

**IMPROVEMENT PLAN SUBMITTAL And
MAP REVIEW REQUIREMENTS TO CCHD**

1. SUBMISSION REQUIREMENTS:

- 1.1 **Improvement Plans (IP)** will NOT accepted without the appropriate **Plan Review Fee** payment submitted to **Clark County Health District (CCHD)**.
- 1.2 **IPs** will NOT be accepted without the **Tentative Maps (TMAP)** and **Final Maps (FMAP)** previously submitted to **CCHD**.
- 1.3 **IPs** must be **ROLLED, not** folded.
- 1.4 Reference the **TMAP** Name on the transmittal/submittal (letter).
- 1.5 *Commercial Subdivisions Only* - If all of the onsite **IPs** have **not been submitted**, submit a **letter** (engineer's letterhead) stating:
 - A. Why all onsite **IPs** have not been submitted;
 - B. **IPs** will be submitted to **CCHD** for review and approval prior to construction
 - C. Letter is copied to owner/developer.
- 1.6 A **CCHD** comment letter regarding **IPs** is ONLY sent out when the **IPs** NOT been approved.

2. RE-SUBMITTAL REQUIREMENTS

- 2.1 Apply **Macro [AMD]** for **Plan Review** if the **following conditions** are not met:

Provide/Show on the **IPs** or in a **letter** (from Engineering Agency), **signed and stamped by P.E.**, stating the original **IPs water, sewer, storm drain**) approved by the **CCHD** are not affected nor revised by this **amendment/re-submittal**.
- 2.2 On any **re-submittals**, the **changes** should be noted in the **Revision Note Block**.
- 2.3 Any **IP re-submittals** with a **P.E. stamp/signature** dated prior to previous submittal date will be disregarded and not reviewed. (rev. 07/2004)

3. MAP REVIEW REQUIREMENTS

3.1 THE FOLLOWING IS A CHECKLIST OF WHAT CCHD REVIEWS:

3.2 GENERAL REQUIREMENTS

- 3.2.1 Provide/Show that the **Lot count** on the **IPs** matches the **lot count** on the **FMAP**. Map does not have to show all individual Units.
- 3.2.2 Provide/show **utility easement(s)** or **common lot(s)** on the **IPs** that agree with those shown on the **FMAP**.
- 3.2.3 Provide/show that any **common lot(s)** or **utility easement(s)** for **drainage** of **sewage** are clearly labeled.
- 3.2.4 Provide/show the **blow-off assembly** or **fire hydrant** at the end of **WMs**.
- 3.2.5 Provide/show **(Point of) connection** of:
 - A. Proposed **water main(s) (WM)** to **existing WMs**.
 - B. **Water Laterals (WL)** to **lots**.
 - C. **WLs** to **services** for **condo units** and **commercial Buildings**.
 - D. Proposed **sewer mains (SM)** to **existing SMs**.
 - E. **Sewer Laterals (SL)** to **lots**.
 - F. **SLs** to **services** for **condo units** and **commercial buildings**.

3.3 WATER SECTION

3.3.1 Water Notes:

- A. Include note:

"All construction and material shall be in accordance with whichever edition of the **Uniform Design and Construction Standards for Water Distribution Systems (UDACS)** was adopted by the agency";
- B. Other water agencies such as the **Virgin Valley Water District** who have not adopted the UDACS shall have their standards referenced under the **Water Notes**;
- C. Include note on flushing, disinfection of **water lines**, and water sampling.
- D. Apply **Macro [N]** for **Plan Review** if the following **conditions** are not met:

If the **1st Edition** of the **Uniform Design and Construction standards for Potable Water Systems (UDSPWS)** is referenced in the **water notes**, Revise the **water notes** to reference the **2nd Edition of the (UDSPWS)**.

3.3.2 Provide/show a **water meter** for each **water user** (NRS 278.385).

3.4 SEWER SECTION

3.4.1 Sewer Notes:

Include note: "All construction and materials shall be in accordance with the **latest edition** of the **Design and Construction Standards for Waste Water Collection Systems for Southern Nevada (DCSWCS)**."

3.4.2 Provide/Show that **sewer lines** do not run to a **dead end**.

3.4.3 **Sewer Lines** (8"Φ) minimum **shall not** be connected into a **manhole (MNH)** or **MNH stub**.

3.4.4 Apply **Macro [B]** for **Plan Review** when the **following conditions** are not met:

When a **lot** has a **rim** of the **next upstream sewer MNH** which is **higher elevation** than the **lot's finished floor** (see grading plan), **this lot** shall have a residential **sewer backwater valve (BWV)**, in accordance with **DCSWCS Drawing SD-29**.

Note: **Inspect lots** with respect to **upstream neighboring sewer MNHs** to verify whether they are **higher in elevation**.

3.4.5 Provide/show **sewer lines** or **sewer stub-outs** to **future lots** if the proposed main extends into a **different phase**.

3.4.6 Apply **Macro [GW]** for **Plan Review** if **any** of the **following conditions** are not met:

A. If the **high seasonal groundwater level (HSGL)** infiltrates any **water pipe zone** or **sewer pipe zone**, please provide/show on the **IPs** references that detail the issues below. **HSGL is applicable to projects planned near the Las Vegas Wash in the southeast part of the Valley:**

1. Show **Cross-Section Detail** that includes typical **relative elevations** of the **building pad, street improvements, street base and sub-grade, water and sewer lines, trench and bedding**, and **HSGL** and corresponding **capillary zone** for the most **critical case/location**.
2. Description of proposed measures for protection of **water lines** and **sewer lines**.
3. Show **Cross-section Detail** of proposed **protections** measures for **watertight MNHs** partially within **capillary**

- zone** and partially **immersed in groundwater**.
4. Description of proposed measures for protection of **sewer MNHs**.
 5. Show/display projected **HSGL** line on all profiles of "Plan and Profile" sheets.
 6. Description of any **future groundwater monitoring** and provide plan showing **well locations(s)** and **depth of well(s)**.
 7. Statement of estimated **sewer line leakage** and its projected contaminant flow to any nearby wash/waterway.

3.4.7 Apply **Macro [SLS]** for **Plan Review** if **ANY** of the following conditions are not met:

- A. If a **Sewage Lift Station (SLS)** is used, the following must be addressed. These notifications are likely given in a Acrobat Reader document:
 1. Who is **operating** and **maintaining** the private **SLS**.
 2. Provide **design calculations** for the **SLS**.
 3. Provide document that verifies there will be an **Operations and Maintenance Agreement** during any period of operation of the **SLS**.
 4. Provide **Force Main (FM)** Plan and Profile.
 5. Approval for the **SLS** comes directly from the NDEP, usually subsequent to the CCHD review.

3.4.8 Apply **Macro [FM]** for **Plan Review** if **ANY** of the following conditions are not met:

- A. The **Force Main (FM)** shall be installed per the 1997 Edition of the DCSWCS include the following:
 1. **Charcoal Canister** shall be provided at the **Discharge End** of the **FM** per Standard DCSWCS Dwg. SD-4 or other **Agency approved odor control system**.
 2. The **FM** shall be designed, constructed and installed according to DCSWCS Sections 2.5, 4.7, and 4.9, and tested per Section 3.15.3 and TABLE I.

3.4.9 Apply **Macro [ISDSCLOSE_SEWER]** for **Plan Review** if **ANY** of the following conditions are not met:

- A. If each **Lot** in a **subdivision** is proposed to be serviced by an **ISDS** but the distance to the **closest sewer** is less than (the number of lots x 100'), provide a letter from the **sewer agency** stating:
 1. No **sewer** is **accessible by gravity** from any portion of the **subdivision** property to a **distance** (equal or less than the number of lots x 100').
 2. The **sewer agency** has **no** objection to this **subdivision** being serviced by **ISDS**.

3. The **sewer agency has no objection to this subdivision NOT Connecting to their sewer.**

3.4.10 Apply **Macro [ISDSNR]** for **Plan Review** if the following conditions are not met:

If the **Nevada Division of Environmental Protection (NDEP)** determines that **conventional septic system(s)** are not approved because **Nitrate Removal Wastewater Treatment Unit(s)** are required, the **TMAPs, FMAPs, and IPs** must contain the following statement:

Sewage Treatment for each lot shown shall be Nitrate Removal Wastewater Treatment Unit(s) subject to the State of Nevada regulations and subject to the approval of the Clark County District Board of Health.

3.5 SEPARATION REQUIREMENT SECTION

3.5.1 This Section details **separation requirements** for **pipe lines pertaining to water service, sewer service, storm drain, fire water loop, and depth of cover.**

3.5.2 **Sewer, Water, Storm Drain, Fire Water**

NOTE: Do Not forget to inspect Manhole Edges!

NOTE: NPFWL exist in developments that have an **onsite fire water loop** that is connected to the **offsite or onsite potable WM** by means of a **backflow prevention device or pump** and it is separate from the **onsite domestic water supply.**

NOTE: A fire hydrant lateral is considered a **WM** and uses the same separation requirements.

NOTE: The requirements in this section are the same for [SMs, or SDLs, or NPFWLs] except when considering **separation between the SDLs and NPFWLs themselves.**

A. Parallel Separations (Water Mains, Sewer Mains, Storm Drain Lines (SDL), Non-Potable Fire Water Lines (NPFWL), Sewer Manhole Edges, Fire Hydrant Lateral)

1. **APPLY Macro [H] for Plan Review** if **NONE** of the following conditions apply:

A. When the **[SMs, or SDLs, or NPFWL]** and **WMs** are **parallel** the following shall apply:

1. **[SM, or SDL, or NPFWL]** should **whenever possible**

be placed **beneath** the **WM** [(6" Φ) minimum].

2. **Minimum horizontal separation (MHS)** of (10') between **exterior pipe walls (EPW)** of the **WM** and:
 - A. a **[SM, or SDL, or NPFWL]**, OR
 - B. a **Sewer MNH edge**.

- B. When the **parallel separation** between **WMs** and a **[SMs, or SDLs, or NPFWLs]** is **less than** (10') the following shall apply:
 1. Pipes shall be installed in **separate trenches**.
 2. The **MHS** shall be at least (5').
 3. The **minimum vertical separation (VS)** shall be (18") between **EPWs**.
- C. When the **above conditions** for **parallel separation** Between **WMs** and a **[SMs, or SDLs, or NPFWLs]** cannot be met the requirements of UDACS 2.19.01.B2, UDACS 2.19.01.B3, DCSWCS 2.2.21.a.4, and DCSWCS 2.2.21.a.5 shall apply.

B. Vertical Crossing Separations (Water Mains, Sewer Mains, Storm Drain Lines, Non-Potable Fire Water Lines)

1. Apply **Macro [V]** for **Plan Review** if **NEITHER A** or **B** below **APPLY**:
 - A. The **WM IS BENEATH THE [SM, or SDL, or NPFWLs]** **AND** the **minimum VCS** is (18").
 - B. The **WM IS ABOVE THE [SM, or SDL, or NPFWLs]** and **ONE** of the following is **TRUE**:
 1. the **VCS** shall be (6") between **interior pipe walls** and the **requirements** of UDACS 2.19.02.B2 through B3 and DCSWCS 2.2.21.b shall apply for areas of **structural support, materials, and pipe encasement**.
 2. An **alternate method** is to **encase** the **WM pipe** per UDACS Plates 15 and 16.
 3. Another **alternate method** is to **encase** the **[SMs, SDLs, or NPFWLs]** in [(4") minimum] of **concrete**.

C. Parallel Separation (Service Laterals, Sewer Manhole Edges, Drop Inlet)

1. When the **WLS** (1" Φ to 4" Φ) and **[SLs, or [laterals to (SDLs or NPFWLs)]]** (4" Φ to 6" Φ) are **parallel** the **following** shall apply:

Note: Do Not forget Sewer Manhole Edges!

- A. **[SLs, or [(laterals to SDLs or NPFWLs)]]** shall be

- whenever possible be placed beneath the WLS,
- B. (4') MHS between WLS and [SLs, or [(laterals to SDLs or NPFWLs)]].
- C. Alternately, The WL shall be a [(18") minimum VS] above the [SLs, or [(laterals to SDLs or NPFWLs)]].
- D. For maintenance purposes, [(4') MHS] between exterior Edges of any WL and a sewer MNH.
- E. For maintenance purposes, [(4') MHS] between exterior edges of any [SLs, or [(laterals to SDLs or NPFWLs)]] and drop inlet.

D. **Vertical Crossing Separation** (Service Laterals, Water Mains)

1. When the WLS and [SLs, or [(laterals to SDLs, or NPFWLs)]] are crossing the following shall apply:
 - A. [SLs, or [(laterals to SDLs or NPFWLs)]] shall be whenever possible placed beneath the WLS
 - B. [(18") minimum VCS] between the EPWs.
 - C. When minimum VCS is less than (18"), the requirements of UDACS 2.19.02.B1 through 2.19.02.B3 shall apply.
2. When a [SL, or [(lateral to SDLs or NPFWLs)]] must cross under a [WL or WM], the provisions of 3.5.2.B.1 of this document shall apply while substituting the [SL, or [(lateral to SDLs or NPFWLs)]] as a SM.

E. **Sewer and Storm Drain Separation -**

1. When a [SM, or, SL, or NPFW] crosses under a storm drain, ONE of the following conditions shall apply:
 - A. [(1' minimum) VCS] where storm drain is above the [SM, or, SL, or NPFWL], OR
 - B. Use a cushion of sand-cement slurry to separate utilities
2. Apply Macro [HSS] to Plan Review when the following conditions are not met:

To satisfy the 1997 DCSWCS Section 2.2.18, provide/show the recommended **out-to-out horizontal separation** between **storm drain** and **sewer** or **non-potable** at specified locations.

F. Apply Macro [FWPWxing] to Plan Review when the following conditions are NOT MET:

When by drawing, symbol, or note it is not shown, that

when all **NPFWLs cross** with **Potable [WMs, or Ws]**, there shall be a **[(6") minimum VCS]** between **interior pipe walls** in accordance with UDACS 2.20.01, 2.19.02.B1, and 2.19.02.B2

g. Apply **Macro [FWSSxing] to Plan Review** when by **drawing, symbol, or note** it is **not shown** there shall be a **[(6") minimum VCS]** between **interior pipe walls** in accordance with 2.19.02.B1,B2,B3) at the **following conditions:**

1. **NPFWLs (cross less than (18") VCS above any [SM, SL, or SDL], OR**
2. **NPFWLs cross under any [SM, SL, or SDL].**

3.5.3 Apply **Macro [DC]** for **Plan Review** when **any** of the **following conditions** for **Depth Of Cover** is **NOT MET** (per DCSWCS 2.2.15):

A. Per UDACS 2nd Edition:

1. For **Right-of-Way <= 60'**;
[(42" minimum) **depth of cover (DOC) to WL**
(8" Φ) minimum] + [(18") **VS to SL** (8" Φ) minimum] =
[(5'8" minimum) **total VS to top of SL** (8" Φ) minimum]
and
[(6'4" minimum) **total VS to bottom (invert) of SL**
(8" Φ) minimum].
2. For **Right-of-Way > 60'**;
[(42" minimum) **DOC to WL** (8" Φ) minimum] +
[(18") **VS to SL** (8" Φ) minimum] = [5'8" minimum) **total**
VS to top of SL (8" Φ) minimum] and [(6'4" minimum)
total VS to bottom (invert) of SL (8" Φ) minimum].

B. Where the criteria for line **DOCs** given above cannot be met, the requirements of 1997 **DCSWCS** section 2.2.16 shall apply.

3.6 The following is a list of the **MACRO** Locations in this document.

- A. [AMD]** is found in Section 2.1 of this document.
- B. [N]** is found in Section 3.3.1.D of this document.
- C. [B]** is found in Section 3.4.4 of this document.
- D. [GW]** is found in Section 3.4.6 of this document.
- E. [SLS]** is found in Section 3.4.7 of this document.
- F. [FM]** is found in Section 3.4.8.C of this document.
- G. [ISDSCLOSE_SEWER]** is found in Section 3.4.9 of this

document.

- H.** [**ISDSNR**] is found in Section 3.4.10 of this document.
- I.** [**H**] is found in Section 3.5.2.A.4 of this document.
- J.** [**H_SS**] is found in Section 3.5.2.E.2 of this document.
- K.** [**FWPWxing**] is found in Section 3.5.2.F of this document.
- L.** [**FWSSxing**] is found in Section 3.5.2.G of this document.
- M.** [**DC**] is found in Section 3.5.3 of this document.