Attachments

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Region 1 – Northern
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Redding, CA 96001
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EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

September 6, 2016

Michael Wheeler
Humboldt County Planning and Building Department
3015 H Street
Eureka, CA 95501

Subject: Mitigated Negative Declaration for Jack Noble Surface Mining Permit, Reclamation Plan, and Conditional Use Permit Renewal, SCH #1992013033

Dear Mr. Wheeler:

On June 4, 2015, the California Department of Fish and Wildlife (Department) received from the Humboldt County Planning and Building Department (Lead Agency) a referral for the Jack Noble Surface Mining Permit, Reclamation Plan, and Conditional Use Permit Renewal (Project). The Department provided formal comments on July 6, 2015. On September 17, 2015, the Department received a brief response from the Lead Agency indicating the Lead Agency was in the process of investigating the Department's concerns, and would provide additional information in the near future. That communication also included a brief description of the County of Humboldt Extraction Review Team (CHERT) and its formation and purpose. On August 10, 2016, the Department received a Draft Mitigated Negative Declaration (MND) from the Lead Agency. It does not appear that any of the Department's referral comments were incorporated into the MND, nor has the Department received any additional information from the Lead Agency regarding the concerns and recommendations put forth in our July 6, 2015 letter. Thus, this letter will reiterate many of the same concerns outlined in that letter, with some additional recommendations and requests for clarification. The State Clearinghouse review period ends on September 6, 2016. The Department understands the Lead Agency will accept comments until September 10, 2016.

The Project consists of instream river-run aggregate extraction from exposed gravel bars along the Van Duzen River and at the mouth of Yager Creek. In addition, the MND states: *"A specific intent has been to reduce streambank erosion and increase flood protection in an aggraded reach of the lower Van Duzen River."* Further, as detailed in the 1997 Reclamation Plan, the Project entails the use of *"a variety of bio-engineering practices, hard points and vegetation to enhance instream habitat and to reduce the risk of significant channel erosion and protect ranch resources."*

As the Trustee for the State's fish and wildlife resources, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and their habitat. As a Responsible Agency, the Department administers the California Endangered Species Act (CESA) and other provisions of the Fish and Game Code (FGC) that conserve the State's fish and wildlife public trust resources. We offer the following comments and recommendations on this Project in our role as a Trustee

and Responsible Agency pursuant to the California Environmental Quality Act (CEQA), California Public Resources Code Section 21000 et seq.

Substantial Concerns

The Department has a number of substantial concerns related to this Project:

1. Impacts from ongoing, unpermitted bank modification/stabilization activities on the riverine ecosystem;

2. Potential impacts to sensitive, Threatened, and/or Endangered species from Project activities;

3. Lack of adequate environmental review for the Project;

4. Loss of riparian habitat from various Project components;

5. Prior and ongoing violations of FGC and other local, State, and federal regulations related to the Project; and

6. CHERT is identified as mitigation for the Project despite a lack of full staffing of CHERT as outlined in Humboldt County Resolution 96-37, in addition to a lack of clarity in the roles and responsibilities of CHERT members, leading to the appearance of a conflict of interest related to this Project.

Ecological Significance of the Van Duzen River Watershed

The Van Duzen River is a State and federally designated Wild and Scenic River with a 429-square-mile watershed. It is located in the lower Eel River watershed within Humboldt and Trinity counties and is a major tributary to the Eel River. It is a tectonically active watershed that receives high rainfall and is underlain by weak sedimentary rock. Pursuant to Clean Water Act section 303(d), the North Coast Regional Water Quality Control Board has identified the Van Duzen River as sediment impaired and water quality limited due to impacts of sedimentation and siltation on beneficial uses including maintenance of critical cold water aquatic habitat.

The Van Duzen River is also a regionally-important fish-bearing stream supporting State-listed, federally listed, and sensitive fish and wildlife species. These species include Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), steelhead trout (*O. mykiss*), coastal cutthroat trout (*O. clarki clarki*), willow flycatcher (*Empidonax traillii*), bank swallow (*Riparia riparia*), foothill yellow-legged frog (*Rana boylii*), northern red-legged frog (*R. aurora*), coastal tailed frog (*Ascaphus truei*), and the western pond turtle (*Actinemys marmorata*). Coho salmon and steelhead trout are listed as Threatened pursuant to the federal Endangered Species Act (ESA). Coho salmon and bank swallow are listed as Threatened pursuant to CESA, and willow flycatcher is listed as Endangered pursuant to CESA. Steelhead trout, coastal cutthroat

trout, northern red-legged frog, and coastal tailed frog are designated as State Species of Special Concern (SSC). The western pond turtle and foothill yellow-legged frog are SSC with their status currently under review through a petition filed in 2012 for listing pursuant to ESA.

The Project area encompasses over a two-mile river reach with Chinook salmon spawning habitat. Salmonid fish depend on cool, clean water, access to migrate up and down their stream of origin, clean gravel suitable for spawning, adequate food supply, and protective cover to escape predators and ambush prey. Salmonid survival can be negatively impacted if any of these requirements are not met (CDFG 2012). Currently, the lower Eel and Van Duzen River coho salmon population is not considered viable and is at high risk of extinction due to insufficient spawner densities (NMFS SONCC Coho Recovery Plan 2012). To promote coho salmon recovery efforts, it is crucial not to disturb young fish or degrade in-stream and riparian habitats (NMFS SONCC Coho Recovery Plan 2012).

Previous CEQA Review

The Project was initially described in the July 1992 Program EIR (PEIR) on Gravel Removal from the lower Eel River, prepared by the Humboldt County Public Works Department's Natural Resources Division. In 1997, a Supplemental EIR (SEIR) was prepared by Dr. Douglas Jager for the Project. In 2000, a Cumulative Impact Evaluation was prepared by Resource Design Technology, Inc., as a supplement to the SEIR to address remaining concerns about cumulative impacts to the Van Duzen River under a maximum extraction rate (200,000 cubic yards per year) scenario.

Department Jurisdiction and Violations Related to the Project

The Project includes activities that require a Lake or Streambed Alteration Agreement (LSAA) with the Department pursuant to FGC section 1602. On July 26, 2011, Mr. Noble and the Department entered into LSAA No. 1600-2011-0095-R1 for the extraction of gravel. The LSAA covered gravel extraction up to 100,000 cubic yards of flood-washed alluvial material consistent with annual extraction plans, use of heavy equipment, use and maintenance of riparian haul roads, installation of temporary river crossings, and avoiding work during salmonid spawning and migration periods.

This LSAA was subsequently revoked by the Department on February 4, 2014, due to Mr. Noble's non-compliance with the terms of the LSAA. Department Wardens documented unauthorized work that took place outside acceptable work windows, resulting in 22 violations of FGC. Despite requests from the Department, Mr. Noble did not provide a statement that all unauthorized streambed alteration activities would cease, nor an adequate remediation plan for these activities. The initial FGC violations are detailed in the Department's July 19, 2013 Violation Report Memorandum. Additional details about the violations are found in the July 30, 2013 Department

Arrest/Investigation Report filed with the County of Humboldt's Office of the District Attorney, and the November 7, 2013 Department letter to Mr. Noble that also documented subsequent unauthorized activities. The observed violations included:

- work outside seasonal work windows during high flows;
- numerous unclean reinforced concrete rubble revetment placements with asphalt chunks, rebar, metal plates/beams/bolts, and rubber/plastic/fabric liners;
- soil grading and deposition in the main and secondary channels;
- heavy equipment use in the wetted channels;
- heavy equipment use and staging with fluid leaks; and
- riparian vegetation disturbance and removal.

On March 3, 2015, Mr. Noble pleaded "No Contest" to a misdemeanor violation of FGC section 1602(a). He received 18 months' probation and was directed to implement remediation at the site. Mr. Noble has not yet provided the Department with a sufficient plan to remediate these violations. The Department has offered Mr. Noble an opportunity to correct the deficiencies in his January 30, 2014 *"Draft Reclamation Plan,"* but to date, we have received no response.

Ongoing, Unpermitted Alterations to the Van Duzen River

On February 26, 2016, the Department received a letter from Mr. Noble and photos describing bank stabilization work conducted by him earlier that winter. The subject of the letter read, *"30 Day Notice Emergency Repairs Van Duzen River."* The letter described repairs to some of the existing unpermitted bank stabilization structures on the Van Duzen River Ranch in addition to cottonwood planting and installation of four flatcar bridges on the stream bank as temporary bank protection. Some of these activities were originally described in e-mails between Mr. Noble's attorney and various State and federal agency staff between October and November 2015. Mr. Noble and his attorney were informed by Department and Regional Water Quality Control Board staff that these activities were not permitted within the season that Mr. Noble proposed to conduct them.

The Department would like to reiterate that Mr. Noble does not have a valid LSAA under which he is permitted to conduct bank stabilization activities, or any other activities that would substantially alter the bed, bank, or channel of the Van Duzen River or its tributaries. The notification received February 26, 2016, did not meet the guidelines for timeline of notification or scope of work set out in FGC section 1610 for emergency notifications, and is thus considered a violation of FGC section 1602 by the Department. Any further activity that substantially alters the bed, bank, or channel of the Van Duzen River for the purposes of this Project or otherwise requires a new LSAA with the Department. This LSAA would be issued only after any current violations are fully remediated to the satisfaction of the Department.

Discrepancies in Covered Project Activities

While not typically included as part of gravel extraction operations, bank stabilization activities which have included placement of revetment and vegetation disturbance have historically been part of Mr. Noble's activities associated with the Project. The installation of hard points and revetments is mentioned in the 1997 SEIR as a mitigation measure (Mit-10) for *"the impacts of gravel extraction on riparian vegetation and wildlife habitat by streambank erosion"* (WILD-6). This impact was identified as *"potentially significant unless mitigated."*

Section 2.1, Mining Operations, of the 15-Year Review for Conditional Use Permit and Reclamation Plan Renewal states: *"A specific intent has been to reduce streambank erosion and increase flood protection in an aggraded reach of the lower Van Duzen River."* The 1997 Reclamation Plan states the Project entails the use of *"a variety of bio-engineering practices, hard points and vegetation to enhance instream habitat and to reduce the risk of significant channel erosion and protect ranch resources."* A May 16, 2013 letter from Mr. William Bragg (Mr. Noble's attorney) to the Humboldt County Planning and Building Department states:

> *"His Fish and Game application specifically identified bank stabilization through the placement of rip rap as* ***being part of his gravel project*** (emphasis added) *by way of both new construction and maintenance of existing structures. Indeed, the income from the gravel extraction has, over the years, been the primary source of funding for the various bank stabilization projects Jack has been involved in. His application specifically states 'our primary goal is stream bank stabilization and vegetation. Gravel extraction helps to fuel rip rap groins and streambank planting'."*

Based upon the County documents listed above, streambank stabilization work for this Project is being conducted as mitigation for streambank erosion that is caused by the Project gravel operations, of which the primary goal is streambank stabilization. The Department requests clarification about whether the goal of the Project is gravel extraction or whether this is a long-term streambank stabilization project, as there appears to be contradiction and substantial discrepancies between the Project's purpose, need, proposed activities, and what is considered a significant impact versus the proposed mitigations for significant impacts.

Renewal of the Conditional Use Permit is partly based on compliance with local, State, and federal regulations. The MND references activities that are *"authorized under California Fish and Game Code 1603 [now 1602] agreements,"* and Mitigation 14, copied from the 1992 SEIR to the MND currently under review, states:

> *"The California Department of Fish and Game reviews extraction prescriptions during the annual 1603 [now 1602] agreement process which is designed to protect fish and wildlife resources."*

Mr. Noble is not currently authorized under a valid LSAA with the Department to conduct gravel extraction or other activities that would substantially alter the bed, bank, or channel of the Van Duzen River or any other stream on his property.

Further, Mr. Noble has not contacted the Department to attempt to remediate the ongoing violations on his property or to obtain an LSAA for the ongoing bank stabilization activities he conducts related to his gravel mining operation, or for the gravel extraction itself. Mr. Noble's history of violations associated with this Project include revocation of his LSAA with the Department, violations of the Surface Mining and Reclamation Act (SMARA) described in a January 31, 2008 letter from Humboldt County, and placement of fill in Waters of the United States without a United States Army Corps of Engineers (USACE) Permit. The Department understands that Mr. Noble did not notify the USACE or request authorization to conduct the bank stabilization activities he conducted in January and February 2016, nor did the Department receive a referral from Humboldt County indicating that Mr. Noble had applied for a Special Permit to conduct work in a Streamside Management Area. These ongoing, unpermitted alterations of the bank of the Van Duzen River without appropriate consultation or permits, and outside of the appropriate season to do this type of work, are likely to cause harm or take of listed salmonids and other sensitive aquatic organisms. Thus, if bank stabilization activities are a component of the proposed Project, the MND should be substantially revised to disclose these prior documented violations and the proposed resolution.

If these activities are not a part of the Project, the MND should be substantially revised to reflect this, and the Department recommends the County proceed with permitting the bank stabilization activities through the process laid out in the County's Streamside Management Area Ordinance. The Department, for its part, is willing to work with Mr. Noble to develop a mutually agreeable plan to address and remediate these violations.

Because of the history of unauthorized activities on the parcel, the Department also recommends that if the Lead Agency chooses to renew the Conditional Use Permit, they require third-party monitoring of the Project. This will ensure any non-compliance with the conditions set forth in the Conditional Use Permit, SMARA, or other State and federal permits or regulations can be addressed in a timely and appropriate manner.

Environmental Impacts of Bank Stabilization

Bank stabilization structures can have direct, indirect, and cumulative impacts on habitat for fish and other aquatic species, and if improperly installed, exacerbate stream channel and bank erosion. Revetment structures can increase near-bank flow velocities and depths and simplify habitat by decreasing both channel width and lateral channel migration. Natural lateral channel migration can recruit large woody debris (LWD) and spawning gravel, and create pool-riffle and side channel habitat (Bravard et al. 1986, Jungwirth et al. 1993, Craig and Zale 2001). Revetments can also eliminate structural bank features that provide fish with velocity refuge and cover from potential predators,

such as boulders, LWD, and overhanging vegetation. Research indicates that seasonal fish densities are significantly higher along natural banks than banks stabilized with rip-rap (Michny 1989, Peters et al. 1998, U.S. Fish and Wildlife Service 2000). Bank stabilization structures can create erosional eddies at the upstream and downstream ends of the structures and often deflect erosive flows into the opposite bank. These structures can also narrow the active channel, forcing the channel to make up for the lost cross-sectional area by eroding deeper or wider (Riley 2003). Bank stabilization structures can also physically displace or negatively alter the plant species composition of important riparian habitat (Russell and Terada 2009).

It is clear that Mr. Noble undertook major alterations of the bank of the Van Duzen River without proper permits or sufficient environmental review from the Department and other resource agencies. Figure 1 shows a section of the revetment work as of September 18, 2013, and Figure 2 shows this same section of revetment in July 2015. The Department finds that concrete debris as has been extensively used for revetment on this Project is not an appropriate bank stabilization material. Furthermore, the Department has documented that bank stabilization at the Van Duzen River Ranch contains materials deleterious to fish, wildlife, and their habitats, including asphalt, plastic, and metal construction debris. The concrete debris used for some of the revetments was not properly placed or keyed into the bank. Some of these revetment structures have since dislodged from the bank with lateral migration of the channel and are now within the active channel of the river, as shown in Figure 2, where they may further degrade fish habitat. Breakdown of concrete debris may cause significant impacts to spawning habitat for Chinook salmon and other sensitive aquatic species. This potentially significant impact was not addressed in the MND or any prior environmental document.

Additionally, the Department is concerned that as the reinforced concrete debris placed in this river reach continues to degrade, the rebar reinforcements will rust and swell causing the concrete to break apart and expose more embedded rebar. This will be an on-going health and safety hazard for the recreating public at large and for Department biologists conducting in-stream fisheries work in the river.

Issues Related to CHERT

While reviewing prior environmental documents and supporting information, it has become apparent that members of CHERT, which is tasked by Humboldt County with reviewing gravel extraction and advising permitting agencies and permittees, have also been contracted by Mr. Noble to prepare environmental documents and to prepare remediation plans for Mr. Noble's violations. The 1997 SEIR was prepared by Dr. Douglas Jager, a CHERT member. The 2014 *"Draft Reclamation Plan,"* (Plan) a document requested by the Department to begin the remediation process and prevent revocation of Mr. Noble's LSAA, was prepared by Dr. Douglas Jager and Mr. Randy Klein (also a CHERT member). It is titled, *"Draft Reclamation Plan, Prepared for a Portion of the Van Duzen River flowing through the Jack and Mary Noble Van Duzen*

River Ranch Property by Dr. Douglas Jager and Mr. Randy Klein, County of Humboldt Extraction Review Team (CHERT), January 30, 2014."

In this case, it is unclear if the CHERT members who drafted the Plan were working under the auspices of CHERT, or as private consultants assisting a gravel operator in resolving ongoing violations with his LSAA with the Department. It is unclear to the Department whether the latter is part of CHERT's typical role, or how these overlapping roles are disclosed and reconciled, if necessary.

The Plan proposed remedial measures to correct the documented violations at the Project site. However, it contains assertions by CHERT members about the nature of Project activities with which the Department disagrees. In addressing riparian vegetation removal at one of the sites, the Plan states:

> *"It appears that the operator was trying to simulate and hasten natural riparian cottonwood and willow vegetation development by pushing larger diameter willows and cottonwoods into the channel without uprooting them. This is an appropriate way to help spread some riparian willows and cottonwoods."*

The Department strongly disputes the assertion that using heavy equipment to knock down mature riparian trees is an appropriate way to spread riparian willows and cottonwoods. These methods are not accepted restoration planting techniques and only serve to damage living trees. Figure 3 provides documentation of one of the sites in question.

Related to this, the Department continues to be concerned that CHERT has lacked a riparian specialist for over 15 years. The Department has raised this issue with the Lead Agency on at least two occasions (March 18, 2009, and July 1, 2014, in comments on the Draft Supplemental Programmatic EIR for Gravel Extraction on the Lower Mad River, SCH #1992083049) and continues to recommend that Humboldt County reinstate a riparian specialist as a standing member of the five-member CHERT as established in Resolution 96-37.

The Plan also states:

> *"Jack Noble's recent work on the reach of the Lower Van Duzen River through his property, as unattractive and damaging as it may appear in the short term, may have both immediate and longer term benefits to river habitat."*

The Department disputes the assertion that using heavy equipment to push over mature riparian vegetation, installing extensive revetments made of concrete with embedded rebar, construction debris, and other materials deleterious to aquatic life along the Van Duzen River, is likely to have immediate and long term benefits to river habitat. The

scientific literature strongly suggests the opposite, notwithstanding that these activities when conducted in the manner observed at the Project site are prohibited by FGC.

The Department continues to be concerned with this apparent conflict of interest if CHERT is tasked with making independent and impartial evaluations and recommendations to the Lead Agency and other permitting agencies on the physical and biological resource impacts of Mr. Noble's Project, while simultaneously working as consultants for Mr. Noble.

CHERT as Mitigation

CHERT is cited as a mitigation measure in the 1997 SEIR:

> (Mit-1): *Humboldt County has mitigated many of the adverse effects of gravel extraction by establishing an Interim Humboldt County Eel River Gravel Management Plan and a Humboldt County Extraction Review Team (CHERT). CHERT is a committee of scientists who administer and monitor the management plan. CHERT reviews channel cross sections, aerial photographs, and other environmental data in order to monitor and prescribe gravel extraction in Humboldt County so as to prevent or minimize individual and cumulative adverse effects that might otherwise occur as a result of gravel extraction.*

As stated in prior comment letters to Humboldt County, the Department supports the intent and continuation of CHERT as an objective, independent scientific review team for site-specific evaluations of gravel mining operations. However, the Department questions whether the existence of CHERT is valid as a mitigation measure for this Project, considering the lack of clarity in CHERT roles and the failure of Humboldt County to fully staff CHERT with the minimum committee membership outlined in resolution 96-37, i.e., including a member with botanical expertise to serve as a riparian specialist.

Biological Resources and Mitigation Measures

In our July 6, 2015 comment letter, the Department recommended a subsequent environmental document for the Project because of a change in circumstances in the intervening years since the SEIR was prepared in 1997. Since 1997, coho salmon have been listed as State-Threatened (2005), steelhead trout have been listed as federally Threatened (2000), and Chinook salmon have been listed as federally Threatened (1999). Therefore, the Department recommended a re-evaluation of the significance of impacts from the Project. The MND makes a less-than-significant finding about potential impacts to candidate, sensitive, and special-status species, but does not accurately or adequately describe all the special-status species that may be impacted by the Project. For example, on page 15, under *"Biological Resources,"* the MND states:

> *"There are three special-status fish species in the South Fork Eel River. They are all salmonids. The federal listings include the Southern Oregon/Northern California Coasts Coho Salmon, California Coastal Chinook Salmon, and Northern California Steelhead and their designated critical habitat, all listed as threatened. These same species are listed under the California Endangered Species Act as 'species of special concern' and are proposed for listing as 'threatened' this year by CDFW."*

This is an inaccurate summary of the overall number of special-status fish species in the South Fork Eel River. Further, the environmental setting description should be specific to the mainstem lower Eel River and the Van Duzen River, where the Project is located. This is also an incorrect summary of the State-listing status for these species. Southern Oregon/Northern California coho salmon have been listed as Threatened pursuant to the CESA since 2005. In addition, the Department is not aware of a current petition to list the California coastal population of Chinook salmon or the northern California population of steelhead pursuant to CESA. A designation of SSC does not indicate that a species listing is imminent under CESA; rather, the intent of this designation is to achieve conservation and recovery of these animals before they meet CESA criteria for listing as Threatened or Endangered.

Further, the MND does not identify all of the potentially occurring special-status species (those listed under CESA or ESA, or designated as State SSC) that are known to occur or may occur within the Project footprint, and that may be impacted by gravel extraction, riparian vegetation removal, and bank stabilization projects. Some of the species that lack adequate discussion in the MND and/or prior environmental documents include:

- western pond turtle (*Actinemys marmorata*), State SSC
- northern red-legged frog (*Rana aurora),* State SSC
- green sturgeon (*Acipenser medirostris*), State SSC
- coast cutthroat trout (*Oncorhynchus clarkii clarkii*), State SSC
- Pacific lamprey (*Entosphenus tridentatus*), State SSC
- willow flycatcher (*Empidonax traillii*), State-Endangered
- bank swallow (*Riparia riparia*), State-Threatened
- yellow warbler (*Setophaga petechia),* State SSC

<u>Impacts to Special-status Birds</u>

The Department believes that ongoing riparian disturbance could have potentially significant impacts to a number of these species, particularly CESA listed species such as willow flycatcher and bank swallow, and other riparian SSCs such as yellow warbler, if these species are present during Project activities. The Department recommends that a qualified ornithologist assess the Project area and determine where potential habitat for any State- or federally listed species exists within the Project footprint and within 300 feet of all Project activities. The Department defines a qualified ornithologist as

someone who: (1) is familiar with avian distribution, habitat, and biology; (2) can correctly identify bird species found in northern California; (3) has conducted previous field surveys of nesting birds; and (4) is knowledgeable in survey protocols and State and federal permits needed for any potential take of listed birds. If Project activities are proposed to take place within 300 feet of potential habitat for these species during their nesting season (March 15-August 15), a qualified ornithologist shall conduct surveys prior to Project activities to locate nests and establish appropriate buffers to avoid take of active nests of these species.

Impacts to Special-status Reptiles and Amphibians

Mit-11 states:

> *"Amphibian pond habitat will be protected by providing a 150-foot buffer between ponds and excavation areas. If a 150-foot buffer cannot be maintained a biologic survey for species of concern will be conducted of the pond and buffer before encroaching on the 150 foot buffer. If species of concern are found in the pond, the buffer will be maintained unless the Department of Fish and Game approves an alternate plan through the1603 process which is designed to protect fish and wildlife resources. Extraction prescriptions will be limited in depth so as not to alter the development of ponds nor cause a reduction in pond surface water levels by modifying ground water drainage."*

This mitigation measure may create habitat for the non-native, invasive American bullfrog (*Lithobates catesbeiana*). Bullfrog predation upon native frogs such as the foothill yellow-legged frog and northern red-legged frog has been shown to negatively impact these SSCs and disrupt native aquatic community structures (Kupferberg 1997). Bullfrogs have also been documented to prey upon coho salmon (Garwood et al. 2010) and western pond turtle hatchlings (Moyle 1973). Their life history requires perennial water for breeding, while native frogs require only a seasonal pond. Department staff have documented that deep, off-channel perennial ponds created by gravel extraction have enabled bullfrog reproduction at gravel extraction sites on the Mad River. The Department has worked with these operators to appropriately manage these ponds to exclude bullfrogs from this habitat.

Perennial off-channel ponds should not be created as a result of the Project, and any existing ponds that have water year-round should be surveyed by a qualified biologist to determine whether or not bullfrogs are present. If bullfrogs are present, the ponds should be managed appropriately in consultation with the Department. Ideally, ponds will be managed so they dry out completely during the late fall in order to break the breeding cycle of the bullfrog. This will ensure that native frogs have access to the pond breeding habitat during their breeding season (November-July) while ensuring that

these ponds are not contributing to the invasive bullfrog population in the Van Duzen/Eel River watershed. Department staff is available to provide site-specific recommendations about the areas in question.

Impacts to foothill yellow-legged frogs are briefly addressed in regards to bridge installation in Mit-12:

> *"A survey for Yellow Legged Frog egg masses will be conducted at bridge sited before installing summer bridges. If Yellow Legged Frog egg masses would be disturbed by bridge installation the installation will be relocated or delayed as needed to make the impact less than significant."*

The Department recommends clarifying this mitigation measure to specify who will conduct these surveys and when bridges are proposed to be installed. If bridges are installed after June 15, the likelihood of unhatched egg masses is very small. In order to be effective, these surveys must be conducted by a qualified biologist with experience conducting visual encounter surveys for amphibian egg masses. Egg masses can be successfully relocated by qualified biologists using proper techniques. The Department will include specifics regarding egg mass relocation, if it is necessary, in a new LSAA.

Recommendations

The Department's recommendations are summarized as follows:

1. If the Project's intent is to continue gravel operations with a goal of incorporating streambank stabilization activities, whether as a primary Project objective, Project component, or a mitigation measure, the MND should be substantially revised to analyze potential impacts from these activities. If the Project proponent wishes to conduct streambank stabilization projects separate from the gravel extraction operation, these projects should undergo the appropriate level of environmental review, and acquire all necessary local, State, and federal permits.

2. The MND should be substantially revised and recirculated to accurately disclose all potential special-status species on-site, and mitigation measures should be correspondingly revised to avoid or mitigate potentially significant impacts from all proposed Project activities.

3. The revised MND should evaluate potentially significant impacts from mitigation measures, or substantially revise those mitigation measures to avoid those impacts. Specifically, potentially significant impacts from the installation of hard points and revetments (Mit-10 in the 1997 SEIR) and from potential creation of habitat for invasive bullfrogs from Mit-11 should be addressed. Pursuant to

CEQA section 15126.4 (a)(1)(D), *"If a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed."*

4. The revised MND should include an effective reclamation plan, and should also propose immediate remediation activities to mitigate for previous improperly installed, unauthorized streambank revetments, and other FGC violations.

5. The revised MND should include a revegetation plan prepared by a qualified restorationist. Methods for revegetation should follow currently recommended procedures for plantings that will not damage existing riparian vegetation.

6. Consultation with all relevant agencies should be carried out to ensure that any existing violations related to this operation are satisfactorily resolved.

7. If the Lead Agency chooses to approve the Conditional Use Permit Renewal, they should require third party monitoring of all Project activities as well as post-extraction and winter inspections of the Project site. A third-party monitor should be approved by relevant agencies such as the Department, USACE, the National Marine Fisheries Service, and the Regional Water Quality Control Board.

8. The County should clarify the roles and responsibilities of CHERT and its members and take measures to avoid conflict-of-interest or the appearance of a conflict-of-interest in the future.

9. The County should ensure that CHERT is fully staffed and should reinstate a qualified botanist to serve as a riparian specialist and the required fifth CHERT member, as described in Humboldt County's resolution 96-37.

Please keep the Department apprised of how our comments are incorporated into the environmental document for the Project. If you have any questions, please contact Environmental Scientist Jennifer Olson at (707) 445-5387, or Senior Environmental Scientist (Supervisor) Gordon Leppig at (707) 441-2062

Sincerely,

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Figure 1: Unauthorized revetment structures along the bank of the Van Duzen River at the Project site, September 18, 2013.

Figure 2: Unauthorized revetment structures along the bank of the Van Duzen River at the Project site, now in the active channel of the Van Duzen River, July 2015.

Figure 3: Damage to riparian vegetation at the Project site on April 2, 2013.

State of California
Department of Fish and Wildlife

Memorandum

Date: September 20, 2021

To: Rebecca Garwood
Northern Region Coastal Habitat Conservation Program Manager

Brett Kormos
Northern Region Coastal Fisheries Program Manager

From: Jonathan Hollis
Environmental Scientist, Coastal Environmental Review and Permitting

Subject: Implementation and Monitoring of Fish-Passage Riffle-Alterations in the Lower Eel River at Sandy Prairie

On September 15, 2021, California Department of Fish and Wildlife Environmental Scientist Jonathan Hollis and District Fisheries Biologist Chris Loomis oversaw the alteration of two critical riffles by Mercer-Fraser at the Sandy Prairie Gravel Bar Extraction Project (Project). The objective of this effort was to create a feasible route for adult salmonids entering the Project area to ascend the river and reach preferred pre-spawning holding-habitat in the "12th Street Hole." Implementation goals included achieving riffle depths sufficient for passage, preserving pre-alteration depths in the upstream pools, and providing strong flow-signals in the downstream pools. Preliminary monitoring conducted on September 16, 2021, suggests these goals were successfully achieved (Figures 1 and 2).

Current long-range forecasts suggest persistent drought conditions, with no meaningful rise in streamflow in the near term. In the absence of increased flow, these altered riffles present the only feasible route for adult salmonids entering the Project area to reach 12th Street Hole. Therefore, we suggest observations of adult salmonids in 12th Street Hole following riffle alterations could serve as one measure of success. We propose a two-part monitoring framework scheduled to begin September 20, 2021, occurring twice-weekly:

1. Collect measurements to assess whether favorable passage conditions persist in the treated riffles and pools (e.g. depths and widths of riffles, riffle crests, pools, etc.)
2. Perform visual surveys from the 12th Street Hole downstream to Drakes Riffle (near Palmer Boulevard) to obtain adult salmonid counts and assess their apparent health and condition.

Initially, Chris and I could perform monitoring and reporting duties. Following the scheduled onboarding of Scientific Aides and Americorps volunteers in Fortuna, we could transfer these responsibilities to them.

Figure 1. Riffle D prior to alteration on September 15, 2021 (top) and after alteration on September 16, 2021 (bottom). The altered riffle provides a strong downstream flow-signal, a riffle depth ranging from 10 – 15 cm, a recovery basin with a max depth of 56 cm, and a riffle crest depth of 11 cm. Initial measurements indicate upstream pool depth was successfully maintained.

Figure 2. The constructed riffle prior to alteration on September 15, 2021 (top) and after alteration on September 16, 2021 (bottom). This constructed riffle provides a strong downstream flow-signal, a riffle depth ranging from 10 – 15 cm, a recovery basin with a max depth of 44 cm, and a riffle crest depth of 15 cm. Initial measurements indicate upstream pool depth was successfully maintained.

State of California
Department of Fish and Wildlife

Memorandum

Date: September 8, 2021

To: Cheri Sanville
Senior Environmental Scientist Supervisor
Department of Fish and Wildlife, Region 1

Allan Renger
Fisheries Biologist Supervisor
Department of Fish and Wildlife, Region 1

From: Jonathan Hollis
Environmental Scientist
Department of Fish and Wildlife, Region 1

Chris Loomis
District Fisheries Biologist
Department of Fish and Wildlife, Region 1

Subject: Conditions for 2021 Fish Passage and Staging/Holding in the Lower Eel River, at Sandy Prairie

On August 30, 2021, California Department of Fish and Wildlife District Fisheries Biologist Chris Loomis and Environmental Scientist Jonathan Hollis (CDFW) performed an evaluation of the channel morphology and water quality of the Lower Eel River at Mercer-Fraser Company's Sandy Prairie/Cenavari Gravel Bar Extraction Project (Project; Figure 1). The purpose of this assessment was to identify impediments to fish-passage for early migrating Chinook salmon (*Oncorhychus tshawytscha*) and Steelhead (*O. mykiss*), hereafter adult salmonids, and to develop recommendations for improving passage conditions.

Each fall, beginning in September, early migrating adult salmonids ascend the river from the "tidewater" near Fernbridge, travel through areas of shallow riffle and marginal-quality holding-habitat, and disperse upstream to the "12th Street Hole" near the Riverlodge. This hole typically provides the best staging/holding habitat in the lower river due to its size, depth, and water quality. The quality of other holding habitat between tidewater and the 12th Street Hole has declined over the last ten years as most pools filled with sediment and became shallower. Very low, drought-condition flows during the summer of 2021 make the riffles between tidewater and 12th Street Hole especially difficult for migrating adult salmonids to pass. Current conditions increase the risks to early migrating fish, from predation, poaching, stranding, crowding and disease, and it is presumed adult salmonids will experience more favorable conditions if they can pass shallow riffles to access better habitat in the 12th Street Hole.

During our inspection of the Project, specifically Assessor's Parcel Number 200-352-006, CDFW determined three critical (impassable) riffles currently block access to the

12th Street Hole (Figures 2 – 6; riffles A, C, and D; Lat/Long 40.5898, -124.1638 and 40.5888, -124.1626, and 40.5892, -124.1629 respectively). Flows in this section are dispersed across multiple flow paths, most notably between riffles A, C, and D, with no feasible path for adult salmonids to ascend. Preliminary analysis suggests a 2020 trench-extraction, combined with meager winter-flows and gravel recruitment may have contributed to the formation of existing channel morphology and hydrology. If drought conditions persist, no meaningful rise in streamflow occurs, and adult salmonids attempt to ascend these critical riffles, the risks to early migrants could intensify. Recently, Mercer-Fraser has expressed willingness to assist in altering the channel in the Project area to alleviate the hazards posed by the critical riffles. Channel alterations meant to facilitate passage could receive authorization under the existing Lake or Streambed Alteration Agreement (1600-2014-0066-R1), pursuant to Measure 2.7.3 which states "Aquatic or riparian mitigation and enhancement activities shall be implemented to minimize seasonal and cumulative extraction impacts, and to compensate for unavoidable impacts of gravel extraction and processing activities within the stream corridor."

CDFW presents the following options for management's consideration:

1. *No Alteration of Critical Riffles*. This option proposes taking no action to alter existing conditions. To our knowledge, no downstream-barrier preventing early migrants from reaching critical Riffles A, C, or D currently exists. If streamflow conditions do not change, we can reasonably expect fish to arrive in the coming weeks, find passage blocked by Riffle A, ascend Riffle B, find passage blocked at Riffles C and D, and begin congregating in Run B. This scenario makes fish vulnerable to the risks already mentioned, and particularly presents a risk of crowding, the consequences of which could include fish attempting to ascend Riffles C and D (thereby becoming stranded), or, in the case of deteriorating water quality, increased susceptibility to disease. Water quality measurements made by CDFW at 1200 on August 30 suggest potentially suitable water temperature and dissolved oxygen (DO) in Runs A and B and the pool downstream (temperature 19° C; 14° C near the confluence with Strongs Creek; DO 70% - 112%), though more measurements should be collected as both temperature and DO fluctuate over a 24-hour period and congregating fish could result in declining water quality.

2. *Alteration of Critical Riffle A*. This option proposes excavating Riffle A over a length of approximately 100 meters to provide passage by linking the downstream pool to Run A via a shallow trench. The effects of this excavation on the hydrology in Run A are uncertain – the risk of reducing the capacity for Run A to convey sufficient flow should be evaluated further.

3. *Alteration of Critical Riffle D and Riffle B*. This option proposes excavating a shallow trench linking Riffle B to Run B and excavating Riffle D to link Run B to Run A. Each excavation should span approximately 20 meters and be limited to the extent necessary to facilitate passage. If management decides to pursue alteration activities, this option seems preferrable to Option 2 given the current river morphology. This option would keep excavation to a minimum and follow

existing flow paths and elevation gradients, maximizing the effect of the minimal flows currently present. The modified channels would create short, easily ascended riffles and connect the deep existing runs. This option also maintains connectivity to Strongs Creek which provides cold, oxygenated water to this area and provides rearing habitat for juvenile salmonids.

Another action deserving consideration, though not specifically evaluated during CDFW's recent assessment, involves preventing migrating fish from leaving the tidewater and entering the lower river with a weir or other means of exclusion. This could be undertaken in conjunction with the options listed above, but further analysis is warranted.

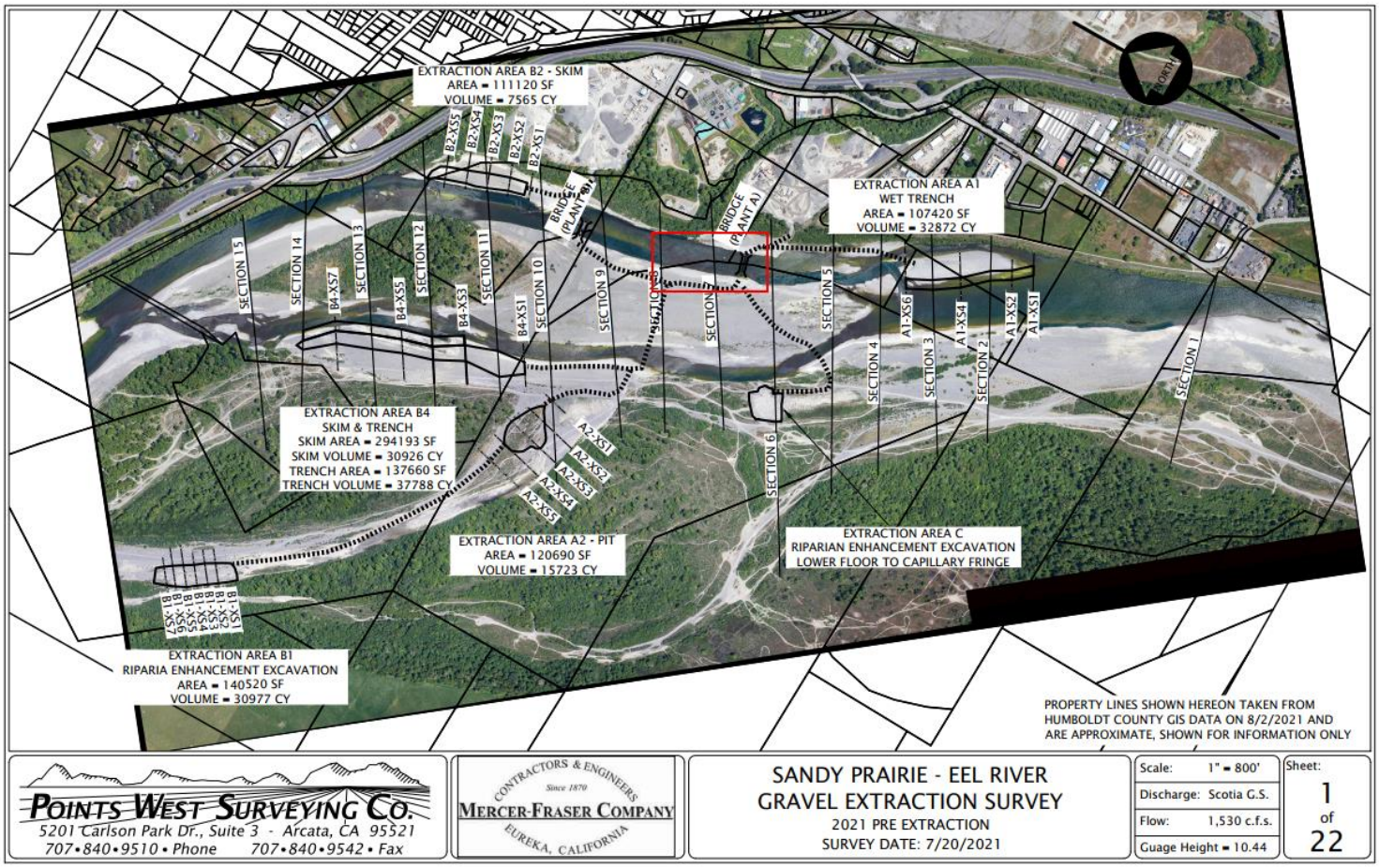

Figure 1. Aerial imagery captured July 20, 2021, excerpted from the 2021 Pre-extraction Plan for the Project; streamflow has since subsided dramatically. Red box indicates portion of the project area containing critical riffles and unfavorable staging/holding conditions identified during an August 30, 2021 CDFW site-inspection.

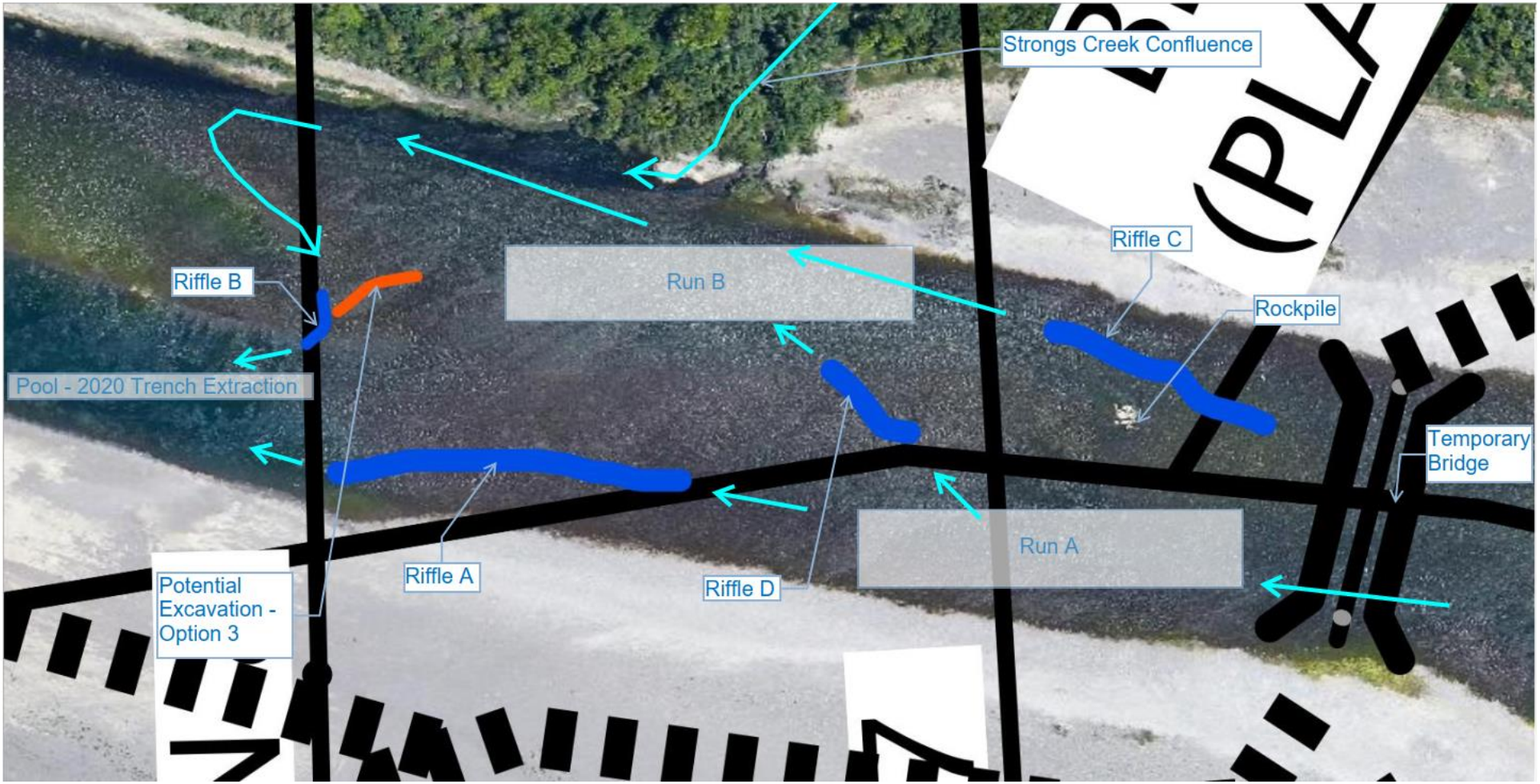

Figure 2. Diagram of features observed during August 30, 2021 inspection, depicted on aerial imagery captured July 20, 2021. Arrows indicate direction of streamflow. Currently all flow originating upstream of the Project area passes under the bridge, however, below the bridge the channel is split between Run A and Run B. Run B is at a lower elevation than Run A (approximately 1 – 2 meters lower) and apparently holds more water (average depth ranges from 45 – 60 cm, versus 10 – 30 cm in Run A.) Most flow from the focal area exits Riffle B, which remains passable as of August 30, 2021.

Figure 3. Drone imagery collected by Mercer-Fraser on September 2, 2021 depicting current conditions in the Project area.

Figure 4. Riffle A, viewed from downstream on August 30, 2021. Note temporary bridge in background. Riffle A is approximately 75 meters long, with an average width of 7 meters, and average depth less than 7 centimeters.

Figure 5. Riffle C, viewed from upstream on August 30, 2021. Note rockpile in foreground and Run B in the background. Riffle C is approximately 65 meters long, with an average width of 15 meters and average depth less than 15 cm.

Figure 6. Riffle D, viewed from Run B. Note change in elevation from Run A (background) to Run B. Riffle D is approximately 100 meters wide, with surface flow permeating the majority of the bar separating Runs A and B; it is approximately 20 meters long, with an average depth less than 8 cm.

Figure 6. Proposed location for potential excavation linking Run B to Riffle B to provide fish passage. Option 3 proposes constructing a shallow trench approximately 20 meters long.