FIRE PROTECTION LEGEND, SYMBOLS & ABBREVIATIONS

(NOT ALL ABBREVIATIONS AND SYMBOLS ARE APPLICABLE TO THIS PROJECT)

FIRE PROTECTION GENERAL NOTES:

1. PROVIDE COMPLETE SPRINKLER SYSTEMS AS DESCRIBED HEREIN AND AS SHOWN ON THE DRAWINGS. THE WORK COVERED UNDER THIS CONTRACT INCLUDES THE FURNISHING OF ALL EQUIPMENT, LABOR, AND MATERIALS TO PROVIDE A COMPLETE SYSTEM IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ASSOCIATED CODES.
2. PIPE HANGERS SHALL COMPLY WITH THE INTERNATIONAL BUILDING CODE AND NFPA REQUIREMENTS.
3. ALL FIRE SUPPRESSION SYSTEM WORK, INCLUDING DEMOLITION, FABRICATION, AND INSTALLATION REQUIRE ENGINEER'S RELEASE OF SHOP DRAWINGS PRIOR TO THE COMMENCEMENT OF ANY WORK.
4. THE LAYOUT ON THE DRAWINGS ARE DIAGRAMMATIC. SEE ARCHITECTURAL PLANS AND ELECTRICAL LIGHTING PLANS FOR COORDINATION AND NEW LAYOUT OF FIRE PROTECTION PIPING.

ABBREVIATIONS:

(A)	ABANDON EXISTING
AHJ	AUTHORITY HAVING JURISDICTION
AC	ABOVE CEILING
AD	ACCESS DOOR
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISH FLOOR
AP	ACCESS PANEL
AC	ABOVE CEILING
BF	BELOW FLOOR
BG	BELOW GRADE
CFH	CUBIC FOOT PER HOUR
CFM	CUBIC FOOT PER MINUTE
DCBP	DOUBLE CHECK (ASSEMBLY) BACKFLOW PREVENTOR
DBF	DOWN BELOW FLOOR
DIA	DIAMETER
EX	EXISITING
ETR	EXISTING TO REMAIN
FC	FLEXIBLE CONNECTOR
FP	FIRE PROTECTION
FFE	FINISHED FLOOR ELEVATION
FT	FEET
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GC	GENERAL CONTRACTOR
IE	INVERT ELEVATION
IN	INCHES
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MIN	MINIMUM
NC	NORMALLY CLOSED
NO	NORMALLY OPENED
OD	OUTSIDE DIAMETER
P	PUMP
PC	PLUMBING CONTRACTOR
PD	PUMP DISCHARGE
PRES	PRESSURE
PRV	PRESSURE REDUCING VALVE
PS	PRESSURE SWITCH
PSIA	POUNDS PER SQUARE INCH, ABSOLUTE
PSIG	POUNDS PER SQUARE INCH, GAGE
RPM	REVOLUTIONS PER MINUTE
RZBP PREVENTOR	REDUCED (PRESSURE) ZONE BACKFLOW
SC	SITE CONTRACTOR
SF	SQUARE FOOT
TOS	TOP OF STEEL
(X)	REMOVE EXISTING

PIPING SYSTEM IDENTIFICATION:

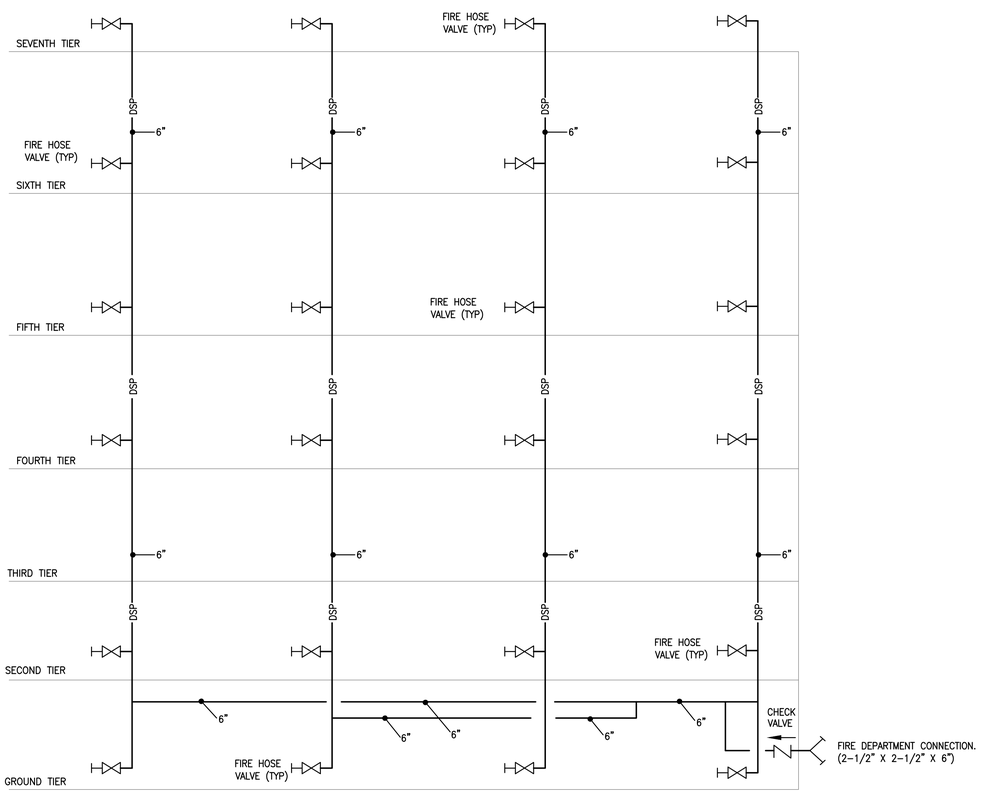
—— FP ——	EXISTING PIPING TO REMAIN
— — FP — —	EXISTING PIPING TO BE REMOVED
—— FP ——	FIRE PROTECTION PIPING
—— DSP ——	DRY SPRINKLER PIPING

ANNOTATION IDENTIFICATION:

- REVISION AREA
- REVISION NUMBER
- KEYED NOTE
- DEMOLITION KEYED NOTE
- POINT OF DEMOLITION
- DETAIL NUMBER / DRAWING NUMBER
- POINT OF CONNECTION TO EXISTING
- EQUIPMENT ABBREVIATION / EQUIPMENT NUMBER
- SECTION LETTER / DRAWING NUMBER

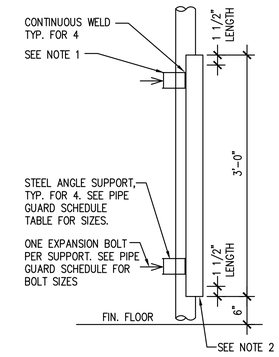
PIPING ACCESSORIES/EQUIPMENT IDENTIFICATION:

- NEW CONCEALED SPRINKLER
- NEW UPRIGHT PENDANT SPRINKLER
- NEW SIDEWALL SPRINKLER
- EXISTING SPINKLER TO REMAIN
- EXISTING SPRINKLER TO BE REMOVED
- UNION OR FLANGED CONNECTION
- SHUT OFF VALVE
- CHECK VALVE
- DRAIN VALVE
- PRESSURE REGULATING VALVE
- PRESSURE REDUCING VALVE
- TWO-WAY MOTORIZED VALVE
- THREE-WAY MOTORIZED VALVE
- SOLENOID VALVE
- STRAINER
- PRESSURE GAUGE
- END CAP
- EXP — EXPANSION DEVICE
- EXPANSION LOOP
- FLEXIBLE CONNECTION
- PIPE ANCHOR
- PIPE ALIGNMENT GUIDE
- PIPE ELBOW UP (RISER)
- PIPE ELBOW DOWN (DROP)
- BOTTOM TEE CONNECTION
- TS — TEMPERATURE SWITCH
- HEAT TRACING ON PIPING
- PUMP
- BACKFLOW PREVENTER
- BREAK IN LINE
- FS — WATER FLOW SWITCH
- TS — TAMPER SWITCH
- TS — VALVE WITH TAMPER SWITCH
- CHECK VALVE
- FDC — FIRE DEPARTMENT CONNECTION



FIRE PROTECTION SYSTEM PIPING RISER DIAGRAM

SCALE: NTS



NOTES:

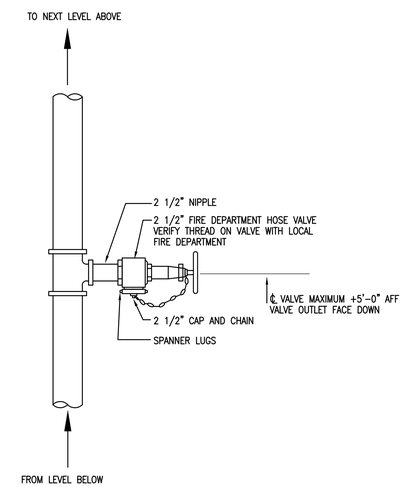
1. INDICATED STEEL ANGLE SIZE SHALL BE PLACED ON THE WALL OR COLUMN FOR ANCHORING.

   (*) ONE LEG OF THE ANGLE IS NOT SIZED. CONTRACTOR SHALL SELECT THE PROPER LEG SIZE TO ACCOMODATE THE DISTANCE REQUIRED FOR PIPE GUARD PROJECTION.
2. SPLIT SCHEDULE 40 STANDARD WEIGHT PIPE FOR GUARD. WELD TO STEEL ANGLE SUPPORTS.
   a. INSIDE DIA. OF GUARD PIPE SHALL BE TWO INCHES LARGER THAN THE SERVICE PIPE FOR UP TO 5"ø.
   b. INSIDE DIA. OF GUARD PIPE SHALL BE ONE INCH LARGER THAN THE SERVICE PIPE FOR 6"ø AND ABOVE.
   c. USE ½" THICK BENT PLATE FOR SERVICE PIPES WITH DIAMETER GREATER THAN 10".
3. ALL MATERIALS SHALL BE GALVANIZED AND PAINTED AFTER INSTALLATION.
4. COORD. PROPER SIZED OPENINGS FOR CLEAN OUTS AT SERVICE PIPES.
5. THIS DETAIL APPLIES TO ALL RISERS SUBJECT TO VEHICULAR BARRIER LOADING.

PIPE GUARD SCHEDULE				
PIPE GUARD SIZE	STEEL ANGLE SUPPORT		EXPANSION BOLT	
	SIZE	LENGTH	DIAMETER	LENGTH
7" & BELOW	4x*x5/16	0-4"	5/8"	3 1/2"
8" & ABOVE	4x*x5/16	0-4"	3/4"	4"

PIPE GUARD DETAIL

SCALE: NTS



TYPICAL DETAIL FOR DRY, MANUAL STANDPIPE

SCALE: NTS

TimHaahs

Timothy Haahs & Associates, Inc.
550 Township Line Road
Suite 100
Blue Bell, PA 19422
T. 484.342.0200
F. 484.342.0222
www.timhaahs.com

PROFESSIONAL SEAL

CONSULTANT

PROJECT NO.
PHL14119.00

PROJECT

Community Lot

PARKING GARAGE

Allentown, PA

SUBMISSIONS / REVISIONS

ISSUED FOR CONSTRUCTION
1/15/2015

NO.	DESCRIPTION	DATE
1	ADDENDUM #1	12/3/2014

NORTH

DRAWN:	KJB
REVIEWED:	KJB
DATE:	11/24/2014

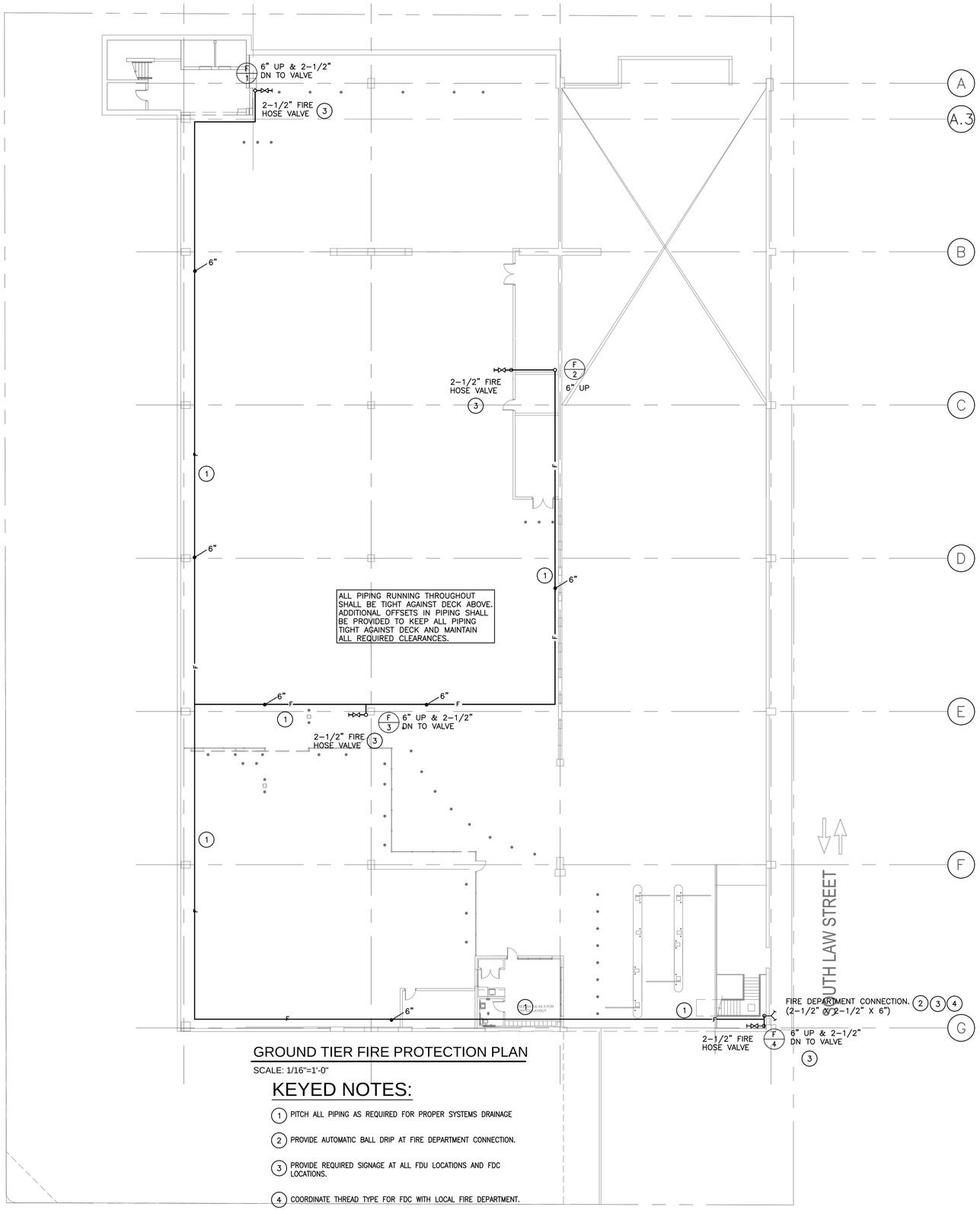
SHEET TITLE:

FIRE PROTECTION LEGEND, ABBREVIATIONS, SYMBOLS, AND GENERAL NOTES

SHEET NO.

FP-0.0

©2014 TIMOTHY HAAHS & ASSOCIATES, INC.

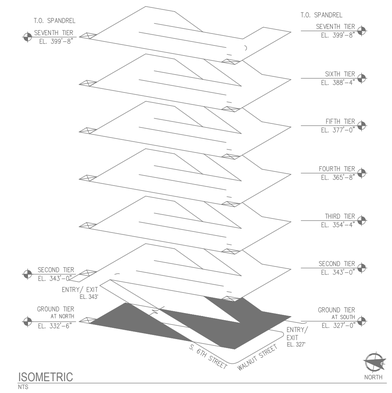


GROUND TIER FIRE PROTECTION PLAN

SCALE: 1/16"=1'-0"

KEYED NOTES:

1. PITCH ALL PIPING AS REQUIRED FOR PROPER SYSTEMS DRAINAGE
2. PROVIDE AUTOMATIC BALL DRIP AT FIRE DEPARTMENT CONNECTION.
3. PROVIDE REQUIRED SIGNAGE AT ALL FDU LOCATIONS AND FDC LOCATIONS.
4. COORDINATE THREAD TYPE FOR FDC WITH LOCAL FIRE DEPARTMENT.



KEY PLAN

TimHaahs

Timothy Haahs & Associates, Inc.
550 Township Line Road
Suite 100
Blue Bell, PA 19422
T. 484.342.0200
F. 484.342.0222
www.timhaahs.com

PROFESSIONAL SEAL

CONSULTANT

PROJECT NO.
PHL14119.00

PROJECT

Community Lot

PARKING GARAGE

Allentown, PA

SUBMISSIONS / REVISIONS

ISSUED FOR CONSTRUCTION
1/15/2015

NO.	DESCRIPTION	DATE

NORTH

DRAWN:	KJB
REVIEWED:	KJB
DATE:	11/24/2014

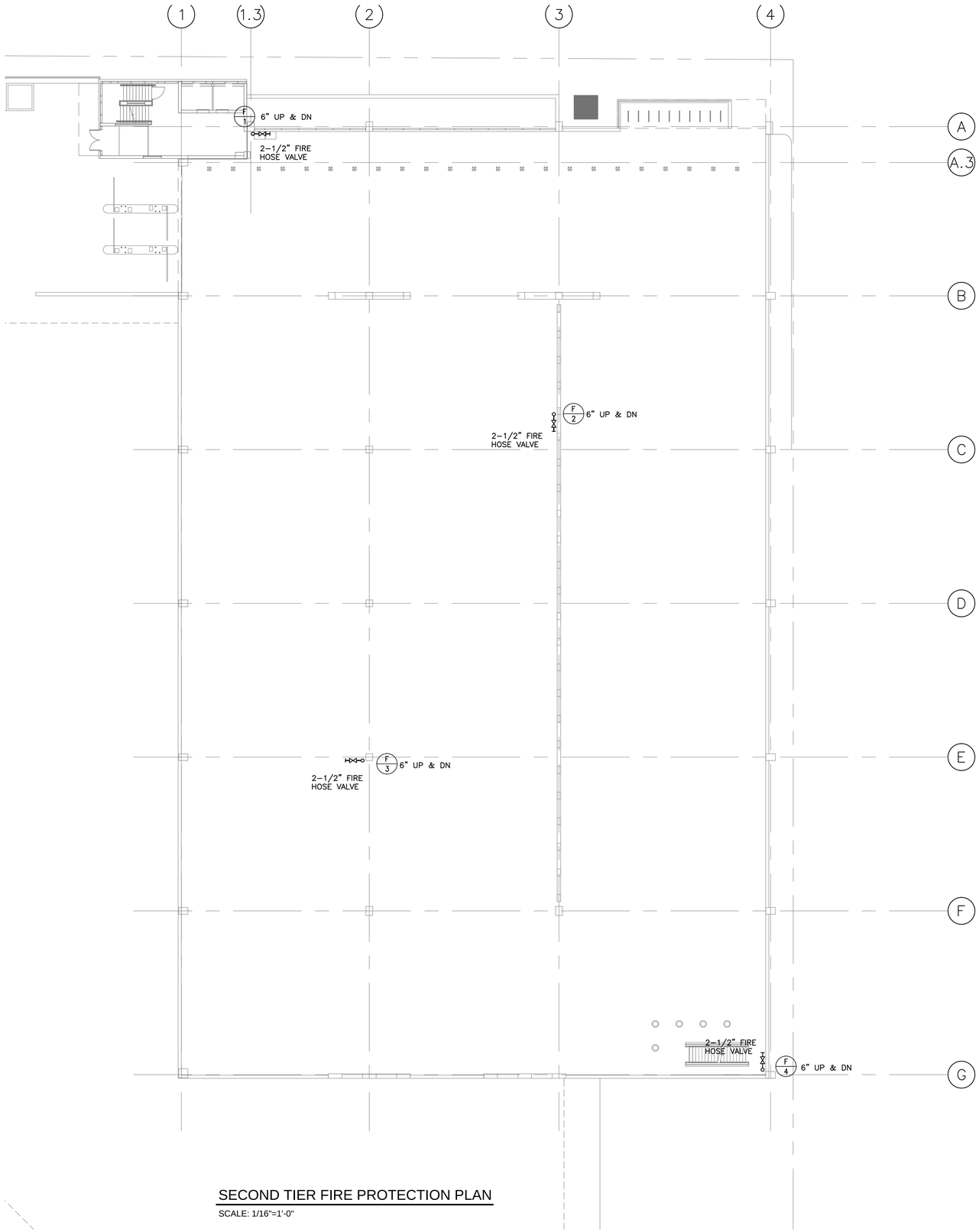
SHEET TITLE:

GROUND TIER FIRE PROTECTION PLAN

SHEET NO.

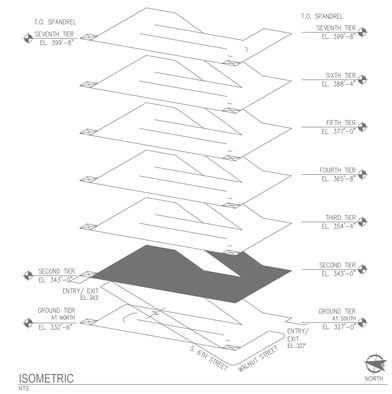
FP-1.1

©2014 TIMOTHY HAAHS & ASSOCIATES, INC.



SECOND TIER FIRE PROTECTION PLAN

SCALE: 1/16"=1'-0"



ISOMETRIC
NTS

KEY PLAN

KEYED NOTES:

1. PITCH ALL PIPING AS REQUIRED FOR PROPER SYSTEMS DRAINAGE
2. PROVIDE AUTOMATIC BALL DRIP AT FIRE DEPARTMENT CONNECTION.
3. PROVIDE REQUIRED SIGNAGE AT ALL FDU LOCATIONS AND FDC LOCATIONS.
4. COORDINATE THREAD TYPE FOR FDC WITH LOCAL FIRE DEPARTMENT.

TimHaahs

Timothy Haahs & Associates, Inc.
550 Township Line Road
Suite 100
Blue Bell, PA 19422
T. 484.342.0200
F. 484.342.0222
www.timhaahs.com

PROFESSIONAL SEAL

CONSULTANT

PROJECT NO.
PHL14119.00

PROJECT

Community Lot

PARKING GARAGE

Allentown, PA

SUBMISSIONS / REVISIONS

ISSUED FOR CONSTRUCTION
1/15/2015

NO.	DESCRIPTION	DATE

NORTH

DRAWN:	KJB
REVIEWED:	KJB
DATE:	11/24/2014

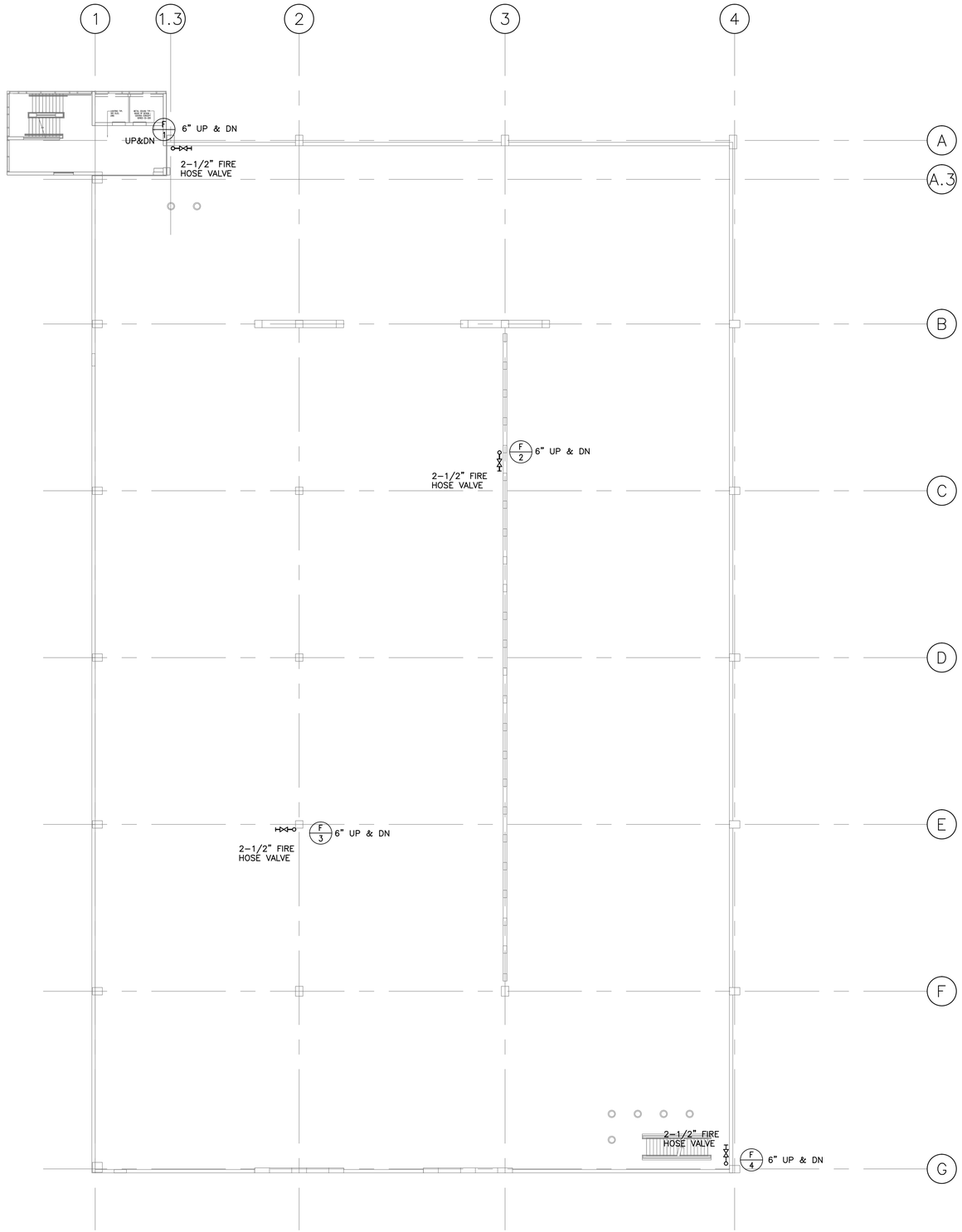
SHEET TITLE:

SECOND TIER FIRE PROTECTION PLAN

SHEET NO.

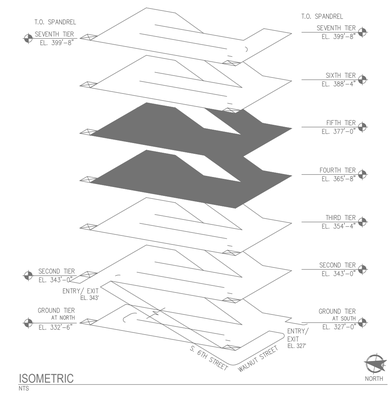
FP-1.2

©2014 TIMOTHY HAAHS & ASSOCIATES, INC.



TYPICAL TIER FIRE PROTECTION (THIRD THRU SIXTH)

SCALE: 1/16"=1'-0"



KEY PLAN

KEYED NOTES:

1. PITCH ALL PIPING AS REQUIRED FOR PROPER SYSTEMS DRAINAGE
2. PROVIDE AUTOMATIC BALL DRIP AT FIRE DEPARTMENT CONNECTION.
3. PROVIDE REQUIRED SIGNAGE AT ALL FDU LOCATIONS AND FDC LOCATIONS.
4. COORDINATE THREAD TYPE FOR FDC WITH LOCAL FIRE DEPARTMENT.

TimHaahs

Timothy Haahs & Associates, Inc.
550 Township Line Road
Suite 100
Blue Bell, PA 19422
T. 484.342.0200
F. 484.342.0222
www.timhaahs.com

PROFESSIONAL SEAL

CONSULTANT

PROJECT NO.
PHL14119.00

PROJECT

Community Lot

PARKING GARAGE

Allentown, PA

SUBMISSIONS / REVISIONS

ISSUED FOR CONSTRUCTION
1/15/2015

NO.	DESCRIPTION	DATE

NORTH

DRAWN:	KJB
REVIEWED:	KJB
DATE:	11/24/2014

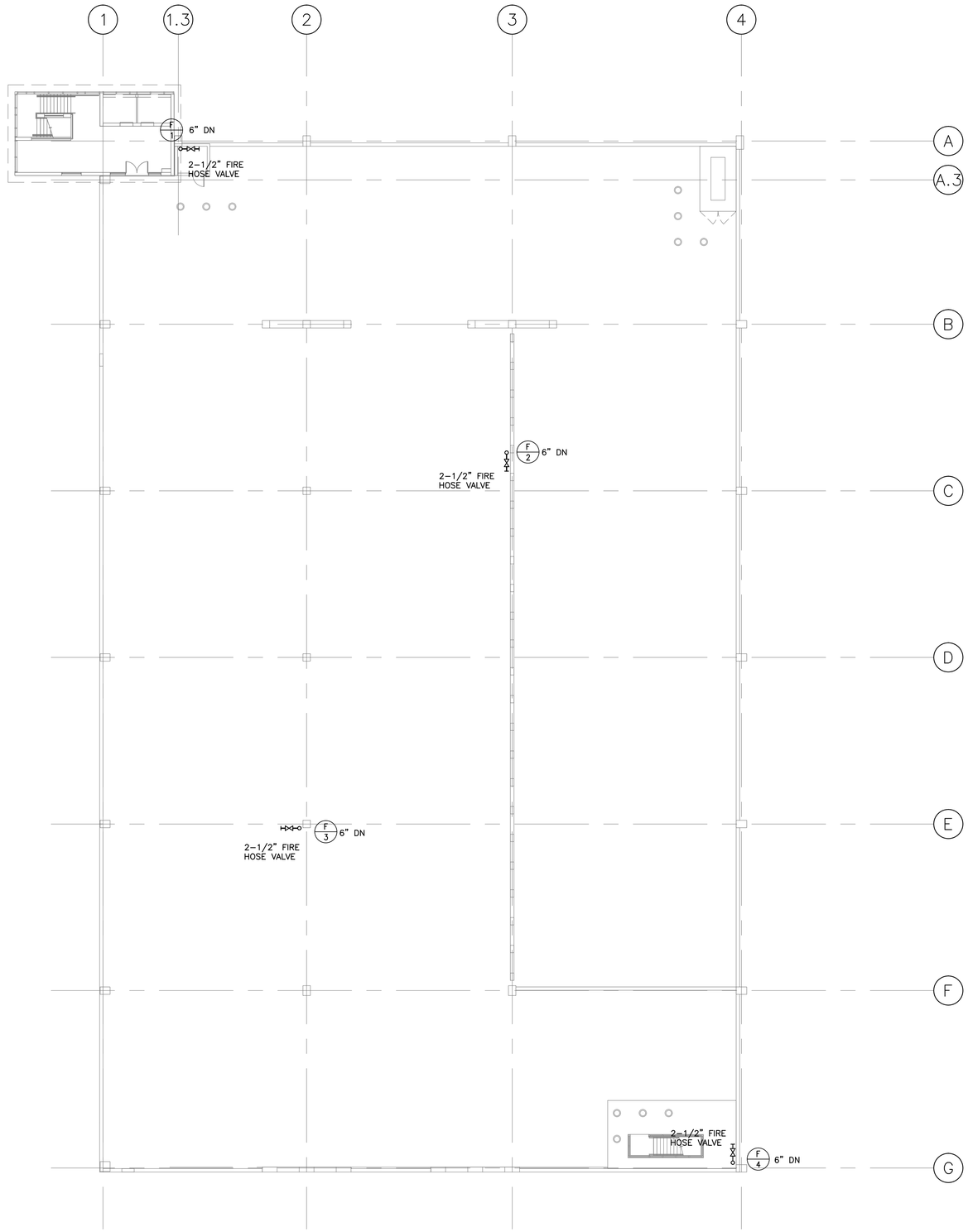
SHEET TITLE:

TYPICAL TIER FIRE PROTECTION PLA
(THIRD THRU SIXTH)

SHEET NO.

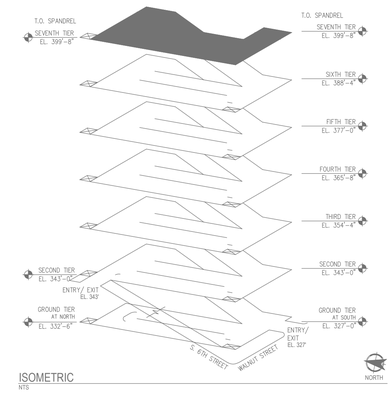
FP-1.4

©2014 TIMOTHY HAAHS & ASSOCIATES, INC.



SEVENTH TIER FIRE PROTECTION PLAN

SCALE: 1/16"=1'-0"



ISOMETRIC
NTS

KEY PLAN

KEYED NOTES:

1. PITCH ALL PIPING AS REQUIRED FOR PROPER SYSTEMS DRAINAGE
2. PROVIDE AUTOMATIC BALL DRIP AT FIRE DEPARTMENT CONNECTION.
3. PROVIDE REQUIRED SIGNAGE AT ALL FDU LOCATIONS AND FDC LOCATIONS.
4. COORDINATE THREAD TYPE FOR FDC WITH LOCAL FIRE DEPARTMENT.

TimHaahs

Timothy Haahs & Associates, Inc.
550 Township Line Road
Suite 100
Blue Bell, PA 19422
T. 484.342.0200
F. 484.342.0222
www.timhaahs.com

PROFESSIONAL SEAL

CONSULTANT

PROJECT NO.
PHL14119.00

PROJECT

Community Lot

PARKING GARAGE

Allentown, PA

SUBMISSIONS / REVISIONS

ISSUED FOR CONSTRUCTION
1/15/2015

NO.	DESCRIPTION	DATE
1	ADDENDUM #1	12/3/2014

NORTH

DRAWN:	KJB
REVIEWED:	KJB
DATE:	11/24/2014

SHEET TITLE:

SEVENTH TIER FIRE PROTECTION PLAN

SHEET NO.

FP-1.7

©2014 TIMOTHY HAAHS & ASSOCIATES, INC.