

# CONSTRUCTION NOISE MANAGEMENT PLAN

**Tie Line 649 Wood-to-Steel Replacement Project  
City of San Diego, California**

**Prepared For**

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**Job #B81107N1**

**April 11, 2019**

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## **1.0 EXECUTIVE SUMMARY**

The Tie Line 649 Wood-to-Steel Replacement Project, consists of upgrades to an approximately seven-mile-long portion of the existing 69 kilovolt tie line (TL) 649. The project includes replacement of existing wood poles with steel poles, and transferring or replacing existing conductors and ancillary facilities along the tie line. This analysis focuses on project locations in the City of San Diego, near Sea Lavender Way, Topsail Drive, and Avenida De Las Vistas. The purpose of this report is to assess noise impacts from temporary construction activities consisting of direct-bury pole replacement, stringing, and demobilization/cleanup, and to identify project features or requirements necessary to remain in compliance with City of San Diego Municipal Code noise limits for temporary construction noise, and to satisfy the project-specific mitigation measure NOI-5 for noise impacts to residential or other sensitive receivers within 100 feet of construction activities.

NOI-5 requires compliance with the construction noise limits found within Section 59.5.0404 of the City of San Diego Municipal Code, which states that construction activity is prohibited between the hours of 7 p.m. and 7 a.m. and on Sundays or legal holidays. During permissible hours of operation, noise levels from construction activity must be limited to a twelve-hour average of no greater than 75 dBA at any property line zoned for residential use.

Calculations show that typical pole replacement and demobilization/cleanup activities are not anticipated to exceed the City of San Diego temporary construction noise limit of 75 dBA at adjacent properties near Topsail Drive and Avenida De Las Vistas. While noise impacts are expected to be below 75 dBA at nearby residential structures, noise levels will likely exceed 75 dBA at the property lines (driveways and front lawns) of residences on Sea Lavender Way due to the close proximity of the stringing site to surrounding properties. It may be feasible to reduce noise levels to 75 dBA or less at the property lines of surrounding residences by implementing a temporary barrier. This option is discussed in more detail in Section 3.0.

General good practice noise control measures shall be followed to ensure that noise levels remain below the City of San Diego construction noise limits, including reasonable maintenance of equipment, conservative planning of simultaneous equipment operation, and using equipment with effective mufflers. Equipment operation must also be limited to the allowable hours of operation set by the City of San Diego. With these conditions met, the Tie Line 649 Wood-to-Steel Replacement Project is expected to comply with the noise regulations of the City of San Diego and mitigation measure NOI-5.

## **2.0 INTRODUCTION**

### **2.1 Project Description**

The Tie Line 649 Wood-to-Steel Replacement Project, consists of upgrades to an approximately seven-mile-long portion of the existing 69 kilovolt tie line (TL) 649. The project includes replacement of existing wood poles with steel poles, and transferring or replacing existing conductors and ancillary facilities along the tie line. The project is needed to maintain existing electric power lines and to improve overall system reliability in high fire threat and wind-prone areas in SDG&E's service territory.

Per the requirements of NOI-5, this analysis focuses on project locations in the City of San Diego, near Sea Lavender Way, Topsail Drive, and Avenida De Las Vistas. Construction activities included in this analysis include:

- Direct-bury wood-to-steel pole replacement activities at pole sites 4 through 7, located between Topsail Drive and Avenida De Las Vistas
- Stringing sites to install new conductors and tension wires, located near the east end of Sea Lavender Road
- Demobilization and cleanup activities at pole sites 4 through 7 between Topsail Drive and Avenida De Las Vistas

For additional project details, please refer to the project plans, provided in Appendix A.

## **2.2 Project Location**

The construction activities in this project are located along a portion of TL 649 in the City of San Diego. The tie line starts at the east end of Sea Lavender Way, and continues east along a dirt access road between Topsail Drive and Avenida De Las Vistas. Pole sites 4 through 7 and the stringing site on Sea Lavender Way are located nearest to residential properties and therefore are the focus of this analysis.

For a graphical representation of the site, please refer to the Vicinity Map, Satellite Aerial Photograph, and Topographic Map, provided as Figures 1 through 3, respectively.

## **2.3 Applicable Noise Regulations**

NOI-5 is as follows:

*Project-Specific Construction Noise Reduction Measures.*

*For construction activities within 100 feet of residential or other sensitive uses (i.e., residences near the stringing site at Sea Lavender Way, and the residences near Pole Nos. 4 through 7), the project applicant shall submit a Construction Noise Management Plan prepared by a qualified acoustical consultant. The plan shall be submitted to the CPUC for review and approval. The plan shall contain a set of site-specific noise attenuation measures to reduce construction noise to less than 75 dBA during a 12-hour period or to the maximum extent practicable.*

Section 59.5.0404 of the City of San Diego Municipal Code is the basis for the noise limit shown in NOI-5. This section of the Municipal Code states that construction activity is prohibited between the hours of 7 p.m. and 7 a.m. and on Sundays or legal holidays. During permissible hours of operation, noise levels from construction activity must be limited to a twelve-hour average of no greater than 75 dBA at any property line zoned for residential use. Please refer to Appendix B for pertinent sections of the City of San Diego Municipal Code.

## **3.0 NOISE ATTENUATION MEASURES**

### **3.1 Methodology**

Modeling of the outdoor noise environment to determine temporary construction noise impacts is accomplished using Cadna Version 2019, which is a model-based computer program developed by DataKustik for predicting noise impacts in a wide variety of conditions. Cadna (Computer Aided Noise Abatement) assists in the calculation, presentation, assessment, and mitigation of noise exposure. It allows for the input of project information such as noise source data, barriers, structures, and topography to create a detailed model and uses the most up-to-date calculation standards to predict outdoor noise impacts. Noise standards used by Cadna that are particularly relevant to this analysis include ISO 9613 (Attenuation of sound during propagation outdoors). Cadna provides results that are in line with basic acoustical calculations for distance attenuation and barrier insertion loss. Further explanation may be provided upon request.

### **3.2 Site-Specific Noise Attenuation Measures**

Calculations show that typical pole replacement and demobilization/cleanup activities are not anticipated to exceed the City of San Diego temporary construction noise limit of 75 dBA at adjacent properties near Topsail Drive and Avenida De Las Vistas. Noise impacts will likely exceed 75 dBA at the property lines (driveways and front lawns) of residences on Sea Lavender Way due to the close proximity of the stringing site to surrounding properties. Calculation results are provided in Appendix C.

To reduce noise impacts to surrounding residential properties near the stringing site, a temporary noise barrier should be installed as close to the pulling rig and bucket truck as possible, and should be placed in between the equipment and the nearest affected residential property. The barrier should span the entire length of the equipment, and should be a minimum of eight-feet in height. With this measure in place, noise impacts would be reduced to be less than 75 dBA at all off-site receivers. Mitigated results are shown in Table 1, and noise contours and recommended barrier locations are shown in Figure 4.

Table 1. Temporary Construction Noise Levels at Neighboring Properties(Temporary Barriers)				
Phase	Equipment Used	Receiver Location	Approximate Distance From Nearest Equipment (ft)	12-Hour Average Noise Level (dBA)
Stringing Site Activity	(1) Pulling Rig, (1) Bucket Truck	R6-1 (North PL)	20	71
		R6-2 (North Structure)	39	67
		R-7 (North PL)	50	69
		R8-1 (North PL)	14	71
		R8-2 (North Structure)	35	65
		R9 (South PL)	38	73
		R10 (South PL)	41	74

### 3.3 General Noise Control Measures

NOI-4 contains general construction noise control measures that should be adhered to at the project site, and is as follows:

*For construction activities within 100 feet of residential or other sensitive uses (i.e., residences near the stringing site at Sea Lavender Way, and the residences near Pole Nos. 4 through 7), the project applicant shall implement noise reduction measures to reduce noise impacts due to construction. Noise reduction measures include the following:*

*a) Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds) wherever feasible.*

*b) Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 A-weighted decibels (dBA). External jackets on the tools themselves shall be used, if such jackets are commercially available, and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with required construction procedures.*

*c) Stationary noise sources shall be located as far from adjacent properties as possible, and they shall be muffled or use other measures to provide equivalent noise reduction.*

In addition to the measures above, to help minimize noise impacts, any project in which construction activity will take place near occupied residential properties should adhere to the following supplementary “good practice” noise control measures:

1. Construction equipment shall be turned off when not in use.
2. Equipment used in construction shall be maintained in proper operating condition, and all loads should be properly secured, to prevent rattling and banging.
3. The use of backup alarms shall be minimized whenever possible.

These general noise control measures, in addition to limiting construction equipment operation to the allowable hours detailed in the City of San Diego Municipal Code, will assist in maintaining the comfort of neighboring sensitive receivers during the construction activities at these sites. With these conditions met, the Tie Line 649 Wood-to-Steel Replacement Project is expected to comply with the noise regulations of the City of San Diego and satisfy project-specific mitigation measure NOI-5.

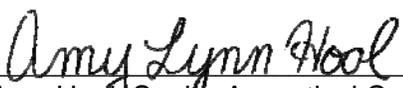
#### 4.0 CONCLUSION AND CERTIFICATION

Calculations show that typical pole replacement and demobilization/cleanup activities are not anticipated to exceed the City of San Diego temporary construction noise limit of 75 dBA at adjacent properties near Topsail Drive and Avenida De Las Vistas. Noise impacts will likely exceed 75 dBA at the property lines (driveways and front lawns) of residences on Sea Lavender Way due to the close proximity of the stringing site to surrounding properties. In order to reduce noise levels to 75 dBA or less at surrounding residences, noise reduction measures, including temporary barriers should be implemented, according to Section 3.3.

General good practice noise control measures shall be followed to ensure that noise levels remain below the City of San Diego construction noise limits, including reasonable maintenance of equipment, conservative planning of simultaneous equipment operation, and using equipment with effective mufflers. Equipment operation must also be limited to the allowable hours of operation set by the City of San Diego. With these conditions met, the Tie Line 649 Wood-to-Steel Replacement Project is expected to comply with the noise regulations of the City of San Diego and satisfy project-specific mitigation measure NOI-5.

The findings and recommendations of this acoustical analysis report are based on the information available and are a true and factual analysis of the potential acoustical issues associated with the Tie Line 649 Wood-to-Steel Replacement Project in the City of San Diego, California. This report was prepared by Daniel Gershun and Amy Hool.

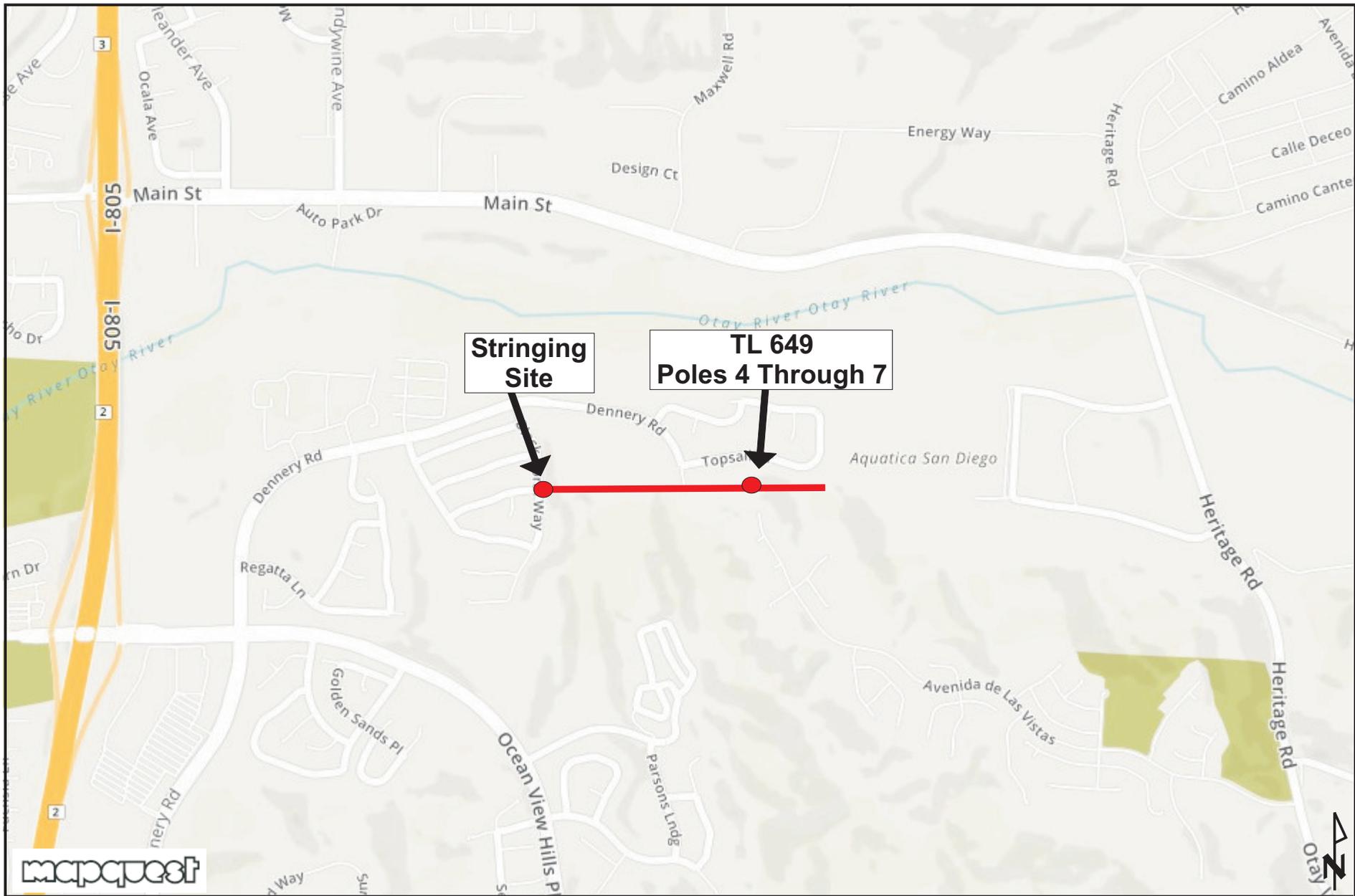
  
Daniel Gershun, Acoustical Consultant II

  
Amy Hool, Senior Acoustical Consultant

## 5.0 REFERENCES

1. City of San Diego Municipal Code.
2. DataKustik, CadnaA (Computer Aided Noise Abatement), Version 2019.
3. UK Department for Environment, Food, and Rural Affairs (DEFRA) Construction Noise Database.
4. U.S. Department of Transportation Federal Highway Administration, Construction Noise Handbook, Construction Equipment Noise Levels and Ranges.

## FIGURES



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**Vicinity Map**  
 Job # B81107N1

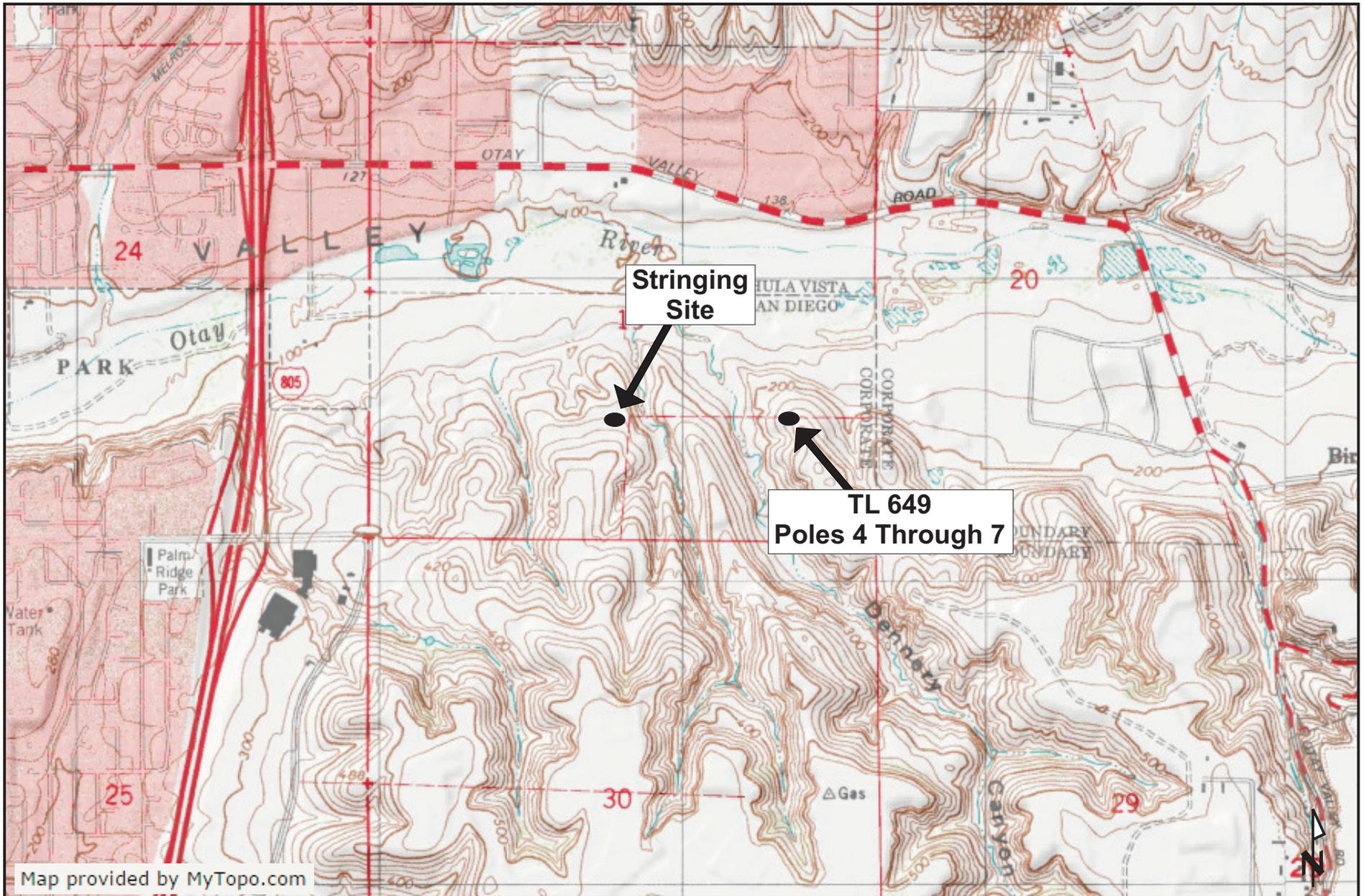
**Figure 1**



Eilar Associates, Inc.  
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Satellite Aerial Photograph  
Job # B81107N1

Figure 2



Eilar Associates, Inc.  
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Topographic Map  
 Job # B81107N1

Figure 3



## **APPENDIX A**

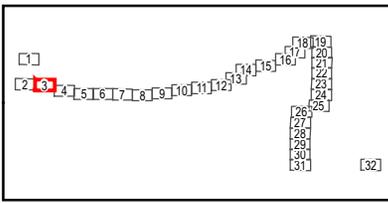
### **Project Plans**



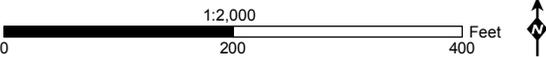
Attachment A: Detailed Route Map 3 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- |                                |   |                                     |                          |
|--------------------------------|---|-------------------------------------|--------------------------|
| New Stub Pole                  | Wood-to-Steel Replacement                                       | Approximate Disturbance Area*       | Existing Access Road     |
| New Steel Pole                 | Wood-to-Steel Replacement with Distribution Underbuild          | Staging Yard                        | Overland Travel Route    |
| Wood-to-Steel Replacement Pole | Wood-to-Steel Replacement Distribution Only                     | Access Road Turnaround/Staging Yard | Access Road Modification |
| Overhead Work Only             | Distribution Removal  | Pulling Site                        |                          |
| Pole Removal                   | Underground to Overhead Conversion with Distribution Underbuild | Stringing Site                      |                          |
| Guard Structure                | Underground Distribution Intercept                              |                                     |                          |



\* Area is equivalent to the total estimated square footage of disturbance at each pole, but the actual shape of the work area will be determined during the final design.

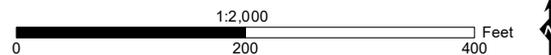
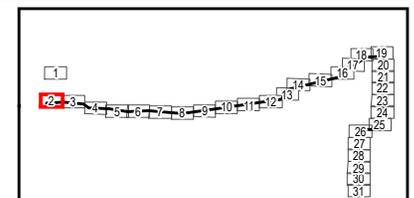




Detailed Route Map 2 of 32

Tie Line 649 Wood-to-Steel Replacement Project

- |                                |   |                                     |                          |
|--------------------------------|---|-------------------------------------|--------------------------|
| New Stub Pole                  | Wood-to-Steel Replacement                                       | Staging Yard                        | Existing Access Road     |
| New Steel Pole                 | Wood-to-Steel Replacement with Distribution Underbuild          | Access Road Turnaround/Staging Yard | Overland Travel Route    |
| Wood-to-Steel Replacement Pole | Wood-to-Steel Replacement Distribution Only                     | Pulling Site                        | Access Road Modification |
| Overhead Work Only             | Distribution Removal  | Stringing Site                      |                          |
| Pole Removal                   | Underground to Overhead Conversion with Distribution Underbuild |                                     |                          |
| Distribution Tap Pole          | Underground Distribution Intercept                              |                                     |                          |
| Guard Structure                |   |                                     |                          |



Attachment 3-C: Construction Equipment Summary

<b>Vehicle/Equipment Type</b>	<b>Use</b>	<b>Hours of Daily Operation</b>	<b>Quantity Required</b>
Drilling Rig	Excavate for foundations	7	2
Air Compressor	Power tools	3	2
Boom truck	Place materials	3	2
Forklift	Place materials	3	2
Generator	Power tools	3	2
Concrete Truck	Deliver concrete to site	NA	2
Dump Truck	Remove materials from site	NA	2
<b><i>Direct-Bury Construction and Pole Installation</i></b>			
Water Truck	Suppress dust	4	2
Drilling Rig	Excavate for direct buried poles	7	3
Air Compressor	Power tools	3	2
Tractor Trailer Unit	Deliver materials to site	NA	2
Bucket Truck	Access pole tops	5	3
Crane	Place materials	5	3
Dump Truck	Remove materials from site	NA	2
<b><i>Trenching for Installation of Underground Cables</i></b>			
Backhoe	Excavate and load materials	7	1
Dump Truck	Remove materials from site	NA	1
<b><i>Stringing Activities</i></b>			
Water Truck	Suppress dust	5	2
Wire Truck	Deliver conductor reels	NA	1
Pulling Rig	Install/remove conductor	6	1

<b>Vehicle/Equipment Type</b>	<b>Use</b>	<b>Hours of Daily Operation</b>	<b>Quantity Required</b>
Boom Truck	Load and move materials	7	3
Bucket Truck	Access pole tops	8	3
Pickup	Deliver workers to site	NA	1
<b><i>Demobilization/Cleanup</i></b>			
Grader	Restore temporarily disturbed areas	6	1
Loader	Load dump trucks and stockpile	7	1
Water Truck	Suppress dust	3	1
Crew Truck	Deliver workers to site	NA	1
Pickup	Deliver workers to site	NA	1
Tractor Trailer Unit	Deliver materials to site	NA	2
Spray Truck	Assist with revegetation	6	1

## **APPENDIX B**

### **Pertinent Sections of San Diego Municipal Code**

**§59.5.0404 Construction Noise**

- (a) It shall be unlawful for any person, between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with exception of Columbus Day and Washington’s Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator. In granting such permit, the Administrator shall consider whether the construction noise in the vicinity of the proposed work site would be less objectionable at night than during the daytime because of different population densities or different neighboring activities; whether obstruction and interference with traffic particularly on streets of major importance, would be less objectionable at night than during the daytime; whether the type of work to be performed emits noises at such a low level as to not cause significant disturbances in the vicinity of the work site; the character and nature of the neighborhood of the proposed work site; whether great economic hardship would occur if the work were spread over a longer time; whether proposed night work is in the general public interest; and he shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise levels as he deems to be required in the public interest.
- (b) Except as provided in subsection C. hereof, it shall be unlawful for any person, including The City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 decibels during the 12-hour period from 7:00 a.m. to 7:00 p.m.
- (c) The provisions of subsection B. of this section shall not apply to construction equipment used in connection with emergency work, provided the Administrator is notified within 48 hours after commencement of work.  
*(Amended 1-3-1984 by O-16100 N.S.)*

**§59.5.0406 Refuse Vehicles and Parking Lot Sweepers**

No person shall operate or permit to be operated a refuse compacting, processing, or collection vehicle between the hours of 7:00 p.m. to 6:00 a.m. or a parking lot sweeper between the hours of 7:00 p.m. to 7:00 a.m. in any residential area unless a permit has been applied for and granted by the Administrator.  
*(“Refuse Vehicles” added 9-18-1973 by O-11122 N.S.; amended 9-22-1976 by O-11916 N.S.)*  
*(Amended 6-9-2010 by O-19960 N.S.; effective 7-9-2010.)*

## **APPENDIX C**

### **Cadna Analysis Data and Results**

EILAR ASSOCIATES, INC.  
Acoustical and Environmental Consulting

Cadna Noise Model - Sound Levels														
Name	ID	Type	Weight	Oktave Spectrum (dB)										Source
				63	125	250	500	1000	2000	4000	8000	A	lin	
Water Truck	S1	Lw (c)		116.7	111.7	114.7	105.7	106.7	103.7	99.7	95.7	111.9	120.1	Eilar Measurement
Drilling Rig	S2	Lw (c)		116.3	120.3	117.3	114.3	115.3	120.3	115.3	110.3	124	126.2	DEFRA
Air Compressor	S3	Lw (c)		125.3	114.3	105.3	100.3	98.3	96.3	99.3	88.3	106.8	125.7	DEFRA
Bucket Truck	S4	Lw (c)		116.7	111.7	114.7	105.7	106.7	103.7	99.7	95.7	111.9	120.1	Eilar Measurement
Crane	S5	Lw (c)		99	102	99	93	97	97	86	77	101.6	106.4	DEFRA
Dump Truck	S6	Lw (c)		119	115	106	104	106	103	99	91	110.2	120.9	DEFRA
Pulling Rig	S7	Lw (c)		116.7	111.7	114.7	105.7	106.7	103.7	99.7	95.7	111.9	120.1	DEFRA
Spray Truck	S8	Lw (c)		115	110	113	104	105	102	98	94	110.2	118.4	DEFRA
Loader	S9	Lw (c)		103	94	98	98	94	93	87	81	99.9	106	DEFRA
Grader	S10	Lw (c)		106.7	105.7	101.7	97.7	102.7	96.7	92.7	83.7	105.2	111.1	Eilar Measurement

**EILAR ASSOCIATES, INC.**  
Acoustical and Environmental Consulting

Cadna Noise Model - Point Sources (Pole Replacement Model)									
Name	ID	Result. PWL	Lw / Li		Height (m)	Coordinates			Operating Time (min)
		Day	Type	Value		X	Y	Z	
		(dBA)				(m)	(m)	(m)	
Drilling Rig 1	P1	124	Lw	S2	1.52	124.53	210.26	69.72	7
Drilling Rig 2	P2	124	Lw	S2	1.52	218.09	207.84	83.56	7
Drilling Rig 3	P3	124	Lw	S2	1.52	298.05	208.47	76.28	7
Water Truck 1	P4	111.9	Lw	S1	1.52	127.54	205.78	70.22	8
Water Truck 2	P5	111.9	Lw	S1	1.52	230.2	207.9	83.82	8
Air Compressor 1	P6	106.8	Lw	S3	1.52	129.65	207.9	70.66	6
Air Compressor 2	P7	106.8	Lw	S3	1.52	215.47	206.65	83.4	6
Bucket Truck 1	P8	111.9	Lw	S4	1.52	122.44	206.86	69.25	10
Bucket Truck 2	P9	111.9	Lw	S4	1.52	220.57	210.16	83.62	10
Bucket Truck 2	P10	111.9	Lw	S4	1.52	301.16	205.6	75.68	10
Crane 1	P11	101.6	Lw	S5	1.52	127.69	212.53	70.36	4
Crane 2	P12	101.6	Lw	S5	1.52	216.31	211.69	83.53	4
Crane 3	P13	101.6	Lw	S5	1.52	296.12	210.85	76.64	4
Drump Truck 1	P14	110.2	Lw	S6	1.52	119.5	207.28	68.68	10
Drump Truck 2	P15	110.2	Lw	S6	1.52	214	209.8	83.27	10

Cadna Noise Model - Point Sources (Stringing Model)									
Name	ID	Result. PWL	Lw / Li		Height (m)	Coordinates			Operating Time (min)
		Day	Type	Value		X	Y	Z	
		(dBA)				(m)	(m)	(m)	
Pulling Rig	P16	111.9	Lw	S7	1.52	53.17	165.07	1.52	12
Bucket Truck	P17	111.9	Lw	S4	1.52	96.51	166.41	1.52	16

Cadna Noise Model - Point Sources (Demobilization/Cleanup Model)									
Name	ID	Result. PWL	Lw / Li		Height (m)	Coordinates			Operating Time (min)
		Day	Type	Value		X	Y	Z	
		(dBA)				(m)	(m)	(m)	
Water Truck	P18	111.9	Lw	S1	1.52	127.2	207.29	70.18	6
Loader	P19	99.9	Lw	S9	1.52	182.23	207.29	79.99	14
Grader	P20	105.2	Lw	S10	1.52	253.93	206.23	81.46	12
Spray Truck	P21	110.2	Lw	S8	1.52	296.27	207.02	76.69	12

**EILAR ASSOCIATES, INC.**  
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<b>Cadna Noise Model - Terrain Contour Lines (Pole Replacement and Demobilization/Cleanup Models)</b>			
<b>Name</b>	<b>Coordinates</b>		
	<b>X</b>	<b>Y</b>	<b>Z</b>
	<b>(m)</b>	<b>(m)</b>	<b>(m)</b>
C1	228.5	86.9	93.0
	232.4	98.5	93.0
	224.3	135.1	93.0
	223.3	167.5	93.0
	231.2	174.4	93.0
	262.4	177.7	93.0
	285.2	171.6	93.0
	296.5	161.4	93.0
	303.6	138.7	93.0
	302.0	111.0	93.0
	304.9	95.9	93.0
	322.1	65.5	93.0
C2	78.33	206.75	59.15
	127.05	205.49	68.6
	175.35	205.07	77.74
	216.93	205.07	82.01
	231.21	204.65	82.32
	257.67	204.23	79.57
	295.89	204.23	75.3
	326.13	204.23	68.9
	363.93	203.81	61.59
	396.69	203.39	58.54
452.97	205.91	67.68	
C3	79.38	244.86	54.88
	207.06	266.28	57.32
	273.84	265.44	55.49
	385.56	230.16	52.44
	422.94	238.56	51.22
C4	453.6	259.56	50.91
	73.08	306.92	54.88
	200.76	328.34	57.32
	267.54	327.5	55.49
	379.26	292.22	52.44
	416.64	300.62	51.22
C5	447.3	321.62	50.91
	77.49	215.78	59.15
	126.21	214.52	68.6
	174.51	214.1	77.74
	216.09	214.1	82.01
	230.37	213.68	82.32
	256.83	213.26	79.57
	295.05	213.26	75.3
	325.29	213.26	68.9
	363.09	212.84	61.59
	395.85	212.42	58.54
452.34	212.21	67.68	

<b>Cadna Noise Model - Barriers (Noise Reduction Only)</b>			
<b>Name</b>	<b>Coordinates</b>		
	<b>X</b>	<b>Y</b>	<b>Z</b>
	<b>(m)</b>	<b>(m)</b>	<b>(m)</b>
Barrier 1	93.43	167.82	2.43
	98.43	167.98	2.43
Barrier 2	49.59	165.73	2.43
	56.67	166.15	2.43

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<b>Cadna Noise Model - Noise Levels at Receivers (Pole Replacement Model)</b>						
<b>Name</b>	<b>ID</b>	<b>Level Lr</b>	<b>Height</b>	<b>Coordinates</b>		
		<b>Day</b>		<b>X</b>	<b>Y</b>	<b>Z</b>
		<b>(dBA)</b>		<b>(m)</b>	<b>(m)</b>	<b>(m)</b>
R1	R_1	75.4	1.52	286.44	182.02	89.15
R2	R_2	75.4	1.52	229.43	178.86	92.92
R3	R_3	66.8	1.52	117.35	250.19	57.47
R4	R_4	60.1	1.52	217.36	265.86	58.7
R5	R_5	64.3	1.52	317.38	250.52	56.3

<b>Cadna Noise Model - Noise Levels at Receivers (Stringing Model)</b>						
<b>Name</b>	<b>ID</b>	<b>Level Lr</b>	<b>Height</b>	<b>Coordinates</b>		
		<b>Day</b>		<b>X</b>	<b>Y</b>	<b>Z</b>
		<b>(dBA)</b>		<b>(m)</b>	<b>(m)</b>	<b>(m)</b>
R6-1	R_6	80.3	1.52	92.7	171.5	1.52
R6-2	R_7	74.8	1.52	89.29	175.84	1.52
R7	R_8	72.2	1.52	67.38	170.46	1.52
R8-1	R_9	83.1	1.52	52.68	169.09	1.52
R8-2	R_10	74.9	1.52	52.61	175.26	1.52
R9	R_11	73.4	1.52	53.45	152.89	1.52
R10	R_12	74.3	1.52	90.74	155.21	1.52

<b>Cadna Noise Model - Noise Levels at Receivers (Pole Replacement Model)</b>						
<b>Name</b>	<b>ID</b>	<b>Level Lr</b>	<b>Height</b>	<b>Coordinates</b>		
		<b>Day</b>		<b>X</b>	<b>Y</b>	<b>Z</b>
		<b>(dBA)</b>		<b>(m)</b>	<b>(m)</b>	<b>(m)</b>
R1	R_1	63.9	1.52	286.44	182.02	89.15
R2	R_2	58.6	1.52	229.43	178.86	92.92
R3	R_3	52.9	1.52	117.35	250.19	57.47
R4	R_4	46.4	1.52	217.36	265.86	58.7
R5	R_5	53	1.52	317.38	250.52	56.3

<b>Cadna Noise Model - Noise Levels at Receivers (Stringing Model, Noise Reduction)</b>						
<b>Name</b>	<b>ID</b>	<b>Level Lr</b>	<b>Height</b>	<b>Coordinates</b>		
		<b>Day</b>		<b>X</b>	<b>Y</b>	<b>Z</b>
		<b>(dBA)</b>		<b>(m)</b>	<b>(m)</b>	<b>(m)</b>
R6-1	R_6	70.8	1.52	92.7	171.5	1.52
R6-2	R_7	67.2	1.52	89.29	175.84	1.52
R7	R_8	69.4	1.52	67.38	170.46	1.52
R8-1	R_9	70.8	1.52	52.68	169.09	1.52
R8-2	R_10	65.3	1.52	52.61	175.26	1.52
R9	R_11	73.4	1.52	53.45	152.89	1.52
R10	R_12	74.3	1.52	90.74	155.21	1.52