

Staff Report

for the Special Engineering Committee Meeting of September 29, 2020

TO: Engineering Committee

FROM: Doug Roderick, P.E., Interim Engineering Manager
Keane Sommers, P.E., Hydro-Electric Manager

DATE: September 23, 2020

SUBJECT: **Project Status Report**

ENGINEERING

RECOMMENDATION:

Review the Engineering Department and Hydro-Electric Department Project Status Reports with the Committee.

BACKGROUND:

This item is to provide information to the Committee members regarding the progress, current status and next action to be taken on the projects in process in the Engineering and Hydro-Electric Departments.

BUDGETARY IMPACT:

No budget impact

DR

Attachment:

- Engineering Department Project Status Report
- Hydro-Electric Department Project Status Report

Engineering Department Project Status

<u>Prty</u>	<u>Proj Mgr</u>		<u>Facility Name</u>	<u>WO#</u>	<u>Description</u>	<u>Status</u>	<u>Comments</u>
02 - PIPELINE REPLACEMENT (\$1,500,000) 10151-52907							
01	DOUGLAS RODERICK	2020	Lidster Avenue & Country Club Terrace (DIV 5)	2071	Replacement of deteriorated water mains and services in this area. 4,545 LF of 8" pipe.	Construction	Portion of mainline installed, tying in existing services to new line. Work being performed by maintenance. Portion of paving done.
02	DOUGLAS RODERICK	2020	Apple Ave & Annex Ave Pipeline Replacement	2492	Replace deteriorated water mains, service lines, and fire hydrant laterals in this area prior to the City of Grass Valley performing its planned road restoration	Closeout	Project complete. Will be removed from future project status reports.
03	TONIA TABUCCHI HERRERA	2021	Christian Life Way at Highway 49 (DIV 5)	6962	Replace approximately 1500 LF of pipeline with 8" pipeline. Existing pipeline is undersized; has reached its useful life, is difficult to access, existing ROW is inadequate, requires new route for accessibility	Design	Investigating an alternative route to improve maintenance access, and potential to add additional service connections.
04	TONIA TABUCCHI HERRERA	2020	Rough & Ready Round-a-bout waterline improvements (DIV 5)	2497	Nevada county proposed to realign Rough and Ready Hwy, Ridge Road and Adams Ave. NID affected facilities included treated water line along Rough and Ready HWY and Adams Ave; and Rough and Ready Canal crossing/near Ridge Road.	Planning	District will relocate treated waterline. Raw water facility still in debate. ROW being assessed. Information has been received from the County.
03 - PRV REPLACEMENT (\$160,000) 10151-52908							
01	TONIA TABUCCHI HERRERA	2019	Cedar Ridge PRV Replacement (DIV 2)	2366	Existing PRV station is badly deteriorated with valves in a vault. Replacement station will be above ground. Additional ROW is required	Design	Design 90%. Property owner to be contacted regarding existing easement; easement adjustment is required.
02	TONIA TABUCCHI HERRERA	2019	East Ridge PRV Replacement (DIV 1)	2318	Existing PRV station is badly deteriorated with valves in a vault. Replacement station will be above ground. Additional ROW is required.	Design	Design 10%. Survey is complete. Existing easement information received.
03	DOUGLAS HOBBS	2020	Berggren Lane PRV Replacement (DIV 1)	2370	Replace PRV with 1300 LF of 8" pipe connecting Red Dog Rd. with Jasper Agate Court	Design	Design at 90%. In process of obtaining easement.
04	DOUGLAS HOBBS	2021	Silver Way PRV Replacement (DIV 2)	1010	Replace existing PRV station at corner of Silver Way and Hwy 174 with an above ground PRV station upstream on Hwy 174	Design	Design at 10%. Property owner to be contacted regarding adding above ground structure to existing pipe easement.
05 - RAW WATER SYSTEM IMPROV (\$2,100,000) 10151-52910							
01	DOUGLAS RODERICK	2019	Doty North Canal (PC) (DIV 4)	1031	Doty North canal which will encase approximately 450 feet of canal and replace siphon #1.	Design	Application to CDFW approved by operation of law. Finalizing temporary and permanent easements. Quotes for steel pipe received August 25, 2020. Issued PO for purchase of pipe. Contract with Wildland Inc. for purchase of Mitigation Credits executed. Anticipate sending out for bids in early October.
02	DOUGLAS HOBBS	2020	Santini Siphon 1 (DIV 4)	1098	Replacement of undersized Siphon with 1500 LF of 18" pipe.	Design	Design at 90%. Acquiring easements. Met with property owners on July 7, 2020.
03	DOUGLAS RODERICK	2020	South Yuba Canal Repair & Upgrades Ph 1 (DIV 1)	2419	Repair/Replace segments of So. Yuba Canal	Planning	Initial visit with PG&E Maintenance staff and consultants occurred on August 26th, along with field visit. Field visits and tunnel inspection scheduled for week of November 2, 2020 during outage.
04	DOUGLAS HOBBS	2020	Hayt Canal Siphon Replacement (DIV 4)	2474	Hayt Canal Siphon #1 and #6, replace aged infrastructure.	Design	Maintenance planning project. Construction of siphon #1 starting October 15, 2020. Project to include removal of 18" private culvert upstream.
06 - BACKBONE EXTENSION (\$1,700,000) 10151-52911							
01	TONIA TABUCCHI HERRERA	2020	E. George to LWW Pipeline Project-Phase I (DIV 5)	2255	Phase 1 Hope Street to approximately 12390 Rough & Ready Highway along R&R HWY parallel construction of 2475 lf of pipeline and 1 PRV replacement. ROW required for replacement above ground PRV. Pipeline construction within County ROW.	Design	Offer package sent to property owner for PRV was rejected. The property owner submitted a counter proposal. Maintenance will be replacing approximately 1200' of pipe on Ridge Road. Survey being done for other areas within existing infrastructure to be upgraded.
07 - NON-PROGRAMMATIC (5,850,000) 10151-52915							
01	DOUGLAS RODERICK	2021	Combie I Replacement (DIV 3)	6746	Combie Phase 1 Pipeline Bypass, 8900 LF of 96" pipe	Construction	Contractor back on site constructing bypass pipeline. Outage to tie in bypass scheduled for October 15-16.

Engineering Department Project Status

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07 - NON-PROGRAMMATIC (5,850,000) 10151-52915							
02	DOUGLAS HOBBS	2020	Alta Sierra Tank Replacement (DIV 2)	6971	Replace existing Alta Sierra Hypalon-covered reservoir with 3MG storage tank	Design	Design underway. Contractor to start mobilization first week on October. Construction to begin October 2020.
03	TONIA TABUCCHI HERRERA	2020	Hemphill Diversion (DIV 4)	7032	Hemphill Diversion Project to facilitate Fish Passage.	Design	Public release of IS/NOP for public comment was on September 3, 2020. All information is available on the District website. Public Scoping meeting was held on September 21, 2020. The comment period closes October 5, 2020. The public meeting recording is on the District website. Staff is preparing a summary of the meeting and will post to District website.
04	ADRIAN SCHNEIDER	2020	North Auburn Treatment Plant (DIV 3)	2376	Upgrade of high lift pumps at North Auburn Water Treatment Plant	Design	Basis of Design and draft civil plans presented and finalized. Design/RFQ expected by late September 2020. RFQ to be sent out to contractors for purchase and installation of generator and motor control items. Generator install expected winter of 2020/2021.
05	ADRIAN SCHNEIDER	2020	Pine Woods Pump Station	2488	Design, purchase and install a permanent stand-by generator at Pine Woods Pump Station	Planning	Draft study under review.
06	DOUGLAS RODERICK	2021	Centennial Water Supply Project	7013	Centennial Water Supply Project	Planning	Quarterly update to be presented at the September 29, 2020, Engineering Committee Special meeting. Due to COVID-19, no consulting work or AB52 consultation has taken place since the last update. The next quarterly update is due in December 2020.
08 - COMMUNITY INVESTMENT (\$800,000) 10151-52912							
01	ADRIAN SCHNEIDER	2020	Table Meadow Ph 2 DFWLE (DIV 3)	2180	Assist, Design and Construction of 5,770 LF of 8" pipeline for existing neighborhoods approved by Engineering Committee.	Construction	Paving completed on August 31, 2020. Clean up work and punchlist items to be completed in September. Final hydroseed application anticipated by end of September 2020.
02	ADRIAN SCHNEIDER	2021	Loma Rica Drive - DFWLE (DIV 2)	2181	Assist, Design and Construction of a pipeline for existing neighborhoods approved by Engineering Committee January 16, 2018.	Planning	Waiting on available funding to move project forward.
03	ADRIAN SCHNEIDER	2023	Maranatha Place DFWLE (DIV 3)	2409	Assist, Design and Construction of a pipeline for existing neighborhoods. Approved by Engineering Committee Aug 20, 2019.	Planning	Waiting for available funding in program to move forward.
13 - ENGINEERING O&M 10151-NA							
01	GREG JONES	2020	District Wide	1041	Raw Water Master Plan / EIR	Planning	HDR presentation of technical memorandums presented at the August 26, 2020 Board Meeting. Public meeting held on September 24, 2020. Board Workshop scheduled for October 28, 2020. Technical Memorandums are on the District website for public review and comment.
17 - SEDIMENT REMOVAL PROJECTS (\$1,200,000) 10151-52914							
01	ADRIAN SCHNEIDER	2020	District-wide Reservoir Study	2500	District-wide reservoir study of the current condition of all District reservoirs, that includes bathymetry to better understand the diminished capacity due to sedimentation. Will assist in determining costs, prioritization, and alternatives.	Planning	Meeting on September 2, 2020 to discuss Operational priorities related to sediment removal and management alternatives (Engineering, Operations, and Hydro). Requesting quotes for Bathymetry work anticipated by end of September 2020.
02	ADRIAN SCHNEIDER	2019	Loma Rica Reservoir (DIV 2)	2090	Placement of 5,600 cubic yards of stockpiled sediment at airport property	Post-Construction	Quotes received August 28, 2020. Award of contract going to the September 18, 2020 Board Meeting. Project start anticipated end of September 2020 for the placement of 5,600 cubic yards of stockpiled sediment at airport property.
03	ADRIAN SCHNEIDER	2019	Newtown Reservoir (DIV 1)	6958	Install permanent bypass pipe & remove accumulated sediment from the reservoir to regain capacity.	Post-Construction	Quotes received August 28, 2020. Project start anticipated for September 2020 to remove 700 cubic yards of stockpiled sediment.
04	GREG JONES	2019	Combie Sediment Removal Project	2135	Removal of sediment at the east side of Combie Reservoir	Post-Construction	Final report nearing completion, approximately 60-days. Final disposal of material is ongoing.
05	ADRIAN SCHNEIDER	2020	Greenhorn Sediment Removal (DIV 2)	8515	Removal accumulated sediment from the Greenhorn Creek arm of Rollins Reservoir.	Planning	Reservoir sediment removal study (cost/benefit analysis) to determine validity of removing sediment from this reservoir.
06	ADRIAN SCHNEIDER	2020	Orr Creek Reservoir (DIV 3)	6963	Cleaning of Orr Creek Reservoir to increase capacity	Planning	Reservoir sediment removal study (cost/benefit analysis) to determine validity of removing sediment from this reservoir.

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17 - SEDIMENT REMOVAL PROJECTS (\$1,200,000) 10151-52914							
07	ADRIAN SCHNEIDER	2020	Dutch Flat Afterbay Sediment Removal (DIV 2)	2213	Remove accumulated sediment from the afterbay to reduce outlet pipe clogging & operation.	Planning	Reservoir sediment removal study (cost/benefit analysis) to determine validity of removing sediment from this reservoir.
08	GREG JONES	2020	Steephollow Sediment Removal	6877	Removal of sediment at Steep Hollow and protection of hydro facilities	Hold	Need funds to get things moving for Channel / Monitoring. ROW has one easement remaining.

Engineering Department Project Status

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10-1 - HYDRO NON-PROGRAMMATIC (\$250,000) 50112-52915							
01	KEANE SOMMERS	2020	Hydro Field Office	2432	Design and construction of the new Hydroelectric Field Office	Design	Energy Center components are under development. The new maintenance facility and storage yard predesign are under development and near completion. An initial study has been conducted on the carbon sequestration feasibility and opportunities for a portion of the site. An initial study has been conducted for a pumped storage scheme. An initial study has been conducted for the solar field with battery storage. Development of an overall site program carbon and energy management strategy and marketing and partner options is underway. Once all efforts are completed, findings will be summarized to present options and alternatives for developing the site into various levels of renewable energy generation and carbon zero footprint.
10-2 - HYDRO POWERHOUSE IMPROV (\$1,585,000) 50112-52920							
01	NATHAN DROIVOLD	2020	Dutch Flat #2 Powerhouse Balance of Plant.	2348	Install an expandable balance of plant to monitor critical plant systems such as excess vibration of the turbine and generator, temperature, and flow.	Design	Hydro has purchased equipment and is completing pre-outage work for the project. Hydro is expecting a 100% design submittal in early September. The BOP-PLC will be installed during the 2020 annual outage in September/October.
02	NATHAN DROIVOLD	2020	Chicago Park Powerhouse Governor Replacement	2402	Replace governor, install instrumentation that will enable operators to monitor flow, temperature, and pressure of vital powerhouse components.	Design	Hydro expecting 100% Design submittal and bill of materials by August 31st. Hydro will review the design and procure materials in 2020, and will complete the installation during the 2021 annual outage for CPPH.
03	ADRIAN SCHNEIDER	2019	Combie Reservoir	6943	Combie South Access Road. Develop approx. 3,000 ft. from south abutment.	Planning	Final road alignment through Arroyo's property (Alternative 2) agreed upon by Arroyo and Cummings. Meeting held with NID Interim General Manager (Greg Jones) and Director Dr. Scott Miller. NID survey marked its centerline and determined which trees needed to be removed on NID property. Task Order approved for final design work for Nevada City Engineering.
04	ADRIAN SCHNEIDER	2019	Chicago Park Fire Suppression System (DIV 2)	2164	Upgrade of existing CO2 system (piping, alarms, sensors) to protect Generator. Includes installation of new Clean Agent suppression system for control room and the addition of a fire detection system for electrical cable trays.	Design	Final design plans to be modified based on Hydro's Electrical Engineer consultant's review and comments. Installation of system to be postponed until November 2020 due to scheduled yearly shutdown in September and lack of Hydro staff afterward until that time.
05	THEODORE BLANK	2019	Combie South Electrical Upgrades	2168	Combie South Electrical Upgrades	Design	Hydro and Engineering are working on the containment pad and foundation for the new transformer. Hydro purchased the new 12kV transformer, which is expected to be delivered in late 2020. Hydro has nearly completed electrical drawing consolidation with Mesa and received an updated drawing set in early July. Hydro then completed a second round of review and field verification of the new drawings. Hydro will review final changes with Mesa in early August, and expects to have the final drawings complete by the end of the month.
06	NATHAN DROIVOLD	2020	Dutch Flat #2 Powerhouse Fire Supression System	2240	Designing, installing and commissioning a new CO2 fire suppression system for the Dutch Flat #2 Powerhouse.	Planning	Awarded a contract to GHD to prepare 30% design and BDR on 07/21/2020. GHD made a site visit in August to kickoff the project and start design work. Hydro will then prepare a Project Definition Memo to transfer the project over to Engineering in late 2020.
07	NATHAN DROIVOLD	2020	Deer Creek Powerhouse	2290	Deer Creek Powerhouse Upgrades - Cost of upgrades necessary to sell power upon close of sale	Planning	Hydro is completing the design of a new gaging station at the upstream transition of the South Yuba Canal from PG&E for future NID ownership. Hydro has completed a communications cabinet at Deer Creek PH and E George WTP. Fiber optic cable and connections for new system are nearly complete, Hydro will finish testing in September. Hydro will be completing SCADA HMI programming, and its consultants will be completing RTAC programming in early October.
08	NATHAN DROIVOLD	2020	Rollins Powerhouse	2351	Replace the existing oil circuit breaker (OCB) at the Rollins Powerhouse with a more environmentally acceptable vacuum circuit breaker.	Planning	Hydro made a site visit to RPH in late August to confirm the suitability of a vacuum circuit breaker for the site. Hydro has contacted PG&E and has a kickoff meeting scheduled with their team in early September. Hydro has contacted a protection engineering consultant to complete a job walk in early September to discuss project scope development and to start planning for a 2021 breaker replacement.
09	NATHAN DROIVOLD	2020	Bowman Intertie	2354	Replace the existing Bowman Inter-tie SF6 breaker with a more environmentally friendly vacuum circuit breaker	Planning	Hydro will replace the existing SF6 breaker with a vacuum circuit breaker after completion of the oil circuit breaker replacement at RPH (FATR 2351).
10	THEODORE BLANK	2020	Scotts Flat Powerhouse	2306	Install all components necessary for a backup usage electrical meter for Scotts Flat Powerhouse	Planning	Hydro has ordered the new meter that is to be programmed and certified by a third party (Ulrieg) upon arrival.

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10-2 - HYDRO POWERHOUSE IMPROV (\$1,585,000) 50112-52920							
11	NATHAN DROIVOLD	2020	Rollins Powerhouse Balance of Plant	2393	Install an expandable balance of plant to monitor critical plant systems such as excess vibration of the turbine and generator, temperature, and flow.	Planning	Hydro will define the project scope and request bids to complete the design in Q4 2020. The design will be completed in Q3 2021, and installation will be during the Q4 2021 annual outage at RPH.
12	NATHAN DROIVOLD	2020	Rollins Powerhouse Relay Protection Upgrade	2394	Replace aging relay protection system to improve protection of the powerhouse relay, transformer, and generator.	Planning	Hydro is defining the project scope and preparing the Project Definition Memo. The new vacuum circuit breaker (FATR 2351) will be specified and ordered to provide relay protection inside of the new breaker for this upcoming project. Hydro plans to complete upgrades during the 2021 annual outage.
10-3 - HYDRO DAM & WATER IMPROV (\$1,595,000) 50112-52921							
01	MIN CHEN	2020	Scotts Flat Spillway Repair	2094	Scotts Flat Spillway Repair & Upgrades	Planning	The Spill Crest Stability Analyses Report is being reviewed by DSOD. The physical hydraulic modeling plan is being reviewed by DSOD and FERC. Additional funding with Board approval is necessary for the modeling studies.
02	MIN CHEN	2019	Combie Abutment Scour	20140 2	Dam stabilization, abutments protection against scouring, and water supply upgrade	Planning	The French Dam Upgrades design is nearly completed, and has been released for internal review comments. The permit application package will be prepared and submitted to FERC for review and approval. The construction is scheduled from August to October 2021.
03	MIN CHEN	2020	Jackson Lake Spillway	2361	Improve spillway training walls on the Jackson Lake Dam	Design	The in-house design is being reviewed by DSOD and FERC. The contract was awarded to Hansen Brothers and has been fully executed. The Notice to Proceed was sent on Friday, August 21, 2020. The construction is planned for September to October 2020.
04	MIN CHEN	2020	Gaging Station	2007/ 2360	Replace the damaged sections of the concrete lining on the upstream dam face to minimize leakage, modify the spillway training walls to prevent over topping, and construct a weir on the dam outlet to measure flow.	Design	The French Dam Upgrades design is nearly completed, and the permit application package will be prepared and submitted to FERC for review and approval. The construction is scheduled from August to October 2021.
10-4 - HYDRO LOWER DIV(\$450,000) 50112-52922							
01	DOUGLAS HOBBS	2020	Chicago Park Forebay Canal Liner Replacement	2511	Repair segments of the Chicago Park Canal where existing shotcrete liner needs replacement.	Planning	Hydro and Engineering will make a site visit in September during the 2020 outage to inspect the existing liner conditions and understand the project scope. Hydro has asked Engineering for a design report to be completed in Q2 2021.
10-5 - HYDRO UPPER DIV (\$200,000) 50112-52923							
01	DARYL NOEL	2020	Rucker Creek Spillgate	2339	Replace existing radial gate at Rucker Creek Diversion with an overshot gate to improve personnel safety and operational performance.	Planning	Hydro is reviewing FERC relicensing requirements for the project and will be updating the project scope accordingly. Hydro to complete a project definition memo to send the project to Engineering by Q4 2020.
02	NATHAN DROIVOLD	2020	Bowman-Spaulding Canal	2340	Re-establish driving access to the upstream portal of the Clear Creek Tunnel, design and install a bar screen to prevent debris from plugging the tunnel, and perform a canal condition assessment to identify and prioritize repairs or replacements	Planning	Hydro will be seeking a study with an alternatives analysis for possible options to complete the repair of the access road/berm.
10-6 - HYRDO SCADA/COMMS (\$265,000) 50112-52924							
01	KEANE SOMMERS	2022	Hydro Office Radio Tower	2405	Construct a new hydroelectric field office radio tower to improve communication of critical infrastructure.	Design	Hydro has reviewed a draft scope of work prepared by its consultant and will hold a review meeting in early September to discuss changes. Hydro will then prepare an RFQ and plan to solicit quotes in early 2021.
02	THOMAS KLUGE	2020	Chicago Park Flume	2389	Install fiber optic communication between Chicago Park HVP and Chicago Park intake	Cancelled	Project cancelled. Hydro moving to microwave/radio system instead of installing a fiber optic cable for data communications. Will be removed from future project status reports.
03	THOMAS KLUGE	2020	Dutch Flat #2 Powerhouse	2390	Install fiber optic communication between Dutch Flat Forebay and PG&E Drum Afterbay to improve reliability.	Planning	Hydro is moving to install a microwave/radio system (including a new radio tower at Dutch Flat 2 Forebay) for data communications.