

# INFORMATION PAPER



April 2, 2020

## Cross-Country Ski Center Snowmaking Project

This information paper provides supporting documentation to the April 2, 2020 decision paper in which staff is seeking board approval to move forward with the Phase 1 and 2 of the Cross-Country Ski Center snowmaking project final design, permitting and construction. The following documents regarding cross-country snowmaking have been prepared by management as well as subcommittees and consists of:

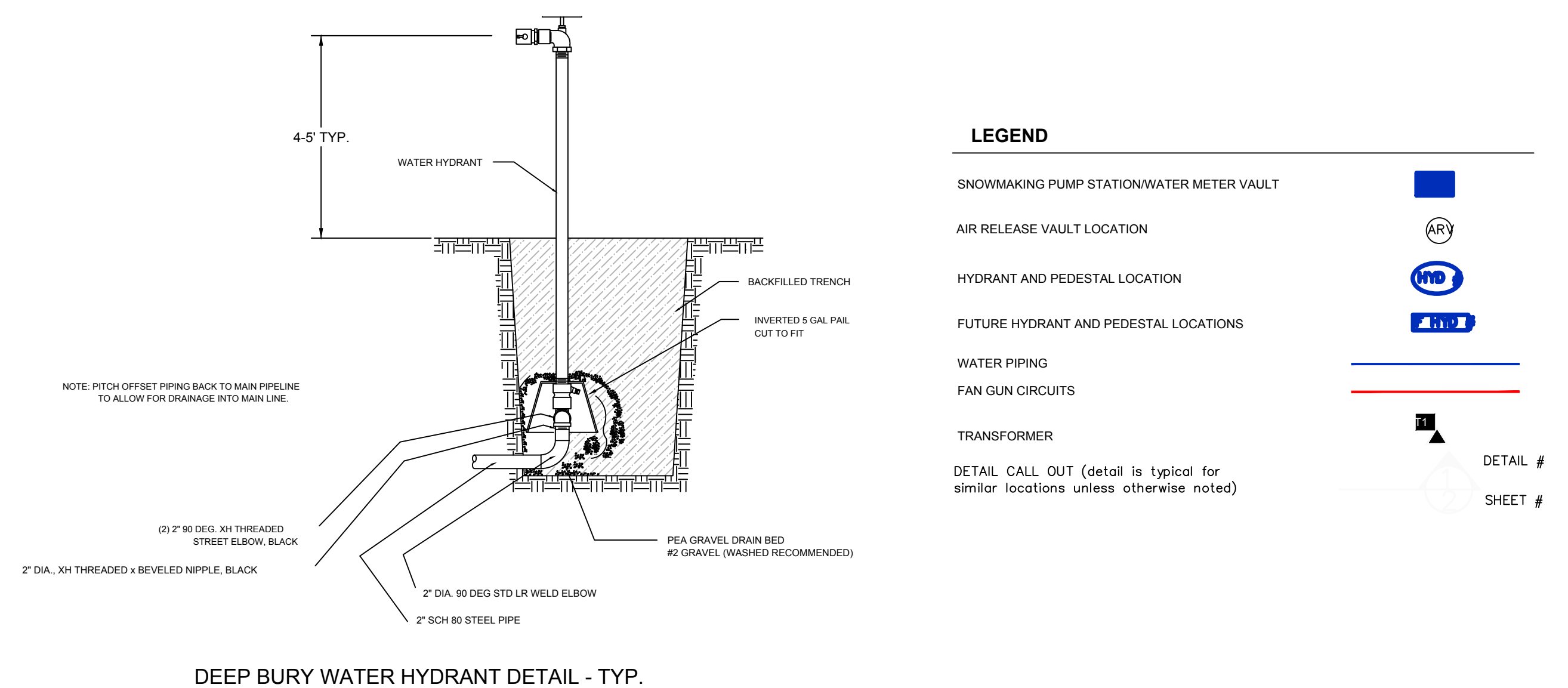
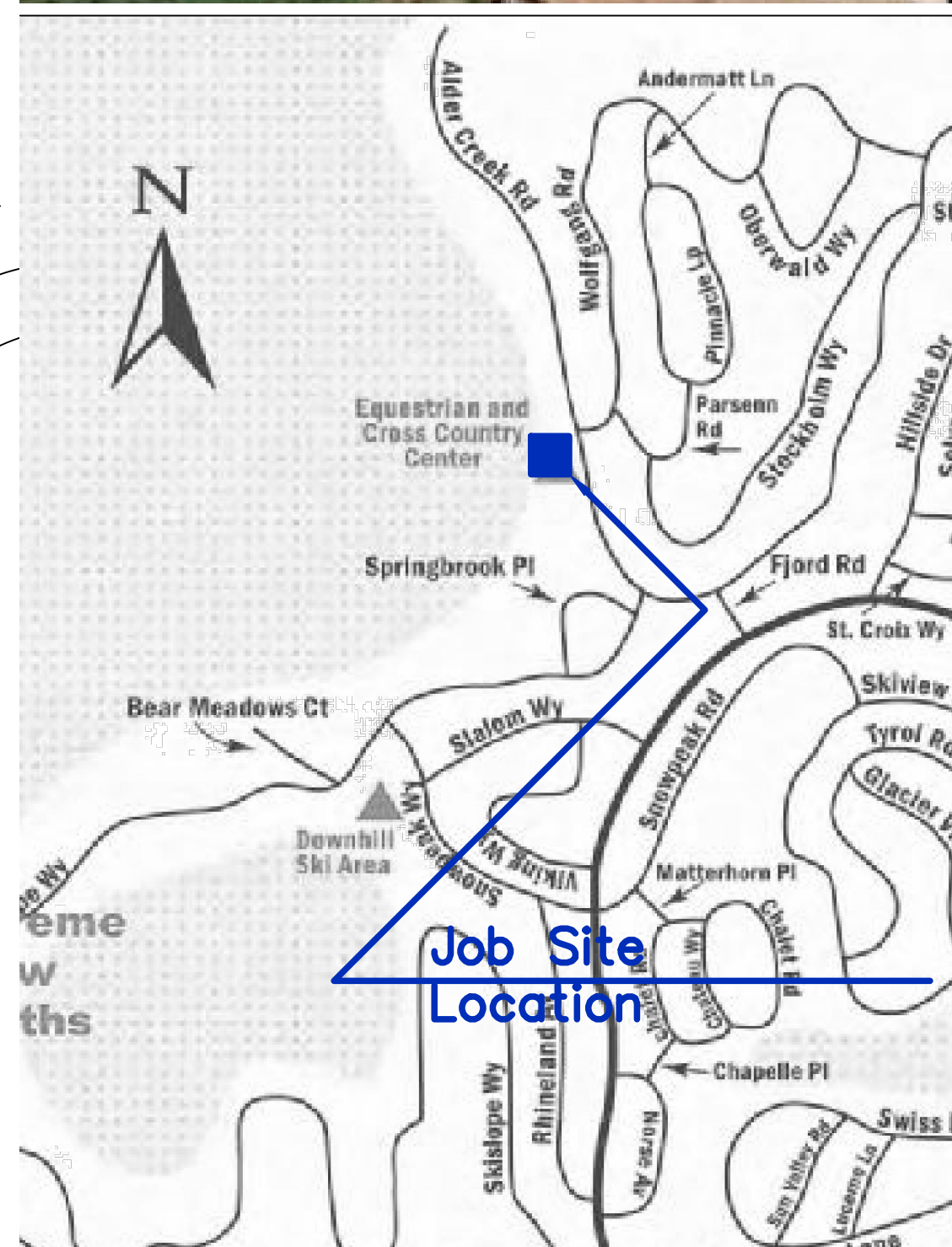
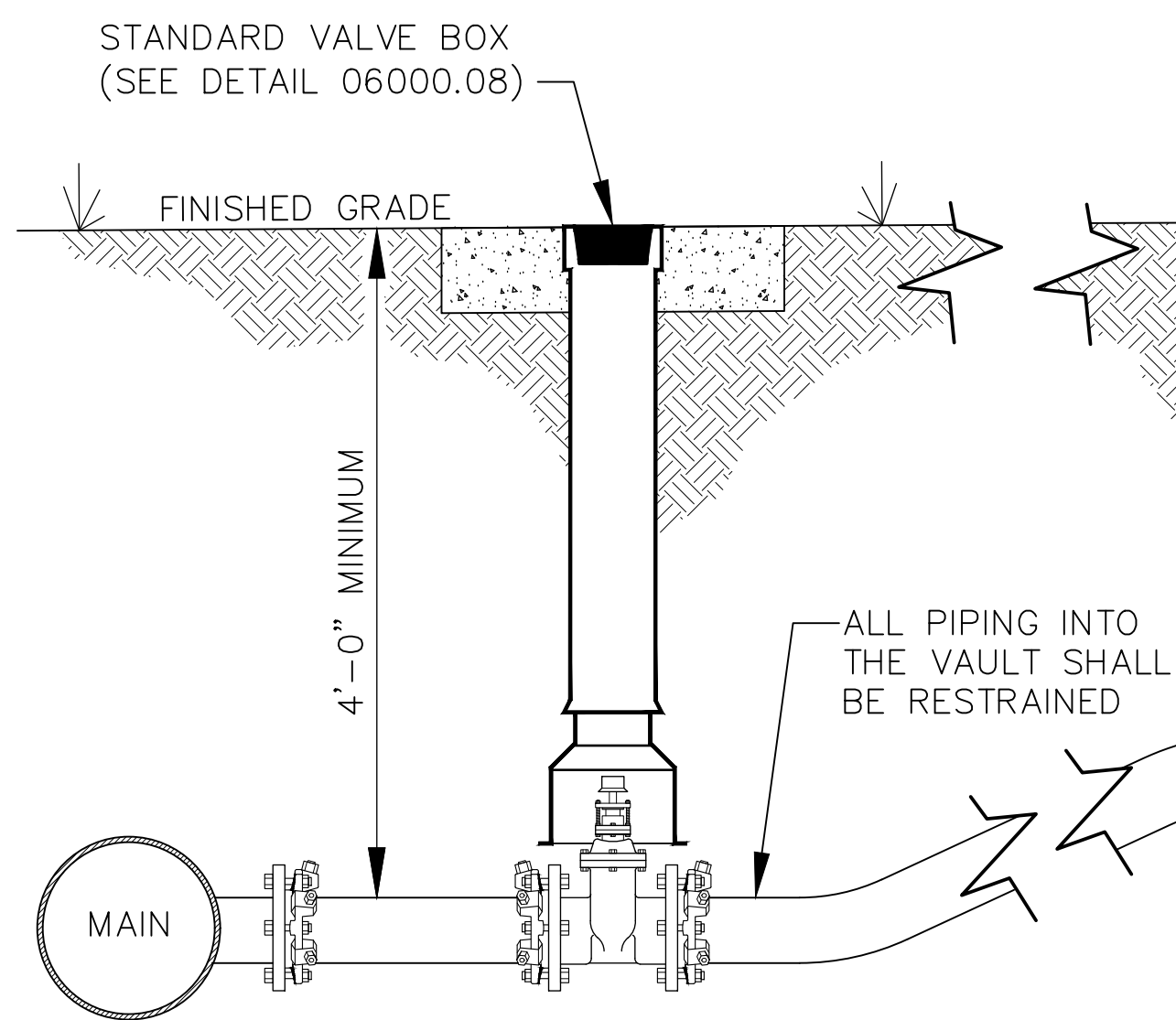
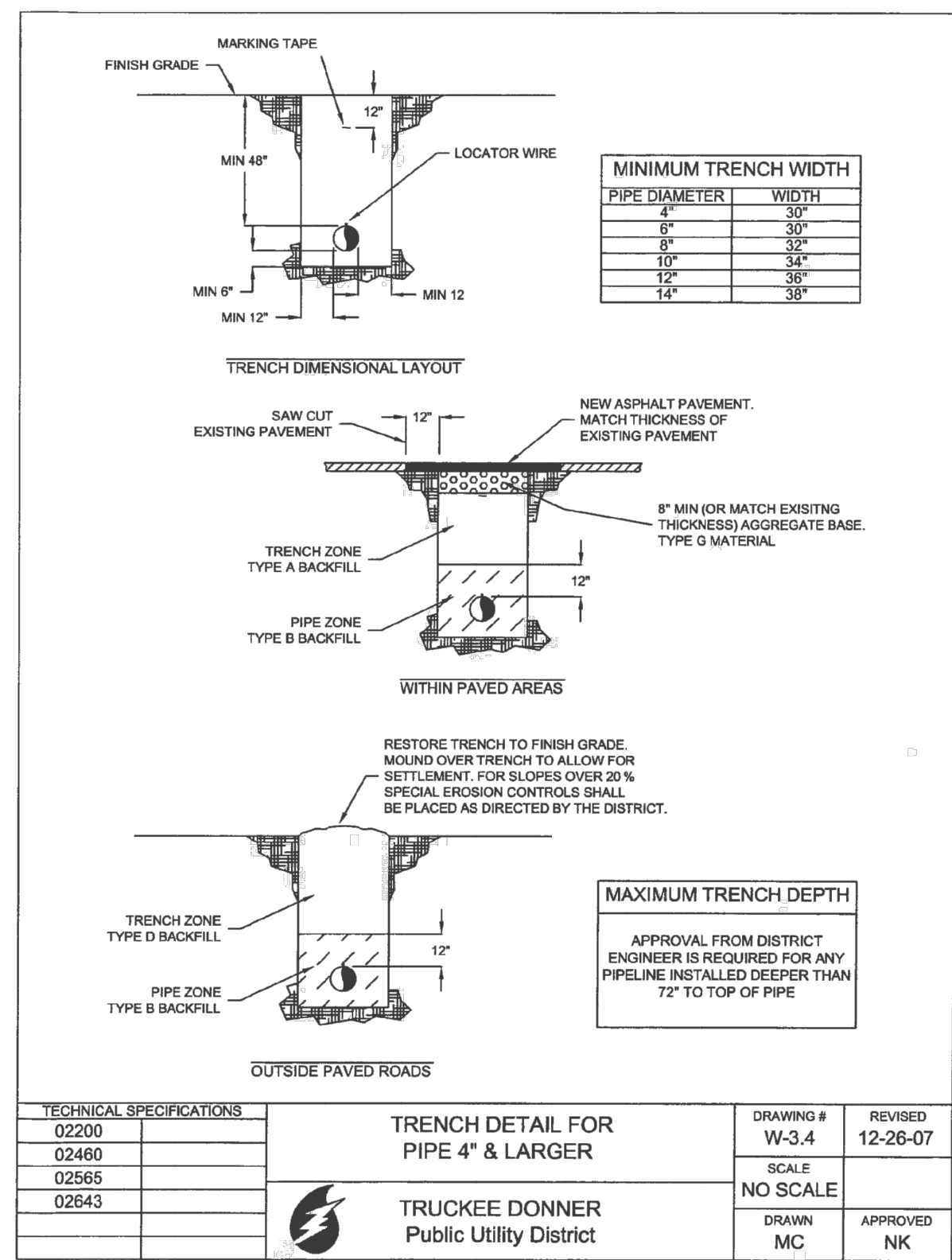
- Design build project plans prepared by PFM
- Project design bid Estimate prepared by PFM
- ROI Study prepared by finance committee and management
- Member Outreach documentation and feedback by members
- Power Point Presentation to GPC 7/4/2019 "Reason for Snowmaking"





# Design Build Project Plans

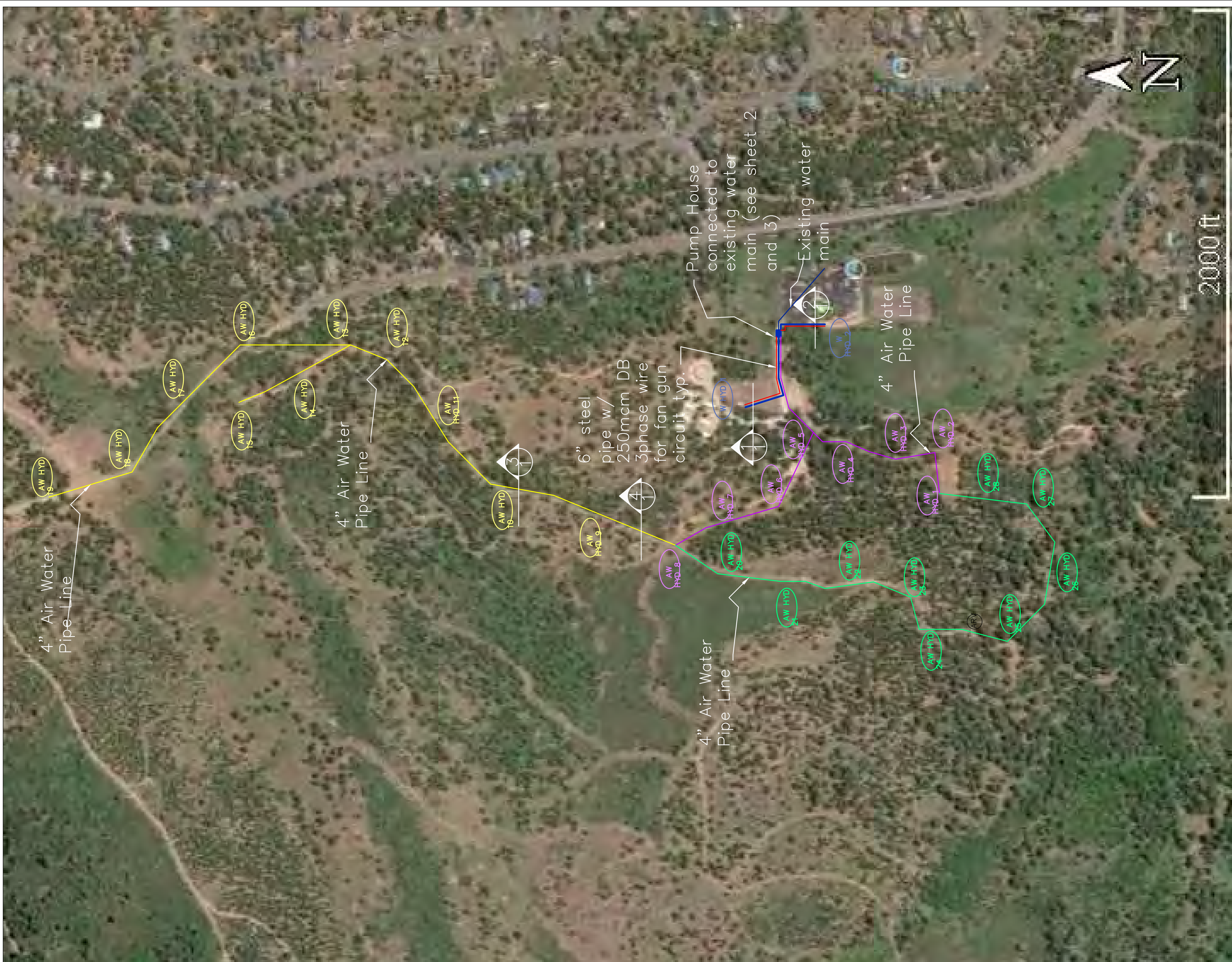






LEGEND

SNOWMAKING PUMP STATION	AIR WATER HYDRANT LOCATION PHASE 3
AIR RELEASE VAULT LOCATION	AIR WATER PIPING PHASE 3
HYDRANT AND PEDESTAL LOCATION	AIR WATER HYDRANT LOCATION PHASE 4
FUTURE HYDRANT AND PEDESTAL LOCATIONS	AIR WATER PIPING PHASE 4
WATER PIPING	
FAN GUN CIRCUITS	
TRANSFORMER	
DETAIL CALL OUT (detail is typical for similar locations unless otherwise noted)	
AIR WATER HYDRANT LOCATION PHASE 2	
AIR WATER PIPING PHASE 2	

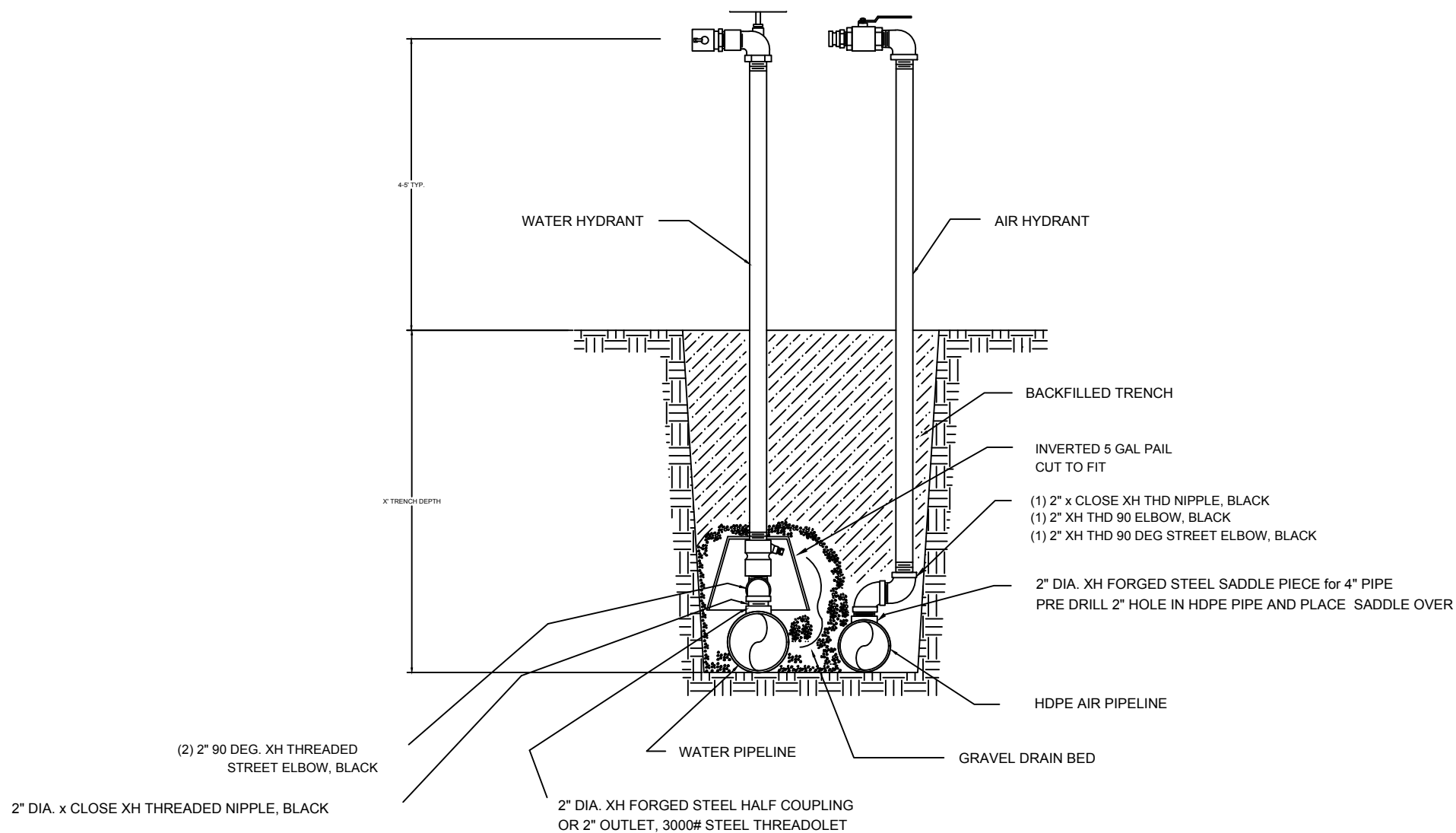


Tahoe Donner Cross Country Ski Center  
15275 Alder Creek Rd, Truckee, CA 96161  
APN 16-060-14

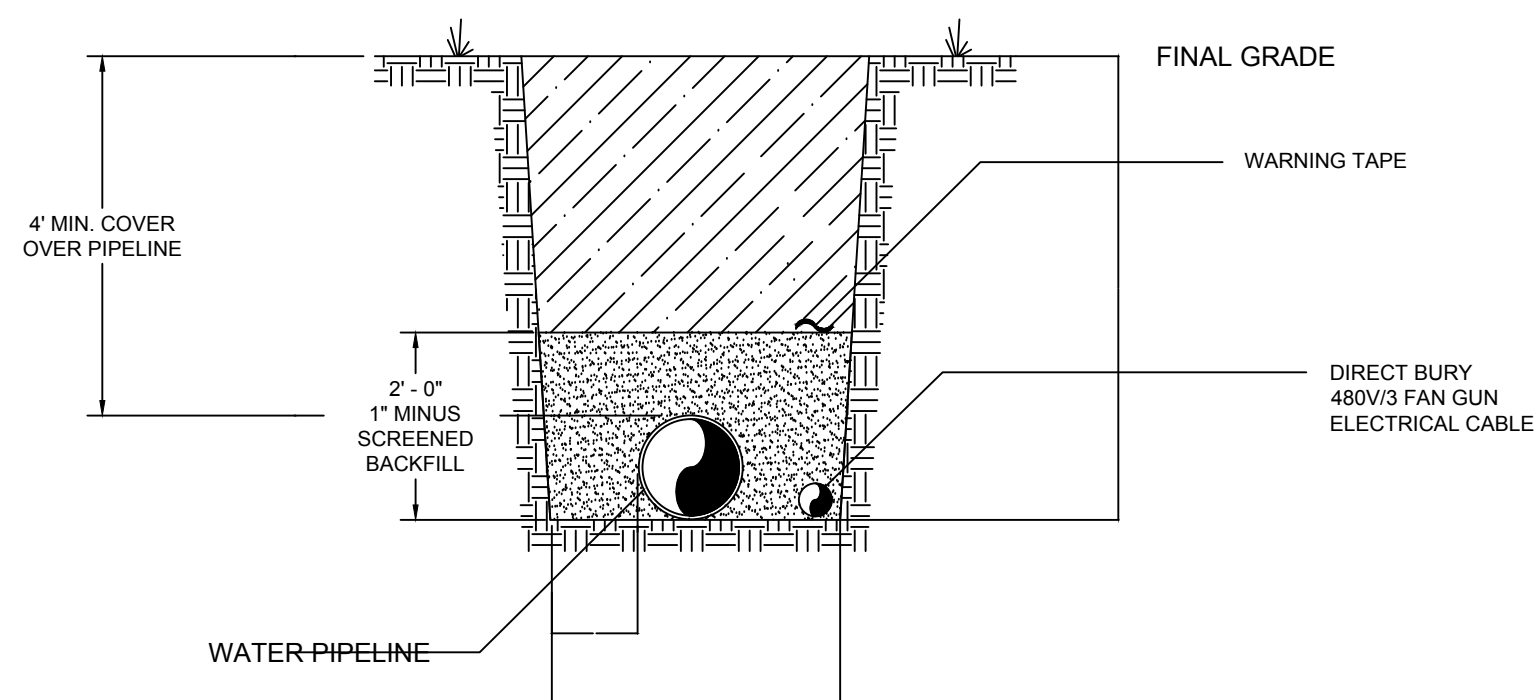


specializing in construction, start ups and maintenance of snowmaking systems  
10929 Industrial Way 102, Truckee Ca. 96161 530 412 2752 sandymcpherson@sbcglobal.net





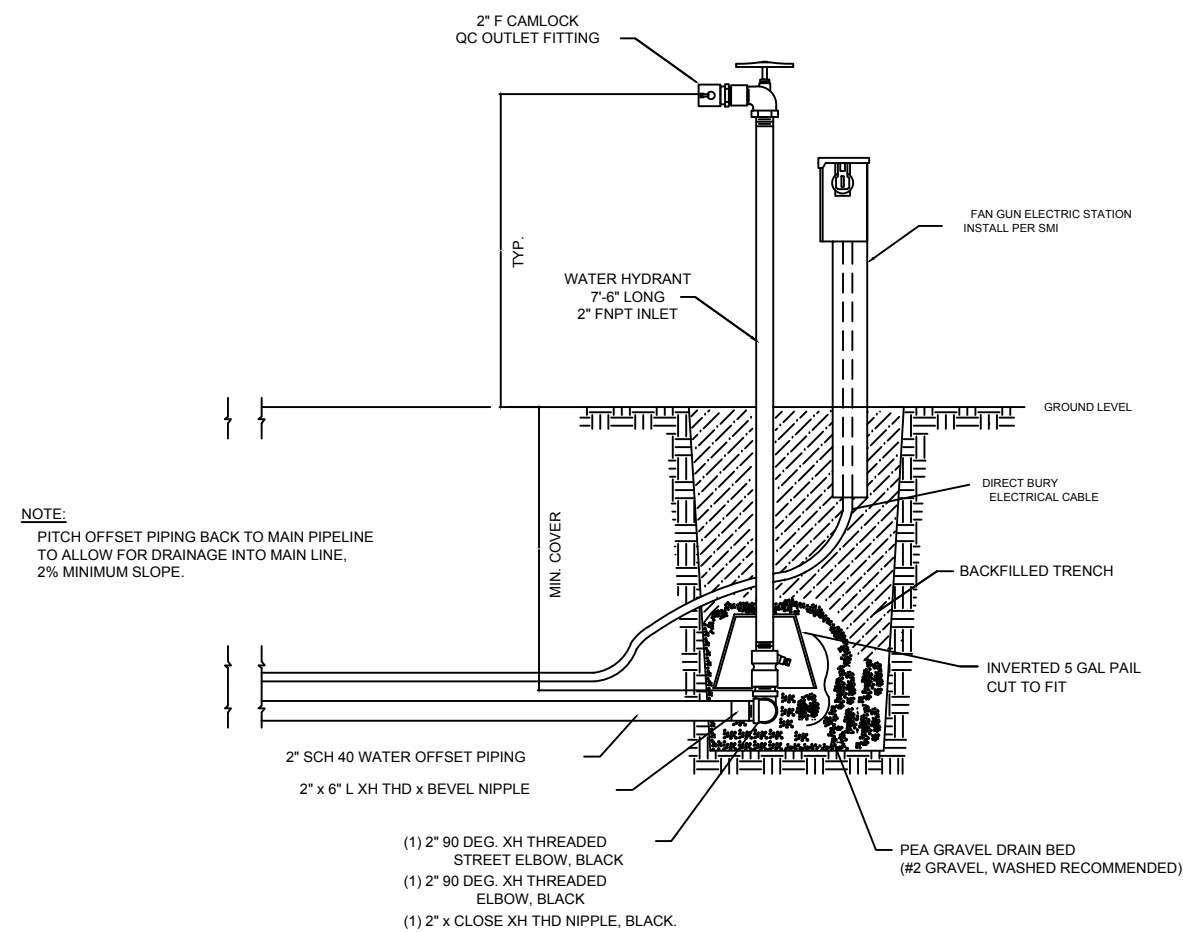
DEEP BURY DIRECT MOUNT HYDRANT DETAIL - TYP.



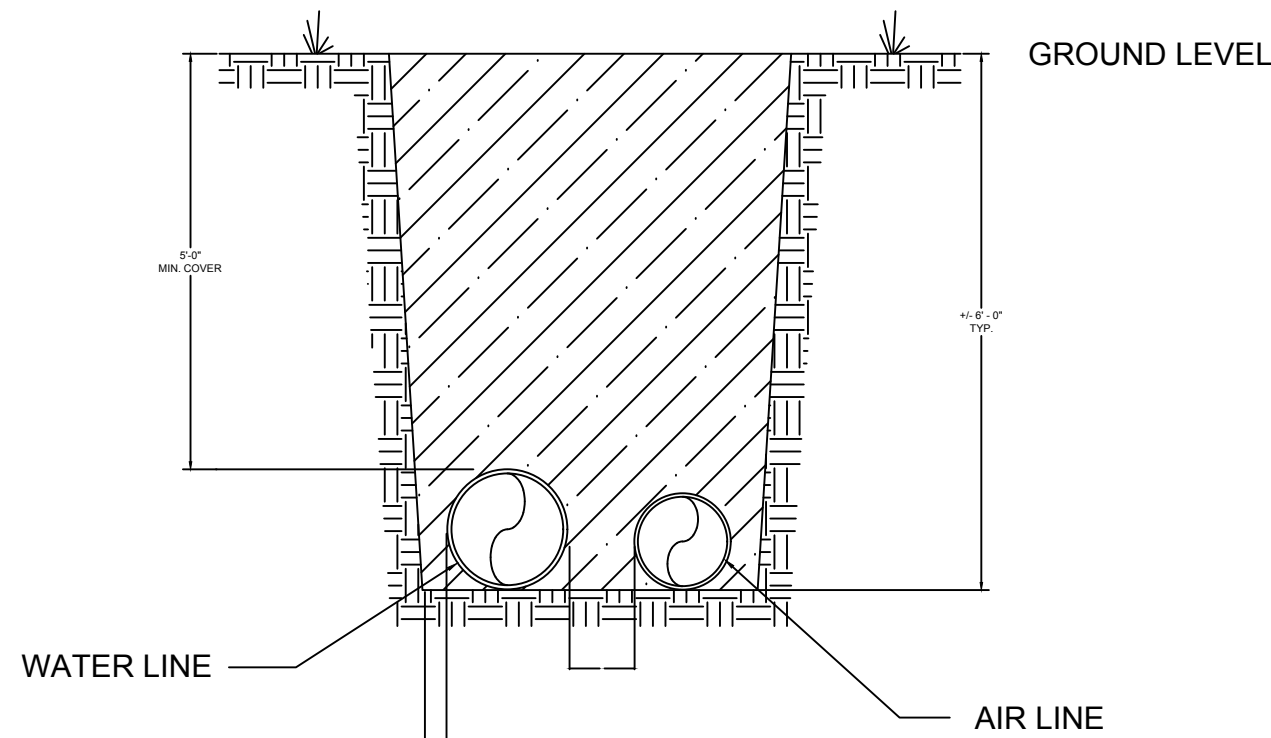
WATER PIPELINE AND FAN GUN ELECTRICAL TRENCH CROSS SECTION - TYPICAL

NOTE: 1" MINUS SCREENED BACKFILL WITHIN 12" MIN. OF PIPELINE.

COMPACTION REQUIREMENTS (MIN.):  
1. AFTER 1" MINUS SCREENED BACKFILL.  
2. AT +/- 1.5 FT DEPTH  
3. AT GRADE



DEEP BURY MOUNT HYDRANT AND FAN GUN OUTLET DETAIL - TYP.



DEEP BURY PIPELINE TRENCH CROSS SECTION - TYP.

NOTE: NO ROCKS LARGER THAN 3" IN TRENCH WHEN BACKFILLING.

PFM

specializing in construction, start ups and maintenance of snowmaking systems

Project: Tahoe Donner XC Ski Area

May 18, 2019

Snowmaking Distribution Piping

Reference Drawing

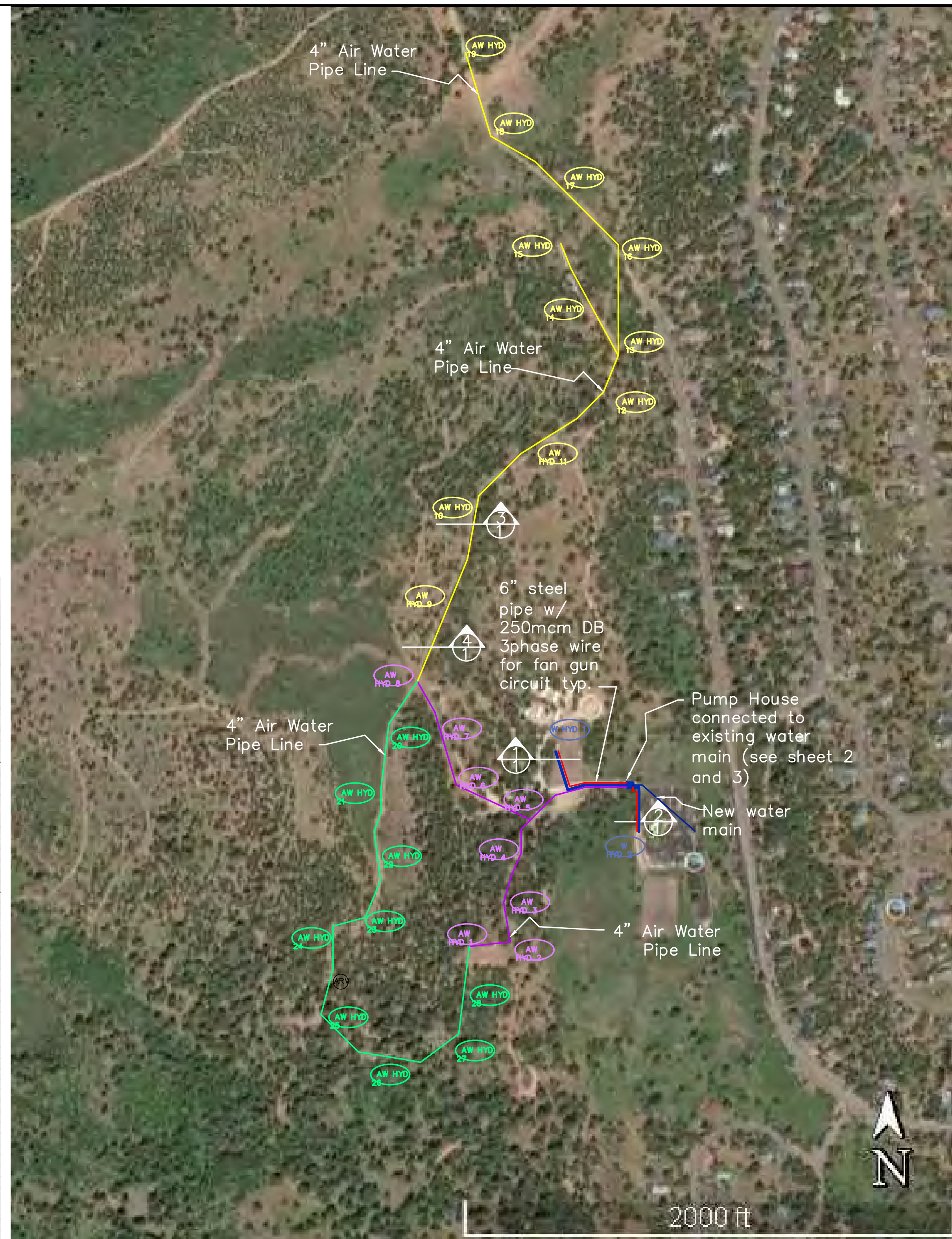
All main line pipe to be new prime steel pipe, specification API-5L, Grade B or better.

PHASE on Map	Trail	Distance on Map (FT)	Water Piping Specification API-5L (OD x Min. Wall)	Air Piping Specification (OD x Min. Wall)	Hydrant Numbers	Number of Hydrants
2	Pumphouse - Corral and Warm Area	620	6" x 0.25"	4" HDPE SDR 11	1,2	2
	Pump House - Practice Hill and Corner	2038	4-1/2" x 0.237"		1-8	8
	End of 6" - Practice Hill and Corner	1730	4-1/2" x 0.237"			
3	Corner - Moon Dance Hut	3293	4-1/2" x 0.237"	4" HDPE SDR 11	9-19	10
		3293				
4	Corner - Loop to Practice Hill	2500	4-1/2" x 0.237"	4" HDPE SDR 11	20-28	8
TOTALS		13474 Ft				28

Notes:
1.) A 10% variation allowance has been added to measured map distances to obtain estimated pipe lengths. Measure and verify all pipe lengths before ordering.
2.) All pipe to be new prime steel pipe, specification API-5L, Grade B or equivalent.
All HDPE to be the PE4710 material conforms to ASTM D3350 with the cell classification of 445574C/E and is listed with the Plastic Pipe Institute's (PPI) TR4. It is formulated with carbon black and/or ultraviolet stabilizer for maximum protection against UV rays for added assurance.

2" Hydrant Offset (Lateral) Piping -

	Hydrants AW	Offset Length (Feet)	
Hydrant # 5	1	20	
Hydrant # 6	1	10	
Hydrant # 7	1	30	
Hydrant # 9	1	30	
Hydrant # 10	1	20	
Hydrants 1 - 4, 8, 11 - 14 (less above)	9	0	
Total Number of Hydrants	14		
Hydrants and Electrical Peds	Hydrants W		
Hydrants 1 - 3	3	0	
2" (2-3/8" OD) x 0.218" wall (SCH 80) Hydrant Offset piping		110	Ft
All 2" hydrant offset piping to be new prime steel pipe, specification ASTM A-106 grade B or equal.			



LEGEND

SNOWMAKING PUMP STATION		AIR WATER HYDRANT LOCATION PHASE 3
AIR RELEASE VAULT LOCATION		AIR WATER PIPING PHASE 3
HYDRANT AND PEDESTAL LOCATION		AIR WATER HYDRANT LOCATION PHASE 4
FUTURE HYDRANT AND PEDESTAL LOCATIONS		AIR WATER PIPING PHASE 4
WATER PIPING		
FAN GUN CIRCUITS		
TRANSFORMER		
DETAIL CALL OUT (detail is typical for similar locations unless otherwise noted)		
AIR WATER HYDRANT LOCATION PHASE 2		
AIR WATER PIPING PHASE 2		

Tahoe Donner Cross Country Ski Center  
15275 Alder Creek Rd, Truckee, CA 96161  
APN 16-060-14

**PFM**

specializing in construction, start ups and maintenance of snowmaking systems  
10929 Industrial Way 102, Truckee Ca. 96161 530 412 2752 sandymcpherson@sbcglobal.net

Date Aug. 31, 2019

Page 3

Tahoe Donner XC Skie Area  
Snowmaking Installation