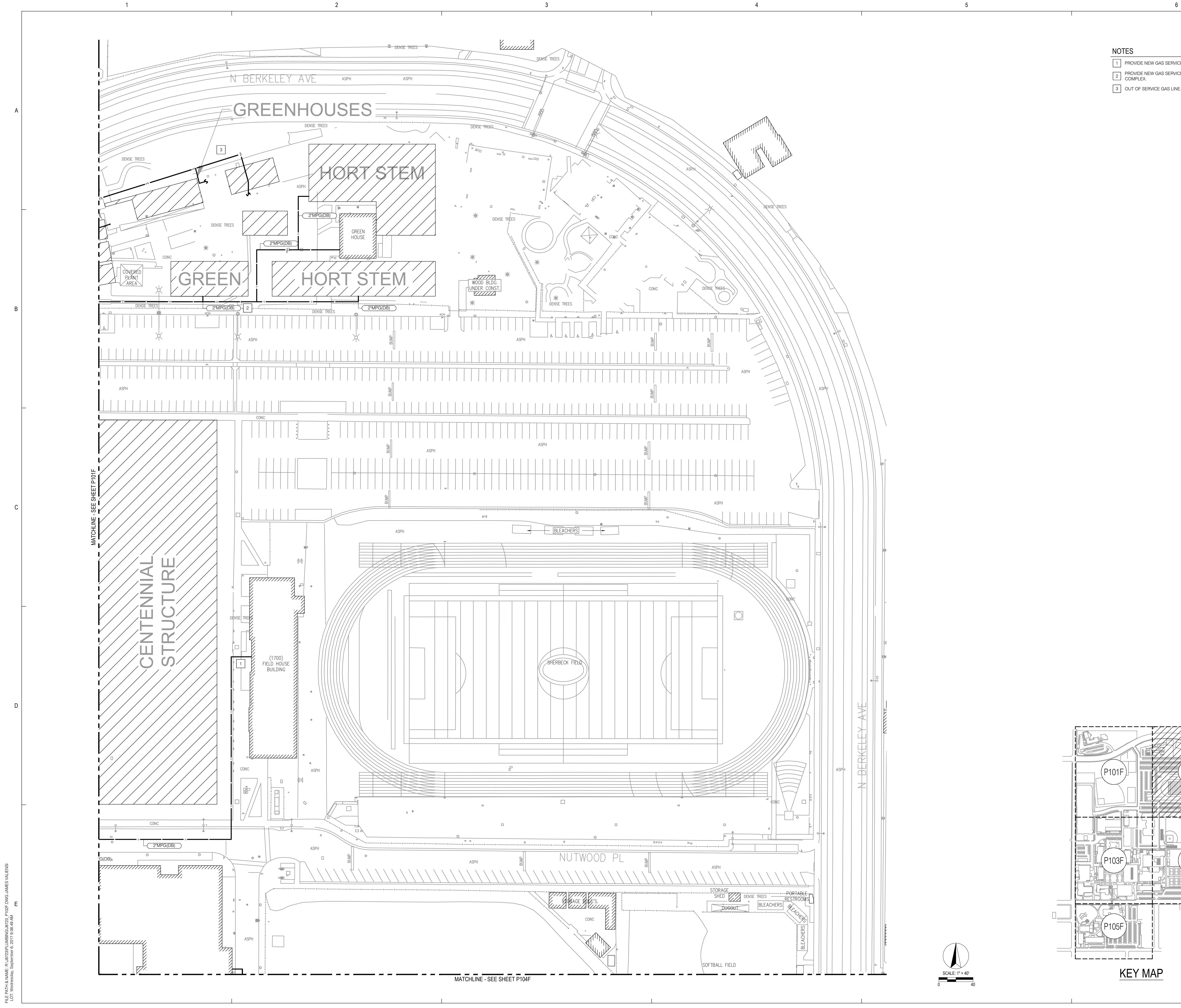
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Sheet Title

Enlarged Site
Proposed Gas
Plan

Sheet Number

P101F



- NOTES
- 1 PROVIDE NEW GAS SERVICE TO FIELD HOUSE.
 - 2 PROVIDE NEW GAS SERVICE TO HORTICULTURE COMPLEX.
 - 3 OUT OF SERVICE GAS LINE.

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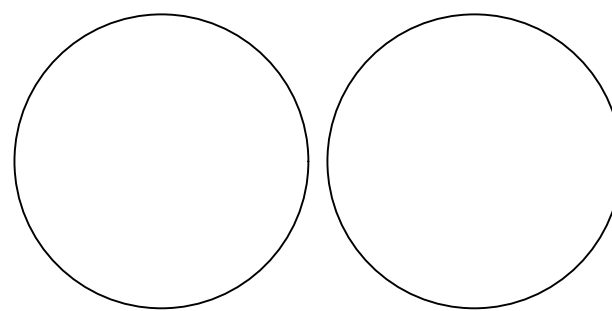
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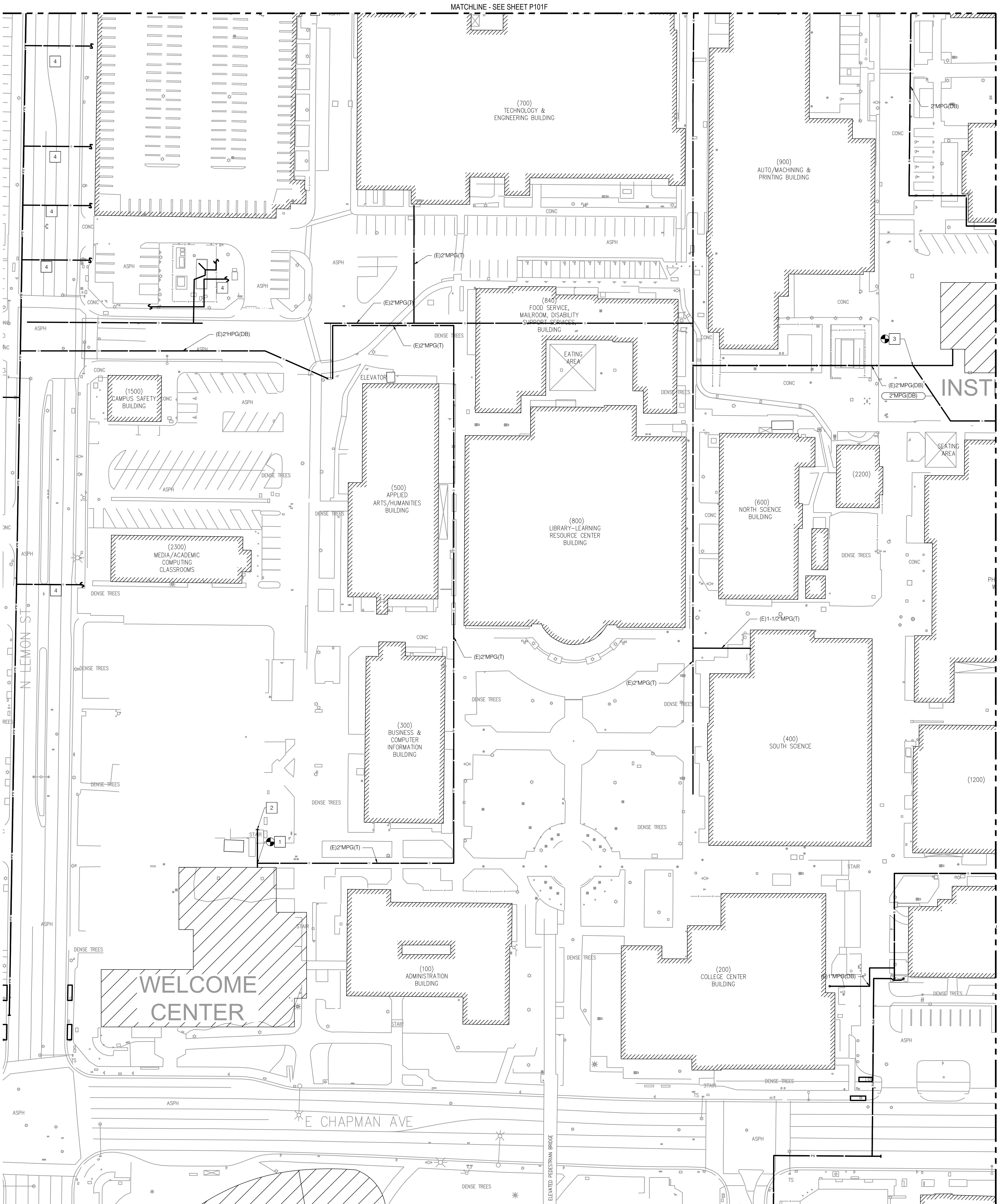
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Enlarged Site
Proposed Gas
Plan

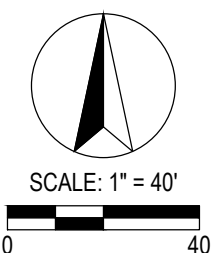
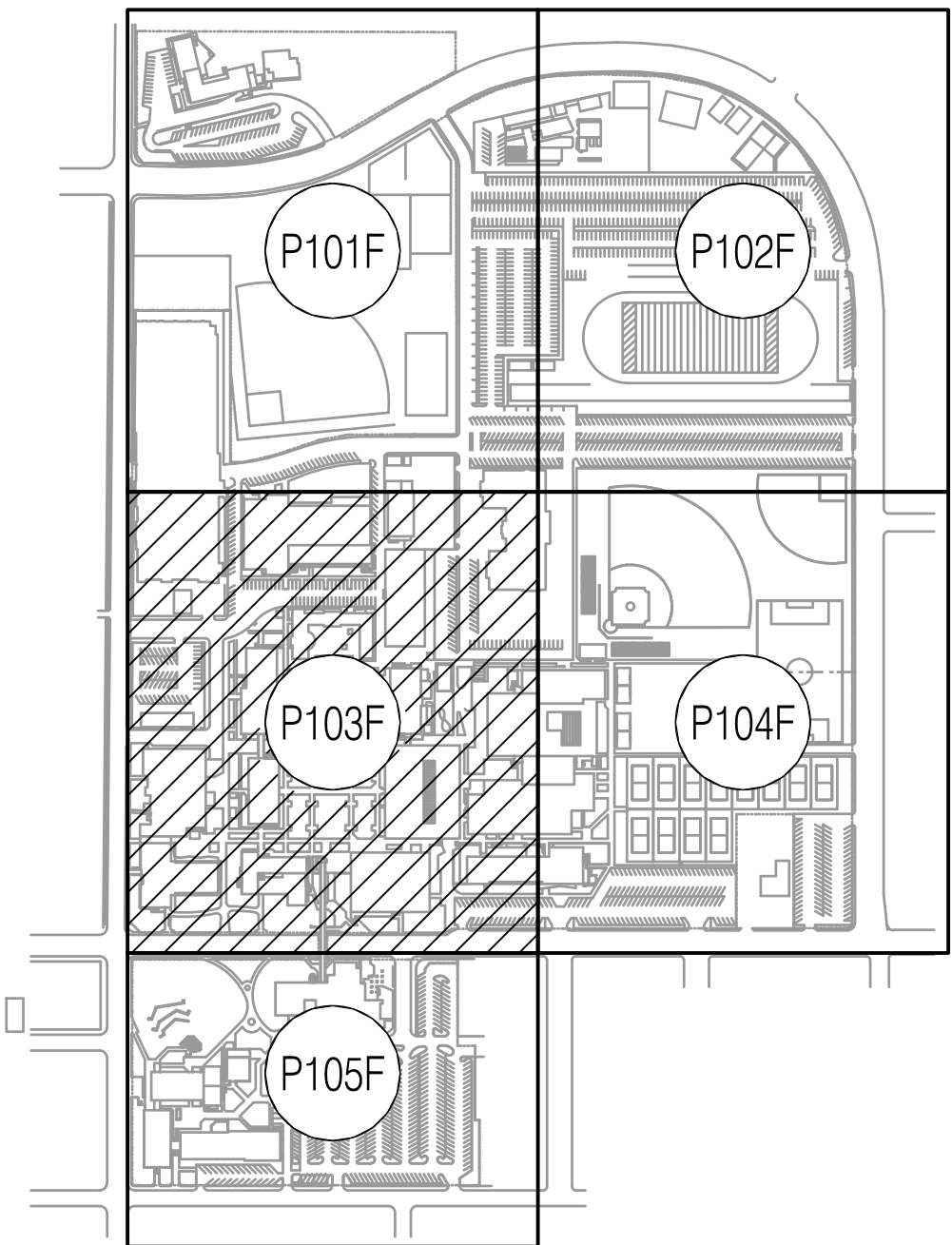
Sheet Number

P102F

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LOT: Wednesday, September 6, 2017 9:38:51 AM



- NOTES
- 1 CUT AND CAP GAS LINE.
 - 2 POINT OF CONNECTION TO WELCOME CENTER FROM EXISTING GAS LINE IN UTILITY TUNNEL.
 - 3 PROVIDE POC FROM EXISTING GAS LINE TO INSTRUCTIONAL BUILDING AND REROUTE DIRECT BURIED PE GAS LINE OUT OF PROPOSED BUILDING'S FOOTPRINT.
 - 4 OUT OF SERVICE GAS LINES.



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Date September 6, 2018

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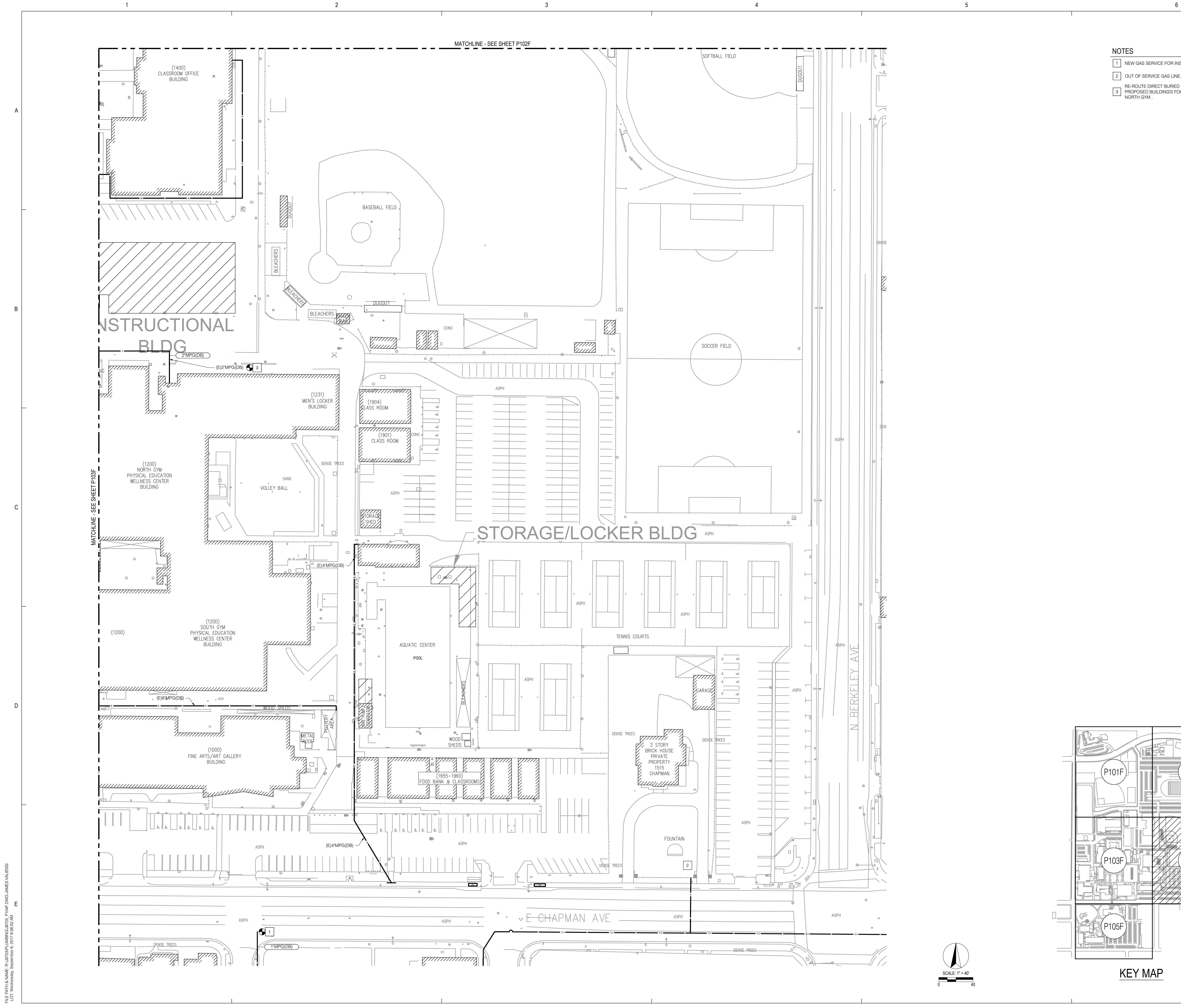
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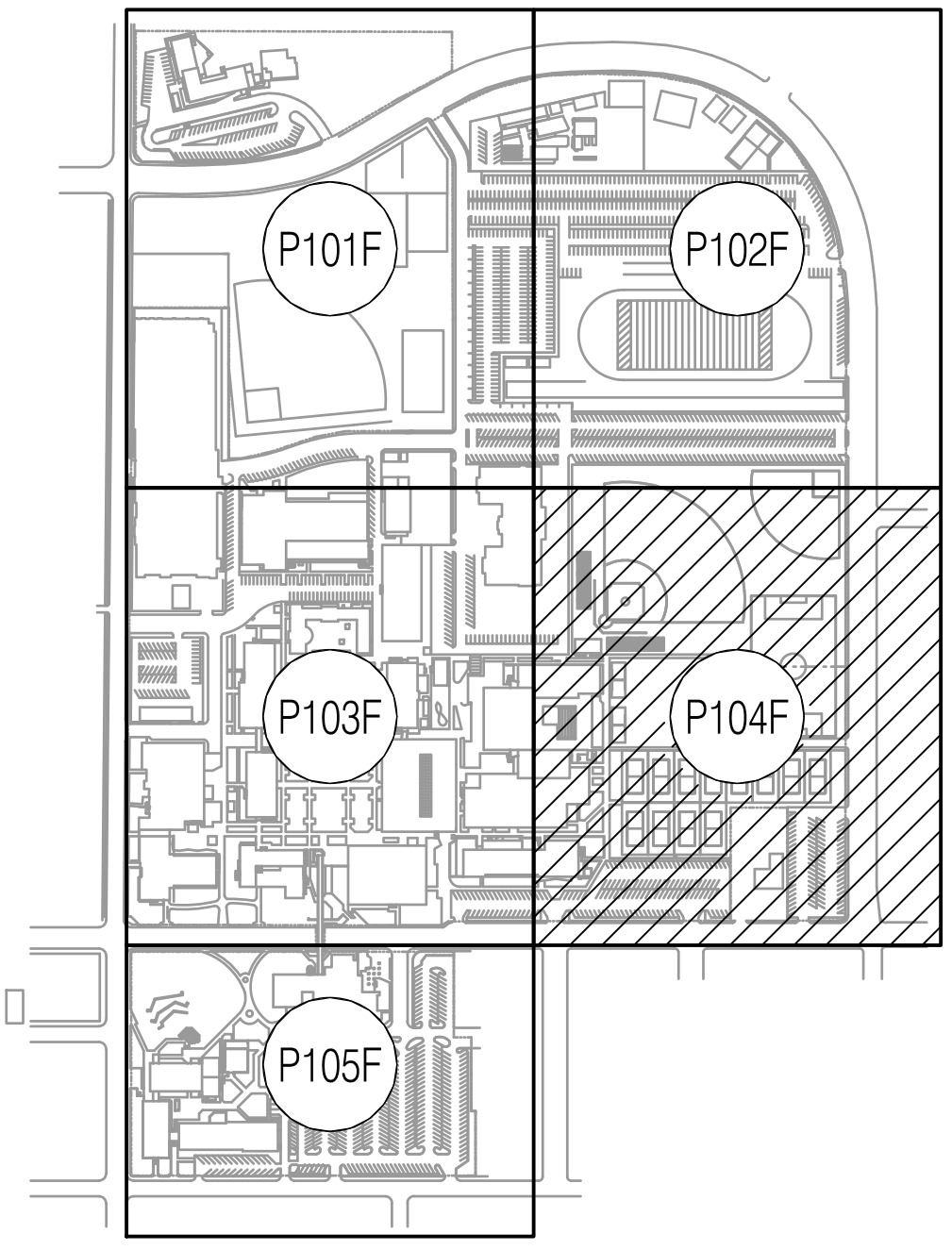
Enlarged Site
Gas Plan

Sheet Number

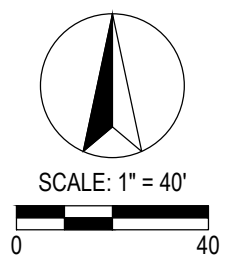
P103F



- NOTES
- 1 NEW GAS SERVICE FOR INSTRUCTIONAL BUILDING.
 - 2 OUT OF SERVICE GAS LINE.
 - 3 RE-ROUTE DIRECT BURIED PE GAS LINE OUT OF PROPOSED BUILDING'S FOOT PRINT AND RECONNECT NORTH GYM.



KEY MAP



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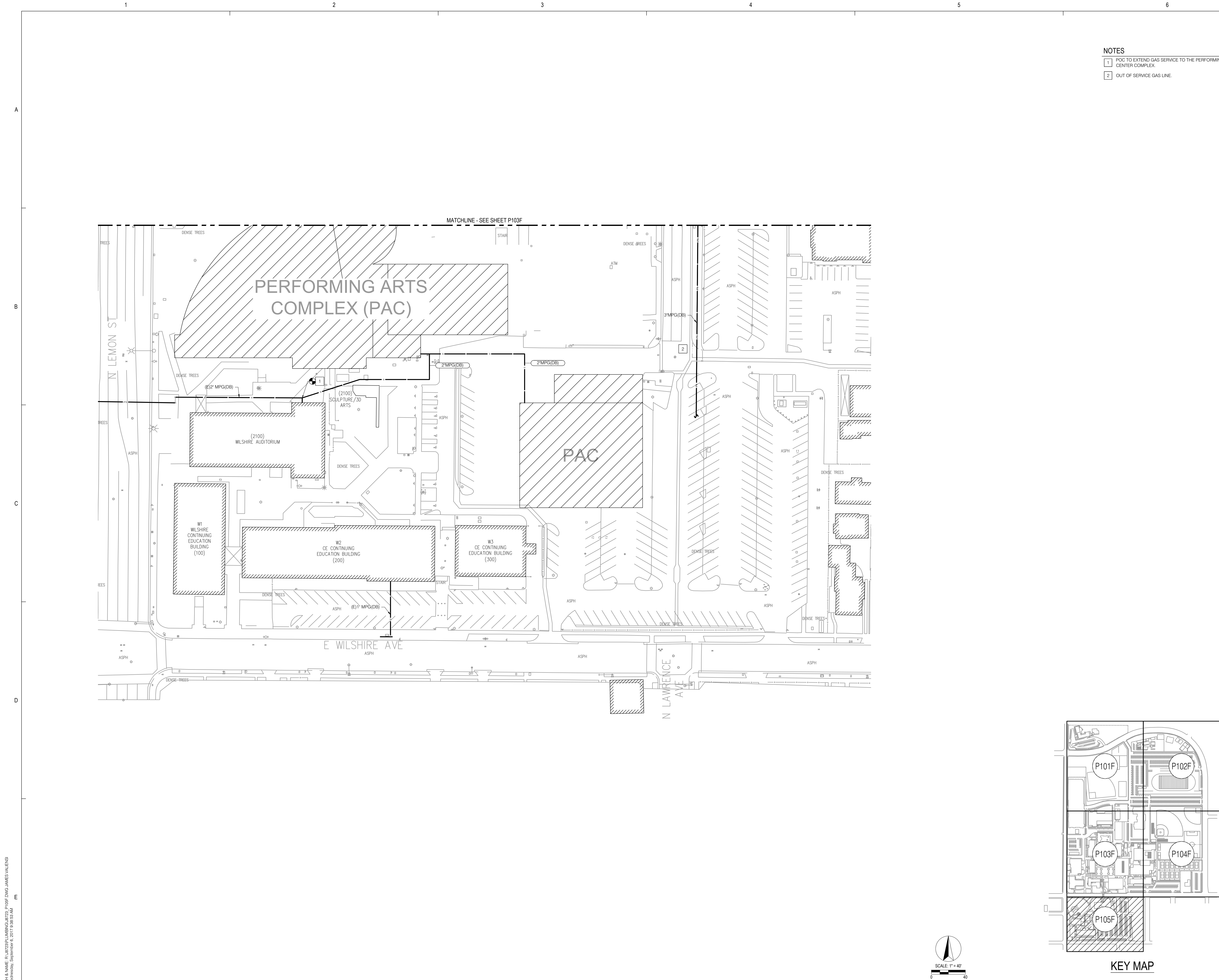
Enlarged Site
Proposed Gas
Plan

Sheet Number

P104F

P2S No. 8723

FILE PATH & NAME: R:\8723\PLUMBING\8723_P104F.DWG JAMES VALERIS
LOT: Wednesday, September 6, 2017 9:38:52 AM



- NOTES
- 1 POC TO EXTEND GAS SERVICE TO THE PERFORMING ARTS CENTER COMPLEX.
 - 2 OUT OF SERVICE GAS LINE.

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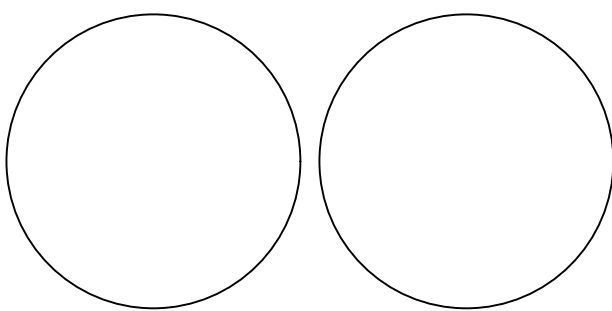
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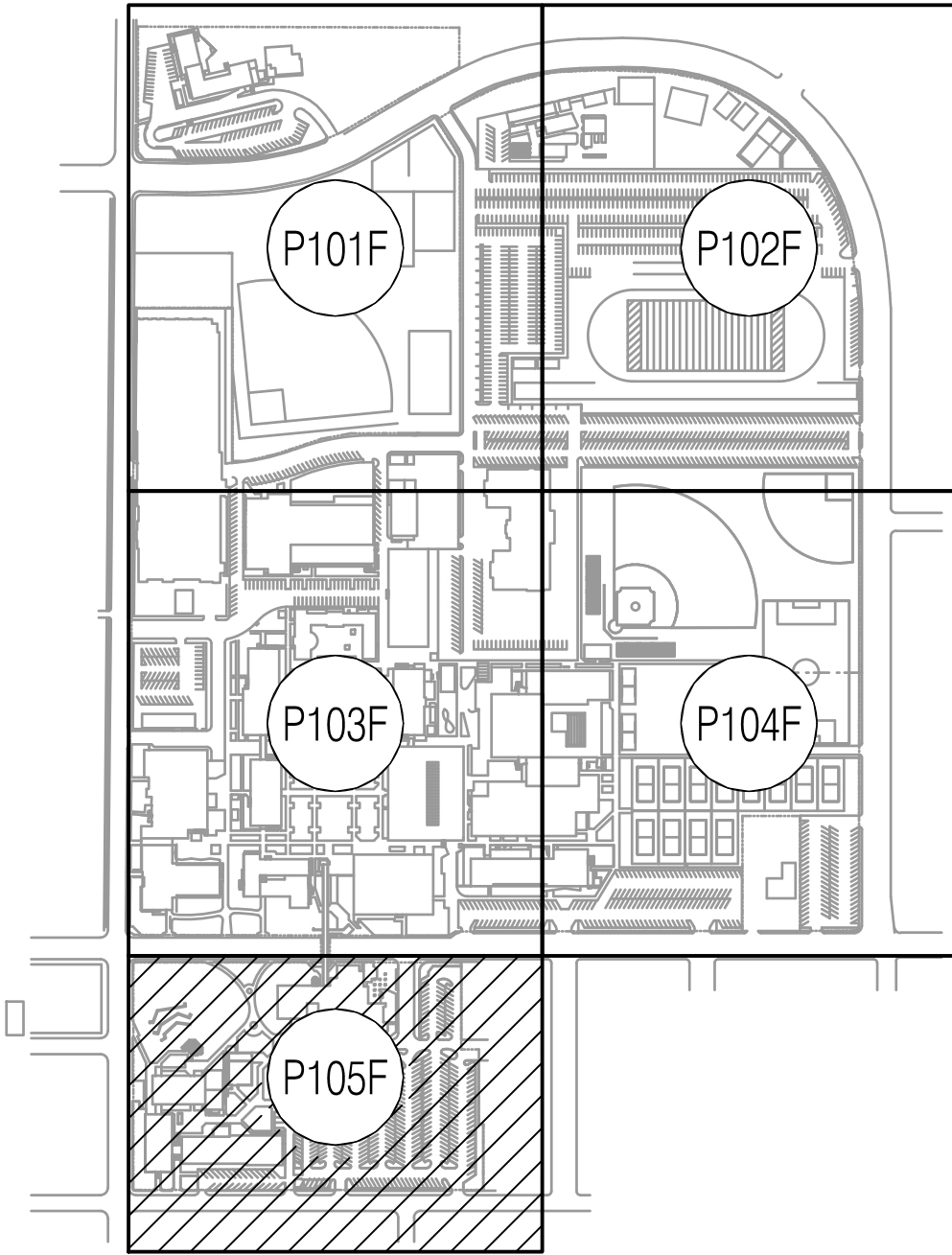
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Sheet Title

Enlarged Site
Proposed Gas
Plan

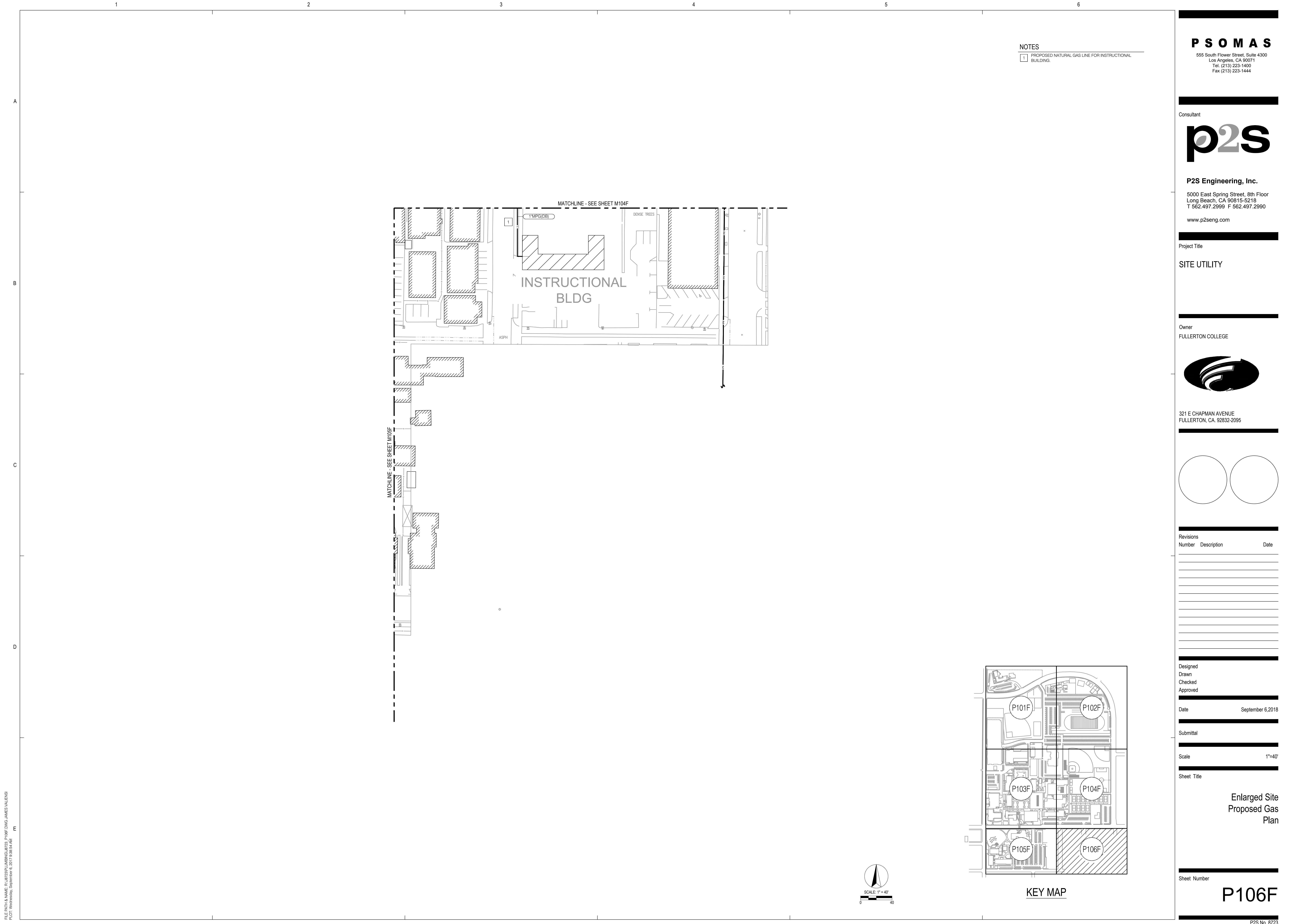
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P105F

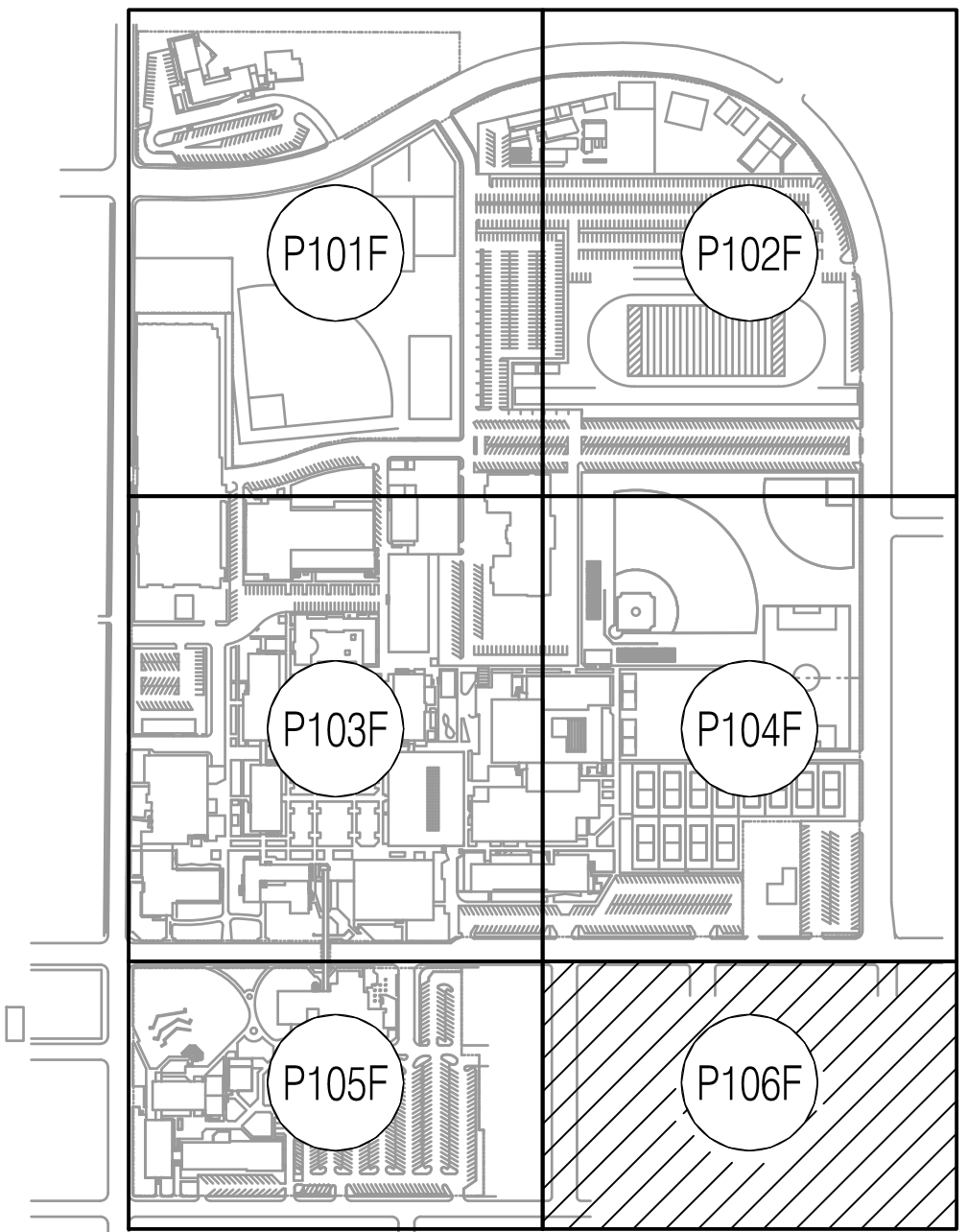


KEY MAP

FILE PATH & NAME: R:\8723\PLUMBING\8723_P106.DWG JAMES VALENS
PLOT: Wednesday, September 6, 2017 9:38:54 AM



NOTES
1 PROPOSED NATURAL GAS LINE FOR INSTRUCTIONAL BUILDING



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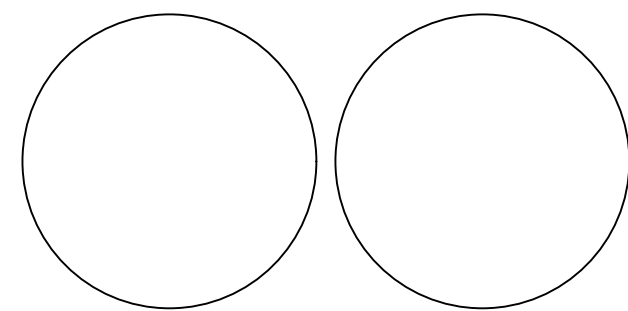
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



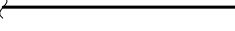

Sheet Title

Enlarged Site
Proposed Gas
Plan

Sheet Number

P106F

LEGEND

<u>SYMBOL</u>	<u>DESCRIPTION</u>
	NOTE CALLOUT
	POINT OF CONNECTION
	POINT OF DISCONNECTION
	NEW LINEWORK
	EXISTING LINEWORK
	NEW PIPING (SIZE-SERVICE)

ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
AAV	AUTOMATIC AIR VENT	HD	HEAD
ABV	ABOVE	HP	HEAT PUMP
ACC	AIR CONDITIONING UNIT	HP	HORSEPOWER
AD	ACCESS DOOR	HT	HEIGHT
AF	ABOVE FINISHED FLOOR	HZ	HERTZ
AHU	AIR HANDLING UNIT	IC	MOTOR STATUS
ALUM	ALUMINUM	ICW	INDUSTRIAL COLD WATER
AP	ACCESS PANEL	ID	INSIDE DIAMETER
BD	BLOWDOWN	IN	INCHES
BDD	BACK DRAFT DAMPER	KW	KILOWATTS
BEL	BELOW	LA	LEAVING AIR TEMPERATURE
BFC	BELOW FINISHED CEILING	LBS	POUNDS
BFP	BACK FLOW PREVENTER	LD	LINEAR DIFFUSER
BHP	BRAKE HORSEPOWER	LF	LINEAR FEET
BLOGS	BUILDING	LWT	LEAVING WATER TEMPERATURE
BOB	BOTTOM OF BEAM	MB	MAXIMUM
BOP	BOTTOM OF PIPE	MBH	THOUSAND BTU PER HOUR
BSMT	BASEMENT	MC	MECHANICAL CONTRACTOR
BTU	BRITISH THERMAL UNIT	MCA	MINIMUM CIRCUIT AMPS
CD	CEILING DIFFUSER	MH	MANHOLE
CFM	CUBIC FEET PER MINUTE	MIN	MINIMUM
CH	CHILLER	MOCP	MAXIMUM OVERLOAD CIRCUIT PROTECTION
CHWP	CHILLED WATER PUMP	MTD	MOUNTED
CHWR	CHILLED WATER RETURN	MUA	MAKE-UP AIR UNIT
CHWS	CHILLED WATER SUPPLY	NFA	NET FREE AREA
CI	CAST IRON	NIC	NOT IN CONTRACT
CL	CENTER LINE	NPSHR	NET POSITIVE SUCTION HEAD REQUIRED
CLG	CEILING	OAT	OUTSIDE AIR TEMPERATURE
CO	CLEAN OUT	ODB	OPPOSED BLADE DAMPER
COL	COLUMN	OC	ON CENTER
CP	CONDENSATE PUMP	OD	OUTSIDE DIAMETER
CT	COOLING TOWER	OSA	OUTSIDE AIR
CU	CONDENSING UNIT	PBD	PARALLEL BLADE DAMPER
CV	CONSTANT VOLUME BOX	PD	PRESSURE DROP
CWP	CONDENSER WATER PUMP	PERF	PERFORATED
CWR	CONDENSER WATER RETURN	PH	PHASE
CWS	CONDENSER WATER SUPPLY	POD	POINT OF DISCONNECT
CWFR	CONDENSER WATER FILTER RETURN	PR	PRESSURE RELIEF
CWFS	CONDENSER WATER FILTER SUPPLY	PRV	PRESSURE REDUCING VALVE
D	DRAIN	PSID	POUNDS PER SQUARE INCH DIFFERENTIAL
DB	DRY BALL	PSIG	POUNDS PER SQUARE INCH GAUGE
DEG	DEGREES	PTAC	PACKAGED TERMINAL AIR CONDITIONER
DIA	DIAMETER	PVC	POLYVINYL CHLORIDE
DL	DOOR LOUVER	RA	RETURN AIR
DN	DOWN	RAG	RETURN AIR GRILLE
DS	DUCT SILENCER	RAR	RETURN AIR REGISTER
DWP	DOMESTIC WATER PUMP	RO	ROOF DRAIN
DX	DIRECT EXPANSION	RF	RETURN FAN
(E)	EXISTING	RHC	REHEAT COIL
EA	EACH	RLA	RATED LOAD AMPS
EAT	ENTERING AIR TEMPERATURE	RPM	REVOLUTIONS PER MINUTE
EC	ELECTRICAL CONTRACTOR	SA	SUPPLY AIR
EF	EXHAUST FAN	SAR	SUPPLY AIR REGISTER
EJ	EFFICIENCY	SD	SMOKE DAMPER
EJF	EXPANSION JOINT	SF	SUPPLY FAN
EL	ELEVATION	SEMBH	SENSIBLE MBH
EQ	EQUAL	SPEC	SPECIFICATION
ER	EXHAUST REGISTER	SS	STAINLESS STEEL
ESP	EXTERNAL STATIC PRESSURE	STD	STANDARD
ET	EXPANSION TANK	TAD	TRANSFER AIR DUCT
EW	ELECTRIC WATER COOLER	TDH	TOTAL DYNAMIC HEAD
EWTC	ENTERING WATER TEMPERATURE	TED	TOTALLY ENCLOSED FAN COOLED
°F	DEGREES FAHRENHEIT	TEMP	TEMPERATURE
FA	FREE AREA	TG	TRANSFER GRILLE
FC	FAN COOL UNIT	TMBH	TOTAL MBH
FD	FIRE DAMPER	TSP	TOTAL STATIC PRESSURE
FG	FILTER GRILLE	TYP	TYPICAL
FLA	FULL LOAD AMPS	UC	UNDERCUT
FLR	FLOOR	TYP	TYPICAL
FOB	FLAT ON BOTTOM	UON	UNLESS OTHERWISE NOTED
FO	FLAT ON TOP	V	VOLTS
FP	FIRE PUMP	VAV	VARIABLE AIR VOLUME UNIT
FPS	FEET PER SECOND	VDR	VOLUME DRAINER
FFM	FEET PER MINUTE	VFD	VARIABLE FREQUENCY DRIVE
FT	FEET OR FOOT	VTR	VENT THRU ROOF
FX	FLEXIBLE CONNECTION	W/	WITH
GA	GAUGE	W/O	WITHOUT
GALV	GALVANIZED	WB	WET BULB
GC	GENERAL CONTRACTOR	WC	WATER COLUMN
GPH	GALLONS PER HOUR	WG	WATER GAUGE
GPM	GALLONS PER MINUTE	WT	WEIGHT
GB	HOSE BIBB		

REFERENCE WILL BE MADE TO ANSI Y1.1, MILITARY STANDARD IN THE EVENT ABBREVIATIONS NOT MENTIONED HEREIN ARE USED, ABBREVIATIONS, AND OTHER STANDARD INDUSTRY CONVENTIONS.

CONTROL ABBREVIATIONS

<u>ABBREVIATION</u>	<u>DESCRIPTION</u>	<u>ABBREVIATION</u>	<u>DESCRIPTION</u>
A	ALARM	PT	PRESSURE TRANSMITTER
AI	ANALOG INPUT	RH	RELATIVE HUMIDITY
AD	ANALOG OUTPUT	SI	STATUS
DI	DIGITAL INPUT	SC	SPEED CONTROL
DO	DIGITAL OUTPUT	SI	SPEED INDICATOR
DP	DIFFERENTIAL PRESSURE	SP	SETPOINT
FS	FLOW SWITCH	SS	START/STOP
FM	FLOW METER		TEMPERATURE
HOA	HANDS OFF AUTO	TI	TEMPERATURE INDICATOR
KW	KILOWATTS	VA	DAMPER/VALVE ACTUATOR
LA	LEVEL ALARM	VP	VELOCITY PRESSURE
MOD	MODE OPERATED DAMPER	VSH	VIBRATION SWITCH
NO	NORMALLY CLOSED	W	CLOSED END SWITCH
NO	NORMALLY OPEN	ZI	POSITION INDICATOR
PS	PRESSURE SWITCH	ZO	OPEN END SWITCH

REFERENCE WILL BE MADE TO ANSI Y1.1, MILITARY STANDARD IN THE EVENT ABBREVIATIONS NOT MENTIONED HEREIN ARE USED, ABBREVIATIONS, AND OTHER STANDARD INDUSTRY CONVENTIONS.

SHEET INDEX

<u>SHEET</u>	<u>DESCRIPTION</u>
M001	GENERAL NOTES, LEGEND, ABBREVIATIONS AND SHEET INDEX
M100	OVERALL SITE CHILLED WATER PLAN
M101	ENLARGED SITE CHILLED WATER PLAN
M102	ENLARGED SITE CHILLED WATER PLAN
M103	ENLARGED SITE CHILLED WATER PLAN
M104	ENLARGED SITE CHILLED WATER PLAN
M105	ENLARGED SITE CHILLED AND HEATING HOT WATER PLAN
M101F	ENLARGED SITE PROPOSED CHILLED WATER PLAN
M102F	ENLARGED SITE PROPOSED CHILLED WATER PLAN
M103F	ENLARGED SITE PROPOSED CHILLED WATER PLAN
M104F	ENLARGED SITE PROPOSED CHILLED WATER PLAN
M105F	ENLARGED SITE PROPOSED CHILLED AND HEATING HOT WATER PLAN
M106F	ENLARGED SITE PROPOSED CHILLED WATER PLAN

GENERAL NOTES

- ALL WORK SHALL COMPLY WITH THE 2016 EDITIONS OF THE CALIFORNIA BUILDING, MECHANICAL, PLUMBING, AND OTHER APPLICABLE FEDERAL, STATE, OR LOCAL CODES AS ADOPTED AND ENFORCED BY THE LOCAL JURISDICTION. IN CASE THE PLANS SHOW MORE STRINGENT REQUIREMENTS, THE PLANS SHALL GOVERN THE DESIGN, YET NOTHING ON THE DESIGN DOCUMENTS SHALL BE INTERPRETED AS AUTHORITY TO VIOLATE CODE(S) OR REGULATION(S).
2. SUBMISSION OF BID IN CONNECTION WITH THIS WORK SHALL IMPLY THAT THE BIDDER HAS EXAMINED THE JOB SITE UNDER WHICH THE CONTRACTOR WILL BE OBLIGATED TO OPERATE UNDER THIS CONTRACT. NO EXTRA CHARGE WILL BE ALLOWED FOR FAILURE OF ANY BIDDER TO EXAMINE THE SITE PRIOR TO BID.
3. WHERE USED, THE TERM "PROVIDE" SHALL MEAN "FURNISH AND INSTALL".
4. IN THE EVENT OF A CONFLICT OR INCONSISTENCY BETWEEN ITEMS INDICATED ON DESIGN PLANS / SPECIFICATIONS WITH CODE REQUIREMENTS, THE MORE STRINGENT STANDARD SHALL PREVAIL.
5. THIS CONTRACTOR SHALL FURNISH LABOR, MATERIALS, EQUIPMENT, AND TRANSPORTATION AS REQUIRED TO PROPERLY INSTALL ALL NEW HVAC SYSTEMS OR RELATED COMPONENTS AS INDICATED ON PLANS AND SPECIFIED HEREIN.
6. ALL NEW EQUIPMENT AND MATERIAL TO BE INSTALLED AS PART OF RENOVATION / NEW CONSTRUCTION SHALL BEAR AN UNDERWRITERS LABORATORIES LABEL (UL), AND INSTALLED IN SUCH A MANNER FOR WHICH THEY ARE DESIGNED AND APPROVED.
7. THIS CONTRACTOR SHALL DOCUMENT AND RELAY ANY MAJOR DEVIATIONS FROM THE DESIGN DOCUMENTS, AND ATTAIN APPROVAL FROM THE MECHANICAL ENGINEER BEFORE PROCEEDING. AS-BUILT COPIES SHALL BE PROVIDED INDICATING ALL CHANGES / DEVIATIONS MADE DURING CONSTRUCTION.
8. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER. CARE SHALL BE EXERCISED TO MINIMIZE ANY INCONVENIENCE OR DISTURBANCE TO OTHER AREAS OF THE BUILDING WHICH ARE TO REMAIN IN OPERATION. ISOLATE WORK AREAS BY MEANS TO KEEP DUST AND DIRT WITHIN THE CONSTRUCTION AREA.
9. NO PIPING, EQUIPMENT, ETC. SHALL BE REMOVED, DISCONNECTED OR SHUT DOWN WITHOUT PRIOR REVIEW WITH THE OWNER TO CONFIRM THAT AREAS TO REMAIN IN OPERATION WILL NOT BE AFFECTED. IF ANY AREAS NOT WITHIN THE SCOPE OF WORK ARE AFFECTED BY ANY SHUTDOWN, REMOVAL OR DISCONNECTION, SUFFICIENT ADVANCE NOTICE MUST BE GIVEN TO THE OWNER INDICATING WHICH AREAS WILL BE AFFECTED, WHEN THE PROPOSED SHUTDOWN WILL OCCUR, AND FOR HOW LONG A PERIOD OF TIME.
10. THE ARRANGEMENT OF EQUIPMENT AND PIPING SHOWN ON THE DRAWINGS IS BASED UPON INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF DESIGN AND IS NOT INTENDED TO SHOW EXACT DIMENSIONS PECULIAR TO A SPECIFIC MANUFACTURER. THE DRAWINGS ARE, IN PART, DIAGRAMMATIC AND SOME FEATURES OF THE ILLUSTRATED EQUIPMENT INSTALLATION MAY REQUIRE REVISION TO MEET ACTUAL EQUIPMENT INSTALLATION REQUIREMENTS. STRUCTURAL SUPPORTS, FOUNDATIONS, CONNECTED PIPING, VALVES AND ELECTRICAL CONDUIT SPECIFIED MAY HAVE TO BE ALTERED TO ACCOMMODATE THE EQUIPMENT PROVIDED. NO ADDITIONAL PAYMENT WILL BE MADE FOR SUCH REVISIONS AND ALTERATIONS.
11. THIS CONTRACTOR SHALL VERIFY ALL DIMENSIONS AT THE SITE MAKING FIELD MEASUREMENTS AND SHOP DRAWINGS NECESSARY FOR FABRICATION OR ERECTION OF HVAC SYSTEMS. MAKE ALLOWANCE FOR BEAMS, PIPES AND OTHER OBSTRUCTIONS IN BUILDING CONSTRUCTION. CHECK DRAWINGS SHOWING WORK OF OTHER TRADES AND CONSULT WITH THE OWNERS REPRESENTATIVE IN THE EVENT OF POTENTIAL INTERFERENCE. SHOP DRAWINGS SHALL BE MINIMUM 1/4"=1'-0" SCALE. INDICATING FITTINGS, SIZES, WELDS AND CONFIGURATIONS AND SUBMITTED TO ENGINEER FOR REVIEW.
12. THIS CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES PRIOR TO FABRICATION, PURCHASE AND/OR INSTALLATION OF ALL WORK.
13. BEFORE COMMENCEMENT OF WORK, THIS CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS, AND CHARACTERISTICS OF ALL UTILITIES.
14. CONTRACTOR SHALL SECURE AND PAY ALL FEES AND PERMITS PERTAINING TO THE CONTRACT.
15. EXISTING MATERIALS THAT ARE REMOVED SHALL NOT BE REUSED IN NEW SYSTEMS, EXCEPT WHERE INDICATED AS BEING RELOCATED.
16. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURERS WRITTEN INSTRUCTIONS.
17. GALVANIZED SHEET METAL SHALL BE PROVIDED FOR ALL HVAC DUCT SYSTEMS, AND CONSTRUCTED / SUPPORTED / INSTALLED IN ACCORDANCE WITH THE 2016 CALIFORNIA MECHANICAL CODE AND THE LATEST SMACNA STANDARDS.
18. ALL PIPING SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS IN A NEAT WORKMANSHIP-LIKE MANNER AND BE SUPPORTED AS REQUIRED BY CODES. PIPING SHALL BE SET UP AND DOWN AND OFFSET AS REQUIRED TO SUIT FIELD CONDITIONS. DIELECTRIC COUPLINGS SHALL BE USED WHERE DISSIMILAR METALS ARE JOINED.
19. THIS CONTRACTOR SHALL PROVIDE ALL NECESSARY SUPPORTS FOR FIXTURES, DUCTWORK, PIPING, AND MECHANICAL EQUIPMENT, IN ORDER TO COMPLY WITH SEISMIC REQUIREMENTS AS OUTLINED BY THE LATEST EDITION(S) OF THE CALIFORNIA BUILDING CODE, SMACNA INSTALLATION STANDARDS, AND ALL RELATED LOCAL ORDINANCES.
20. PIPING AND DUCT SUPPORTS SHALL BE AS FOLLOWS:
- A. ALL BRACING OF DUCTS AND PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES, OR AS DETAILED AND SPECIFIED HEREIN
 - B. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE MECHANICAL ENGINEER.
 - C. A COPY OF THE GUIDELINES PUBLISHED BY SMACNA SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON THE JOB AT ALL TIMES.
21. THIS CONTRACTOR SHALL NOT BORE, NOTCH, CUT, OR PENETRATE INTO A STRUCTURAL MEMBER WITHOUT WRITTEN APPROVAL FROM A DESIGNATED STRUCTURAL ENGINEER AND THE OWNER.
22. ALL PIPE ELBOWS SHALL BE LONG RADIUS UNLESS OTHERWISE SPECIFICALLY NOTED ON THE DRAWINGS.
23. ISOLATE AND DRAIN EXISTING PIPING SYSTEM AS REQUIRED TO ACCOMMODATE INSTALLATION OF THE WORK.
24. INSTALL MANUAL VOLUME DAMPERS WITHIN DUCT BRANCHES TO BALANCE AIR FLOW CFM. ON INSULATED DUCTS, MOUNT DAMPER REGULATOR ON 2" STAND-OFF BRACKET TO CLEAR INSULATION.
25. PER 2016 CMC 608.1 AUTOMATIC SHUT OFF OF AIR HANDLER SHALL BE DONE UPON THE DETECTION OF SMOKE IN THE MAIN SUPPLY AIR DUCT SERVED BY THE AIR HANDLER.
26. ALL MATERIAL EXPOSED WITHIN PLenums SHALL BE NON-COMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX NOT GREATER THAN 25 AND SMOKE DEVELOPED INDEX NOT GREATER THAN 50, COMPLY WITH CMC-602.2.
27. 2016 CBC MECHANICAL, ELECTRICAL AND PLUMBING EQUIPMENT ANCHORAGE NOTES:
- ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCES AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2016 CBC. SECTIONS 1616A, 1.18-1616A.1.26 AND ASCE 7-10 CHAPTER 13.
- A. ALL PERMANENT EQUIPMENT AND COMPONENTS
 - B. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
 - C. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.
- THE ATTACHMENT OF THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENT SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT.
- A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORTS THE COMPONENT.
 - B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

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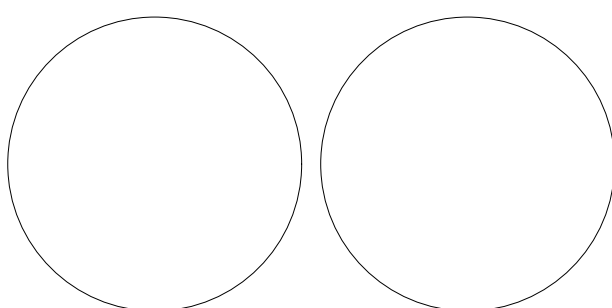
SITE UTILITY

Owner

FULLERTON COLLEGE



321 E CHAPMAN AVENUE
FULLERTON, CA. 92832-2095



Revisions

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Approved _____

Date _____

September 6, 2018

Submittal

Scale

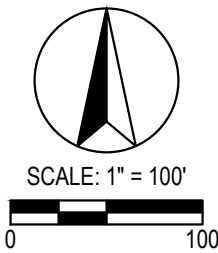
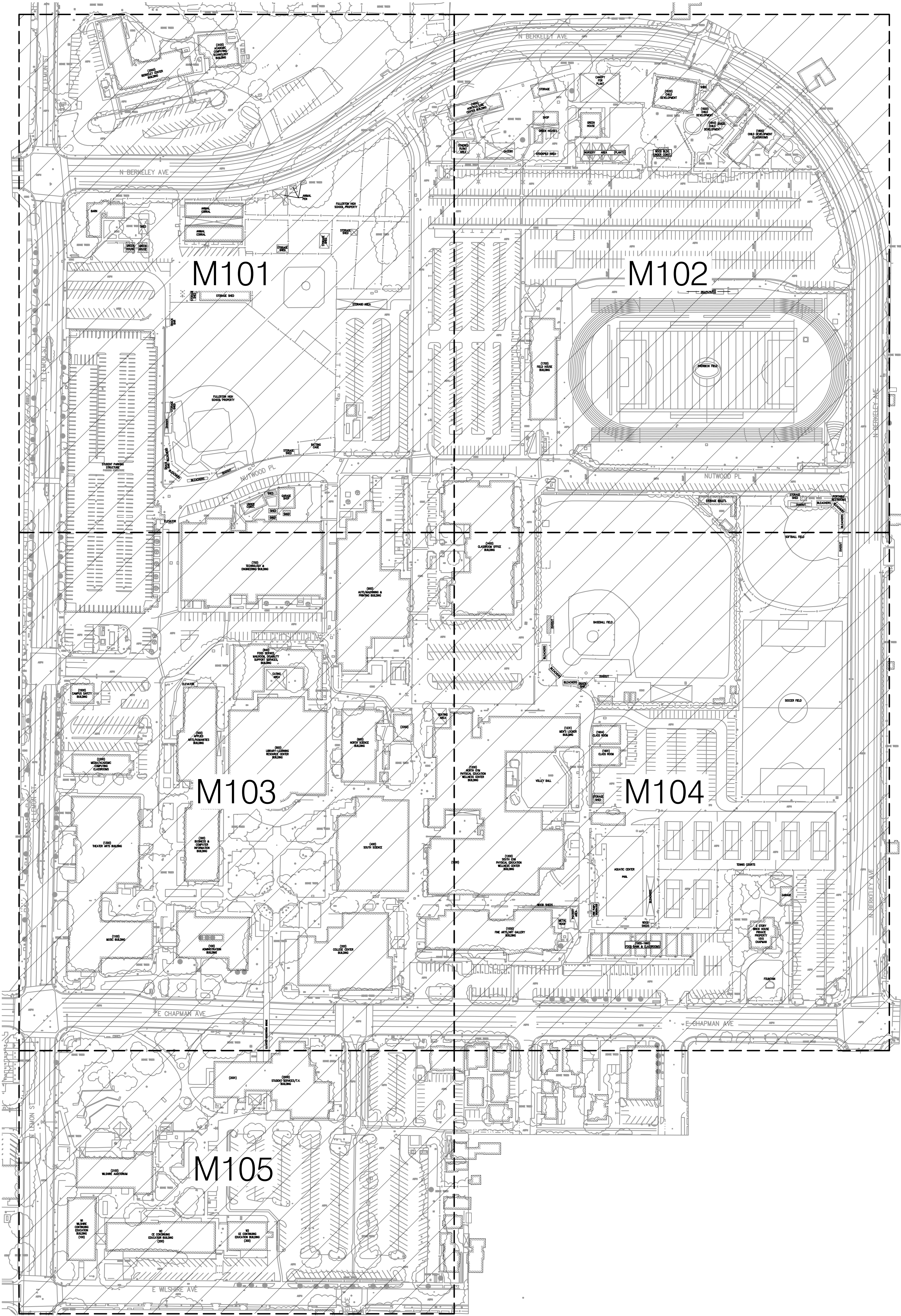
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Sheet Tr

General Notes, Legend,
Abbreviations and Sheet
Index

Sheet Number

M001



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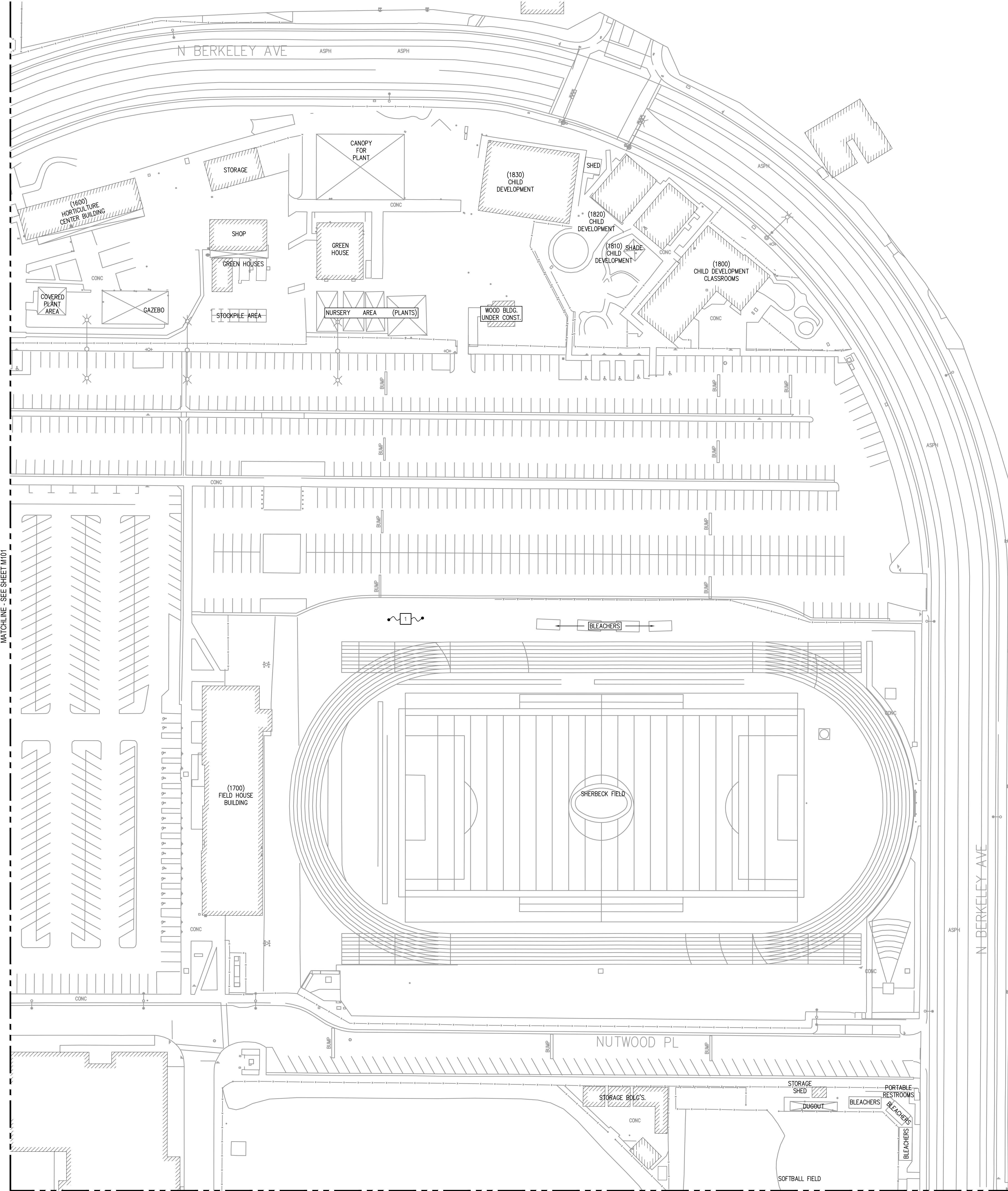
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Overall Site
Chilled Water
Plan

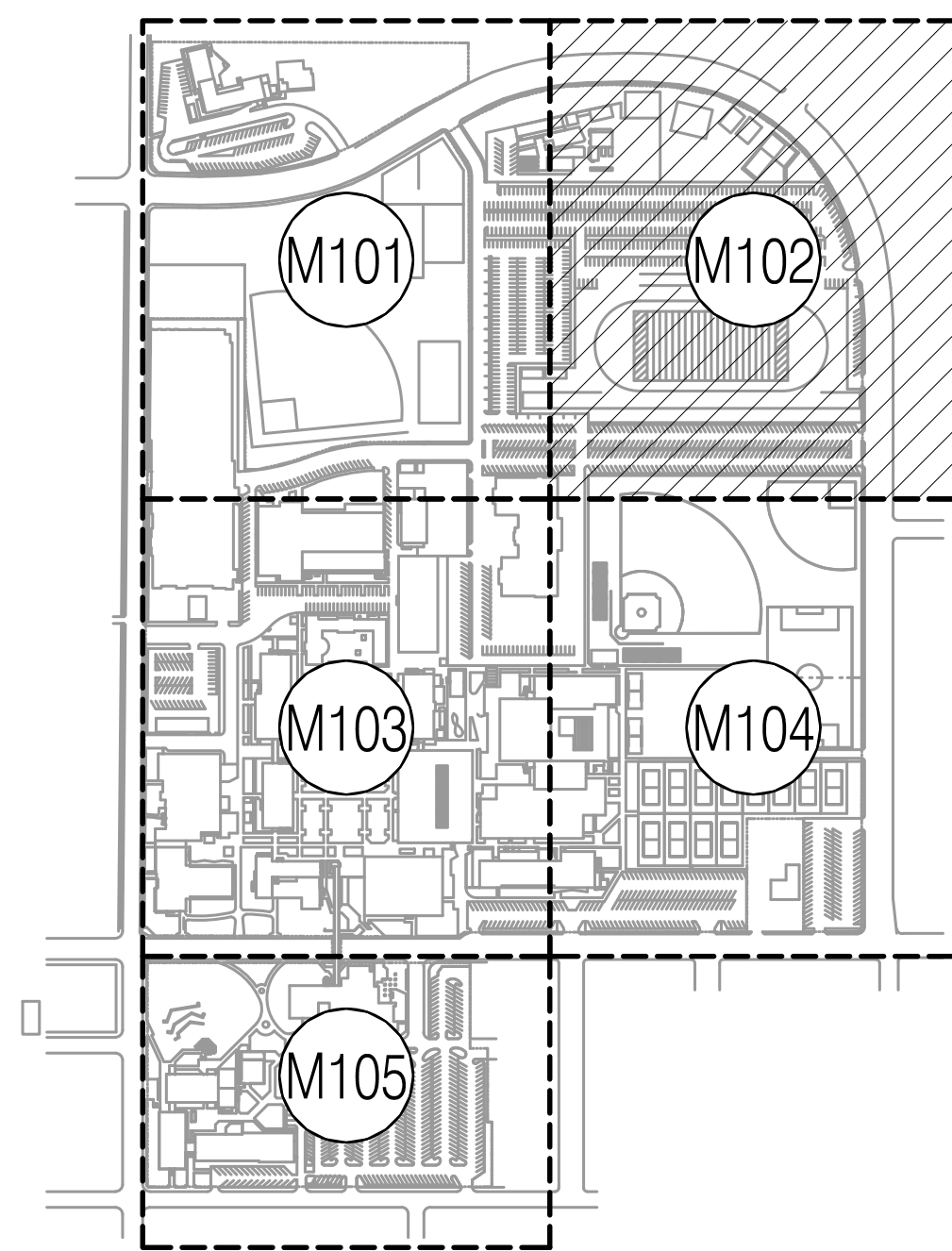
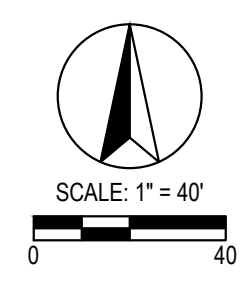
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A
B
C
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E
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PLOT: Wednesday, September 6, 2017 9:28:14 AM



NOTES
1 NO CHILLED WATER LINES ON THIS SHEET.



KEY MAP

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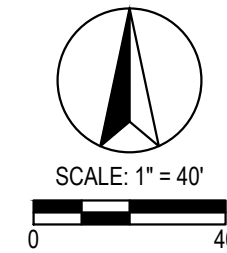
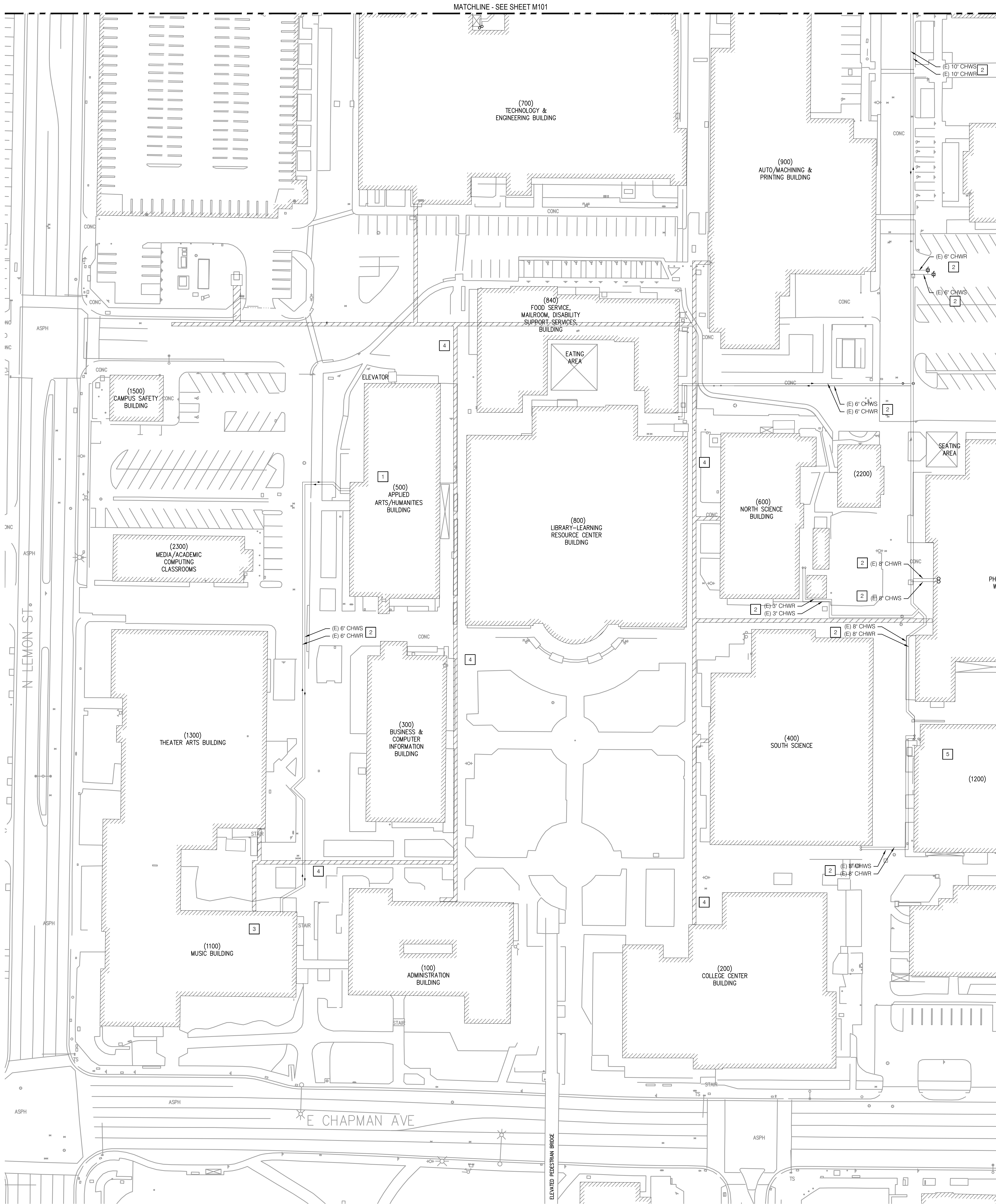
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Enlarged Site
Chilled Water
Plan

Sheet Number

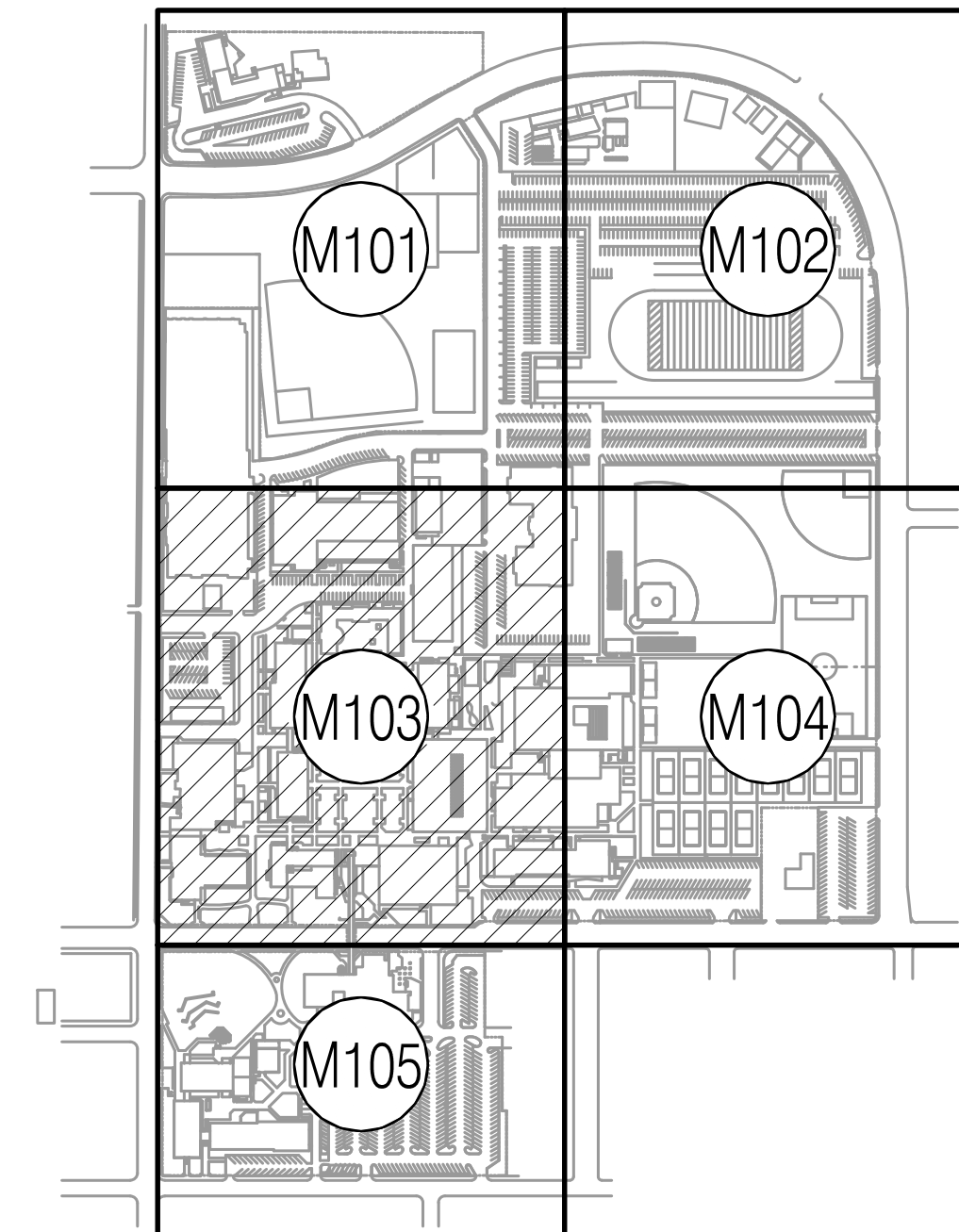
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NOTES

- 1 BUILDING 500 CENTRAL PLANT
- 2 DIRECT BURIED CHILLED WATER LINES
- 3 BUILDING 1100 CENTRAL PLANT
- 4 CAMPUS UTILITY TUNNEL SYSTEM WITH CHILLED WATER LINES ROUTED INTERNALLY
- 5 CAMPUS STEAM BOILERS AND CONNECTED TO UTILITY TUNNELS



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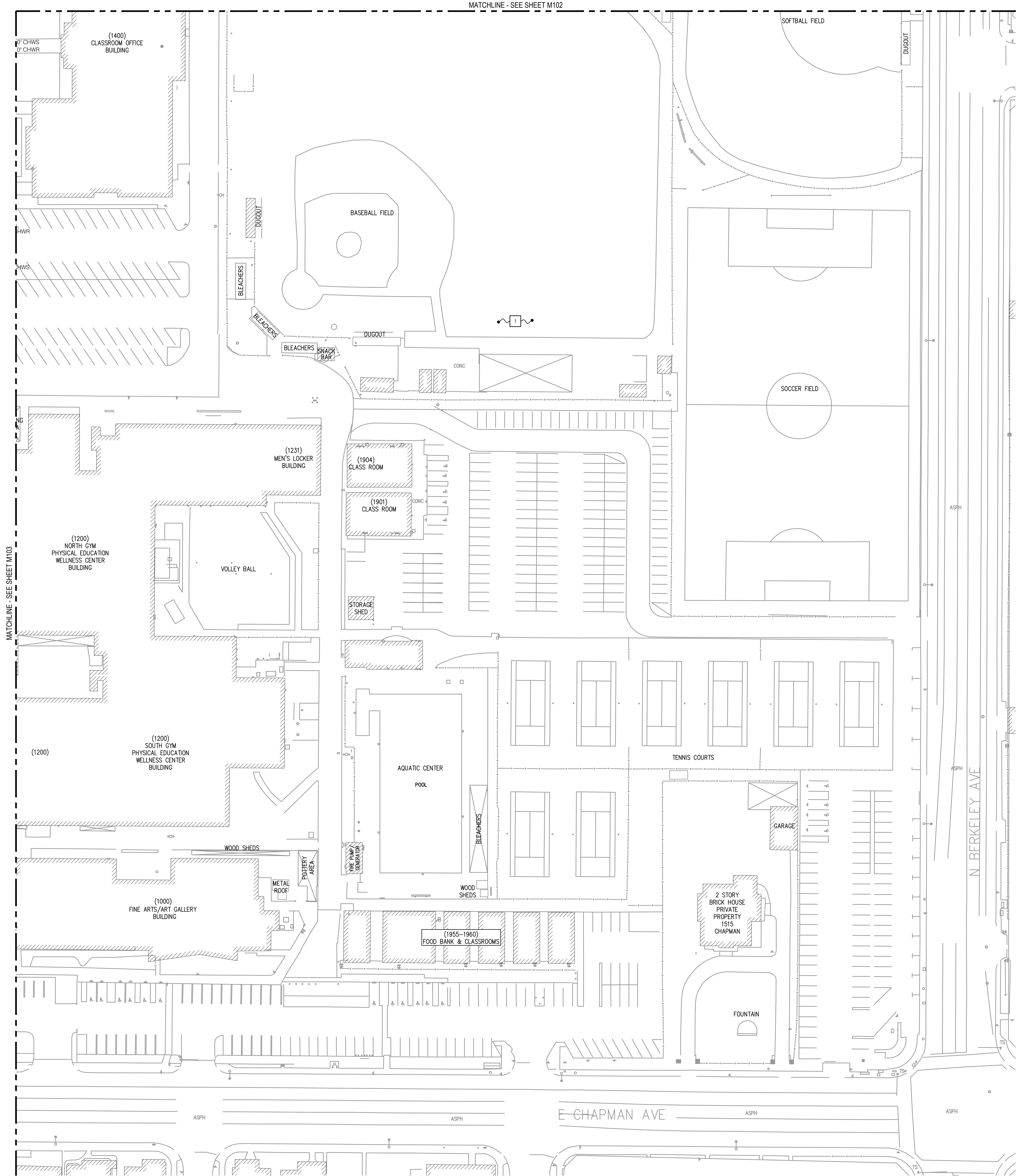
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Enlarged Site
Chilled Water
Plan

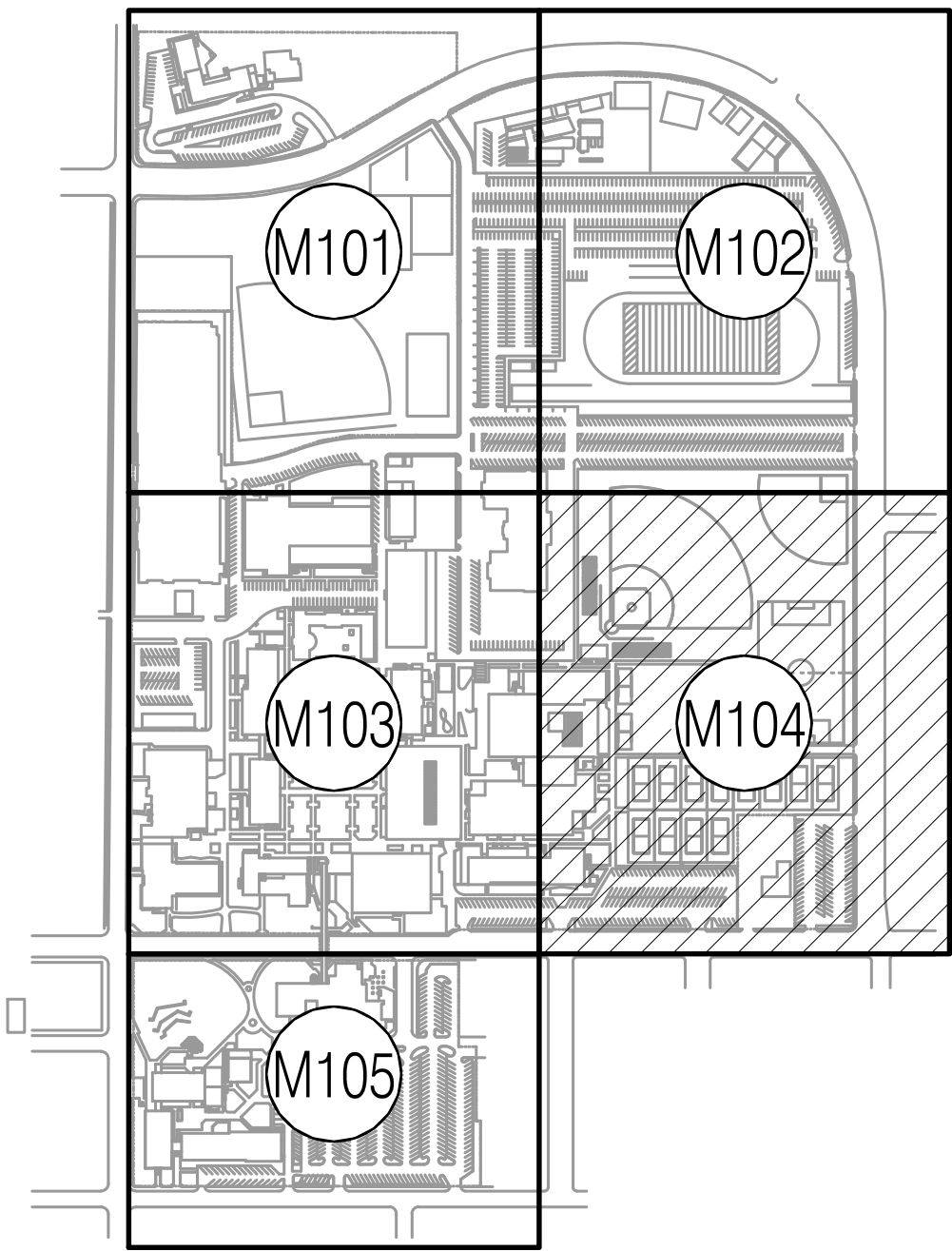
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M103

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PLOT: Wednesday, September 6, 2017 9:28:17 AM



NOTES
1 NO CHILLED WATER LINES ON THIS SHEET.



KEY MAP

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Sheet Title

Enlarged Site
Chilled Water
Plan

Sheet Number

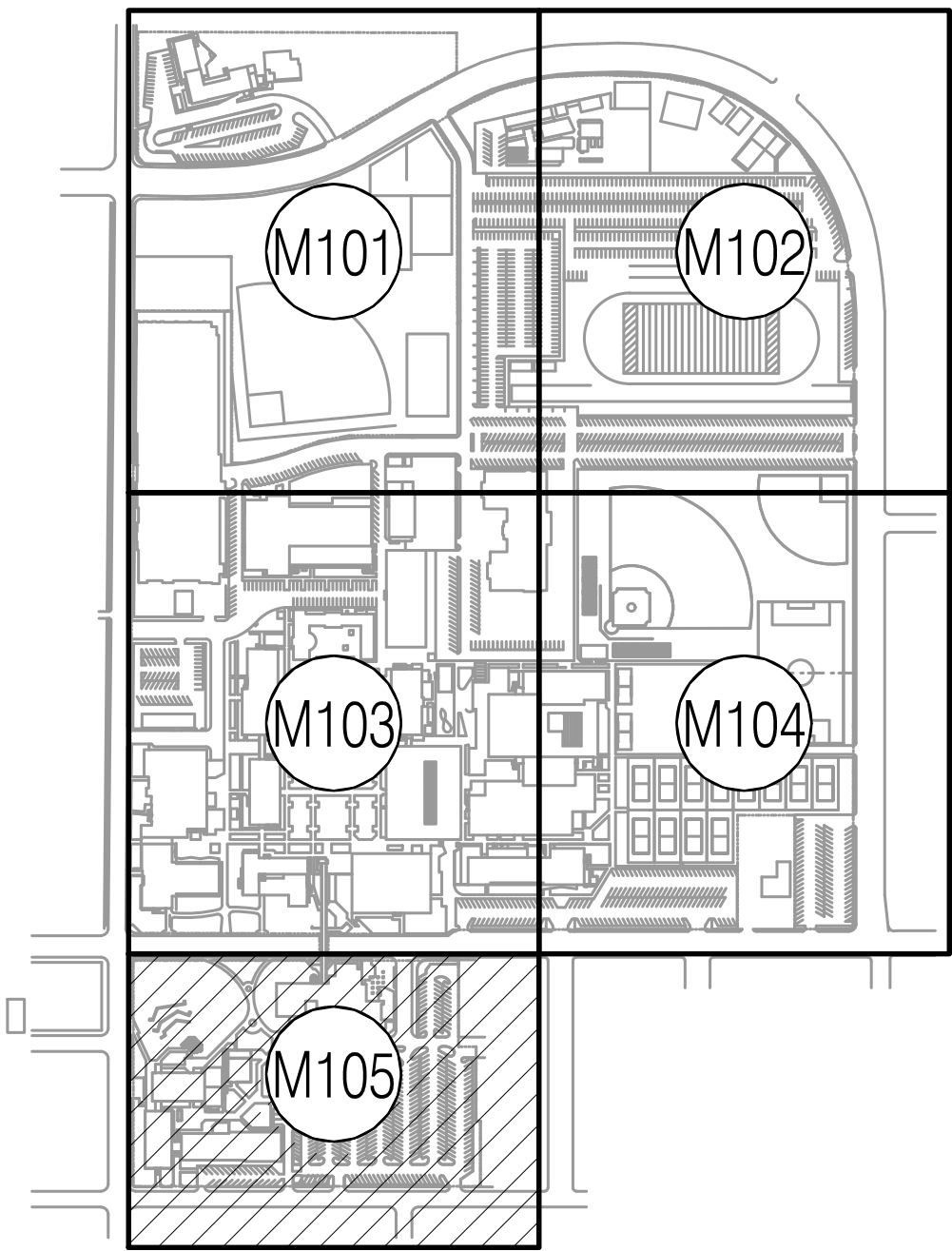
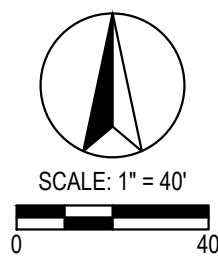
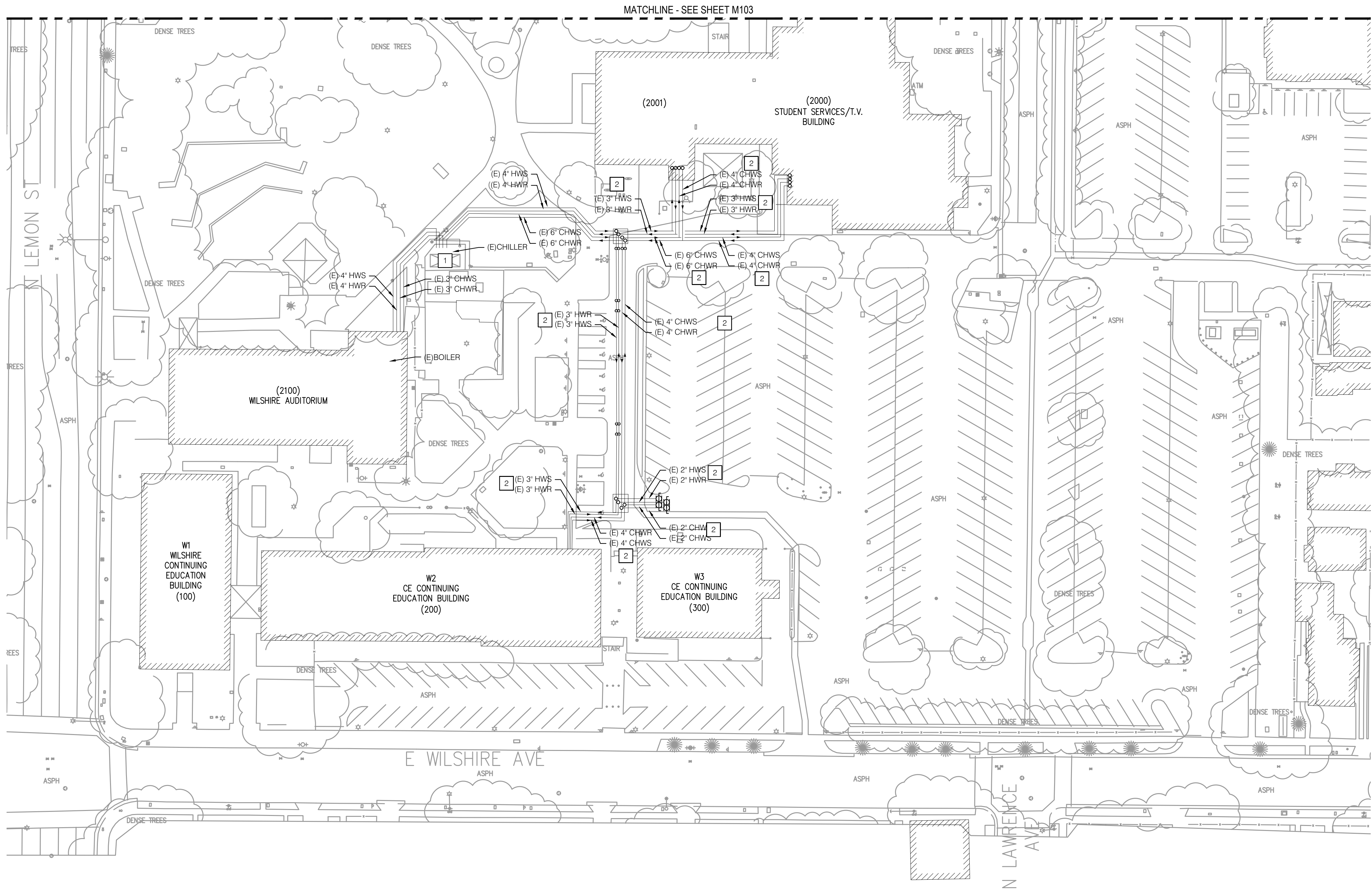
M104

A
B
C
D
E

1 2 3 4 5 6

NOTES

- 1 BUILDING 2100 CENTRAL PLANT.
- 2 DIRECT BURIED CHILLED WATER AND HEATING HOT WATER LINES.



KEY MAP

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Scale

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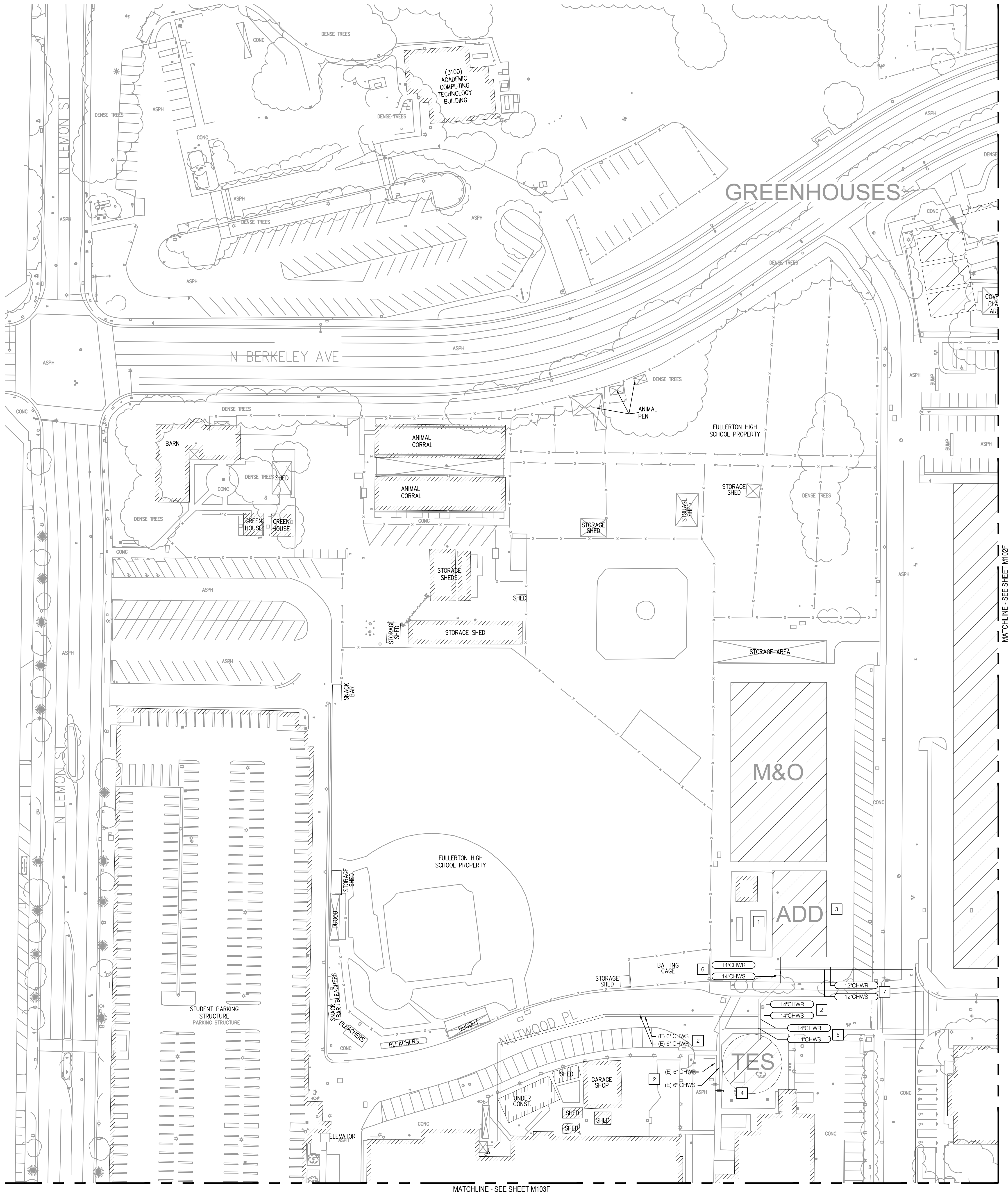
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Enlarged Site
Chilled And
Heating Hot
Water Plan

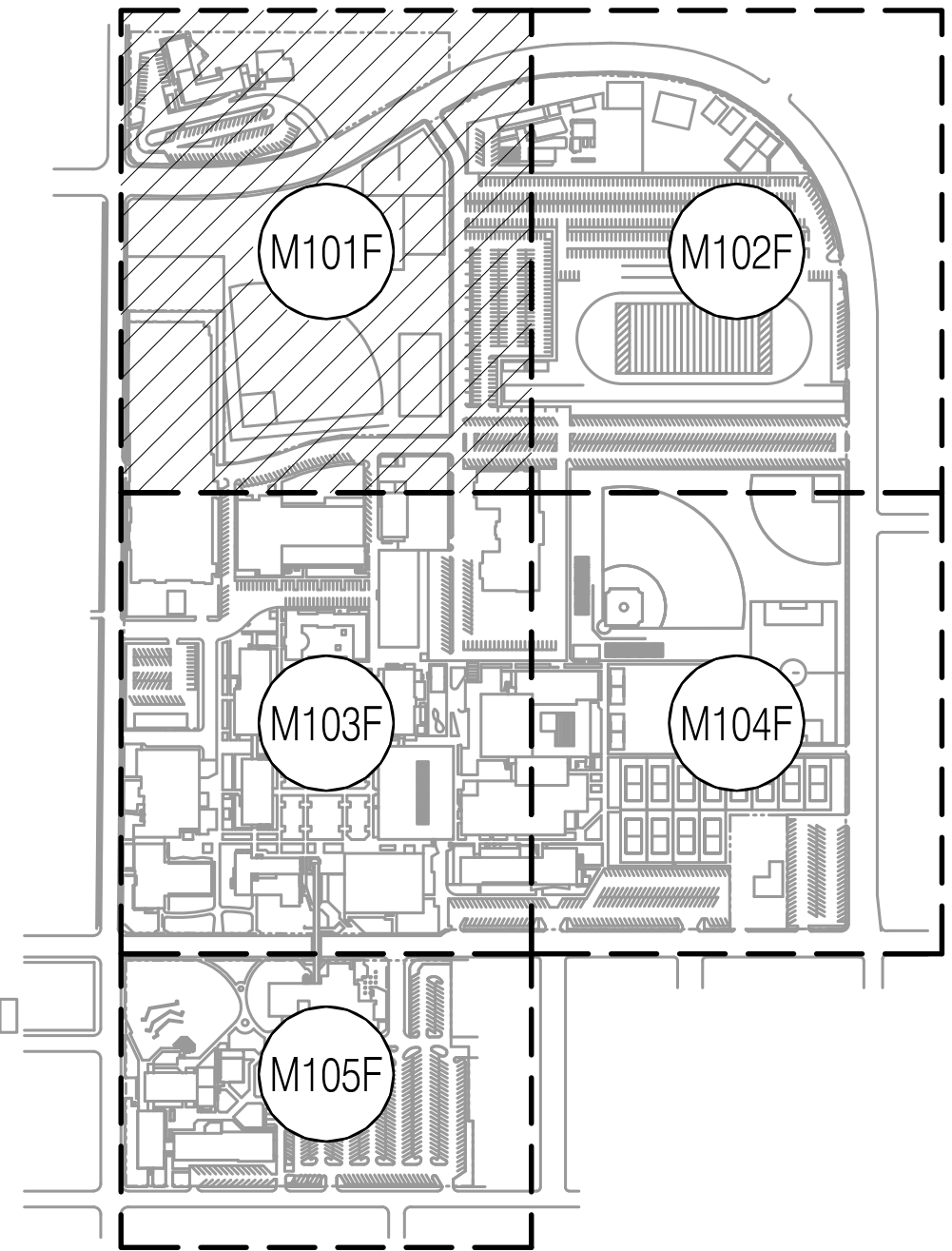
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M105

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- NOTES
- 1 LOT-3 1200-TON CHILLER PLANT WITH PUMPS AND COOLING TOWERS.
 - 2 EXISTING CAMPUS DIRECT BURIED CHILLED WATER LINES.
 - 3 SPACE DEDICATED TO EXPAND CENTRAL PLANT.
 - 4 SPACE DEDICATED TO ADD THERMAL ENERGY STORAGE SYSTEM.
 - 5 PROPOSED DIRECT BURIED CHILLED WATER LINES TO THERMAL ENERGY STORAGE SYSTEM. TANK IS 55FT IN DIAMETER AND 55FT TALL.
 - 6 REPLACE EXISTING 10"CHWS/R LINES WITH 14" PIPES. ROUTE 14" LINE SIZE TO ANY TES SYSTEM.
 - 7 REPLACE EXISTING 10"CHWS/R LINES WITH 12" PIPES FOR DISTRIBUTION TO THE CAMPUS BUILDINGS.



KEY MAP

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Date September 6, 2018

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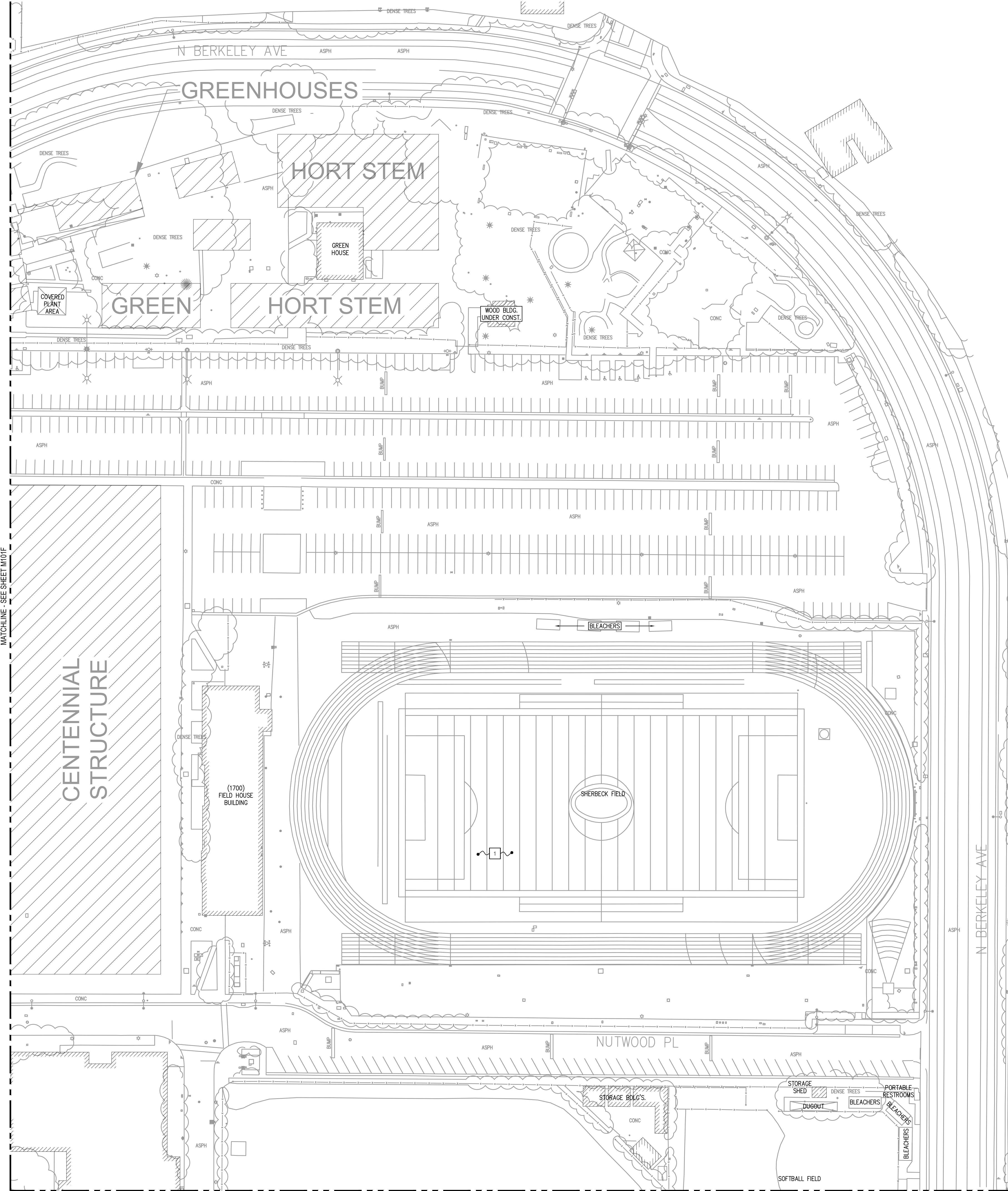
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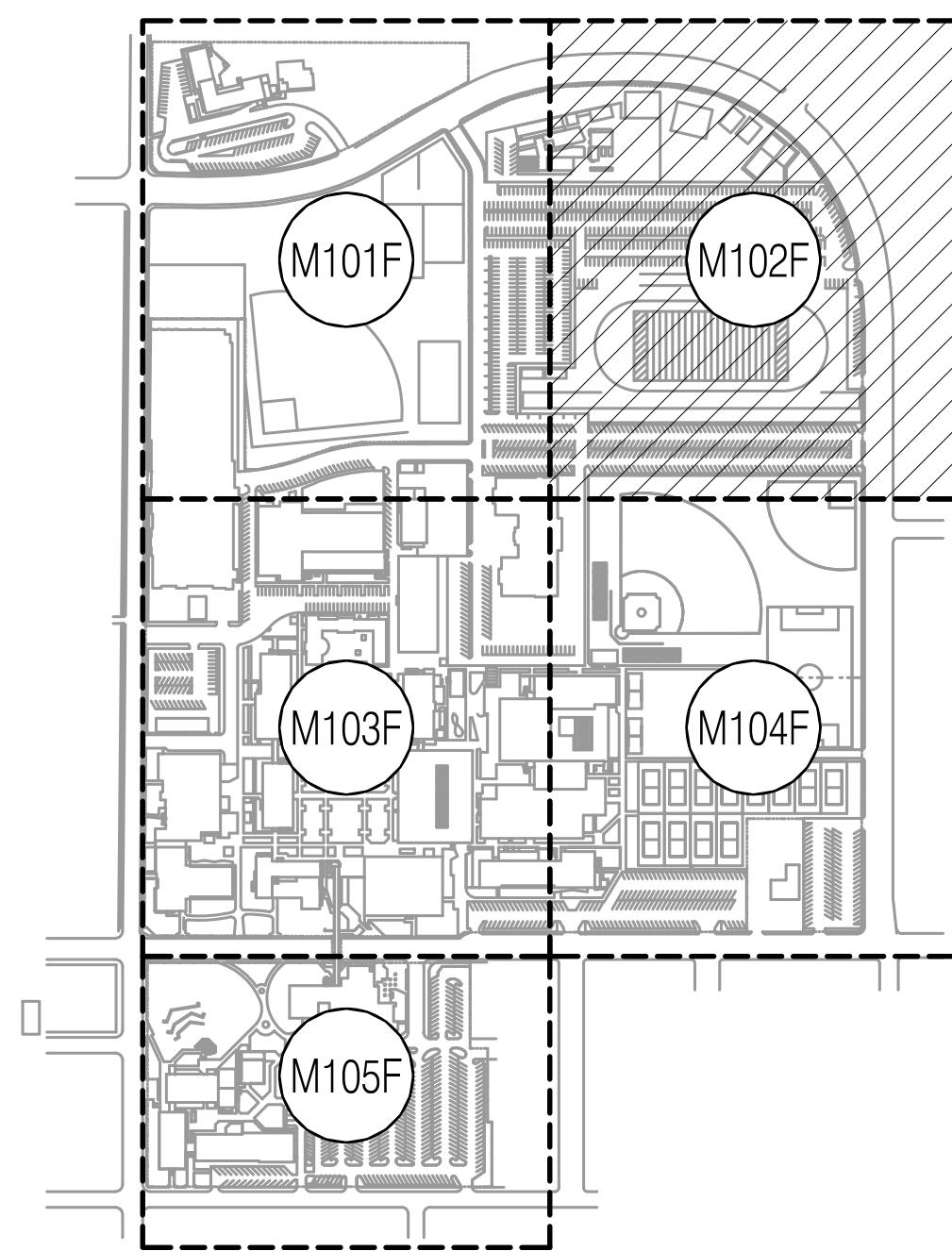
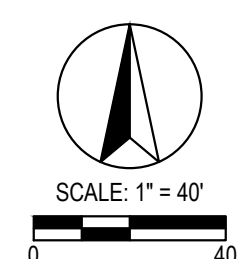
Enlarged Site
Proposed
Chilled Water
Plan

M101F

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PLOT: Wednesday, September 6, 2017 9:28:21 AM



NOTES
1 NO CHILLED WATER OR HEATING HOT WATER ROUTED ON THIS SECTION OF CAMPUS



KEY MAP

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Date September 6, 2018

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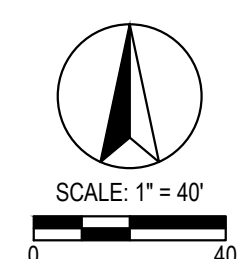
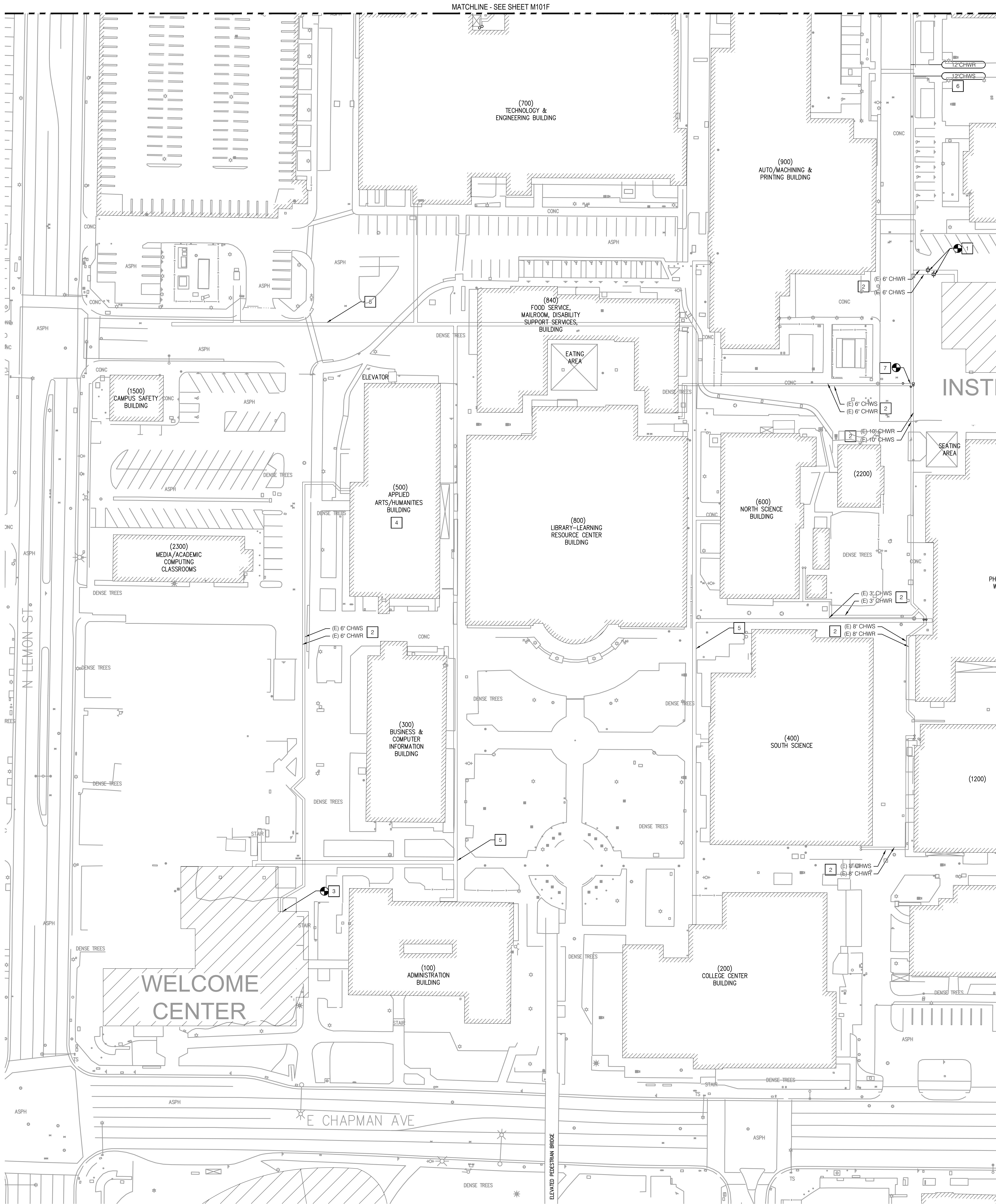
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Enlarged Site
Proposed Chilled
Water Plan

Sheet Number

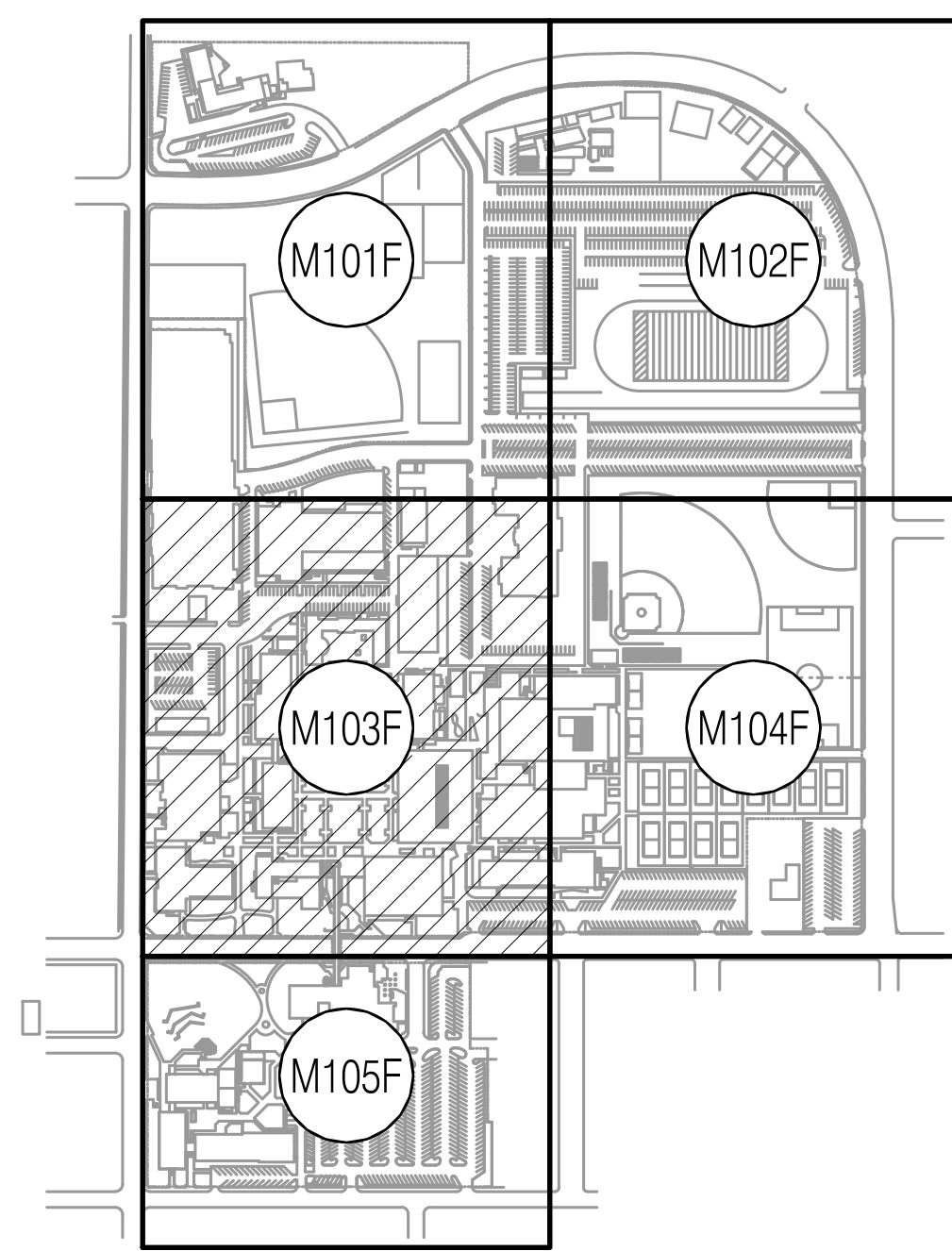
M102F

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PLOT: Wednesday, September 6, 2017 9:22:22 AM



NOTES

- 1 PROPOSED POINT OF CONNECTION TO CHILLED WATER LINES FOR PROPOSED INSTRUCTIONAL BUILDING. EXTEND 6" LINES IN TO THE BUILDING.
- 2 EXISTING CAMPUS DIRECT BURIED CHILLED WATER LINES.
- 3 PROPOSED POINT OF CONNECTION TO PROPOSED WELCOME CENTER BUILDING. CHILLED WATER LINE ORIGINATE IN CAMPUS TUNNEL SYSTEM.
- 4 EXISTING 300-TON CHILLER PLANT IN THE BASEMENT OF BUILDING 500 SERVING THE DISTRIBUTION PIPES IN THE CAMPUS TUNNEL SYSTEM.
- 5 EXISTING CAMPUS UTILITY TUNNEL SYSTEM WITH CHILLED WATER SUPPLY AND RETURN LINES.
- 6 REPLACE EXISTING 10" CHWS/R LINES WITH 12" PIPE TO SUPPORT INCREASED FLOW RATES.
- 7 POINT OF CONNECTION FOR NEW 12" CHWS/R LINES TO EXISTING 10" CHWS/R LINES.



KEY MAP

PSOMAS

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Consultant



P2S Engineering, Inc.

5000 East Spring Street, 8th Floor
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T 562.497.2999 F 562.497.2990

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Project Title

SITE UTILITY

Owner

FULLERTON COLLEGE



321 E CHAPMAN AVENUE
FULLERTON, CA. 92832-2095

Revisions

Number	Description	Date

Designed

Drawn

Checked

Approved

Date September 6, 2018

Submittal

Scale 1"=40'

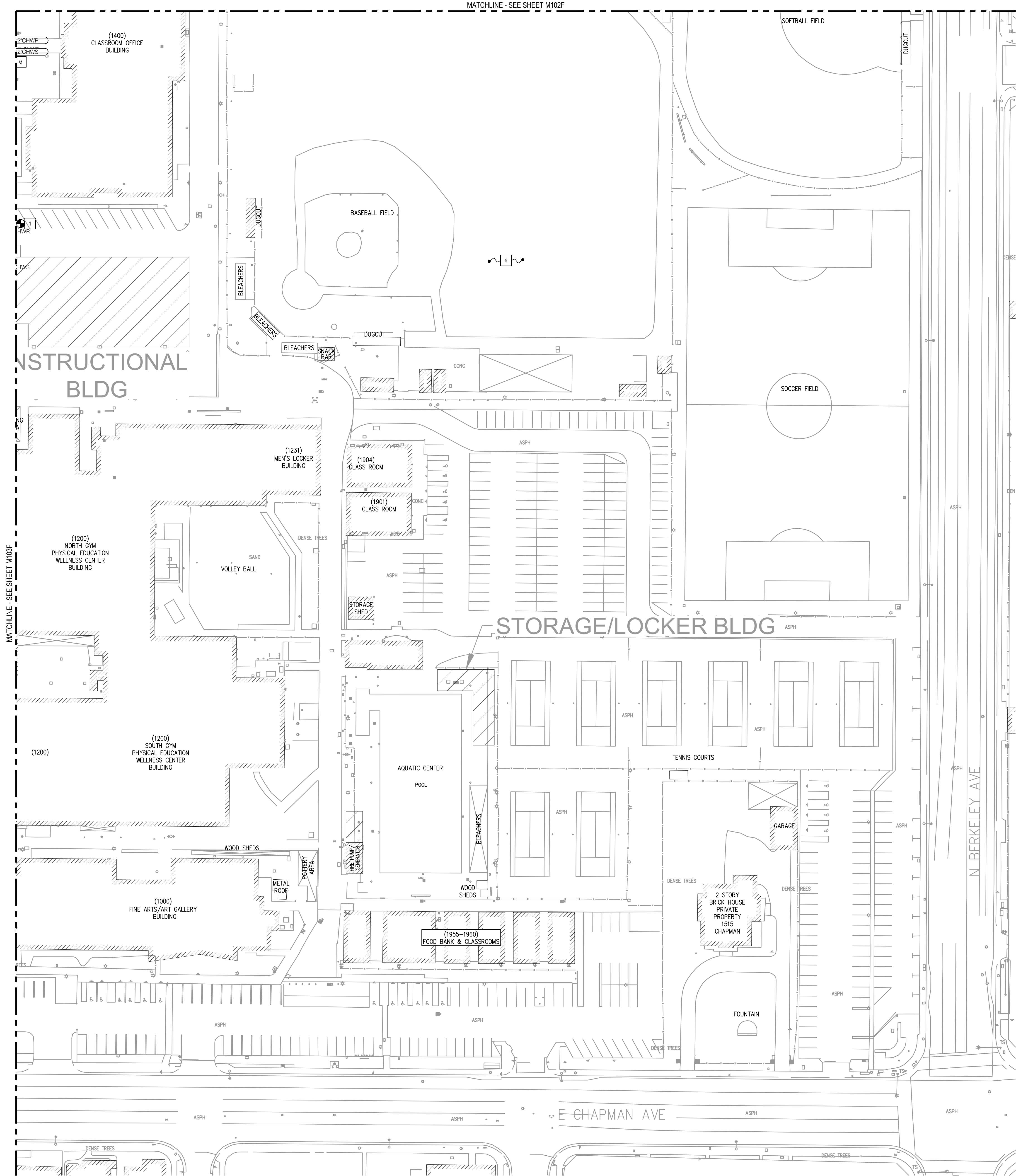
Sheet Title

Enlarged Site
Proposed Chilled
Water Plan

Sheet Number

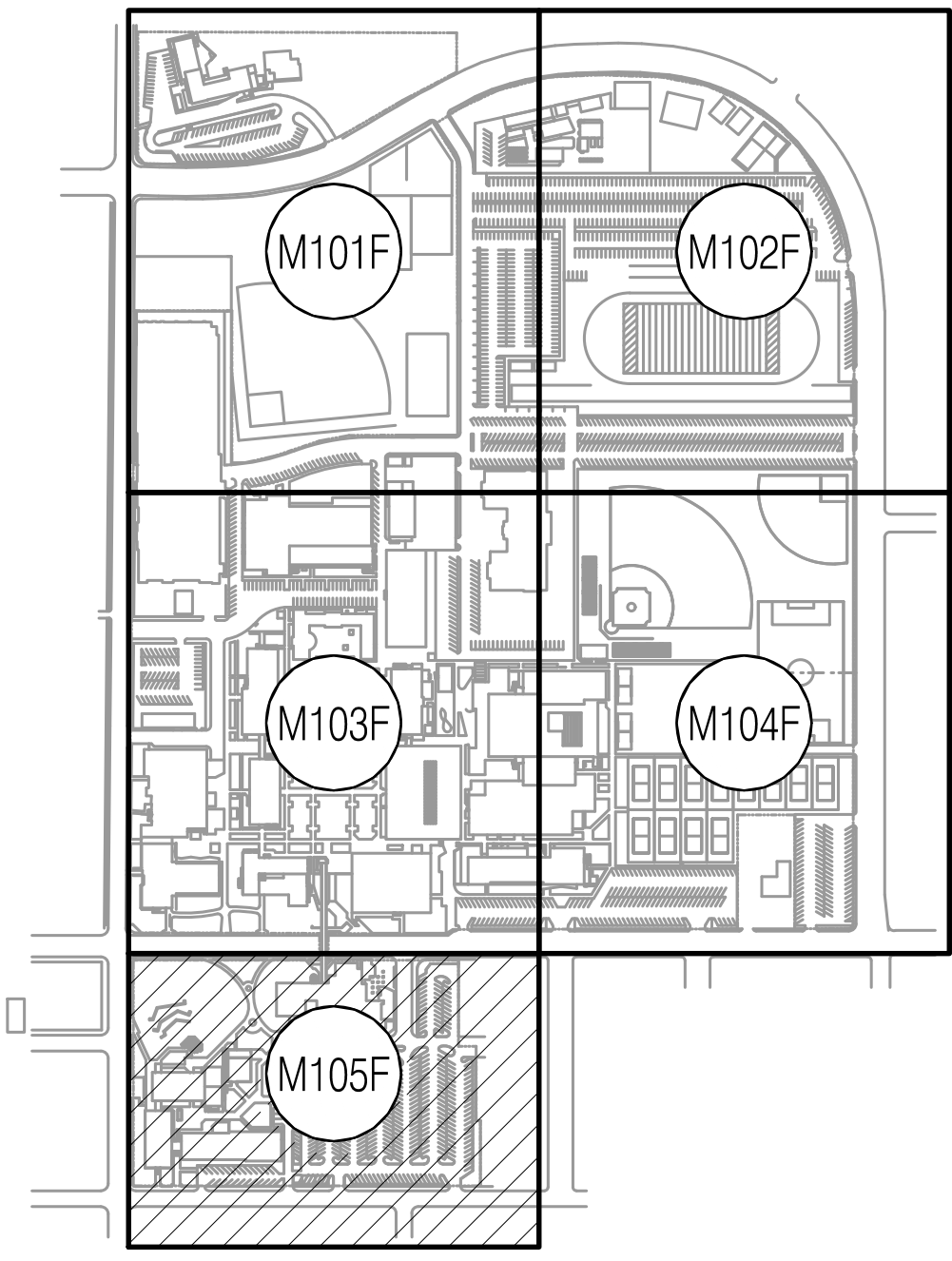
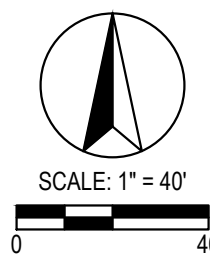
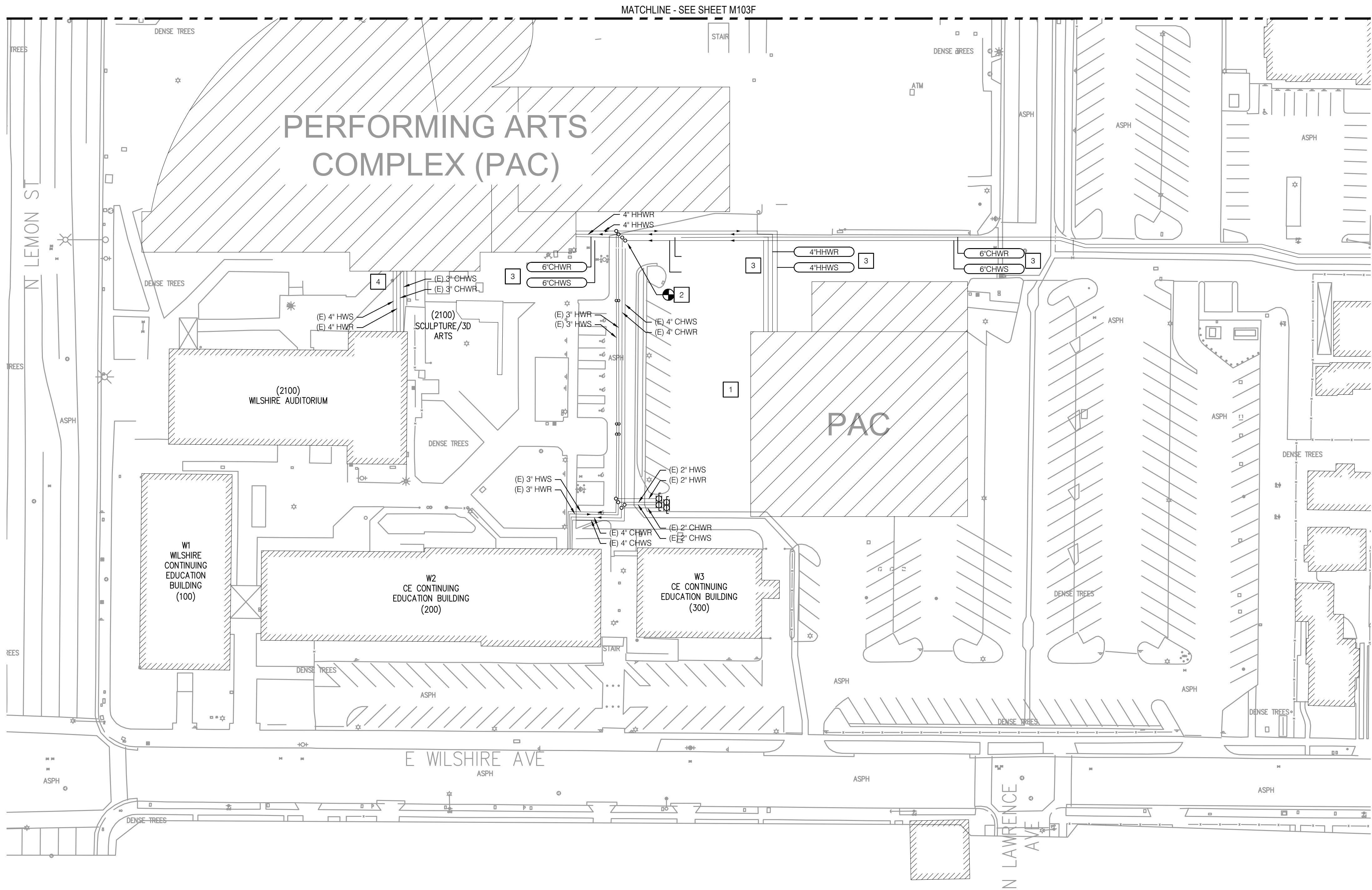
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- NOTES
- 1 PROPOSED LOCATION FOR 400-TON CHILLER PLANT TO SERVE SOUTH CAMPUS BUILDINGS.
 - 2 POINT OF CONNECTION TO THE EXISTING CAMPUS CHILLED WATER SYSTEM WITHIN THE EXISTING VAULT.
 - 3 PROPOSED CHWS/R OR HHWS/R LINES FOR FUTURE BUILDINGS.
 - 4 PROPOSED POC FOR CHWS/R OR HHWS/R LINES FOR BUILDING 2100.



KEY MAP

P S O M A S

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Scale

1"=40'

Sheet Title

Enlarged Site
Proposed Chilled
And Heating Hot
Water Plan

Sheet Number

M105F

P2S No. 8723

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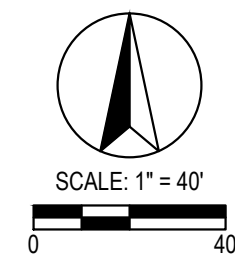
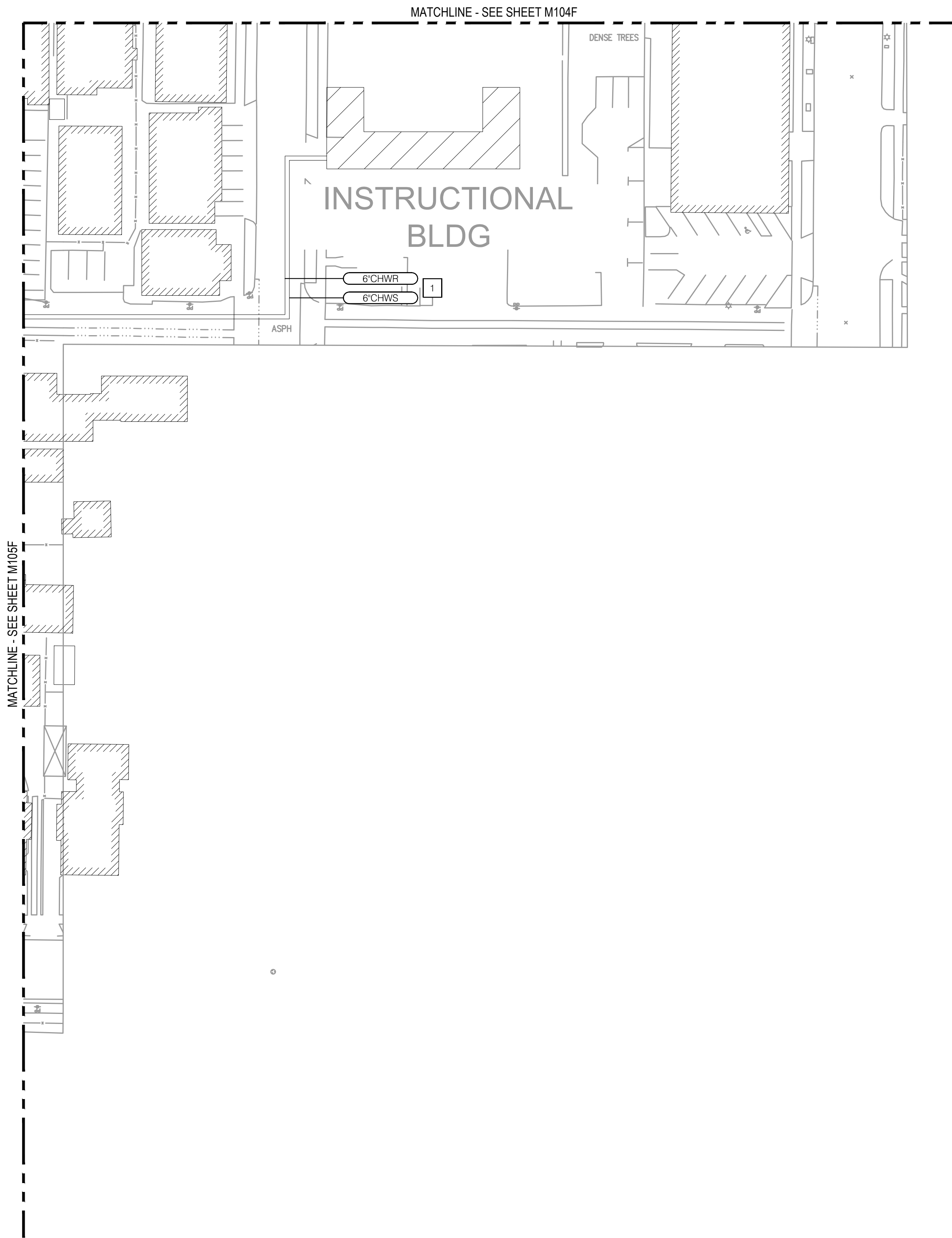
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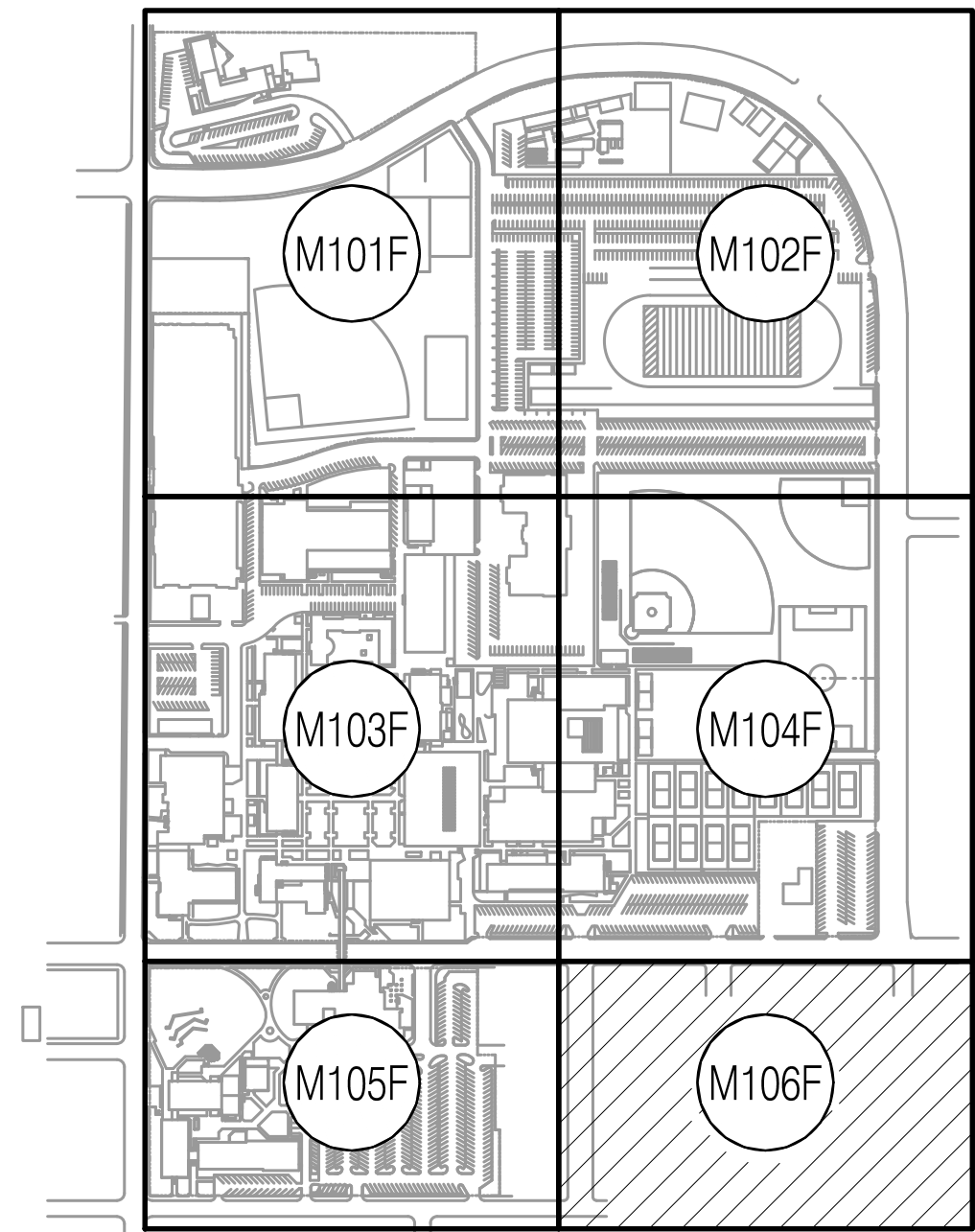
D

E



NOTES

- 1 PROPOSED CHWS/R LINES FOR INSTRUCTIONAL BUILDING.



KEY MAP

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M106F