



**Pilot Project Report (Runway 28)**

**for**

**Delhi International Airport Private Limited (DIAL)**

**VIDP – Indira Gandhi International Airport****Obstacle Data in Approach of Rwy 28**

Pilot Project

17<sup>th</sup> Sep 2018***Summery****Total Area of Pilot Project : 15.94 Sq km**Area of Approach Rwy 28: 2.62 Sq km*

S.No.	Approach Rwy 28	Count.
1.	Total Building lies in Approach Rwy 28	467 buildings
2.	Obstacle Penetration 1.2% in Approach Rwy 28	133 Obstacles
3.	Obstacle Penetration 1.5% in Approach Rwy 28	17 Obstacles
4.	Obstacle Penetration 2% in Approach Rwy 28	0 Obstacles

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17<sup>th</sup> Sep 2018**1. Aerodrome Data****1.1. Airport Information**

Owner of Airport: Airport Authority of India  
 Name of Operator: Delhi International Airport Private Limited (DIAL)  
 ICAO Code: VIDP  
 Name of Airport: Indira Gandhi International Airport  
 Coordinates of ARP: 28°34'07"N, 077°06'44"E

**1.2. Runway Physical Characteristics**

Runway Name	Dimensions of the Runway
Rwy 09/27	2816m x 45m
Rwy 10/28	3813m x 45m
Rwy 11L/29R	4430m x 60m
Rwy 11R/29L	4430m x 60m

**1.3. Runway threshold information**

S.No.	Runway Name	Location of Displaced THR	Location of Physical THR	Elevation
1.	Rwy 09	28°34'13.98"N 077°05'17.28"E	28°34'11.62"N 077°07'00.84E	218.96 m
2.	Rwy 10	28°34'02.03"N 077°05'05.54"E	28°33'30.73"N 077°07'21.27E	219.60 m
3.	Rwy 11L	77°4'5.799"E 28°33'0.912"N	28°33'00.91"N 077°04'05.79"E	220.98 m
4.	Rwy 11R	28°32'44.86N 077°04'18.85"E	28°32'15.85"N 077°06'34.16E	220.98 m
5.	Rwy 27	28°34'11.74N 077°06'55.30"E	28°34'13.98"N 077°05'17.28"E	229.27 m
6.	Rwy 28	28°33'30.73N 077°07'21.27"E	28°34'02.03"N 077°05'05.54"E	237.22 m
7.	Rwy29L	28°32'27.04N 077°05'41.97"E	28°32'49.81"N 077°03'55.80"E	229.27 m
8.	Rwy 29R	77°6'42.184"E 28°32'27.407"N	28°32'27.40"N 077°06'42.18"E	229.27 m

**2. Study Parameter****2.1. Runway used**

Designator	Code Reference	Strip Length	Strip Width
11L/29R	4	60m	150m
11R/29L	4	60m	150m
09/27	4	60m	150m
10/28	4	60m	150m

**2.2. Input Parameters**

Input Parameters	
Runway Direction	Direction from Rwy 28
Approach Type	Precision Instrument Approach
Category	Category III
Distance from runway Strip	Runway 28

**2.3. Surface build Parameter**

Approach surface	
Parameter name	Value
Divergence each side	15%
Length of inner edge	300m
Distance from Threshold	60m
First section length	3000m
First section slope	2%
Second section length	3600m
Second section slope	2.5%
Approach total length	15000m

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Take off surface	
Parameter name	Value
Divergence each side	12.5%
Length of inner edge	180m
Slope	2%
Length	15000m
Final width	1200m
Distance from runway end	60m

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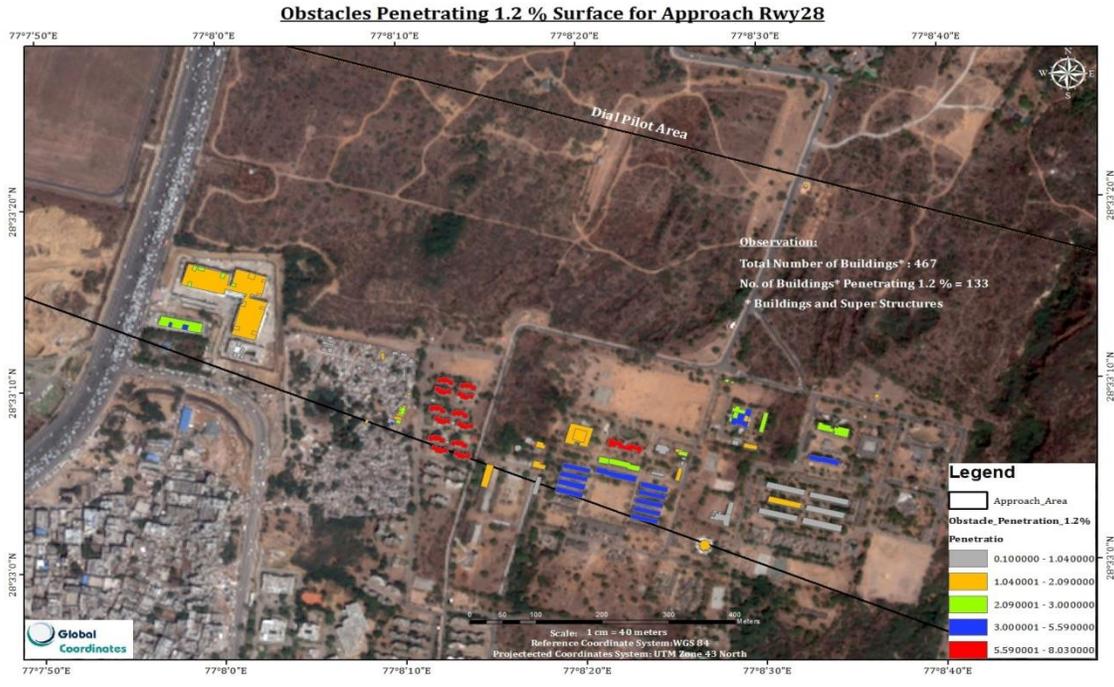
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**3. VIDP-Pilot Project Area**

**1. Approach Surface**

**1. Obstacle Penetration 1.2% Rwy28:**



Total Buildings lies in Approach Rwy 28 : 467 Buildings

Obstacle Penetration 1.2%: 133 Obstacles

**All building height and Site elevation are in Meter**

UID	Longitude (Degree Decimal)	Latitude (Degree Decimal)	Longitude	Latitude	Bldg AMSL	Site Elevation	Bldg AGL	Penetration 1.2%
App28_Bldg_81	77.125676	28.557252	77°7'32.43E	28°33'26.10N	240.71	237.50	3.21	0.19
App28_Bldg_82	77.133552	28.553529	77°8'0.786E	28°33'12.70N	251.75	238.96	12.79	0.74
App28_Bldg_213	77.133598	28.553319	77°8'0.954E	28°33'11.94N	251.75	238.97	12.78	0.56
App28_Bldg_214	77.133487	28.553354	77°8'0.551E	28°33'12.07N	251.75	238.88	12.87	0.70
App28_Bldg_347	77.133583	28.553388	77°8'0.899E	28°33'12.19N	251.75	238.98	12.77	0.62
App28_Bldg_83	77.133611	28.554095	77°8'0.998E	28°33'14.74N	252.65	239.01	13.64	1.91

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App28_Bldg_84	77.133863	28.554261	77°8'1.907E	28°33'15.33N	252.65	239.02	13.63	1.73
App28_Bldg_85	77.132970	28.554676	77°7'58.69E	28°33'16.83N	252.65	238.82	13.83	2.91
App28_Bldg_86	77.133323	28.554580	77°7'59.96E	28°33'16.48N	252.65	238.89	13.76	2.48
App28_Bldg_87	77.133476	28.554426	77°8'0.514E	28°33'15.93N	252.65	238.95	13.70	2.23
App28_Bldg_88	77.133907	28.554058	77°8'2.066E	28°33'14.60N	252.65	239.02	13.63	1.57
App28_Bldg_89	77.133774	28.553683	77°8'1.587E	28°33'13.25N	252.65	239.02	13.63	1.50
App28_Bldg_206	77.132894	28.554697	77°7'58.41E	28°33'16.90N	252.65	238.79	13.86	3.00
App28_Bldg_207	77.133587	28.554069	77°8'0.911E	28°33'14.64N	250.85	238.89	11.96	0.12
App28_Bldg_340	77.133751	28.554571	77°8'1.503E	28°33'16.45N	252.65	239.01	13.64	2.01
App28_Bldg_341	77.133941	28.554464	77°8'2.189E	28°33'16.06N	252.65	238.96	13.69	1.75
App28_Bldg_343	77.132804	28.554451	77°7'58.09E	28°33'16.02N	252.65	238.77	13.88	2.97
App28_Bldg_344	77.132809	28.554720	77°7'58.11E	28°33'16.99N	250.85	239.15	11.70	1.31
App28_Bldg_346	77.133499	28.553761	77°8'0.596E	28°33'13.53N	252.65	238.94	13.71	1.84
App28_Bldg_104	77.143348	28.552563	77°8'36.05E	28°33'9.225N	263.34	260.15	3.19	1.19
App28_Bldg_107	77.142710	28.552064	77°8'33.75E	28°33'7.429N	263.94	256.96	6.98	2.28
App28_Bldg_108	77.142467	28.552142	77°8'32.87E	28°33'7.710N	263.94	257.01	6.93	2.58
App28_Bldg_114	77.142323	28.551646	77°8'32.36E	28°33'5.926N	265.14	256.88	8.26	3.71
App28_Bldg_123	77.142327	28.551078	77°8'32.37E	28°33'3.881N	262.14	255.60	6.54	0.42
App28_Bldg_124	77.142264	28.550884	77°8'32.14E	28°33'3.182N	262.14	255.24	6.90	0.38
App28_Bldg_125	77.142209	28.550687	77°8'31.95E	28°33'2.473N	262.14	254.95	7.19	0.33
App28_Bldg_126	77.141661	28.551246	77°8'29.97E	28°33'4.484N	261.54	255.62	5.92	0.62
App28_Bldg_130	77.141679	28.551022	77°8'30.04E	28°33'3.678N	262.14	255.22	6.92	1.08
App28_Bldg_131	77.141533	28.550844	77°8'29.52E	28°33'3.038N	261.54	255.05	6.49	0.54
App28_Bldg_142	77.141071	28.550944	77°8'27.85E	28°33'3.397N	260.94	256.87	4.07	0.49
App28_Bldg_143	77.140774	28.550733	77°8'26.78E	28°33'2.639N	260.94	256.80	4.14	0.68
App28_Bldg_147	77.140598	28.550330	77°8'26.15E	28°33'1.187N	261.54	256.66	4.88	1.23
App28_Bldg_148	77.141634	28.552305	77°8'29.88E	28°33'8.299N	263.34	257.74	5.60	2.98

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App28_Bldg_149	77.141319	28.551839	77°8'28.74E	28°33'6.620N	262.14	257.47	4.67	1.90
App28_Bldg_150	77.141140	28.551895	77°8'28.10E	28°33'6.823N	260.94	257.59	3.35	0.92
App28_Bldg_151	77.141142	28.552231	77°8'28.11E	28°33'8.032N	263.94	257.59	6.35	4.08
App28_Bldg_152	77.141103	28.552241	77°8'27.96E	28°33'8.065N	262.74	257.69	5.05	2.93
App28_Bldg_153	77.141170	28.552323	77°8'28.21E	28°33'8.364N	262.74	257.66	5.08	2.90
App28_Bldg_154	77.141153	28.552387	77°8'28.14E	28°33'8.593N	262.74	257.64	5.10	2.94
App28_Bldg_155	77.141336	28.552265	77°8'28.80E	28°33'8.154N	262.14	257.56	4.58	2.09
App28_Bldg_156	77.141390	28.552162	77°8'29.00E	28°33'7.782N	262.14	257.53	4.61	1.98
App28_Bldg_157	77.140296	28.551482	77°8'25.06E	28°33'5.336N	260.94	257.14	3.80	1.62
App28_Bldg_158	77.140344	28.551578	77°8'25.23E	28°33'5.679N	260.34	257.23	3.11	1.02
App28_Bldg_159	77.140356	28.551643	77°8'25.28E	28°33'5.913N	260.34	257.27	3.07	1.04
App28_Bldg_160	77.140309	28.551738	77°8'25.11E	28°33'6.258N	261.54	257.21	4.33	2.34
App28_Bldg_161	77.140263	28.551772	77°8'24.94E	28°33'6.378N	260.34	256.97	3.37	1.21
App28_Bldg_162	77.140028	28.551805	77°8'24.10E	28°33'6.496N	259.74	256.66	3.08	0.88
App28_Bldg_163	77.139968	28.551839	77°8'23.88E	28°33'6.618N	259.74	256.66	3.08	0.96
App28_Bldg_164	77.139888	28.551429	77°8'23.59E	28°33'5.145N	259.14	256.60	2.54	0.22
App28_Bldg_165	77.139222	28.551913	77°8'21.20E	28°33'6.886N	264.54	256.01	8.53	6.60
App28_Bldg_166	77.139241	28.551639	77°8'21.26E	28°33'5.900N	260.94	255.97	4.97	2.83
App28_Bldg_167	77.139085	28.551670	77°8'20.70E	28°33'6.010N	260.34	255.26	5.08	2.41
App28_Bldg_168	77.139032	28.551508	77°8'20.51E	28°33'5.428N	262.74	255.72	7.02	4.77
App28_Bldg_169	77.139719	28.551270	77°8'22.98E	28°33'4.571N	263.34	256.74	6.60	4.51
App28_Bldg_170	77.139677	28.551151	77°8'22.83E	28°33'4.144N	263.34	256.81	6.53	4.48
App28_Bldg_171	77.139635	28.551030	77°8'22.68E	28°33'3.706N	263.94	256.89	7.05	5.06
App28_Bldg_172	77.139599	28.550908	77°8'22.55E	28°33'3.267N	263.94	256.96	6.98	5.02
App28_Bldg_173	77.139558	28.550788	77°8'22.40E	28°33'2.837N	264.54	257.05	7.49	5.59
App28_Bldg_174	77.138524	28.551578	77°8'18.68E	28°33'5.682N	261.54	254.45	7.09	4.15
App28_Bldg_175	77.138484	28.551462	77°8'18.54E	28°33'5.263N	261.54	254.29	7.25	4.12

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App28_Bldg_176	77.138450	28.551343	77°8'18.41E	28°33'4.833N	261.54	254.21	7.33	4.09
App28_Bldg_177	77.138410	28.551219	77°8'18.27E	28°33'4.389N	261.54	254.13	7.41	4.05
App28_Bldg_178	77.138653	28.552193	77°8'19.15E	28°33'7.893N	258.54	254.09	4.45	1.36
App28_Bldg_179	77.138718	28.552106	77°8'19.38E	28°33'7.579N	258.54	254.09	4.45	1.25
App28_Bldg_180	77.138128	28.551921	77°8'17.25E	28°33'6.915N	257.94	253.71	4.23	1.17
App28_Bldg_181	77.138071	28.551622	77°8'17.05E	28°33'5.838N	258.54	253.71	4.83	1.65
App28_Bldg_182	77.138123	28.551384	77°8'17.24E	28°33'4.981N	257.94	253.65	4.29	0.85
App28_Bldg_183	77.137352	28.551581	77°8'14.46E	28°33'5.692N	257.94	253.06	4.88	1.77
App28_Bldg_184	77.136966	28.552834	77°8'13.07E	28°33'10.20N	262.74	251.83	10.91	7.72
App28_Bldg_185	77.136829	28.552411	77°8'12.58E	28°33'8.679N	262.74	251.82	10.92	7.62
App28_Bldg_186	77.136811	28.551953	77°8'12.52E	28°33'7.032N	262.74	252.00	10.74	7.37
App28_Bldg_187	77.136467	28.552035	77°8'11.28E	28°33'7.327N	262.74	251.73	11.01	7.77
App28_Bldg_188	77.136488	28.552491	77°8'11.35E	28°33'8.967N	262.74	251.42	11.32	8.03
App28_Bldg_189	77.136619	28.552921	77°8'11.82E	28°33'10.51N	262.14	251.28	10.86	7.54
App28_Bldg_190	77.136922	28.552706	77°8'12.91E	28°33'9.741N	262.14	251.81	10.33	7.09
App28_Bldg_191	77.136905	28.552251	77°8'12.85E	28°33'8.104N	262.14	251.98	10.16	6.85
App28_Bldg_192	77.136559	28.552334	77°8'11.61E	28°33'8.401N	262.14	251.58	10.56	7.26
App28_Bldg_193	77.136857	28.551796	77°8'12.68E	28°33'6.466N	262.14	252.15	9.99	6.62
App28_Bldg_194	77.136513	28.551889	77°8'11.44E	28°33'6.800N	262.74	251.90	10.84	7.63
App28_Bldg_195	77.136579	28.552786	77°8'11.68E	28°33'10.02N	262.14	251.34	10.80	7.50
App28_Bldg_196	77.136603	28.552221	77°8'11.76E	28°33'7.996N	255.54	251.59	3.95	0.55
App28_Bldg_199	77.136725	28.551950	77°8'12.21E	28°33'7.018N	256.14	251.83	4.31	0.85
App28_Bldg_200	77.136817	28.552246	77°8'12.54E	28°33'8.086N	256.14	251.79	4.35	0.94
App28_Bldg_201	77.137950	28.551958	77°8'16.61E	28°33'7.050N	256.74	253.24	3.50	0.18
App28_Bldg_202	77.137783	28.551841	77°8'16.02E	28°33'6.626N	257.34	252.61	4.73	0.88
App28_Bldg_203	77.141042	28.552824	77°8'27.75E	28°33'10.16N	262.14	257.76	4.38	2.67
App28_Bldg_204	77.141142	28.552792	77°8'28.11E	28°33'10.05N	262.14	257.72	4.42	2.54

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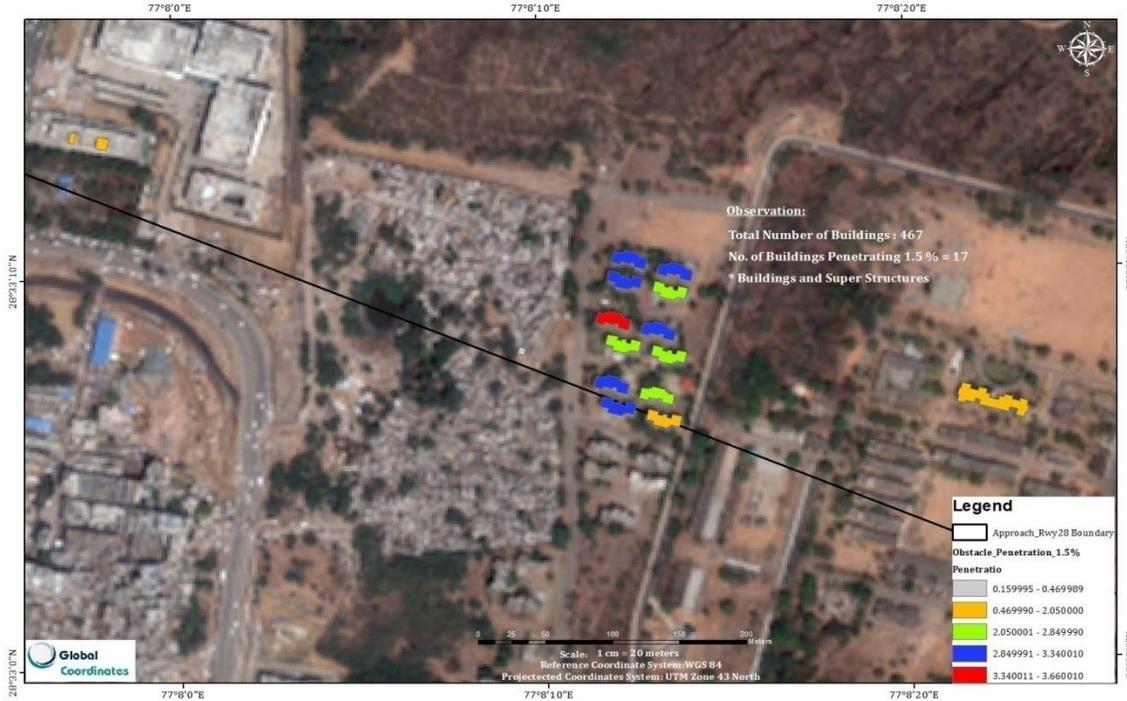
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App28_Bldg_205	77.142316	28.555755	77°8'32.33E	28°33'20.71N	261.65	258.37	3.28	1.66
App28_Bldg_218	77.134849	28.553404	77°8'5.457E	28°33'12.25N	252.65	247.47	5.18	0.20
App28_Bldg_219	77.134943	28.553403	77°8'5.794E	28°33'12.24N	252.65	247.03	5.62	0.10
App28_Bldg_220	77.134859	28.553507	77°8'5.492E	28°33'12.62N	252.65	247.29	5.36	0.25
App28_Bldg_221	77.134945	28.553583	77°8'5.800E	28°33'12.90N	252.65	247.52	5.13	0.20
App28_Bldg_231	77.135491	28.553467	77°8'7.768E	28°33'12.48N	253.55	247.70	5.85	0.45
App28_Bldg_242	77.135581	28.553130	77°8'8.092E	28°33'11.26N	253.55	246.18	7.37	0.17
App28_Bldg_246	77.135748	28.553307	77°8'8.693E	28°33'11.90N	255.35	247.12	8.23	1.89
App28_Bldg_250	77.135923	28.553323	77°8'9.323E	28°33'11.96N	254.45	248.66	5.79	0.81
App28_Bldg_255	77.136085	28.553047	77°8'9.904E	28°33'10.96N	254.45	247.85	6.60	0.49
App28_Bldg_258	77.136069	28.553309	77°8'9.847E	28°33'11.91N	254.45	249.08	5.37	0.65
App28_Bldg_259	77.136164	28.553182	77°8'10.19E	28°33'11.45N	254.45	249.71	4.74	0.48
App28_Bldg_267	77.136148	28.552695	77°8'10.13E	28°33'9.702N	256.25	249.89	6.36	2.02
App28_Bldg_270	77.136010	28.552458	77°8'9.635E	28°33'8.849N	257.15	250.29	6.86	2.92
App28_Bldg_271	77.136064	28.552506	77°8'9.829E	28°33'9.021N	256.25	249.82	6.43	1.99
App28_Bldg_272	77.136019	28.552486	77°8'9.666E	28°33'8.951N	255.35	249.08	6.27	1.13
App28_Bldg_273	77.135964	28.552284	77°8'9.471E	28°33'8.224N	257.15	251.26	5.89	2.86
App28_Bldg_274	77.135938	28.552342	77°8'9.375E	28°33'8.431N	256.25	251.09	5.16	2.03
App28_Bldg_275	77.135980	28.552392	77°8'9.527E	28°33'8.612N	255.35	250.64	4.71	1.11
App28_Bldg_276	77.135885	28.552252	77°8'9.184E	28°33'8.108N	258.95	251.10	7.85	4.72
App28_Bldg_277	77.135848	28.552320	77°8'9.053E	28°33'8.350N	254.45	250.98	3.47	0.30
App28_Bldg_313	77.135390	28.553117	77°8'7.402E	28°33'11.22N	253.55	246.03	7.52	0.37
App28_Bldg_330	77.135495	28.552294	77°8'7.782E	28°33'8.259N	255.35	248.17	7.18	1.55
App28_Bldg_348	77.132710	28.553797	77°7'57.75E	28°33'13.66N	254.70	244.73	9.96	4.73
App28_Bldg_349	77.132502	28.553832	77°7'57.00E	28°33'13.79N	254.70	244.74	9.95	4.97
App28_Bldg_350	77.132375	28.553926	77°7'56.54E	28°33'14.13N	251.75	244.79	6.96	2.21

**2. Obstacle Penetration 1.5% Rwy28:**

**Obstacles Penetrating 1.5 % Surface for Approach Rwy28**



Total Buildings lies in Approach Rwy 28 : 467 Buildings

Obstacle Penetration 1.5%: 17 Obstacles

**All buildings height and Site elevation are in Meter**

UID	Longitude (Degree Decimal)	Latitude (Degree Decimal)	Longitude	Latitude	Bldg AMSL	Site Elevation	Bldg AGL	Penetration 1.5%
App28_Bldg_165	77.139222	28.551913	77°8'21.20E	28°33'6.886N	264.54	256.01	8.53	1.42
App28_Bldg_173	77.139558	28.550788	77°8'22.40E	28°33'2.837N	264.54	257.05	7.49	0.16
App28_Bldg_184	77.136966	28.552834	77°8'13.07E	28°33'10.20N	262.74	251.83	10.91	3.27
App28_Bldg_185	77.136829	28.552411	77°8'12.58E	28°33'8.679N	262.74	251.82	10.92	3.15
App28_Bldg_186	77.136811	28.551953	77°8'12.52E	28°33'7.032N	262.74	252.00	10.74	2.83
App28_Bldg_187	77.136467	28.552035	77°8'11.28E	28°33'7.327N	262.74	251.73	11.01	3.34
App28_Bldg_188	77.136488	28.552491	77°8'11.35E	28°33'8.967N	262.74	251.42	11.32	3.66
App28_Bldg_189	77.136619	28.552921	77°8'11.82E	28°33'10.51N	262.14	251.28	10.86	3.19

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App28_Bldg_190	77.136922	28.552706	77°8'12.91E	28°33'9.741N	262.14	251.81	10.33	2.64
App28_Bldg_191	77.136905	28.552251	77°8'12.85E	28°33'8.104N	262.14	251.98	10.16	2.33
App28_Bldg_192	77.136559	28.552334	77°8'11.61E	28°33'8.401N	262.14	251.58	10.56	2.85
App28_Bldg_193	77.136857	28.551796	77°8'12.68E	28°33'6.466N	262.14	252.15	9.99	2.05
App28_Bldg_194	77.136513	28.551889	77°8'11.44E	28°33'6.800N	262.74	251.90	10.84	3.16
App28_Bldg_195	77.136579	28.552786	77°8'11.68E	28°33'10.02N	262.14	251.34	10.80	3.15
App28_Bldg_276	77.135885	28.552252	77°8'9.184E	28°33'8.108N	258.95	251.10	7.85	0.47
App28_Bldg_348	77.132710	28.553797	77°7'57.75E	28°33'13.66N	254.70	244.73	9.96	1.54
App28_Bldg_349	77.132502	28.553832	77°7'57.00E	28°33'13.79N	254.70	244.74	9.95	1.84

**3. Obstacle Penetration 2% Rwy28:**

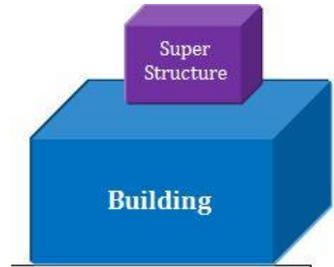
Total Buildings lies in Approach Rwy 28 : 467 Buildings

Obstacle Penetration 2%: 0 Obstacles

***All building height and Site elevation are in Meter***

**4. Remark:**

*Penetrating Obstacle in the pilot Area many buildings and Superstructure is present. All buildings and Superstructure -Id is different - different mention in Data.*



**a) Obstacle Penetration 1.2% Rwy28:**

UID	Remark	
App28_Bldg_81	Building Structure	
App28_Bldg_82	Super structure of building (UID-App28-Bldg_211) is penetrating 1.2% Surface	
App28_Bldg_213	Super structure of building (UID-App28-Bldg_211) is penetrating 1.2% Surface	
App28_Bldg_347	Super structure of building (UID-App28-Bldg_211) is penetrating 1.2% Surface	
App28_Bldg_214	Super structure of building (UID-App28-Bldg_344) is penetrating 1.2% Surface	
App28_Bldg_83	Super structure of building (UID-App28-Bldg_344) is penetrating 1.2% Surface	
App28_Bldg_84	Super structure of building (UID-App28-Bldg_344) is penetrating 1.2% Surface	
App28_Bldg_85	Super structure of building (UID-App28-Bldg_344) is penetrating 1.2% Surface	
App28_Bldg_86	Super structure of building (UID-App28-Bldg_344) is penetrating 1.2% Surface	
App28_Bldg_87	Super structure of building (UID-App28-Bldg_344) is penetrating 1.2% Surface	
App28_Bldg_88	Super structure of building (UID-App28-Bldg_344) is penetrating 1.2% Surface	
App28_Bldg_89	Super structure of building (UID-App28-Bldg_344) is penetrating 1.2% Surface	

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App28_Bldg_206	Super structure of building (UID-App28-Bldg_344) is penetrating 1.2% Surface	
App28_Bldg_207	Super structure of building (UID-App28-Bldg_344) is penetrating 1.2% Surface	
App28_Bldg_340	Super structure of building (UID-App28-Bldg_344) is penetrating 1.2% Surface	
App28_Bldg_341	Super structure of building (UID-App28-Bldg_344) is penetrating 1.2% Surface	
App28_Bldg_343	Super structure of building (UID-App28-Bldg_344) is penetrating 1.2% Surface	
App28_Bldg_344	Building (UID-App28-Bldg_344) is penetrating 1.2% Surface	
App28_Bldg_346	Super structure of building (UID-App28-Bldg_344) is penetrating 1.2% Surface	
App28_Bldg_104	Building Structure	
App28_Bldg_107	Building Structure	
App28_Bldg_108	Building Structure	
App28_Bldg_114	Building Structure	
App28_Bldg_123	Building Structure	
App28_Bldg_124	Building Structure	
App28_Bldg_125	Building Structure	
App28_Bldg_126	Building Structure	
App28_Bldg_130	Building Structure	

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App28_Bldg_131	Building Structure	
App28_Bldg_142	Building Structure	
App28_Bldg_143	Building Structure	
App28_Bldg_147	Building Structure	
App28_Bldg_148	Building Structure	
App28_Bldg_149	Building Structure	
App28_Bldg_150	Building Structure	
App28_Bldg_151	Building Structure	
App28_Bldg_152	Building Structure	
App28_Bldg_153	Building Structure	
App28_Bldg_154	Building Structure	
App28_Bldg_155	Building Structure	
App28_Bldg_156	Building Structure	
App28_Bldg_157	Building Structure	
App28_Bldg_158	Building Structure	
App28_Bldg_159	Building Structure	

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App28_Bldg_160	Building Structure	
App28_Bldg_161	Building Structure	
App28_Bldg_162	Super structure of building (UID-App28-Bldg_163) is penetrating 1.2% Surface	
App28_Bldg_163	building (UID-App28-Bldg_163) is penetrating 1.2% Surface	
App28_Bldg_164	Building Structure	
App28_Bldg_165	Building Structure	
App28_Bldg_166	Building Structure	
App28_Bldg_167	Building Structure	
App28_Bldg_168	Building Structure	
App28_Bldg_169	Building Structure	
App28_Bldg_170	Building Structure	
App28_Bldg_171	Building Structure	
App28_Bldg_172	Building Structure	
App28_Bldg_173	Building Structure	
App28_Bldg_174	Building Structure	
App28_Bldg_175	Building Structure	

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App28_Bldg_176	Building Structure	
App28_Bldg_177	Building Structure	
App28_Bldg_178	Building (UID-App28-Bldg_211) is penetrating 1.2% Surface	
App28_Bldg_179	Super structure of building (UID-App28-Bldg_178) is penetrating 1.2% Surface	
App28_Bldg_180	Building Structure	
App28_Bldg_181	Building Structure	
App28_Bldg_182	Building Structure	
App28_Bldg_183	Building Structure	
App28_Bldg_184	Building Structure	
App28_Bldg_185	Building Structure	
App28_Bldg_186	Building Structure	
App28_Bldg_187	Building Structure	
App28_Bldg_188	Building Structure	
App28_Bldg_189	Building Structure	
App28_Bldg_190	Building Structure	
App28_Bldg_191	Building Structure	

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App28_Bldg_192	Building Structure	
App28_Bldg_193	Building Structure	
App28_Bldg_194	Building Structure	
App28_Bldg_195	Building Structure	
App28_Bldg_196	Building Structure	
App28_Bldg_199	Building Structure	
App28_Bldg_200	Building Structure	
App28_Bldg_201	Building Structure	
App28_Bldg_202	Building Structure	
App28_Bldg_203	Building Structure	
App28_Bldg_204	Building Structure	
App28_Bldg_205	Building Structure	
App28_Bldg_218	Building Structure	
App28_Bldg_219	Building Structure	
App28_Bldg_220	Building Structure	
App28_Bldg_221	Building Structure	

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App28_Bldg_231	Building Structure	
App28_Bldg_242	Building Structure	
App28_Bldg_246	Building Structure	
App28_Bldg_250	Building Structure	
App28_Bldg_255	Building Structure	
App28_Bldg_258	Building Structure	
App28_Bldg_259	Building Structure	
App28_Bldg_267	Building Structure	
App28_Bldg_270	Building Structure	
App28_Bldg_271	Building Structure	
App28_Bldg_272	Building Structure	
App28_Bldg_273	Building Structure	
App28_Bldg_274	Building Structure	
App28_Bldg_275	Building Structure	
App28_Bldg_276	Building Structure	
App28_Bldg_277	Building Structure	

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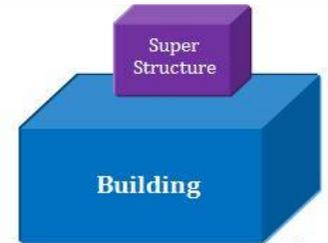
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App28_Bldg_313	Building Structure	
App28_Bldg_330	Building Structure	
App28_Bldg_348	Super structure of building (UID-App28-Bldg_350) is penetrating 1.2% Surface	
App28_Bldg_349	Super structure of building (UID-App28-Bldg_350) is penetrating 1.2% Surface	
App28_Bldg_350	Building Structure	



***b) Obstacle Penetration 1.5% Rwy28:***

UID	Remark	
App28_Bldg_165	Building Structure	
App28_Bldg_173	Building Structure	
App28_Bldg_184	Building Structure	
App28_Bldg_185	Building Structure	
App28_Bldg_186	Building Structure	
App28_Bldg_187	Building Structure	
App28_Bldg_188	Building Structure	
App28_Bldg_189	Building Structure	

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App28_Bldg_190	Building Structure	
App28_Bldg_191	Building Structure	
App28_Bldg_192	Building Structure	
App28_Bldg_193	Building Structure	
App28_Bldg_194	Building Structure	
App28_Bldg_195	Building Structure	
App28_Bldg_276	Building Structure	
App28_Bldg_348	Super structure of building (UID-App28-Bldg_350) is penetrating 1.5% Surface	
App28_Bldg_349	Super structure of building (UID-App28-Bldg_350) is penetrating 1.5% Surface	

**5. VIDP-Satellite Imagery Information :**

1. Airbus Product Area (Geographic Coordinates)
2. Sensor Type: Satellite
3. Sensor Name: Pleiades 1B
4. Product: Stereo pair
5. Acquisition time: 2018-04-12 05:37:47.3 GMT
6. Spatial Resolution: 50 centimeter
7. Number of Band : 4 layer
8. Map projection: Universal Transverse Mercator
9. UTM Specific Parameters:
  1. Hemisphere: North
  2. Zone Number: 43
  3. Datum: WGS 84
10. Product Pixel Size: 50cm
11. Product Map Unit : Meter

**6. Detail of Word file table**

<b><i>UID:</i></b>	This unique Id of each Buildings and Super structures
<b><i>Longitude &amp; Latitude:</i></b>	Location (Degree Decimal & Degree minutes Second) of the Buildings and Super Structures in the Ground.
<b><i>Bldg AMSL:</i></b>	Building height from Sea level
<b><i>Bldg AGL:</i></b>	Building height from Ground Level
<b><i>Site Elevation:</i></b>	Ground Elevation
<b><i>Penetration:</i></b>	buildings is above the Surface (1.2% & 1.5%)

## 7. Abbreviation

Rwy :	Runway
Rwy Strip:	Runway Strip
Bldg:	Building
App:	Approach Surface
THR:	Threshold
AMSL:	Average Mean Sea Level
AGL :	Above Ground Level
WGS:	World Geodetic System
Mt./m:	Meter
GTM :	Greenwich Mean Time

### Symbols

%	:	<i>Percentage</i>
°	:	<i>Degree</i>