**Policy for Evaluation of Well Applications to Minimize Resource Impacts**

This policy specifies the level of review of proposed well applications and requirements to minimize potential impacts on water resources, public trust resources, and other wells; (7.70.110 (C-G)), and coastal, biotic and cultural resources (7.70.030(C)). This policy addresses the following issues:

- Water use efficiency measures to prevent waste and minimize overdraft;
- Influence on groundwater levels and production of nearby wells;
- Influence on surface water and public trust resources;
- Evaluation of wells that encounter karst;
- Consistency with groundwater sustainability plans;
- Applicability of environmental and coastal review and assessment of biotic and cultural resources.~~requirements;~~
- Metering and reporting for non-de minimis wells;
- Additional requirements in groundwater extraction concern areas.

**Definitions:**

(1) "Community well" means a water well used to supply water for domestic purposes in public water systems or state small water systems as defined in Section 116275 of the State Health and Safety Code.

(2) "De Minimis Well" means a well that is used to extract less than 2 acre-feet per year for domestic purposes. De minimis wells include a water well used to supply water for domestic needs of up to four individual primary residences using a total of less than 2 acre-feet per year. An approved accessory dwelling unit is not considered a separate primary residence for this purpose. De minimis domestic use may include up to one half acre of non-commercial residential irrigated landscaping and gardening per primary unit. {*Santa Cruz County Board of Supervisors has adopted General Plan Policy that ADUs are not to be considered as separate connections. A modest amount of irrigation for landscaping and gardening can be considered to be part of domestic use. Actual average de minimis use in Santa Cruz County is 0.3-.05 af/y based on metered records for small rural water systems.*}

(3) "Non-D~~d~~e M~~m~~inimis Well" means a well that is not a de minimis well: it serves a non-domestic use, or serves more than 4 separate primary dwelling units.

(4) "New Well" means a well that will serve a new or significantly expanded use, which represents an increased extraction of groundwater. A significant increase would result from a new use or change of use in the area served by the well that will result in an increase in the maximum annual amount of water extracted in the past 5 years. {*New wells are rare in the County. We receive around 10 applications per year for new wells, usually de minimis. There are very strict limits to growth outside of the urban services line that prevents subdivisions, the only new development is the occasional single-family house. Given the slope, roads, and septic constraints, most areas that could support a house have already been developed.*}

(5) "Replacement Well" means a well that will serve an existing use or change of use with no significant increase in water use as defined above and will replace an existing water

source such as a spring or a well that is to be destroyed. *{The definition of a replacement/supplemental well is tied to no significant increase in the amount of water used in the last 5 years. A change in well depth, or pump size would be generally acceptable as those changes can make the well more efficient and reliable and can reduce impacts to surface water and/or improve water quality, provided other conditions ae also met. Adverse impacts of well deepening have not been observed in Santa Cruz County, though may be of concern to groundwater agencies in specific locations.}*

(6) "Supplemental Well" means a well that that will support an existing use, including a change of use, with no significant overall increase in total water use as described above. The existing source could be a shared well or other well that will be maintained as a backup source.

(7) "Tier" means the type of well application and the level of review and conditions that will be needed for approval based on the proposed volume of pumping, type of water use, proposed increase in water use, the aquifer characteristics and the potential for impact on streams, nearby wells, groundwater sustainability, and/or the environment. Each application for a new, supplemental, or replacement well shall be evaluated and specific measures may be required to ensure that the well will not have significant adverse impacts on groundwater sustainability, nearby wells, surface water, or the environment. The level of evaluation and required measures will depend on the Tier in which the well falls, based on the type of well, the location, and the aquifer characteristics. The Health Officer shall establish specific criteria and procedures for assigning the Tier and the extent of required evaluation and protective measures. Such criteria shall be adopted by the Board of Supervisors by resolution. The Health Officer may deny applications for Tier 4 wells that will have a significant adverse impact on groundwater sustainability, nearby wells, surface water, or the environment.

(1) Tier 1 will include de minimis wells and non-domestic wells using less than 2 acre-feet per year that do not require any discretionary review under other chapters of the SCCC and meet the minimum standards for preventing impacts on streams and nearby wells based on aquifer characteristics, well characteristics, depth of well seal, and location.

(2) Tier 2 will include supplemental and replacement non-de minimis wells with no significant increase in water use and meet the minimum standards for preventing impacts on streams and nearby wells based on aquifer characteristics, well characteristics, depth of well seal, and location.

(3) Tier 3 will include new non-de minimis wells serving new uses that will pump less than 100 acre-feet per year and Tier 1 or Tier 2 wells that do not meet the Tier 1 or Tier 2 requirements. Tier 3 wells must also meet the minimum Tier 3 requirements for stream depletion and nearby well drawdowns.

(4) Tier 4 will include wells that do not meet the Tier 1, 2, or 3 requirements, are in a control zone, are in specified Tier 4 Groundwater Extraction Concern Areas, or are wells that could adversely affect the sustainability of a groundwater basin.

~~Each application for a new, supplemental, or replacement well shall be evaluated and specific measures shall be required to ensure that the well will not have significant adverse impacts on groundwater sustainability, nearby wells, surface water or the environment. The~~

~~level of evaluation and required measures will depend on the Tier in which the well falls, based on the type of well, the location, and the aquifer characteristics. The Health Officer shall establish specific criteria and procedures for assigning the Tier and the extent of required evaluation and protective measures. Additional measures may be mandated for all proposed wells within a designated groundwater extraction concern area. The Health Officer may deny applications for Tier 4 wells that will have a significant adverse impact on nearby wells, groundwater sustainability, or the environment.~~

~~(a) Tier 1 will include de minimis wells and non-domestic wells using less than 2 acre-feet per year that do not require any discretionary review under other chapters of the County code and that meet the minimum standards for preventing impacts on streams and nearby wells based on aquifer characteristics, well characteristics, depth of well seal, and location.~~

~~(b) Tier 2 will include supplemental and replacement non-de minimis wells with no significant increase in water use and that meet the minimum standards for preventing impacts on streams and nearby wells based on aquifer characteristics, well characteristics, depth of well seal, and location.~~

~~(c) Tier 3 will include new non-de minimis wells serving new uses less than 5100 af/y, de minimis wells that do not meet the Tier 1 requirements, and replacement/supplemental non de minimis wells that do not meet the Tier 2 requirements, but can meet the Tier 3 requirements.~~

~~(d) Tier 4 will include wells that do not meet Tier 1, 2, or 3 requirements, are in a control zone, are in specified Tier 4 Groundwater Extraction Concern Areas, are wells that could adversely affect the sustainability of a groundwater basin, or are Public Water System wells serving 200 or more connections.~~

(8) "Groundwater Extraction Concern Area" means an area designated by the Health Officer where groundwater availability is limited due to inadequate supply or poor quality, or where construction of additional wells may cause significant adverse impacts on groundwater levels, surface water flow, or seawater intrusion. These areas are shown in the County's Geographic Information System. *{Designations and requirements for groundwater extraction concern areas are still being developed, and may evolve with time.}*

**Requirements for Minimizing Impacts on Stream, Public Trust Resources and Groundwater Dependent Ecosystems**

Applicable Streams:

- These standards shall apply to wells near wetlands, streams or reaches that are hydraulically connected to groundwater more than 5% of the time. (This does not include lower Valencia Creek, lower Corralitos Creek. Specific reach designations and other exempt streams may be added.) *{In these locations, well pumping cannot further deplete streamflow. These reaches are impacted by the long-term overdraft of the Pajaro Groundwater Basin. The GSP for that basin does not project restoring connectivity at any specific time in the new future. Connectivity can only be achieved through basin-wide management and will not be affected by the county well ordinance}*

Tier 1: (New and replacement de minimis wells)

- All wells located within 1000 ft of perennial or intermittent stream as mapped on a USGS map or as identified in the field shall meet standards for minimizing impact on streamflow unless that stream is designated as exempt by the Health Officer.
- Wells shall be located a minimum of 50 ft from the streambank, outside riparian woodland and outside the 100 year floodplain, whichever distance is greater. If a 50 ft setback cannot be attained due to the size of the property, steep slopes, setbacks from onsite wastewater treatment systems, or other factors, the setback shall be the maximum attainable and shall not be less than the existing well if the proposed well is a replacement or supplemental well. *{These setbacks are already required by other provisions in County Code. The analysis of stream setback indicates that the amount of setback has very little influence on direct stream depletion by low volume wells. The use of a deep seal is much more effective. See separate Analysis of Streamflow Depletion.}*
- The minimum depth of the well seal shall be 100 ft or into first impermeable material, whichever is less. An impermeable layer is defined as a layer that limits the downward movement of groundwater and will be identified based on information on local geology or nearby well logs, and will be confirmed by the well log of the newly installed well.
- No well shall be completed in alluvium deposited into a known and definite channel with a direct hydraulic connection to surface water. *{This condition refers to State Water rights law, which requires a surface water right if water is drawn from a known and definite subterranean channel.}*
- Additional measures, as outlined in the *'Groundwater Extraction Concern Table',* may be required for proposed Tier 1 wells located within a designated groundwater concern area.

Tier 2 (Replacement/supplemental non-de minimis wells, with no increase in water use)

- All wells located within 2000 ft of perennial or intermittent stream as mapped on a USGS map or as identified in the field shall meet standards for minimizing impact on streamflow unless that stream is designated as exempt by the Health Officer.
- Wells shall be located a minimum of 100 ft from the streambank, outside riparian woodland, and outside the 100 year floodplain, whichever is greater. If a 100ft setback cannot be attained due to the size of the property, steep slopes, setbacks from onsite wastewater treatment systems, or other factors, the setback shall be the maximum attainable and shall not be less than the existing well. *{Increasing the setback from 50 to 100 feet provides some additional margin of protection. The requirement for a deep seal provides more significant reduction of depletion. This tier addresses replacement/supplemental wells which may already be having an impact on stream depletion, and these requirements will reduce that impact.}*
- The minimum depth of the well seal shall be 200 ft or into first impermeable material, whichever is less. An impermeable layer is defined as a layer that limits the downward movement of groundwater and will be identified based on

information on local geology or nearby well logs, and will be confirmed by the well log of the newly installed well.

- No well shall be completed in alluvium in a known and definite channel.
- Additional measures, as outlined in the *'Groundwater Extraction Concern Table',* may be required for proposed Tier 2 wells located within a designated groundwater extraction concern area.

Tier 3 (Wells that do not meet Tier 1 or 2 requirements and new non-de minimis wells that will not pump more than ~~10~~50 afy or more than a daily average of ~~21~~00 gpm and are consistent with local GSPs.) *{Stream depletion calculations show that unmitigated pumping of 50~~100~~ af/y can result in a stream depletion of 0.05-0.1~~-0.2~~ cfs, which can be significant on most streams during the dry season. Larger new wells will require a more thorough analysis through Tier 4.}:*

- All wells located within 2000 ft of perennial or intermittent stream as mapped on a USGS map or as identified in the field shall meet standards for minimizing impact on streamflow unless that stream is designated as exempt by the Health Officer.
- The minimum depth of the well seal shall be 200 ft or into first impermeable material, whichever is less.
- The well shall be located and designed so that a calculation of projected streamflow depletion shall not cause exceeding the allowable additional cumulative depletion percentage of the 10th percentile dry season flow in an affected fish-bearing stream after ~~700 days~~10 years of pumping, as calculated by Environmental Health staff based on well characteristics, water usage, aquifer characteristics ~~and~~ using the most appropriate ~~USGS~~ streamflow depletion ~~calculation~~ model (e.g. Reeves, 2008; Hunt, 1999 ; Hunt, 2003, Li et. al. 2022, Bakker 2013 ~~etc?~~). 10th percentile dry season flow shall be the observed flow, if available, or the calculated natural flow as indicated in the most recent version of the California Unimpaired Flow Database (Zimmerman, et.al, 2023). Environmental Health staff will utilize the Critical Stream Table and will develop additional resource and streamflow information for the specific location of the proposed well as needed. *{Studies have identified a 10-20% depletion of dry season flows as a significant impact in coho and steelhead stream, respectively. No individual well should be allowed to reduce flow by more than 1-~~20~~15%, depending on the public trust values present and the degree of flow depletion already occurring (see critical stream tables, below). ~~The time period of 700 days of pumping is used to account for a two-year drought. Additional projected drawdown during a longer pumping period is somewhat larger but would be expected to be mitigated by recharge and recovery during the wet season.~~ }*
- Consideration will be given for mitigating flow depletion impacts through increased groundwater recharge, use of summer storage, limitations on water use, or other methods of reducing impact on flow or associated public trust resources.
- Additional measures, as outlined in the *'Groundwater Extraction Concern Table',* may be required for proposed Tier 3 wells located within a designated groundwater concern area.

Tier 4 (Wells that do not meet Tier 1, 2, or 3 requirements, are in a control zone, are in specified Tier 4 Groundwater Extraction Concern Areas, are in a seawater intrusion area, are wells that could adversely affect the sustainability of a groundwater basin, or are new Public Water System wells serving 200 or more connections) *{Tier 4 requires a very thorough evaluation, CEQA review and possible denial}*.

- An analysis of the projected impacts on groundwater levels, streamflow, and groundwater dependent ecosystems in the groundwater basin and watershed where the well will be located shall be conducted by a hydrogeologist, taking into account specific aquifer characteristics, well characteristics, cumulative impacts of existing groundwater and surface water withdrawals, the presence and lifecycle needs of protected species in affected surface waters, and the potential impact on public trust resources.
- Consideration will be given for mitigating flow depletion impacts through increased groundwater recharge, use of summer storage, limitations on water use, or other methods of reducing impact on flow or associated public trust resources.
- This analysis will be required for any proposed Tier 4 well located within a half mile of a stream that is not exempt, in a designated Tier 4 groundwater extraction concern area, or anywhere within the watershed of a critical Level 1 stream (Scott Creek, San Vicente Creek, Laguna Creek, Bean Creek, Zayante Creek, East Branch Soquel Creek). Critical Streams are indicated in the critical stream table and additional streams may be added as additional information on habitat value and/or extent impairment becomes available.
- This analysis will also be required for any Tier 4 well located within or near a groundwater basin where the GSA has determined that the well may threaten achieving groundwater sustainability pursuant to the GSP. Wells will not be approved in the Pure Water Soquel Control Zones, unless it can be shown that well will not impact or be impacted by the injection program.
- Tier 4 wells are subject to discretionary review and evaluation under the California Environmental Quality Act (CEQA).
- Specific construction and/or operating measures may be required as a condition of approval and the application may be denied if the project would result in significant adverse impacts on groundwater resources, control zones, surface water or public trust resources.

## Critical Streams: Updated

| Allowable Additional Cumulative Flow Depletion | | | | |
|---|---|---|---|---|
| **Current Depletion** | **>20%** | **10-20%** | **5-10%** | **<=5%** |
| **Resource Value** | | | | |
| **Coho Core-1** | 1% | 1% | 5% | 10% |
| **Coho Recovery-2** | 1% | 5% | 5% | 10% |
| **Steelhead high intrinsic=3** | 1% | 5% | 5% | 10% |
| **Steelhead/Other Fish-4** | 1% | 5% | 10% | 15% |

| Stream | Resource Value | All years 10th Percentile Dry Season Unimpaired Flow (A) | All Years 10th Percentile Dry Seas. Observed Flow | Data Sources Observed Flow | Current Estimated Depletion | Data Sources Estimated Depletion | Allowed Additional Depletion* | Allowed Depletion cfs* |
|---|---|---|---|---|---|---|---|---|
| Lower Soquel @USGS | 2 | 2.44 | 0.84 | A | 65% | B,G,H,G | 1% | 0.008 |
| E. Branch Soquel @ W. Branch | 1 | 1.23 | 0.1 | B,D,E,G | 60% | B,D,E,G | 1% | 0.001 |
| W. Branch Soquel @ E. Branch | 2 | 0.63 | 0.81 | B,D,E,F | 15% | B,D,E,F | 5% | 0.041 |
| Moore Gulch | 4 | 0.05 | 0.15 | E,F | 17% | E,I | 5% | 0.008 |
| Other Soquel Tribs | 4 | | | | 10-20% | E | 5% | |
| Aptos ab Valencia | 2 | 0.46 | 0.66 | D,E,G | <=5% | D,E | 10% | 0.046 |
| Valencia | 4 | 0.11 | 0.02 | D,E,G | 82% | D,E | 1% | 0.001 |
| Upper Corraltios | 4 | 0.63 | 0.3 | D, E | 50% | D,E | 1% | 0.006 |
| Browns Valley Cr. | 4 | 0.22 | 0.2 | D, E | >20% | D,E | 1% | 0.002 |
| SLR @ Big Trees (Felton, mainstem) | 2 | 15.2 | 12 | A,C,G,H | 30% | C,D,E,G,H | 1% | 0.120 |
| Branciforte | 2 | 0.34 | 0.46 | C,D,E,F | 5-10% | C,D,E | 5% | 0.017 |
| Bean | 1 | 0.5 | 2.3 | C,D,F,G | 21% | F,G,H | 1% | 0.023 |
| Zayente ab Bean | 1 | 1.19 | 1.53 | A,D,E,G,H | 5-10% | C,D,E,G | 5% | 0.077 |
| Bear | 2 | 1.12 | 0.63 | C,D,E,F | <=5% | C,D,E | 10% | 0.063 |
| Kings | 2 | 0.58 | 0.2 | A,C,E,F | <=5% | C,E | 10% | 0.058 |
| Boulder Creek | 3 | 0.89 | 1.1 | A,C,D,E,F | 25% | C,D,E | 1% | 0.011 |
| SLR Other Tribs | 4 | | | C,E | 5-10% | C,E | 10% | |
| Laguna | 1 | 0.5 | | A,G | >10% | E,G | 1% | 0.005 |
| Majors | 2 | 0.22 | | A,G | >10% | E,G | 5% | 0.011 |
| San Vicente | 1 | 0.85 | | A | >10% | E | 1% | 0.009 |
| Scott | 1 | 1.99 | | A | >10% | E | 1% | 0.020 |
| Other County Streams | 4 | | | E | 5-10% | E | 10% | |

* Allowed depletion for Tiers 1-3. Additional Analysis would be required for Tier 4.

Data Sources (See Notes for more information)

A-California Natural Flows Database
B-RCDSCC-TU surface diversion info
C- San lorenzo River Watershed Plan
D-JSSH September Flow Summary-cbec
E - Judgement and observations
F-Flow Measurements
G-Gage data, current
H-Numerical Basin Model
I - Calculated Water Budget

**Minimizing Impact on Nearby Wells**

- Tier 1 and 2: The minimum setback from existing wells shall be 50 ft. If this cannot be met, the setback shall not be less than the setback of the existing well to be replaced. Minimum setbacks will not be required for wells located on the same parcel or owned by the same owner. *{Application of the modified Theis Non-Equilibrium Equation to low volume wells, shows that there is minimal drawdown for wells that pump up to 50 gpm in most formations. Santa Cruz County requires a 50 ft setback from a property line and San Mateo County requires a 50 ft separation for all wells.}*
- Tier 3: The minimum setback to a nearby well shall be calculated using the modified Theis Non-Equilibrium Equation (Cooper-Jacob), with proposed well parameters and regional aquifer properties. Calculated drawdown at the proposed distance of nearby well shall not exceed 5 feet after 180 days of pumping. *{The standard of 5 ft drawdown after 180 days of pumping is proposed as it is expected that this would have minimum impact on the yield of a nearby well. The modified Theis Non-Equilibrium Equation is also used by Monterey County.}*
- Tier 4: A geohydrologic analysis shall be required for Tier 4 wells that will evaluate the projected effect on nearby wells and shall demonstrate that the new well will not cause ~~drawdown at a nearby existing well in excess of 5 feet after 180 days of pumping.~~ significant and unreasonable impacts on nearby wells. ~~I~~if projected impacts are found to be significant and unreasonable, the well applicant must implement a monitoring plan with possible mitigation measures to address~~for~~ observed impacts.

| Proposed Level of Review and Mitigation Required for Various Types of Well permit Applications | | | | | |
|---|---|---|---|---|---|
| **Tier** | **Criteria** | **Average Number of Permits/year** | **CEQA Review Required?*** | **Connected Stream Setback** | **Nearby Well Setback** |
| Tier 1 | De Minimis, domestic < 5 connections; Non-de minimis <2 AFY | 44 | Ministerial | >50 ft and 100 ft deep seal within 1000 ft of stream** | >50 ft |
| Tier 2 | Non-De minimis Replace/Supplemental | 11 | Ministerial | >100 ft or not less than existing, and 200 ft deep seal within 2000 ft of stream** | >50 ft, or not less than existing |
| | Public Water system replace/supplemental | 1 | | | |
| Tier 3 | New Non-De minimis wells that are consistent with GSPs, meet Tier 3 calculated setbacks, and will pump less than 50 afy/100gpm | 1 | Ministerial | If within 2000 ft of stream, Using depletion model, 10th percentile dry season flow shall not be reduced by more than allowed % after 10 years of pumping *** | Calculated minimum setback so that drawdown at nearby well is less than 5 feet**** |
| | Wells that do not meet Tier 1 or 2 minimum setbacks, but do meet Tier 3 calculated setbacks | ? | | | |
| Tier 4 | Wells that do not meet Tier 1,2,or 3 requirements; or located in a control zone or Tier 4 gw concern area | ? | Yes | Analysis, including cumulative effect on streamflow in overall basin | Analysis and mitigation |
| | New Public Water System Serves > 199 connections | <1 | | | |

| | |
|---|---|
| Notes: | |
| * | Well permit is discretionary if other discretionary permits are requried by other sections of County Code. |
| ** | Deep Seal is specified depth or first impermeable layer, whichever is less. |
| *** | Allowed depletion is function of stream value and current impairment, as shown in Critical Stream Table |
| **** | Use modified Theis Non-Equilibium Equation (Cooper-Jacob), with proposed well parameters and regional aquifer properties. Calculated drawdown at proposed distance of nearby well should not exceed 5 foot after 60 days of pumping. |
| Water use efficiency measures are required for all wells; metering and reporting is required for all non-de minimis wells; other mitigation measures may be required. | |

**Karst Areas**

For non de minimis wells, ~~I~~if a well is proposed in a known karst area or if karst is encountered during the drilling process, further drilling shall be suspended, and the Health Officer shall evaluate whether a well can be completed without causing adverse impacts on groundwater resources, surface waters or other water users. The Health Officer may require analysis at the expense of the applicant by a professional geologist familiar with the occurrence and movement of water in karst landscapes. The analysis shall take into account the potential effect of the proposed well on nearby wells, springs and streams in terms of flow, water temperature and water quality. Recommendations may include procedures for destroying the borehole without adversely affecting subsurface conditions. Known karst areas and outcrops of marble or limestone are shown on the map of Groundwater Extraction Concern Areas, but other unmapped areas of karst may be encountered during drilling, particularly within mapped metasedimentary formations. ~~The occurrence of metasedimentary rock is also mapped as karst may occur within metasedimentary formations.~~ *{There is a limited extent of karst on private lands in the Bonny Doon area and near UCSC. There are a number of concerns that larger non de minimis wells in karst could impact the flow to springs that provide cool, high quality water to streams that support fish and local water supply. In addition, there is a risk of groundwater contamination from surface pollutants or leaking septic systems. Encountering caverns and other karst features can also present challenges to the well drilling operation.}*

**Compliance with California Environmental Quality Act and Protection of Coastal, Biotic and Cultural Resources**

Tier 1, 2, and 3 wells that meet the requirements for those tiers may be approved ministerially. Tier 4 wells are subject to discretionary review and evaluation under the California Environmental Quality Act (CEQA), pursuant to state and local environmental review guidelines.

Wells within the Coastal Zone require a coastal development permit and are subject to evaluation under CEQA unless they qualify for an exemption or exclusion under County Code Chapter 13.20:

1. The following wells are exempt from coastal permit requirements: Replacement well on Park land (13.20.064) or serving an existing single-family dwelling (including ADU) or other existing legal structure where there will be no increase or expansion of the use and where the well or access road will not encroach into a sensitive biotic habitat.
2. A well can qualify for a coastal exclusion under the following circumstances:
    a. The well is for agriculture on lands designated for agriculture on a parcel greater than 10 acres, the well is greater than 100 feet from a stream or waterbody, and is not between the coast and the first public through road paralleling the coast (typically Hwy 1, or San Andreas Rd)

b. The well will serve a proposed single-family dwelling (including ADU) and is not in a sensitive habitat, urban services line, rural services line, appealable area, or in an area subject to saltwater intrusion or groundwater emergency.
c. If a well meets the above requirements, a notice of coastal exclusion must be completed and sent to the Coastal Commission. These forms must be completed by staff in the Community Development and Infrastructure Department (CDI).

3. In all other cases the well is subject to Coastal Development Permit Requirements, and the applicant must apply to CDI. In some cases an emergency coastal permit may be obtained, but the applicant will still need to go through the process to obtain a coastal development permit.

When a well application is submitted, County staff will assess the potential impact on mapped resources, including, sensitive habitat (Chapter 16.32), riparian corridors (Chapter 16.30), native American cultural sites (Chapter 16.40), and historic resources (Chapter 16.42). Where the proposed well location may impact any of those resources, further analysis and discretionary review may be required prior to well permit approval. Any site disturbance required for the well construction must be in compliance with the County Grading ordinance (Chapter 16.20), and as such may require further discretionary review and permitting.

**Metering and Reporting**

- For all non de minimis wells, a meter shall be installed to measure water use and usage shall be reported annually to the Health Officer, according to procedures established by the Health Officer. The cost of meter installation and reporting shall be borne by the well owner(s). *{The County and the GSA's have good information on average water use of de minimis users. SGMA does not authorize metering of de minimis users and there would be considerable resistance to requiring that without adequate justification. However, SGMA does authorize metering of non-de minimis users and given the large variability and much greater usage of those users, it is justified to require meters on all new and replacement non-de minimis wells.}*
- The Health Officer may require the property owner to provide information to confirm that any required conservation measures are being maintained. If such information is not provided or water usage is not being reported, the Health Officer may conduct an inspection to observe the meter and/or verify that water conservation measures are being maintained. Inspections shall be conducted at reasonable times and the inspector shall first make a reasonable effort to contact the owner or occupant of the premises. If the inspection requires the entry into a building or an area that is designed for privacy, then prior permission shall be obtained from the owner or occupant. If permission is denied, then an inspection warrant shall be obtained.
- If the usage information or the results of a site inspection show that the well owner is not in compliance with Chapter 7.70 or with the requirements of the permit, the Health Officer shall require that corrective measures be taken.

**Water Use Efficiency**

Section 7.70.110.D of the County Well Ordinance requires that as a condition of approval of a well permit, it is demonstrated that groundwater will be put to beneficial use and will not be wasted. To that end, each non de minimis well permit application shall be accompanied by the attached supplemental sheet (Attachment A) which describes the proposed use of the well and measures that are taken to maximize water use efficiency. De minimis users ~~will~~ are required to complete a water efficiency checklist and ensure that irrigated areas do~~es~~ not exceed 0.5 acre. The section requires that a water efficiency evaluation be performed, with reasonable recommendations for improved efficiency implemented. Following are the elements to be addressed in the water use efficiency audit. *{Water efficiency measures are currently required for all non de minimis uses. The requirement for a checklist/evaluation would be extended to de minimis wells.}*

**Water Use Efficiency Audit for Non-Agricultural Uses**

- Measure showerhead flow rates and install low flow showerheads, if needed.
- Measure faucet flow rates and install faucet aerators for kitchens and bathrooms, if needed.
- Check toilet for leaks and install tank displacement devices or retrofit, if needed.
- Evaluate the efficiency of the irrigation system.
- Identify and correct irrigation leaks, broken or mismatched sprinkler heads, high pressure and other common problems.
- Provide water conservation materials and water-wise landscaping tips.
- Evaluate any other water uses in the home or business for efficiency.
- Institute measures for dispersal and infiltration of stormwater~~,~~ where feasible, ensuring slope stability is not compromised.

Section 7.70.110.D.2 allows the installation of standard conservation measures in lieu of performing an audit. In this case, the following measures would be required. Some optional measures could be substituted to offset high water use landscaping.

Conservation Measures (** - Mandatory Measures)

1. Install ultra-low flow toilets (<1.2 gal/flush)** (retrofit waived if 1.6 gal/flush toilet is already in use)
2. Install low-flow showerheads (<2.0 gpm)**

3. Retrofit Clothes Washer
4. Audit for leaks**
5. Audit for irrigation efficiency**
6. Use xeriscape landscaping.
7. Utilize drip irrigation if feasible. (Required for agricultural use if feasible)
8. Evaluate water use and water savings by installation and use of a water meter.

**Conservation Measures for Agricultural Uses**

A more detailed and specific analysis of water use efficiency for agricultural uses shall be required to be completed on forms developed by the Health Officer. Additional measures may be required to prevent unnecessary water waste.

**Groundwater Extraction Concern Areas**

Additional measures will be required in designated groundwater extraction concern areas:

| Type of Concern: | Karst | Limited Yield | Elevated Nitrate/ TDS/Cl | Tier 4 Seawater Intrusion |
|---|---|---|---|---|
| Protective Measure: | | | | |
| Geohydrologic Evaluation | x | | | x |
| Modified Yield test observed by County | | x | | |
| Discretionary CEQA Review | x | | | x |
| Water Quality Testing | | | x | x |
| Seal Design | x | | x | x |
| Treatment/Deed Recordation | | | x | |
| Well Interference Evaluation? | | x | | |
| Water Conservation/ Recordation | | x | | |

Limited Yield Areas:

These are areas of the county known to provide limited amounts of groundwater due to the presence of non-water-bearing formations, with limited fractures. These areas have a history of dry holes and/or wells going dry during the summer or dry years. Wells proposed to serve a new or expanded use, including an accessory dwelling unit, in these areas will require a yield test that includes observation of a sustained pumping rate over a four-hour period that meets the requirements of Chapter 7.73 and concurrent observation of groundwater level in the well to show the level is stable and that it recovers at least 90% within 24 hours after the pump test is completed. Tier 2, 3 and 4 wells will also require concurrent observation of groundwater levels in existing wells within 2000 ft of the new well, subject to authorization by the affected well owners, who will also be required to rest

their wells during the test period. If the yield test does not meet standards, additional water efficiency measures may be required and a notice may be recorded on the deed to note the limitations of the well.

Elevated Water Quality Concern

Areas of the county are known to have elevated levels of nitrate, total dissolved solids, chloride, chromium, or other constituents. Water quality testing is required for all newly constructed wells. In water quality concern areas this testing must be completed and submitted to the Health Officer for review and approval prior to well completion. If constituents are found to exceed drinking water standards, or may degrade nearby groundwater quality, the Health Officer may require additional testing, electronic logging, evaluation by a qualified professional, specific completion and sealing measures, treatment, complete destruction and sealing of the borehole, and/or other measures necessary to protect groundwater quality and ensure the water quality is suitable for the proposed use. If treatment is required to meet drinking water standards, a notice will be recorded on the deed, pursuant to Chapter 7.73.

Tier 4 Seawater Intrusion Areas

Some areas of the county are experiencing seawater intrusion that is not currently being controlled by implementation of groundwater sustainability plans. In these areas, continued or expanded pumping may further threaten groundwater quality. Any new or replacement non-de minimis well in these areas shall be considered Tier 4 and will require an evaluation by a qualified professional to evaluate the likely impact of that well on seawater intrusion and groundwater quality, also taking into account the potential effects of sea level rise and climate change. The Health Officer may deny drilling of a non-de minimis well in these areas if such well is expected to worsen seawater intrusion.

**Attachment A: Well Application Supplemental Information Sheet**
**Water Use and Water Conservation Measures**

For well permit application #_____, on APN _____

The Santa Cruz County Well Ordinance (Section 7.70.110) specifies that all well permit applications must specify the parcels proposed to be served, the type of land uses to be served, the estimated annual water use, and the presence of any existing wells which also serve those uses. The Health Officer may require documentation to support the water use estimates provided. For wells which will serve more than four residential connections or which will serve nonresidential uses which can be expected to utilize more than 2 acre-feet of water per year, measures must be taken to ensure that groundwater is put to beneficial use and is not wasted. These may include completion and implementation of a water use efficiency audit, and/or installation of water conservation measures (see attached).

**The applicant must provide in writing the following information:**

The proposed well is a (circle one): replacement supplemental new

Water will be used for: Residential: Number of Units____
Area of irrigated landscape or garden: _____-
(Indicate all that apply) Commercial or Industrial (Describe)_____
Agricultural Irrigation: acreage and crop type:_____
Other:_____

Water will be used on the following parcels:_____ _____ _____

Reasons for Needing Proposed Well (circle all that apply):
New Use Declining Production Declining Water Quality Sanding Casing Collapse Other

Number of other wells on property or serving the property: ____
For each well provide the following information:

| Location/Description/APN: | Depth: | Diameter: | Pump Size: | Metered Water Usage: | Status: |
|---|---|---|---|---|---|
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |

Estimated annual water use from new well will be: ____
Briefly describe how use was estimated (attach back up information as necessary)

List water conservation measures (add checklist?:

| | in place: | to be installed: |
|---|---|---|
| 1. | | |
| 2. | | |
| 3. | | |
| 4. | | |
| 5. | | |

Provide a plot plan showing all existing wells on the properties to be served by existing and proposed wells. Provide well logs for existing wells or other information on depth and perforations of existing wells. If the existing well(s) are metered, submit water meter readings from the past two years. Provide estimates for water use, back up calculations and detailed description and documentation of water conservation measures.

_____ _____ _____
Name of Person Preparing Checklist Signature Date

Return this form to: Environmental Health, 701 Ocean St., Room 312, Santa Cruz, CA 95060; or, Fax (831)454-3128