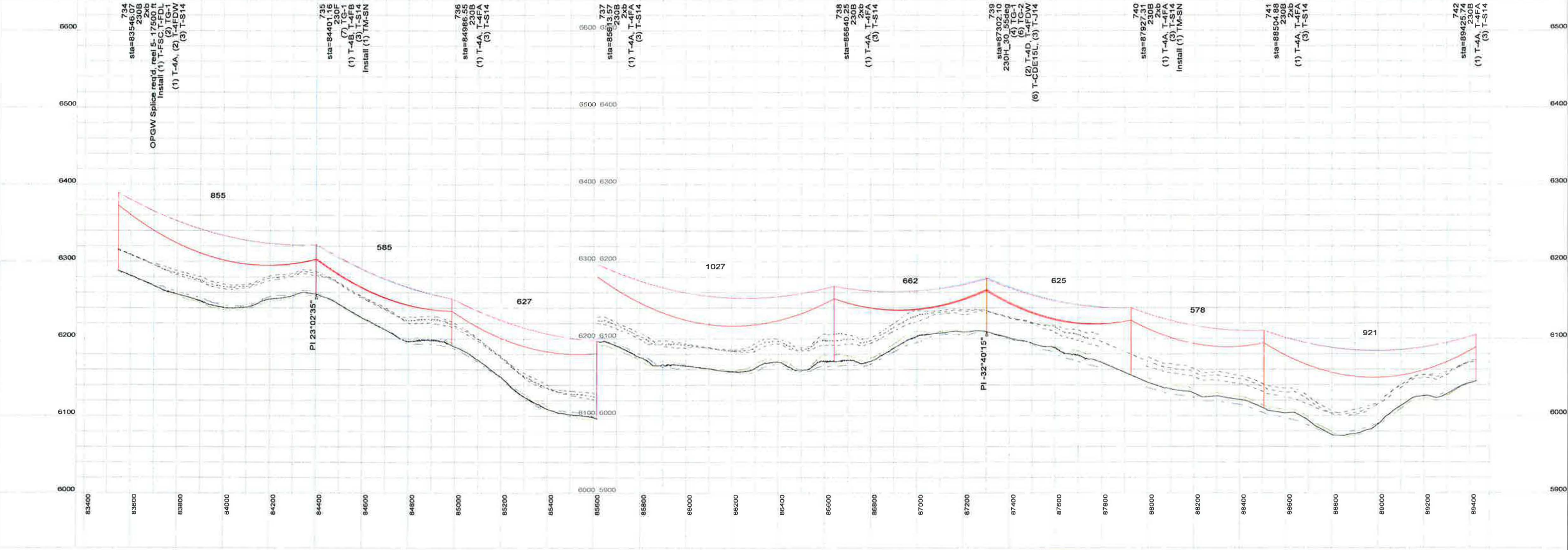




200.0 ft. Horiz. Scale
 60.0 ft. Vert. Scale

BHP_230KV_TECKLA_LANGE_MERGED_SDSP
 5/2/2016
 Page 16/47



- NOTES:
- BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to large
 - No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
 - Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. install alternate disk, helical or rock anchors as required.
 - Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.
 - Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
 - Install guy strain rods on all 230H and J type structure shield wire guys.
 - Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
 - install fence grounding per BHP requirements
 - Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

BLACK HILLS POWER

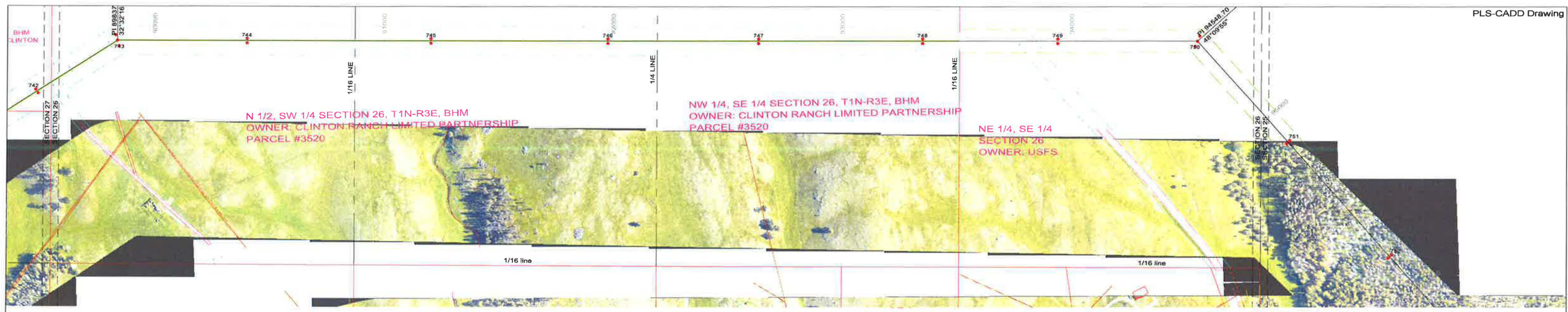
TECKLA TO LANGE 230 KV TRANSMISSION LINE
 STATE LINE TO LANGE LINE SEGMENT
 PLAN AND PROFILE

5/01/16 DZ A MW Issued for Construction
 DATE DRAWN BY NO. APPROVED BY REVISION DESCRIPTION

DRAWN BY DZ DATE 12/27/14
 APPROVED BY MW DATE 12/27/14

BHP-T-100

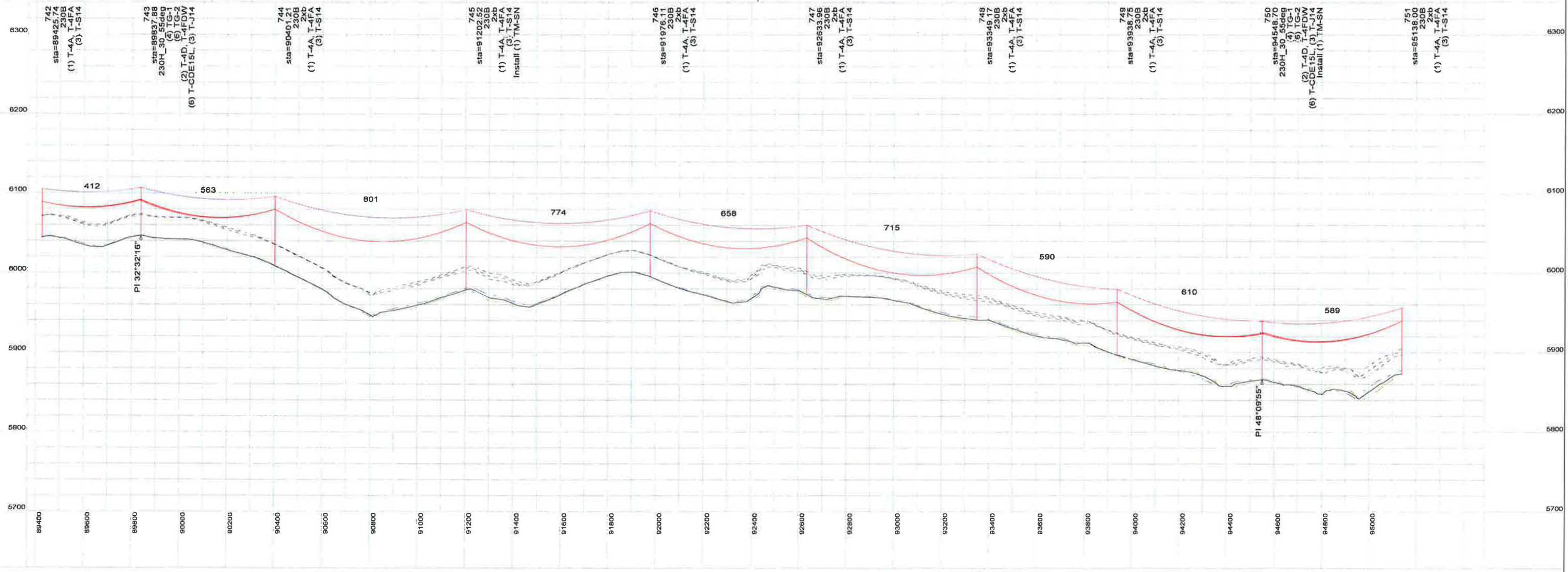
SHT. 16 OF 45



200.0 ft. Horiz. Scale
 60.0 ft. Vert. Scale

North

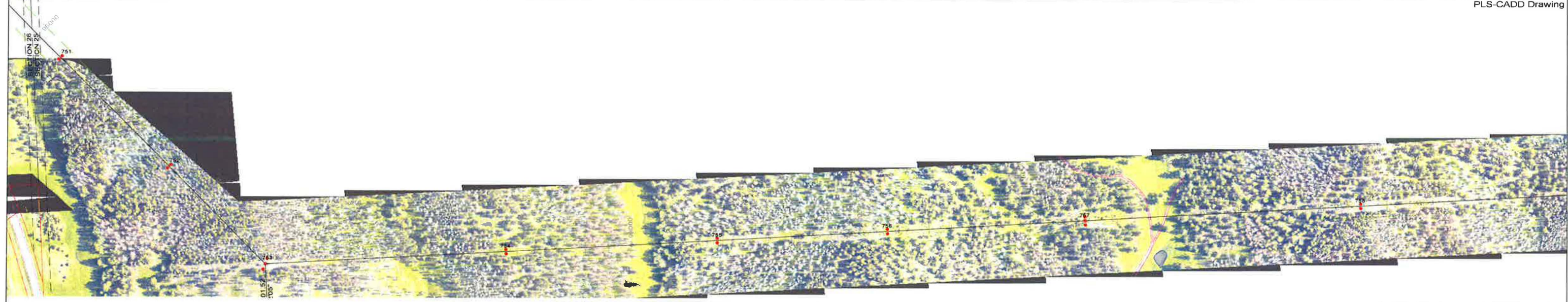
BHP 230KV_TECKLA_LANGE_MERGED_SDSP
 5/2/2016
 Page 17/47



- NOTES:
1. BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to Lange.
 2. No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
 3. Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. Install alternate disk, helical or rock anchors as required.
 4. Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.

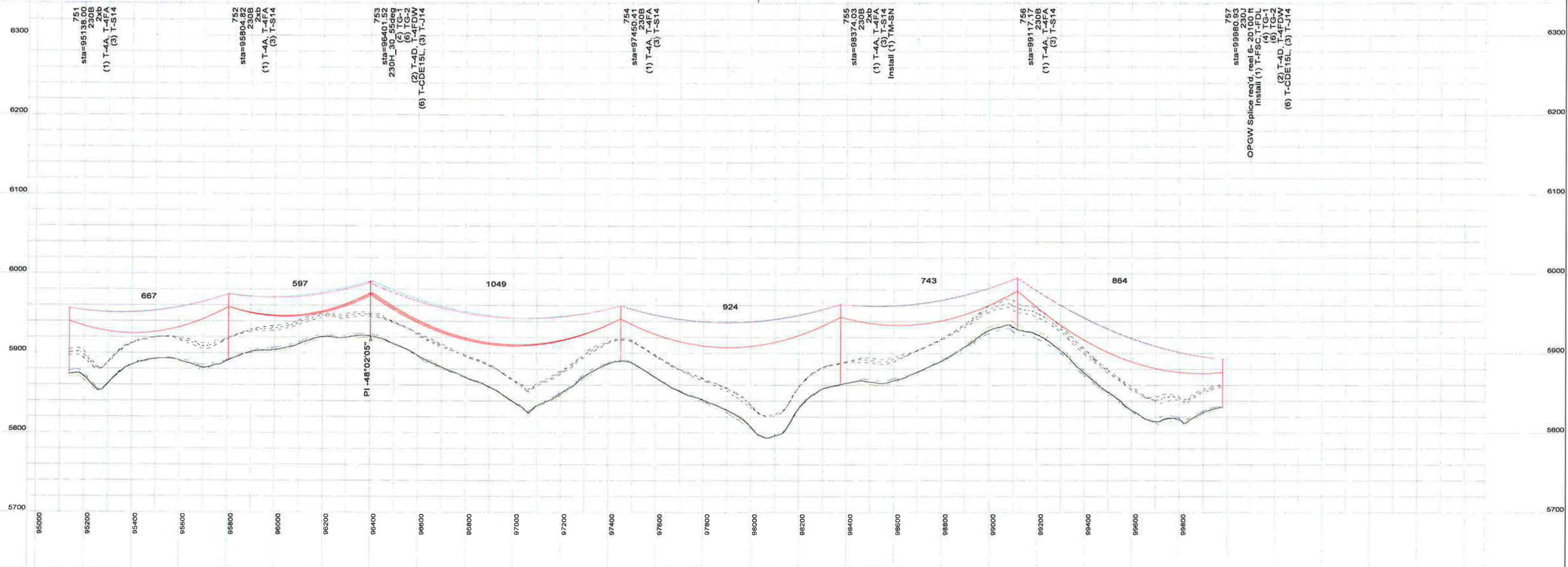
5. Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
6. Install guy strain rods on all 230H and J type structure shield wire guys.
7. Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
8. Install fence grounding per BHP requirements.
9. Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

5/01/16				DZ				A				MW				Issued for Construction			
DATE				DRAWN BY				NO				APPROVED BY				REVISION DESCRIPTION			
<p>BLACK HILLS POWER</p> <p>TECKLA TO LANGE 230 KV TRANSMISSION LINE STATE LINE TO LANGE LINE SEGMENT PLAN AND PROFILE</p>												<p>SHT. 17 OF 45</p> <p>BHP-T-100</p>							
<p>DRWN BY: DZ</p> <p>APPR BY: MW</p>				<p>DATE: 12/27/14</p> <p>DATE: 12/27/14</p>				<p>DWG NO:</p>				<p>DATE: 12/27/14</p>							



200.0 ft. Horiz. Scale
60.0 ft. Vert. Scale

BHP 230KV_TECKLA_LANGE_MERGED_SDSP
8/2/2018
Page 18/47



751
sta=95136.00
230B
2xb
(1) T-4A, T-4FA
(3) T-S14

752
sta=95804.82
230B
2xb
(1) T-4A, T-4FA
(3) T-S14

753
sta=96401.52
230H_30_55deg
(6) TG-1
(2) T-4D, T-4FDW
(6) T-CDE15L, (3) T-J14

754
sta=97450.41
230B
(1) T-4A, T-4FA
(3) T-S14

755
sta=98374.05
230B
2xb
(1) T-4A, T-4FA
(3) T-S14
Install (1) TM-SN

756
sta=99117.17
230B
(1) T-4A, T-4FA
(3) T-S14

757
sta=99860.93
230J
OPGW Splices req'd, reel 6, 20,100 ft
Install (1) T-FS, (4) T-D1
(4) TG-1
(6) TG-2
(2) T-4D, T-4FDW
(6) T-CDE15L, (3) T-J14

- NOTES:
1. BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to Lange.
 2. No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
 3. Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. Install alternate disk, helical or rock anchors as required.
 4. Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.

5. Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
6. Install guy strain rods on all 230H and J type structure shield wire guys.
7. Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
8. Install fence grounding per BHP requirements.
9. Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

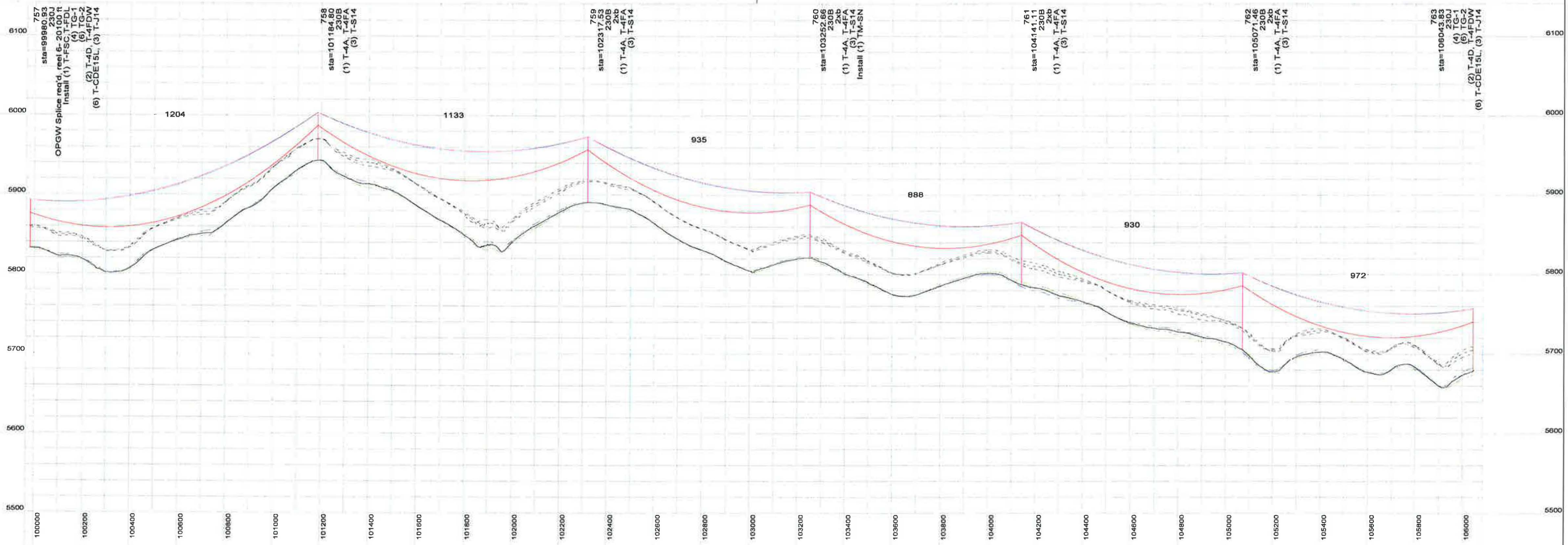
<p>5/01/16 DZ A MW DATE DRAWN BY NO APPROVED BY</p>				<p>Issued for Construction REVISION DESCRIPTION</p>		<p>BLACK HILLS POWER TECKLA TO LANGE 230 KV TRANSMISSION LINE STATE LINE TO LANGE LINE SEGMENT PLAN AND PROFILE</p>		<p>SHT. 18 OF 45</p>
<p>DATE DRAWN BY NO APPROVED BY</p>				<p>DATE 12/27/14 DATE 12/27/14</p>		<p>BHP-T-100</p>		<p>A</p>



200.0 ft. Horiz. Scale
60.0 ft. Vert. Scale

North ↑

BHP 230KV_TECKLA_LANGE_MERGED_SDSP
6/2/2016
Page 19/47



- NOTES:**
- BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to Lange.
 - No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
 - Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. Install alternate disk, helical or rock anchors as required.
 - Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.

- Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
- Install guy strain rods on all 230H and J type structure shield wire guys.
- Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
- Install fence grounding per BHP requirements.
- Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

DATE	DRAWN BY	NO.	APPROVED BY	REVISION DESCRIPTION
5/01/16	DZ	A	MW	Issued for Construction

BLACK HILLS POWER

TECKLA TO LANGE 230 KV TRANSMISSION LINE
STATE LINE TO LANGE LINE SEGMENT
PLAN AND PROFILE

SHT. 19 OF 45

BHP-T-100

SW 1/4, SECTION 28, T1N-R4E
LESS ROW.
OWNER: KAUBISCH FAMIL
PARCEL # 3740 AND 3750

SW 1/4,
SECTION 29
T1N-R4E

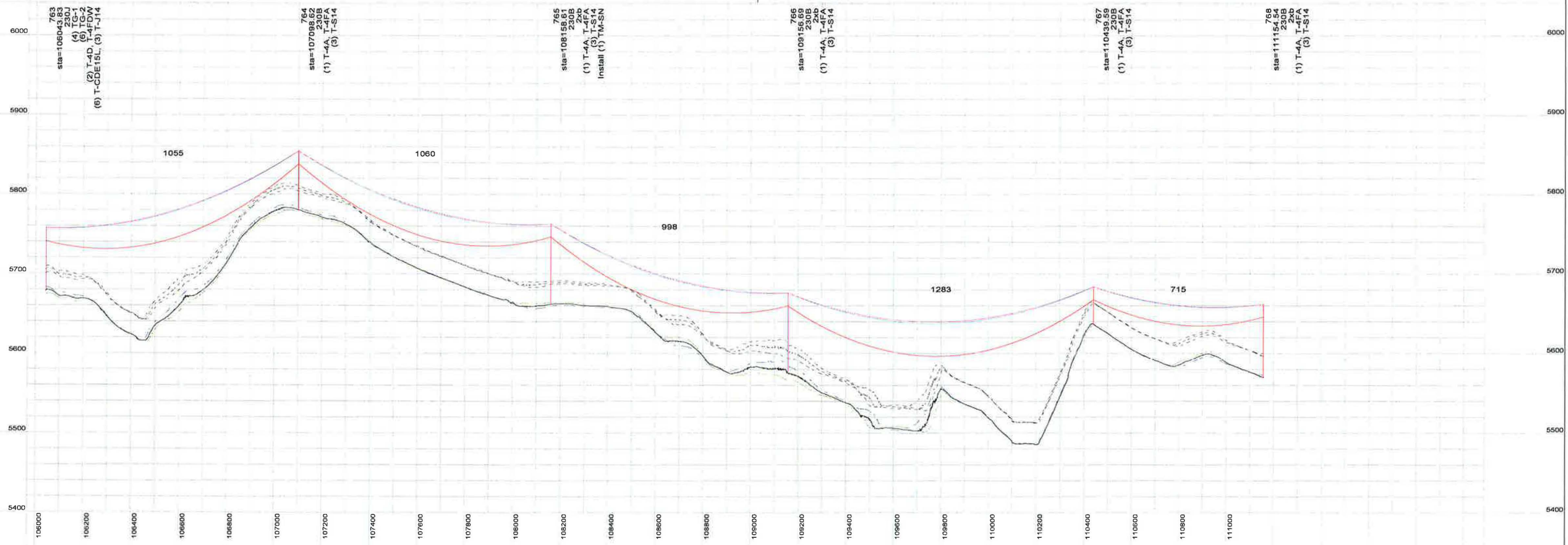


SW 1/4, SW 1#4, SECTION 29,
T1N-R4E, BHM
OWNER: PERRY RAHN
PARCEL# 3730

200.0 ft. Horiz. Scale
60.0 ft. Vert. Scale

North

BHP 230KV_TECKLA_LANGE_MERGED_SDSP
8/2/2016
Page 20/47



- NOTES:
1. BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to Lange.
 2. No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
 3. Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. Install alternate disk, helical or rock anchors as required.
 4. Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.

5. Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
6. Install guy strain rods on all 230H and J type structure shield wire guys.
7. Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
8. Install fence grounding per BHP requirements.
9. Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

5/01/16				DZ				A				MW				Issued for Construction			
DATE	DRAWN BY	NO.	APPROVED BY	DATE	DRAWN BY	NO.	APPROVED BY	DATE	DRAWN BY	NO.	APPROVED BY	DATE	DRAWN BY	NO.	APPROVED BY	DATE	DRAWN BY	NO.	APPROVED BY
REVISION DESCRIPTION																BLACK HILLS POWER			
TECKLA TO LANGE 230 KV TRANSMISSION LINE																SHT. 20 OF 45			
STATE LINE TO LANGE LINE SEGMENT																BHP-T-100			
PLAN AND PROFILE																A			

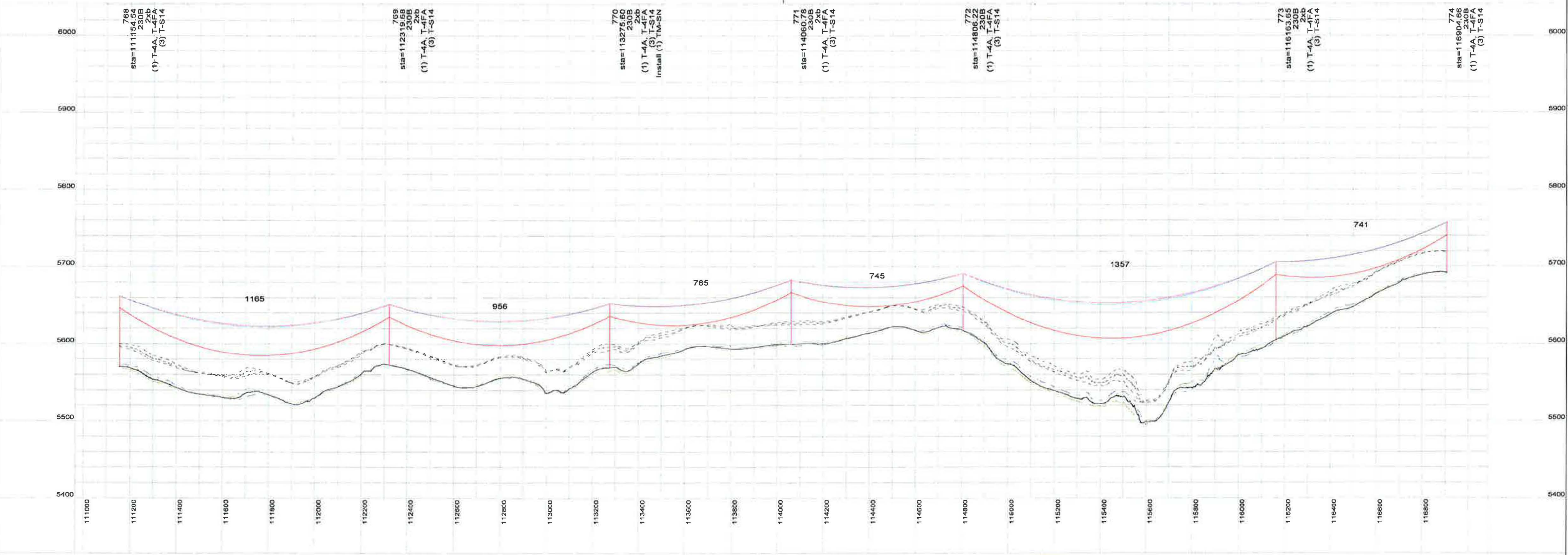
SW 1/4, SECTION 28, T1N-R4E, BHM
LESS ROW.
OWNER: KAUBISCH FAMILY RANCH, LLC
PARCEL # 3740 AND 3750



200.0 ft. Horiz. Scale
60.0 ft. Vert. Scale

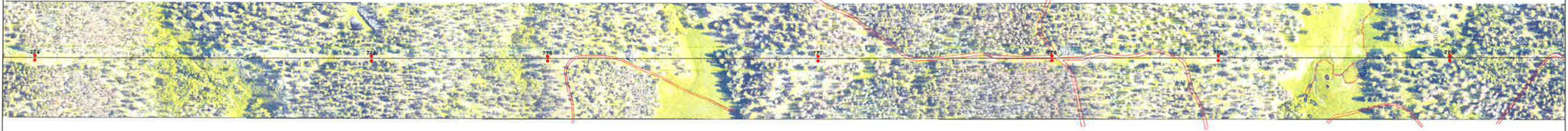
North

BHP 230KV_TECKLA_LANGE_MERGED_SDSP
5/2/2016
Page 21/47



- NOTES:
1. BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to Lange.
 2. No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
 3. Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. Install alternate disk, helical or rock anchors as required.
 4. Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.
 5. Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
 6. Install guy strain rods on all 230H and J type structure shield wire guys.
 7. Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
 8. Install fence grounding per BHP requirements.
 9. Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

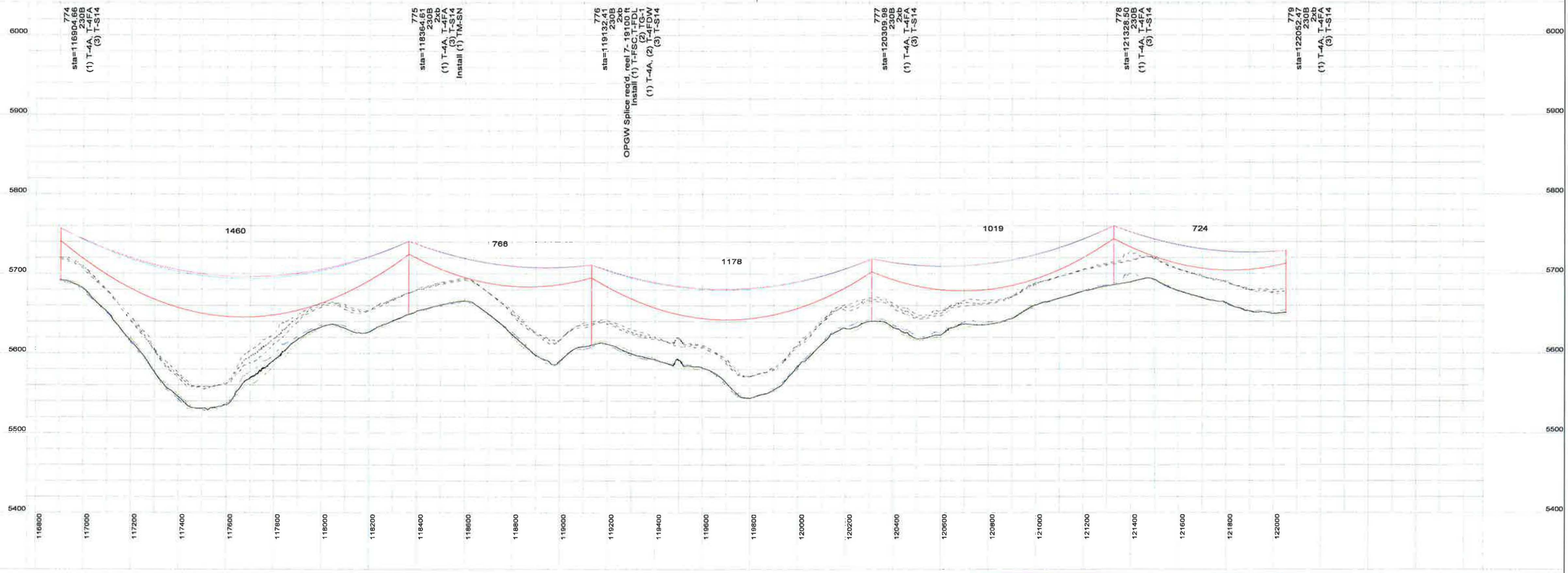
<p>BLACK HILLS POWER</p> <p>TECKLA TO LANGE 230 KV TRANSMISSION LINE STATE LINE TO LANGE LINE SEGMENT PLAN AND PROFILE</p> <p>SHT. 21 OF 45</p>			
<p>5/01/16 DATE</p>	<p>DZ DRAWN BY</p>	<p>A NO.</p>	<p>MW APPROVED BY</p>
<p>Issued for Construction</p> <p>REVISION DESCRIPTION</p>			
<p>DATE 12/27/14</p>		<p>DATE 12/27/14</p>	
<p>BHP-T-100</p>		<p>A</p>	



200.0 ft. Horiz. Scale
60.0 ft. Vert. Scale

North

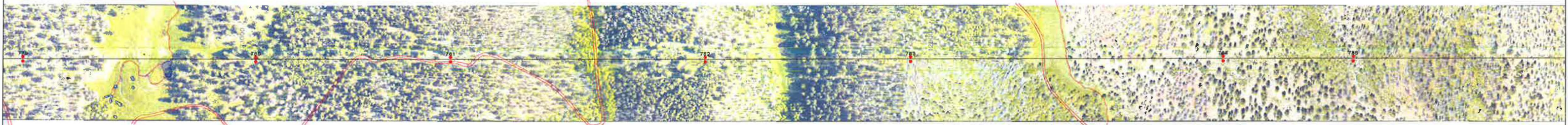
BHP_230KV_TECKLA_LANGE_MERGED_SDSP
5/2/2016
Page 22/47



- NOTES:
1. BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to Lange.
 2. No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
 3. Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. Install alternate disk, helical or rock anchors as required.
 4. Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.

5. Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
6. Install guy strain rods on all 230H and J type structure shield wire guys.
7. Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
8. Install fence grounding per BHP requirements.
9. Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

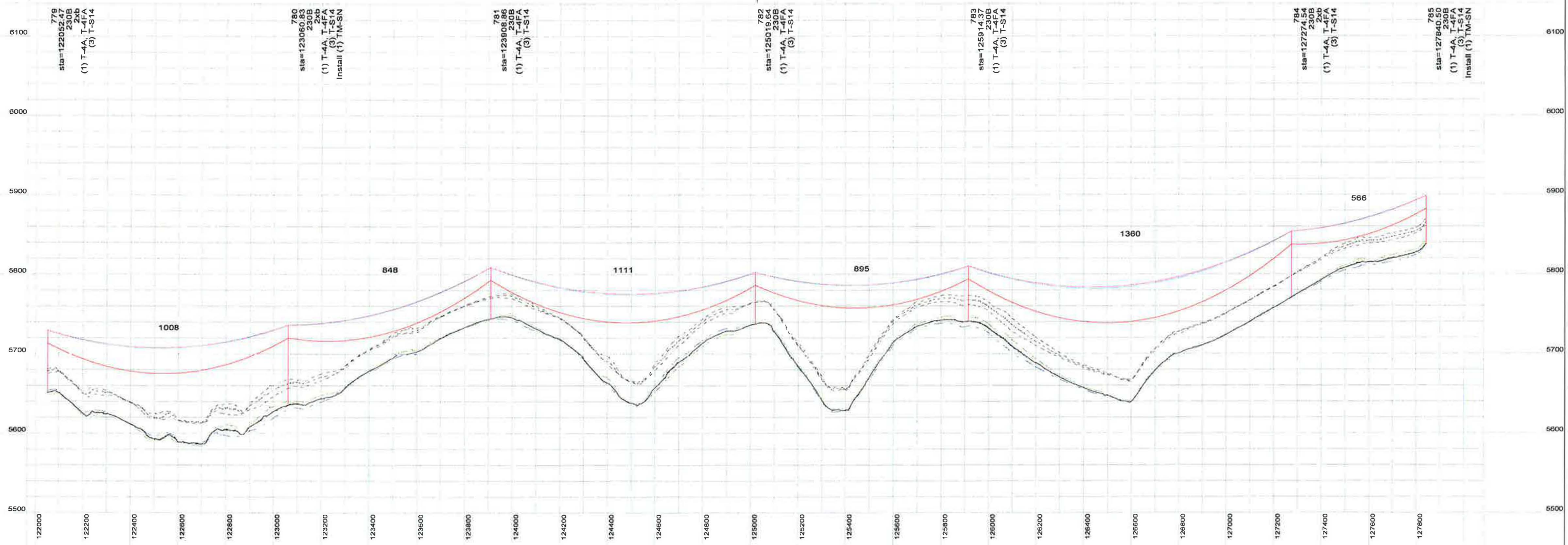
<p>BLACK HILLS POWER</p> <p>TECKLA TO LANGE 230 KV TRANSMISSION LINE STATE LINE TO LANGE LINE SEGMENT PLAN AND PROFILE</p>				<p>SHT. 22 OF 45</p>	
<p>5/01/16 DATE</p>	<p>DZ DRAWN BY</p>	<p>A NO.</p>	<p>MW APPROVED BY</p>	<p>Issued for Construction REVISION DESCRIPTION</p>	<p>DATE 12/27/14 DATE 12/27/14</p>
<p>BHP-T-100</p>				<p>A</p>	



200.0 ft. Horiz. Scale
60.0 ft. Vert. Scale

North ↑

BHP 230KV_TECKLA_LANGE_MERGED_SDSP
6/2/2016
Page 23/47



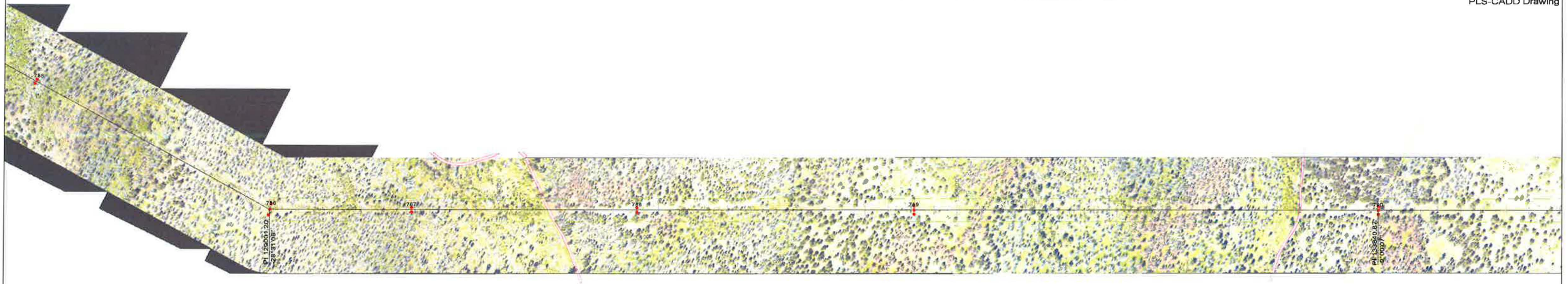
NOTES:

1. BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to Lange.
2. No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
3. Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. Install alternate disk, helical or rock anchors as required.
4. Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.

5. Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
6. Install guy strain rods on all 230H and J type structure shield wire guys.
7. Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
8. Install fence grounding per BHP requirements.
9. Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

BLACK HILLS POWER				TECKLA TO LANGE 230 KV TRANSMISSION LINE STATE LINE TO LANGE LINE SEGMENT PLAN AND PROFILE	
DATE	DESIGNED BY	NO.	APPROVED BY	REVISION DESCRIPTION	DATE
5/01/16	DZ	A	MW	Issued for Construction	12/27/14
					12/27/14

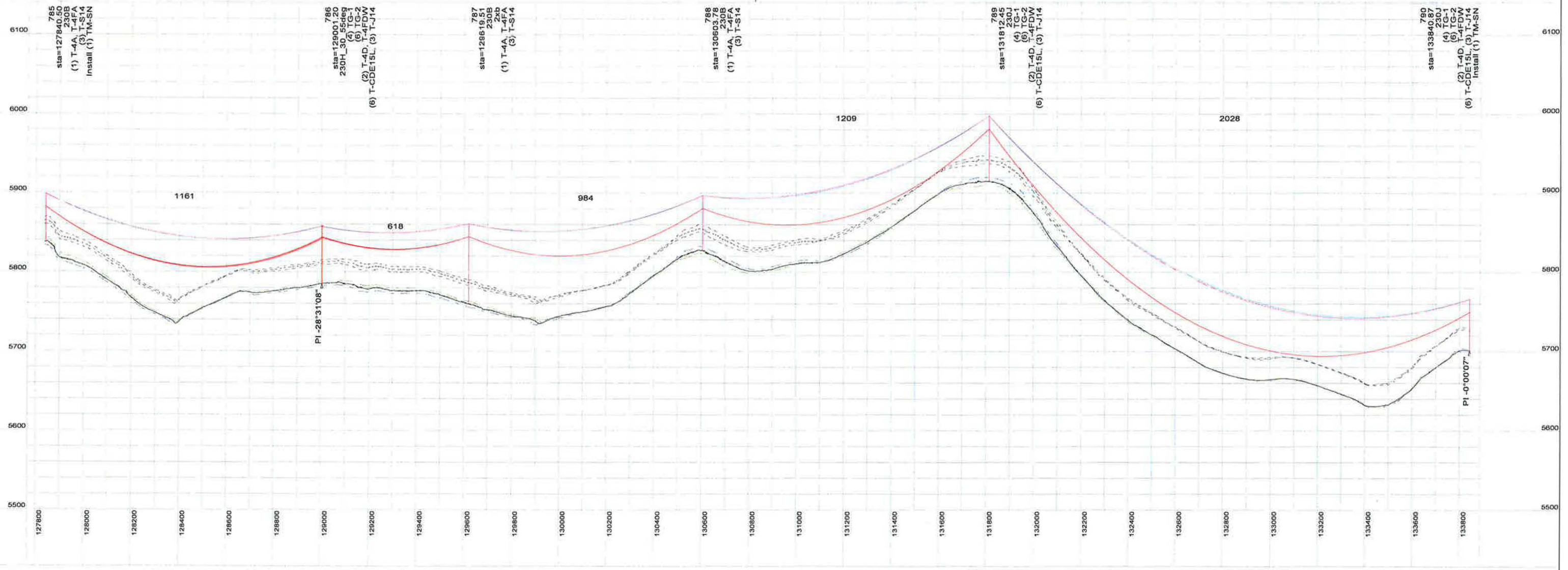
SHT. 23 OF 45
BHP-T-100



200.0 ft. Horiz. Scale
60.0 ft. Vert. Scale



BHP 230KV_TECKLA_LANGE_MERGED_SDSP
9/2/2016
Page 24/47



- NOTES:**
1. BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to Lange.
 2. No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
 3. Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. Install alternate disk, helical or rock anchors as required.
 4. Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.

5. Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
6. Install guy strain rods on all 230H and J type structure shield wire guys.
7. Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
8. Install fence grounding per BHP requirements.
9. Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

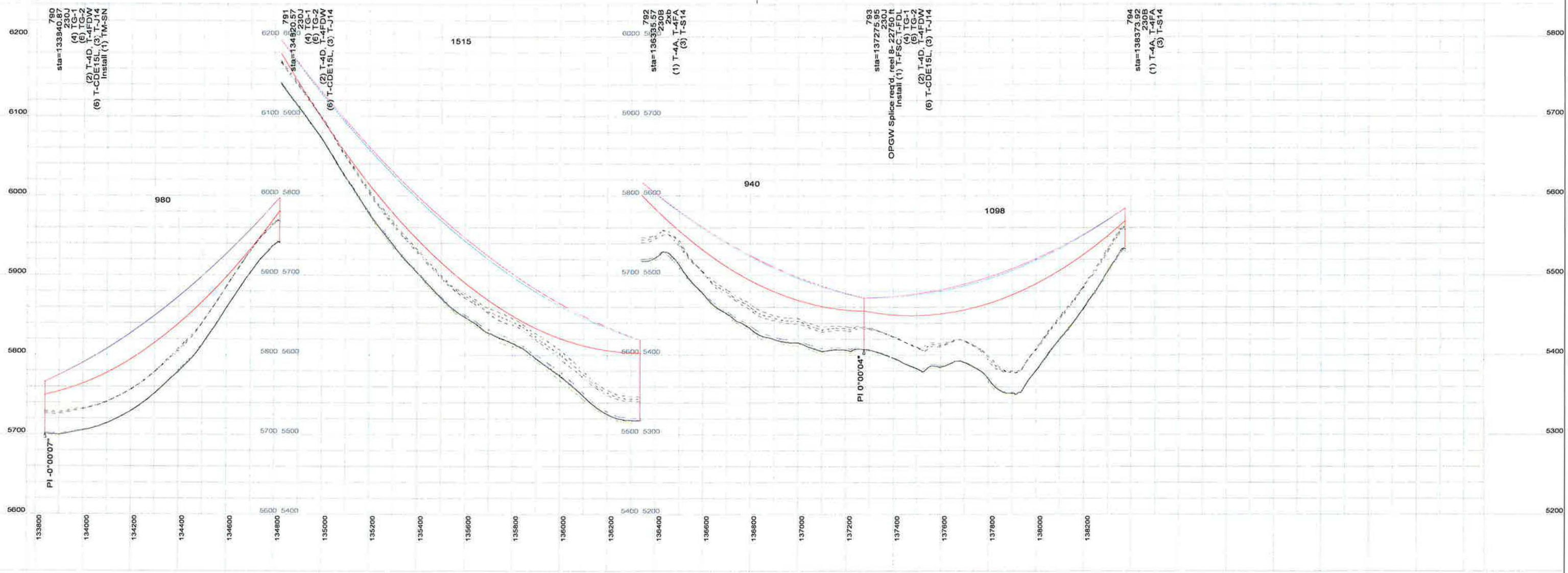
				SHT. 24 OF 45	
TECKLA TO LANGE 230 KV TRANSMISSION LINE STATE LINE TO LANGE LINE SEGMENT PLAN AND PROFILE					
5/01/16 DATE	DZ DRAWN BY	A NO.	MW APPROVED BY	Issued for Construction REVISION DESCRIPTION	DRAWN BY DZ
					DATE 12/27/14 DATE 12/27/14
				BHP-T-100 	



200.0 ft. Horiz. Scale
60.0 ft. Vert. Scale



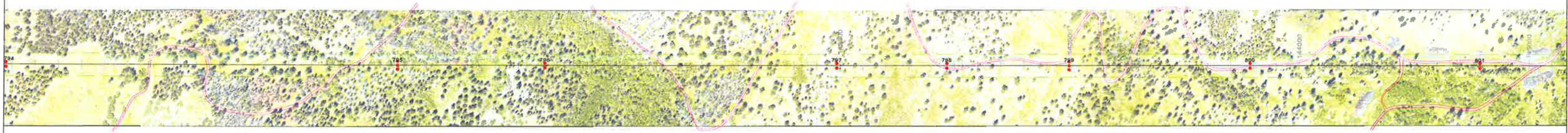
BHP 230KV_TECKLA_LANGE_MERGED_SOSP
5/2/2016
Page 25/47



- NOTES:
1. BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to Lange.
 2. No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
 3. Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. Install alternate disk, helical or rock anchors as required.
 4. Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.

5. Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
6. Install guy strain rods on all 230H and J type structure shield wire guys.
7. Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
8. Install fence grounding per BHP requirements.
9. Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

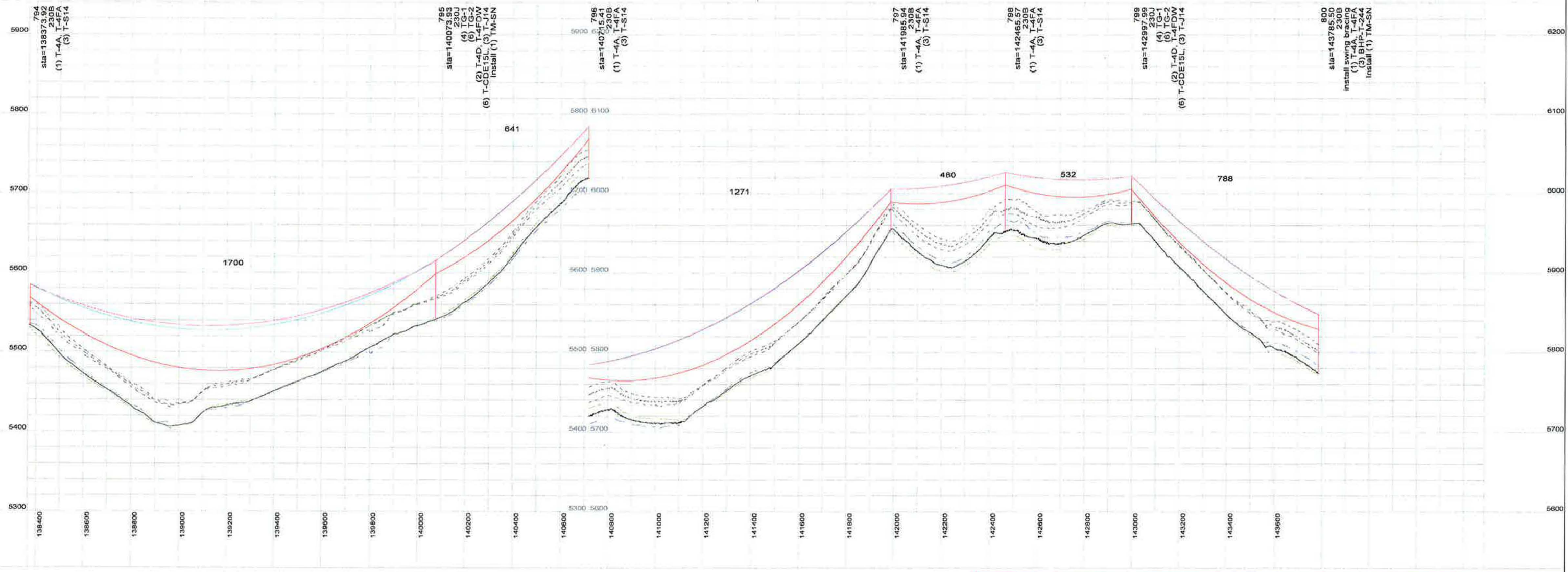
<p>5/01/16 DZ A MW DATE DRAWN BY NO APPROVED BY</p>				<p>Issued for Construction REVISION DESCRIPTION</p>		<p>BLACK HILLS POWER </p> <p>TECKLA TO LANGE 230 KV TRANSMISSION LINE STATE LINE TO LANGE LINE SEGMENT PLAN AND PROFILE</p>		<p>SHT. 25 OF 45</p>	
<p>5/01/16 DZ A MW DATE DRAWN BY NO APPROVED BY</p>				<p>Issued for Construction REVISION DESCRIPTION</p>		<p>BLACK HILLS POWER </p> <p>TECKLA TO LANGE 230 KV TRANSMISSION LINE STATE LINE TO LANGE LINE SEGMENT PLAN AND PROFILE</p>		<p>SHT. 25 OF 45</p>	
<p>5/01/16 DZ A MW DATE DRAWN BY NO APPROVED BY</p>				<p>Issued for Construction REVISION DESCRIPTION</p>		<p>BLACK HILLS POWER </p> <p>TECKLA TO LANGE 230 KV TRANSMISSION LINE STATE LINE TO LANGE LINE SEGMENT PLAN AND PROFILE</p>		<p>SHT. 25 OF 45</p>	



200.0 ft. Horiz. Scale
60.0 ft. Vert. Scale



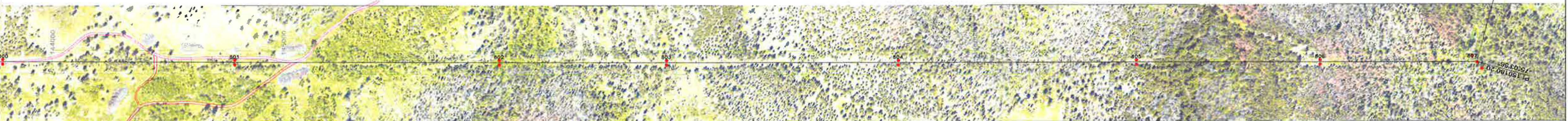
BHP 230KV_TECKLA_LANGE_MERGED_SDSP
5/2/2016
Page 26/47



- NOTES:**
1. BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to Lange.
 2. No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
 3. Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. Install alternate disk, helical or rock anchors as required.
 4. Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.

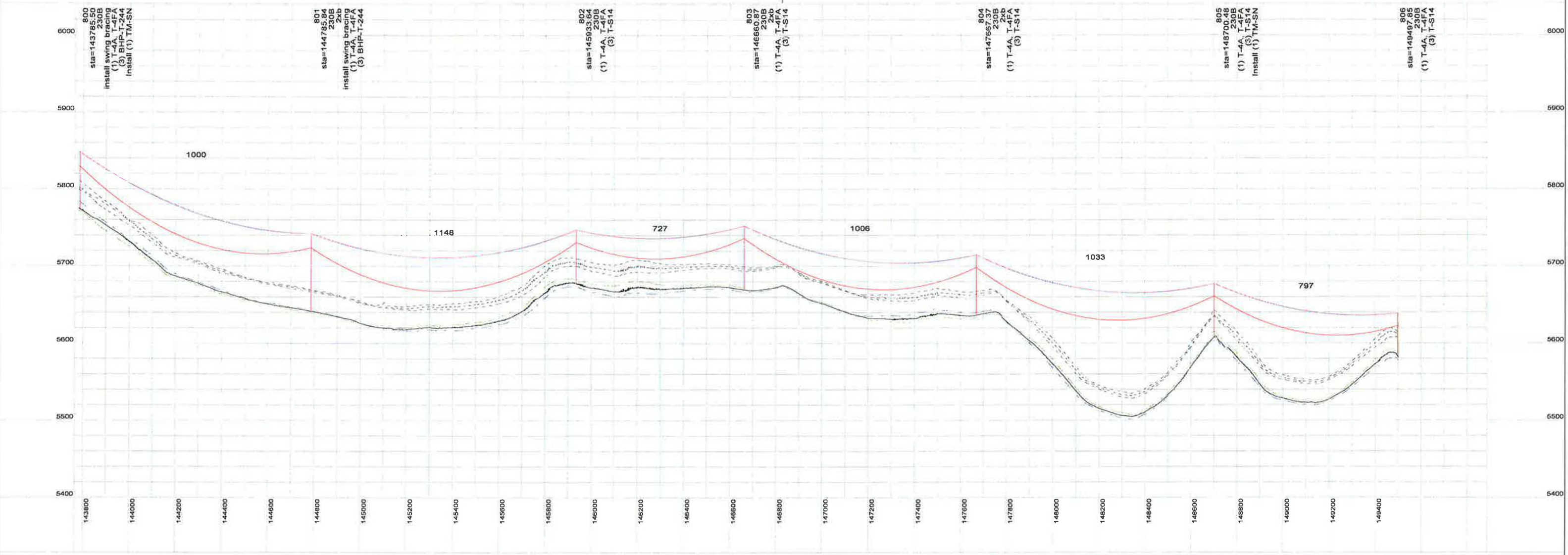
5. Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
6. Install guy strain rods on all 230H and J type structure shield wire guys.
7. Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
8. Install fence grounding per BHP requirements.
9. Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

BLACK HILLS POWER				TECKLA TO LANGE 230 KV TRANSMISSION LINE STATE LINE TO LANGE LINE SEGMENT PLAN AND PROFILE	
5/01/16	DZ	A	MW	Issued for Construction	
DATE	DRAWN BY	NO.	APPROVED BY	REVISION DESCRIPTION	
	MW			DATE 12/27/14	DATE 12/27/14
				BHP-T-100	
				SHT. 26 OF 45	



200.0 ft. Horiz. Scale
60.0 ft. Vert. Scale

BHP 230KV_TECKLA_LANGE_MERGED_SDSP
8/2/2018
Page 27/47



- NOTES:**
1. BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to Lange.
 2. No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
 3. Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. Install alternate disk, helical or rock anchors as required.
 4. Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.

5. Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
6. Install guy strain rods on all 230H and J type structure shield wire guys.
7. Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
8. Install fence grounding per BHP requirements.
9. Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

DATE	DRAWN BY	NO.	APPROVED BY	REVISION DESCRIPTION
5/01/16	DZ	A	MW	Issued for Construction

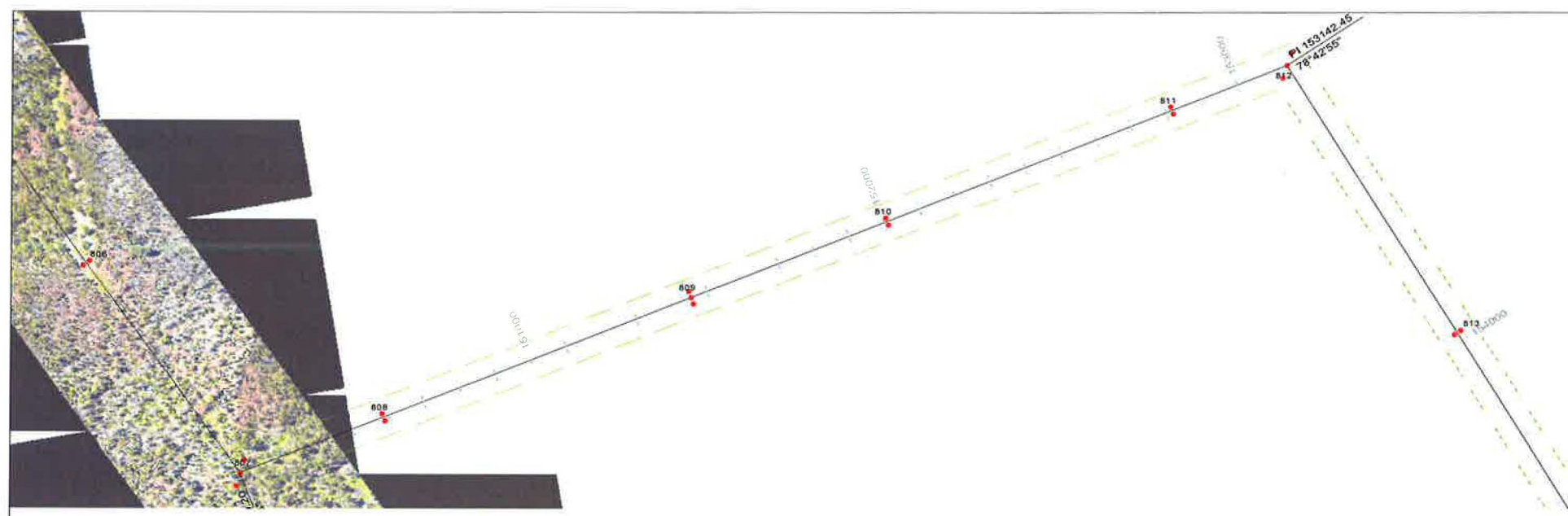
BLACK HILLS POWER

TECKLA TO LANGE 230 KV TRANSMISSION LINE
STATE LINE TO LANGE LINE SEGMENT
PLAN AND PROFILE

SHT. 27 OF 45

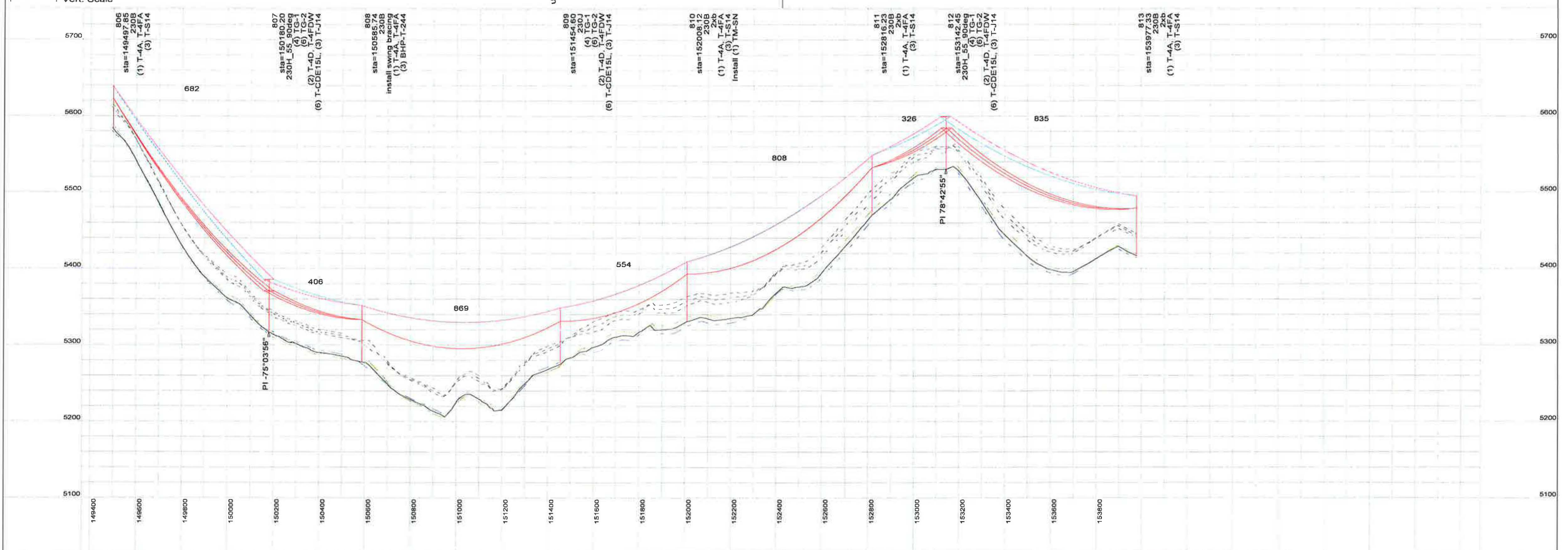
BHP-T-100

DATE: 12/27/14
DATE: 12/27/14



200.0 ft. Horiz. Scale
60.0 ft. Vert. Scale

BHP 230KV_TECKLA_LANGE_MERGED_SDSP
8/2/2016
Page 28/47



- NOTES:
1. BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to Lange.
 2. No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
 3. Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. Install alternate disk, helical or rock anchors as required.
 4. Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.

5. Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
6. Install guy strain rods on all 230H and J type structure shield wire guys.
7. Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
8. Install fence grounding per BHP requirements.
9. Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

DATE	DRAWN BY	NO.	APPROVED BY	REVISION DESCRIPTION
5/01/16	DZ	A	MW	Issued for Construction

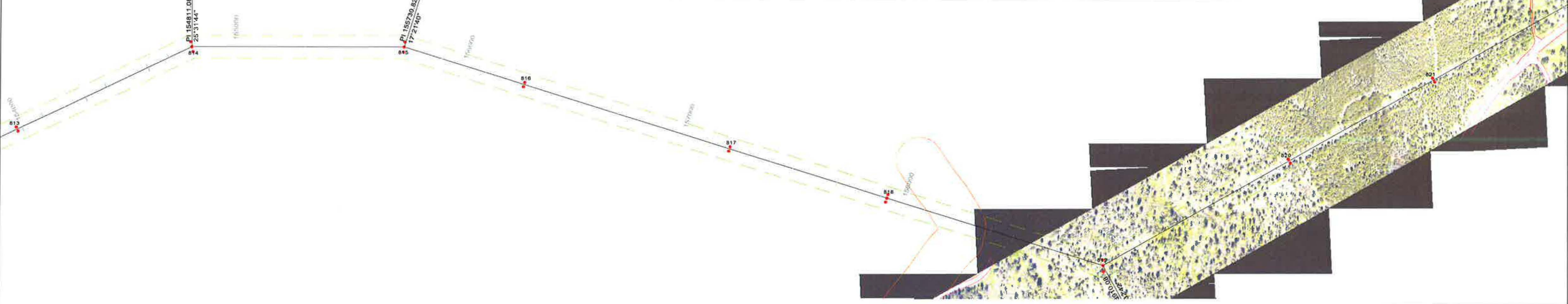
BLACK HILLS POWER

TECKLA TO LANGE 230 KV TRANSMISSION LINE
STATE LINE TO LANGE LINE SEGMENT
PLAN AND PROFILE

SHT. 28 OF 45

DATE 12/27/14
DATE 12/27/14

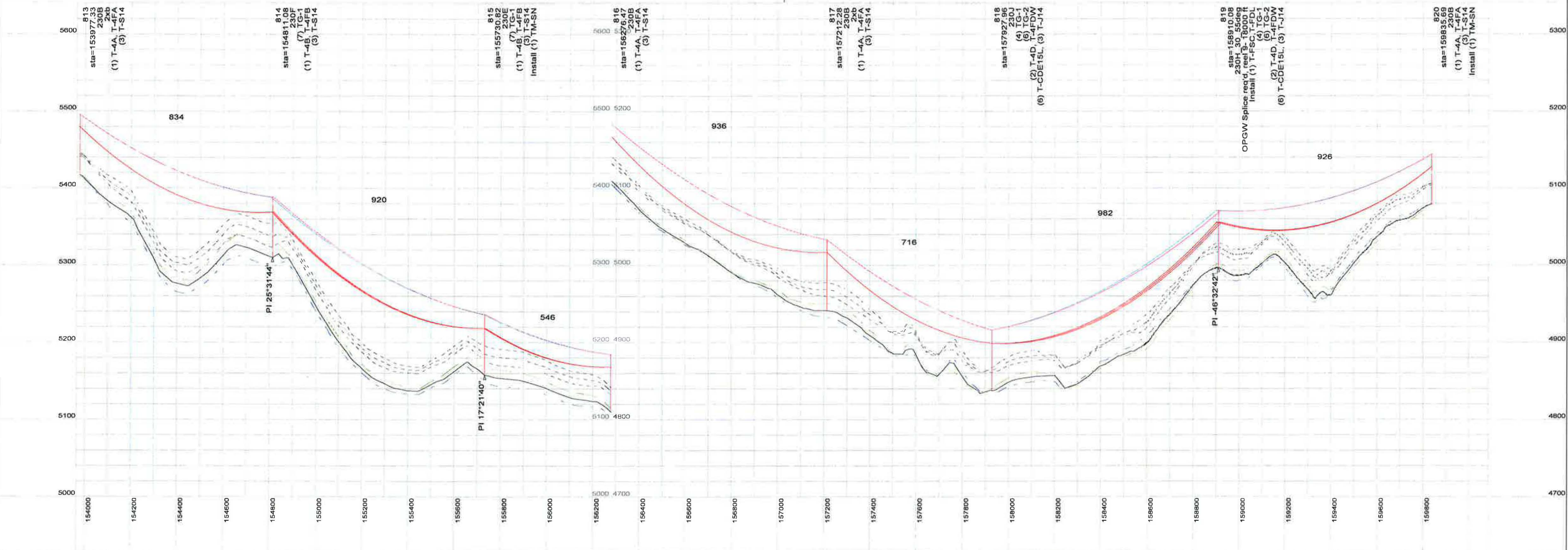
BHP-T-100



200.0 ft. Horiz. Scale
 60.0 ft. Vert. Scale

North

BHP_230KV_TECKLA_LANGE_MERGED_SDSP
 8/2/2016
 Page 29/47



NOTES:

- BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to Lange.
- No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
- Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. Install alternate disk, helical or rock anchors as required.
- Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.
- Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
- Install guy strain rods on all 230H and J type structure shield wire guys.
- Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
- Install fence grounding per BHP requirements.
- Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

5/01/16 DZ A MW
 DATE DRAWN BY NO. APPROVED BY

Issued for Construction
 REVISION DESCRIPTION

BLACK HILLS POWER
 TECKLA TO LANGE 230 KV TRANSMISSION LINE
 STATE LINE TO LANGE LINE SEGMENT
 PLAN AND PROFILE

DATE 12/27/14 DRAWN BY DZ DATE 12/27/14
 DATE 12/27/14 BHP-T-100

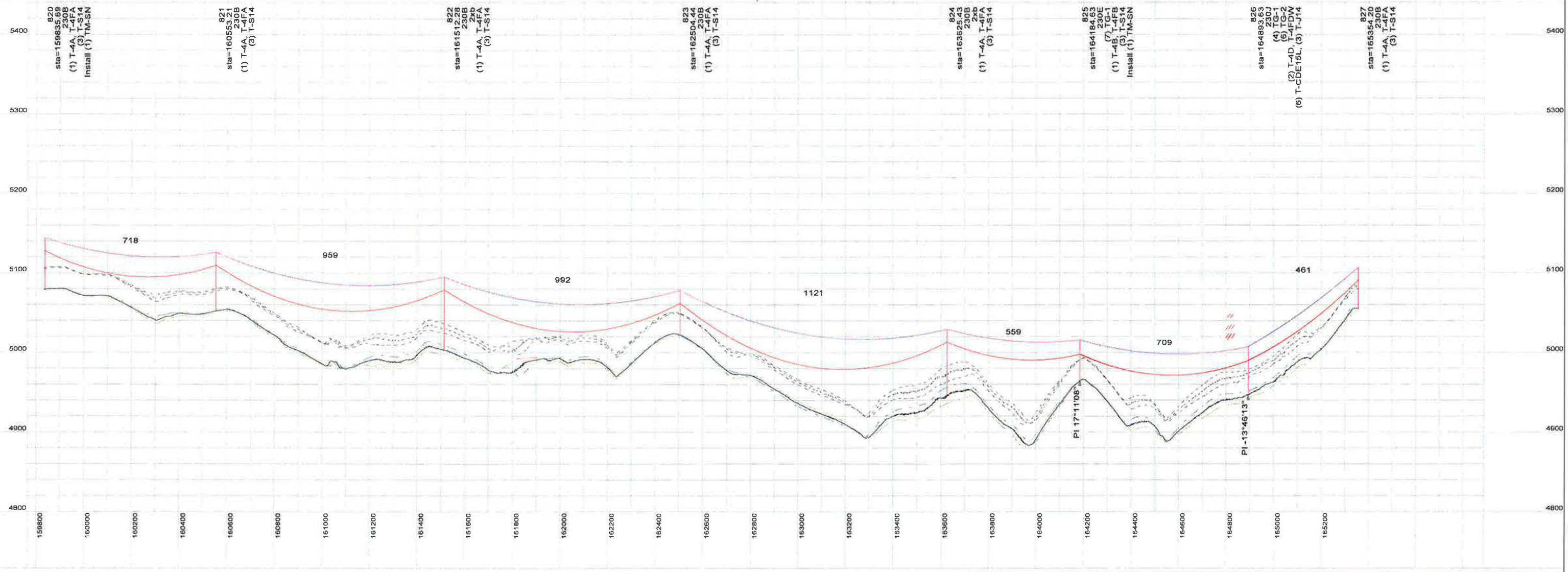
SHT. 29 OF 45
 A



200.0 ft. Horiz. Scale
60.0 ft. Vert. Scale



BHP 230KV_TECKLA_LANGE_MERGED_SDSP
5/2/2016
Page 30/47



- NOTES:**
- BHP has dictated that all wood poles will be embedded 10% + 2 ft. No geotechnical analysis will be available to determine hole condition or to confirm pole and anchor embedment design except see FMG 1/25/16 report for Hwy 44 and SM to Lange.
 - No geotechnical or other analysis is available to confirm the extent of soft or rock layers that may require special embedments and anchor types, including rock anchors except FMG report listed above.
 - Pull test all TA-P1 and TA-P2 anchors to 20 kips and 40 kips ultimate capacity respectively per BHP specifications and test method. Install alternate disk, helical or rock anchors as required.
 - Refer to BHP construction specifications for line erection and materials. Notify Engineer of any conflicts.

- Ground all TG-1 and TG-2 guys to wood and steel poles except where specifically insulated with strain rods.
- Install guy strain rods on all 230H and J type structure shield wire guys.
- Install 24" clevis links and guy strain rods on all 230H and J type structures with line angles less than 55 degrees.
- Install fence grounding per BHP requirements.
- Refer to structure and staking list for line erection information including assembly type, pole class / height, special notes and required anchor rod slopes.

<p>BLACK HILLS POWER</p> <p>TECKLA TO LANGE 230 KV TRANSMISSION LINE STATE LINE TO LANGE LINE SEGMENT PLAN AND PROFILE</p> <p style="text-align: right;">SHT. 30 OF 45</p>							
<p>5/01/16 DATE</p>	<p>DZ DRAWN BY</p>	<p>A NO</p>	<p>MW APPROVED BY</p>	<p>Issued for Construction REVISION DESCRIPTION</p>	<p>DRAWN BY: DZ APPROVED BY: MW</p>	<p>DATE: 12/27/14 DATE: 12/27/14</p>	<p>DWG NO: BHP-T-100</p>