DOCKETED

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Document Title:	Redondo Beach Energy Project Noise Modeling Data
Description:	N/A
Filer:	Patty Paul
Organization:	CH2M Hill
Submitter Role:	Applicant Consultant
Submission Date:	8/28/2015 3:11:26 PM
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August 27, 2015

Mr. Keith Winstead
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Redondo Beach Energy Project (12-AFC-03)
Noise Modeling Data

Dear Mr. Winstead:

CEC Staff Shahab Khoshmashrab requested the following additional noise information from the Applicant on August 11, 2015.

1. Please provide plotting coordinates, i.e. x and y, for all noise sources included in the noise model, including area sources, line sources, barriers, and buildings. This should include a figure showing all wall locations included in the noise modeling with indicators of whether the walls are existing or proposed. As an example of a wall mentioned in the modeling data not readily identifiable is the wall called "EastPL_2", which is identified as a 9.1 meter high wall, but unlike point sources no coordinates are given.

2. Please provide all excess attenuation or absorption factors included in the modeling. There appears to be an increase in attenuation factor for a transformer wall that is not applied to the other transformer walls. There is also an increased attenuation on the ACCWindWall. Please provide an explanation and justification for these factors.

3. Please provide a figure that links to the notations used in the model data spread sheet that identify the specific source or structure in the plans. This is requested for clarification as it appears the fin-fan configuration and the STG transformer are located in different locations in AFC Figure 2.1-2 plan set submitted versus the data transmitted as part of the GoogleEarth SiteLayout.kmz file that included the site layout in an electronic format.

Attached please find the requested information.

If you have any questions about this matter, please contact me at (916) 286-0207.

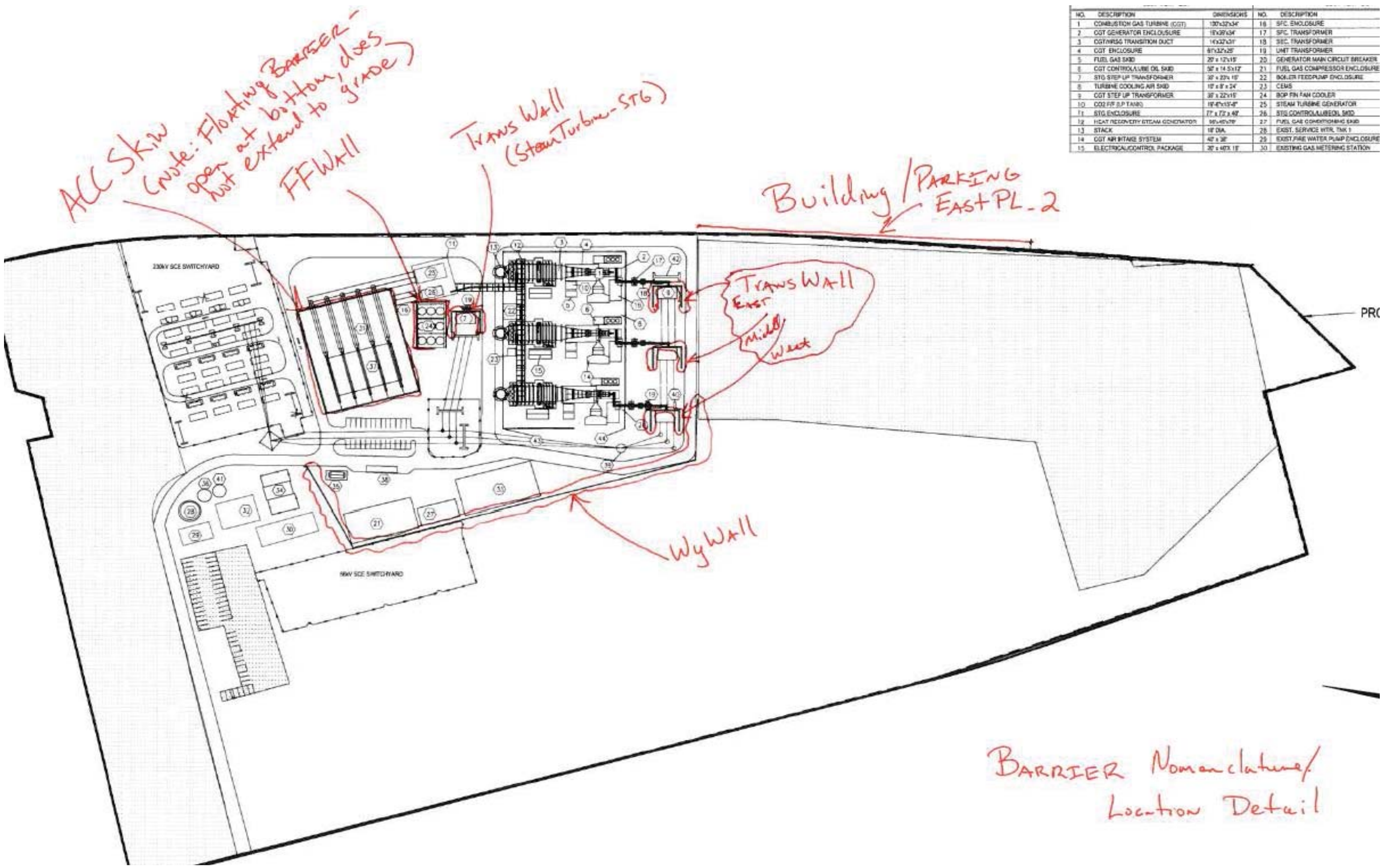
Sincerely,

CH2M HILL

Jerry Salamy
AFC Project Manager

Attachment
cc: S. O'Kane, AES
G. Wheatland, ESH

NO.	DESCRIPTION	DIMENSIONS	NO.	DESCRIPTION
1	COMBUSTION GAS TURBINE (CGT)	130'x32'x34'	16	SFC. ENCLOSURE
2	CGT GENERATOR ENCLOUSURE	15'x38'x34'	17	SFC. TRANSFORMER
3	CGT/HRSG TRANSITION DUCT	14'x32'x31'	18	SEC. TRANSFORMER
4	CGT ENCLOSURE	61'x32'x28'	19	UNIT TRANSFORMER
5	FUEL GAS SKID	20' x 12'x15'	20	GENERATOR MAIN CIRCUIT BREAKER
6	CGT CONTROL/LUBE OIL SKID	50' x 14.5'x12'	21	FUEL GAS COMPRESSOR ENCLOSURE
7	STG STEP UP TRANSFORMER	30' x 23'x 15'	22	BOILER FEEDPUMP ENCLOSURE
8	TURBINE COOLING AIR SKID	10' x 8' x 24'	23	CEMS
9	CGT STEP UP TRANSFORMER	30' x 22'x15'	24	BOP FIN FAN COOLER
10	CO2 F/P (LP TANK)	19'-0"x15'-0"	25	STEAM TURBINE GENERATOR
11	STG ENCLOSURE	77' x 73' x 48'	26	STG CONTROL/LUBEOIL SKID
12	HEAT RECOVERY STEAM GENERATOR	90'x40'x79'	27	FUEL GAS CONDITIONING SKID
13	STACK	18' DIA.	28	EXIST. SERVICE WTR. TNK 1
14	CGT AIR INTAKE SYSTEM	47' x 38'	29	EXIST.FIRE WATER PUMP ENCLOSURE
15	ELECTRICAL/CONTROL PACKAGE	30' x 40'X 15'	30	EXISTING GAS METERING STATION

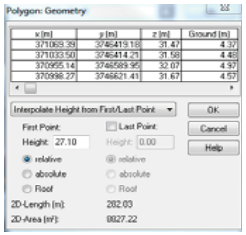


BARRIER Nomenclature/
Location Detail

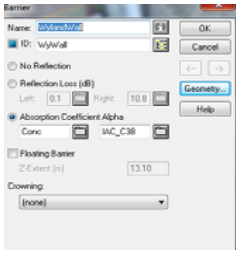

Modeled as
"EastPL_2" Barrier
MiniStorage South
MiniStorage North
Google earth
© 2015 Google

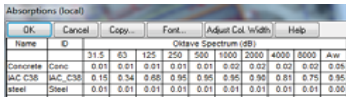

MiniStorage South Building
Modeled as "EastPL_2" Barrier
Google earth
© 2015 Google
N

WyWall Wyland Wall Relocated New Wall Absorptive on side facing plant, achieved with perforated metal panel and 2 to 4" of mineral wool or similar commercial product.

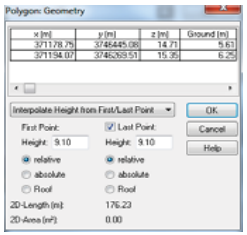


x (m)	y (m)	z (m)	Ground (m)
371069.4	3746419	31.47	4.37
371033.5	3746414	31.58	4.48
370955.1	3746590	32.07	4.97
370998.3	3746621	31.67	4.57

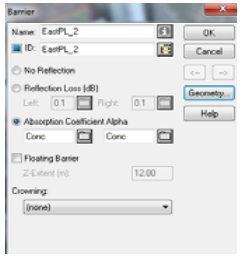




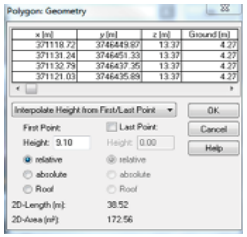
EastPL_2 EastPL_2 Model of Existing Structured Façade located Non-Absorptive (Concrete)



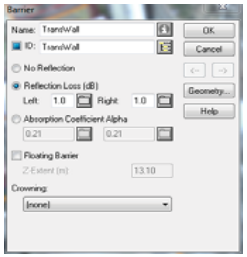
x (m)	y (m)	z (m)	Ground (m)
371178.8	3746445	14.71	5.61
371194.1	3746270	15.35	6.25

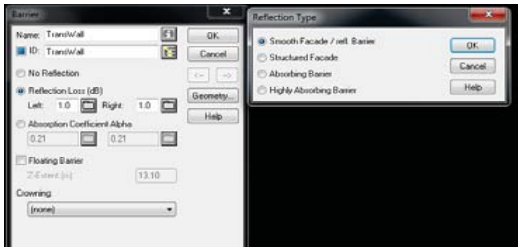


TransWall TransWall New CTG Transformer Wall (East) Smooth/Acoustically Reflective



x (m)	y (m)	z (m)	Ground (m)
371118.7	3746450	13.37	4.27
371131.2	3746451	13.37	4.27
371132.8	3746437	13.37	4.27
371121	3746436	13.37	4.27

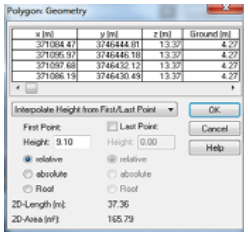




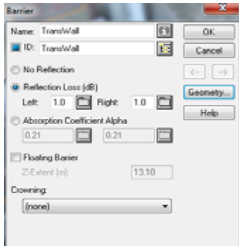
Type of Surface accord. to RLS-90, table 7	Reflection Loss RL
Smooth Facade / reflecting Barrier	1 dB
Structured Facade (e.g. with bays and balconies)	2 dB
Absorbing Barrier	4 dB
Highly Absorbing Barrier	8 dB

Relation RV vs. Alfa
The relation between both parameter RL and Alfa is: RV = - 10 log (1-Alfa)

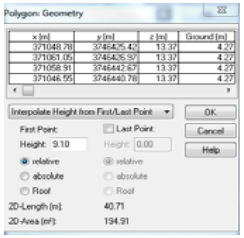
TransWall TransWall New CTG Transformer Wall (Middle) Smooth/Acoustically Reflective



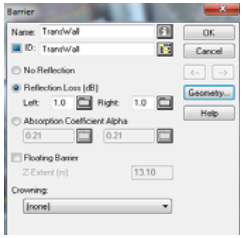
x (m)	y (m)	z (m)	Ground (m)
371084.5	3746445	13.37	4.27
371096	3746446	13.37	4.27
371097.7	3746432	13.37	4.27
371086.2	3746430	13.37	4.27



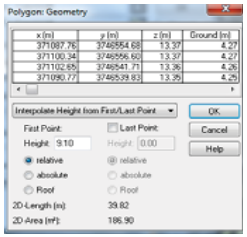
TransWall TransWall New CTG Transformer Wall (West) Smooth/Acoustically Reflective



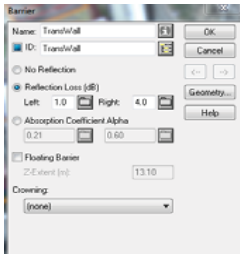
x (m)	y (m)	z (m)	Ground (m)
371048.8	3746425	13.37	4.27
371061.1	3746427	13.37	4.27
371058.9	3746443	13.37	4.27
371046.6	3746441	13.37	4.27

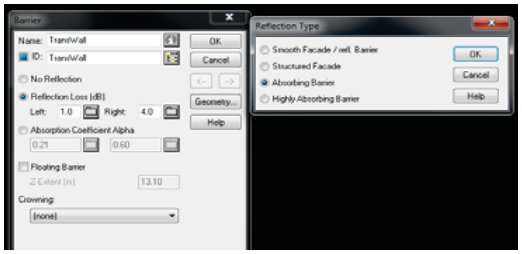


TransWall TransWall New STG Transformer Wall Side Facing Transformer Modeled as Absorbing Barrier, Outside as Smooth/Reflective

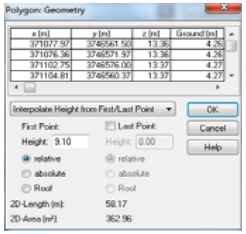


x (m)	y (m)	z (m)	Ground (m)
371087.8	3746555	13.37	4.27
371100.3	3746557	13.37	4.27
371102.7	3746542	13.36	4.26
371090.8	3746540	13.35	4.25

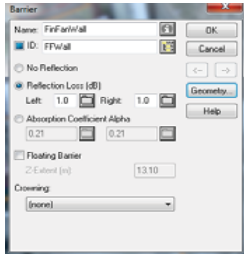




FFWall FinFanWall New Wall Around Fin Fan Cooler Modeled as Smooth/Reflective Barrier



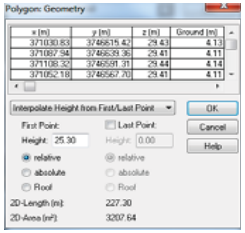
x (m)	y (m)	z (m)	Ground (m)
371078	3746562	13.36	4.26
371076.4	3746572	13.36	4.26
371102.8	3746576	13.37	4.27
371104.8	3746560	13.37	4.27
371099.8	3746560	13.37	4.27



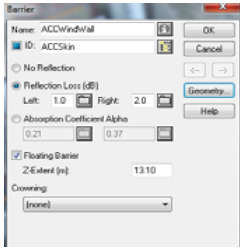
Elevated Structure Surrounding

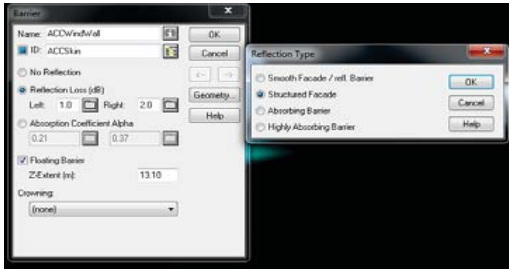
ACCSkin ACCWindWall ACC Fans & Heat Exchangers Interior Modeled as Structured Façade/Exterior as Smooth/Reflective Barrier

Wind walls are typically constructed of corrugated metal panel.

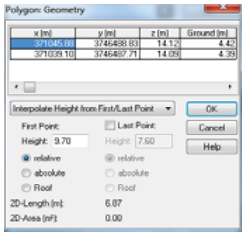


x (m)	y (m)	z (m)	Ground (m)
371030.8	3746615	29.43	4.13
371087.9	3746639	29.41	4.11
371108.3	3746591	29.44	4.14
371052.2	3746568	29.41	4.11
371030.8	3746615	29.43	4.13

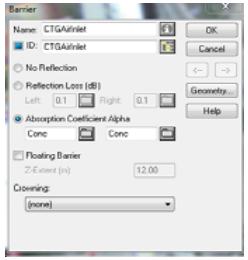


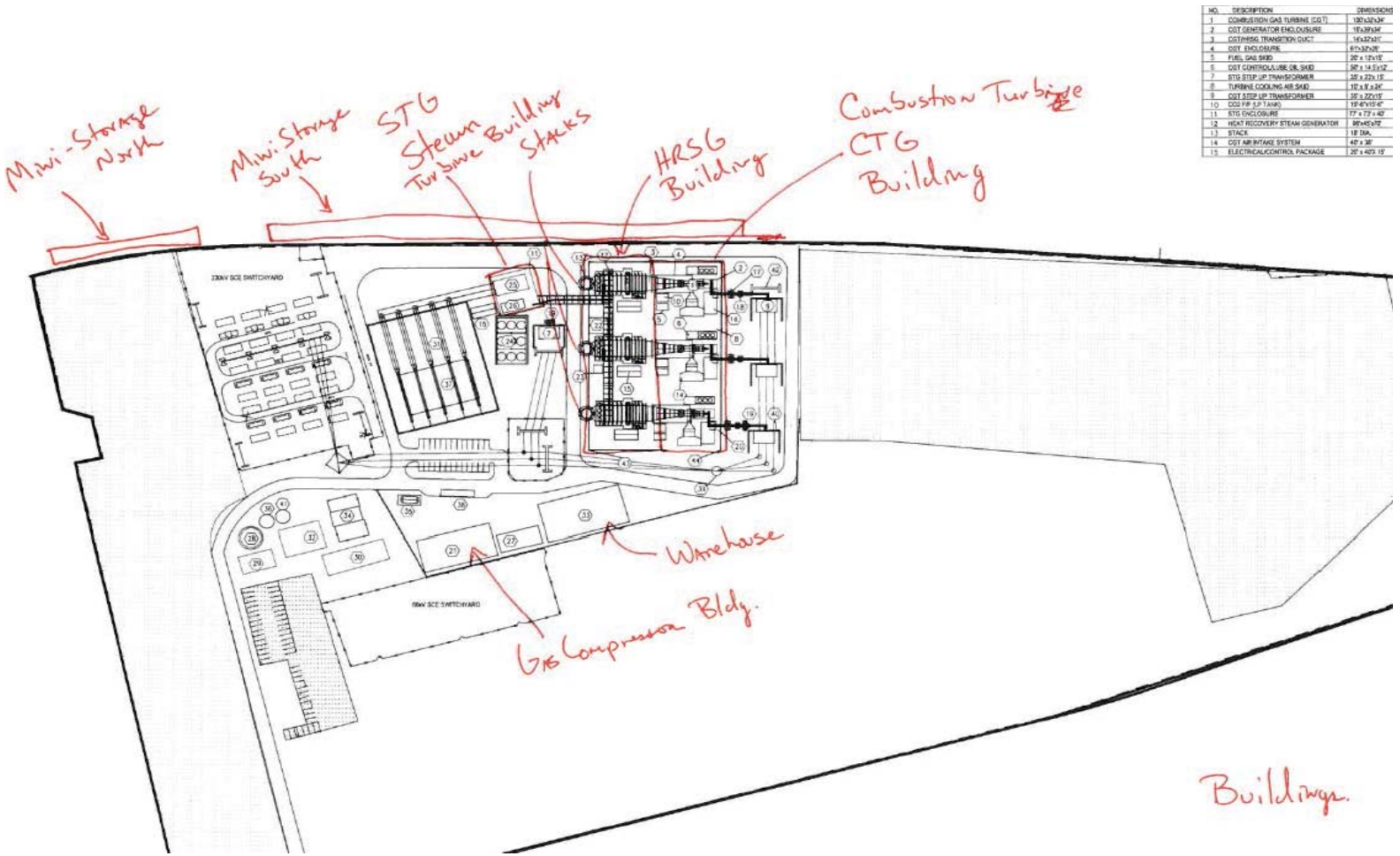


CTGAirInlet CTGAirInlet Small wall north of Air Inlet



x (m)	y (m)	z (m)	Ground (m)
371045.9	3746489	14.12	4.42
371039.1	3746488	14.09	4.39





NO.	DESCRIPTION	DIMENSIONS
1	COMBUSTION GAS TURBINE (CGT)	130'x32'x34'
2	CGT GENERATOR ENCLOSURE	15'x39'x34'
3	CGT/HRSG TRANSITION DUCT	14'x32'x31'
4	CGT ENCLOSURE	61'x32'x28'
5	FUEL GAS SKID	20' x 12'x15'
6	CGT CONTROL/LUBE OIL SKID	30' x 14.5'x12'
7	STG STEP UP TRANSFORMER	25' x 22'x 15'
8	TURBINE COOLING AIR SKID	10' x 8' x 24'
9	CGT STEP UP TRANSFORMER	25' x 22'x15'
10	CO2 F/P /LP TANK	19'-6"x15'-6"
11	STG ENCLOSURE	77' x 73' x 40'
12	HEAT RECOVERY STEAM GENERATOR	86'x45'x76'
13	STACK	18' DIA.
14	CGT AIR INTAKE SYSTEM	40' x 38'
15	ELECTRICAL/CONTROL PACKAGE	20' x 40'3 15'


Modeled as
"EastPL_2" Barrier
MiniStorage South
MiniStorage North
Google earth
© 2015 Google


MiniStorage South Building
Modeled as "EastPL_2" Barrier
Google earth
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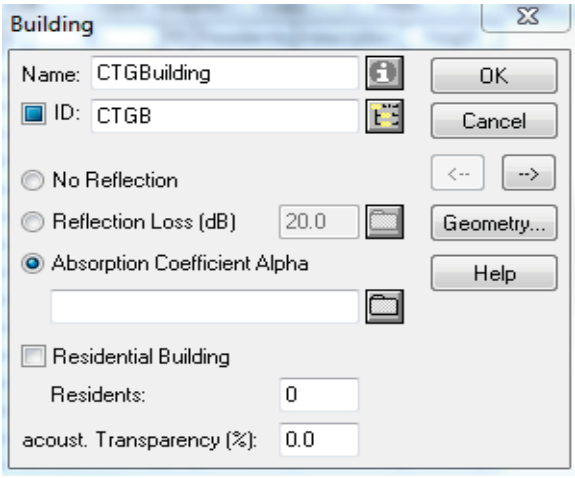
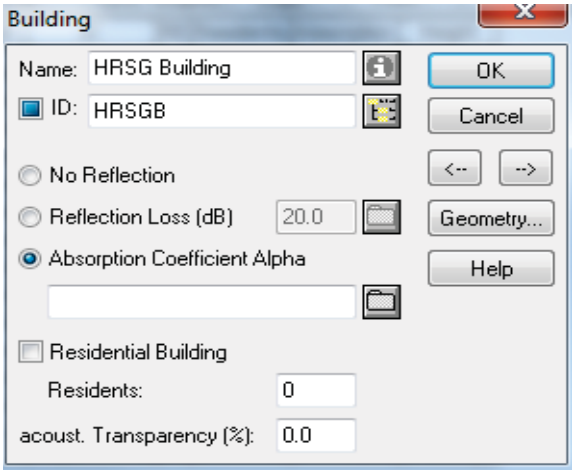
CTGB CTGBuilding Combustion Turbine Building



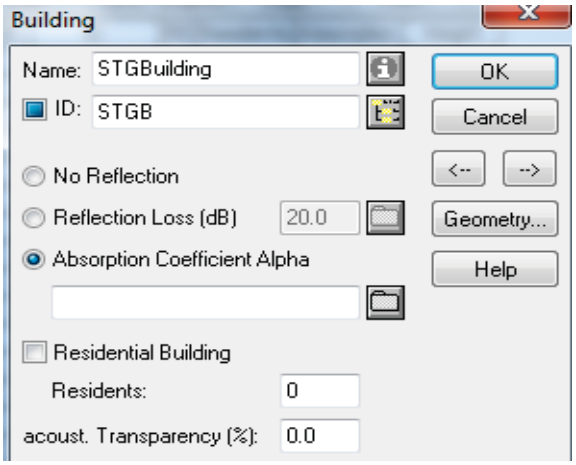
x (m)	y (m)	z (m)	Ground (m)
371148.7	3746469	22.82	4.42
371143.5	3746503	22.82	4.48
371041.6	3746488	22.82	4.42
371046.6	3746455	22.82	4.42

HRSGB HRSG Building Heat Recovery Steam Generator Building



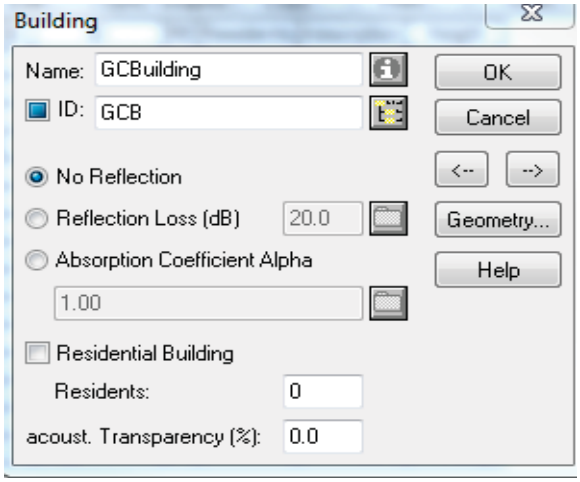
x (m)	y (m)	z (m)	Ground (m)
371036.3	3746520	29.91	4.41
371139.1	3746535	29.91	4.55
371143.5	3746503	29.91	4.48
371041.6	3746488	29.91	4.42

STGB STGBuilding Steam Turbine Generator Building



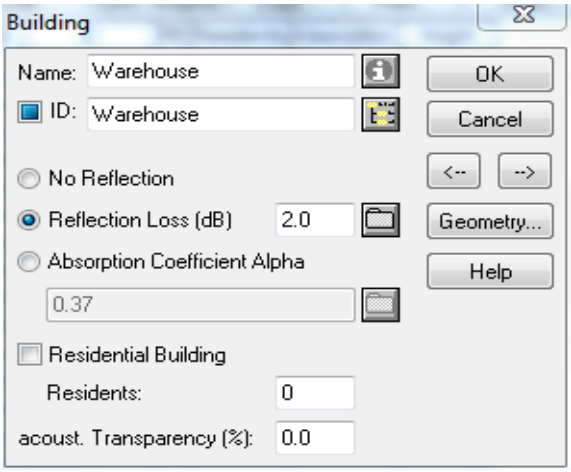
x (m)	y (m)	z (m)	Ground (m)
371111.2	3746555	16.47	4.27
371130.8	3746563	16.47	4.4
371123.1	3746582	16.47	4.27
371103.5	3746574	16.47	4.27

GCB GCBuilding Gas Compressor Building



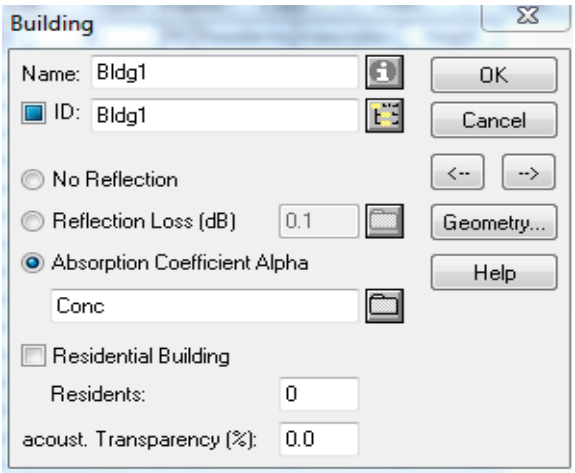
x (m)	y (m)	z (m)	Ground (m)
370971.9	3746556	12.21	4.61
370988.4	3746563	12.21	4.59
370973.4	3746598	12.21	5
370956.9	3746591	12.21	4.98

Warehouse Warehouse Warehouse Building



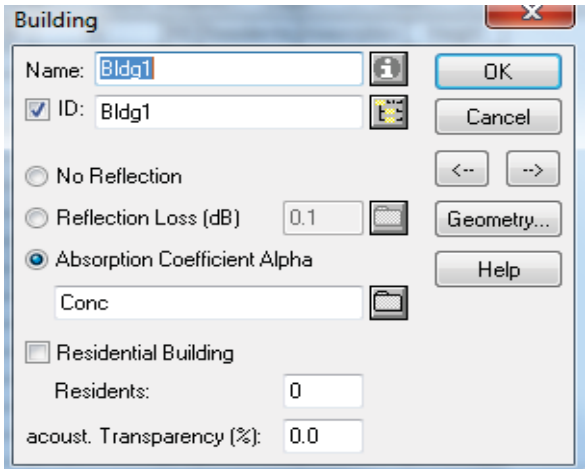
x (m)	y (m)	z (m)	Ground (m)
370982.1	3746532	10.41	4.61
371001.8	3746541	10.41	4.57
371019.3	3746503	10.41	4.57
370999.6	3746494	10.41	4.58

Bldg1 Bldg1 Former Best Western Bldg (M1 on Roof)



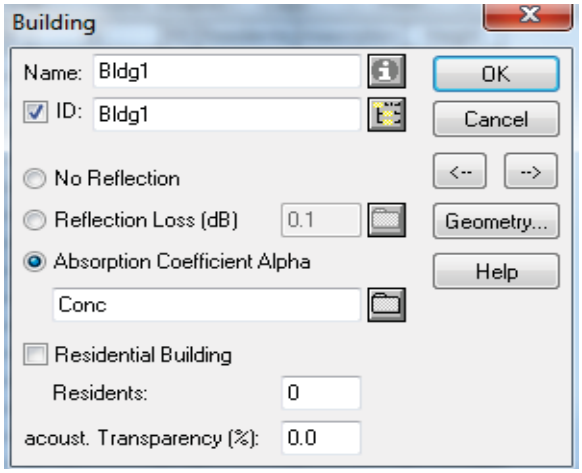
x (m)	y (m)	z (m)	Ground (m)
371056.6	3746074	13.81	4.71
371075.1	3746081	13.81	4.8
371087	3746051	13.81	5.53
371094.6	3746054	13.81	5.61
371116.3	3745997	13.81	5.51
371100.4	3745991	13.81	5.49
371081.3	3746039	13.81	5.52
371071.8	3746035	13.81	5.49

Bldg1 Bldg1 Existing Ministorage (south bldg)

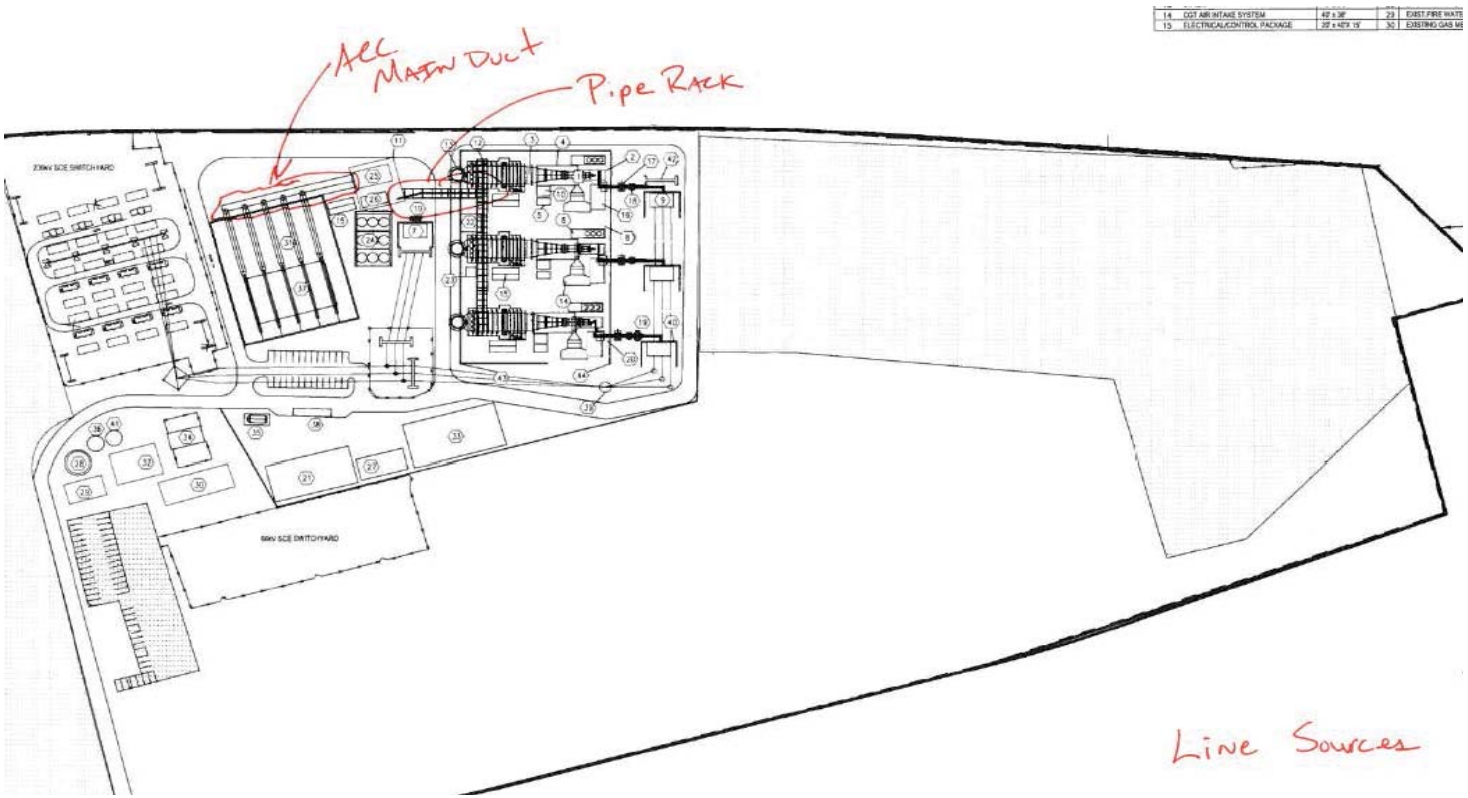


x (m)	y (m)	z (m)	Ground (m)
371165.3	3746463	11.43	6.43
371176.5	3746464	11.43	7.24
371138.8	3746699	11.43	7.77
371126.5	3746696	11.43	6.99

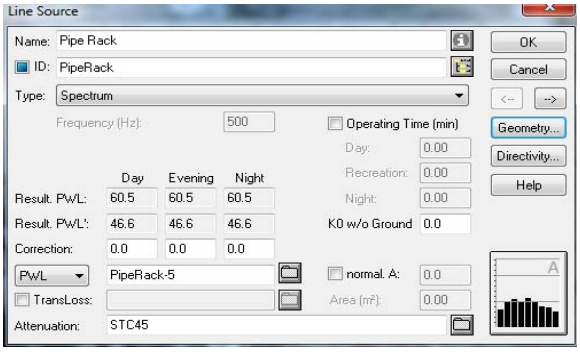
Bldg1 Bldg1 Existing Ministorage (north bldg)



x (m)	y (m)	z (m)	Ground (m)
371129.1	3746722	12.48	7.48
371110.7	3746796	12.48	8.32
371100.3	3746793	12.48	7.14
371119.9	3746718	12.48	6.91


ACC
MAIN DUCT
PIPE RACK
Line Sources

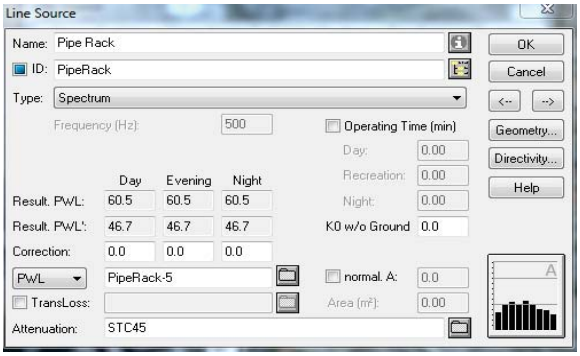
PipeRack PipeRack Pipe Rack between STG and HRSG Building



x (m)	y (m)	z (m)	Ground (m)
371117	3746532	14.41	4.41
371113.6	3746556	14.27	4.27

Acoustical lagging presumed to provide 5 dB additional reduction and additional secondary lagging or enclosure equivalent to STC 45

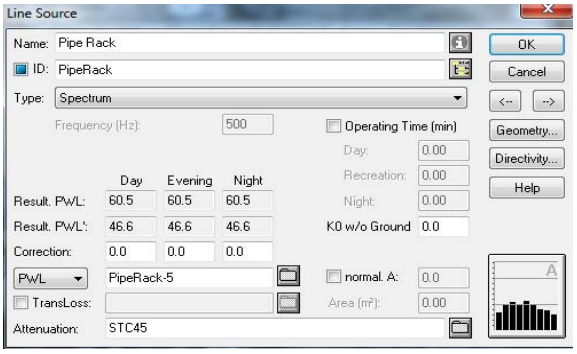
PipeRack PipeRack Pipe Rack between STG and HRSG Building



x (m)	y (m)	z (m)	Ground (m)
371118.3	3746533	14.4	4.4
371115.1	3746556	14.27	4.27

Acoustical lagging presumed to provide 5 dB additional reduction and additional secondary lagging or enclosure equivalent to STC 45

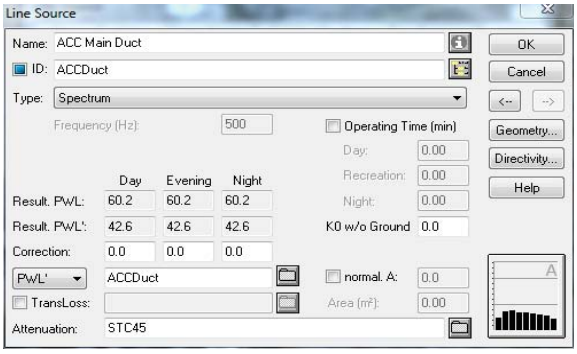
PipeRack PipeRack Pipe Rack between STG and HRSG Building



x (m)	y (m)	z (m)	Ground (m)
371119.2	3746533	14.4	4.4
371115.7	3746557	14.29	4.29

Acoustical lagging presumed to provide 5 dB additional reduction and additional secondary lagging or enclosure equivalent to STC 45

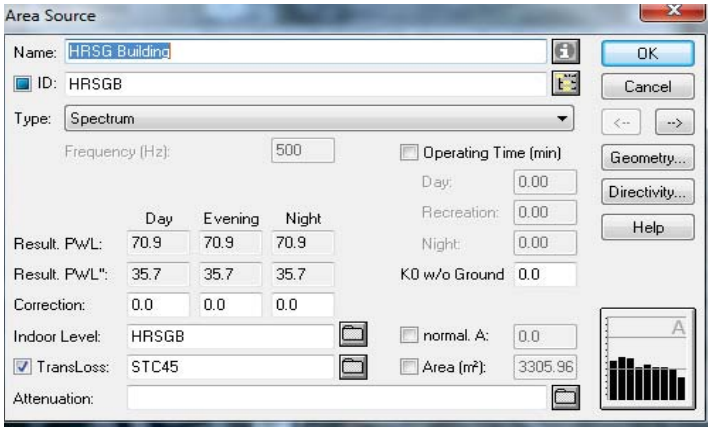
ACCDuct ACC Main Duct Main Duct between STG and ACC



x (m)	y (m)	z (m)	Ground (m)
371118.1	3746580	12.27	4.27
371095.6	3746634	12.18	4.18

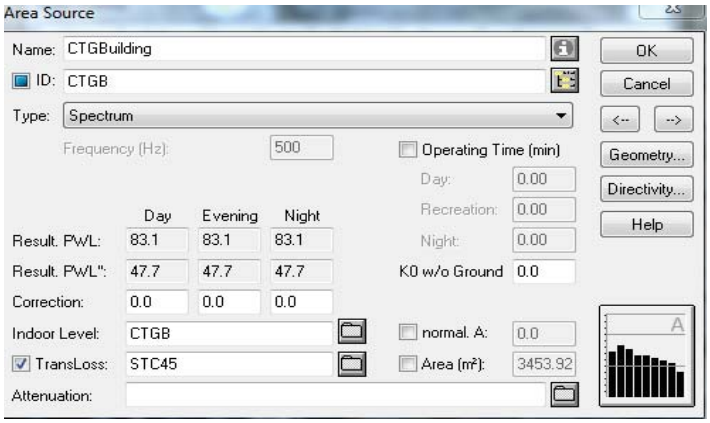
Sound Power Level per meter of duct
Attenuated through combination of acoustical lagging
or structure equivalent to STC 45 to achieve overall sound power level of 60 dBA.

HRSGB HRSG Building HRSG Building Roof



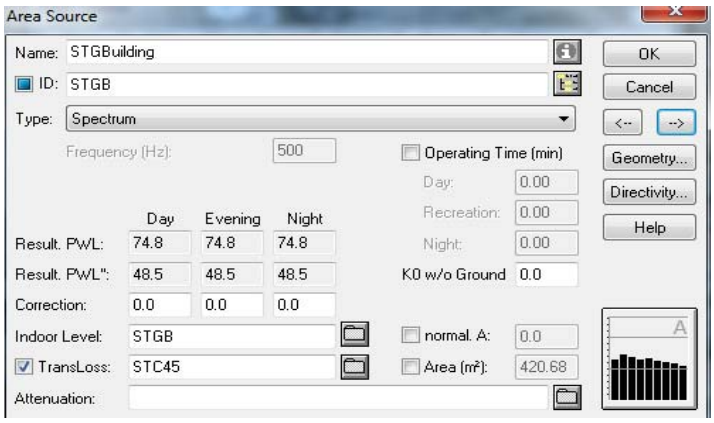
x (m)	y (m)	z (m)	Ground (m)
371036.4	3746520	29.92	4.42
371139	3746534	30.05	4.55
371143.5	3746503	29.98	4.48
371041.7	3746488	29.92	4.42

CTGB CTGBuilding CTG Building Roof



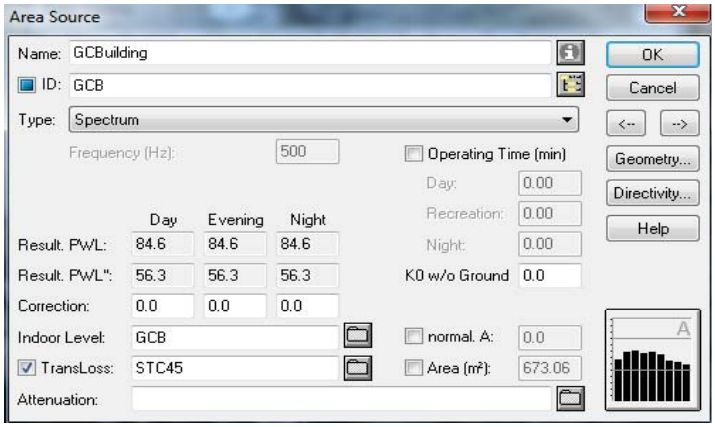
x (m)	y (m)	z (m)	Ground (m)
371148.7	3746469	22.82	4.42
371143.5	3746503	22.88	4.48
371041.6	3746488	22.82	4.42
371046.7	3746455	22.82	4.42

STGB STGBuilding STG Building Roof



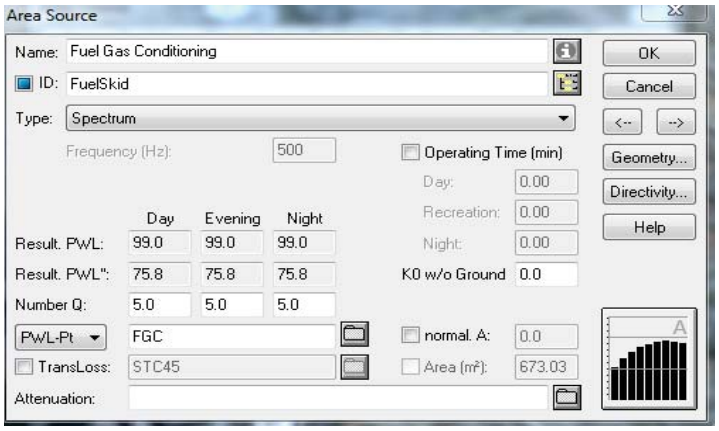
x (m)	y (m)	z (m)	Ground (m)
371111.2	3746555	16.47	4.27
371130.7	3746563	16.6	4.4
371123.1	3746582	16.47	4.27
371103.6	3746574	16.47	4.27

GCB GCBuilding Gas Compressor Building Roof



x (m)	y (m)	z (m)	Ground (m)
370971.9	3746556	12.21	4.61
370988.3	3746563	12.19	4.59
370973.4	3746598	12.6	5
370957	3746591	12.58	4.98

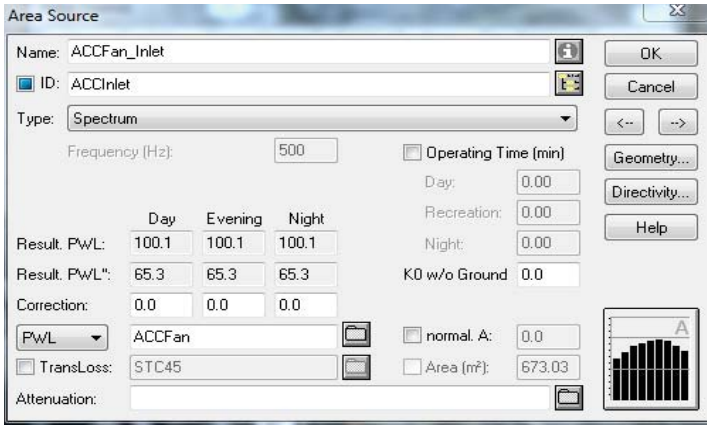
FuelSkid Fuel Gas Conditioning Fuel Gas Conditioning Area



x (m)	y (m)	z (m)	Ground (m)
370973.3	3746555	9.61	4.61
370982.2	3746559	9.6	4.6
370990.5	3746540	9.59	4.59
370981.6	3746535	9.61	4.61

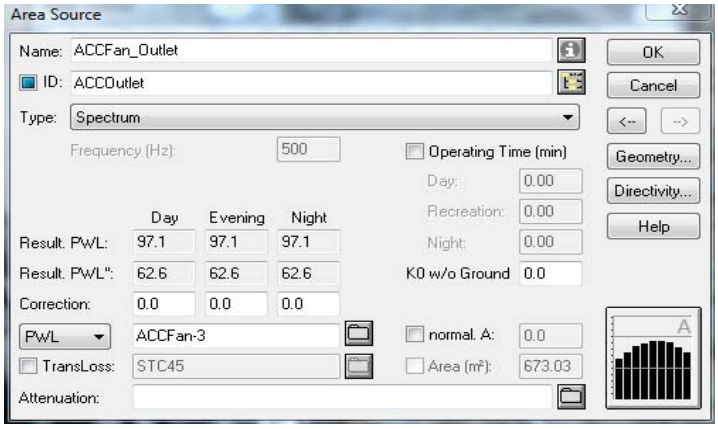
Sound from this area reprsented as 5 sources for a total Sound Power Level of 99 dBA.

ACCInlet AccFan_Inlet Lower deck of ACC - Fan Inlet



x (m)	y (m)	z (m)	Ground (m)
371031.7	3746615	17.32	4.12
371087.2	3746638	17.31	4.11
371107.1	3746592	17.33	4.13
371052.7	3746569	17.31	4.11

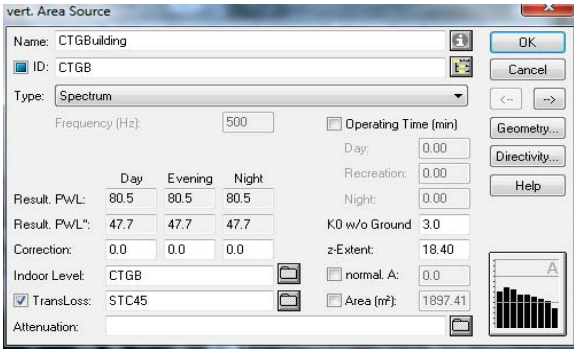
ACCOutlet ACCFan_Outlet Upper portion of ACC - Air Outlet



x (m)	y (m)	z (m)	Ground (m)
371033.3	3746615	26.41	4.11
371053.4	3746570	26.41	4.11
371105.5	3746592	26.41	4.11
371086.8	3746637	26.41	4.11

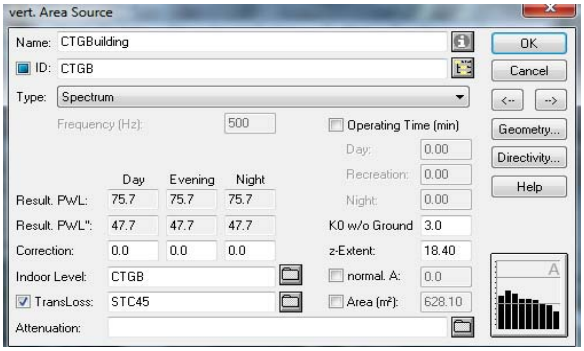
Outlet modeled as slightly less than inlet (3 dB less) to account for reductions through heat exchangers

CTGB CTGBuilding CTG Building Wall (south)



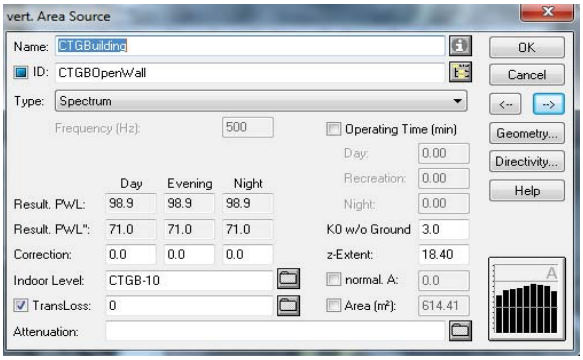
x (m)	y (m)	z (m)	Ground (m)
371046.6	3746455	22.82	4.42
371148.8	3746469	22.82	4.42

CTGB CTGBuilding CTG Building Wall (east)



x (m)	y (m)	z (m)	Ground (m)
371148.8	3746469	22.82	4.42
371143.6	3746503	22.88	4.48

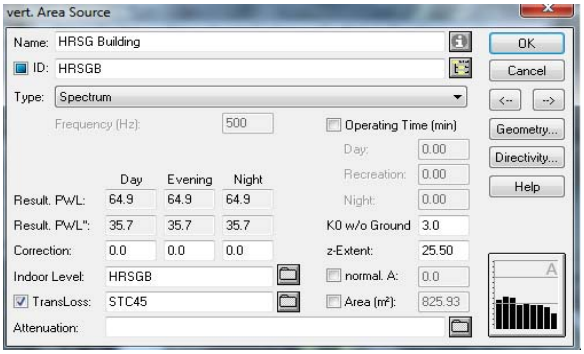
CTGBOpenWall CTGBuilding CTG Building (west side)



x (m)	y (m)	z (m)	Ground (m)
371041.5	3746488	22.82	4.42
371046.6	3746455	22.82	4.42

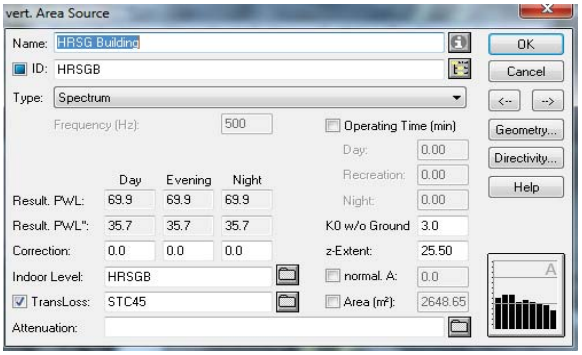
Sound level at open portion of wall modeled based on having interior level of 77 dBA (CTGB-10) for overall sound power level of 98.9 dBA. Note that Air Inlet Filter Face for the western most CTG is modeled seperately on this facade with sound power level of 105.6 dBA (CTG AirInlet - itemized below) to avoid underestimation of sound attirbuatable to this source which is close to the western opening.

HRSGB HRSG Building HRSG Building - Western Side



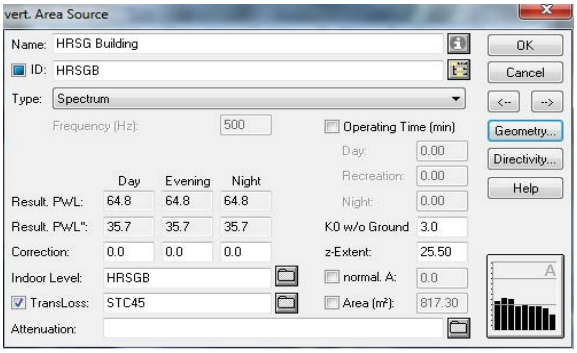
x (m)	y (m)	z (m)	Ground (m)
371041.6	3746488	29.92	4.42
371036.3	3746520	29.91	4.41

HRSGB HRSG Building HRSG Building - North Side



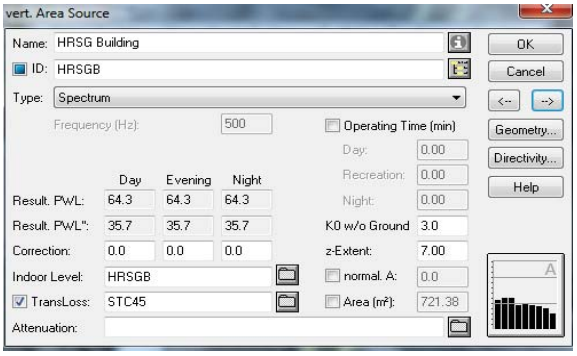
x (m)	y (m)	z (m)	Ground (m)
371036.3	3746520	29.91	4.41
371139.1	3746535	30.05	4.55

HRSGB HRSG Building HRSG Building - East Side



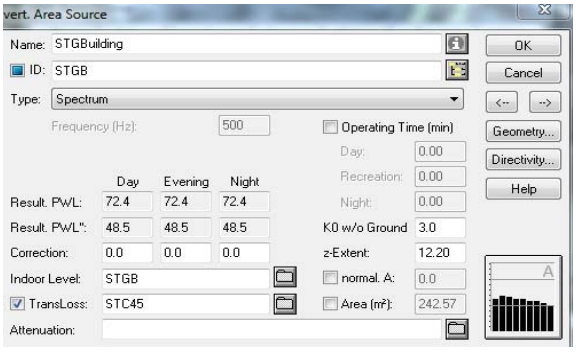
x (m)	y (m)	z (m)	Ground (m)
371139.1	3746535	30.05	4.55
371143.6	3746503	29.98	4.48

HRSGB HRSG Building HRSG Building - South Side



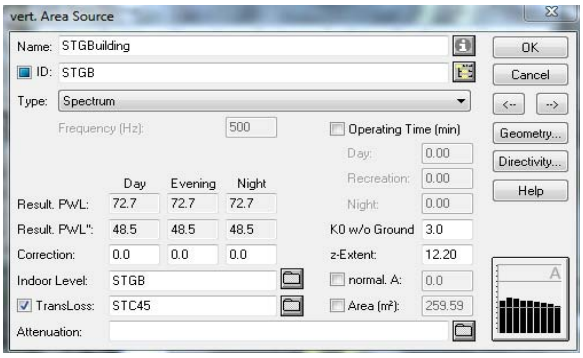
x (m)	y (m)	z (m)	Ground (m)
371143.6	3746503	29.98	4.48
371041.6	3746488	29.92	4.42

STGB STG Building Steam Turbine Building (west side)



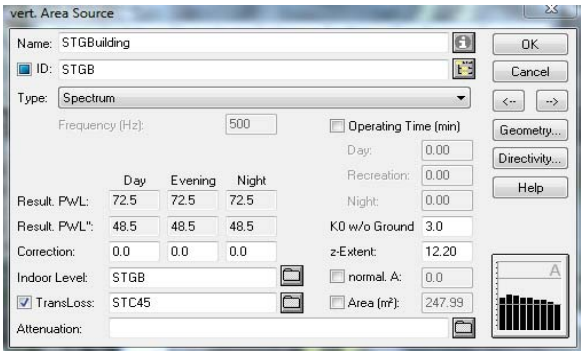
x (m)	y (m)	z (m)	Ground (m)
371103.5	3746574	16.47	4.27
371111.1	3746555	16.47	4.27

STGB STG Building Steam Turbine Building (south side)



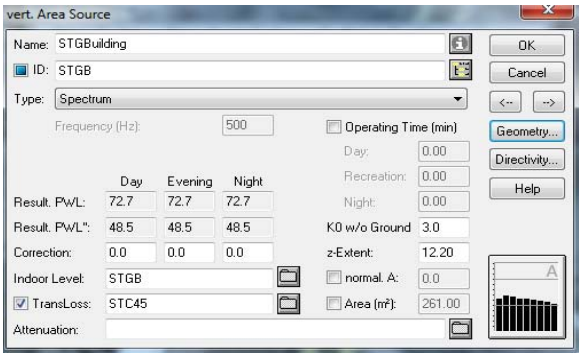
x (m)	y (m)	z (m)	Ground (m)
371111.1	3746555	16.47	4.27
371130.8	3746563	16.6	4.4

STGB STG Building Steam Turbine Building (east side)



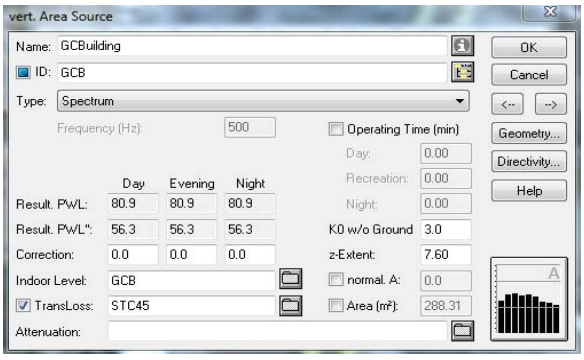
x (m)	y (m)	z (m)	Ground (m)
371130.8	3746563	16.6	4.4
371123.1	3746582	16.47	4.27

STGB STG Building Steam Turbine Building (north side)



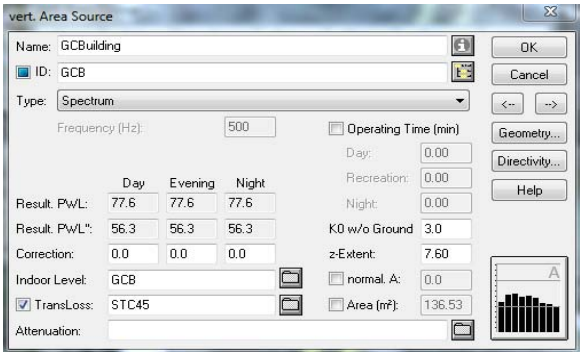
x (m)	y (m)	z (m)	Ground (m)
371123.1	3746582	16.47	4.27
371103.5	3746574	16.47	4.27

GCB GCBuilding Gas Compressor Building (west side)



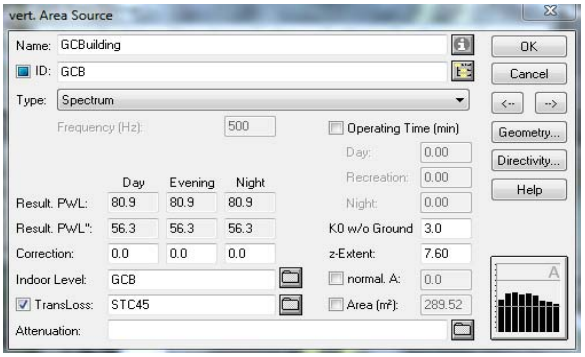
x (m)	y (m)	z (m)	Ground (m)
370956.9	3746591	12.58	4.98
370971.9	3746556	12.21	4.61

GCB GCBuilding Gas Compressor Building (south side)



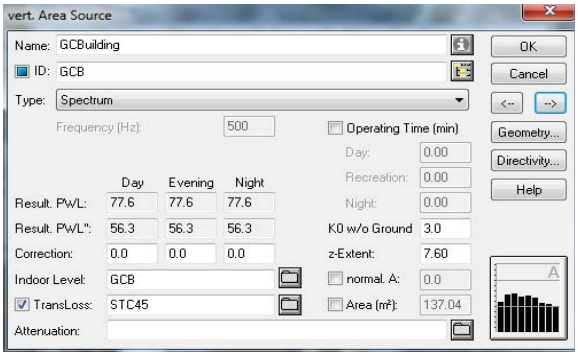
x (m)	y (m)	z (m)	Ground (m)
370971.9	3746556	12.21	4.61
370988.4	3746563	12.19	4.59

GCB GCBuilding Gas Compressor Building (east side)



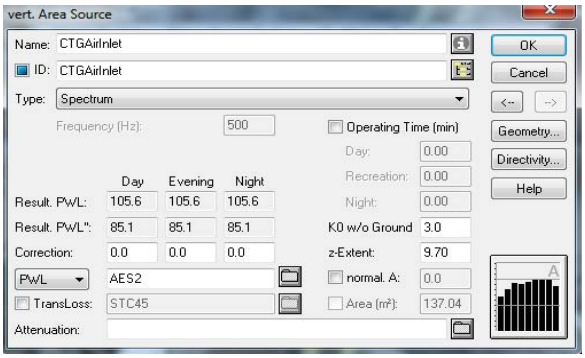
x (m)	y (m)	z (m)	Ground (m)
370988.4	3746563	12.19	4.59
370973.4	3746598	12.61	5.01

GCB GCBuilding Gas Compressor Building (north side)



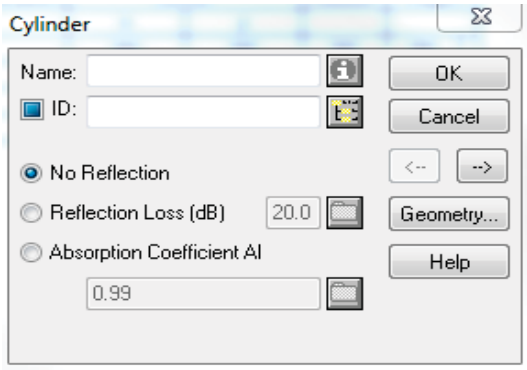
x (m)	y (m)	z (m)	Ground (m)
370973.4	3746598	12.61	5.01
370956.9	3746591	12.58	4.98

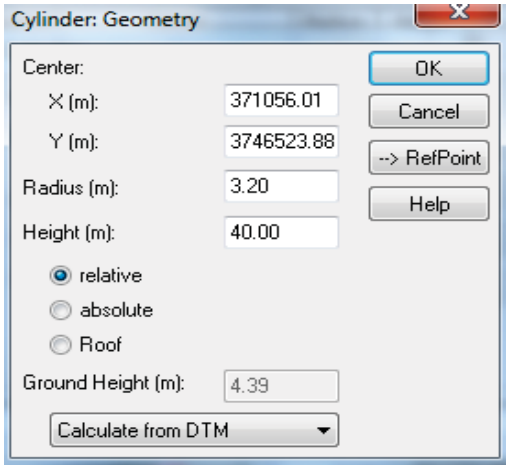
CTGAirInlet CTGAirInlet Westernmost CTG AirInlet



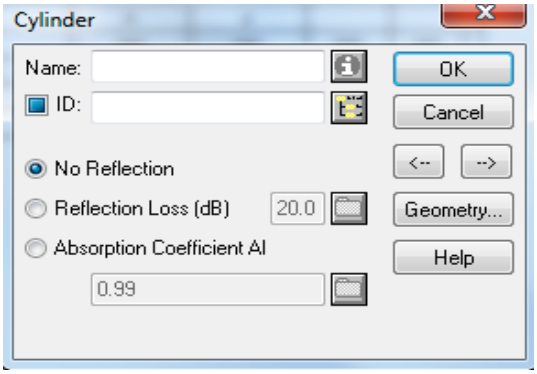
x (m)	y (m)	z (m)	Ground (m)
371043.3	3746477	14.12	4.42
371045.1	3746465	14.12	4.42

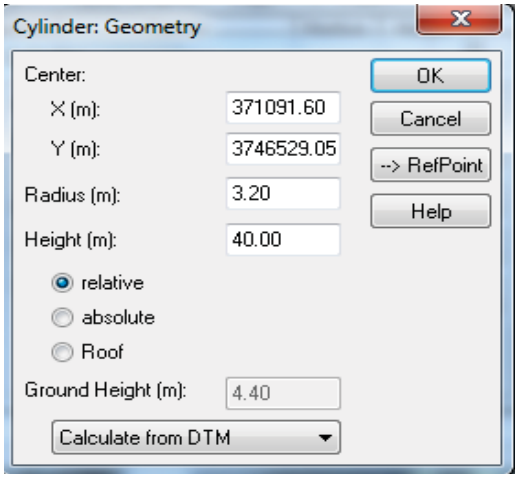
Western Stack



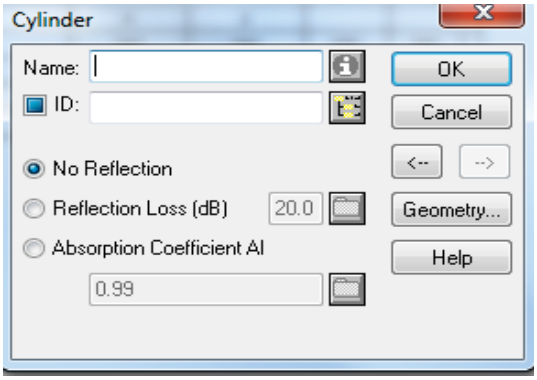


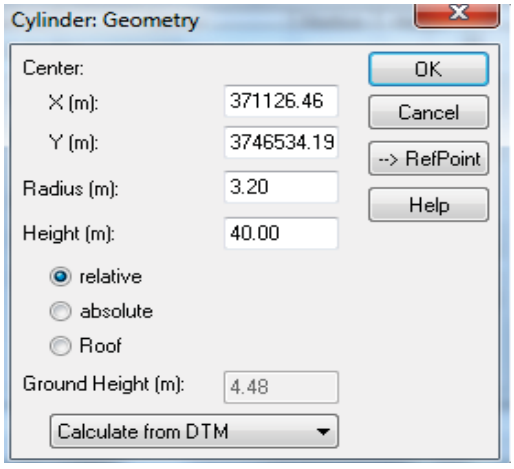
Middle Stack





Eastern Stack





Name	M.	ID	Absorption left	Absorption right	Z-Ext. (m)	Cantilever horz. (m)	Cantilever vert. (m)	Height Begin (m)		Height End (m)		Coordinates x (m)	y (m)	z (m)	Ground (m)
ACCWindWall		ACCSkin	0.21	0.37	13.1			25.3	r			371030.8	3746615	29.43	4.13
												371087.9	3746639	29.41	4.11
												371108.3	3746591	29.44	4.14
												371052.2	3746568	29.41	4.11
												371030.8	3746615	29.43	4.13
WylandWall		WyWall	Conc	IAC_C38				27.1	r			371069.4	3746419	31.47	4.37
												371033.5	3746414	31.58	4.48
												370955.1	3746590	32.07	4.97
												370998.3	3746621	31.67	4.57
TransWall		TransWall	0.21	0.21				9.1	r			371048.8	3746425	13.37	4.27
												371061.1	3746427	13.37	4.27
												371058.9	3746443	13.37	4.27
												371046.6	3746441	13.37	4.27
TransWall		TransWall	0.21	0.21				9.1	r			371084.5	3746445	13.37	4.27
												371096	3746446	13.37	4.27
												371097.7	3746432	13.37	4.27
												371086.2	3746430	13.37	4.27
TransWall		TransWall	0.21	0.21				9.1	r			371118.7	3746450	13.37	4.27
												371131.2	3746451	13.37	4.27
												371132.8	3746437	13.37	4.27
												371121	3746436	13.37	4.27
TransWall		TransWall	0.21	0.6				9.1	r			371087.8	3746555	13.37	4.27
												371100.3	3746557	13.37	4.27
												371102.7	3746542	13.36	4.26
												371090.8	3746540	13.35	4.25
FinFanWall		FFWall	0.21	0.21				9.1	r			371078	3746562	13.36	4.26
												371076.4	3746572	13.36	4.26
												371102.8	3746576	13.37	4.27
												371104.8	3746560	13.37	4.27
												371099.8	3746560	13.37	4.27
EastPL_2		EastPL_2	Conc	Conc				9.1	r	9.1	r	371178.8	3746445	14.71	5.61
												371194.1	3746270	15.35	6.25
CTGAirInlet		CTGAirInle	Conc	Conc				9.7	r			371045.9	3746489	14.12	4.42
												371039.1	3746488	14.09	4.39

Name	M.	ID	RB	Residents	Absorptior	Height Begin (m)		Coordinates x (m)	y (m)	z (m)	Ground (m)
CTGBuilding		CTGB		0		18.4	r	371148.7	3746469	22.82	4.42
								371143.5	3746503	22.82	4.48
								371041.6	3746488	22.82	4.42
								371046.6	3746455	22.82	4.42
HRSG Building		HRSGB		0		25.5	r	371036.3	3746520	29.91	4.41
								371139.1	3746535	29.91	4.55
								371143.5	3746503	29.91	4.48
								371041.6	3746488	29.91	4.42
STGBuilding		STGB		0		12.2	r	371111.2	3746555	16.47	4.27
								371130.8	3746563	16.47	4.4
								371123.1	3746582	16.47	4.27
								371103.5	3746574	16.47	4.27
GCBuilding		GCB		0		7.6	r	370971.9	3746556	12.21	4.61
								370988.4	3746563	12.21	4.59
								370973.4	3746598	12.21	5
								370956.9	3746591	12.21	4.98
Warehouse		Warehouse		0	0.37	5.8	r	370982.1	3746532	10.41	4.61
								371001.8	3746541	10.41	4.57
								371019.3	3746503	10.41	4.57
								370999.6	3746494	10.41	4.58
Bldg1		Bldg1		0	Conc	9.1	r	371056.6	3746074	13.81	4.71
								371075.1	3746081	13.81	4.8
								371087	3746051	13.81	5.53
								371094.6	3746054	13.81	5.61
								371116.3	3745997	13.81	5.51
								371100.4	3745991	13.81	5.49
								371081.3	3746039	13.81	5.52
								371071.8	3746035	13.81	5.49
Bldg1	+	Bldg1		0	Conc	5	r	371165.3	3746463	11.43	6.43
								371176.5	3746464	11.43	7.24
								371138.8	3746699	11.43	7.77
								371126.5	3746696	11.43	6.99
Bldg1	+	Bldg1		0	Conc	5	r	371129.1	3746722	12.48	7.48
								371110.7	3746796	12.48	8.32
								371100.3	3746793	12.48	7.14
								371119.9	3746718	12.48	6.91

Name	Height Begin (m)		End (m)	Coordinates x (m)	y (m)	z (m)	Ground (m)
HRSG Building	25.5	r		371036.4	3746520	29.92	4.42
				371139	3746534	30.05	4.55
				371143.5	3746503	29.98	4.48
				371041.7	3746488	29.92	4.42
CTGBuilding	18.4	r		371148.7	3746469	22.82	4.42
				371143.5	3746503	22.88	4.48
				371041.6	3746488	22.82	4.42
				371046.7	3746455	22.82	4.42
STGBuilding	12.2	r		371111.2	3746555	16.47	4.27
				371130.7	3746563	16.6	4.4
				371123.1	3746582	16.47	4.27
				371103.6	3746574	16.47	4.27
GCBuilding	7.6	r		370971.9	3746556	12.21	4.61
				370988.3	3746563	12.19	4.59
				370973.4	3746598	12.6	5
				370957	3746591	12.58	4.98
Fuel Gas Conditioning	5	r		370973.3	3746555	9.61	4.61
				370982.2	3746559	9.6	4.6
				370990.5	3746540	9.59	4.59
				370981.6	3746535	9.61	4.61
ACCFan_Inlet	13.2	r		371031.7	3746615	17.32	4.12
				371087.2	3746638	17.31	4.11
				371107.1	3746592	17.33	4.13
				371052.7	3746569	17.31	4.11
ACCFan_Outlet	22.3	r		371033.3	3746615	26.41	4.11

				371053.4	3746570	26.41	4.11
				371105.5	3746592	26.41	4.11
				371086.8	3746637	26.41	4.11

Name	Height Begin (m)		Height End (m)	Coordinates x (m)	y (m)	z (m)	Ground (m)
CTGBuilding	18.4	r		371046.6	3746455	22.82	4.42
				371148.8	3746469	22.82	4.42
CTGBuilding	18.4	r		371148.8	3746469	22.82	4.42
				371143.6	3746503	22.88	4.48
CTGBuilding	18.4	r		371041.5	3746488	22.82	4.42
				371046.6	3746455	22.82	4.42
HRSG Building	25.5	r		371041.6	3746488	29.92	4.42
				371036.3	3746520	29.91	4.41
HRSG Building	25.5	r		371036.3	3746520	29.91	4.41
				371139.1	3746535	30.05	4.55
HRSG Building	25.5	r		371139.1	3746535	30.05	4.55
				371143.6	3746503	29.98	4.48
HRSG Building	25.5	r		371143.6	3746503	29.98	4.48
				371041.6	3746488	29.92	4.42
STGBuilding	12.2	r		371103.5	3746574	16.47	4.27
				371111.1	3746555	16.47	4.27
STGBuilding	12.2	r		371111.1	3746555	16.47	4.27
				371130.8	3746563	16.6	4.4
STGBuilding	12.2	r		371130.8	3746563	16.6	4.4
				371123.1	3746582	16.47	4.27
STGBuilding	12.2	r		371123.1	3746582	16.47	4.27
				371103.5	3746574	16.47	4.27
GCBuilding	7.6	r		370956.9	3746591	12.58	4.98
				370971.9	3746556	12.21	4.61
GCBuilding	7.6	r		370971.9	3746556	12.21	4.61
				370988.4	3746563	12.19	4.59
GCBuilding	7.6	r		370988.4	3746563	12.19	4.59
				370973.4	3746598	12.61	5.01
GCBuilding	7.6	r		370973.4	3746598	12.61	5.01
				370956.9	3746591	12.58	4.98
CTGAirInlet	9.7	r		371043.3	3746477	14.12	4.42
				371045.1	3746465	14.12	4.42

Name	Height Begin (m)		Height End (m)	Coordinates x (m)	y (m)	z (m)	Ground (m)
Pipe Rack	10	r		371117	3746532	14.41	4.41
				371113.6	3746556	14.27	4.27
Pipe Rack	10	r		371118.3	3746533	14.4	4.4
				371115.1	3746556	14.27	4.27
Pipe Rack	10	r		371119.2	3746533	14.4	4.4
				371115.7	3746557	14.29	4.29
ACC Main Duct	8	r		371118.1	3746580	12.27	4.27
				371095.6	3746634	12.18	4.18

Name	M.	ID	RB	Residents	Absorptior	Height Begin (m)	
CTGBuilding		CTGB		0		18.4	r
HRSG Building		HRSGB		0		25.5	r
STGBuilding		STGB		0		12.2	r
GCBuilding		GCB		0		7.6	r
Warehouse		Warehouse		0	0.37	5.8	r
Bldg1		Bldg1		0	Conc	9.1	r
Bldg1	+	Bldg1		0	Conc	5	r
Bldg1	+	Bldg1		0	Conc	5	r

Name	M.	ID	Absorption	Center x (m)	Center y (m)	Radius (m)	Height (m)	
Stack				371056	3746524	3.2	40	r
Stack				371091.6	3746529	3.2	40	r
Stack				371126.5	3746534	3.2	40	r

Name	M.	ID	Result. PWL Day (dBA)	Result. PWL Evening (dBA)	Result. PWL Night (dBA)	Result. PWL'' Day (dBA)	Result. PWL'' Evening (dBA)	Result. PWL'' Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Correction Evening dB(A)	Correction Night dB(A)	Sound Reduction R	Sound Reduction Area (m²)	Attenuatio Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Moving Pt. Src Number Day	Evening	Night
HRSG Building		HRSGB	70.9	70.9	70.9	35.7	35.7	35.7	Li	HRSGB		0	0	0	STC45	3305.96				0	(none)			
CTGBuilding		CTGB	83.1	83.1	83.1	47.7	47.7	47.7	Li	CTGB		0	0	0	STC45	3453.92				0	(none)			
STGBuilding		STGB	74.8	74.8	74.8	48.5	48.5	48.5	Li	STGB		0	0	0	STC45	420.68				0	(none)			
GCBuilding		GCB	84.6	84.6	84.6	56.3	56.3	56.3	Li	GCB		0	0	0	STC45	673.06				0	(none)			
Fuel Gas Conditioning		FuelSkid	99	99	99	75.8	75.8	75.8	PWL-Pt	FGC		0	0	0						0	(none)	5	5	5
ACCFan_Inlet		ACCInlet	100.1	100.1	100.1	65.3	65.3	65.3	Lw	ACCFan		0	0	0						0	(none)			
ACCFan_Outlet		ACCOutlet	97.1	97.1	97.1	62.6	62.6	62.6	Lw	ACCFan-3		0	0	0						0	(none)			

Name	M.	ID	Result. PWL Day (dBA)	Result. PWL Evening (dBA)	Result. PWL Night (dBA)	Result. PWL'' Day (dBA)	Result. PWL'' Evening (dBA)	Result. PWL'' Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Correction Evening dB(A)	Correction Night dB(A)	Sound Reduction R	Sound Reduction Area (m²)	Attenuatio Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.
CTGBuilding		CTGB	80.5	80.5	80.5	47.7	47.7	47.7	Li	CTGB		0	0	0	STC45	1897.41				3	(none)	
CTGBuilding		CTGB	75.7	75.7	75.7	47.7	47.7	47.7	Li	CTGB		0	0	0	STC45	628.1				3	(none)	
CTGBuilding		CTGBOpen	98.9	98.9	98.9	71	71	71	Li	CTGB-10		0	0	0	0	614.41				3	Opening (ÖAL28)	
HRSG Building		HRSGB	64.9	64.9	64.9	35.7	35.7	35.7	Li	HRSGB		0	0	0	STC45	825.93				3	(none)	
HRSG Building		HRSGB	69.9	69.9	69.9	35.7	35.7	35.7	Li	HRSGB		0	0	0	STC45	2648.65				3	(none)	
HRSG Building		HRSGB	64.8	64.8	64.8	35.7	35.7	35.7	Li	HRSGB		0	0	0	STC45	817.3				3	(none)	
HRSG Building		HRSGB	64.3	64.3	64.3	35.7	35.7	35.7	Li	HRSGB		0	0	0	STC45	721.38				3	(none)	
STGBuilding		STGB	72.4	72.4	72.4	48.5	48.5	48.5	Li	STGB		0	0	0	STC45	242.57				3	(none)	
STGBuilding		STGB	72.7	72.7	72.7	48.5	48.5	48.5	Li	STGB		0	0	0	STC45	259.59				3	(none)	
STGBuilding		STGB	72.5	72.5	72.5	48.5	48.5	48.5	Li	STGB		0	0	0	STC45	247.99				3	(none)	
STGBuilding		STGB	72.7	72.7	72.7	48.5	48.5	48.5	Li	STGB		0	0	0	STC45	261				3	(none)	
GCBuilding		GCB	80.9	80.9	80.9	56.3	56.3	56.3	Li	GCB		0	0	0	STC45	288.31				3	(none)	
GCBuilding		GCB	77.6	77.6	77.6	56.3	56.3	56.3	Li	GCB		0	0	0	STC45	136.53				3	(none)	
GCBuilding		GCB	80.9	80.9	80.9	56.3	56.3	56.3	Li	GCB		0	0	0	STC45	289.52				3	(none)	
GCBuilding		GCB	77.6	77.6	77.6	56.3	56.3	56.3	Li	GCB		0	0	0	STC45	137.04				3	(none)	
CTGAirInlet		CTGAirInle	105.6	105.6	105.6	85.1	85.1	85.1	Lw	AES2		0	0	0						3	Air Inlet	

Name	M.	ID	Result. PWL Day (dBA)	Result. PWL Evening (dBA)	Result. PWL Night (dBA)	Result. PWL' Day (dBA)	Result. PWL' Evening (dBA)	Result. PWL' Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Correction Evening dB(A)	Correction Night dB(A)	Sound Reduction R	Sound Reduction Area (m²)	Attenuatio Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Moving Pt. Src Number Day	Evening	Night	Speed (km/h)
Pipe Rack		PipeRack	60.5	60.5	60.5	46.6	46.6	46.6	Lw	PipeRack-5		0	0	0			STC45			0	(none)				
Pipe Rack		PipeRack	60.5	60.5	60.5	46.7	46.7	46.7	Lw	PipeRack-5		0	0	0			STC45			0	(none)				
Pipe Rack		PipeRack	60.5	60.5	60.5	46.6	46.6	46.6	Lw	PipeRack-5		0	0	0			STC45			0	(none)				
ACC Main Duct		ACCDuct	60.2	60.2	60.2	42.6	42.6	42.6	Lw'	ACCDuct		0	0	0			STC45			0	(none)				

Name	M.	ID	Result. PWL Day (dBA)	Result. PWL Evening (dBA)	Result. PWL Night (dBA)	Lw / Li Type	Value	norm. dB(A)	Correction Day dB(A)	Correction Evening dB(A)	Correction Night dB(A)	Sound Reduction R	Sound Reduction Area (m²)	Attenuatio Operating Time Day (min)	Special (min)	Night (min)	K0 (dB)	Freq. (Hz)	Direct.	Height (m)		Coordinates X (m)	Y (m)	Z (m)
Stack		Stack	116.6	116.6	116.6	Lw	StkExitR1-4		0	0	0							0	Air Exhaust	40	r	371091.5	3746529	44.36
Stack		Stack	116.6	116.6	116.6	Lw	StkExitR1-4		0	0	0							0	Air Exhaust	40	r	371055.7	3746524	44.33
Stack		Stack	116.6	116.6	116.6	Lw	StkExitR1-4		0	0	0							0	Air Exhaust	40	r	371126.3	3746534	44.47
StackCasing		StackBO	63.1	63.1	63.1	Lw	Stack_BO		0	0	0							0	(none)	20	r	371056.1	3746524	24.37
StackCasing		StackBO	63.1	63.1	63.1	Lw	Stack_BO		0	0	0							0	(none)	20	r	371091.9	3746529	24.38
StackCasing		StackBO	63.1	63.1	63.1	Lw	Stack_BO		0	0	0							0	(none)	20	r	371126.7	3746534	24.46
GT Transformer		GTTrans	98.3	98.3	98.3	Lw	GT_Trans		0	0	0							0	(none)	7	r	371056.5	3746435	11.27
GT Transformer		GTTrans	98.3	98.3	98.3	Lw	GT_Trans		0	0	0							0	(none)	7	r	371093.3	3746439	11.27
GT Transformer		GTTrans	98.3	98.3	98.3	Lw	GT_Trans		0	0	0							0	(none)	7	r	371128	3746444	11.27
Aux Transformer		AuxTrans	94.7	94.7	94.7	Lw	AuxTrans		0	0	0							0	(none)	4	r	371061.3	3746445	8.27
Aux Transformer		AuxTrans	94.7	94.7	94.7	Lw	AuxTrans		0	0	0							0	(none)	4	r	371060.7	3746449	8.27
Aux Transformer		AuxTrans	94.7	94.7	94.7	Lw	AuxTrans		0	0	0							0	(none)	4	r	371097.4	3746453	8.27
Aux Transformer		AuxTrans	94.7	94.7	94.7	Lw	AuxTrans		0	0	0							0	(none)	4	r	371096.6	3746458	8.36
Aux Transformer		AuxTrans	94.7	94.7	94.7	Lw	AuxTrans		0	0	0							0	(none)	4	r	371132.6	3746458	8.29
Aux Transformer		AuxTrans	94.7	94.7	94.7	Lw	AuxTrans		0	0	0							0	(none)	4	r	371131.9	3746463	8.36
Aux Transformer		AuxTrans	94.7	94.7	94.7	Lw	AuxTrans		0	0	0							0	(none)	4	r	371103.8	3746550	8.27
STG Trans		STGTrans	101.3	101.3	101.3	Lw	ST_Trans		0	0	0							0	(none)	8	r	371097.3	3746549	12.27
FinFan		FinFan	100.2	100.2	100.2	Lw	FinF		0	0	0							0	(none)	5	r	371080.8	3746570	9.27

FinFan	FinFan	100.2	100.2	100.2 Lw	FinF	0	0	0	0	(none)	5 r	371081.5	3746565	9.27	
FinFan	FinFan	100.2	100.2	100.2 Lw	FinF	0	0	0	0	(none)	5 r	371082.5	3746560	9.27	
FinFan	FinFan	100.2	100.2	100.2 Lw	FinF	0	0	0	0	(none)	5 r	371089	3746571	9.27	
FinFan	FinFan	100.2	100.2	100.2 Lw	FinF	0	0	0	0	(none)	5 r	371089.7	3746566	9.27	
FinFan	FinFan	100.2	100.2	100.2 Lw	FinF	0	0	0	0	(none)	5 r	371090.5	3746561	9.27	
FinFan	FinFan	100.2	100.2	100.2 Lw	FinF	0	0	0	0	(none)	5 r	371097.8	3746572	9.27	
FinFan	FinFan	100.2	100.2	100.2 Lw	FinF	0	0	0	0	(none)	5 r	371098.6	3746567	9.27	
FinFan	FinFan	100.2	100.2	100.2 Lw	FinF	0	0	0	0	(none)	5 r	371099.2	3746563	9.27	