FIRE FLOW DESIGN CRITERIA	AHJ INFO:	
KALISPELL, MONTANA	GARY T. HOES FIRE PLANS EXAMINER CITY OF KALISPELL 201 1ST AVE. EAST KALISPELL, MT 59901 406-758-7736 GTHOES@KALISPELL.COM	DAVE DEDMAN FIRE CHIEF CITY OF KALISPELL 312 1ST AVE. EAST KALISPELL, MT 59901 406-758-7760 DDEDMAN@KALISPELL.COM
BUILDING AREA: CONSTRUCTION TYPE: BUILDING TYPE: DWELLINGS		
BUILDING REQUIRED FIRE FLOW BASED ON TABLE B105.1 FROM THE 2012 IFC:		1500 GPM
BUILDING REQUIRED FLOW DURATION BASED ON TABLE B105.1 FROM THE 2012 IFC:		2 HR

WATER SUPPLY INFO:
HYDRANT ADDRESS:
STATIC PRESSURE:
PITOT PRESSURE:
CALCULATED FLOW:

REQUIRED FLOW PER IFC @ 20 PSI: 1500 GPM
REQUIRED RESIDUAL PRESSURE: 20 PSI

NOTE: FIRE FLOW TEST WAS NOT PERFORMED WITHIN THE LAST SIX MONTHS AND A RESIDUAL PRESSURE WAS NOT MEASURED, A TEST IS SCHEDULED AND THE DATA WILL BE UPDATED AND PROVIDED TO AHJ UPON COMPLETION OF THE TEST.

CODE COMPLIANCE

BUILDING FIRE SPRINKLER SYSTEM IS DESIGNED IN ACCORDANCE WITH THE FOLLOWING CODES:

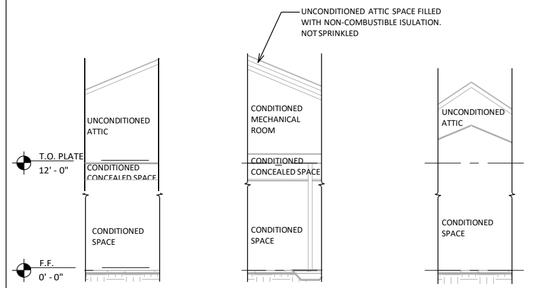
- 2012 INTERNATIONAL BUILDING CODE
- 2012 INTERNATIONAL FIRE CODE
- 2012 INTERNATIONAL MECHANICAL CODE
- 2012 INTERNATIONAL FUEL GAS CODE
- 2010 NATIONAL FIRE PROTECTION ASSOCIATION 72
- 2010 NATIONAL FIRE PROTECTION ASSOCIATION 13
- 2012 NATIONAL FIRE PROTECTION ASSOCIATION 99
- 2014 NATIONAL FIRE PROTECTION ASSOCIATION 70
- 2012 UNIFORM PLUMBING CODE

FIRE PROTECTION CONCEPT AND GENERAL REQUIREMENTS

1. THIS FIRE PROTECTION ENGINEERING CONCEPT HAS BEEN DEVELOPED BY A LICENSED PROFESSIONAL ENGINEER IN ACCORDANCE WITH RULE 24.183.1501 OF THE MONTANA (ARM).
2. THE CONCEPT SHALL BE FINALIZED WITH A FULLY EXECUTED SET OF FIRE PROTECTION SHOP DRAWINGS BY A PROPERLY QUALIFIED TECHNICIAN. SEE MT ARM 24.183.1501 FOR DEFINITION OF "QUALIFIED TECHNICIAN".
3. THE SPRINKLER SYSTEM SHOWN IS CONCEPTUAL AND DIAGRAMMATIC ONLY. THE DESIGNER SHALL VERIFY FLOW REQUIREMENTS SHOWN ON SHEET. SHOP DRAWINGS FOR SPRINKLER SYSTEMS MUST INCLUDE AS A MINIMUM: LAYOUT OF RISERS, CROSS-MAINS, BRANCH LINES, SPRINKLER HEADS, SIZING OF PIPE, HANGER LOCATIONS, AND HYDRAULIC CALCULATIONS, IN ACCORDANCE WITH THE DESIGN CONCEPT.
4. THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE COMPLETE FIRE SPRINKLING SYSTEMS, INCLUDING ALL ITEMS AS REQUIRED OR RECOMMENDED BY THE LOCAL AHJ.
5. ALL PIPING SHALL BE CONCEALED ABOVE CEILINGS EXCEPT IN AREAS WHERE NO CEILING OCCURS.
6. RUN SPRINKLING PIPING AS HIGH AS POSSIBLE IN SPACE ABOVE CEILING. PROVIDE OFFSETS UNDER STRUCTURAL MEMBERS AS REQUIRED.
7. IN AREAS WITH NO CEILING, PIPING TO BE RUN HIGH AS POSSIBLE TO COORDINATE WITH DUCTWORK.
8. FIRE PROTECTION SHOP DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO SUBMISSION TO AHJ.
9. FIRE SPRINKLER SYSTEM SHALL COMPLY WITH NFPA 13, ALL LOCAL APPLICABLE CODES, NFPA 99 AS WELL AS NFPA 30 WHERE APPLICABLE.
10. PIPE SLEEVES THROUGH FIRE-RATED FLOORS, WALLS, PARTITIONS, AND CEILINGS SHALL BE OF FIRE-RATED CONSTRUCTION. SPACE BETWEEN PIPE AND SLEEVE SHALL BE PACKED WITH U.L. LISTED FIRE PROOFING MATERIAL.
11. FIRE SPRINKLER HEADS IN INDIVIDUAL ROOMS TO BE RUN IN STRAIGHT LINE AND COORDINATED WITH CEILING SYSTEM.
12. FIRE SPRINKLER CONTRACTOR SHALL COORDINATE HIS LOCATION OF PIPING VERY CAREFULLY WITH THE ARCHITECTURAL, STRUCTURAL AND MECHANICAL PLANS.
13. HEAD GUARDS TO BE PROVIDED IN ACCORDANCE WITH NFPA
14. FIRE SPRINKLER TEST VALVES TO BE LOCATED IN AREAS CONVENIENT TO MAINTENANCE PERSONNEL.
15. FIRE SPRINKLER TEST VALVE LINES SHALL BE RUN CONCEALED IN WALL.
16. FIRE SPRINKLER CONTRACTOR SHALL OBTAIN LATEST TEST PRESSURE DATA FROM LOCAL WATER DEPARTMENT FOR CALCULATIONS.

FIRE PROTECTION NOTES:

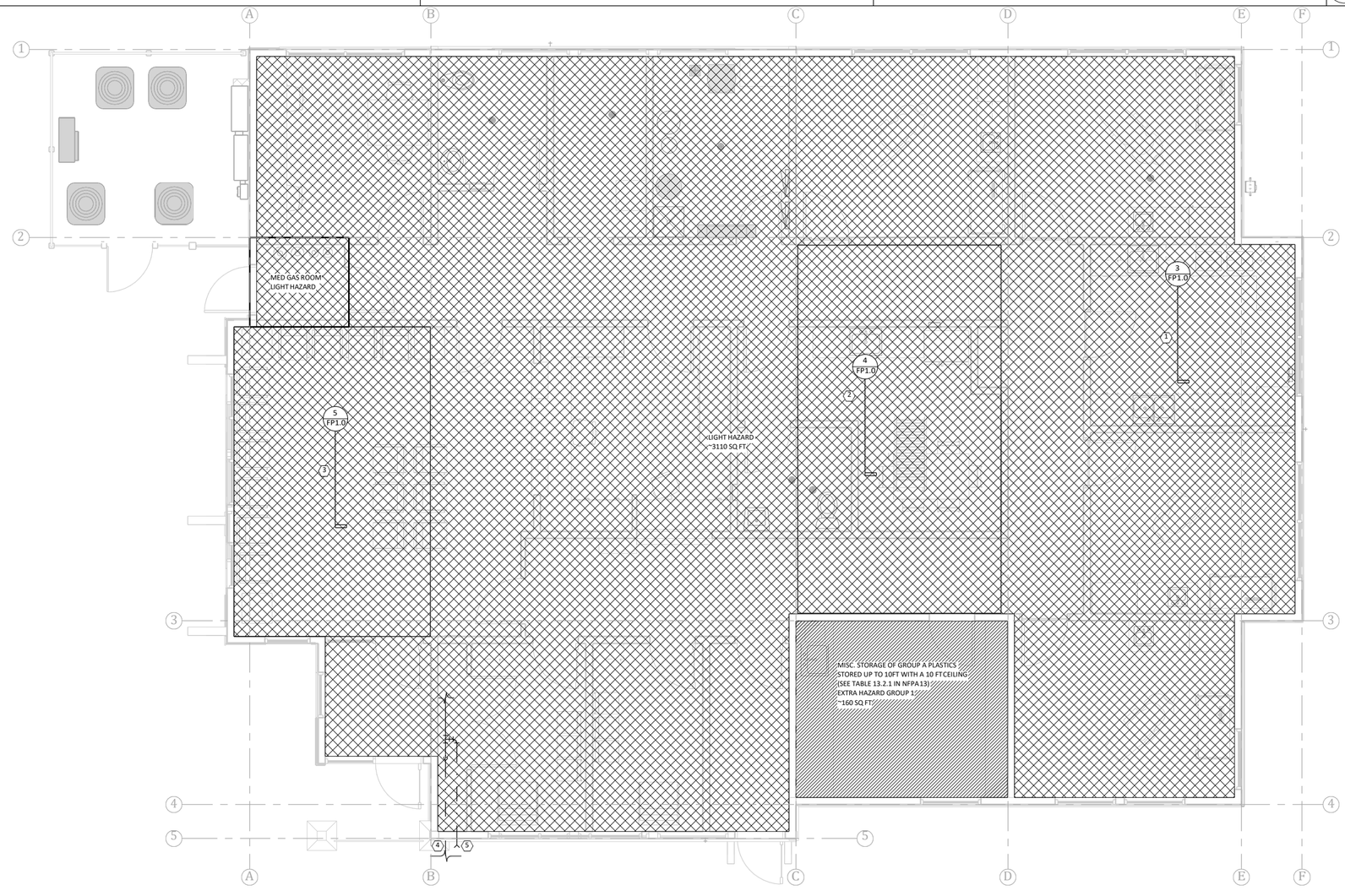
1. THE SPRINKLER CONTRACTOR SHALL BE CURRENTLY LICENSED IN THE SATE OF MONTANA
2. THE SPRINKLER CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE HYDRAULICALLY CALCULATED WET SPRINKLER SYSTEM. DESIGN SHALL BE IN ACCORDANCE WITH THE CURRENT LOCAL CODES AND AHJ
3. OCCUPANCY CLASSIFICATION:
   LIGHT HAZARD GROUP: OFFICE SPACE
   LIGHT HAZARD GROUP: MED GAS ROOM
   ORDINARY HAZARD GROUP 1: MECHANICAL ROOM
   EXTRA HAZARD GROUP 1: LAB/STORAGE
4. ALL SPRINKLER MAINS AND BRANCHES SHALL BE ROUTED IN SPACE ABOVE THE CEILING IN ALL SPACES OUT SIDE THE FIRE ROOM. ELEVATIONS OF MAINS AND BRANCHES SHALL NOT BE SET BASED ON THE LOWEST STRUCTURAL MEMBER, BUT SHALL FOLLOW THE CONTOUR OF THE STRUCTURE IN ORDER TO PROVIDE THE MAXIMUM FLOOR TO CEILING HEIGHT THROUGHOUT.
5. THE SPRINKLER CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR PRIOR TO SUBMITTAL OF SHOP DRAWINGS OR FABRICATION OF PIPING SPOOLS.
6. SPRINKLER HEADS IN FINISHED CEILING AREAS SHALL BE WHITE COORDINATE WITH GC AND CEILING SUBCONTRACTOR FOR REQUIRED COLORS IN AREAS WITH NO-WHITE CEILINGS.
7. SPRINKLER HEADS IN UNFINISHED AND EXPOSED CEILING AREAS SHALL BE UPRIGHT WITH A 'TEE AND PLUG' FOR FUTURE TURN DOWN.
8. THE MINIMUM SPRINKLER RISER SHALL BE 4 ' FROM THE BASE OF THE RISER TO THE TOP OF THE RISER, INCLUDING ALL VALVES, ' BACKFLOW PREVENTER, ETC.
9. ALL SPRINKLER PIPING THAT IS THREADED SHALL BE SCHEDULE 40. ASTM A53 OR A106. ALL SPRINKLER PIPING LESS THAN 2-1/2" IN DIAMETER SHALL BE SCHEDULE 40. ASTM A53 OR A106. SPRINKLER PIPING 2-1/2" AND LARGER SHALL BE SCHEDULE 10 OR THICKER. ASTM A53 OR A106. ALL SPRINKLER SUPPLY PIPING FROM THE STREET MAIN TO THE SPRINKLER RISER SHALL BE SCHEDULE 40.
10. THE CONTRACTOR SHALL OBTAIN NEW FLOW TEST DATA ON THE CLOSEST CITY WATER MAIN AND SUBMIT DATA WITH CALCULATIONS.
11. PROVIDE THE FOLLOWING FLOW TEST DATA ON THE PLANS FOR HYDRANTS USED TO MEET THE 500 FEET OR LESS HOSE LAY REQUIREMENT
    IN ACCORDANCE WITH THE LOCAL AHJ. SHOW FLOW TEST DATA NEXT TO THE HYDRANT TESTED. FLOW TEST SHALL HAVE BEEN CONDUCTED WITHIN THE LAST SIX MONTHS.
    a. FLOW AND PRESSURE
    b. STATIC PRESSURE: _____PSI
    c. RESIDUAL PRESSURE: _____PSI (20 PSI MIN.)
    d. FLOW: _____GPM
    e. PARTY RESPONSIBLE FOR TAKING TEST (NAME & ADDRESS) _____
    f. DATE TEST TAKEN: _____ & TIME TEST TAKEN_____A.M. / P.M.
    g. ELEVATION OF TEST HYDRANT:
12. THE SPRINKLER CONTRACTOR SHALL REVIEW LOCATIONS OF FIRE HYDRANTS AND FIRE DEPARTMENT CONNECTIONS WITH THE LOCAL AHJ PRIOR TO ROUTING ANY PIPE.
13. ALL DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE LOCAL AHJ, AND TO JACKOLA ENGINEERING AND RECEIVE APPROVAL FROM BOTH, PRIOR TO INSTALLATION



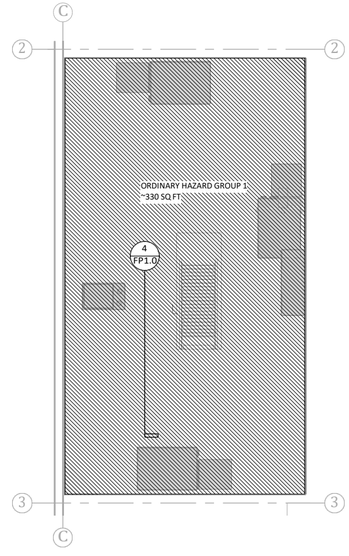
3 GENERAL SECTION
1/8" = 1'-0"

4 SECTION @ MECH. ROOM
1/8" = 1'-0"

5 SECTION @ LOBBY
1/8" = 1'-0"



1 FIRE PROTECTION CONCEPTUAL PLAN
1/4" = 1'-0"



2 MECHANICAL ROOM
1/4" = 1'-0"

LIGHT HAZARD	(3110) SF	.10 GPM/SF
ORDINARY HAZARD 1	(330) SF	.15 GPM/SF
EXTRA HAZARD 1	(160) SF	.30 GPM/SF

*SQUARE FOOT VALUES ARE APPROXIMATE

CONCEPTUAL FIRE PLAN KEYNOTES

1	SEE SECTION 3/FP1.0 FOR SECTION, SPRINKLE CONCELAED SPACES AND ATTIC PER NFPA
2	SEE SECTION 4/FP1.0 FOR SECTION, SPRINKLE CONCELAED SPACES AND MECHANICAL ROOM PER NFPA
3	SEE SECTION 5/FP1.0 FOR SECTION, SPRINKLE CONCELAED SPACES PER NFPA
4	4" FIRE SERVICE, SEE CIVIL FOR CONTINUATION OF PIPING
5	FDC, CONSULT WITH FIRE DEPARTMENT FOR SPECIFIC FDC TYPE

SHEET
FIRE PROTECTION CONCEPTUAL PLAN

FP1.0