

AUBURN HILLS SUBDIVISION PHASE 5

PART OF THE NORTH EAST QUARTER OF SECTION 9
TOWNSHIP 10 NORTH RANGE 1 EAST
SALT LAKE BASE AND MERIDIAN
600 SOUTH, 720 EAST
HYRUM, UTAH

INDEX SHEET

VICINITY MAP



	SHEET INDEX
SHEET NO.	SHEET DESCRIPTION
1	INDEX SHEET
2	600 SOUTH CONSTRUCTION
3	720 EAST CONSTRUCTION
4	DRAINAGE PLAN

OWNER/DEVELOPER

KARTCHNER LAND MANAGEMENT INC (DAN LARSEN) 601 W 1700 SOUTH LOGAN, UT 755-7080

CIVIL ENGINEER

ALLIANCE CONSULTING ENGINEERS, INC. 150 EAST 200 NORTH SUITE P LOGAN, UTAH 84321 435-755-5121

CITY ENGINEER
MATT HOLMES
HYRUM CITY
435-245-6033

GENERAL NOTES (APPLICABLE TO ALL CIVIL SHEETS):

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, CITY OF HYRUM STANDARDS, AWWA STANDARD C600-10, STATE OF UTAH AND ANY OTHER APPLICABLE STANDARDS ISSUED BY THE CONTROLLING AGENCY.

2. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS BEFORE CONSTRUCTION. ANY DISCREPANCIES BETWEEN CONSTRUCTION DOCUMENTS AND FIELD CONDITIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER. ANY WORK COMPLETED WITHOUT VERIFICATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

3. CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY AREAS AND/OR MATERIALS DAMAGED DURING CONSTRUCTION.

4. CONTRACTOR SHALL MAINTAIN ALL ADJACENT PROPERTY (PUBLIC & PRIVATE) FROM ALL CONSTRUCTION DEBRIS.

5. CONTRACTOR SHALL PROVIDE SMOOTH TRANSITION FROM ALL NEW CONSTRUCTION TO EXISTING CONDITIONS.

6. CONTRACTOR SHALL PROVIDE ALL NECESSARY AUTOMOBILE AND PEDESTRIAN TRAFFIC CONTROL DEVICES REQUIRED BY LOCAL, STATE, AND FEDERAL CODES AND ORDINANCES.

7. CONTRACTOR SHALL REPLACE SURVEY MONUMENTS DAMAGED DURING CONSTRUCTION. SURVEY MONUMENTS TO BE REPLACED BY A REGISTERED, LICENSED LAND SURVEYOR.

8. CONTRACTOR TO LOCATE ALL EXISTING UTILITIES, INCLUDING FIBER OPTIC. ANY DAMAGES TO EXISTING UTILITIES WILL BE REPAIRED AT CONTRACTORS EXPENSE.

9. DIMENSIONS SHOWN ARE TO THE CENTER OF THE PIPELINE UNLESS OTHERWISE NOTED.

10. DISTANCES SHOWN ALONG PIPELINES ARE HORIZONTAL DISTANCES AND NOT ACTUAL PIPE LENGTHS. MORE PIPE MAY BE REQUIRED TO COMPLETE CONSTRUCTION THAN IS DIMENSIONED IN THE PLANS.

11. THRUST BLOCKS SHALL BE PLACED ON WATERLINES AT ALL DIRECTION CHANGES, FITTINGS, BENDS, ELBOWS, FIRE HYDRANTS AND GATES VALVES AS SHOWN IN THE

12. CONTRACTOR IS REQUIRED TO HAVE A SET OF PLANS ON THE SITE AT ALL TIMES. ANY WORK COMPLETED WITHOUT A SET PRESENT IS DONE SO AT THE CONTRACTORS RISK AND EXPENSE IF ERRORS OCCUR.

13. CONTRACTOR IS RESPONSIBLE FOR PROVIDING WATER NECESSARY FOR DUST ABATEMENT, COMPACTING, ETC.

14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING SOURCES FOR GRANULAR MATERIALS, WATER, WASTE SITES, AND ANY OTHER MATERIALS SOURCES AS REQUIRED FOR PROJECT COMPLETION.

15. ANY WORK DONE WITHIN A PUBLIC RIGHT-OF-WAY SHALL BE COORDINATED WITH THE APPROPRIATE TRANSPORTATION AGENCY AND SHALL MEET THE REQUIREMENTS OF THAT AGENCY AND THE REQUIREMENTS OF ANY RIGHT-OF-WAY OR SPECIAL USE PERMITS.

16. THE CONTRACTOR SHALL COORDINATE ALL LIVE TAPS AND ANY OTHER WORK OR MANIPULATION OF THE EXISTING WATER SYSTEM WITH THE CITY.

17. ON SLOPING AREAS THE CONTRACTOR SHALL TAKE PRECAUTIONS TO MITIGATE ANY POSSIBLE EROSION PROBLEMS IN THE TRENCHES DUE TO STORM WATER THAT MIGHT OCCUR DURING OR AFTER CONSTRUCTION AS DIRECTED OR APPROVED BY ENGINEER.

18. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES AS DETAILED IN THE PROJECT PLANS UNTIL FINAL ACCEPTANCE OF THIS PROJECT.

19. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONS NECESSARY TO INSURE THAT NO STORM WATER/SEDIMENT AND/OR CONSTRUCTION DEBRIS ARE RELEASED FROM THE SITE. ANY RELEASES SHALL BE CLEANED AND MITIGATED AT THE CONTRACTOR'S EXPENSE.

20. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACCESS AND RELATED TRAFFIC CONTROL WITH THE COUNTY, CITY, AND STATE ROADWAY DEPARTMENTS. THE ENGINEER SHALL REVIEW ALL TRAFFIC CONTROL PLANS.

22. ALL GATE VALVES SHALL BE LOCATED NEAR TO TEES OR CROSSES AND THEIR ASSOCIATED REDUCERS AS SHOWN ON THE PROJECT PLANS.

23. CONTRACTOR SHALL PROVIDE ALL NECESSARY FITTINGS, HARDWARE, LABOR, ETC. TO CONSTRUCT VERTICAL AND HORIZONTAL BENDS IN PIPE AS NEEDED TO MEET THE REQUIRED GRADES, ALIGNMENTS AND COVER REQUIREMENTS. ALL PIPES AND FITTING SHALL BE LEAD FREE. ALL WATER SYSTEM COMPONENTS SHALL BE INSTALLED, PRESSURE TESTED, AND CHLORINATED PRIOR TO COMPLETING ANY ROADWAY CONSTRUCTION.

24. ALL AIR RELEASE VALVES SHALL BE INSTALLED AT THE CREST OF THE VERTICAL CURVATURE OF THE WATER LINE. CONTRACTOR SHALL RECORD ACTUAL LOCATION OF VALVES ON FIELD RECORD DRAWINGS.

25. THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF HYRUM FOR ALL UTILITY INSPECTIONS PRIOR TO BACK.

26. ALL WATER SYSTEM COMPONENTS (PIPES, FITTINGS, ETC.) SHALL CONFORM TO NSF/ANSI 372 OR NSF/ANSI 61, ANNEX G. ALL NEW WATER MAINS OR APPURTENANCES SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651-05 OR A METHOD APPROVED BY THE DIRECTOR. ON ALL NEW AND EXTENSIVE DISTRIBUTION SYSTEM CONSTRUCTION, EVIDENCE OF SATISFACTORY DISINFECTION SHALL BE PROVIDED TO THE DIVISION OF DRINKING WATER. SAMPLES FOR COLIFORM ANALYSES SHALL BE COLLECTED AFTER DISINFECTION IS COMPLETE AND THE SYSTEM IS REFILLED WITH DRINKING WATER. A STANDARD HETEROTROPHIC PLATE COUNT IS ADVISABLE. THE USE OF PUBLIC DRINKING WATER PURPOSES SHALL NOT COMMENCE UNTIL THE BACTERIOLOGIC TESTS INDICATE THE WATER IS FREE FROM CONTAMINATION.

27. CONTRACTOR TO PROVIDE CONTINUOUS AND UNIFORM BEDDING IN THE TRENCH FOR ALL FOR ALL BURIED WATER PIPES. STONES LARGER THAN THE BACKFILL MATERIALS DESCRIBED BELOW SHALL BE REMOVED FOR A DEPTH OF AT LEAST 6 INCHES BELOW THE PIPE.

28. BACKFILL MATERIAL SHALL BE TAMPED IN LAYERS AROUND THE PIPE AND TO A SUFFICIENT HEIGHT ABOVE THE PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE. AS A MINIMUM DUCTILE IRON PIPE, BACKFILL MATERIAL SHALL CONTAIN NO STONES GREATER THAN 2 INCHES. MINIMUM OF 5 FEET OF COVER OVER PIPE. UNDER NO CIRCUMSTANCES SHALL THE PIPE OR ACCESSORIES BE DROPPED INTO THE TRENCH.

29. THE OPEN ENDS OF ALL PIPELINES UNDER CONSTRUCTION SHALL BE COVERED AND EFFECTIVELY SEALED AT THE END OF DAY'S WORK.

CITY ENGINEER APPROVAL

I CERTIFY THAT I HAVE EXAMINED THIS PLAT AND FIND IT TO BE IN GENERAL COMPLIANCE TO THE CITY STANDARDS

CITY ENGINEER

DATE

PROFESSIONAL TO STATE OF USE

AWN BY PECKFINALL DWG

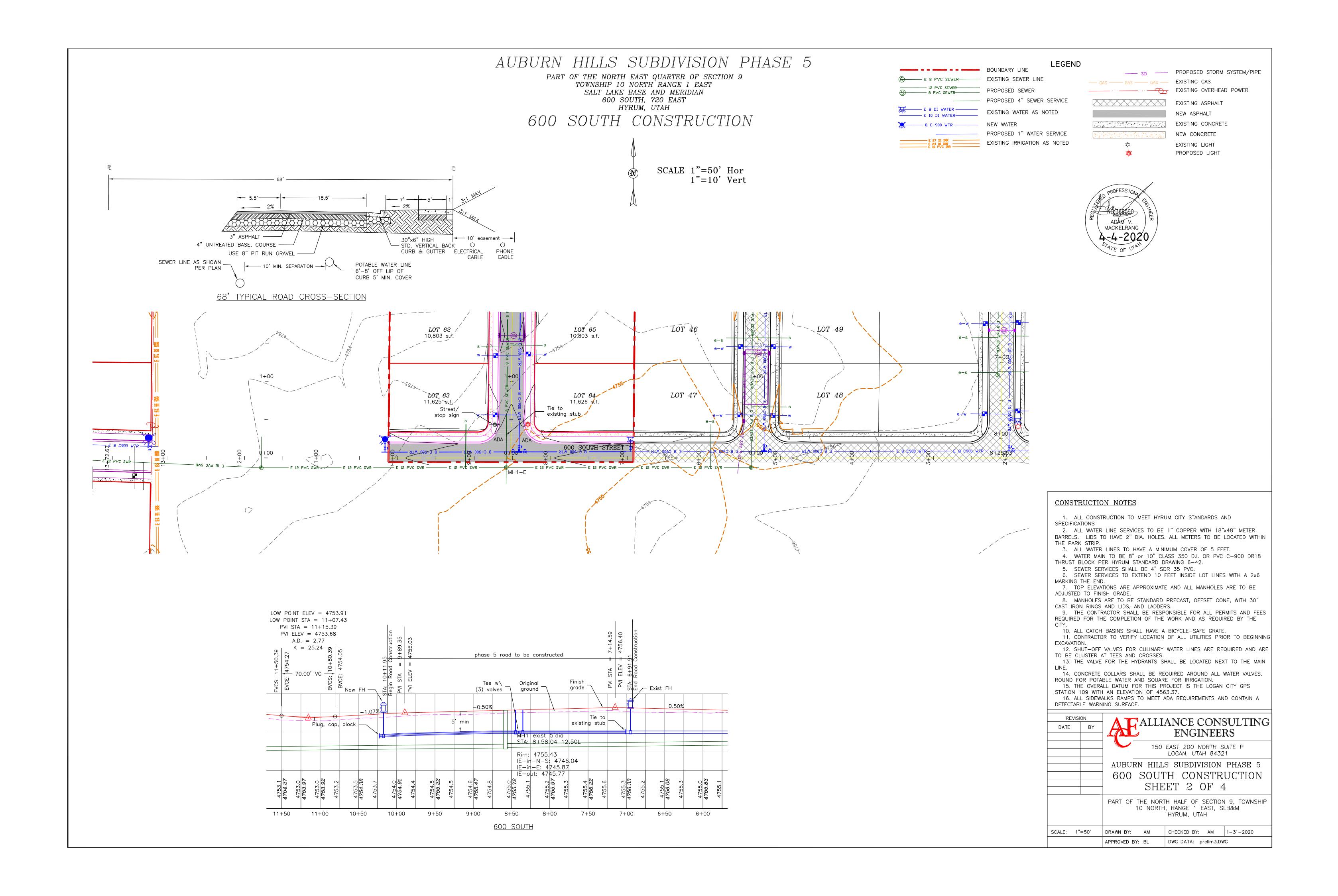
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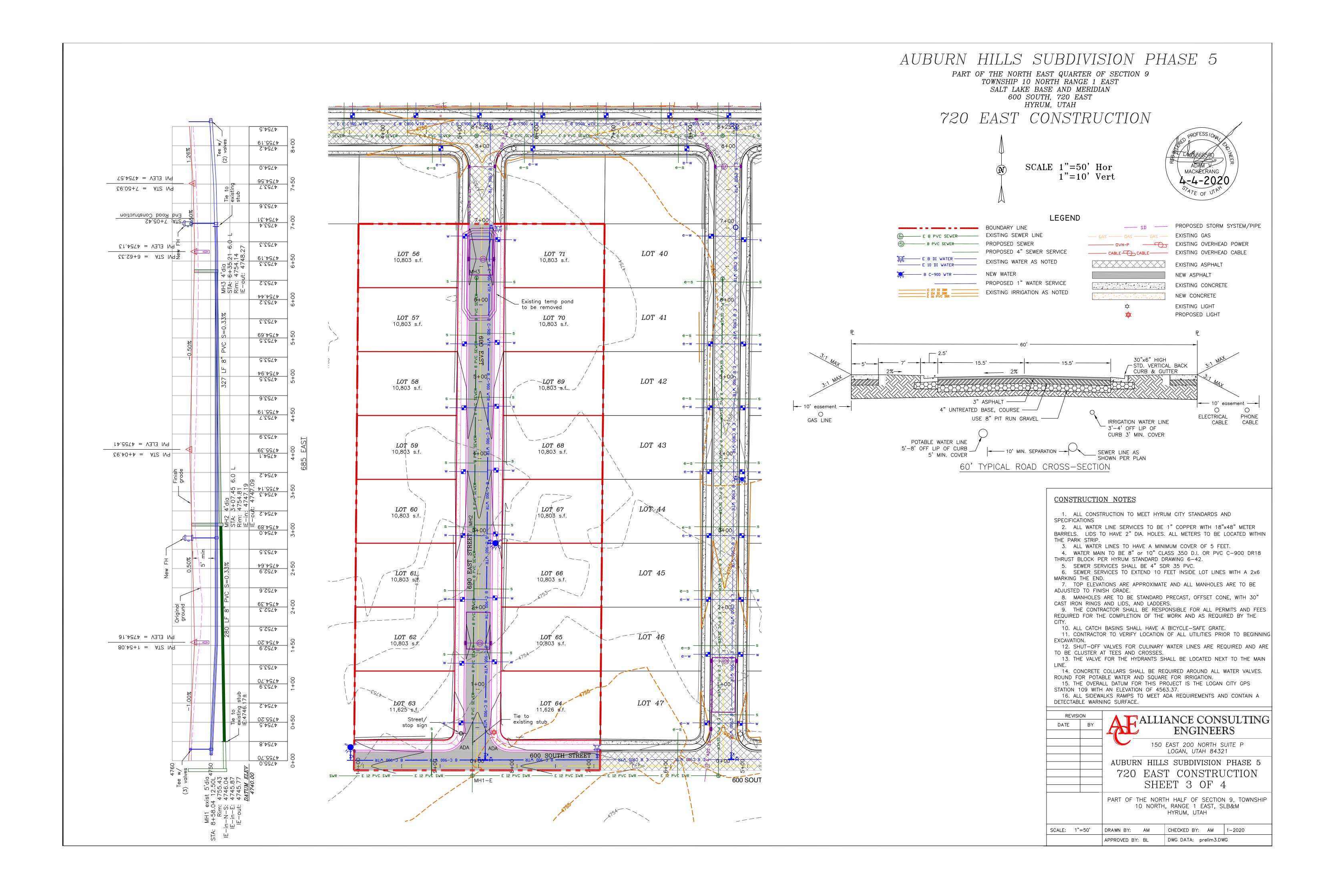
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ALLIANCE CONSULTING ENGINEERS, INC.

SHEET 1

OF 4 SHEETS





E 8 C900 WTR E 9 C900 WTR E 8 PVC SEWER E 8 PVC SEWER E 8 PVC SEWER E 8 PVC SEWER VC SEWER E 8 PVC SEWER E 9 PVC SEWER IMPERVIOUS AREA: 19,701 S.F. Road 19,000 S.F. Homes Rim: 4753.65 38,701 S.F. Total - IE: 4750.42 IE: 4750.42 -C-IMPERVIOUS: 0.9 w/ 12 LF 15" ADS w/ 12 ⊾ S=2.67% LOT 71 w/ 16 LF 15" ADS C*A = 34,831LOT 56 S=2.0% LOT 40 C-UNDEVELOPED: 0.15 10,803 s.f. 10,803 s.f. C*A = 12,547— Rim: 4754.10 C-POST= 47,378 / 122,350 = 0.39 IE: 4750.10 e-s -LENGTH OF DRAINAGE PATH: 465 FEET 1100=3.9 IN/HR Q100 = (3.9IN/HR)*0.39*2.81 ACRES = 4.31 CFSLOT 57 10,803 s.f. 10,803 s.f. e-w · LOT 42 -LQT 69 10,803 s.f. 10,803 s.f. e-s e-w -LOT 43 LOT 68 10,803 s.f. LOT 67 10,803 s.f. /10,80⅓ s.f. IMPERVIOUS AREA: 26,757 S.F. Road 19,000 S.F. Homes 45,757 S.F. Total C-IMPERVIOUS: 0.9 LOT 45 LOT 66 C*A=41,18110,803 s∯. 10,803 s.f. C-UNDEVELOPED: 0.15 C*A= 13,115 C-POST= 54,296 / 133,193 = 0.41 LENGTH OF DRAINAGE PATH: 460 FEET Rim: 4753.70 ∕─ IE: 4750.46 / 1100=3.9 IN/HR w/ 12 LF 15"/ADS S=2.67% / LOT 65 CAPACITY OF EACH 15 IN PIPE @ 0.5% = 4.90 CFS 10,800 s.f. _{CB} 10,803 s.f. w/ 16 LF 15" ADS S=2.0% —— Rim: 4754.14 IE: 4750.14 LOT 47 11,62 s.f. / 4755.25 4755.25 11,626 **≰**.f. —— E 12 PVC SWR — E 12 PVC SVR — E 12 PVC SWR — E 12 PVC SVR — S

AUBURN HILLS SUBDIVISION PHASE 5

PART OF THE NORTH EAST QUARTER OF SECTION 9 TOWNSHIP 10 NORTH RANGE 1 EAST SALT LAKE BASE AND MERIDIAN 600 SOUTH, 720 EAST

HYRUM, UTAH

DRAINAGE PLAN

SCALE 1,"=50' Hor

STORM DRAINAGE CALCULATIONS (ARE A)

CONTRIBUTING DRAINAGE AREA: 122,350 S.F.(2.81 acres)

REMAINING UNDEVELOPED AREA: 83,649 S.F.

TIME OF CONCENTRATION: 465/180 +10= 12.58 MIN

CAPACITY OF EACH 15 IN PIPE @ 0.5% = 4.90 CFS

Drainage Are	ea to Pond:			2.81	acres					
Weighted 'C'	value for Pon	d Drainage	Area:	0.39						
Allowable Inf	iltration Rate:			2.0	inches/hr =	0.0028	ft/min			
	parlo silt loan	n per NRCS								
Infiltration are			width	48.0	ft		2844	sq. ft.		
			depth	9.0	ft					
			length	30.0	ft					
100-Year F	Return Peri	od								
	Precip.*	Precip.				Accum.	Allowable	Accum.	Requ	ired
Interval	Intensity	Depth	Area	С	CxAx3630	Inflow	Discharge	Discharge	Storage	
(min)	(in/hr)	(in)	(ac)	Value	(ft^3/in)	(ft3/min)	(ft^3/min)	(ft^3)	(ft^3)	(ac-ft
5	4.08	0.34	2.81	0.39	3978.117	1352.5598	8	39.50	1313	0
10	3.20	0.53	2.81	0.39	3978.117	2121.6624	8	79.00	2043	0
15	2.68	0.67	2.81	0.39	3978.117	2665.3384	8	118.50	2547	0
30	1.84	0.92	2.81	0.39	3978.117	3659.8676	8	237.00	3423	0.
60	1.17	1.17	2.81	0.39	3978.117	4654.3969	8	474.00	4180	0.
120	0.71	1.41	2.81	0.39	3978.117	5609.145	8	948.00	4661	0.
180	0.55	1.64	2.81	0.39	3978.117	6528.09	8	1422.00	5106	0.
360	0.37	2.22	2.81	0.39	3978.117	8831.4197	8	2844.00	5987	0.
720	0.23	2.73	2.81	0.39	3978.117	10860.259	8	5688.00	5172	0.
1440	0.13	3.15	2.81	0.39	3978.117	12531.069	8	11376.00	1155	0
Void ratio	40.00%						Pond Requir	red	12931	

STORM DRAINAGE CALCULATIONS (AREA B)

CONTRIBUTING DRAINAGE AREA: 133,193 S.F.(3.06 acres)

REMAINING UNDEVELOPED AREA: 87,436 SF.

TIME OF CONCENTRATION: 460/180 + 10 = 12.55 MIN

Q100 = (3.9IN/HR)*0.41*3.06 ACRES = 4.93 CFS

Drainage Are	ea to Pond:			3.06	acres					
Weighted 'C	' value for Por	nd Drainage	Area:	0.41						
Allowable In	filtration Rate:			2.0	inches/hr =	0.0028	ft/min			
soil type	parlo silt loar	n per NRCS								
Infiltration area		width	51.0	ft		3150	sq. ft.			
			depth	10.0	ft					
			length	30.0	ft					
100-Year I	Return Peri	od								
	Precip.*	Precip.				Accum.	Allowable	Accum.	Requ	ired
Interval	Intensity	Depth	Area	С	CxAx3630	Inflow	Discharge	Discharge	Storage	
(min)	(in/hr)	(in)	(ac)	Value	(ft^3/in)	(ft3/min)	(ft^3/min)	(ft^3)	(ft^3)	(ac-ft)
5	4.08	0.34	3.06	0.41	4554.198	1548.4273	9	43.75	1505	0.0
10	3.20	0.53	3.06	0.41	4554.198	2428.9056	9	87.50	2341	0.0
15	2.68	0.67	3.06	0.41	4554.198	3051.3127	9	131.25	2920	0.0
30	1.84	0.92	3.06	0.41	4554.198	4189.8622	9	262.50	3927	0.0
60	1.17	1.17	3.06	0.41	4554.198	5328.4117	9	525.00	4803	0.
120	0.71	1.41	3.06	0.41	4554.198	6421.4192	9	1050.00	5371	0.
180	0.55	1.64	3.06	0.41	4554.198	7473.4389	9	1575.00	5898	0.
360	0.37	2.22	3.06	0.41	4554.198	10110.32	9	3150.00	6960	0.
720	0.23	2.73	3.06	0.41	4554.198	12432.961	9	6300.00	6133	0.
1440	0.13	3.15	3.06	0.41	4554.198	14345.724	9	12600.00	1746	0.0
Void ratio	40.00%						Pond Requir	red	15332	

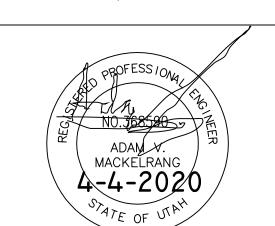
<u>USE 51'x30'x10' SUMP</u>

CONTRUCTION NOTES

1. ALL CONSTRUCTION TO MEET HYRUM CITY STANDARDS AND SPECIFICATIONS 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND FEES REQUIRED FOR THE COMPLETION OF THE WORK AND AS REQUIRED BY THE CITY. 3. ALL CATCH BASINS SHALL HAVE A BICYCLE-SAFE

4. CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES PRIOR TO BEGINNING EXCAVATION. 5. CONTRACTOR REQUIRED TO INSTALL A BMPINC.

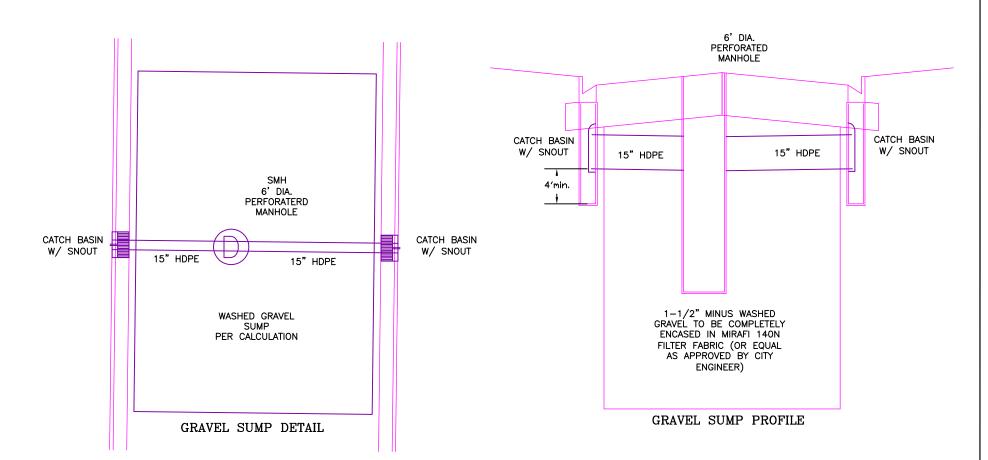
"SNOUT" OR EQUIVALENT ON EACH CATCH BASIN. INSTALL PER MANUFACTURER REQUIREMENTS.



LEGEND BOUNDARY LINE NEW STORM LINE/ MANHOLE OR 18"x48" CURB BOX ~~ PROPOSED FLOW DIRECTION STREET LIGHT ---- EXISTING MJR CONTOUR (5') _____ EXISTING MNR CONTOUR (1') PROPOSED MJR CONTOUR (5') PROPOSED MNR CONTOUR (1') EXISTING ASPHALT NEW ASPHALT EXISTING CONCRETE

NEW CONCRETE

DRAINAGE BOUNDARY



DATE	VISION BY	AE ^A	LLIA		CONS INEEI	SULTING RS		
				EAST 200 LOGAN, U				
		AUBURN HILLS SUBDIVISION PHASE 5 DRAINAGE PLAN SHEET 4 OF 4						
			NORTH,	H HALF OF RANGE 1 HYRUM, U	EAST, SI	I 9, TOWNSHIP _B&M		
SCALE:	1"=50'	DRAWN BY: AM	М	CHECKED BY	ſ: AM	1-2020		
		APPROVED BY: BL	L	DWG DATA:	prelim3.DW	'G		