



# URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

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## MEMORANDUM

FROM: Ken A. MacKenzie, P.E., CFM  
Master Planning Program Manager

SUBJECT: UDFCD Position on Water Rights and Regional Stormwater Detention

DATE: May 22, 2014

### **BACKGROUND:**

The Colorado Division of Water Resources (DWR, also known as the Office of the State Engineer) performs many state water resource-related duties, including administration of water rights and monitoring of water use. With regard to stormwater management and water rights, the DWR published a memorandum on May 21, 2011 titled “Administrative Approach for Storm Water Management.” This document outlines what limited approaches to stormwater detention and infiltration qualify under the State’s administrative approach, indicating that administrative allowances will be made to individual sites, those being defined as a discrete area that has been developed through one development effort. It is noted that these administrative allowances do not offer protection from a claim of material injury by a water user. The document closes with the statement:

*These are administrative allowances that allow storm water to be managed while minimizing the impact to water rights. These allowances cannot be applied to precipitation that falls onto an area not on the individual site.*

In April 2013, a DWR water commissioner informed the City of Aspen’s stormwater manager that the City might have to calculate and augment the water losses caused by evaporation and evapotranspiration during storage of storm events in several regional water quality detention basins the City owns and operates, indicating that the DWR’s May 21, 2011 memorandum on the state’s administrative approach for stormwater management applies only to individual sites and not to regional facilities.

The City of Aspen requested support from UDFCD and on May 1, 2013 UDFCD sent a letter to DWR requesting “Concurrence Regarding De Minimis Impacts to Water Rights from Regional Water Quality Detention, and for Clarification of Administrative Allowances for Regional Water Quality.” It was our hope that the State would expand the scope of the May 21, 2011 memorandum to include the regional stormwater quality treatment that is our most effective means of treating urban runoff in regional flood control facilities and is also intrinsic to full spectrum detention. The DWR replied in a letter dated June 5, 2013, stating that:

*Due to the uncertainty on the question of whether the benefit of retiming the hydrograph for the public good supersedes a priority claim that may benefit from water that results from urbanization, we are unwilling at this time to make the same administrative allowance for regional or watershed detention.*

Following that letter UDFCD met on two occasions with DWR to discuss how we can continue to fulfill our duty to protect the health, safety, and welfare of the citizens of Colorado with regard to stormwater pollution reduction within the Colorado water rights framework. Ultimately, DWR sought a legal opinion from the Colorado Attorney General's office.

The DWR recently received the legal opinion from the Attorney General's office and on April 28, 2014, responded to UDFCD. In that letter DWR explained that with regard to the question of impact, Colorado has no legal recognition of a threshold amount of injury that is "de minimis," meaning that any deprivation of water to a water user with a right to the water is injurious, even if that deprivation is with regard to timing alone. Among other things, the letter states that:

*The diversion of these flows for regional water quality detention has all the components necessary to be termed an appropriation and as such constitutes a diversion of water for a beneficial use. When that diversion takes place at a time when senior water rights are not satisfied, the Division Engineer has the responsibility to curtail the diversion... if the diversion is not curtailed, holders of water rights downstream of the regional water quality detention facilities can make a claim of material injury...*

Finally, the April 28, 2014 letter reminds us that:

*...while a Federal agency may require such regional water quality detention, that requirement does not supersede state water administration and water right protections due to the fact that the provisions of the WQCA, Section 25-8-101 et seq., C.R.S., and the Clean Water Act ("CWA"), 33 U.S.C. Section 1251 et seq., were expressly subordinated to Colorado's constitutional prior appropriation system.*

### **THE UDFCD POSITION:**

UDFCD has been recommending stormwater quality management through detention and infiltration of the water quality capture volume (WQCV, a volume of 0.2 - 0.5 inches of runoff per impervious area) since 1992. This recommendation applies to onsite management as well as regional management, the latter being a much more cost-effective approach. On a regional level, the economy of scale comes into play with regard to construction, operation, and maintenance. Publically-owned regional facilities are designed and maintained to a higher standard compared to privately-owned onsite facilities which by law need only to be inspected annually. At these annual inspections, privately-owned facilities are oftentimes found to lack maintenance, resulting in increased water losses through excessive ponding and associated evapotranspiration. The higher standard of maintenance on regional facilities results in better draining performance which translates into better water quality **and** fewer systemic water losses.

**It is our position that, for the same volume of treated stormwater, regional stormwater treatment results in no more systemic water losses to evaporation/evapotranspiration than onsite stormwater treatment.**

Full spectrum detention is based on the concept of an excess urban runoff volume (EURV); which is the runoff volume difference between the developed condition and the predeveloped condition. In the UDFCD region the EURV amounts to approximately 1.1 to 1.7 inches of runoff per impervious area. Through an exhaustive modeling effort initiated in 2005, we have determined that if we release the EURV over a period of up to 72 hours, we can reduce the maximum flow rates to approximate the predeveloped runoff rate for the full spectrum of storm events from the 2-year to the 100-year event, providing a high level of flood protection to downstream properties. Reducing post-development peak flow rates to predevelopment rates for the full spectrum of storm events also creates a less erosive condition in our receiving streams because it is those more frequent (one to two year recurrence) flows that cause the largest volume of sediment (and associated pollutant) movement over time. This issue is not addressed by a facility providing flood control alone. At the same time, the basin holds the WQCV for the 40 hours necessary to provide adequate removal of sediment and associated pollutants by settling; a technology proven to reduce pollution in the receiving waters. Several papers have been written on this concept and are available at <http://www.udfcd.org/>.

UDFCD, many local governments, and some of Colorado's largest communities recommend full spectrum detention as the preferred method; and it has been implemented in large watersheds throughout the UDFCD service area and also in other parts of the state. Also common across the state are regional flood control detention basins that also incorporate slow release (12 to 40 hour drain time) of the WQCV for pollutant removal.

UDFCD believes the impact of regional water quality detention on water rights is de minimis, particularly when compared to the alternative of providing water quality detention on a site-by-site basis. From our observations, half the stormwater leaves our detention basins in the first 15 hours and 80% of the stormwater leaves the basin in the first 40 hours, regardless of storm event return period.

Colorado local governments need full spectrum detention to be implemented on a watershed scale in order to protect their citizens from flooding and to fully protect the State's receiving streams from degradation due to the hydromodification of urbanization. Where full spectrum detention is not practicable, UDFCD recommends regional stormwater quality detention or infiltration in lieu of, or in addition to, onsite treatment. Moving forward, it is our intention to:

1. Continue recommending and implementing full spectrum detention for both flood control and pollution reduction; and recommending and implementing regional stormwater quality detention and infiltration where practicable; confident that a legislative solution to this predicament is on the horizon.
2. Develop the scientific analyses necessary to compare the actual systemic water losses of regional vs. onsite stormwater quality detention and infiltration facilities.
3. Form a statewide taskforce to solicit legislative relief in the form of a state bill defining these activities as de minimis and protecting them from curtailment by the DWR and from baseless lawsuits by holders of water rights.

We have a responsibility and a duty to protect the health, safety, and welfare of the citizens of Colorado with regard to flood protection and stormwater pollution reduction. We ask all cities, counties, stormwater authorities and districts, MS4 permittees, and any organization in the state concerned with reducing stormwater pollution in Colorado to join us affecting change by lobbying our state lawmakers to protect our need to provide flood protection and clean water to the people of Colorado.



**COLORADO**  
Division of Water Resources  
Department of Natural Resources

1313 Sherman Street, Room 821  
Denver, CO 80203



April 28, 2014

Ken A. MacKenzie, P.E., CFM  
Manager, Master Planning Program,  
Urban Drainage and Flood Control District  
2480 W. 26th Avenue, Suite 156B  
Denver, CO 80211-5304

Subject: Follow up to the June 5, 2013 letter from the Division of Water Resources regarding your Request for Concurrence Regarding De minimis Impacts to Water Rights from Regional Water Quality Detention and for Clarification of Administrative Allowance for Regional Water Quality Detention

Dear Mr. MacKenzie,

On May 1, 2013, you sent a letter to Dick Wolfe on the topic referenced in the subject line above. On June 5, 2013, I sent a letter to you in response. In follow up conversation with you, I agreed to request a legal opinion from the Colorado Attorney General's Office related to a water rights issue that is inherent to the discussion of regional water quality detention. Getting a response to you on that matter has admittedly taken a long time. In addition to an unusually high case load and the onset and continuation of the legislative session, our attorneys have also been addressing legal issues related to the September 2013 flooding. I have now received the opinion from the Attorney General's Office and based on that opinion I will provide more guidance in this letter that can help advance the discussion of regional water quality detention.

To recap the discussion, the Division of Water Resources ("DWR") has made a position paper available titled "Administrative Approach for Storm Water Management," dated May 21, 2011. In that paper, we describe an allowance for storm water detention for a period of 72 hours, after which time, all water must be released or must have infiltrated below the ground surface. That allowance is limited to storm water management for an individual site; an "individual site" being defined as "a discrete area that has been developed through one development effort."

The question you posed in your May 1, 2013 letter was whether the same allowance could be made for regional detention; "regional detention" being defined as "detention that serves multiple sites and up to one square mile of tributary watershed." The basis for the question is your belief that the impact of regional water quality detention is de minimis, particularly when compared to the alternative of providing water quality detention on a site-by-site basis.





In my June 5, 2013 response, I emphasized two points. First, detention requirements for an individual site that is being developed are in place at the time the site is developed and need to be addressed as a condition for developing the land. Those requirements are not remedial and are a practical necessity to protect property and the downstream channel. Second, detention requirements are designed to ensure that the historical storm water runoff pattern is maintained or, importantly from a water rights perspective, not diminished.

The discussion of regional detention necessarily includes consideration of a larger magnitude of storm water runoff that is greater than pre-development runoff, just by virtue of the addition of impervious areas through development. In my response, I was not able to conclude that the holders of downstream water rights can make an injury claim if the post development runoff is diminished and/or retimed through regional water quality detention.

Having summarized the situation, I'll first address your question regarding whether the impact of regional water quality detention is de minimis and then follow with the legal considerations that guide the State Engineer's administrative approach to regional water quality detention.

Regarding the first question of impact, Colorado has no legal recognition of a threshold amount of injury that is "de minimis." For that reason, within the reasonable bounds of our administrative discretion, we must regard any deprivation of water to a water user with a right to the water as injurious. So the question is whether the diversion of water into regional water quality detention, even for a short period of time, causes a deprivation of water to the owners of water rights.

The answer is that it does. The administration of water in or tributary to every natural surface stream in Colorado relies on the "call," as set by the Division Engineer, and the call is dependent both on the water rights that are in need of water and the discharge of the river. As a result, a delay in the delivery of tributary water, including storm runoff, can have the effect of depriving a less senior water right of the opportunity to divert water. While one could claim that the same amount of water would be delivered over time,<sup>1</sup> regional water quality detention will change the rate of flow at downstream locations at certain times. The higher peak that would have resulted in the surface stream, absent the regional water quality detention, allows more junior water rights to divert during the hours and days immediately following a storm event. If that peak is diminished, even if the same volume of water accrues to the stream at a later time, the same water rights will not be satisfied with the reduced discharge; more senior water rights will utilize the available supply for a longer period of time, and the more junior water rights will not come into priority.

Regarding the second topic of the legal considerations that guide the State Engineer's administrative approach to regional water quality detention; the focus of the question

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<sup>1</sup> It is important to remember that even when efforts are made to minimize consumption, incidental irrigation from the surface, evaporation, and subirrigation will necessarily consume water. Therefore, it is not actually likely that the same amount would be delivered over time.



goes to whether water users on the stream have a legal right to well-established urban storm water flows in the river that developed as a result of increased impervious areas due to urbanization and whether the diversion of some portion of the flows into regional water quality detention facilities is a diversion of water that falls under the State Engineer's administrative purview.

Again, the answer to both questions is yes. According to provisions in our state constitution,<sup>2</sup> that have been codified in statutory law,<sup>3</sup> "all water in or tributary to natural surface streams, not including nontributary ground water as that term is defined in section 37-90-103, originating in or flowing into this state have always been and are hereby declared to be the property of the public, dedicated to the use of the people of the state, subject to appropriation and use in accordance with sections 5 and 6 of article XVI of the state constitution and this article."<sup>4</sup>

Given this understanding of the state constitution and statutory law, we can say that precipitation that accrues to a flowing stream, including precipitation that may not have been in the stream had it not been for the development of impervious areas through urbanization, is dedicated to the water users in Colorado, to be allocated according to the prior appropriation system. Therefore, water users on the stream do have the basis to assert a right to these flows.

The diversion of these flows for regional water quality detention has all the components necessary to be termed an appropriation and as such constitutes a diversion of water for a beneficial use. When that diversion takes place at a time when senior water rights are not satisfied, the Division Engineer has the responsibility to curtail the diversion to ensure that the senior water rights holder receives that water to which they are entitled. In the case of regional water quality detention, if the diversion is not curtailed, holders of water rights downstream of the regional water quality detention facilities can make a claim of material injury if the post-development storm runoff rate is diminished or retimed as a result of regional site detention. Further, while a Federal agency may require such regional water quality detention, that requirement does not supersede state water administration and water right protections due to the fact that the provisions of the WQCA, Section 25-8-101 *et seq.*, C.R.S., and the Clean Water Act ("CWA"), 33 U.S.C. Section 1251 *et seq.*, were expressly subordinated to Colorado's constitutional prior appropriation system.

Therefore, we do not find a legal basis to make an absolute finding that diversions of storm water into regional water quality detention are allowable nor do we find a basis to determine that such diversions would cause no injury. We draw a distinction between this position and our stated position of allowing individual site detention since individual site detention is an action based on a requirement at the time of development and is a practical necessity to protect property and the downstream channel; further, individual site detention requirements are designed to ensure that the historical storm water runoff pattern is maintained or, importantly from a water rights

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<sup>2</sup> See sections 5 and 6 of Article XVI of the state constitution.

<sup>3</sup> See section 37-82-101, C.R.S.

<sup>4</sup> See section 37-92-102(1)(a), C.R.S.



Ken MacKenzie  
April 28, 2014  
Page 4 of 4

perspective, not diminished. We will continue to work with you to find solutions that allow you to achieve your objectives while allowing us to maintain our administrative responsibilities and protect water users in Colorado.

Sincerely,



Kevin G. Rein, P.E.  
Deputy State Engineer







DEPARTMENT OF NATURAL RESOURCES

DIVISION OF WATER RESOURCES

John W. Hickenlooper  
Governor

Mike King  
Executive Director

Dick Wolfe, P.E.  
Director/State Engineer

June 5, 2013



Ken A. MacKenzie, P.E., CFM  
Manager, Master Planning Program,  
Urban Drainage and Flood Control District  
2480 W. 26<sup>th</sup> Avenue, Suite 156B  
Denver, CO 80211-5304

Subject: Your request for Concurrence Regarding De minimis Impacts to Water Rights from Regional Water Quality Detention, and for Clarification of Administrative Allowances for Regional Water Quality Detention

Dear Mr. MacKenzie,

I've reviewed the letter you sent to Dick Wolfe on May 1, 2013 regarding water rights impacts from regional water quality and watershed full spectrum flood control detention in the context of the Division of Water Resources' memorandum titled *Administrative Approach for Storm Water Management* ("Memo"). I understand that you would like clarification that the administrative approach described in the Memo applies to water quality and flood control detention on a regional and watershed as well as site-specific basis. I appreciate this opportunity to engage in a dialogue on this important issue which has statewide significance.

In your letter, you define regional detention as detention that serves multiple sites and up to one square mile of tributary watershed. The letter goes on to explain that the objective of regional detention, like smaller-scale detention, is to temporarily store the excess urban runoff volume ("EURF"), which is the runoff volume difference between the developed condition and the historic pre-developed condition. The standard for detaining the EURV is 40 hours to provide adequate removal of sediments and associated pollutants. You have also defined full spectrum detention to be primarily for the purpose of flood control but I also understand that there may also be water quality benefits and that the scale of such facilities may encompass an entire watershed which typically is larger than regional scale.

Our Memo sets out the conditions under which we will administratively allow storm water detention. The Memo acknowledges that storm water detention is a regulatory requirement associated with developing land and also a practical requirement for protecting property and the downstream channel. For that reason, we allow detention for up to 72 hours as long as the water is not put to beneficial use and incidental consumption is minimized. Also, the administrative allowance is limited to storm water detention of an individual site. The reason the allowance is limited to detention for an individual site is that that limitation coincides with a consideration that the detention is done concurrent with the development of the site. For example, the Memo states "(w)hether individual site storm water management is to be accomplished by means of a detention facility, an infiltration facility, or a facility that incorporates both detention and infiltration, the ideal is that precipitation that falls on an individual site should be dispersed from the surface of the individual site at the same rate as would have occurred prior to development on the site."

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[www.water.state.co.us](http://www.water.state.co.us)

The Division of Water Resources is willing to make this administrative allowance because it is based on the principle that the objective is to make reasonable efforts to not change the storm hydrograph, which would ensure downstream water rights to continue to see the stream flow conditions they saw at the time of their appropriation.

Applying this allowance to regional and watershed detention, however, is not consistent with the considerations included in individual site detention. As mentioned above, included with the individual site allowance is an understanding that the detention will be done concurrent with the development, allowing for a post-detention hydrograph that deviates minimally from the pre-detention/pre-development hydrograph. However, inherent in the implementation of regional and watershed detention is the concept of detaining the flow of storm water for already-developed areas, areas that may have been developed for many years. The implementation of regional or watershed detention that includes post-development runoff from these areas will necessarily change the hydrograph from pre-detention. Also, by virtue of being *regional* or *watershed* detention, this will occur at larger discharges and resulting volumes.

A common observation is that these post-development, pre-regional/watershed detention flows would never have been available to downstream water rights had there been no development in the first place. While that may be true, the Colorado Supreme Court has ruled that water flowing in the stream that is not foreign to the stream system is tributary water, subject to appropriation by water users. We also need to give consideration to the fact that, while the downstream water rights have the right to the stream flow conditions at the time of the appropriation, they are not necessarily limited if those conditions "improve," from their perspective.

What is not certain is whether a change of current hydrological conditions, which exist in part due to historical urbanization, should be allowed for the prospective public benefits of improving water quality and controlling potentially damaging flood waters if doing so will deprive owners of vested water rights of the water they have historically received. Due to the uncertainty on the question of whether the benefit of retiming the hydrograph for the public good supersedes a priority claim that may benefit from water that results from urbanization, we are unwilling at this time to make the same administrative allowance for regional or watershed detention.

I should also remind you that, by making these allowances for site-specific storm water detention, the Division of Water Resources is not making a finding of no injury or a finding that any injury would be below a de minimis threshold, and we are not creating a water right. Rather, we are only describing the activities we will allow under our administrative purview. Any of those activities are subject to a claim of injury by another water user.

I hope this provides clarification on the Memo and the importance of limiting its application to individual site detention. Please contact me if you have questions.

Sincerely,



Kevin G. Rein, P.E.  
Deputy State Engineer



## URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

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May 1, 2013

Dick Wolfe, P.E.  
Director/State Engineer  
Colorado Department of Natural Resources, Division of Water Resources  
1313 Sherman Street, Suite 808  
Denver, Co 80203

**RE: Request for Concurrence Regarding De minimis Impacts to Water Rights from Regional Water Quality Detention, and for Clarification of Administrative Allowances for Regional Water Quality Detention**

Dear Mr. Wolfe;

A concern was brought to my attention this week regarding water rights impacts from regional water quality detention and whether regional water quality detention is included in the administrative allowances described in the Division's May 21, 2011 memorandum titled "Administrative Approach for Storm Water Management."

For the purpose of this discussion, water quality detention refers to any basin designed to capture and treat the water quality capture volume (WQCV); full spectrum detention refers to basins designed to capture and control the release rate runoff from any storm event up to the 100-year; and regional detention refers to detention that serves multiple sites and up to one square mile of tributary watershed. Full spectrum detention is based on the concept of an excess urban runoff volume (EURV); which is the runoff volume difference between the developed condition and the historic predeveloped condition. In the UDFCD region the EURV amounts to approximately 1.15 inches of runoff per impervious area for HSG C/D soils, compared to 0.25 - 0.5 inches of runoff per impervious area for the traditional WQCV.

Through an exhaustive modeling effort initiated in 2005, we have discovered that if we design detention basins to store the EURV and release that volume over a prolonged period of less than 72 hours, we can reduce the detention basin maximum release rate to match the historic runoff rate for the full spectrum of storm events from the 2-year to the 100-year event. At the same time, the basin holds the WQCV for the 40 hours necessary to provide adequate removal of sediment and associated pollutants by settling. Several papers have been written on this concept and are available at <http://www.udfcd.org/>.

At UDFCD, we promote full spectrum detention as the preferred combination stormwater management and flood control method, and full spectrum detention has been implemented in large watersheds throughout the UDFCD service area and also in other parts of the state. Also common across the state are regional flood control detention basins that also incorporate slow release (12 to 40 hour drain time) of the WQCV for pollutant removal.



The City of Aspen operates several regional water quality detention basins and the city stormwater manager was told by a water commissioner last week that the City might have to calculate and augment the water losses caused by evaporation and evapotranspiration during storage of storm events. The stormwater manager was told that the Division's May 21, 2011 memorandum applies only to *individual* sites and not to regional facilities. This opinion appears to be supported by the final statement in that memorandum, which states:

*“These are administrative allowances that allow storm water to be managed while minimizing the impact to water rights. These allowances cannot be applied to precipitation that falls onto an area not on the individual site.”*

We believe that the impact of regional water quality detention on water rights is de minimis, particularly when compared to the alternative of providing water quality detention on a site-by-site basis. From Figure 1 below, it can be seen that for full spectrum detention, half the stormwater leaves the basin in the first 15 hours and 80% of the stormwater leaves the basin in the first 40 hours, regardless of event return period. A regional flood control detention basin with WQCV incorporated will drain the 100-year storage volume in approximately 45 hours, compared to 65 hours for the full spectrum detention basin.

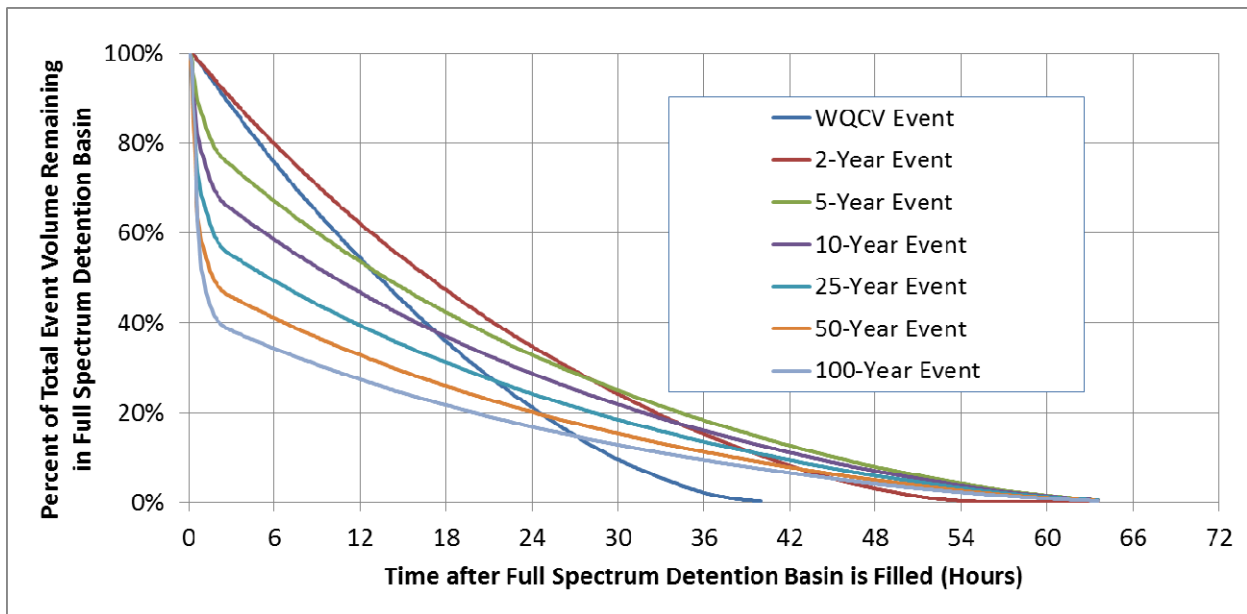


Figure 1: Typical water quality detention drain times.



We need full spectrum detention to be implemented on a watershed scale in order to fully protect our receiving streams from degradation due to the hydromodification of urbanization, and we do not believe it has a measurable effect on water rights. Water quality detention has an even lesser impact due to its shorter detention time. I am seeking your concurrence with this opinion and clarification that the Division's May 21, 2011 memorandum applies to water quality detention on a regional as well as a site basis.

Please feel free to call me with any questions at 303.455.6277, or email me at [kmackenzie@uddfcd.org](mailto:kmackenzie@uddfcd.org). I'm very much looking forward to getting clarity and resolution in this matter.

Sincerely,

A handwritten signature in purple ink, appearing to read 'Ken MacKenzie', with a stylized flourish at the end.

Ken A. MacKenzie, P.E., CFM  
Manager, Master Planning Program



DEPARTMENT OF NATURAL RESOURCES

DIVISION OF WATER RESOURCES

John W. Hickenlooper  
Governor

Mike King  
Executive Director

Dick Wolfe, P.E.  
Director/State Engineer

**Administrative Approach for Storm Water Management**

May 21, 2011

This statement applies to the Colorado Division of Water Resources' administrative approach for storm water management of precipitation that falls on an individual site. For the purposes of this statement, an individual site is defined as a discrete area that has been developed through one development effort. This statement clarifies the Division of Water Resources' administrative approach but the allowances in the administrative approach do not grant a water right or offer protection from a claim of material injury by a water user.

Storm water management is commonly achieved by means of detention and/or infiltration structures which may have the effect of adversely affecting vested water rights. Whether individual site storm water management is to be accomplished by means of a detention facility, an infiltration facility, or a facility that incorporates both detention and infiltration, the ideal is that precipitation that falls on an individual site should be dispersed from the surface of the individual site at the same rate as would have occurred prior to development on the site. Meeting this ideal does not entitle any party to divert or consume water added to the ground water or surface water supply due to a reduction in pre-development consumption by vegetation, unless such diversion or consumption is done in priority.

Precipitation that falls on a site and results in overland flow that becomes concentrated in the natural terrain or manmade drainages on the site may be directed to detention areas on the site. The detention areas must release all of the water detained from the site within 72 hours of the end of a precipitation event. Such detention should be designed to release the water from the site as quickly as downstream conditions allow and should minimize consumption from vegetation. The water may not be diverted from the detention area for any beneficial uses. The water that is released from the detention area is tributary water and is a public resource, subject to appropriation through the prior appropriation system.

In addition, precipitation that falls on a site and results in overland flow that becomes concentrated in the natural terrain or manmade drainages on the site may be directed to infiltration areas on the site. The infiltration areas must be designed to infiltrate the water into the underlying aquifer for the purposes of managing the storm water quality and volume of discharge of precipitation that fell on the site. An infiltration area must be designed to infiltrate the water as quickly as possible and shall not result in an exposed water surface beyond 72 hours after the end of a precipitation event. An infiltration area must be designed to minimize consumption from vegetation. The water may not be diverted from the infiltration area for any beneficial use. The water that infiltrates is tributary ground water and is a public resource, subject to appropriation through the prior appropriation system.

Landscaping that is planted on roofs (green roofs) is allowable as long as the landscaping intercepts only precipitation that falls directly onto the landscaping. The landscaping may not intercept and consume concentrated flow and may not store water below the root zone.

These are administrative allowances that allow storm water to be managed while minimizing the impact to water rights. These allowances cannot be applied to precipitation that falls onto an area not on the individual site.

**Office of the State Engineer**

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