DOCKETED

Docket Number:	79-AFC-03C
Project Title:	Compliance - Application for Certification of PG&E Geysers Unit 18
TN #:	222334
Document Title:	Geysers Power Company, LLC - Consolidated Petition for a Staff Approved Modifications
Description:	FOR GEYSERS UNIT 16 (79-AFC-5C), UNIT 18 (79-AFC-3C), and UNIT 20 (82-AFC-1C)
Filer:	Raquel Rodriguez
Organization:	Geysers Power Plant
Submitter Role:	Applicant
Submission Date:	1/23/2018 10:16:10 AM
Docketed Date:	1/23/2018

GEYSERS POWER COMPANY, LLC
CONSOLIDATED PETITION FOR A STAFF APPROVED MODIFICATIONS
GPC Quicksilver Power Plant
GPC Socrates Power Plant
GPC Grant Power Plant
Geysers Unit 16 Docket: 79-AFC-OSC
Geysers Unit 18 Docket: 79-AFC-OJC
Geysers Unit 20 Docket: 82-AFC-01C

Introduction:

Cooling tower wet down systems are common on wood cooling towers and are used to keep the normally wetted surfaces of the cooling tower structure wet when the cooling tower is not in operation to preserve the wood. Typically, when a plant shuts down for an overhaul and the cooling tower is not circulating water, auxiliary or fire pumps are turned on to sprinkle areas of the cooling tower that can dry out, become damaged and more vulnerable to fire. These systems are not subject to NFPA or other codes. Impact spray nozzles (Rainbird™style) are often used because they provide large coverage areas.

The desire for wetting is particularly true of cooling towers that use geothermal steam condensate for cooling. This is because, as hydrogen sulfide contained in the geothermal steam condensate is oxidized to soluble sulfur compounds; it becomes elemental sulfur for a period of time and can coat the wetted surfaces of the tower. Sulfur is a flammable solid that has a relatively low ignition temperature. Utilizing a wet down system has been very successful in preventing the ignition of cooling towers in the geothermal industry during outages. Wet down systems are not to be confused with fire suppression systems. A wet down system prevents the ignition of vulnerable surfaces while fire suppression systems are designed to douse fires after ignition occurs.

A permanent emergency standby wet down pump diesel drive engine is being added for use in the event of a plant evacuation due to the threat of an approaching wild land fire. The location of the emergency standby wet down pump diesel drive engine is adjacent to the cooling tower circulating water pit. The emergency standby wet down pump diesel drive engine will be manually started prior to evacuation of the power plant due to an approaching wild land fire to provide continued wet down of the cooling tower for approximately 24 hours or longer depending on fuel consumed. Particulate and other exhaust emissions resulting from the operation of the diesel engine would be consistent with manufacturer's published test data for this Tier 3 engine. The exhaust emissions from the engine during emergency use would be virtually undetectable amidst the combustion emissions resulting from an uncontrolled wild land fire.

Project Description

A permanent emergency standby wet down pump diesel drive engine is being added for use in the event of a plant evacuation due to the threat of an approaching wild land fire. The emergency standby wet down pump diesel drive engine will be manually started prior to evacuation of the power plant due to an approaching wild land fire to provide continued wet down of the cooling tower for approximately 24 hours or longer depending on fuel consumed. Particulate and other exhaust emissions resulting from the operation of the diesel engine would

be consistent with manufacturer's published test data for this Tier 3 engine. The exhaust emissions from the engine during emergency use would be virtually undetectable amidst the combustion emissions resulting from an uncontrolled wild land fire.

Pursuant to Section 1769 of the California Energy Commission's Siting Regulations, Geysers Power Company, LLC (GPC) hereby submits the following information in support of a staff approved modification.

Section 1769 (a)(l)(A) and (B): a description of the proposed modifications, including new language for affected conditions and the necessity for the modifications.

In 2016 GPC began the installation of the Commission-approved cooling tower wet down systems at all of the Geysers power plants. GPC has operated the installed cooling tower wet down systems with temporary portable emergency diesel engines permitted by CARB in the portable equipment registration program (PERP). GPC plans to replace the temporary PERP engines used for fire prevention with stationary emergency standby wet down pump diesel drive engines.

Applications for Authority to Construct have been submitted to North Sonoma Air Pollution Control District for installation of the pumps. The ATCs for Units 18 and Unit 20 have been received by the district and are attached to the original application. The ATC for Unit 16 is expected to be received in a few weeks. The Conditions contained in these ATCs will need to be incorporated into the California Energy Commission Decision. The facilities will continue to comply with all applicable laws, ordinances, regulations, and standards ("LORS").

Section 1769(a)(l)(C): whether the modification is based on information that was known by the petitioner during the certification proceeding, and an explanation of why the issue was not raised at that time.

The proposed modifications are not based upon information that was known during the certification proceeding for the facilities. The modifications are part of CPC's overall efforts to increase fire prevention in light recent northern California fires threatening the facilities.

Section 1769(a)(l)(D): whether the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision, and explanation of why the change should be permitted.

The modifications do not change or undermine the assumptions, rationale, findings, or other bases of the Commission's decision certifying the facilities. The changes should be permitted to enhance fire protection capabilities.

Section 1769(a)(l)(E): the potential impacts the modifications may have on the environment and proposed measures to mitigate any significant adverse impacts.

The permanent stationary emergency standby wet down pumps proposed for installation at Unit 16, Unit 18, and Unit 20 are skid-mounted diesel engine driven pumps that include all auxiliaries. The diesel engine, pump, dual-walled diesel fuel tank, pump controller, and batteries are all contained on a single skid. Fuel lines will not extend off of the skid. Piping and flanges will be provided by the pump supplier to the edge of the

skid to allow for connections to off-skid piping that will be routed above ground to the cooling tower wetting system header.

The foundations for the skids are being installed within the power plant yards, near the circulating water pits. Excavation for the foundations will be in existing asphalt-covered, previously disturbed, contained ground. Other than the skid foundation and pipe support foundations that are being installed in similar ground conditions as the pump foundations, no other trenching is anticipated for this project.

The improvements do not have any negative impact to the environment, including with specificity on the following areas of common concern:

- **Air Quality:** An ATC application was submitted to the NSAPCD for the proposed changes. An ATC was received for Unit 18 and Unit 20 and the permits are attached. The Unit 16 ATC application was filed and the permit is expected to be similar to the Unit 18 and Unit 20 permits and is expected to be received in a few weeks. The Permit conditions that were added as a result of the permit application will be need to be updated in the Commission Decisions for these sources. The evaluation by the NSAPCD determined that with the conditions included in the ATC that there will no adverse impacts as a result of the installation.
- **Biological Resources:** There will be not effect to Biological Resources since the work will be contained within the project footprint.
- **Cultural Resources:** Shallow foundations (no more than 3 feet) will be installed as part of the project. Cultural resources are not expected to be discovered as part of the excavations since the excavation will take place in pre-existing fill after the removal of the asphalt. If in consultation with the CPM and staff, it is determined that the excavation requires a cultural monitor, one will be provided.
- **Visual Resources:** There will be no effect on visual resources since the project is only installing a fire pump next to the cooling tower and some ancillary piping.

Section 1769(a)(l)(F): the potential impact of the modification on the facility's ability to comply with applicable laws, ordinances, regulations, and standards.

The project will not impact the facilities ability to comply with applicable laws, ordinances, regulations, and standards ("LORS").

Section 1769(a)(l)(G): how the modifications affect the public.

As the Districts' approvals confirm, the proposed modification will not adversely affect the public. The modifications will not negatively impact the environment or public health. Therefore, there are no significant adverse effects on property owners that will result from the proposed modification.

Section 1769(a)(l)(H): property owners potentially affected by the modification.

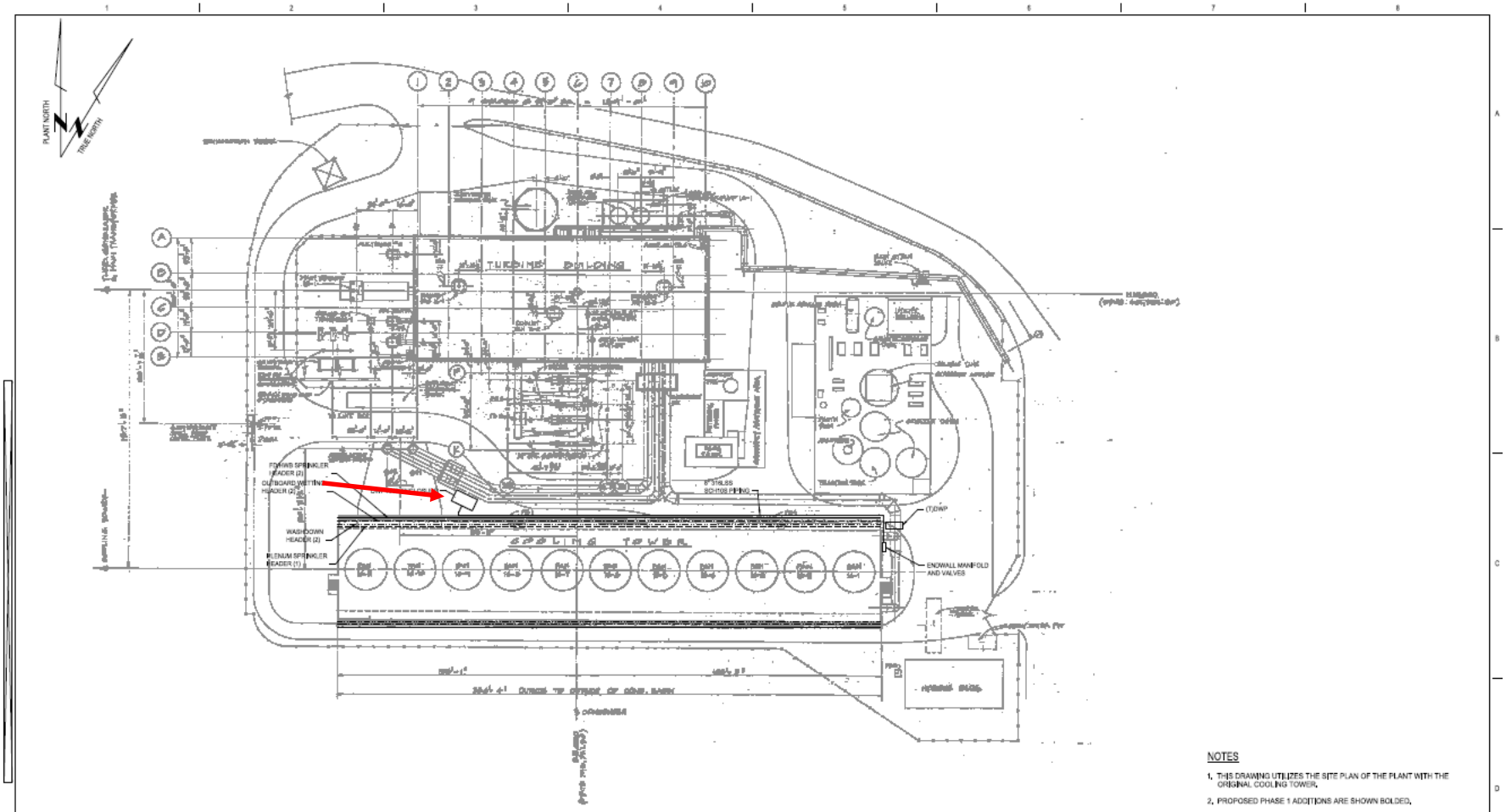
The proposed modifications will have no significant environmental effects and will be in compliance with applicable LORS. Therefore, no property owners will be potentially affected by the modifications.

Section 1769(a)(l)(I): potential effect on nearby property owners, the public and the

parties in the application proceeding.

The proposed modifications will have no significant environmental effects and will be in compliance with applicable LORS. Therefore, the proposed changes will have no impact on property owners, the public, or any other parties.

U16



INTER-DISCIPLINE REVIEW						
DISC	ARCH	CIVIL	ELECT	I&C	MECH	STRUCT
DATE	-	-	-	-	-	-
INIT	•	•	•	•	•	•

REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD
A	ISSUED FOR REVIEW	01/31/17	SDA	NG	NG	WH

DSGN	NG	03/15/16
DRN	SDA	03/15/16
CKD	NG	03/15/16

SCALE: 1"=60'

FOR 22x34 DWG ONLY

CALPINE

POWER ENGINEERS

CALPINE CORPORATION
COOLING TOWER FIELDWIDE UPGRADES
UNIT 16 SITE PLAN
FIRE PREVENTION UPGRADES

JOB NUMBER 144990

REV A

DRAWING NUMBER 16M1-1

20M1_1.DWG


U16
New DWP
© 2017 Google
87 ft
1993
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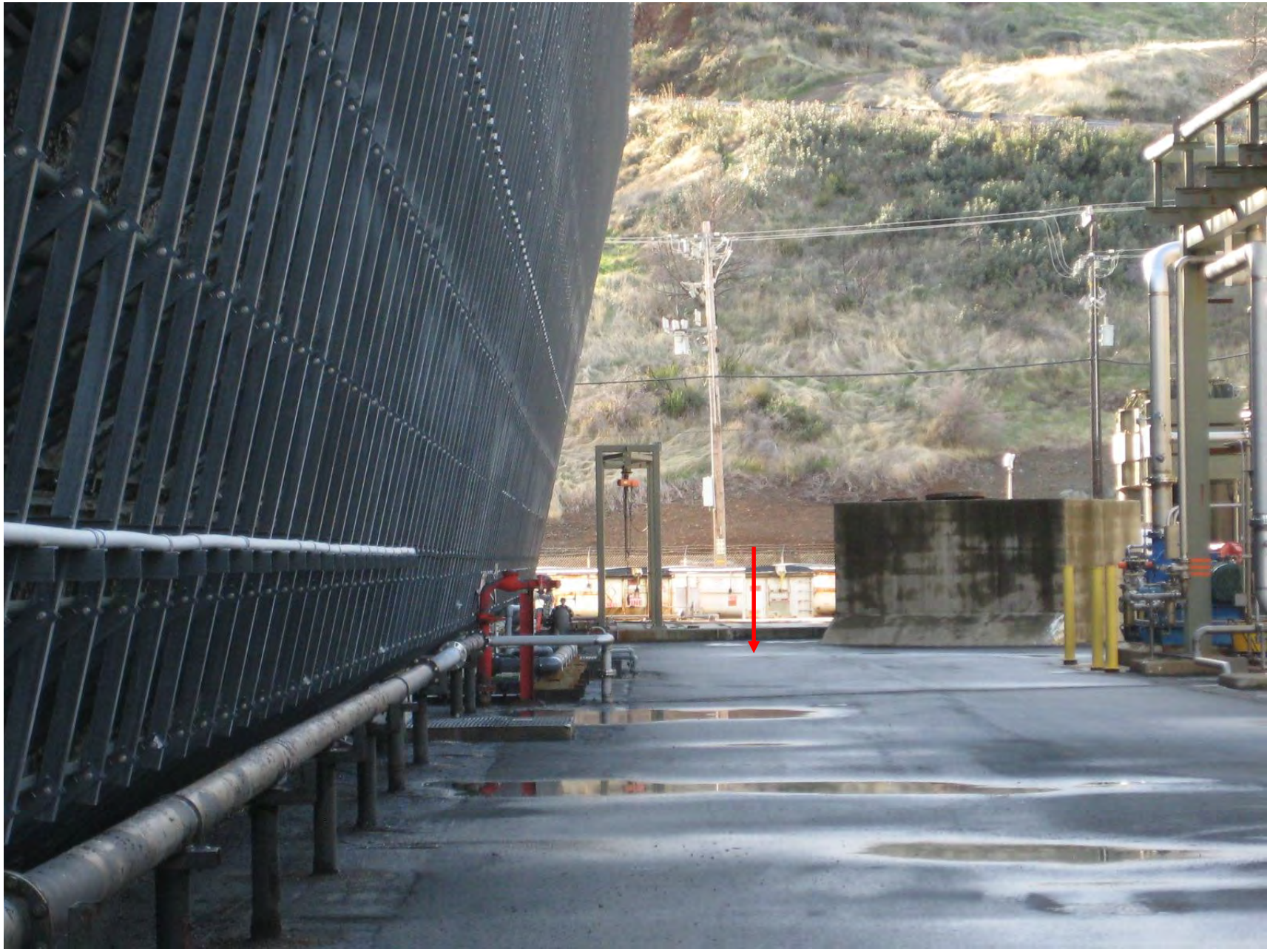
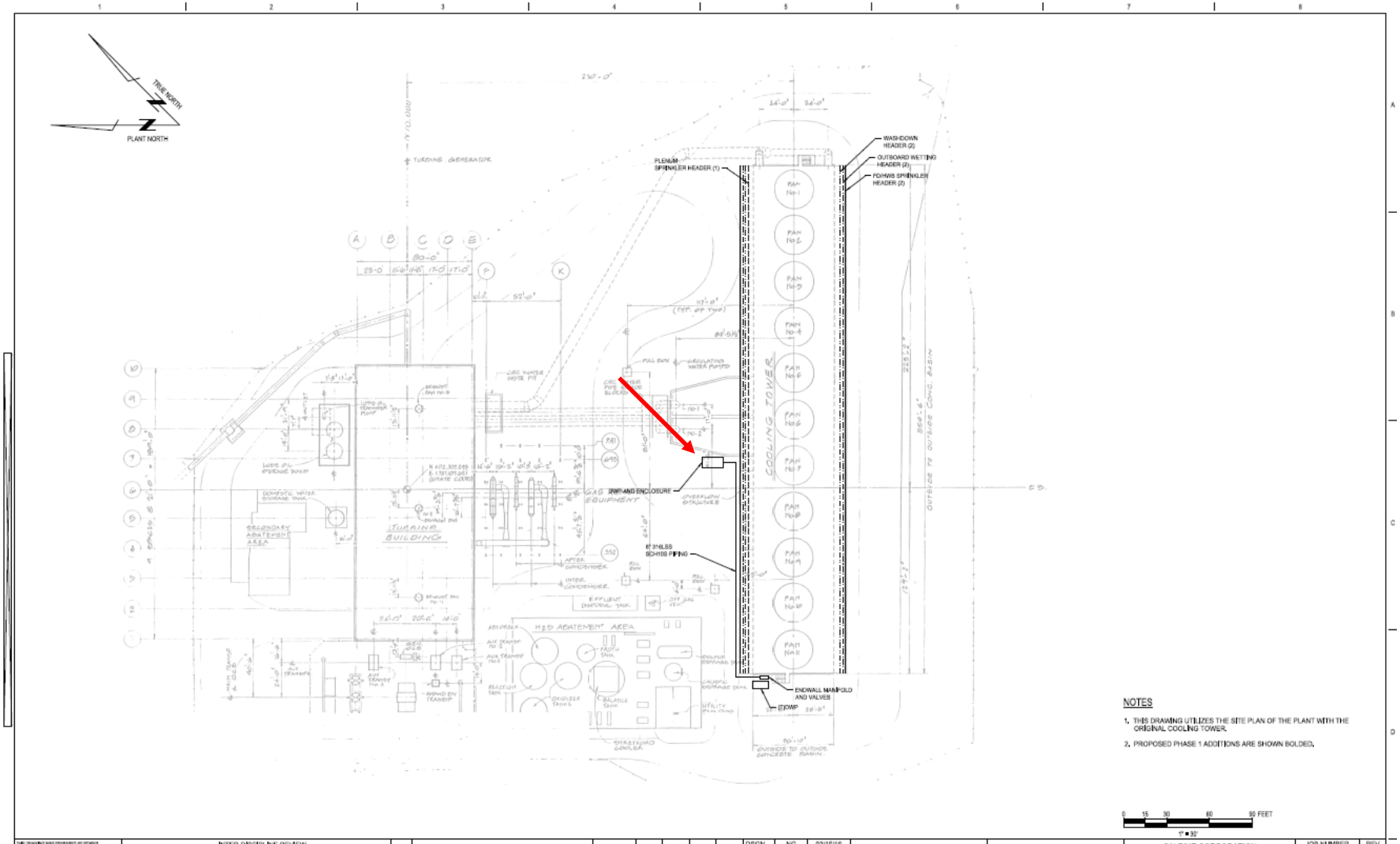


U18



NOTES

1. THIS DRAWING UTILIZES THE SITE PLAN OF THE PLANT WITH THE ORIGINAL COOLING TOWER.
2. PROPOSED PHASE 1 ADDITIONS ARE SHOWN BOLDED.

0 15 30 60 90 FEET
1" = 30'

20M1_1.DWG

THIS DRAWING WAS PREPARED BY POWER ENGINEERS, INC. FOR A SPECIFIC PROJECT, THERE INTO CONNECTION WITH THE SPECIFIC AND UNIQUE REQUIREMENTS OF THE PROJECT. REUSE OF THE DRAWING OR ANY INFORMATION CONTAINED IN THIS DRAWING FOR ANY PURPOSE IS PROHIBITED UNLESS WRITTEN PERMISSION FROM BOTH POWER AND POWERS CLIENTS) GRANTED.

INTER-DISCIPLINE REVIEW

DISC	ARCH	CIVIL	ELECT	I&C	MECH	STRUCT
DATE	-	-	-	-	-	-
INIT	•	•	•	•	•	•

REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD
A	ISSUED FOR REVIEW	01/31/17	SDA	NG	NG	WH

DSGN	NG	03/15/16
DRN	SDA	03/15/16
CKD	NG	03/15/16

SCALE: 1"=30'
FOR 22x34 DWG ONLY

CALPINE

POWER ENGINEERS

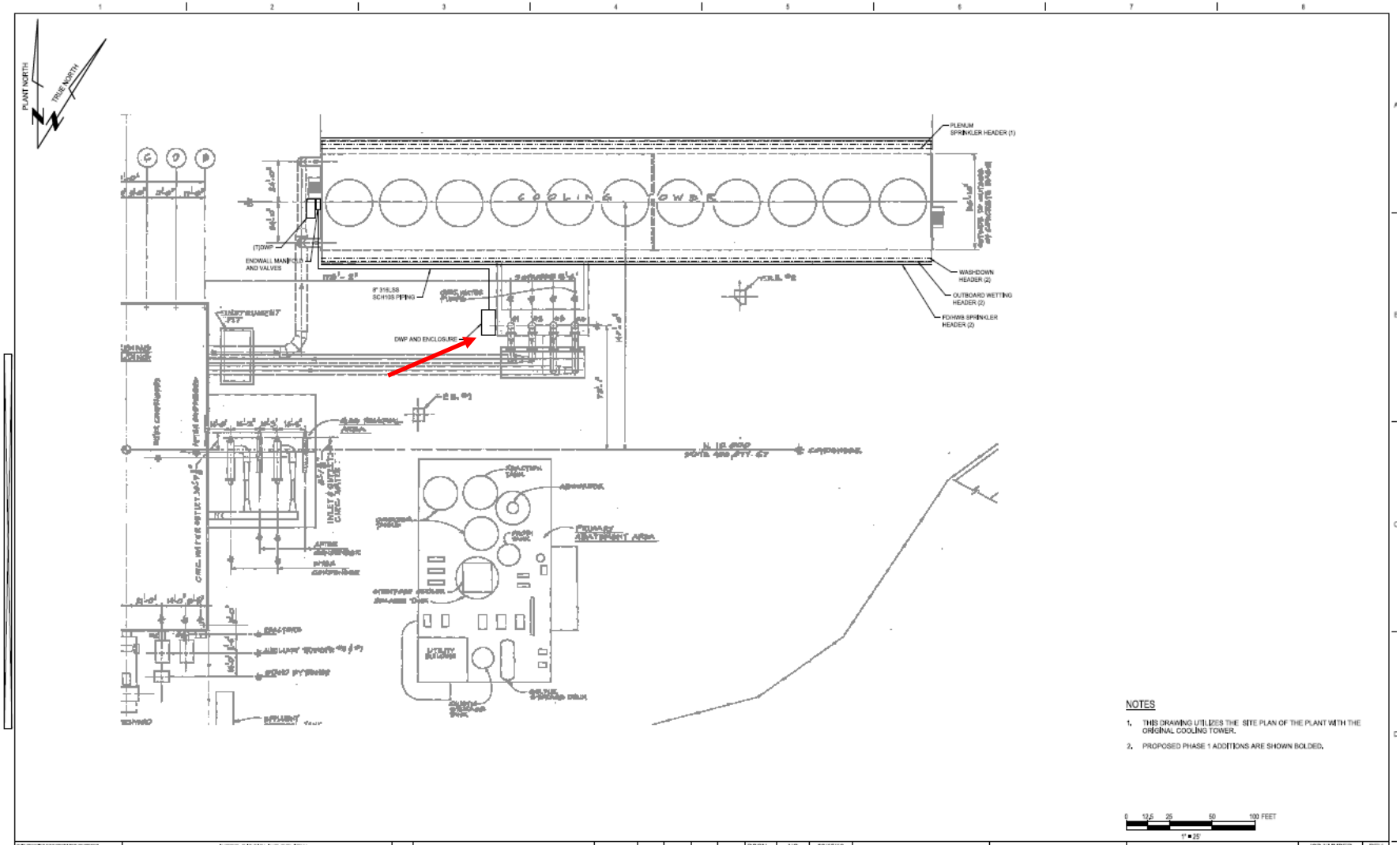
CALPINE CORPORATION
COOLING TOWER FIELDWIDE UPGRADES
UNIT 1B SITE PLAN
FIRE PREVENTION UPGRADES

JOB NUMBER 144990
REV A
DRAWING NUMBER 18M1-1


U18
New DWP
© 2017 Google
189 ft


5
60

U20



NOTES

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2. PROPOSED PHASE 1 ADDITIONS ARE SHOWN BOLDED.

0 12.5 25 50 100 FEET
1" = 25'

INTER-DISCIPLINE REVIEW						
DISC	ARCH	CIVIL	ELECT	I&C	MECH	STRUCT
DATE	-	-	-	-	-	-
INIT	•	•	•	•	•	•

REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD
A	ISSUED FOR REVIEW	01/31/17	SDA	NG	NG	WH

DSGN	NG	03/15/16
DRN	SDA	03/15/16
CKD	NG	03/15/16

SCALE: 1" = 25'
FOR 22x34 DWG ONLY

CALPINE

POWER ENGINEERS

CALPINE CORPORATION
COOLING TOWER FIELDWIDE UPGRADES
UNIT 20 SITE PLAN FIRE PREVENTION UPGRADES

JOB NUMBER 144990
REV A
DRAWING NUMBER 20M1-1

20M1-1.DWG


New DWP
U20
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147 ft