



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1		20	171,373	214,962	#	43,589	68,035	5,38%	OK	ok
E2		40	172,449	214,924		42,475	66,921	3,08%	OK	ok
E3		60	173,066	214,886		41,820	66,266	-2,66%	OK	ok
E4		80	172,535	214,847		42,312	66,759	1,14%	OK	ok
E5		100	172,762	214,809		42,047	66,493	2,69%	OK	ok
E6		120	173,300	214,771		41,471	65,917	0,49%	OK	ok
E7		140	173,399	214,733		41,334	65,780	-1,79%	OK	ok
E8		160	173,042	214,695		41,653	66,099	0,24%	OK	ok
E9		180	173,090	214,657		41,567	66,013	-0,26%	+DECLIVE	ok
E10		200	173,039	214,618		41,579	66,026	-0,83%	OK	ok
E11		220	172,873	214,580		41,707	66,153	-2,49%	OK	ok
E12		240	172,374	214,542		42,168	66,614	1,56%	OK	ok
E13		260	172,686	214,504		41,818	66,264	-1,65%	OK	ok
E14		280	172,356	214,466		42,110	66,556	-6,86%	OK	ok
E15		300	170,983	214,428		43,445	67,891	-9,65%	OK	ok
E16		320	169,053	214,390		45,337	69,783	8,76%	OK	ok
E17		340	170,804	214,351		43,547	67,994	2,96%	OK	ok
E18		360	171,395	214,313		42,918	67,364	-1,68%	OK	ok
E19		380	171,059	214,275		43,216	67,662	1,00%	OK	ok
E20		400	171,258	214,237		42,979	67,425	4,21%	OK	ok
E21		420	172,101	214,199		42,098	66,544	3,90%	OK	ok
E22		440	172,881	214,161		41,280	65,726	3,23%	OK	ok
E23		460	173,527	214,123		40,596	65,042	4,74%	OK	ok
E24		480	174,474	214,084		39,610	64,057	5,27%	OK	ok
E25		500	175,528	214,046		38,518	62,964	-0,29%	+DECLIVE	ok
E26		520	175,469	214,008		38,539	62,985	-0,29%	+DECLIVE	ok
E27		540	175,410	213,970		38,560	63,006	-1,58%	OK	ok
E28		560	175,094	213,932		38,838	63,284	-3,32%	OK	ok
E29		580	174,429	213,894		39,465	63,911	-7,07%	OK	ok
E30		600	173,015	213,855		40,840	65,287	3,47%	OK	ok
E31		620	173,708	213,817		40,109	64,555	0,99%	OK	ok
E32		640	173,905	213,779		39,874	64,320	4,84%	OK	ok
E33		660	174,872	213,741		38,869	63,315	1,96%	OK	ok
E34		680	175,265	213,703		38,438	62,884	1,20%	OK	ok
E35		700	175,504	213,665		38,161	62,607	1,20%	OK	ok
E36		720	175,743	213,627		37,884	62,330	1,52%	OK	ok
E37		740	176,047	213,588		37,541	61,988	1,74%	OK	ok
E38		760	176,395	213,550		37,155	61,601	0,42%	OK	ok
E39		780	176,479	213,512		37,033	61,479	1,21%	OK	ok
E40		800	176,722	213,474		36,752	61,198	-1,25%	OK	ok
E41		820	176,472	213,436		36,964	61,410	-2,39%	OK	ok
E42		840	175,995	213,398		37,403	61,849	-2,13%	OK	ok
E43		860	175,569	213,360		37,791	62,237	-1,91%	OK	ok
E44		880	175,188	213,321		38,133	62,579	6,18%	OK	ok
E45		900	176,424	213,283		36,859	61,305	3,02%	OK	ok
E46		920	177,028	213,245		36,217	60,663	2,26%	OK	ok
E47		940	177,480	213,207		35,727	60,173	3,18%	OK	ok
E48		960	178,116	213,169		35,053	59,499	3,16%	OK	ok
E49		980	178,748	213,131		34,383	58,829	1,68%	OK	ok
E50		1000	179,084	213,092		34,008	58,455	1,69%	OK	ok
E51		1020	179,423	213,054		33,631	58,077	1,89%	OK	ok
E52		1040	179,800	213,016		33,216	57,662	4,56%	OK	ok
E53		1060	180,712	212,978		32,266	56,712	5,73%	OK	ok

Breno Oliveira Coutinho de Moraes
Eng. Civil - CREA: 210.067/810-8



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OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E54		1080	181,857	212,940		31,083	55,529	4,47%	OK	ok
E55		1100	182,750	212,902		30,152	54,598	3,97%	OK	ok
E56		1120	183,543	212,864		29,321	53,767	-6,69%	OK	ok
E57		1140	182,205	212,825		30,620	55,067	-3,07%	OK	ok
E58		1160	181,591	212,787		31,196	55,642	-3,01%	OK	ok
E59		1180	180,989	212,749		31,760	56,206	-1,71%	OK	ok
E60		1200	180,648	212,711		32,063	56,509	-1,84%	OK	ok
E61		1220	180,280	212,673		32,393	56,839	-0,66%	OK	ok
E62		1240	180,149	212,635		32,486	56,932	0,05%	+ACLIVE	ok
E63		1260	180,160	212,597		32,437	56,883	0,46%	OK	ok
E64		1280	180,253	212,558		32,305	56,751	-0,03%	+DECLIVE	ok
E65		1300	180,246	212,520		32,274	56,720	-1,47%	OK	ok
E66		1320	179,952	212,482		32,530	56,976	0,35%	OK	ok
E67		1340	180,023	212,444		32,421	56,867	0,91%	OK	ok
E68		1360	180,204	212,406		32,202	56,648	0,90%	OK	ok
E69		1380	180,385	212,368		31,983	56,429	0,91%	OK	ok
E70		1400	180,566	212,329		31,763	56,210	0,91%	OK	ok
E71		1420	180,747	212,291		31,544	55,990	1,15%	OK	ok
E72		1440	180,977	212,253		31,276	55,722	1,21%	OK	ok
E73		1460	181,220	212,215		30,995	55,441	1,21%	OK	ok
E74		1480	181,463	212,177		30,714	55,160	6,15%	OK	ok
E75		1500	182,693	212,139		29,446	53,892	7,75%	OK	ok
E76		1520	184,243	212,101		27,858	52,304	7,01%	OK	ok
E77		1540	185,645	212,062		26,417	50,864	3,87%	OK	ok
E78		1560	186,419	212,024		25,605	50,051	-7,32%	OK	ok
E79		1580	184,955	211,986		27,031	51,477	-5,79%	OK	ok
E80		1600	183,797	211,948		28,151	52,597	-3,97%	OK	ok
E81		1620	183,003	211,910		28,907	53,353	-1,76%	OK	ok
E82		1640	182,652	211,872		29,220	53,666	-0,57%	OK	ok
E83		1660	182,537	211,833		29,296	53,743	2,42%	OK	ok
E84		1680	183,022	211,795		28,773	53,219	2,43%	OK	ok
E85		1700	183,507	211,757		28,250	52,696	4,72%	OK	ok
E86		1720	184,451	211,719		27,268	51,714	9,10%	OK	ok
E87		1740	186,271	211,681		25,410	49,856	6,62%	OK	ok
E88		1760	187,595	211,643		24,048	48,494	8,31%	OK	ok
E89		1780	189,256	211,605		22,349	46,795	5,87%	OK	ok
E90		1800	190,429	211,566		21,137	45,584	2,84%	OK	ok
E91		1820	190,996	211,528		20,532	44,978	1,16%	OK	ok
E92		1840	191,228	211,490		20,262	44,708	-3,20%	OK	ok
E93		1860	190,588	211,452		20,864	45,310	-5,27%	OK	ok
E94		1880	189,534	211,414		21,880	46,326	-0,72%	OK	ok
E95		1900	189,390	211,376		21,986	46,432	-1,98%	OK	ok
E96		1920	188,994	211,338		22,344	46,790	-5,07%	OK	ok
E97		1940	187,980	211,299		23,319	47,766	-4,67%	OK	ok
E98		1960	187,046	211,261		24,215	48,661	-2,46%	OK	ok
E99		1980	186,553	211,223		24,670	49,116	-2,51%	OK	ok
E100		2000	186,051	211,185		25,134	49,580	3,97%	OK	ok
E101		2020	186,844	211,147		24,303	48,749	4,93%	OK	ok
E102		2040	187,831	211,109		23,278	47,724	2,00%	OK	ok
E103		2060	188,230	211,070		22,840	47,287	-5,69%	OK	ok
E104		2080	187,093	211,032		23,939	48,385	-3,58%	OK	ok
E105		2100	186,378	210,994		24,616	49,062	-3,04%	OK	ok
E106		2120	185,769	210,956		25,187	49,633	-0,17%	+DECLIVE	ok



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E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E107		2140	185,734	210,918		25,184	49,630	1,95%	OK	ok
E108		2160	186,125	210,880		24,755	49,201	2,79%	OK	ok
E109		2180	186,683	210,842		24,159	48,605	2,46%	OK	ok
E110		2200	187,175	210,803		23,628	48,075	2,58%	OK	ok
E111		2220	187,692	210,765		23,073	47,519	2,76%	OK	ok
E112		2240	188,244	210,727		22,483	46,929	2,60%	OK	ok
E113		2260	188,763	210,689		21,926	46,372	0,97%	OK	ok
E114		2280	188,958	210,651		21,693	46,139	3,11%	OK	ok
E115		2300	189,581	210,613		21,032	45,478	-1,34%	OK	ok
E116		2320	189,313	210,575		21,262	45,708	-1,63%	OK	ok
E117		2340	188,987	210,536		21,549	45,995	-1,48%	OK	ok
E118		2360	188,690	210,498		21,808	46,254	-1,33%	OK	ok
E119		2380	188,423	210,460		22,037	46,483	2,09%	OK	ok
E120		2400	188,840	210,422		21,582	46,028	2,89%	OK	ok
E121		2420	189,418	210,384		20,966	45,412	3,19%	OK	ok
E122		2440	190,056	210,346		20,290	44,736	1,52%	OK	ok
E123		2460	190,360	210,307		19,947	44,394	1,47%	OK	ok
E124		2480	190,654	210,269		19,615	44,061	0,55%	OK	ok
E125		2500	190,764	210,231		19,467	43,913	1,21%	OK	ok
E126		2520	191,007	210,193		19,186	43,632	-0,78%	OK	ok
E127		2540	190,851	210,155		19,304	43,750	2,29%	OK	ok
E128		2560	191,309	210,117		18,808	43,254	5,83%	OK	ok
E129		2580	192,475	210,079		17,604	42,050	5,30%	OK	ok
E130		2600	193,535	210,040		16,505	40,952	4,90%	OK	ok
E131		2620	194,515	210,002		15,487	39,933	6,50%	OK	ok
E132		2640	195,814	209,964		14,150	38,596	5,44%	OK	ok
E133		2660	196,902	209,926		13,024	37,470	5,21%	OK	ok
E134		2680	197,943	209,888		11,945	36,391	-3,65%	OK	ok
E135		2700	197,213	209,850		12,637	37,083	0,07%	+ACLIVE	ok
E136		2720	197,226	209,812		12,586	37,032	-4,03%	OK	ok
E137		2740	196,420	209,773		13,353	37,799	-2,17%	OK	ok
E138		2760	195,985	209,735		13,750	38,196	5,73%	OK	ok
E139		2780	197,131	209,697		12,566	37,012	8,77%	OK	ok
E140		2800	198,885	209,659		10,774	35,220	3,77%	OK	ok
E141	ELEVATÓRIA	2820	199,639	244,639	45,00	45,000	69,446	-2,33%	OK	ok
E142		2840	199,173	244,601	#	45,428	69,874	-2,68%	OK	ok
E143		2860	198,637	244,563		45,926	70,372	-3,41%	OK	ok
E144		2880	197,955	244,525		46,570	71,016	-3,19%	OK	ok
E145		2900	197,317	244,486		47,169	71,616	-2,77%	OK	ok
E146		2920	196,763	244,448		47,685	72,131	-2,86%	OK	ok
E147		2940	196,191	244,410		48,219	72,665	5,08%	OK	ok
E148		2960	197,207	244,372		47,165	71,611	10,38%	OK	ok
E149		2980	199,283	244,334		45,051	69,497	3,41%	OK	ok
E150		3000	199,964	244,296		44,332	68,778	2,72%	OK	ok
E151		3020	200,509	244,257		43,748	68,195	2,79%	OK	ok
E152		3040	201,067	244,219		43,152	67,598	1,08%	OK	ok
E153		3060	201,282	244,181		42,899	67,345	2,68%	OK	ok
E154		3080	201,818	244,143		42,325	66,771	-2,09%	OK	ok
E155		3100	201,401	244,105		42,704	67,150	-3,89%	OK	ok
E156		3120	200,623	244,067		43,444	67,890	-0,43%	OK	ok
E157		3140	200,537	244,029		43,492	67,938	-0,44%	OK	ok
E158		3160	200,450	243,990		43,540	67,987	3,54%	OK	ok



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E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E159		3180	201,158	243,952		42,794	67,240	2,41%	OK	ok
E160		3200	201,640	243,914		42,274	66,720	3,75%	OK	ok
E161		3220	202,389	243,876		41,487	65,933	0,01%	+ACLIVE	ok
E162		3240	202,391	243,838		41,447	65,893	0,45%	OK	ok
E163		3260	202,481	243,800		41,319	65,765	3,34%	OK	ok
E164		3280	203,148	243,762		40,614	65,060	3,34%	OK	ok
E165		3300	203,815	243,723		39,908	64,355	-5,40%	OK	ok
E166		3320	202,734	243,685		40,951	65,397	-8,19%	OK	ok
E167		3340	201,096	243,647		42,551	66,997	-7,83%	OK	ok
E168		3360	199,530	243,609		44,079	68,525	-3,69%	OK	ok
E169		3380	198,792	243,571		44,779	69,225	-3,69%	OK	ok
E170		3400	198,054	243,533		45,479	69,925	-5,22%	OK	ok
E171		3420	197,011	243,494		46,483	70,930	1,24%	OK	ok
E172		3440	197,259	243,456		46,197	70,643	3,32%	OK	ok
E173		3460	197,922	243,418		45,496	69,942	1,17%	OK	ok
E174		3480	198,155	243,380		45,225	69,671	1,21%	OK	ok
E175		3500	198,398	243,342		44,944	69,390	3,68%	OK	ok
E176		3520	199,134	243,304		44,170	68,616	1,92%	OK	ok
E177		3540	199,517	243,266		43,749	68,195	2,82%	OK	ok
E178		3560	200,082	243,227		43,145	67,592	2,59%	OK	ok
E179		3580	200,600	243,189		42,589	67,035	2,12%	OK	ok
E180		3600	201,023	243,151		42,128	66,574	1,89%	OK	ok
E181		3620	201,401	243,113		41,712	66,158	1,30%	OK	ok
E182		3640	201,662	243,075		41,413	65,859	1,30%	OK	ok
E183		3660	201,922	243,037		41,115	65,561	1,30%	OK	ok
E184		3680	202,182	242,999		40,817	65,263	-4,09%	OK	ok
E185		3700	201,363	242,960		41,597	66,043	-6,41%	OK	ok
E186		3720	200,080	242,922		42,842	67,288	-5,77%	OK	ok
E187		3740	198,926	242,884		43,958	68,404	-5,60%	OK	ok
E188		3760	197,806	242,846		45,040	69,486	-4,03%	OK	ok
E189		3780	197,001	242,808		45,807	70,253	-2,54%	OK	ok
E190		3800	196,493	242,770		46,277	70,723	4,56%	OK	ok
E191		3820	197,404	242,731		45,327	69,774	3,85%	OK	ok
E192		3840	198,173	242,693		44,520	68,966	6,14%	OK	ok
E193		3860	199,400	242,655		43,255	67,701	5,04%	OK	ok
E194		3880	200,409	242,617		42,208	66,654	3,48%	OK	ok
E195	ENTRADA DE TIMBAUBA	3900	201,105	242,579		41,474	65,920	3,82%	OK	ok
E196		3920	201,869	242,541		40,672	65,118	4,71%	OK	ok
E197		3940	202,811	242,503		39,692	64,138	1,20%	OK	ok
E198		3960	203,051	242,464		39,413	63,860	-2,20%	OK	ok
E199		3980	202,611	242,426		39,815	64,261	-4,68%	OK	ok
E200		4000	201,676	242,388		40,712	65,158	-6,00%	OK	ok
E201		4020	200,476	242,350		41,874	66,320	-6,35%	OK	ok
E202		4040	199,205	242,312		43,107	67,553	-1,74%	OK	ok
E203		4060	198,858	242,274		43,416	67,862	2,46%	OK	ok
E204		4080	199,350	242,236		42,886	67,332	2,64%	OK	ok
E205		4100	199,879	242,197		42,318	66,764	2,20%	OK	ok
E206		4120	200,319	242,159		41,840	66,286	2,29%	OK	ok
E207		4140	200,777	242,121		41,344	65,790	1,71%	OK	ok
E208		4160	201,119	242,083		40,964	65,410	2,01%	OK	ok
E209		4180	201,521	242,045		40,524	64,970	2,33%	OK	ok
E210		4200	201,986	242,007		40,021	64,467	4,51%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
 OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
 LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
 DATA: SETEMBRO DE 2019
 RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E211		4220	202,887	241,968	45,00	39,081	63,528	4,44%	OK	ok
E212		4240	203,774	241,930		38,156	62,602	3,85%	OK	ok
E213		4260	204,544	241,892		37,348	61,794	4,87%	OK	ok
E214		4280	205,519	241,854		36,335	60,781	4,86%	OK	ok
E215		4300	206,490	241,816		35,326	59,772	3,91%	OK	ok
E216		4320	207,272	241,778		34,506	58,952	6,17%	OK	ok
E217		4340	208,505	241,740		33,235	57,681	7,89%	OK	ok
E218		4360	210,083	241,701		31,618	56,065	8,17%	OK	ok
E219		4380	211,717	241,663		29,946	54,392	7,05%	OK	ok
E220		4400	213,128	241,625		28,497	52,943	2,79%	OK	ok
E221		4420	213,686	241,587		27,901	52,347	-1,64%	OK	ok
E222		4440	213,358	241,549		28,191	52,637	-3,04%	OK	ok
E223		4460	212,750	241,511		28,761	53,207	-2,33%	OK	ok
E224		4480	212,285	241,472		29,187	53,634	-2,60%	OK	ok
E225		4500	211,764	241,434		29,670	54,116	-2,61%	OK	ok
E226		4520	211,242	241,396		30,154	54,600	-4,32%	OK	ok
E227		4540	210,377	241,358		30,981	55,427	-6,54%	OK	ok
E228		4560	209,070	241,320		32,250	56,696	-3,68%	OK	ok
E229		4580	208,333	241,282		32,949	57,395	0,94%	OK	ok
E230		4600	208,520	241,244		32,724	57,170	0,06%	+ACLIVE	ok
E231		4620	208,533	241,205		32,672	57,119	-7,12%	OK	ok
E232		4640	207,108	241,167		34,059	58,505	-5,23%	OK	ok
E233		4660	206,062	241,129		35,067	59,513	4,10%	OK	ok
E234		4680	206,882	241,091		34,209	58,655	4,81%	OK	ok
E235		4700	207,845	241,053		33,208	57,654	5,04%	OK	ok
E236		4720	208,852	241,015		32,163	56,609	6,21%	OK	ok
E237		4740	210,095	240,977		30,882	55,328	7,12%	OK	ok
E238		4760	211,518	240,938		29,420	53,867	7,12%	OK	ok
E239		4780	212,942	240,900		27,958	52,404	6,82%	OK	ok
E240		4800	214,305	240,862		26,557	51,003	3,46%	OK	ok
E241		4820	214,998	240,824		25,826	50,272	3,78%	OK	ok
E242		4840	215,754	240,786		25,032	49,478	3,24%	OK	ok
E243		4860	216,401	240,748		24,347	48,793	1,98%	OK	ok
E244		4880	216,798	240,709		23,911	48,358	-0,14%	+DECLIVE	ok
E245		4900	216,771	240,671		23,900	48,346	-5,97%	OK	ok
E246		4920	215,577	240,633		25,056	49,502	2,75%	OK	ok
E247		4940	216,128	240,595		24,467	48,913	5,74%	OK	ok
E248		4960	217,276	240,557		23,281	47,727	6,83%	OK	ok
E249		4980	218,643	240,519		21,876	46,322	6,92%	OK	ok
E250		5000	220,028	240,481		20,453	44,899	6,25%	OK	ok
E251		5020	221,278	240,442		19,164	43,611	6,05%	OK	ok
E252		5040	222,487	240,404		17,917	42,363	5,78%	OK	ok
E253		5060	223,642	240,366		16,724	41,170	5,70%	OK	ok
E254		5080	224,782	240,328		15,546	39,992	5,15%	OK	ok
E255		5100	225,813	240,290		14,477	38,923	0,66%	OK	ok
E256		5120	225,944	240,252		14,308	38,754	-0,43%	OK	ok
E257		5140	225,858	240,214		14,356	38,802	2,21%	OK	ok
E258	CAIXA DE TRANSIÇÃO	5160	226,299	239,299	13,00	13,000	37,446	-3,37%	OK	ok
E259		5180	225,625	239,299	13,00	13,674	38,120	5,21%	OK	ok
E260		5200	226,667	239,261		12,594	37,040	6,59%	OK	ok
E261		5220	227,986	239,223		11,237	35,683	2,57%	OK	ok
E262		5240	228,499	239,185		10,686	35,132	3,14%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E263		5260	229,126	239,146		10,020	34,467	3,30%	OK	ok
E264		5280	229,786	239,108		9,322	33,768	3,34%	OK	ok
E265		5300	230,454	239,070		8,616	33,062	2,19%	OK	ok
E266		5320	230,892	239,032		8,140	32,586	-6,24%	OK	ok
E267		5340	229,644	238,994		9,350	33,796	-5,51%	OK	ok
E268		5360	228,542	238,956		10,414	34,860	-4,19%	OK	ok
E269		5380	227,703	238,917		11,214	35,661	-2,92%	OK	ok
E270		5400	227,119	238,879		11,760	36,206	-2,77%	OK	ok
E271		5420	226,565	238,841		12,276	36,722	-2,28%	OK	ok
E272		5440	226,108	238,803		12,695	37,141	-1,75%	OK	ok
E273		5460	225,759	238,765		13,006	37,452	0,26%	OK	ok
E274		5480	225,810	238,727		12,917	37,363	-5,05%	OK	ok
E275		5500	224,799	238,689		13,890	38,336	-7,31%	OK	ok
E276		5520	223,337	238,650		15,313	39,760	-2,22%	OK	ok
E277		5540	222,893	238,612		15,719	40,165	-0,11%	+DECLIVE	ok
E278		5560	222,871	238,574		15,703	40,149	-3,47%	OK	ok
E279		5580	222,177	238,536		16,359	40,805	4,91%	OK	ok
E280		5600	223,159	238,498		15,339	39,785	2,70%	OK	ok
E281		5620	223,699	238,460		14,761	39,207	-4,96%	OK	ok
E282		5640	222,707	238,422		15,715	40,161	-13,01%	OK	ok
E283		5660	220,105	238,383		18,278	42,725	-21,43%	OK	ok
E284		5680	215,819	238,345		22,526	46,972	0,68%	OK	ok
E285		5700	215,954	238,307		22,353	46,799	8,20%	OK	ok
E286		5720	217,595	238,269		20,674	45,120	5,23%	OK	ok
E287		5740	218,641	238,231		19,590	44,036	6,07%	OK	ok
E288		5760	219,855	238,193		18,338	42,784	7,44%	OK	ok
E289		5780	221,343	238,154		16,811	41,258	3,65%	OK	ok
E290		5800	222,073	238,116		16,043	40,489	3,43%	OK	ok
E291		5820	222,758	238,078		15,320	39,766	-2,20%	OK	ok
E292		5840	222,319	238,040		15,721	40,167	-0,94%	OK	ok
E293		5860	222,131	238,002		15,871	40,317	-1,92%	OK	ok
E294		5880	221,748	237,964		16,216	40,662	1,81%	OK	ok
E295		5900	222,109	237,926		15,817	40,263	2,64%	OK	ok
E296		5920	222,637	237,887		15,250	39,697	0,91%	OK	ok
E297		5940	222,820	237,849		15,029	39,475	1,80%	OK	ok
E298		5960	223,179	237,811		14,632	39,078	1,62%	OK	ok
E299		5980	223,503	237,773		14,270	38,716	-0,77%	OK	ok
E300		6000	223,348	237,735		14,387	38,833	-1,37%	OK	ok
E301		6020	223,075	237,697		14,622	39,068	-2,69%	OK	ok
E302		6040	222,537	237,659		15,122	39,568	-3,00%	OK	ok
E303		6060	221,937	237,620		15,683	40,129	-4,57%	OK	ok
E304		6080	221,024	237,582		16,558	41,004	2,03%	OK	ok
E305		6100	221,430	237,544		16,114	40,560	-2,23%	OK	ok
E306		6120	220,984	237,506		16,522	40,968	-6,31%	OK	ok
E307		6140	219,722	237,468		17,746	42,192	-5,88%	OK	ok
E308		6160	218,547	237,430		18,883	43,329	-0,58%	OK	ok
E309		6180	218,430	237,391		18,961	43,408	-3,56%	OK	ok
E310		6200	217,718	237,353		19,635	44,081	-0,10%	+DECLIVE	ok
E311		6220	217,697	237,315		19,618	44,064	-1,92%	OK	ok
E312		6240	217,313	237,277		19,964	44,410	-3,34%	OK	ok
E313		6260	216,645	237,239		20,594	45,040	-1,86%	OK	ok
E314		6280	216,274	237,201		20,927	45,373	-0,47%	OK	ok
E315		6300	216,180	237,163		20,983	45,429	-2,58%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E316		6320	215,664	237,124		21,460	45,907	-4,56%	OK	ok
E317		6340	214,753	237,086		22,333	46,779	-2,34%	OK	ok
E318		6360	214,284	237,048		22,764	47,210	-5,33%	OK	ok
E319		6380	213,217	237,010		23,793	48,239	-1,87%	OK	ok
E320		6400	212,843	236,972		24,129	48,575	-3,07%	OK	ok
E321		6420	212,230	236,934		24,704	49,150	-6,16%	OK	ok
E322		6440	210,997	236,896		25,899	50,345	-11,13%	OK	ok
E323		6460	208,772	236,857		28,085	52,531	-2,98%	OK	ok
E324		6480	208,175	236,819		28,644	53,090	-4,97%	OK	ok
E325		6500	207,181	236,781		29,600	54,046	-5,35%	OK	ok
E326		6520	206,110	236,743		30,633	55,079	-2,66%	OK	ok
E327		6540	205,579	236,705		31,126	55,572	-3,50%	OK	ok
E328		6560	204,880	236,667		31,787	56,233	-1,23%	OK	ok
E329		6580	204,633	236,628		31,995	56,442	-2,79%	OK	ok
E330		6600	204,075	236,590		32,515	56,961	0,76%	OK	ok
E331		6620	204,227	236,552		32,325	56,771	-3,41%	OK	ok
E332		6640	203,544	236,514		32,970	57,416	-3,31%	OK	ok
E333		6660	202,883	236,476		33,593	58,039	-2,27%	OK	ok
E334		6680	202,430	236,438		34,008	58,454	0,40%	OK	ok
E335		6700	202,511	236,400		33,889	58,335	-0,59%	OK	ok
E336		6720	202,392	236,361		33,969	58,416	-0,08%	+DECLIVE	ok
E337		6740	202,376	236,323		33,947	58,393	-0,79%	OK	ok
E338		6760	202,219	236,285		34,066	58,512	-0,10%	+DECLIVE	ok
E339		6780	202,199	236,247		34,048	58,494	1,69%	OK	ok
E340		6800	202,538	236,209		33,671	58,117	-0,01%	+DECLIVE	ok
E341		6820	202,537	236,171		33,634	58,080	-1,75%	OK	ok
E342		6840	202,187	236,132		33,945	58,392	6,39%	OK	ok
E343		6860	203,466	236,094		32,628	57,074	-1,18%	OK	ok
E344		6880	203,231	236,056		32,825	57,271	-3,59%	OK	ok
E345		6900	202,512	236,018		33,506	57,952	-1,89%	OK	ok
E346		6920	202,133	235,980		33,847	58,293	-7,73%	OK	ok
E347		6940	200,586	235,942		35,356	59,802	-5,64%	OK	ok
E348		6960	199,459	235,904		36,445	60,891	-2,57%	OK	ok
E349		6980	198,945	235,865		36,920	61,367	-1,17%	OK	ok
E350		7000	198,712	235,827		37,115	61,561	-0,91%	OK	ok
E351		7020	198,530	235,789		37,259	61,705	0,95%	OK	ok
E352		7040	198,720	235,751		37,031	61,477	1,24%	OK	ok
E353		7060	198,969	235,713		36,744	61,190	1,22%	OK	ok
E354		7080	199,213	235,675		36,462	60,908	5,29%	OK	ok
E355		7100	200,270	235,637		35,367	59,813	4,96%	OK	ok
E356		7120	201,262	235,598		34,336	58,783	5,20%	OK	ok
E357		7140	202,303	235,560		33,257	57,703	2,40%	OK	ok
E358		7160	202,782	235,522		32,740	57,186	-0,56%	OK	ok
E359		7180	202,671	235,484		32,813	57,259	-0,05%	+DECLIVE	ok
E360		7200	202,661	235,446		32,785	57,231	1,97%	OK	ok
E361		7220	203,054	235,408		32,354	56,800	-1,71%	OK	ok
E362		7240	202,713	235,369		32,656	57,103	0,85%	OK	ok
E363		7260	202,882	235,331		32,449	56,895	2,87%	OK	ok
E364		7280	203,455	235,293		31,838	56,284	2,48%	OK	ok
E365		7300	203,951	235,255		31,304	55,750	2,75%	OK	ok
E366		7320	204,501	235,217		30,716	55,162	0,78%	OK	ok
E367		7340	204,657	235,179		30,522	54,968	-1,12%	OK	ok
E368		7360	204,433	235,141		30,708	55,154	-1,52%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
 OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
 LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
 DATA: SETEMBRO DE 2019
 RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E369		7380	204,129	235,102		30,973	55,420	-1,46%	OK	ok
E370		7400	203,836	235,064		31,228	55,674	-3,36%	OK	ok
E371		7420	203,165	235,026		31,861	56,307	-1,32%	OK	ok
E372		7440	202,901	234,988		32,087	56,533	-1,13%	OK	ok
E373		7460	202,676	234,950		32,274	56,720	-3,95%	OK	ok
E374		7480	201,886	234,912		33,026	57,472	-4,26%	OK	ok
E375		7500	201,034	234,874		33,840	58,286	-2,07%	OK	ok
E376		7520	200,620	234,835		34,215	58,661	4,33%	OK	ok
E377		7540	201,485	234,797		33,312	57,758	1,93%	OK	ok
E378		7560	201,871	234,759		32,888	57,334	3,61%	OK	ok
E379		7580	202,593	234,721		32,128	56,574	-0,36%	OK	ok
E380		7600	202,521	234,683		32,162	56,608	0,58%	OK	ok
E381		7620	202,636	234,645		32,009	56,455	3,21%	OK	ok
E382		7640	203,278	234,606		31,328	55,775	2,64%	OK	ok
E383		7660	203,806	234,568		30,762	55,208	0,26%	OK	ok
E384		7680	203,858	234,530		30,672	55,118	-0,82%	OK	ok
E385		7700	203,695	234,492		30,797	55,243	-2,07%	OK	ok
E386		7720	203,280	234,454		31,174	55,620	-3,29%	OK	ok
E387		7740	202,621	234,416		31,795	56,241	-3,67%	OK	ok
E388		7760	201,887	234,378		32,491	56,937	-0,33%	OK	ok
E389		7780	201,821	234,339		32,518	56,965	4,15%	OK	ok
E390		7800	202,651	234,301		31,650	56,096	6,12%	OK	ok
E391		7820	203,875	234,263		30,388	54,834	6,68%	OK	ok
E392		7840	205,211	234,225		29,014	53,460	3,07%	OK	ok
E393		7860	205,824	234,187		28,363	52,809	3,34%	OK	ok
E394		7880	206,493	234,149		27,656	52,102	1,95%	OK	ok
E395		7900	206,884	234,111		27,227	51,673	1,34%	OK	ok
E396		7920	207,151	234,072		26,921	51,367	-1,48%	OK	ok
E397		7940	206,855	234,034		27,179	51,625	-2,33%	OK	ok
E398		7960	206,389	233,996		27,607	52,053	-1,82%	OK	ok
E399		7980	206,025	233,958		27,933	52,379	-2,43%	OK	ok
E400		8000	205,538	233,920		28,382	52,828	-1,87%	OK	ok
E401		8020	205,165	233,882		28,717	53,163	-2,63%	OK	ok
E402		8040	204,639	233,843		29,204	53,651	-1,97%	OK	ok
E403		8060	204,245	233,805		29,560	54,006	-3,46%	OK	ok
E404		8080	203,554	233,767		30,213	54,659	-1,76%	OK	ok
E405		8100	203,203	233,729		30,526	54,972	-2,40%	OK	ok
E406		8120	202,723	233,691		30,968	55,414	-3,05%	OK	ok
E407		8140	202,113	233,653		31,540	55,986	-4,19%	OK	ok
E408		8160	201,275	233,615		32,340	56,786	-4,19%	OK	ok
E409		8180	200,437	233,576		33,139	57,586	-2,28%	OK	ok
E410		8200	199,981	233,538		33,557	58,003	-2,77%	OK	ok
E411		8220	199,427	233,500		34,073	58,519	-2,92%	OK	ok
E412		8240	198,842	233,462		34,620	59,066	-2,38%	OK	ok
E413		8260	198,366	233,424		35,058	59,504	0,69%	OK	ok
E414		8280	198,505	233,386		34,881	59,327	6,39%	OK	ok
E415		8300	199,782	233,347		33,565	58,012	3,86%	OK	ok
E416		8320	200,555	233,309		32,754	57,200	2,76%	OK	ok
E417		8340	201,107	233,271		32,164	56,610	3,12%	OK	ok
E418		8360	201,731	233,233		31,502	55,948	3,40%	OK	ok
E419		8380	202,411	233,195		30,784	55,230	3,68%	OK	ok
E420		8400	203,147	233,157		30,010	54,456	3,61%	OK	ok
E421		8420	203,869	233,119		29,250	53,696	1,86%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E422		8440	204,242	233,080		28,838	53,285	1,13%	OK	ok
E423		8460	204,467	233,042		28,575	53,021	-1,87%	OK	ok
E424		8480	204,094	233,004		28,910	53,356	0,04%	+ACLIVE	ok
E425		8500	204,102	232,966		28,864	53,310	0,88%	OK	ok
E426		8520	204,279	232,928		28,649	53,095	2,19%	OK	ok
E427		8540	204,717	232,890		28,173	52,619	0,80%	OK	ok
E428		8560	204,878	232,852		27,974	52,420	0,52%	OK	ok
E429		8580	204,981	232,813		27,832	52,279	0,82%	OK	ok
E430		8600	205,146	232,775		27,629	52,075	-1,67%	OK	ok
E431		8620	204,812	232,737		27,925	52,371	0,78%	OK	ok
E432		8640	204,967	232,699		27,732	52,178	3,55%	OK	ok
E433		8660	205,677	232,661		26,984	51,430	-0,09%	+DECLIVE	ok
E434		8680	205,659	232,623		26,964	51,410	-1,31%	OK	ok
E435		8700	205,397	232,584		27,187	51,634	-0,53%	OK	ok
E436		8720	205,291	232,546		27,255	51,701	-1,97%	OK	ok
E437		8740	204,898	232,508		27,610	52,056	-0,35%	OK	ok
E438		8760	204,827	232,470		27,643	52,089	2,27%	OK	ok
E439		8780	205,281	232,432		27,151	51,597	2,19%	OK	ok
E440		8800	205,720	232,394		26,674	51,120	-0,57%	OK	ok
E441		8820	205,606	232,356		26,750	51,196	-1,73%	OK	ok
E442		8840	205,260	232,317		27,057	51,504	-1,68%	OK	ok
E443		8860	204,923	232,279		27,356	51,802	0,35%	OK	ok
E444		8880	204,993	232,241		27,248	51,694	3,49%	OK	ok
E445		8900	205,690	232,203		26,513	50,959	2,82%	OK	ok
E446		8920	206,254	232,165		25,911	50,357	0,00%	FALSO	ok
E447		8940	206,254	232,127		25,873	50,319	-1,40%	OK	ok
E448		8960	205,974	232,089		26,115	50,561	-3,10%	OK	ok
E449		8980	205,355	232,050		26,695	51,141	-5,07%	OK	ok
E450		9000	204,341	232,012		27,671	52,117	-6,76%	OK	ok
E451		9020	202,990	231,974		28,984	53,430	-7,74%	OK	ok
E452		9040	201,442	231,936		30,494	54,940	-7,82%	OK	ok
E453		9060	199,879	231,898		32,019	56,465	-3,53%	OK	ok
E454		9080	199,172	231,860		32,688	57,134	3,18%	OK	ok
E455		9100	199,808	231,821		32,013	56,460	3,05%	OK	ok
E456		9120	200,417	231,783		31,366	55,812	1,05%	OK	ok
E457		9140	200,627	231,745		31,118	55,564	-0,64%	OK	ok
E458		9160	200,500	231,707		31,207	55,653	6,67%	OK	ok
E459		9180	201,834	231,669		29,835	54,281	6,23%	OK	ok
E460		9200	203,080	231,631		28,551	52,997	4,89%	OK	ok
E461		9220	204,059	231,593		27,534	51,980	3,14%	OK	ok
E462		9240	204,688	231,554		26,866	51,313	1,69%	OK	ok
E463		9260	205,026	231,516		26,490	50,936	-0,14%	+DECLIVE	ok
E464		9280	204,999	231,478		26,479	50,925	-1,17%	OK	ok
E465		9300	204,765	231,440		26,675	51,121	-1,43%	OK	ok
E466		9320	204,479	231,402		26,923	51,369	-0,93%	OK	ok
E467		9340	204,293	231,364		27,071	51,517	-0,56%	OK	ok
E468		9360	204,180	231,325		27,145	51,592	0,39%	OK	ok
E469		9380	204,259	231,287		27,028	51,474	-1,11%	OK	ok
E470		9400	204,036	231,249		27,213	51,659	-1,31%	OK	ok
E471		9420	203,774	231,211		27,437	51,883	-2,10%	OK	ok
E472		9440	203,353	231,173		27,820	52,266	-0,74%	OK	ok
E473		9460	203,205	231,135		27,930	52,376	-1,99%	OK	ok
E474		9480	202,807	231,097		28,290	52,736	0,56%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E475		9500	202,919	231,058	9.860,00	28,139	52,586	-6,01%	OK	ok
E476		9520	201,717	231,020		29,303	53,749	-2,79%	OK	ok
E477		9540	201,160	230,982		29,822	54,268	-1,70%	OK	ok
E478		9560	200,820	230,944		30,124	54,570	-0,98%	OK	ok
E479		9580	200,624	230,906		30,282	54,728	-0,67%	OK	ok
E480		9600	200,490	230,868		30,378	54,824	1,12%	OK	ok
E481		9620	200,715	230,830		30,115	54,561	1,30%	OK	ok
E482		9640	200,976	230,791		29,815	54,262	3,74%	OK	ok
E483		9660	201,724	230,753		29,029	53,475	3,74%	OK	ok
E484		9680	202,472	230,715		28,243	52,689	3,74%	OK	ok
E485		9700	203,220	230,677		27,457	51,903	3,01%	OK	ok
E486		9720	203,821	230,639		26,818	51,264	1,80%	OK	ok
E487		9740	204,180	230,601		26,421	50,867	0,50%	OK	ok
E488		9760	204,281	230,562		26,281	50,728	-1,07%	OK	ok
E489		9780	204,067	230,524		26,457	50,903	-5,50%	OK	ok
E490		9800	202,968	230,486		27,518	51,964	-4,67%	OK	ok
E491		9820	202,034	230,448		28,414	52,860	-2,69%	OK	ok
E492		9840	201,495	230,410		28,915	53,361	1,64%	OK	ok
E493		9860	201,823	230,372		28,549	52,995	5,60%	OK	ok
E494		9880	202,943	230,334		27,391	51,837	4,95%	OK	ok
E495		9900	203,933	230,295		26,362	50,809	3,86%	OK	ok
E496		9920	204,705	230,257		25,552	49,998	1,16%	OK	ok
E497		9940	204,937	230,219		25,282	49,728	-2,24%	OK	ok
E498		9960	204,489	230,181		25,692	50,138	0,25%	OK	ok
E499		9980	204,538	230,143		25,605	50,051	2,13%	OK	ok
E500		10000	204,965	230,105		25,140	49,586	2,34%	OK	ok
E501		10020	205,433	230,067		24,634	49,080	0,95%	OK	ok
E502		10040	205,622	230,028		24,406	48,852	0,28%	OK	ok
E503		10060	205,678	229,990		24,312	48,758	-0,11%	+DECLIVE	ok
E504		10080	205,655	229,952		24,297	48,743	-2,81%	OK	ok
E505		10100	205,093	229,914		24,821	49,267	-2,80%	OK	ok
E506		10120	204,532	229,876		25,344	49,790	-2,24%	OK	ok
E507		10140	204,084	229,838		25,754	50,200	-0,87%	OK	ok
E508		10160	203,911	229,799		25,888	50,335	-0,87%	OK	ok
E509		10180	203,738	229,761		26,023	50,469	-0,90%	OK	ok
E510		10200	203,559	229,723		26,164	50,610	-1,54%	OK	ok
E511		10220	203,250	229,685		26,435	50,881	-1,17%	OK	ok
E512		10240	203,016	229,647		26,631	51,077	-0,67%	OK	ok
E513		10260	202,881	229,609		26,728	51,174	1,85%	OK	ok
E514		10280	203,251	229,571		26,320	50,766	3,11%	OK	ok
E515		10300	203,874	229,532		25,658	50,105	2,04%	OK	ok
E516		10320	204,281	229,494		25,213	49,659	0,05%	+ACLIVE	ok
E517		10340	204,292	229,456		25,164	49,610	5,47%	OK	ok
E518		10360	205,386	229,418		24,032	48,478	5,74%	OK	ok
E519		10380	206,534	229,380		22,846	47,292	3,20%	OK	ok
E520		10400	207,173	229,342		22,169	46,615	2,19%	OK	ok
E521		10420	207,611	229,304		21,693	46,139	1,47%	OK	ok
E522		10440	207,904	229,265		21,361	45,807	0,53%	OK	ok
E523		10460	208,011	229,227		21,216	45,662	-0,50%	OK	ok
E524		10480	207,910	229,189		21,279	45,725	-0,67%	OK	ok
E525		10500	207,776	229,151		21,375	45,821	-3,44%	OK	ok
E526		10520	207,089	229,113		22,024	46,470	-3,91%	OK	ok
E527		10540	206,306	229,075		22,769	47,215	0,61%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E528		10560	206,428	229,036		22,608	47,055	1,82%	OK	ok
E529		10580	206,792	228,998		22,206	46,652	1,76%	OK	ok
E530		10600	207,144	228,960		21,816	46,262	-0,20%	+DECLIVE	ok
E531		10620	207,105	228,922		21,817	46,263	-1,45%	OK	ok
E532		10640	206,814	228,884		22,070	46,516	-3,16%	OK	ok
E533		10660	206,183	228,846		22,663	47,109	-3,16%	OK	ok
E534		10680	205,552	228,808		23,256	47,702	-2,89%	OK	ok
E535		10700	204,974	228,769		23,795	48,242	-2,09%	OK	ok
E536		10720	204,555	228,731		24,176	48,622	-2,10%	OK	ok
E537		10740	204,135	228,693		24,558	49,004	-2,10%	OK	ok
E538		10760	203,715	228,655		24,940	49,386	-2,10%	OK	ok
E539		10780	203,296	228,617		25,321	49,767	-2,10%	OK	ok
E540		10800	202,876	228,579		25,703	50,149	-2,10%	OK	ok
E541		10820	202,456	228,540		26,084	50,531	-1,42%	OK	ok
E542		10840	202,172	228,502		26,330	50,776	-0,05%	+DECLIVE	ok
E543		10860	202,162	228,464		26,302	50,748	-3,89%	OK	ok
E544		10880	201,383	228,426		27,043	51,489	0,26%	OK	ok
E545		10900	201,435	228,388		26,953	51,399	2,82%	OK	ok
E546		10920	202,000	228,350		26,350	50,796	2,82%	OK	ok
E547		10940	202,564	228,312		25,748	50,194	2,97%	OK	ok
E548		10960	203,158	228,273		25,115	49,562	3,45%	OK	ok
E549		10980	203,848	228,235		24,387	48,833	3,45%	OK	ok
E550		11000	204,539	228,197		23,658	48,104	3,45%	OK	ok
E551		11020	205,229	228,159		22,930	47,376	3,45%	OK	ok
E552		11040	205,919	228,121		22,202	46,648	3,45%	OK	ok
E553		11060	206,609	228,083		21,474	45,920	3,45%	OK	ok
E554		11080	207,299	228,045		20,746	45,192	0,22%	OK	ok
E555		11100	207,344	228,006		20,662	45,109	-1,85%	OK	ok
E556		11120	206,975	227,968		20,993	45,439	-1,85%	OK	ok
E557		11140	206,606	227,930		21,324	45,770	-2,52%	OK	ok
E558		11160	206,102	227,892		21,790	46,236	-3,23%	OK	ok
E559		11180	205,456	227,854		22,398	46,844	-2,85%	OK	ok
E560		11200	204,886	227,816		22,930	47,376	-2,85%	OK	ok
E561		11220	204,315	227,777		23,462	47,909	-2,85%	OK	ok
E562		11240	203,744	227,739		23,995	48,441	-2,63%	OK	ok
E563		11260	203,217	227,701		24,484	48,930	-2,63%	OK	ok
E564		11280	202,692	227,663		24,971	49,417	-2,63%	OK	ok
E565		11300	202,166	227,625		25,459	49,905	-1,67%	OK	ok
E566		11320	201,832	227,587		25,755	50,201	-0,82%	OK	ok
E567		11340	201,667	227,549		25,882	50,328	-0,37%	OK	ok
E568		11360	201,593	227,510		25,917	50,364	3,90%	OK	ok
E569		11380	202,372	227,472		25,100	49,546	4,77%	OK	ok
E570		11400	203,327	227,434		24,107	48,553	4,78%	OK	ok
E571		11420	204,282	227,396		23,114	47,560	4,01%	OK	ok
E572		11440	205,084	227,358		22,274	46,720	3,64%	OK	ok
E573		11460	205,812	227,320		21,508	45,954	3,64%	OK	ok
E574		11480	206,541	227,282		20,741	45,187	3,65%	OK	ok
E575		11500	207,270	227,243		19,973	44,419	3,12%	OK	ok
E576		11520	207,894	227,205		19,311	43,757	2,45%	OK	ok
E577		11540	208,383	227,167		18,784	43,230	2,44%	OK	ok
E578		11560	208,871	227,129		18,258	42,704	1,85%	OK	ok
E579		11580	209,242	227,091		17,849	42,295	-3,46%	OK	ok
E580		11600	208,550	227,053		18,503	42,949	-3,47%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E581		11620	207,857	227,014		19,157	43,604	-3,46%	OK	ok
E582		11640	207,165	226,976		19,811	44,257	-0,17%	+DECLIVE	ok
E583		11660	207,131	226,938		19,807	44,253	-2,45%	OK	ok
E584		11680	206,641	226,900		20,259	44,705	3,17%	OK	ok
E585		11700	207,275	226,862		19,587	44,033	4,50%	OK	ok
E586		11720	208,176	226,824		18,648	43,094	3,40%	OK	ok
E587		11740	208,856	226,786		17,930	42,376	3,19%	OK	ok
E588		11760	209,493	226,747		17,254	41,701	3,19%	OK	ok
E589		11780	210,131	226,709		16,578	41,024	3,29%	OK	ok
E590		11800	210,790	226,671		15,881	40,327	2,71%	OK	ok
E591		11820	211,332	226,633		15,301	39,747	0,82%	OK	ok
E592		11840	211,496	226,595		15,099	39,545	0,97%	OK	ok
E593		11860	211,690	226,557		14,867	39,313	-1,20%	OK	ok
E594		11880	211,450	226,519		15,069	39,515	-2,67%	OK	ok
E595		11900	210,915	226,480		15,565	40,011	-2,72%	OK	ok
E596		11920	210,370	226,442		16,072	40,518	-1,95%	OK	ok
E597		11940	209,981	226,404		16,423	40,869	-1,65%	OK	ok
E598		11960	209,650	226,366		16,716	41,162	-1,66%	OK	ok
E599		11980	209,319	226,328		17,009	41,455	0,47%	OK	ok
E600		12000	209,412	226,290		16,878	41,324	-1,48%	OK	ok
E601		12020	209,116	226,251		17,135	41,582	-2,42%	OK	ok
E602		12040	208,633	226,213		17,580	42,026	-2,41%	OK	ok
E603		12060	208,151	226,175		18,024	42,470	-2,66%	OK	ok
E604		12080	207,619	226,137		18,518	42,964	-4,23%	OK	ok
E605		12100	206,773	226,099		19,326	43,772	-2,69%	OK	ok
E606		12120	206,236	226,061		19,825	44,271	-4,11%	OK	ok
E607		12140	205,413	226,023		20,610	45,056	-4,19%	OK	ok
E608		12160	204,574	225,984		21,410	45,857	3,04%	OK	ok
E609		12180	205,181	225,946		20,765	45,211	3,04%	OK	ok
E610		12200	205,788	225,908		20,120	44,566	3,03%	OK	ok
E611		12220	206,394	225,870		19,476	43,922	3,04%	OK	ok
E612		12240	207,001	225,832		18,831	43,277	3,04%	OK	ok
E613		12260	207,608	225,794		18,186	42,632	3,04%	OK	ok
E614		12280	208,215	225,755		17,540	41,987	3,04%	OK	ok
E615		12300	208,822	225,717		16,895	41,341	2,18%	OK	ok
E616		12320	209,257	225,679		16,422	40,868	1,48%	OK	ok
E617		12340	209,554	225,641		16,087	40,533	1,48%	OK	ok
E618		12360	209,850	225,603		15,753	40,199	2,26%	OK	ok
E619		12380	210,302	225,565		15,263	39,709	2,18%	OK	ok
E620		12400	210,737	225,527		14,790	39,236	2,17%	OK	ok
E621		12420	211,171	225,488		14,317	38,764	1,26%	OK	ok
E622		12440	211,422	225,450		14,028	38,474	0,58%	OK	ok
E623		12460	211,539	225,412		13,873	38,319	1,78%	OK	ok
E624		12480	211,895	225,374		13,479	37,925	3,28%	OK	ok
E625		12500	212,552	225,336		12,784	37,230	3,49%	OK	ok
E626		12520	213,249	225,298		12,049	36,495	3,49%	OK	ok
E627		12540	213,947	225,260		11,313	35,759	3,49%	OK	ok
E628		12560	214,644	225,221		10,577	35,024	-3,53%	OK	ok
E629		12580	213,938	225,183		11,245	35,691	-4,39%	OK	ok
E630		12600	213,060	225,145		12,085	36,531	-0,37%	OK	ok
E631		12620	212,986	225,107		12,121	36,567	0,24%	OK	ok
E632		12640	213,034	225,069		12,035	36,481	0,38%	OK	ok
E633		12660	213,110	225,031		11,921	36,367	0,45%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E634		12680	213,201	224,992		11,791	36,238	0,28%	OK	ok
E635		12700	213,256	224,954		11,698	36,144	-0,21%	+DECLIVE	ok
E636		12720	213,214	224,916		11,702	36,148	4,00%	OK	ok
E637		12740	214,015	224,878		10,863	35,309	3,95%	OK	ok
E638		12760	214,805	224,840		10,035	34,481	0,93%	OK	ok
E639		12780	214,992	224,802		9,810	34,256	-1,24%	OK	ok
E640		12800	214,744	224,764		10,020	34,466	-4,93%	OK	ok
E641		12820	213,759	224,725		10,966	35,413	-5,33%	OK	ok
E642		12840	212,693	224,687		11,994	36,440	-5,35%	OK	ok
E643		12860	211,622	224,649		13,027	37,473	-5,51%	OK	ok
E644		12880	210,521	224,611		14,090	38,536	-2,86%	OK	ok
E645		12900	209,949	224,573		14,624	39,070	2,62%	OK	ok
E646		12920	210,474	224,535		14,061	38,507	2,18%	OK	ok
E647		12940	210,909	224,497		13,588	38,034	-0,16%	+DECLIVE	ok
E648		12960	210,877	224,458		13,581	38,027	-0,23%	+DECLIVE	ok
E649		12980	210,832	224,420		13,588	38,034	-0,53%	OK	ok
E650		13000	210,725	224,382		13,657	38,103	-2,93%	OK	ok
E651		13020	210,138	224,344		14,206	38,652	0,85%	OK	ok
E652		13040	210,309	224,306		13,997	38,443	3,99%	OK	ok
E653		13060	211,107	224,268		13,161	37,607	4,28%	OK	ok
E654		13080	211,963	224,229		12,266	36,713	6,64%	OK	ok
E655		13100	213,291	224,191		10,900	35,346	-1,03%	OK	ok
E656		13120	213,084	224,153		11,069	35,515	-0,78%	OK	ok
E657		13140	212,928	224,115		11,187	35,633	-3,02%	OK	ok
E658		13160	212,324	224,077		11,753	36,199	-2,29%	OK	ok
E659		13180	211,867	224,039		12,172	36,618	-1,95%	OK	ok
E660		13200	211,476	224,001		12,525	36,971	-1,54%	OK	ok
E661		13220	211,167	223,962		12,795	37,242	-2,75%	OK	ok
E662		13240	210,618	223,924		13,306	37,752	-2,66%	OK	ok
E663		13260	210,087	223,886		13,799	38,245	-1,32%	OK	ok
E664		13280	209,822	223,848		14,026	38,472	-4,93%	OK	ok
E665		13300	208,837	223,810		14,973	39,419	-3,02%	OK	ok
E666		13320	208,233	223,772		15,539	39,985	-2,47%	OK	ok
E667		13340	207,739	223,734		15,995	40,441	-2,73%	OK	ok
E668		13360	207,194	223,695		16,501	40,947	-3,41%	OK	ok
E669		13380	206,511	223,657		17,146	41,592	-3,64%	OK	ok
E670		13400	205,783	223,619		17,836	42,282	-2,42%	OK	ok
E671		13420	205,298	223,581		18,283	42,729	-1,23%	OK	ok
E672		13440	205,053	223,543		18,490	42,936	-0,04%	+DECLIVE	ok
E673		13460	205,044	223,505		18,461	42,907	0,30%	OK	ok
E674		13480	205,104	223,466		18,362	42,809	-0,40%	OK	ok
E675		13500	205,024	223,428		18,404	42,850	-0,75%	OK	ok
E676		13520	204,875	223,390		18,515	42,961	-1,43%	OK	ok
E677		13540	204,589	223,352		18,763	43,209	0,20%	+ACLIVE	ok
E678		13560	204,629	223,314		18,685	43,131	0,85%	OK	ok
E679		13580	204,799	223,276		18,477	42,923	1,61%	OK	ok
E680		13600	205,121	223,238		18,117	42,563	-1,34%	OK	ok
E681		13620	204,853	223,199		18,346	42,793	-1,79%	OK	ok
E682		13640	204,496	223,161		18,665	43,111	-0,35%	OK	ok
E683		13660	204,427	223,123		18,696	43,142	-0,34%	OK	ok
E684		13680	204,359	223,085		18,726	43,172	0,90%	OK	ok
E685		13700	204,539	223,047		18,508	42,954	-0,37%	OK	ok
E686		13720	204,464	223,009		18,545	42,991	-1,50%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E687		13740	204,163	222,970		18,807	43,254	0,16%	+ACLIVE	ok
E688		13760	204,195	222,932		18,737	43,183	-3,64%	OK	ok
E689		13780	203,467	222,894		19,427	43,873	-3,68%	OK	ok
E690		13800	202,731	222,856		20,125	44,571	-2,33%	OK	ok
E691		13820	202,265	222,818		20,553	44,999	-2,78%	OK	ok
E692		13840	201,709	222,780		21,071	45,517	-4,18%	OK	ok
E693		13860	200,872	222,742		21,870	46,316	-2,87%	OK	ok
E694		13880	200,298	222,703		22,405	46,852	-4,77%	OK	ok
E695		13900	199,344	222,665		23,321	47,767	-4,98%	OK	ok
E696		13920	198,348	222,627		24,279	48,725	-5,12%	OK	ok
E697		13940	197,324	222,589		25,265	49,711	-5,20%	OK	ok
E698		13960	196,285	222,551		26,266	50,712	-4,32%	OK	ok
E699		13980	195,421	222,513		27,092	51,538	-3,76%	OK	ok
E700		14000	194,669	222,475		27,806	52,252	-4,87%	OK	ok
E701		14020	193,696	222,436		28,740	53,187	-4,12%	OK	ok
E702		14040	192,873	222,398		29,525	53,971	-5,87%	OK	ok
E703		14060	191,699	222,360		30,661	55,107	-5,83%	OK	ok
E704		14080	190,534	222,322		31,788	56,234	-1,26%	OK	ok
E705		14100	190,282	222,284		32,002	56,448	0,86%	OK	ok
E706		14120	190,454	222,246		31,792	56,238	-1,42%	OK	ok
E707		14140	190,171	222,207		32,036	56,483	-0,44%	OK	ok
E708		14160	190,082	222,169		32,087	56,533	22,96%	OK	ok
E709		14180	194,673	222,131		27,458	51,904	26,82%	OK	ok
E710		14200	200,037	222,093		22,056	46,502	11,34%	OK	ok
E711		14220	202,304	222,055		19,751	44,197	5,36%	OK	ok
E712		14240	203,376	222,017		18,641	43,087	2,92%	OK	ok
E713		14260	203,960	221,979		18,019	42,465	-0,14%	+DECLIVE	ok
E714		14280	203,933	221,940		18,007	42,454	-0,14%	+DECLIVE	ok
E715		14300	203,905	221,902		17,997	42,443	-0,14%	+DECLIVE	ok
E716		14320	203,878	221,864		17,986	42,432	-1,88%	OK	ok
E717		14340	203,501	221,826		18,325	42,771	-5,87%	OK	ok
E718		14360	202,327	221,788		19,461	43,907	-3,82%	OK	ok
E719		14380	201,562	221,750		20,188	44,634	-2,85%	OK	ok
E720		14400	200,993	221,712		20,719	45,165	-2,54%	OK	ok
E721		14420	200,485	221,673		21,188	45,634	1,68%	OK	ok
E722		14440	200,822	221,635		20,813	45,259	2,48%	OK	ok
E723		14460	201,319	221,597		20,278	44,724	4,48%	OK	ok
E724		14480	202,214	221,559		19,345	43,791	-0,25%	+DECLIVE	ok
E725		14500	202,164	221,521		19,357	43,803	-0,90%	OK	ok
E726		14520	201,983	221,483		19,500	43,946	8,46%	OK	ok
E727		14540	203,676	221,444		17,768	42,215	3,89%	OK	ok
E728		14560	204,453	221,406		16,953	41,399	2,00%	OK	ok
E729		14580	204,853	221,368		16,515	40,961	-1,07%	OK	ok
E730		14600	204,640	221,330		16,690	41,136	-4,55%	OK	ok
E731		14620	203,729	221,292		17,563	42,009	1,08%	OK	ok
E732		14640	203,945	221,254		17,309	41,755	-0,31%	OK	ok
E733		14660	203,882	221,216		17,334	41,780	1,82%	OK	ok
E734		14680	204,245	221,177		16,932	41,379	-3,70%	OK	ok
E735		14700	203,506	221,139		17,633	42,079	-4,95%	OK	ok
E736		14720	202,516	221,101		18,585	43,031	-1,98%	OK	ok
E737		14740	202,119	221,063		18,944	43,390	2,01%	OK	ok
E738		14760	202,521	221,025		18,504	42,950	3,75%	OK	ok
E739		14780	203,270	220,987		17,717	42,163	1,88%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E740		14800	203,645	220,949	45,00	17,304	41,750	-2,58%	OK	ok
E741		14820	203,129	220,910		17,781	42,227	-1,74%	OK	ok
E742		14840	202,781	220,872		18,091	42,537	-4,19%	OK	ok
E743		14860	201,942	220,834		18,892	43,338	-2,97%	OK	ok
E744		14880	201,347	220,796		19,449	43,895	-2,77%	OK	ok
E745		14900	200,793	220,758		19,965	44,411	-2,16%	OK	ok
E746		14920	200,362	220,720		20,358	44,804	8,22%	OK	ok
E747		14940	202,006	220,681		18,675	43,122	6,30%	OK	ok
E748		14960	203,267	220,643		17,376	41,822	2,79%	OK	ok
E749		14980	203,824	220,605		16,781	41,227	2,58%	OK	ok
E750		15000	204,341	220,567		16,226	40,672	1,13%	OK	ok
E751		15020	204,567	220,529		15,962	40,408	-1,98%	OK	ok
E752		15040	204,171	220,491		16,320	40,766	0,22%	OK	ok
E753		15060	204,215	220,453		16,238	40,684	13,23%	OK	ok
E754		15080	206,860	220,414		13,554	38,001	7,69%	OK	ok
E755		15100	208,399	220,376		11,977	36,423	4,43%	OK	ok
E756		15120	209,285	220,338		11,053	35,499	0,04%	+ACLIVE	ok
E757		15140	209,293	220,300		11,007	35,453	13,30%	OK	ok
E758		15160	211,952	220,262		8,310	32,756	5,37%	OK	ok
E759	ELEVATORIA	15180	213,025	258,025	45,00	45,000	69,446	-1,05%	OK	ok
E760		15200	212,815	257,987	45,00	45,172	69,618	-6,53%	OK	ok
E761		15220	211,509	257,949		46,440	70,886	-7,59%	OK	ok
E762		15240	209,990	257,911		47,921	72,367	-4,16%	OK	ok
E763		15260	209,157	257,872		48,715	73,162	1,85%	OK	ok
E764		15280	209,528	257,834		48,306	72,752	3,35%	OK	ok
E765		15300	210,197	257,796		47,599	72,045	2,53%	OK	ok
E766		15320	210,703	257,758		47,055	71,501	-1,71%	OK	ok
E767		15340	210,362	257,720		47,358	71,804	-4,73%	OK	ok
E768		15360	209,416	257,682		48,266	72,712	-3,83%	OK	ok
E769		15380	208,649	257,643		48,994	73,441	-3,68%	OK	ok
E770		15400	207,914	257,605		49,691	74,137	-2,06%	OK	ok
E771		15420	207,503	257,567		50,064	74,510	3,69%	OK	ok
E772		15440	208,241	257,529		49,288	73,734	6,79%	OK	ok
E773		15460	209,598	257,491		47,893	72,339	7,01%	OK	ok
E774		15480	211,001	257,453		46,452	70,898	5,32%	OK	ok
E775		15500	212,065	257,415		45,350	69,796	7,09%	OK	ok
E776		15520	213,482	257,376		43,894	68,341	9,29%	OK	ok
E777		15540	215,339	257,338		41,999	66,445	4,63%	OK	ok
E778		15560	216,264	257,300		41,036	65,482	4,72%	OK	ok
E779		15580	217,208	257,262		40,054	64,500	7,50%	OK	ok
E780		15600	218,708	257,224		38,516	62,962	3,28%	OK	ok
E781		15620	219,364	257,186		37,822	62,268	0,41%	OK	ok
E782		15640	219,446	257,148		37,702	62,148	-2,72%	OK	ok
E783		15660	218,903	257,109		38,206	62,653	-4,53%	OK	ok
E784		15680	217,996	257,071		39,075	63,521	-5,93%	OK	ok
E785		15700	216,810	257,033		40,223	64,669	7,64%	OK	ok
E786		15720	218,338	256,995		38,657	63,103	11,40%	OK	ok
E787		15740	220,617	256,957		36,340	60,786	1,84%	OK	ok
E788		15760	220,984	256,919		35,935	60,381	2,58%	OK	ok
E789		15780	221,500	256,880		35,380	59,827	3,99%	OK	ok
E790		15800	222,298	256,842		34,544	58,990	7,51%	OK	ok
E791		15820	223,799	256,804		33,005	57,451	-3,40%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E792		15840	223,119	256,766		33,647	58,093	2,25%	OK	ok
E793		15860	223,570	256,728		33,158	57,604	10,44%	OK	ok
E794		15880	225,658	256,690		31,032	55,478	1,22%	OK	ok
E795		15900	225,902	256,652		30,750	55,196	-1,94%	OK	ok
E796		15920	225,515	256,613		31,098	55,545	-6,09%	OK	ok
E797		15940	224,297	256,575		32,278	56,724	-6,48%	OK	ok
E798		15960	223,000	256,537		33,537	57,983	-4,04%	OK	ok
E799		15980	222,192	256,499		34,307	58,753	-3,37%	OK	ok
E800		16000	221,519	256,461		34,942	59,388	-2,88%	OK	ok
E801		16020	220,943	256,423		35,480	59,926	0,08%	+ACLIVE	ok
E802		16040	220,959	256,385		35,426	59,872	5,04%	OK	ok
E803		16060	221,968	256,346		34,378	58,824	1,80%	OK	ok
E804		16080	222,327	256,308		33,981	58,427	1,79%	OK	ok
E805		16100	222,685	256,270		33,585	58,031	1,71%	OK	ok
E806		16120	223,028	256,232		33,204	57,650	1,51%	OK	ok
E807		16140	223,329	256,194		32,865	57,311	0,53%	OK	ok
E808		16160	223,435	256,156		32,721	57,167	-0,31%	OK	ok
E809		16180	223,373	256,117		32,744	57,191	-0,31%	OK	ok
E810		16200	223,311	256,079		32,768	57,214	-0,41%	OK	ok
E811		16220	223,228	256,041		32,813	57,259	-4,07%	OK	ok
E812		16240	222,415	256,003		33,588	58,034	-13,60%	OK	ok
E813		16260	219,696	255,965		36,269	60,715	-11,38%	OK	ok
E814		16280	217,419	255,927		38,508	62,954	-8,62%	OK	ok
E815		16300	215,695	255,889		40,194	64,640	-4,05%	OK	ok
E816		16320	214,885	255,850		40,965	65,412	0,71%	OK	ok
E817		16340	215,026	255,812		40,786	65,232	3,37%	OK	ok
E818		16360	215,701	255,774		40,073	64,519	2,67%	OK	ok
E819		16380	216,234	255,736		39,502	63,948	2,52%	OK	ok
E820		16400	216,739	255,698		38,959	63,405	6,92%	OK	ok
E821		16420	218,122	255,660		37,538	61,984	2,40%	OK	ok
E822		16440	218,602	255,622		37,020	61,466	2,40%	OK	ok
E823		16460	219,082	255,583		36,501	60,947	2,40%	OK	ok
E824		16480	219,561	255,545		35,984	60,430	2,40%	OK	ok
E825		16500	220,041	255,507		35,466	59,912	1,77%	OK	ok
E826		16520	220,396	255,469		35,073	59,519	0,69%	OK	ok
E827		16540	220,534	255,431		34,897	59,343	0,69%	OK	ok
E828		16560	220,672	255,393		34,721	59,167	0,25%	OK	ok
E829		16580	220,721	255,354		34,633	59,080	-1,06%	OK	ok
E830		16600	220,508	255,316		34,808	59,254	-1,20%	OK	ok
E831		16620	220,268	255,278		35,010	59,456	-1,20%	OK	ok
E832		16640	220,028	255,240		35,212	59,658	0,19%	+ACLIVE	ok
E833		16660	220,066	255,202		35,136	59,582	1,78%	OK	ok
E834		16680	220,422	255,164		34,742	59,188	1,78%	OK	ok
E835		16700	220,778	255,126		34,348	58,794	2,20%	OK	ok
E836		16720	221,218	255,087		33,869	58,316	3,69%	OK	ok
E837		16740	221,955	255,049		33,094	57,540	4,11%	OK	ok
E838		16760	222,777	255,011		32,234	56,680	-1,00%	OK	ok
E839		16780	222,577	254,973		32,396	56,842	-1,00%	OK	ok
E840		16800	222,378	254,935		32,557	57,003	-2,59%	OK	ok
E841		16820	221,859	254,897		33,038	57,484	-3,04%	OK	ok
E842		16840	221,251	254,858		33,607	58,054	-7,05%	OK	ok
E843		16860	219,841	254,820		34,979	59,425	-4,38%	OK	ok
E844		16880	218,965	254,782		35,817	60,263	-1,11%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E845		16900	218,743	254,744		36,001	60,447	2,54%	OK	ok
E846		16920	219,250	254,706		35,456	59,902	1,29%	OK	ok
E847		16940	219,508	254,668		35,160	59,606	3,37%	OK	ok
E848		16960	220,181	254,630		34,449	58,895	-0,82%	OK	ok
E849		16980	220,017	254,591		34,574	59,021	-3,84%	OK	ok
E850		17000	219,249	254,553		35,304	59,750	7,13%	OK	ok
E851		17020	220,675	254,515		33,840	58,286	10,33%	OK	ok
E852		17040	222,742	254,477		31,735	56,181	3,14%	OK	ok
E853		17060	223,369	254,439		31,070	55,516	5,40%	OK	ok
E854		17080	224,450	254,401		29,951	54,397	5,29%	OK	ok
E855		17100	225,508	254,363		28,855	53,301	4,38%	OK	ok
E856		17120	226,384	254,324		27,940	52,387	4,78%	OK	ok
E857		17140	227,339	254,286		26,947	51,393	4,41%	OK	ok
E858		17160	228,220	254,248		26,028	50,474	3,83%	OK	ok
E859		17180	228,987	254,210		25,223	49,669	3,89%	OK	ok
E860		17200	229,764	254,172		24,408	48,854	1,60%	OK	ok
E861		17220	230,085	254,134		24,049	48,495	-6,43%	OK	ok
E862		17240	228,799	254,095		25,296	49,743	-9,32%	OK	ok
E863		17260	226,936	254,057		27,121	51,567	-7,37%	OK	ok
E864		17280	225,463	254,019		28,556	53,002	-7,19%	OK	ok
E865		17300	224,025	253,981		29,956	54,402	-7,19%	OK	ok
E866		17320	222,588	253,943		31,355	55,801	-7,18%	OK	ok
E867		17340	221,151	253,905		32,754	57,200	-4,54%	OK	ok
E868		17360	220,244	253,867		33,623	58,069	4,19%	OK	ok
E869		17380	221,082	253,828		32,746	57,193	0,63%	OK	ok
E870		17400	221,207	253,790		32,583	57,029	0,11%	+ACLIVE	ok
E871		17420	221,230	253,752		32,522	56,968	-1,07%	OK	ok
E872		17440	221,016	253,714		32,698	57,144	0,57%	OK	ok
E873		17460	221,130	253,676		32,546	56,992	1,12%	OK	ok
E874		17480	221,355	253,638		32,283	56,729	4,44%	OK	ok
E875		17500	222,243	253,600		31,357	55,803	3,26%	OK	ok
E876		17520	222,894	253,561		30,667	55,113	-4,63%	OK	ok
E877		17540	221,968	253,523		31,555	56,001	1,68%	OK	ok
E878		17560	222,304	253,485		31,181	55,627	2,90%	OK	ok
E879		17580	222,883	253,447		30,564	55,010	2,89%	OK	ok
E880		17600	223,462	253,409		29,947	54,393	-2,42%	OK	ok
E881		17620	222,978	253,371		30,393	54,839	-1,51%	OK	ok
E882		17640	222,676	253,332		30,656	55,103	6,05%	OK	ok
E883		17660	223,886	253,294		29,408	53,854	1,14%	OK	ok
E884		17680	224,113	253,256		29,143	53,589	-0,04%	+DECLIVE	ok
E885		17700	224,104	253,218		29,114	53,560	3,16%	OK	ok
E886		17720	224,735	253,180		28,445	52,891	2,98%	OK	ok
E887		17740	225,331	253,142		27,811	52,257	2,19%	OK	ok
E888		17760	225,769	253,104		27,335	51,781	3,77%	OK	ok
E889		17780	226,524	253,065		26,541	50,988	5,01%	OK	ok
E890		17800	227,525	253,027		25,502	49,948	2,30%	OK	ok
E891		17820	227,986	252,989		25,003	49,449	0,89%	OK	ok
E892		17840	228,164	252,951		24,787	49,233	0,76%	OK	ok
E893		17860	228,316	252,913		24,597	49,043	7,04%	OK	ok
E894		17880	229,723	252,875		23,152	47,598	9,97%	OK	ok
E895		17900	231,718	252,837		21,119	45,565	8,88%	OK	ok
E896		17920	233,493	252,798		19,305	43,751	4,57%	OK	ok
E897		17940	234,407	252,760		18,353	42,799	2,67%	OK	ok

Breno Oliveira Queiroga de Moraes
Eng. Civil - CREA: 230.067/810-8



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E898		17960	234,942	252,722	45,00	17,780	42,226	1,40%	OK	ok
E899		17980	235,222	252,684		17,462	41,908	0,39%	OK	ok
E900		18000	235,301	252,646		17,345	41,791	0,40%	OK	ok
E901		18020	235,381	252,608		17,227	41,673	0,40%	OK	ok
E902		18040	235,461	252,569		17,108	41,555	0,84%	OK	ok
E903		18060	235,630	252,531		16,901	41,347	0,96%	OK	ok
E904		18080	235,821	252,493		16,672	41,118	0,95%	OK	ok
E905		18100	236,011	252,455		16,444	40,890	7,90%	OK	ok
E906		18120	237,590	252,417		14,827	39,273	11,99%	OK	ok
E907		18140	239,987	252,379		12,392	36,838	12,89%	OK	ok
E908		18160	242,564	252,341		9,777	34,223	8,14%	OK	ok
E909		18180	244,192	252,302		8,110	32,557	4,48%	OK	ok
E910		18200	245,089	252,264		7,175	31,621	-1,48%	OK	ok
E911		18220	244,793	252,226		7,433	31,879	-0,44%	OK	ok
E912		18240	244,882	252,188		7,306	31,752	3,87%	OK	ok
E913		18260	244,108	252,150		8,042	32,488	10,87%	OK	ok
E914		18280	241,934	252,112		10,178	34,624	6,72%	OK	ok
E915		18300	240,589	252,073		11,484	35,931	4,63%	OK	ok
E916		18320	239,662	252,035		12,373	36,819	24,93%	OK	ok
E917		18340	234,676	251,997		17,321	41,767	4,67%	OK	ok
E918		18360	233,741	251,959		18,218	42,664	2,76%	OK	ok
E919		18380	233,189	251,921		18,732	43,178	5,68%	OK	ok
E920		18400	232,053	251,883		19,830	44,276	5,67%	OK	ok
E921		18420	230,918	251,845		20,927	45,373	-9,94%	OK	ok
E922		18440	232,906	251,806		18,900	43,347	-6,71%	OK	ok
E923		18460	234,247	251,768		17,521	41,967	-0,76%	OK	ok
E924		18480	234,400	251,730		17,330	41,776	-3,43%	OK	ok
E925		18500	235,086	251,692		16,606	41,052	-7,12%	OK	ok
E926		18520	236,510	251,654		15,144	39,590	1,93%	OK	ok
E927		18540	236,124	251,616		15,492	39,938	3,43%	OK	ok
E928		18560	235,439	251,578		16,139	40,585	-4,10%	OK	ok
E929		18580	236,259	251,539		15,280	39,727	-4,10%	OK	ok
E930		18600	237,078	251,501		14,423	38,869	-7,24%	OK	ok
E931		18620	238,527	251,463		12,936	37,382	-6,49%	OK	ok
E932		18640	239,824	251,425		11,601	36,047	3,64%	OK	ok
E933		18660	239,096	251,387		12,291	36,737	-8,91%	OK	ok
E934	CAIXA DE TRANSIÇÃO	18680	240,879	253,879	13,00	13,000	37,446	-11,82%	OK	ok
E935		18700	243,242	253,841	13,00	10,599	35,045	-1,94%	OK	ok
E936		18720	243,629	253,803		10,174	34,620	0,13%	+ACLIVE	ok
E937		18740	243,602	253,765		10,163	34,609	1,27%	OK	ok
E938		18760	243,347	253,726		10,379	34,826	-2,88%	OK	ok
E939		18780	243,923	253,688		9,765	34,211	6,56%	OK	ok
E940		18800	242,610	253,650		11,040	35,486	11,04%	OK	ok
E941		18820	240,403	253,612		13,209	37,655	16,47%	OK	ok
E942		18840	237,109	253,574		16,465	40,911	23,13%	OK	ok
E943		18860	232,484	253,536		21,052	45,498	23,82%	OK	ok
E944		18880	227,721	253,497		25,776	50,223	4,51%	OK	ok
E945		18900	226,820	253,459		26,639	51,085	4,50%	OK	ok
E946		18920	225,919	253,421		27,502	51,948	9,03%	OK	ok
E947		18940	224,114	253,383		29,269	53,715	8,35%	OK	ok
E948		18960	222,445	253,345		30,900	55,346	6,57%	OK	ok
E949		18980	221,131	253,307		32,176	56,622	6,57%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E950		19000	219,817	253,269		33,452	57,898	3,66%	OK	ok
E951		19020	219,085	253,230		34,145	58,592	3,05%	OK	ok
E952		19040	218,476	253,192		34,716	59,162	2,70%	OK	ok
E953		19060	217,936	253,154		35,218	59,664	3,76%	OK	ok
E954		19080	217,184	253,116		35,932	60,378	2,71%	OK	ok
E955		19100	216,642	253,078		36,436	60,882	2,00%	OK	ok
E956		19120	216,242	253,040		36,798	61,244	2,00%	OK	ok
E957		19140	215,842	253,002		37,160	61,606	2,19%	OK	ok
E958		19160	215,404	252,963		37,559	62,006	3,20%	OK	ok
E959		19180	214,763	252,925		38,162	62,608	3,47%	OK	ok
E960		19200	214,068	252,887		38,819	63,265	3,58%	OK	ok
E961		19220	213,353	252,849		39,496	63,942	3,58%	OK	ok
E962		19240	212,638	252,811		40,173	64,619	4,63%	OK	ok
E963		19260	211,713	252,773		41,060	65,506	8,14%	OK	ok
E964		19280	210,085	252,734		42,649	67,096	8,14%	OK	ok
E965		19300	208,457	252,696		44,239	68,685	0,07%	+ACLIVE	ok
E966		19320	208,443	252,658		44,215	68,661	-2,48%	OK	ok
E967		19340	208,939	252,620		43,681	68,127	-2,07%	OK	ok
E968		19360	209,353	252,582		43,229	67,675	-10,98%	OK	ok
E969		19380	211,548	252,544		40,996	65,442	-3,50%	OK	ok
E970		19400	212,247	252,506		40,259	64,705	5,80%	OK	ok
E971		19420	211,087	252,467		41,380	65,827	7,31%	OK	ok
E972		19440	209,624	252,429		42,805	67,251	2,53%	OK	ok
E973		19460	209,118	252,391		43,273	67,719	2,91%	OK	ok
E974		19480	208,535	252,353		43,818	68,264	3,25%	OK	ok
E975		19500	207,886	252,315		44,429	68,875	8,86%	OK	ok
E976		19520	206,114	252,277		46,163	70,609	8,63%	OK	ok
E977		19540	204,388	252,239		47,851	72,297	5,94%	OK	ok
E978		19560	203,200	252,200		49,000	73,446	-2,71%	OK	ok
E979		19580	203,741	252,162		48,421	72,867	0,44%	OK	ok
E980		19600	203,654	252,124		48,470	72,916	1,80%	OK	ok
E981		19620	203,294	252,086		48,792	73,238	1,89%	OK	ok
E982		19640	202,916	252,048		49,132	73,578	2,39%	OK	ok
E983		19660	202,438	252,010		49,572	74,018	0,40%	OK	ok
E984		19680	202,357	251,971		49,614	74,061	-2,75%	OK	ok
E985		19700	202,907	251,933		49,026	73,472	-3,77%	OK	ok
E986		19720	203,662	251,895		48,233	72,679	-3,82%	OK	ok
E987		19740	204,426	251,857		47,431	71,877	-4,69%	OK	ok
E988		19760	205,363	251,819		46,456	70,902	-3,50%	OK	ok
E989		19780	206,062	251,781		45,719	70,165	6,96%	OK	ok
E990		19800	204,670	251,743		47,073	71,519	6,45%	OK	ok
E991		19820	203,380	251,704		48,324	72,771	10,80%	OK	ok
E992		19840	201,220	251,666		50,446	74,892	-2,25%	OK	ok
E993		19860	201,670	251,628		49,958	74,404	-10,29%	OK	ok
E994		19880	203,728	251,590		47,862	72,308	-4,60%	OK	ok
E995		19900	204,648	251,552		46,904	71,350	-1,63%	OK	ok
E996		19920	204,974	251,514		46,540	70,986	2,12%	OK	ok
E997		19940	204,549	251,476		46,927	71,373	3,88%	OK	ok
E998		19960	203,774	251,437		47,663	72,109	2,93%	OK	ok
E999		19980	203,188	251,399		48,211	72,657	4,29%	OK	ok
E1000		20000	202,331	251,361		49,030	73,476	2,03%	OK	ok
E1001		20020	201,926	251,323		49,397	73,843	-1,48%	OK	ok
E1002		20040	202,222	251,285		49,063	73,509	-0,64%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1003		20060	202,350	251,247		48,897	73,343	0,10%	+ACLIVE	ok
E1004		20080	202,329	251,208		48,879	73,326	2,67%	OK	ok
E1005		20100	201,794	251,170		49,376	73,822	3,41%	OK	ok
E1006		20120	201,113	251,132		50,019	74,465	-2,69%	OK	ok
E1007		20140	201,650	251,094		49,444	73,890	6,34%	OK	ok
E1008		20160	200,382	251,056		50,674	75,120	7,21%	OK	ok
E1009		20180	198,940	251,018		52,078	76,524	-0,38%	OK	ok
E1010		20200	199,016	250,980		51,964	76,410	-13,56%	OK	ok
E1011		20220	201,727	250,941		49,214	73,661	-7,30%	OK	ok
E1012		20240	203,188	250,903		47,715	72,161	-0,32%	OK	ok
E1013		20260	203,251	250,865		47,614	72,060	0,40%	OK	ok
E1014		20280	203,172	250,827		47,655	72,101	1,72%	OK	ok
E1015		20300	202,827	250,789		47,962	72,408	2,73%	OK	ok
E1016		20320	202,280	250,751		48,471	72,917	3,14%	OK	ok
E1017		20340	201,653	250,712		49,059	73,506	3,31%	OK	ok
E1018		20360	200,990	250,674		49,684	74,130	4,48%	OK	ok
E1019		20380	200,094	250,636		50,542	74,988	3,76%	OK	ok
E1020		20400	199,342	250,598		51,256	75,702	6,51%	OK	ok
E1021		20420	198,040	250,560		52,520	76,966	7,30%	OK	ok
E1022		20440	196,581	250,522		53,941	78,387	1,80%	OK	ok
E1023		20460	196,221	250,484		54,263	78,709	3,71%	OK	ok
E1024		20480	195,480	250,445		54,965	79,412	4,29%	OK	ok
E1025		20500	194,622	250,407		55,785	80,231	5,72%	OK	ok
E1026		20520	193,478	250,369		56,891	81,337	7,14%	OK	ok
E1027		20540	192,050	250,331		58,281	82,727	-0,43%	OK	ok
E1028		20560	192,137	250,293		58,156	82,602	-1,84%	OK	ok
E1029		20580	192,505	250,255		57,750	82,196	-2,54%	OK	ok
E1030		20600	193,012	250,217		57,205	81,651	-1,38%	OK	ok
E1031		20620	193,287	250,178		56,891	81,338	4,95%	OK	ok
E1032		20640	192,298	250,140		57,842	82,288	5,63%	OK	ok
E1033		20660	191,173	250,102		58,929	83,375	3,75%	OK	ok
E1034		20680	190,423	250,064		59,641	84,087	-0,31%	OK	ok
E1035		20700	190,486	250,026		59,540	83,986	0,04%	+ACLIVE	ok
E1036		20720	190,478	249,988		59,510	83,956	0,52%	OK	ok
E1037		20740	190,374	249,949		59,575	84,022	-2,99%	OK	ok
E1038		20760	190,971	249,911		58,940	83,386	-2,06%	OK	ok
E1039		20780	191,384	249,873		58,489	82,935	-1,46%	OK	ok
E1040		20800	191,675	249,835		58,160	82,606	3,39%	OK	ok
E1041		20820	190,998	249,797		58,799	83,245	6,04%	OK	ok
E1042		20840	189,790	249,759		59,969	84,415	19,82%	OK	ok
E1043		20860	185,827	249,721		63,894	88,340	1,28%	OK	ok
E1044		20880	185,571	249,682		64,111	88,558	2,01%	OK	ok
E1045		20900	185,168	249,644		64,476	88,922	3,44%	OK	ok
E1046		20920	184,481	249,606		65,125	89,571	-3,32%	OK	ok
E1047		20940	185,145	249,568		64,423	88,869	2,21%	OK	ok
E1048		20960	184,703	249,530		64,827	89,273	-1,97%	OK	ok
E1049		20980	185,097	249,492		64,395	88,841	-3,92%	OK	ok
E1050		21000	185,882	249,454		63,572	88,018	1,53%	OK	ok
E1051		21020	185,577	249,415		63,838	88,284	-7,11%	OK	ok
E1052		21040	186,999	249,377		62,378	86,824	-2,25%	OK	ok
E1053		21060	187,450	249,339		61,889	86,335	-1,49%	OK	ok
E1054		21080	187,748	249,301		61,553	85,999	0,97%	OK	ok
E1055		21100	187,553	249,263		61,710	86,156	1,27%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1056		21120	187,298	249,225		61,927	86,373	7,01%	OK	ok
E1057		21140	185,897	249,186		63,289	87,736	4,21%	OK	ok
E1058		21160	185,054	249,148		64,094	88,540	-5,58%	OK	ok
E1059		21180	186,169	249,110		62,941	87,387	-3,37%	OK	ok
E1060		21200	186,843	249,072		62,229	86,675	-7,28%	OK	ok
E1061		21220	188,299	249,034		60,735	85,181	-6,65%	OK	ok
E1062		21240	189,629	248,996		59,367	83,813	-6,12%	OK	ok
E1063		21260	190,853	248,958		58,105	82,551	-7,30%	OK	ok
E1064		21280	192,313	248,919		56,606	81,053	-6,09%	OK	ok
E1065		21300	193,530	248,881		55,351	79,797	0,50%	OK	ok
E1066		21320	193,430	248,843		55,413	79,859	6,05%	OK	ok
E1067		21340	192,220	248,805		56,585	81,031	2,08%	OK	ok
E1068		21360	191,804	248,767		56,963	81,409	-6,10%	OK	ok
E1069		21380	193,024	248,729		55,705	80,151	-7,22%	OK	ok
E1070		21400	194,468	248,691		54,223	78,669	0,28%	OK	ok
E1071		21420	194,411	248,652		54,241	78,687	7,17%	OK	ok
E1072		21440	192,977	248,614		55,637	80,083	2,43%	OK	ok
E1073		21460	192,491	248,576		56,085	80,531	-3,37%	OK	ok
E1074		21480	193,165	248,538		55,373	79,819	-11,16%	OK	ok
E1075		21500	195,397	248,500		53,103	77,549	3,19%	OK	ok
E1076		21520	194,760	248,462		53,702	78,148	0,50%	OK	ok
E1077		21540	194,659	248,423		53,764	78,211	-13,22%	OK	ok
E1078		21560	197,303	248,385		51,082	75,528	2,13%	OK	ok
E1079		21580	196,877	248,347		51,470	75,916	0,91%	OK	ok
E1080		21600	196,696	248,309		51,613	76,059	3,65%	OK	ok
E1081		21620	195,966	248,271		52,305	76,751	4,04%	OK	ok
E1082		21640	195,159	248,233		53,074	77,520	3,15%	OK	ok
E1083		21660	194,529	248,195		53,666	78,112	2,90%	OK	ok
E1084		21680	193,948	248,156		54,208	78,655	1,42%	OK	ok
E1085		21700	193,664	248,118		54,454	78,900	2,43%	OK	ok
E1086		21720	193,178	248,080		54,902	79,348	-0,57%	OK	ok
E1087		21740	193,292	248,042		54,750	79,196	0,35%	OK	ok
E1088		21760	193,221	248,004		54,783	79,229	0,67%	OK	ok
E1089		21780	193,086	247,966		54,880	79,326	-0,35%	OK	ok
E1090		21800	193,157	247,927		54,770	79,217	-0,90%	OK	ok
E1091		21820	193,338	247,889		54,551	78,997	-0,67%	OK	ok
E1092		21840	193,471	247,851		54,380	78,826	-0,36%	OK	ok
E1093		21860	193,543	247,813		54,270	78,716	0,11%	+ACLIVE	ok
E1094		21880	193,520	247,775		54,255	78,701	1,20%	OK	ok
E1095		21900	193,281	247,737		54,456	78,902	2,59%	OK	ok
E1096		21920	192,763	247,699		54,936	79,382	1,87%	OK	ok
E1097		21940	192,389	247,660		55,271	79,718	1,13%	OK	ok
E1098		21960	192,163	247,622		55,459	79,905	0,96%	OK	ok
E1099		21980	191,972	247,584		55,612	80,058	1,02%	OK	ok
E1100		22000	191,769	247,546		55,777	80,223	1,59%	OK	ok
E1101		22020	191,451	247,508		56,057	80,503	-0,24%	+DECLIVE	ok
E1102		22040	191,499	247,470		55,971	80,417	-1,20%	OK	ok
E1103		22060	191,739	247,432		55,693	80,139	-1,18%	OK	ok
E1104		22080	191,975	247,393		55,418	79,865	-0,79%	OK	ok
E1105		22100	192,133	247,355		55,222	79,668	0,28%	OK	ok
E1106		22120	192,077	247,317		55,240	79,686	1,39%	OK	ok
E1107		22140	191,799	247,279		55,480	79,926	1,86%	OK	ok
E1108		22160	191,428	247,241		55,813	80,259	2,17%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1109		22180	190,994	247,203		56,209	80,655	2,81%	OK	ok
E1110		22200	190,431	247,164		56,733	81,180	2,56%	OK	ok
E1111		22220	189,920	247,126		57,206	81,652	2,56%	OK	ok
E1112		22240	189,407	247,088		57,681	82,127	3,95%	OK	ok
E1113		22260	188,618	247,050		58,432	82,878	0,99%	OK	ok
E1114		22280	188,421	247,012		58,591	83,037	-0,98%	OK	ok
E1115		22300	188,617	246,974		58,357	82,803	-2,02%	OK	ok
E1116		22320	189,020	246,936		57,916	82,362	-5,75%	OK	ok
E1117		22340	190,170	246,897		56,727	81,174	-1,07%	OK	ok
E1118		22360	190,383	246,859		56,476	80,922	0,12%	+ACLIVE	ok
E1119		22380	190,359	246,821		56,462	80,908	2,67%	OK	ok
E1120		22400	189,826	246,783		56,957	81,403	5,97%	OK	ok
E1121		22420	188,632	246,745		58,113	82,559	8,38%	OK	ok
E1122		22440	186,956	246,707		59,751	84,197	2,28%	OK	ok
E1123		22460	186,499	246,669		60,170	84,616	-0,50%	OK	ok
E1124		22480	186,598	246,630		60,032	84,478	-0,84%	OK	ok
E1125		22500	186,767	246,592		59,825	84,271	-2,91%	OK	ok
E1126		22520	187,349	246,554		59,205	83,651	0,15%	+ACLIVE	ok
E1127		22540	187,319	246,516		59,197	83,643	-3,76%	OK	ok
E1128		22560	188,071	246,478		58,407	82,853	-1,35%	OK	ok
E1129		22580	188,340	246,440		58,100	82,546	8,79%	OK	ok
E1130		22600	186,583	246,401		59,818	84,265	9,63%	OK	ok
E1131		22620	184,656	246,363		61,707	86,153	6,68%	OK	ok
E1132		22640	183,320	246,325		63,005	87,451	3,94%	OK	ok
E1133		22660	182,532	246,287		63,755	88,201	3,52%	OK	ok
E1134		22680	181,829	246,249		64,420	88,866	3,52%	OK	ok
E1135		22700	181,126	246,211		65,085	89,531	7,38%	OK	ok
E1136		22720	179,650	246,173		66,523	90,969	0,13%	+ACLIVE	ok
E1137		22740	179,624	246,134		66,510	90,957	2,90%	OK	ok
E1138		22760	179,045	246,096		67,051	91,497	4,81%	OK	ok
E1139		22780	178,082	246,058		67,976	92,422	9,62%	OK	ok
E1140		22800	176,157	246,020		69,863	94,309	1,87%	OK	ok
E1141		22820	175,784	245,982		70,198	94,644	2,92%	OK	ok
E1142		22840	175,200	245,944		70,744	95,190	1,91%	OK	ok
E1143		22860	174,819	245,905		71,086	95,533	-0,22%	+DECLIVE	ok
E1144		22880	174,863	245,867		71,004	95,450	-3,92%	OK	ok
E1145		22900	175,648	245,829		70,181	94,627	-5,47%	OK	ok
E1146		22920	176,742	245,791		69,049	93,495	-0,96%	OK	ok
E1147		22940	176,933	245,753		68,820	93,266	-0,43%	OK	ok
E1148		22960	177,018	245,715		68,697	93,143	-2,97%	OK	ok
E1149		22980	177,613	245,677		68,064	92,510	0,04%	+ACLIVE	ok
E1150		23000	177,605	245,638		68,033	92,480	0,63%	OK	ok
E1151		23020	177,478	245,600		68,122	92,568	0,17%	+ACLIVE	ok
E1152		23040	177,444	245,562		68,118	92,564	-0,41%	OK	ok
E1153		23060	177,526	245,524		67,998	92,444	2,33%	OK	ok
E1154		23080	177,060	245,486		68,426	92,872	1,54%	OK	ok
E1155		23100	176,752	245,448		68,696	93,142	-0,44%	OK	ok
E1156		23120	176,841	245,410		68,569	93,015	0,87%	OK	ok
E1157		23140	176,667	245,371		68,704	93,151	1,83%	OK	ok
E1158		23160	176,302	245,333		69,031	93,477	2,94%	OK	ok
E1159		23180	175,714	245,295		69,581	94,027	4,66%	OK	ok
E1160		23200	174,783	245,257		70,474	94,920	4,59%	OK	ok
E1161		23220	173,865	245,219		71,354	95,800	2,04%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1162		23240	173,457	245,181		71,724	96,170	-2,91%	OK	ok
E1163		23260	174,039	245,142		71,103	95,550	-6,83%	OK	ok
E1164		23280	175,404	245,104		69,700	94,146	-3,53%	OK	ok
E1165		23300	176,110	245,066		68,956	93,402	-3,15%	OK	ok
E1166		23320	176,740	245,028		68,288	92,734	3,00%	OK	ok
E1167		23340	176,140	244,990		68,850	93,296	-2,44%	OK	ok
E1168		23360	176,627	244,952		68,325	92,771	-2,19%	OK	ok
E1169		23380	177,066	244,914		67,848	92,294	-4,47%	OK	ok
E1170		23400	177,960	244,875		66,915	91,362	-1,82%	OK	ok
E1171		23420	178,325	244,837		66,512	90,958	-2,97%	OK	ok
E1172		23440	178,919	244,799		65,880	90,326	0,08%	+ACLIVE	ok
E1173		23460	178,903	244,761		65,858	90,304	2,46%	OK	ok
E1174		23480	178,411	244,723		66,312	90,758	5,54%	OK	ok
E1175		23500	177,303	244,685		67,382	91,828	-0,11%	+DECLIVE	ok
E1176		23520	177,324	244,647		67,323	91,769	-1,68%	OK	ok
E1177		23540	177,660	244,608		66,948	91,394	-1,84%	OK	ok
E1178		23560	178,028	244,570		66,542	90,988	-1,68%	OK	ok
E1179		23580	178,364	244,532		66,168	90,614	-3,34%	OK	ok
E1180		23600	179,031	244,494		65,463	89,909	-2,93%	OK	ok
E1181		23620	179,618	244,456		64,838	89,284	0,14%	+ACLIVE	ok
E1182		23640	179,590	244,418		64,828	89,274	3,41%	OK	ok
E1183		23660	178,909	244,379		65,470	89,917	4,01%	OK	ok
E1184		23680	178,106	244,341		66,235	90,681	5,41%	OK	ok
E1185		23700	177,024	244,303		67,279	91,725	2,63%	OK	ok
E1186		23720	176,499	244,265		67,766	92,212	2,07%	OK	ok
E1187		23740	176,085	244,227		68,142	92,588	1,42%	OK	ok
E1188		23760	175,801	244,189		68,388	92,834	3,10%	OK	ok
E1189		23780	175,181	244,151		68,970	93,416	6,02%	OK	ok
E1190		23800	173,977	244,112		70,135	94,582	1,09%	OK	ok
E1191		23820	173,760	244,074		70,314	94,760	6,75%	OK	ok
E1192		23840	172,410	244,036		71,626	96,072	1,24%	OK	ok
E1193		23860	172,161	243,998		71,837	96,283	0,88%	OK	ok
E1194		23880	171,984	243,960		71,976	96,422	0,89%	OK	ok
E1195		23900	171,806	243,922		72,116	96,562	3,86%	OK	ok
E1196		23920	171,034	243,884		72,850	97,296	0,99%	OK	ok
E1197		23940	170,836	243,845		73,009	97,455	1,33%	OK	ok
E1198		23960	170,571	243,807		73,236	97,682	0,49%	OK	ok
E1199		23980	170,473	243,769		73,296	97,742	1,14%	OK	ok
E1200		24000	170,245	243,731		73,486	97,932	2,04%	OK	ok
E1201		24020	169,836	243,693		73,857	98,303	1,71%	OK	ok
E1202		24040	169,495	243,655		74,160	98,606	-0,53%	OK	ok
E1203		24060	169,602	243,616		74,014	98,461	1,35%	OK	ok
E1204		24080	169,332	243,578		74,246	98,692	1,98%	OK	ok
E1205		24100	168,935	243,540		74,605	99,051	1,74%	OK	ok
E1206		24120	168,586	243,502		74,916	99,362	-2,17%	OK	ok
E1207		24140	169,021	243,464		74,443	98,889	-2,30%	OK	ok
E1208		24160	169,480	243,426		73,946	98,392	-0,42%	OK	ok
E1209		24180	169,564	243,388		73,824	98,270	0,13%	+ACLIVE	ok
E1210		24200	169,539	243,349		73,810	98,257	1,54%	OK	ok
E1211		24220	169,230	243,311		74,081	98,527	4,09%	OK	ok
E1212		24240	168,412	243,273		74,861	99,307	4,57%	OK	ok
E1213		24260	167,497	243,235		75,738	100,184	6,99%	OK	ok
E1214		24280	166,100	243,197		77,097	101,543	5,57%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1215		24300	164,986	243,159		78,173	102,619	8,84%	OK	ok
E1216		24320	163,218	243,120		79,902	104,349	0,59%	OK	ok
E1217		24340	163,099	243,082		79,983	104,429	-1,69%	OK	ok
E1218		24360	163,437	243,044		79,607	104,053	-17,74%	OK	ok
E1219		24380	166,986	243,006		76,020	100,466	-12,09%	OK	ok
E1220		24400	169,403	242,968		73,565	98,011	-9,80%	OK	ok
E1221		24420	171,363	242,930		71,567	96,013	-6,24%	OK	ok
E1222		24440	172,612	242,892		70,280	94,726	4,42%	OK	ok
E1223		24460	171,727	242,853		71,126	95,573	5,23%	OK	ok
E1224		24480	170,682	242,815		72,133	96,579	3,04%	OK	ok
E1225		24500	170,074	242,777		72,703	97,149	2,37%	OK	ok
E1226		24520	169,601	242,739		73,138	97,584	2,09%	OK	ok
E1227		24540	169,183	242,701		73,518	97,964	3,34%	OK	ok
E1228		24560	168,514	242,663		74,149	98,595	6,91%	OK	ok
E1229		24580	167,132	242,625		75,493	99,939	-2,94%	OK	ok
E1230		24600	167,721	242,586		74,865	99,312	-4,35%	OK	ok
E1231		24620	168,591	242,548		73,957	98,403	1,96%	OK	ok
E1232		24640	168,200	242,510		74,310	98,756	0,52%	OK	ok
E1233		24660	168,095	242,472		74,377	98,823	-8,86%	OK	ok
E1234		24680	169,868	242,434		72,566	97,012	-1,55%	OK	ok
E1235		24700	170,178	242,396		72,218	96,664	-1,89%	OK	ok
E1236		24720	170,555	242,357		71,802	96,249	-2,06%	OK	ok
E1237		24740	170,966	242,319		71,353	95,799	-3,13%	OK	ok
E1238		24760	171,592	242,281		70,689	95,135	-3,99%	OK	ok
E1239		24780	172,391	242,243		69,852	94,298	-4,49%	OK	ok
E1240		24800	173,289	242,205		68,916	93,362	-4,09%	OK	ok
E1241		24820	174,106	242,167		68,061	92,507	-3,68%	OK	ok
E1242		24840	174,843	242,129		67,286	91,732	-3,33%	OK	ok
E1243		24860	175,508	242,090		66,582	91,029	2,15%	OK	ok
E1244		24880	175,078	242,052		66,974	91,420	4,51%	OK	ok
E1245		24900	174,177	242,014		67,837	92,283	0,52%	OK	ok
E1246		24920	174,073	241,976		67,903	92,349	-0,32%	OK	ok
E1247		24940	174,137	241,938		67,801	92,247	-5,82%	OK	ok
E1248		24960	175,301	241,900		66,599	91,045	-6,69%	OK	ok
E1249		24980	176,638	241,862		65,224	89,670	-3,35%	OK	ok
E1250		25000	177,308	241,823		64,515	88,961	4,80%	OK	ok
E1251		25020	176,349	241,785		65,436	89,882	9,08%	OK	ok
E1252		25040	174,533	241,747		67,214	91,660	8,84%	OK	ok
E1253		25060	172,764	241,709		68,945	93,391	4,40%	OK	ok
E1254		25080	171,885	241,671		69,786	94,232	8,09%	OK	ok
E1255		25100	170,267	241,633		71,366	95,812	-0,20%	+DECLIVE	ok
E1256		25120	170,306	241,594		71,288	95,735	-3,93%	OK	ok
E1257		25140	171,092	241,556		70,464	94,910	-2,65%	OK	ok
E1258		25160	171,622	241,518		69,896	94,342	2,22%	OK	ok
E1259		25180	171,179	241,480		70,301	94,747	2,99%	OK	ok
E1260		25200	170,580	241,442		70,862	95,308	-7,28%	OK	ok
E1261		25220	172,037	241,404		69,367	93,813	-5,66%	OK	ok
E1262		25240	173,170	241,366		68,196	92,642	-7,56%	OK	ok
E1263		25260	174,681	241,327		66,646	91,093	-7,88%	OK	ok
E1264		25280	176,257	241,289		65,032	89,478	-6,56%	OK	ok
E1265		25300	177,569	241,251		63,682	88,128	-3,49%	OK	ok
E1266		25320	178,266	241,213		62,947	87,393	-0,02%	+DECLIVE	ok
E1267		25340	178,271	241,175		62,904	87,350	-9,41%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1268		25360	180,152	241,137		60,985	85,431	-9,31%	OK	ok
E1269		25380	182,014	241,099		59,085	83,531	-9,40%	OK	ok
E1270		25400	183,894	241,060		57,166	81,612	-1,68%	OK	ok
E1271		25420	184,230	241,022		56,792	81,238	0,88%	OK	ok
E1272		25440	184,053	240,984		56,931	81,377	0,19%	+ACLIVE	ok
E1273		25460	184,014	240,946		56,932	81,378	-0,74%	OK	ok
E1274		25480	184,162	240,908		56,746	81,192	6,79%	OK	ok
E1275		25500	182,805	240,870		58,065	82,511	7,89%	OK	ok
E1276		25520	181,227	240,831		59,604	84,051	-8,94%	OK	ok
E1277		25540	183,016	240,793		57,777	82,223	-5,02%	OK	ok
E1278		25560	184,019	240,755		56,736	81,182	-0,92%	OK	ok
E1279		25580	184,203	240,717		56,514	80,960	-12,37%	OK	ok
E1280		25600	186,677	240,679		54,002	78,448	-2,24%	OK	ok
E1281		25620	187,124	240,641		53,517	77,963	-5,07%	OK	ok
E1282		25640	188,138	240,603		52,465	76,911	6,12%	OK	ok
E1283		25660	186,913	240,564		53,651	78,098	1,07%	OK	ok
E1284		25680	186,699	240,526		53,827	78,273	-2,77%	OK	ok
E1285		25700	187,253	240,488		53,235	77,681	0,48%	OK	ok
E1286		25720	187,156	240,450		53,294	77,740	1,12%	OK	ok
E1287		25740	186,932	240,412		53,480	77,926	2,11%	OK	ok
E1288		25760	186,510	240,374		53,864	78,310	-1,45%	OK	ok
E1289		25780	186,799	240,335		53,536	77,983	-4,92%	OK	ok
E1290		25800	187,784	240,297		52,513	76,959	4,20%	OK	ok
E1291		25820	186,943	240,259		53,316	77,762	-1,09%	OK	ok
E1292		25840	187,162	240,221		53,059	77,505	-5,31%	OK	ok
E1293		25860	188,225	240,183		51,958	76,404	-3,95%	OK	ok
E1294		25880	189,016	240,145		51,129	75,575	-3,21%	OK	ok
E1295		25900	189,657	240,107		50,450	74,896	-2,42%	OK	ok
E1296		25920	190,142	240,068		49,926	74,373	-2,85%	OK	ok
E1297		25940	190,712	240,030		49,318	73,764	-1,31%	OK	ok
E1298		25960	190,973	239,992		49,019	73,465	2,96%	OK	ok
E1299		25980	190,382	239,954		49,572	74,018	3,67%	OK	ok
E1300		26000	189,648	239,916		50,268	74,714	3,55%	OK	ok
E1301		26020	188,937	239,878		50,941	75,387	1,46%	OK	ok
E1302		26040	188,646	239,840		51,194	75,640	-2,55%	OK	ok
E1303		26060	189,156	239,801		50,645	75,092	0,31%	OK	ok
E1304		26080	189,094	239,763		50,669	75,115	0,64%	OK	ok
E1305		26100	188,966	239,725		50,759	75,205	1,84%	OK	ok
E1306		26120	188,598	239,687		51,089	75,535	2,22%	OK	ok
E1307		26140	188,155	239,649		51,494	75,940	5,01%	OK	ok
E1308		26160	187,154	239,611		52,457	76,903	4,42%	OK	ok
E1309		26180	186,270	239,572		53,302	77,749	4,47%	OK	ok
E1310		26200	185,377	239,534		54,157	78,603	4,56%	OK	ok
E1311		26220	184,465	239,496		55,031	79,477	5,13%	OK	ok
E1312		26240	183,439	239,458		56,019	80,465	4,07%	OK	ok
E1313		26260	182,625	239,420		56,795	81,241	7,11%	OK	ok
E1314		26280	181,203	239,382		58,179	82,625	6,81%	OK	ok
E1315		26300	179,841	239,344		59,503	83,949	6,14%	OK	ok
E1316		26320	178,614	239,305		60,691	85,138	7,19%	OK	ok
E1317		26340	177,176	239,267		62,091	86,537	3,78%	OK	ok
E1318		26360	176,420	239,229		62,809	87,255	3,89%	OK	ok
E1319		26380	175,641	239,191		63,550	87,996	8,18%	OK	ok
E1320		26400	174,005	239,153		65,148	89,594	6,26%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1321		26420	172,753	239,115	17,020,00	66,362	90,808	4,12%	OK	ok
E1322		26440	171,929	239,077		67,148	91,594	4,01%	OK	ok
E1323		26460	171,126	239,038		67,912	92,358	-0,05%	+DECLIVE	ok
E1324		26480	171,136	239,000		67,864	92,310	-1,12%	OK	ok
E1325		26500	171,359	238,962		67,603	92,049	1,81%	OK	ok
E1326		26520	170,998	238,924		67,926	92,372	1,22%	OK	ok
E1327		26540	170,754	238,886		68,132	92,578	0,73%	OK	ok
E1328		26560	170,607	238,848		68,241	92,687	-4,02%	OK	ok
E1329		26580	171,411	238,809		67,398	91,845	-6,53%	OK	ok
E1330		26600	172,716	238,771		66,055	90,501	1,84%	OK	ok
E1331		26620	172,348	238,733		66,385	90,831	4,86%	OK	ok
E1332		26640	171,376	238,695		67,319	91,765	5,13%	OK	ok
E1333		26660	170,351	238,657		68,306	92,752	1,53%	OK	ok
E1334		26680	170,045	238,619		68,574	93,020	0,12%	+ACLIVE	ok
E1335		26700	170,020	238,581		68,561	93,007	1,66%	OK	ok
E1336		26720	169,689	238,542		68,853	93,300	-0,04%	+DECLIVE	ok
E1337		26740	169,696	238,504		68,808	93,254	-7,11%	OK	ok
E1338		26760	171,118	238,466		67,348	91,794	-10,97%	OK	ok
E1339		26780	173,311	238,428		65,117	89,563	-2,82%	OK	ok
E1340		26800	173,876	238,390		64,514	88,960	15,35%	OK	ok
E1341		26820	170,807	238,352		67,545	91,991	-0,84%	OK	ok
E1342		26840	170,975	238,314		67,339	91,785	7,39%	OK	ok
E1343		26860	169,497	238,275		68,778	93,224	-4,22%	OK	ok
E1344		26880	170,341	238,237		67,896	92,342	2,58%	OK	ok
E1345		26900	169,824	238,199		68,375	92,821	5,21%	OK	ok
E1346		26920	168,783	238,161		69,378	93,824	7,20%	OK	ok
E1347		26940	167,342	238,123		70,781	95,227	6,74%	OK	ok
E1348		26960	165,994	238,085		72,091	96,537	3,74%	OK	ok
E1349		26980	165,245	238,046		72,801	97,248	1,06%	OK	ok
E1350		27000	165,033	238,008		72,975	97,421	-1,88%	OK	ok
E1351		27020	165,409	237,970		72,561	97,007	2,48%	OK	ok
E1352		27040	164,912	237,932		73,020	97,466	4,41%	OK	ok
E1353		27060	164,030	237,894		73,864	98,310	-4,09%	OK	ok
E1354		27080	164,847	237,856		73,009	97,455	6,38%	OK	ok
E1355		27100	163,571	237,818		74,247	98,693	4,30%	OK	ok
E1356		27120	162,712	237,779		75,067	99,514	1,14%	OK	ok
E1357		27140	162,484	237,741		75,257	99,703	0,59%	OK	ok
E1358		27160	162,365	237,703		75,338	99,784	-2,57%	OK	ok
E1359		27180	162,879	237,665		74,786	99,232	-3,74%	OK	ok
E1360		27200	163,626	237,627		74,001	98,447	-2,10%	OK	ok
E1361		27220	164,046	237,589		73,543	97,989	-1,09%	OK	ok
E1362		27240	164,265	237,550		73,285	97,732	-2,22%	OK	ok
E1363		27260	164,708	237,512		72,804	97,250	-7,56%	OK	ok
E1364		27280	166,220	237,474		71,254	95,700	-13,15%	OK	ok
E1365		27300	168,849	237,436		68,587	93,033	-1,40%	OK	ok
E1366		27320	169,129	237,398		68,269	92,715	-0,83%	OK	ok
E1367		27340	169,294	237,360		68,066	92,512	-0,66%	OK	ok
E1368		27360	169,427	237,322		67,895	92,341	-0,41%	OK	ok
E1369		27380	169,509	237,283		67,774	92,221	-3,26%	OK	ok
E1370		27400	170,160	237,245		67,085	91,531	-7,79%	OK	ok
E1371		27420	171,717	237,207		65,490	89,936	-5,88%	OK	ok
E1372		27440	172,893	237,169		64,276	88,722	-4,07%	OK	ok
E1373		27460	173,708	237,131		63,423	87,869	-6,60%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1374		27480	175,029	237,093		62,064	86,510	1,32%	OK	ok
E1375		27500	174,765	237,055		62,290	86,736	5,04%	OK	ok
E1376		27520	173,756	237,016		63,260	87,707	2,27%	OK	ok
E1377		27540	173,302	236,978		63,676	88,122	-0,98%	OK	ok
E1378		27560	173,497	236,940		63,443	87,889	-4,74%	OK	ok
E1379		27580	174,446	236,902		62,456	86,902	-7,87%	OK	ok
E1380		27600	176,019	236,864		60,845	85,291	-7,28%	OK	ok
E1381		27620	177,476	236,826		59,350	83,796	-3,69%	OK	ok
E1382		27640	178,214	236,787		58,573	83,020	-4,12%	OK	ok
E1383		27660	179,037	236,749		57,712	82,158	-1,70%	OK	ok
E1384		27680	179,378	236,711		57,333	81,779	0,03%	+ACLIVE	ok
E1385		27700	179,372	236,673		57,301	81,747	0,88%	OK	ok
E1386		27720	179,197	236,635		57,438	81,884	2,28%	OK	ok
E1387		27740	178,740	236,597		57,857	82,303	0,73%	OK	ok
E1388		27760	178,594	236,559		57,965	82,411	2,39%	OK	ok
E1389		27780	178,115	236,520		58,405	82,852	4,06%	OK	ok
E1390		27800	177,304	236,482		59,178	83,624	2,06%	OK	ok
E1391		27820	176,893	236,444		59,551	83,997	1,65%	OK	ok
E1392		27840	176,563	236,406		59,843	84,289	1,62%	OK	ok
E1393		27860	176,239	236,368		60,129	84,575	3,57%	OK	ok
E1394		27880	175,525	236,330		60,805	85,251	4,22%	OK	ok
E1395		27900	174,682	236,292		61,610	86,056	3,85%	OK	ok
E1396		27920	173,912	236,253		62,341	86,787	2,69%	OK	ok
E1397		27940	173,375	236,215		62,840	87,286	3,31%	OK	ok
E1398		27960	172,714	236,177		63,463	87,909	3,10%	OK	ok
E1399		27980	172,094	236,139		64,045	88,491	2,31%	OK	ok
E1400		28000	171,632	236,101		64,469	88,915	1,12%	OK	ok
E1401		28020	171,408	236,063		64,655	89,101	1,12%	OK	ok
E1402		28040	171,184	236,024		64,840	89,287	-0,65%	OK	ok
E1403		28060	171,314	235,986		64,672	89,118	-1,51%	OK	ok
E1404		28080	171,615	235,948		64,333	88,779	-2,55%	OK	ok
E1405		28100	172,126	235,910		63,784	88,230	-7,63%	OK	ok
E1406		28120	173,653	235,872		62,219	86,665	-10,50%	OK	ok
E1407		28140	175,752	235,834		60,082	84,528	-5,40%	OK	ok
E1408		28160	176,833	235,796		58,963	83,409	-0,79%	OK	ok
E1409		28180	176,991	235,757		58,766	83,213	-0,71%	OK	ok
E1410		28200	177,133	235,719		58,586	83,032	-2,75%	OK	ok
E1411		28220	177,684	235,681		57,997	82,443	-3,14%	OK	ok
E1412		28240	178,312	235,643		57,331	81,777	-0,55%	OK	ok
E1413		28260	178,423	235,605		57,182	81,628	2,60%	OK	ok
E1414		28280	177,903	235,567		57,664	82,110	-10,53%	OK	ok
E1415		28300	180,009	235,529		55,520	79,966	-5,77%	OK	ok
E1416		28320	181,163	235,490		54,327	78,773	-11,48%	OK	ok
E1417		28340	183,459	235,452		51,993	76,439	-8,36%	OK	ok
E1418		28360	185,131	235,414		50,283	74,729	-7,55%	OK	ok
E1419		28380	186,641	235,376		48,735	73,181	-6,45%	OK	ok
E1420		28400	187,932	235,338		47,406	71,852	-5,39%	OK	ok
E1421		28420	189,010	235,300		46,290	70,736	-4,96%	OK	ok
E1422		28440	190,003	235,261		45,258	69,705	-2,35%	OK	ok
E1423		28460	190,473	235,223		44,750	69,196	-1,49%	OK	ok
E1424		28480	190,772	235,185		44,413	68,859	-5,76%	OK	ok
E1425		28500	191,924	235,147		43,223	67,669	-7,07%	OK	ok
E1426		28520	193,339	235,109		41,770	66,216	-6,43%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1427		28540	194,625	235,071		40,446	64,892	-3,11%	OK	ok
E1428		28560	195,247	235,033		39,786	64,232	-1,18%	OK	ok
E1429		28580	195,484	234,994		39,510	63,957	-1,06%	OK	ok
E1430		28600	195,697	234,956		39,259	63,705	0,81%	OK	ok
E1431		28620	195,536	234,918		39,382	63,828	-3,07%	OK	ok
E1432		28640	196,150	234,880		38,730	63,176	-1,69%	OK	ok
E1433		28660	196,488	234,842		38,354	62,800	0,22%	OK	ok
E1434		28680	196,445	234,804		38,359	62,805	4,10%	OK	ok
E1435		28700	195,624	234,765		39,141	63,588	9,67%	OK	ok
E1436		28720	193,690	234,727		41,037	65,483	-3,68%	OK	ok
E1437		28740	194,426	234,689		40,263	64,709	-2,10%	OK	ok
E1438		28760	194,846	234,651		39,805	64,251	-1,08%	OK	ok
E1439		28780	195,063	234,613		39,550	63,996	4,83%	OK	ok
E1440		28800	194,096	234,575		40,479	64,925	3,60%	OK	ok
E1441		28820	193,376	234,537		41,161	65,607	-0,78%	OK	ok
E1442		28840	193,533	234,498		40,965	65,412	-1,61%	OK	ok
E1443		28860	193,854	234,460		40,606	65,052	-1,60%	OK	ok
E1444		28880	194,175	234,422		40,247	64,693	0,15%	+ACLIVE	ok
E1445		28900	194,146	234,384		40,238	64,684	3,16%	OK	ok
E1446		28920	193,515	234,346		40,831	65,277	4,13%	OK	ok
E1447		28940	192,689	234,308		41,619	66,065	-4,62%	OK	ok
E1448		28960	193,612	234,270		40,658	65,104	-13,28%	OK	ok
E1449		28980	196,267	234,231		37,964	62,411	-6,66%	OK	ok
E1450		29000	197,598	234,193		36,595	61,041	-2,33%	OK	ok
E1451		29020	198,064	234,155		36,091	60,537	-0,14%	+DECLIVE	ok
E1452		29040	198,091	234,117		36,026	60,472	-0,40%	OK	ok
E1453		29060	198,171	234,079		35,908	60,354	-1,34%	OK	ok
E1454		29080	198,439	234,041		35,602	60,048	-5,13%	OK	ok
E1455		29100	199,465	234,002		34,537	58,984	-9,71%	OK	ok
E1456		29120	201,408	233,964		32,556	57,002	-10,26%	OK	ok
E1457		29140	203,459	233,926		30,467	54,913	-11,75%	OK	ok
E1458		29160	205,809	233,888		28,079	52,525	-2,24%	OK	ok
E1459		29180	206,257	233,850		27,593	52,039	1,07%	OK	ok
E1460		29200	206,043	233,812		27,769	52,215	1,08%	OK	ok
E1461		29220	205,828	233,774		27,946	52,392	1,07%	OK	ok
E1462		29240	205,614	233,735		28,121	52,568	0,69%	OK	ok
E1463		29260	205,476	233,697		28,221	52,667	0,05%	+ACLIVE	ok
E1464		29280	205,466	233,659		28,193	52,639	0,88%	OK	ok
E1465		29300	205,290	233,621		28,331	52,777	1,37%	OK	ok
E1466		29320	205,016	233,583		28,567	53,013	0,97%	OK	ok
E1467		29340	204,822	233,545		28,723	53,169	2,82%	OK	ok
E1468		29360	204,259	233,507		29,248	53,694	3,87%	OK	ok
E1469		29380	203,485	233,468		29,983	54,429	3,88%	OK	ok
E1470		29400	202,710	233,430		30,720	55,166	3,67%	OK	ok
E1471		29420	201,976	233,392		31,416	55,862	3,01%	OK	ok
E1472		29440	201,374	233,354		31,980	56,426	5,52%	OK	ok
E1473		29460	200,269	233,316		33,047	57,493	10,66%	OK	ok
E1474		29480	198,138	233,278		35,140	59,586	7,11%	OK	ok
E1475		29500	196,716	233,239		36,523	60,970	3,62%	OK	ok
E1476		29520	195,992	233,201		37,209	61,655	2,51%	OK	ok
E1477		29540	195,489	233,163		37,674	62,120	4,60%	OK	ok
E1478		29560	194,570	233,125		38,555	63,001	7,37%	OK	ok
E1479		29580	193,096	233,087		39,991	64,437	5,26%	OK	ok

Brenno Oliveira Queiroga de Moraes
Eng. Civil - CREA: 210.967/810-8



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1480		29600	192,045	233,049		41,004	65,450	2,40%	OK	ok
E1481		29620	191,564	233,011		41,447	65,893	1,64%	OK	ok
E1482		29640	191,235	232,972		41,737	66,184	2,86%	OK	ok
E1483		29660	190,664	232,934		42,270	66,716	6,70%	OK	ok
E1484		29680	189,323	232,896		43,573	68,019	1,47%	OK	ok
E1485		29700	189,029	232,858		43,829	68,275	0,51%	OK	ok
E1486		29720	188,927	232,820		43,893	68,339	3,01%	OK	ok
E1487		29740	188,326	232,782		44,456	68,902	1,85%	OK	ok
E1488		29760	187,955	232,743		44,788	69,235	-5,15%	OK	ok
E1489		29780	188,985	232,705		43,720	68,166	-4,48%	OK	ok
E1490		29800	189,882	232,667		42,785	67,231	-1,99%	OK	ok
E1491		29820	190,280	232,629		42,349	66,795	1,66%	OK	ok
E1492		29840	189,948	232,591		42,643	67,089	5,51%	OK	ok
E1493		29860	188,846	232,553		43,707	68,153	7,58%	OK	ok
E1494		29880	187,329	232,515		45,186	69,632	-2,10%	OK	ok
E1495		29900	187,750	232,476		44,726	69,173	-4,69%	OK	ok
E1496		29920	188,689	232,438		43,749	68,195	-7,66%	OK	ok
E1497		29940	190,221	232,400		42,179	66,625	-3,63%	OK	ok
E1498		29960	190,947	232,362		41,415	65,861	-2,33%	OK	ok
E1499		29980	191,414	232,324		40,910	65,356	-4,77%	OK	ok
E1500		30000	192,368	232,286		39,918	64,364	1,36%	OK	ok
E1501		30020	192,095	232,248		40,153	64,599	3,65%	OK	ok
E1502		30040	191,365	232,209		40,844	65,291	9,00%	OK	ok
E1503		30060	189,565	232,171		42,606	67,052	10,98%	OK	ok
E1504		30080	187,370	232,133		44,763	69,209	9,27%	OK	ok
E1505		30100	185,516	232,095		46,579	71,025	6,20%	OK	ok
E1506		30120	184,275	232,057		47,782	72,228	5,08%	OK	ok
E1507		30140	183,259	232,019		48,760	73,206	7,24%	OK	ok
E1508		30160	181,810	231,980		50,170	74,617	8,52%	OK	ok
E1509		30180	180,107	231,942		51,835	76,281	3,04%	OK	ok
E1510		30200	179,500	231,904		52,404	76,850	4,48%	OK	ok
E1511		30220	178,604	231,866		53,262	77,708	6,31%	OK	ok
E1512		30240	177,342	231,828		54,486	78,932	7,57%	OK	ok
E1513		30260	175,829	231,790		55,961	80,407	0,79%	OK	ok
E1514		30280	175,672	231,752		56,080	80,526	2,09%	OK	ok
E1515		30300	175,254	231,713		56,459	80,906	4,07%	OK	ok
E1516		30320	174,440	231,675		57,235	81,681	1,81%	OK	ok
E1517		30340	174,078	231,637		57,559	82,005	2,76%	OK	ok
E1518		30360	173,525	231,599		58,074	82,520	0,87%	OK	ok
E1519		30380	173,352	231,561		58,209	82,655	1,54%	OK	ok
E1520		30400	173,043	231,523		58,480	82,926	4,18%	OK	ok
E1521		30420	172,208	231,485		59,277	83,723	4,07%	OK	ok
E1522		30440	171,393	231,446		60,053	84,500	-1,12%	OK	ok
E1523		30460	171,616	231,408		59,792	84,238	-0,47%	OK	ok
E1524		30480	171,711	231,370		59,659	84,105	-2,01%	OK	ok
E1525		30500	172,113	231,332		59,219	83,665	-1,28%	OK	ok
E1526		30520	172,369	231,294		58,925	83,371	-2,54%	OK	ok
E1527		30540	172,878	231,256		58,378	82,824	-10,23%	OK	ok
E1528		30560	174,924	231,217		56,293	80,740	-7,72%	OK	ok
E1529		30580	176,469	231,179		54,710	79,156	-7,75%	OK	ok
E1530		30600	178,019	231,141		53,122	77,568	-8,13%	OK	ok
E1531		30620	179,646	231,103		51,457	75,903	-7,55%	OK	ok
E1532		30640	181,155	231,065		49,910	74,356	-5,91%	OK	ok

Breno Oliveira Duarte de Moraes
Eng. Civil - CREA: 210.067/810-8



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1533		30660	182,338	231,027		48,689	73,135	-8,08%	OK	ok
E1534		30680	183,954	230,989		47,035	71,481	-8,79%	OK	ok
E1535		30700	185,712	230,950		45,238	69,685	-11,26%	OK	ok
E1536		30720	187,964	230,912		42,948	67,394	-10,10%	OK	ok
E1537		30740	189,983	230,874		40,891	65,337	-4,56%	OK	ok
E1538		30760	190,896	230,836		39,940	64,386	12,86%	OK	ok
E1539		30780	188,324	230,798		42,474	66,920	-7,47%	OK	ok
E1540		30800	189,818	230,760		40,942	65,388	-6,83%	OK	ok
E1541		30820	191,185	230,722		39,537	63,983	-7,63%	OK	ok
E1542		30840	192,710	230,683		37,973	62,419	-13,79%	OK	ok
E1543		30860	195,468	230,645		35,177	59,623	-0,61%	OK	ok
E1544		30880	195,589	230,607		35,018	59,464	5,19%	OK	ok
E1545		30900	194,552	230,569		36,017	60,463	10,51%	OK	ok
E1546		30920	192,451	230,531		38,080	62,526	9,01%	OK	ok
E1547		30940	190,649	230,493		39,844	64,290	5,94%	OK	ok
E1548		30960	189,460	230,454		40,994	65,441	5,55%	OK	ok
E1549		30980	188,351	230,416		42,065	66,511	5,40%	OK	ok
E1550		31000	187,270	230,378		43,108	67,554	5,17%	OK	ok
E1551		31020	186,236	230,340		44,104	68,550	3,49%	OK	ok
E1552		31040	185,539	230,302		44,763	69,209	2,52%	OK	ok
E1553		31060	185,035	230,264		45,229	69,675	2,33%	OK	ok
E1554		31080	184,570	230,226		45,656	70,102	-9,28%	OK	ok
E1555		31100	186,425	230,187		43,762	68,209	-5,51%	OK	ok
E1556		31120	187,527	230,149		42,622	67,068	1,16%	OK	ok
E1557		31140	187,294	230,111		42,817	67,263	3,24%	OK	ok
E1558		31160	186,646	230,073		43,427	67,873	3,83%	OK	ok
E1559		31180	185,879	230,035		44,156	68,602	5,92%	OK	ok
E1560		31200	184,695	229,997		45,302	69,748	5,23%	OK	ok
E1561		31220	183,649	229,958		46,309	70,756	5,26%	OK	ok
E1562		31240	182,597	229,920		47,323	71,769	8,57%	OK	ok
E1563		31260	180,883	229,882		48,999	73,445	9,80%	OK	ok
E1564		31280	178,923	229,844		50,921	75,367	5,44%	OK	ok
E1565		31300	177,834	229,806		51,972	76,418	3,71%	OK	ok
E1566		31320	177,093	229,768		52,675	77,121	-3,39%	OK	ok
E1567		31340	177,771	229,730		51,959	76,405	-5,45%	OK	ok
E1568		31360	178,860	229,691		50,831	75,278	-7,71%	OK	ok
E1569		31380	180,403	229,653		49,250	73,696	-7,79%	OK	ok
E1570		31400	181,961	229,615		47,654	72,100	-7,09%	OK	ok
E1571		31420	183,380	229,577		46,197	70,643	-8,57%	OK	ok
E1572		31440	185,094	229,539		44,445	68,891	-11,12%	OK	ok
E1573		31460	187,318	229,501		42,183	66,629	-10,66%	OK	ok
E1574		31480	189,450	229,463		40,013	64,459	-3,66%	OK	ok
E1575		31500	190,181	229,424		39,243	63,690	2,64%	OK	ok
E1576		31520	189,654	229,386		39,732	64,178	2,37%	OK	ok
E1577		31540	189,179	229,348		40,169	64,615	0,88%	OK	ok
E1578		31560	189,003	229,310		40,307	64,753	4,18%	OK	ok
E1579		31580	188,166	229,272		41,106	65,552	8,71%	OK	ok
E1580		31600	186,423	229,234		42,811	67,257	8,72%	OK	ok
E1581		31620	184,679	229,195		44,516	68,963	7,25%	OK	ok
E1582		31640	183,228	229,157		45,929	70,375	-1,70%	OK	ok
E1583		31660	183,568	229,119		45,551	69,997	-12,03%	OK	ok
E1584		31680	185,975	229,081		43,106	67,552	-1,32%	OK	ok
E1585		31700	186,239	229,043		42,804	67,250	4,69%	OK	ok



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = $\geq 2000 \times D$
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1586		31720	185,301	229,005		43,704	68,150	4,33%	OK	ok
E1587		31740	184,434	228,967		44,533	68,979	3,94%	OK	ok
E1588		31760	183,646	228,928		45,282	69,729	0,59%	OK	ok
E1589		31780	183,528	228,890		45,362	69,808	-1,24%	OK	ok
E1590		31800	183,777	228,852		45,075	69,521	-0,24%	+DECLIVE	ok
E1591		31820	183,825	228,814		44,989	69,435	3,83%	OK	ok
E1592		31840	183,058	228,776		45,718	70,164	4,50%	OK	ok
E1593		31860	182,158	228,738		46,580	71,026	2,42%	OK	ok
E1594		31880	181,673	228,700		47,027	71,473	3,64%	OK	ok
E1595		31900	180,946	228,661		47,715	72,161	2,79%	OK	ok
E1596		31920	180,388	228,623		48,235	72,681	-0,42%	OK	ok
E1597		31940	180,472	228,585		48,113	72,559	-1,46%	OK	ok
E1598		31960	180,764	228,547		47,783	72,229	2,48%	OK	ok
E1599		31980	180,268	228,509		48,241	72,687	5,60%	OK	ok
E1600		32000	179,148	228,471		49,323	73,769	5,99%	OK	ok
E1601		32020	177,951	228,432		50,481	74,928	6,16%	OK	ok
E1602		32040	176,719	228,394		51,675	76,121	7,04%	OK	ok
E1603		32060	175,310	228,356		53,046	77,492	6,35%	OK	ok
E1604		32080	174,040	228,318		54,278	78,724	9,74%	OK	ok
E1605		32100	172,093	228,280		56,187	80,633	3,69%	OK	ok
E1606		32120	171,355	228,242		56,887	81,333	0,90%	OK	ok
E1607		32140	171,176	228,204		57,028	81,474	-8,94%	OK	ok
E1608		32160	172,963	228,165		55,202	79,649	-4,27%	OK	ok
E1609		32180	173,817	228,127		54,310	78,756	-2,26%	OK	ok
E1610		32200	174,269	228,089		53,820	78,266	1,18%	OK	ok
E1611		32220	174,034	228,051		54,017	78,463	3,48%	OK	ok
E1612		32240	173,338	228,013		54,675	79,121	1,98%	OK	ok
E1613		32260	172,941	227,975		55,034	79,480	-1,91%	OK	ok
E1614		32280	173,322	227,937		54,615	79,061	-1,98%	OK	ok
E1615		32300	173,718	227,898		54,180	78,626	-2,87%	OK	ok
E1616		32320	174,291	227,860		53,569	78,015	-2,87%	OK	ok
E1617		32340	174,864	227,822		52,958	77,404	-2,87%	OK	ok
E1618		32360	175,438	227,784		52,346	76,792	1,67%	OK	ok
E1619		32380	175,103	227,746		52,643	77,089	-7,47%	OK	ok
E1620		32400	176,597	227,708		51,111	75,557	-4,80%	OK	ok
E1621		32420	177,556	227,669		50,113	74,560	-7,42%	OK	ok
E1622		32440	179,041	227,631		48,590	73,036	-8,30%	OK	ok
E1623		32460	180,701	227,593		46,892	71,338	-3,32%	OK	ok
E1624		32480	181,364	227,555		46,191	70,637	-8,37%	OK	ok
E1625		32500	183,037	227,517		44,480	68,926	-12,06%	OK	ok
E1626		32520	185,450	227,479		42,029	66,475	-16,05%	OK	ok
E1627		32540	188,659	227,441		38,782	63,228	-11,00%	OK	ok
E1628		32560	190,858	227,402		36,544	60,991	-1,53%	OK	ok
E1629		32580	191,164	227,364		36,200	60,646	2,64%	OK	ok
E1630		32600	190,636	227,326		36,690	61,136	4,62%	OK	ok
E1631		32620	189,712	227,288		37,576	62,022	6,34%	OK	ok
E1632		32640	188,443	227,250		38,807	63,253	2,55%	OK	ok
E1633		32660	187,934	227,212		39,278	63,724	1,97%	OK	ok
E1634		32680	187,541	227,173		39,632	64,079	0,49%	OK	ok
E1635		32700	187,442	227,135		39,693	64,139	0,55%	OK	ok
E1636		32720	187,333	227,097		39,764	64,210	2,10%	OK	ok
E1637		32740	186,912	227,059		40,147	64,593	-2,28%	OK	ok
E1638		32760	187,368	227,021		39,653	64,099	5,07%	OK	ok


Brenno Oliveira Queiroga de Moraes
Eng. Civil - CREA: 230.067/830-8



Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1639		32780	186,353	226,983		40,630	65,076	6,17%	OK	ok
E1640		32800	185,120	226,945		41,825	66,271	10,67%	OK	ok
E1641		32820	182,987	226,906		43,919	68,366	8,82%	OK	ok
E1642		32840	181,222	226,868		45,646	70,092	5,93%	OK	ok
E1643		32860	180,037	226,830		46,793	71,239	3,89%	OK	ok
E1644		32880	179,259	226,792		47,533	71,979	1,10%	OK	ok
E1645		32900	179,038	226,754		47,716	72,162	5,00%	OK	ok
E1646		32920	178,039	226,716		48,677	73,123	1,03%	OK	ok
E1647		32940	177,833	226,678		48,845	73,291	20,55%	OK	ok
E1648		32960	173,723	226,639		52,916	77,363	4,79%	OK	ok
E1649		32980	172,765	226,601		53,836	78,282	-10,58%	OK	ok
E1650		33000	174,881	226,563		51,682	76,128	-7,16%	OK	ok
E1651		33020	176,313	226,525		50,212	74,658	-0,30%	+DECLIVE	ok
E1652		33040	176,372	226,487		50,115	74,561	6,66%	OK	ok
E1653		33060	175,040	226,449		51,409	75,855	-2,48%	OK	ok
E1654		33080	175,535	226,410		50,875	75,322	-6,15%	OK	ok
E1655		33100	176,764	226,372		49,608	74,054	-7,14%	OK	ok
E1656		33120	178,192	226,334		48,142	72,588	-3,50%	OK	ok
E1657		33140	178,892	226,296		47,404	71,850	2,82%	OK	ok
E1658		33160	178,327	226,258		47,931	72,377	2,27%	OK	ok
E1659		33180	177,873	226,220		48,347	72,793	5,41%	OK	ok
E1660		33200	176,791	226,182		49,391	73,837	7,48%	OK	ok
E1661		33220	175,294	226,143		50,849	75,296	6,72%	OK	ok
E1662		33240	173,951	226,105		52,154	76,600	3,15%	OK	ok
E1663		33260	173,321	226,067		52,746	77,192	2,85%	OK	ok
E1664		33280	172,750	226,029		53,279	77,725	9,37%	OK	ok
E1665		33300	170,876	225,991		55,115	79,561	-7,12%	OK	ok
E1666		33320	172,300	225,953		53,653	78,099	-4,45%	OK	ok
E1667		33340	173,191	225,915		52,724	77,170	3,17%	OK	ok
E1668		33360	172,557	225,876		53,319	77,765	-3,24%	OK	ok
E1669		33380	173,204	225,838		52,634	77,080	-20,97%	OK	ok
E1670		33400	177,398	225,800		48,402	72,848	-1,33%	OK	ok
E1671		33420	177,664	225,762		48,098	72,544	0,15%	+ACLIVE	ok
E1672		33440	177,634	225,724		48,090	72,536	-0,11%	+DECLIVE	ok
E1673		33460	177,655	225,686		48,031	72,477	-0,75%	OK	ok
E1674		33480	177,804	225,647		47,843	72,290	0,10%	+ACLIVE	ok
E1675		33500	177,784	225,609		47,825	72,271	0,32%	OK	ok
E1676		33520	177,720	225,571		47,851	72,297	0,32%	OK	ok
E1677		33540	177,656	225,533		47,877	72,323	-0,19%	+DECLIVE	ok
E1678		33560	177,693	225,495		47,802	72,248	-0,32%	OK	ok
E1679		33580	177,757	225,457		47,700	72,146	-0,23%	+DECLIVE	ok
E1680		33600	177,804	225,419		47,615	72,061	-0,23%	+DECLIVE	ok
E1681		33620	177,851	225,380		47,529	71,976	-0,40%	OK	ok
E1682		33640	177,930	225,342		47,412	71,858	-1,35%	OK	ok
E1683		33660	178,201	225,304		47,103	71,549	-1,41%	OK	ok
E1684		33680	178,482	225,266		46,784	71,230	-1,44%	OK	ok
E1685		33700	178,771	225,228		46,457	70,903	-1,63%	OK	ok
E1686		33720	179,097	225,190		46,093	70,539	-1,29%	OK	ok
E1687		33740	179,356	225,152		45,796	70,242	-3,96%	OK	ok
E1688		33760	180,148	225,113		44,965	69,411	-4,25%	OK	ok
E1689		33780	180,997	225,075		44,078	68,524	-14,18%	OK	ok
E1690		33800	183,833	225,037		41,204	65,650	-12,65%	OK	ok
E1691		33820	186,363	224,999		38,636	63,082	-4,01%	OK	ok

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Estado do Rio Grande do Norte
Município de Serra Negra do Norte
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RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1692		33840	187,166	224,961		37,795	62,241	-1,30%	OK	ok
E1693		33860	187,427	224,923		37,496	61,942	-2,09%	OK	ok
E1694		33880	187,844	224,884		37,040	61,487	1,81%	OK	ok
E1695		33900	187,482	224,846		37,364	61,810	6,13%	OK	ok
E1696		33920	186,256	224,808		38,552	62,998	6,28%	OK	ok
E1697		33940	185,000	224,770		39,770	64,216	6,70%	OK	ok
E1698		33960	183,660	224,732		41,072	65,518	6,79%	OK	ok
E1699		33980	182,302	224,694		42,392	66,838	10,25%	OK	ok
E1700		34000	180,251	224,656		44,405	68,851	10,25%	OK	ok
E1701		34020	178,201	224,617		46,416	70,863	9,89%	OK	ok
E1702		34040	176,224	224,579		48,355	72,801	6,98%	OK	ok
E1703		34060	174,828	224,541		49,713	74,159	6,98%	OK	ok
E1704		34080	173,432	224,503		51,071	75,517	3,56%	OK	ok
E1705		34100	172,719	224,465		51,746	76,192	3,13%	OK	ok
E1706		34120	172,094	224,427		52,333	76,779	3,13%	OK	ok
E1707		34140	171,468	224,388		52,920	77,367	2,23%	OK	ok
E1708		34160	171,022	224,350		53,328	77,774	2,01%	OK	ok
E1709		34180	170,619	224,312		53,693	78,139	2,02%	OK	ok
E1710		34200	170,215	224,274		54,059	78,505	2,01%	OK	ok
E1711		34220	169,812	224,236		54,424	78,870	-5,29%	OK	ok
E1712		34240	170,871	224,198		53,327	77,773	-6,66%	OK	ok
E1713		34260	172,204	224,160		51,956	76,402	-1,56%	OK	ok
E1714		34280	172,516	224,121		51,605	76,052	0,64%	OK	ok
E1715		34300	172,388	224,083		51,695	76,141	0,64%	OK	ok
E1716		34320	172,260	224,045		51,785	76,231	1,14%	OK	ok
E1717		34340	172,031	224,007		51,976	76,422	1,82%	OK	ok
E1718		34360	171,668	223,969		52,301	76,747	1,82%	OK	ok
E1719		34380	171,305	223,931		52,626	77,072	1,82%	OK	ok
E1720		34400	170,942	223,893		52,951	77,397	1,82%	OK	ok
E1721		34420	170,579	223,854		53,275	77,722	0,92%	OK	ok
E1722		34440	170,395	223,816		53,421	77,867	-0,05%	+DECLIVE	ok
E1723		34460	170,406	223,778		53,372	77,818	-0,06%	+DECLIVE	ok
E1724		34480	170,418	223,740		53,322	77,768	-0,05%	+DECLIVE	ok
E1725		34500	170,429	223,702		53,273	77,719	-0,06%	+DECLIVE	ok
E1726		34520	170,441	223,664		53,223	77,669	4,91%	OK	ok
E1727		34540	169,459	223,625		54,166	78,613	9,97%	OK	ok
E1728		34560	167,465	223,587		56,122	80,568	8,73%	OK	ok
E1729		34580	165,720	223,549		57,829	82,275	3,80%	OK	ok
E1730		34600	164,959	223,511		58,552	82,998	-2,12%	OK	ok
E1731		34620	165,384	223,473		58,089	82,535	-4,91%	OK	ok
E1732		34640	166,365	223,435		57,070	81,516	-7,15%	OK	ok
E1733		34660	167,794	223,397		55,603	80,049	-14,86%	OK	ok
E1734		34680	170,766	223,358		52,592	77,039	-9,07%	OK	ok
E1735		34700	172,580	223,320		50,740	75,186	-5,22%	OK	ok
E1736		34720	173,625	223,282		49,657	74,103	-2,10%	OK	ok
E1737		34740	174,044	223,244		49,200	73,646	-1,15%	OK	ok
E1738		34760	174,274	223,206		48,932	73,378	1,23%	OK	ok
E1739		34780	174,028	223,168		49,140	73,586	1,23%	OK	ok
E1740		34800	173,782	223,130		49,348	73,794	0,46%	OK	ok
E1741		34820	173,690	223,091		49,401	73,847	-0,49%	OK	ok
E1742		34840	173,787	223,053		49,266	73,712	-0,49%	OK	ok
E1743		34860	173,885	223,015		49,130	73,576	-0,08%	+DECLIVE	ok
E1744		34880	173,900	222,977		49,077	73,523	-17,35%	OK	ok


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Estado do Rio Grande do Norte
Município de Serra Negra do Norte
Gabinete Civil

RESUMO DE DADOS DE PROJETO

PROPRIETARIO: MUNICIPIO DE SERRA NEGRA DO NORTE, RN
OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
DATA: SETEMBRO DE 2019
RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

ESTACA	ELEMENTO	DISTANCIA ACUMULADA	COTA DO TERRENO	LINHA DE CAGA EFETIVA OU PIEZOMETRICA - C	ELEVATORIA/C AIXA DE TRANSIÇÃO CARGA	PRESSÃO DISPONIVEL	LINHA DE CARGA ABSOLUTA INCLUSIVE TRANSIENTE HIDRAULICO	INCLINAÇÃO DA TUBULAÇÃO (I)	Verificação de declividade mínima NBR 122115 - 5.4	Necessidade de Ventosa = >2000xD
E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1745		34900	177,370	222,939		45,569	70,015	-5,55%	OK	ok
E1746		34920	178,481	222,901		44,420	68,866	-1,45%	OK	ok
E1747		34940	178,771	222,862		44,091	68,538	-1,46%	OK	ok
E1748		34960	179,062	222,824		43,762	68,208	-1,45%	OK	ok
E1749		34980	179,352	222,786		43,434	67,880	-1,45%	OK	ok
E1750		35000	179,643	222,748		43,105	67,551	7,08%	OK	ok
E1751		35020	178,227	222,710		44,483	68,929	8,37%	OK	ok
E1752		35040	176,553	222,672		46,119	70,565	8,37%	OK	ok
E1753		35060	174,879	222,634		47,755	72,201	9,73%	OK	ok
E1754		35080	172,933	222,595		49,662	74,109	9,71%	OK	ok
E1755		35100	170,990	222,557		51,567	76,013	6,67%	OK	ok
E1756		35120	169,656	222,519		52,863	77,309	6,67%	OK	ok
E1757		35140	168,322	222,481		54,159	78,605	3,99%	OK	ok
E1758		35160	167,524	222,443		54,919	79,365	2,52%	OK	ok
E1759		35180	167,020	222,405		55,385	79,831	1,84%	OK	ok
E1760		35200	166,653	222,367		55,714	80,160	0,35%	OK	ok
E1761		35220	166,583	222,328		55,745	80,191	0,32%	OK	ok
E1762		35240	166,518	222,290		55,772	80,218	0,26%	OK	ok
E1763		35260	166,466	222,252		55,786	80,232	-0,66%	OK	ok
E1764		35280	166,599	222,214		55,615	80,061	-2,51%	OK	ok
E1765		35300	167,101	222,176		55,075	79,521	-2,51%	OK	ok
E1766		35320	167,603	222,138		54,535	78,981	-1,92%	OK	ok
E1767		35340	167,988	222,099		54,111	78,558	-1,83%	OK	ok
E1768		35360	168,354	222,061		53,707	78,153	-3,89%	OK	ok
E1769		35380	169,132	222,023		52,891	77,337	-4,06%	OK	ok
E1770		35400	169,944	221,985		52,041	76,487	-3,28%	OK	ok
E1771		35420	170,599	221,947		51,348	75,794	-2,98%	OK	ok
E1772		35440	171,195	221,909		50,714	75,160	-2,97%	OK	ok
E1773		35460	171,790	221,871		50,081	74,527	-0,11%	+DECLIVE	ok
E1774		35480	171,811	221,832		50,021	74,468	3,43%	OK	ok
E1775		35500	171,126	221,794		50,668	75,114	10,27%	OK	ok
E1776		35520	169,072	221,756		52,684	77,130	0,01%	+ACLIVE	ok
E1777		35540	169,071	221,718		52,647	77,093	0,01%	+ACLIVE	ok
E1778		35560	169,070	221,680		52,610	77,056	0,01%	+ACLIVE	ok
E1779		35580	169,069	221,642		52,573	77,019	0,00%	+ACLIVE	ok
E1780		35600	169,068	221,603		52,535	76,982	0,01%	+ACLIVE	ok
E1781		35620	169,067	221,565		52,498	76,944	0,01%	+ACLIVE	ok
E1782		35640	169,066	221,527		52,461	76,907	0,01%	+ACLIVE	ok
E1783		35660	169,065	221,489		52,424	76,870	0,01%	+ACLIVE	ok
E1784		35680	169,064	221,451		52,387	76,833	0,01%	+ACLIVE	ok
E1785		35700	169,063	221,413		52,350	76,796	0,00%	+ACLIVE	ok
E1786		35720	169,062	221,375		52,313	76,759	0,01%	+ACLIVE	ok
E1787		35740	169,060	221,336		52,276	76,723	-9,21%	OK	ok
E1788		35760	170,903	221,298		50,395	74,841	-0,07%	+DECLIVE	ok
E1789		35780	170,917	221,260		50,343	74,789	-4,01%	OK	ok
E1790		35800	171,720	221,222		49,502	73,948	-13,82%	OK	ok
E1791		35820	174,484	221,184		46,700	71,146	-21,46%	OK	ok
E1792		35840	178,775	221,146		42,371	66,817	-25,81%	OK	ok
E1793		35860	183,938	221,108		37,170	61,616	-22,43%	OK	ok
E1794		35880	188,424	221,069		32,645	57,092	-21,78%	OK	ok
E1795		35900	192,780	221,031		28,251	52,697	-21,22%	OK	ok
E1796	ELEVATÓRIA	35920	197,023	242,023	45,00	45,000	69,446	-18,36%	OK	ok
E1797		35940	200,695	241,985	0	41,290	65,736	-20,98%	OK	ok



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 OBRA: CONSTRUÇÃO DE SISTEMA DE ABASTECIMENTO DE AGUA
 LOCAL: MUNICIPIO DE SERRA NEGRA DO NORTE - RN
 DATA: SETEMBRO DE 2019
 RECURSOS: TC/PAC 0449/2014 - FUNASA/PMSNN

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E0	ELEVATORIA	0	170,000	215,000	45,00	45,000	69,446	6,86%	OK	ok
E1798		35960	204,891	241,947	157	37,056	61,502	-25,81%	OK	ok
E1799		35980	210,053	241,909		31,856	56,302	-20,68%	OK	ok
E1800		36000	214,188	241,870		27,682	52,129	-14,40%	OK	ok
E1801		36020	217,068	241,832		24,764	49,210	-15,11%	OK	ok
E1802		36040	220,090	241,794		21,704	46,150	-20,25%	OK	ok
E1803		36060	224,140	241,756	157	17,616	42,062	-12,05%	OK	ok
E1803+17,93		36077,93	226,300	241,722		15,422	39,868	-0,63%	OK	ok


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