

EARTHWORK PROCEDURES

GENERAL

THE GEOTECHNICAL ENGINEER SHALL BE THE OWNER'S REPRESENTATIVE TO OBSERVE AND EVALUATE THE EARTHWORK OPERATIONS. THE CONTRACTOR SHALL COOPERATE WITH THE GEOTECHNICAL ENGINEER IN THE PERFORMANCE OF THE ENGINEER'S DUTIES.

CLEARING AND GRUBBING

PRIOR TO PLACING STRUCTURAL FILL ALL BORROW AREAS AND AREAS TO RECEIVE STRUCTURAL FILL SHALL BE STRIPPED OF VEGETATION AND DELETERIOUS MATERIALS. STRIPPINGS SHALL BE HAULED OFFSITE OR STOCKPILED FOR SUBSEQUENT USE IN LANDSCAPED AREAS OR NONSTRUCTURAL FILL AREAS

AS DESIGNATED BY THE OWNER OR HIS REPRESENTATIVE AND APPROVED BY THE GEOTECHNICAL ENGINEER.

SITE PREPARATION - FILL AREAS

PRIOR TO PLACING STRUCTURAL FILL THE AREAS TO BE FILLED SHALL BE SCARIFIED TO A DEPTH OF EIGHT INCHES AND MOISTURE CONDITIONED AS DESCRIBED BELOW. THE AREA TO BE FILLED SHALL THEN BE COMPACTED TO A MINIMUM OF 95 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557. IF VIBRATORY COMPACTION TECHNIQUES POSE A THREAT TO THE STRUCTURAL INTEGRITY OF NEAR BY FACILITIES A STATIC COMPACTOR SHALL BE USED. ANY SOFT OR "SPONGY" AREAS SHALL BE REMOVED AS DIRECTED BY THE GEOTECHNICAL ENGINEER AND REPLACED WITH STRUCTURAL FILL AS DESCRIBED HEREIN.

SITE PREPARATION - CUT AREAS

FOLLOWING EXCAVATION TO ROUGH GRADE, ALL BUILDING AND PAVEMENT AREAS SHALL BE SCARIFIED TO A DEPTH OF EIGHT INCHES AND MOISTURE CONDITIONED AS DESCRIBED BELOW. ALL BUILDING AND PAVED AREAS SHALL BE COMPACTED TO A MINIMUM OF 95 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557. IF VIBRATORY COMPACTION TECHNIQUES POSE A THREAT TO THE STRUCTURAL INTEGRITY OF NEAR BY FACILITIES, A STATIC COMPACTOR SHALL BE USED. ANY SOFT OR "SPONGY" AREAS SHALL BE REMOVED AS DIRECTED BY THE GEOTECHNICAL ENGINEER AND REPLACED WITH STRUCTURAL FILL AS DESCRIBED HEREIN.

FILL MATERIAL

FILL MATERIAL SHALL BE NON EXPANSIVE SOIL WHICH MAY BE GRAVEL, SAND, SILT OR CLAY, OR A COMBINATION THERE OF.

SIEVE SIZE	PERCENT PASSING BY WEIGHT				
4"	100				
1"	90-100				
NO. 4	70-100				
NO. 200	10-40				
FILL MATERIAL SHALL EXHIBIT A PLASTICITY IND DECOMPOSABLE MATERIAL SHALL BE UTILIZED. GEOTECHNICAL ENGINEER					

DECOMPOSABLE MATERIAL SHALL BE UTILIZED. ALL FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER.

FILL PLACEMENT

FILL MATERIAL SHALL BE BLENDED AS NECESSARY TO PRODUCE A HOMOGENEOUS MATERIAL.

FILL MATERIAL SHALL BE SPREAD IN HORIZONTAL LIFTS NO GREATER THAN EIGHT INCHES IN UNCOMPACTED THICKNESS, BUT IN NO CASE THICKER THAN CAN BE PROPERLY COMPACTED

WITH THE EQUIPMENT TO BE UTILIZED. IF FILL IS TO BE PLACED ON SLOPES STEEPER THAN 5:1 (HORIZONTAL:VERTICAL) THE NATURAL GROUND SHALL BE BENCHED WITH MINIMUM THREE FOOT WIDE BENCHES AT MAXIMUM TWO FOOT VERTICAL INTERVALS.

MOISTURE CONDITIONING

WITHIN + THREE PERCENT OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D-1557.

FILL MATERIAL SHALL BE DRIED OR MOISTENED AS NECESSARY, PRIOR TO COMPACTING, TO

COMPACTION

STRUCTURAL FILL SHALL BE MECHANICALLY COMPACTED TO THE FOLLOWING:

MOISTURE SHALL BE DISTRIBUTED UNIFORMLY THROUGHOUT EACH LIFT.

	MINIMUM COMPACTIO
	ASTM D-1557
FOUNDATION SUPPORT	95%
SLAB SUPPORT	95%
BELOW SLAB UTILITY TRENCHES	90%
GENERAL SITE GRADING	90%
PAVEMENT SUPPORT	33,0
UPPER 8" OF SUBGRADE	95%
ALL OTHER FILL BELOW PAVEMENT	90%
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AGGREGATE BASE COURSE SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557.

ASPHALTIC CONCRETE SHALL BE COMPACTED TO A MINIMUM OF 96% OF MAXIMUM MARSHALL DENSITY (75 BLOWS).

COMPACTION BY FLOODING AND JETTING IS SPECIFICALLY PROHIBITED UNLESS AUTHORIZED IN ADVANCE BY THE OWNER OR HIS REPRESENTATIVE AND THE GEOTECHNICAL ENGINEER.

OBSERVATION AND TESTING

THE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE SHALL PERFORM FIELD DENSITY TESTS WITH A FREQUENCY AND AT THE LOCATIONS HE FEELS APPROPRIATE. THE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE WILL PERFORM PROCTOR TESTS ON REPRESENTATIVE SAMPLES OF

ALL FILL MATERIAL. TO MINIMIZE DELAYS, THE EARTHWORK CONTRACTOR IS ENCOURAGED TO SUBMIT SOIL SAMPLES PRIOR TO USE FOR PROCTOR TESTING.



FIRM MAP

GENERAL NOTES NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE CITY OF ALBUQUERQUE, BERNALILLO COUNTY, AND/OR AMAFCA RIGHT OF WAYS AND EASEMENTS.

2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCPET AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDTION AS REVISED THOUGH UPDATE #8.

3. TWO WORKING DAYS PRIOR TO ANY EXCATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (260-1990) AND GENERAL ELECTRIC (XXX-XXXX) FOR LOCATION OF EXISTING UTILITIES.

4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SIGNIFICANT GENERAL ELECTRIC UTILITY RELOCATION MAY BE REQUIRED. SHOULD A CONFICT EXIST, THE CONTRACTOR SHALL NOTIFY THE UTILITY OPERATOR IMMEDIATELY SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.

5. SEVEN (7) WORKING DAYS PRIOR TO BEGINNING OF CONSTUCTION, THE CONTRACTOR SHALL SUBMIT TO CONSTRUCTION COORDINATION DIVISION A DETAILED CONSTRUCTION SCHEDULE. TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN A BARRICADING PERMIT FROM THE CONSTRUCTION COORDINATION DIVISION. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION COORDINATION ENGINEER (924-3400) PRIOR TO OCCUPYING AN INTERSECTION. REFER TO SECTION 19 OF THE GENERAL CONDITIONS OF THE STANDARD SPECIFICATIONS.

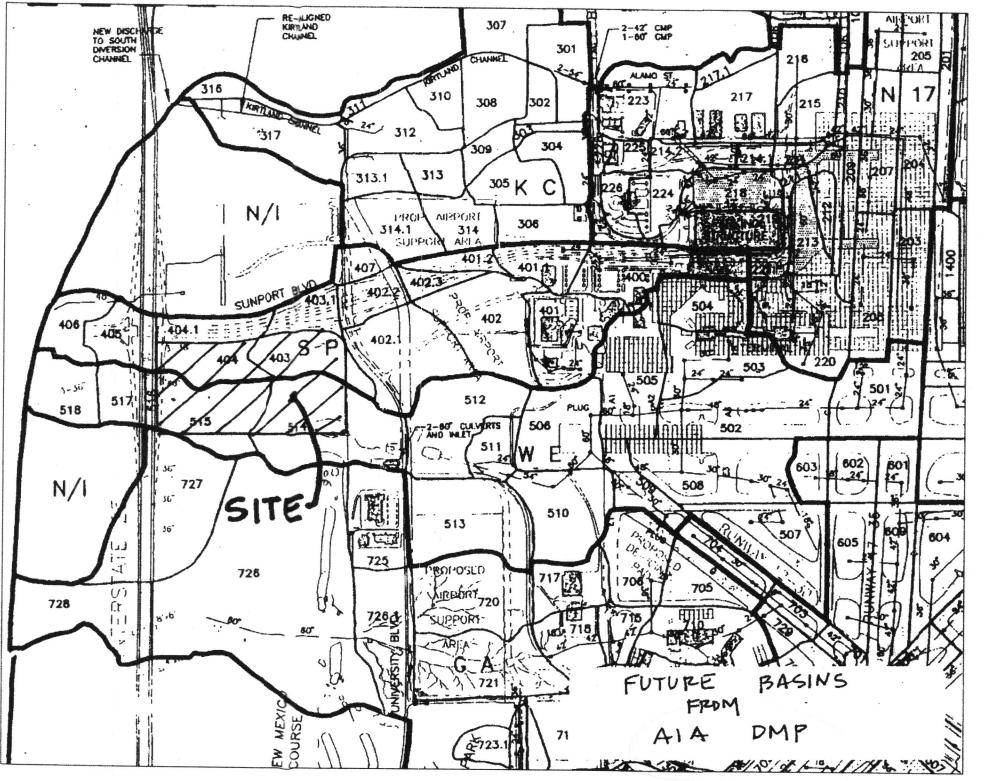
6. CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE CITY SURVEYOR MAY TAKE NECESSARY MEASURE TO INSURE THE PRESERVATION OF SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PREMANENT SURVEY MONUMENT WITHOUT THE CONSENT OF THE CITY SURVEYOR AND SHALL NOTIFY THE CITY SURVEYOR AND BEAR THE EXPENSE OF REPLACING ANY THAT BE DISTURBED WITHOUT PERMISSION. REPLACEMENT SHALL BE DONE ONLY BY THE CITY SURVEYOR WHEN A CHANGE IS MADE IN THE FINISHED ELEVATIONS OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED. REFER TO SECTION 4.4 OF THE GENERAL CONDITIONS OF THE STANDARD SPECIFICATIONS.

7. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACT SHALL PROMPTLY REMOVE ANY GRAFFITI FROM ALL EQUIPMENT, WHETHER PERMANENT OR TEMPORARY.

8. THE CONTRACTOR SHALL COORDINATE WITH THE WATER AUTHORITY SEVEN (7) DAYS IN ADVANCE OF PERFORMING WORK THAT WILL AFFECT THE PUBLIC WATER OR SANITARY SEWER INFRASTRUCTURE. WORK REQUIRING SHUTOFF OF FACILITIES DESIGNATED AS MASTER PLAN FACILITIES MUST BE COORDINATED WITH THE WATER AUTHORITY 14 DAYS IN ADVANCE OF PERFORMING SUCH WORK. ONLY WATER AUTHORITY CREWS ARE AUTHORIZED TO OPERATE PUBLIC VALVES. SHUTOFF REQUESTS MUST BE MADE ONLINE AT HTTP:///ABCWAU.ORG/CONTENT/VIEW/463/729/

9. ALL EXCAVATION, TRENCHING, AND SHORING ACTIVITIES MUST BE CARRIED-OUT WITH THE OSHA 29 CFR 1926.650 SUBPART P.

10. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL CONSTRCTION SIGNING UNTIL THE PROJECT HAS BEEN ACCEPTED BY THE CITY OF ALBUQUERQUE, AMAFCA, AND BERNALILLO COUNTY.



AIA BASIN MAP

INTERSTATE LOCAL DRAINAGE BASIN MAP

	HYDROLOGY SUMMARY TABLE														
	HYDROLOGY													-	-
	BASIN		REA	Gro	Ground Cover (%			Peak 100-YR Flow Q ₁₀₀ (cfs)		100-YR Volume (ac-ft)		2-YR Volume (ac-ft)		SWQ Volume (ac-ft)	
	1D	(Ac)	(Sq mi	A	В	C	D				Cumulative	Incrumental	Cumulative		
									ent Conditions	3		- Juniolativo	Inclusive Real	Cumulative	
81701	101	1.9	0.00293		-				3.95	0.10	0.10	0.00	0.00	0.00	0.00
38507	102A	0.9	0.00138		-	1	_	0.00	7.56	0.11	0.11	0.03	0.03	0.02	0.00
294009		6.7	0.01055			1			35.08	0.86	0.86	0.23	0.26	0.13	0.02
272767	103	6.3	0.00978			1			56.18	0.60	0.60	0.11	0.37	0.06	0.13
302089	104	6.9	0.01084				-	10.11	15.71	0.39	0.39	0.02	0.02	0.01	0.21
186852	105	4.3	0.00670	-	_	_		3.04	9.04	0.23	0.23	0.02	0.02	0.01	0.01
127356		2.9	0.00457	10		1			11.92	0.38	0.38	0.11	0.11	0.06	0.06
58481	106B	1.3	0.00210					7.21	16.13	0.11	0.11	0.01	0.12	0.01	0.07
72998		1.7	0.00262			1	1	0.50	20.05	0.10	0.10	0.01	0.14	0.01	0.08
151897	106D	3.5	0.00545					0.11	28.22	0.22	0.22	0.03	0.16	0.02	0.09
426663		9.8	0.01530			1	10	22.95	51.17	0.61	0.61	0.08	0.24	0.04	0.14
259228		6.0	0.00930		A	25			69.34	0.53	0.53	0.12	0.36	0.07	0.20
402483	108	9.2	0.01444	90	0	10	0	18.74	88.08	0.45	0.45	0.01	0.37	0.01	0.21
				g	V	_			Post-Developm	ent Conditions	S			0.01	0.21
81701	101	1.9	0.00293					3.95	3.95	0.10	0.10	0.00	0.00	0.00	0.00
38507	102A	0.9	0.00138		_	60		3.60	7.56	0.11	0.21	0.03	0.03	0.02	0.02
294009	102B	6.7	0.01055				40	27.52	35.08	0.86	1.07	0.23	0.26	0.13	0.15
272767	103	6.3	0.00978		-		15	21.10	56.18	0.60	1.67	0.11	0.37	0.06	0.13
302089	104	6.9	0.01084				80	32.64	32.64	1.11	1.11	0.38	0.38	0.21	0.21
186852	105	4.3	0.00670	0			80	20.19	20.19	0.69	0.69	0.24	0.24	0.13	0.13
127356	106A	2.9	0.00457	10		40	50	11.92	11.92	0.38	0.38	0.11	0.11	0.06	0.06
58481	106B	1.3	0.00210			80	0	4.21	16.13	0.11	0.49	0.01	0.12	0.00	0.00
72998	106C	1.7	0.00262	0			80	7.89	24.01	0.27	0.76	0.09	0.22	0.05	0.12
151897	106D	3.5	0.00545			20	80	16.41	40.42	0.56	1.32	0.19	0.41	0.11	0.12
426663	107A	9.8	0.01530	80			10	22.95	63.37	0.61	1.93	0.08	0.49	0.04	0.27
259228	107B	6.0	0.00930	50	-		25	18.17	81.54	0.53	2.47	0.12	0.60	0.07	0.34
402483	108	9.2	0.01444	0		20	80	43.48	125.02	1.48	3.95	0.51	1.11	0.28	0.62
- 1	100-YR	Tbl A-9	Zone 2	1.87	2.60	3.45	5.02	Peak Discharge (cfs/acre)					-	0.20	0.02
	100-YR	Tbl A-8	Zone 2	0.53	0.78	1.13	2.12	Excess Precipitation (in)							
Į	2-YR	Tbl A-8						Excess Precipitation (in)							
	SWQV	Tbl A-8						Excess Precipi					*		



SUNPORT PROPERTY UTILITIES GRADING & DRAINAGE PLAN

MARK GOODWIN & ASSOCIATES, P.A. CONSULTING ENGINEERS

P.O. BOX 90606 ALBUQUERQUE, NEW MEXICO 87199 (505)828-2200, FAX (505)797-9539

Designed: JDH Drawn: ACH Checked: DMG Scale: 1'' = 1' Date: 04/12 Job: A11052 Sheet 2 of 2