DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
WASHINGTON DC 20314-1000

REPLY TO
ATTENTION OF

CECC-E

DEC 01 2011

MEMORANDUM FOR ALL DIVISION AND DISTRICT COUNSEL

RE: Financial Assurance Instruments for Compensatory Mitigation under the Corps Regulatory Program

1. The U.S. Army Corps of Engineers (Corps) often requires compensatory mitigation to offset environmental losses resulting from unavoidable impacts to waters of the United States authorized by Army permits under the Clean Water Act and Rivers and Harbors Act. See 33 CFR 332.3. In some instances, the District Engineer will determine that it is necessary to require financial assurances that are sufficient to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, as measured by applicable performance standards. The regulations that establish the requirement for financial assurances set forth a number of different financial assurance products that may be appropriate to satisfy this requirement, including "performance bonds, escrow accounts, casualty insurance, letters of credit, legislative appropriations for government sponsored projects, or other appropriate instruments." See 33 CFR 332.3(n)(2). It is permissible to use different financial assurances to cover different stages of mitigation construction so long that each financial assurance is of an adequate duration to ensure that the stage it covers was successful.

2. District Offices of Counsel should work with their Regulatory Division or Branch clients to review and negotiate the financial assurance instruments used to support mitigation projects. Counsel should work with the proponents of financial assurance products, whether it be a new form of assurance or a new issuer of a previously utilized assurance, in a timely manner in order to determine if they can negotiate acceptable terms. The different forms of financial assurance have different benefits and limitations, but all forms of financial assurance should be provided an equal opportunity for review and approval if terms can be negotiated that fulfill project-specific requirements. However, it is recognized that it may not always be possible to reach an agreement on terms that are acceptable to both the Corps and the financial assurance provider. The District Engineer retains authority to determine acceptable terms in each case.

3. Miscellaneous Receipts Statute (31 U.S.C. 3302(b)) Compliance

    a. Regardless of the form of financial assurance used, the financial assurance instrument must not provide that the Corps could be in actual or constructive receipt of the assurance funds. Even if the funds are held by a third party, the Corps is viewed as having constructively received those funds if the arrangement affords the Corps discretion to direct the use of those funds. For instance, assume that a financial assurance, settlement, or other arrangement

requires that funds be paid into an escrow account that is nominally managed by some third party (e.g., a bank). If the Corps retains discretion to direct the use of those funds, then the funds must be viewed as having been received by the United States, and as thus being subject to the deposit requirements of the Miscellaneous Receipts Statute.

b. The line is admittedly vague between (a) when the Corps is directing the use of funds held by a third party, in which case those funds must likely be deposited into the U.S. Treasury as miscellaneous receipts, and (b) when the Corps is simply giving its consent or approval to a proposed mitigation bank, permittee-responsible mitigation, or similar arrangement that is to be financed with funds provided under a financial assurance or similar arrangement. A useful, albeit informal, test for determining which end of the spectrum a proposed arrangement falls is as follows: is the Corps attempting to do indirectly through a third party that which it could not do itself? If so, then the Corps is likely exercising constructive control over the funds held by the third party, and this arrangement is likely improper.

c. One means for avoiding problems with constructive receipt is to incorporate contingencies into the financial assurance documents or mitigation banking instrument that address how the mitigation requirements should be met if it becomes necessary to draw upon the financial assurance. Under this model, the documents establishing the financial assurance product would reference the approved mitigation plan associated with the Department of the Army permit, mitigation banking instrument, or approved in-lieu fee project and identify entities, such as non-profits, state agencies, or private mitigation providers, that would be eligible under the terms of the financial assurance product to accept the financial assurance and complete the approved mitigation project. In the event that it would not be possible or practicable to undertake or complete the approved mitigation project, then the financial assurance product would set forth in a general way an alternative means of accomplishing the approved mitigation project's goals (e.g., replacement of lost habitat units of a certain quality and type) that should be pursued with the funds. The Corps can retain authority to review and approve the plans of the entity utilizing the funds to ensure that they are likely to achieve the goals. However, if the contingencies contemplated by the assurance change (such as the dissolution of the entity eligible to accept the financial assurance funds), the parties to the assurance will have to modify that agreement. By establishing these contingencies and goals when the financial assurance product is created, the Corps limits the extent of control it can exercise over the funds and makes it clear that the funds are to be used to fulfill the mitigation commitments of the mitigation bank or other mitigation provider. In other words, the Corps is not attempting to direct the use of these funds and

thus do indirectly that which it could not do itself; rather, the Corps is simply establishing a framework to ensure that legal commitments that result from the issuance of a Department of the Army permit or the approval of a mitigation banking or in-lieu fee program instrument are in fact honored.

d. Casualty insurance policies can avoid running afoul of the miscellaneous receipts rule by utilizing operative language that provides that the insurance company will complete or secure the required mitigation itself or pay the necessary funds to a third party to complete the mitigation. An example of such language follows: "In the event of the 'Named Insured's' failure during the 'policy period' to meet the 'performance standards' under the 'mitigation banking instrument' at the 'insured property,' the Company agrees to undertake and complete or secure through payment, whether directly or through a third party, the 'compensatory mitigation' for which the 'Named Insured' is legally responsible under the 'mitigation banking instrument,' provided the 'regulatory body' first makes a 'claim' to the Company in writing and during the 'policy period' seeking such 'compensatory mitigation.'"

4. Neither the Corps Regulatory Community of Practice nor the Office of the Chief Counsel endorses any particular type of financial assurance or any specific financial assurance product or company. However, a form of financial assurance that had not previously been widely available, casualty insurance, has recently been proposed for use in connection with a number of different mitigation projects. In order to assist Districts in negotiating and approving casualty insurance policies, we have provided guidance specific to casualty insurance below. However, in providing this guidance it is recognized that there is no single solution that can be uniformly applied in all cases, and every policy should be carefully reviewed and modified to fit the particular circumstances and requirements of the particular mitigation project. Further, it may not always be possible to negotiate policy terms that meet a District's requirements. The District Engineer retains authority to determine acceptable terms in each case.

5. When negotiating casualty insurance policies, there will be a number of provisions that will be of greater significance to the Corps. The specific provisions that need particular attention have been identified below along with some recommendations.

a. Policy Period – Ensure that the policy period aligns with the time required for achievement of the mitigation bank performance standards for at least the duration of the monitoring period, or provides for options for renewal of the policy if the monitoring period exceeds the initial term of the policy. (Note that insurance policies generally have a maximum of a ten year term.)

b. Exclusions – Scrutinize the exclusions under the policy to ensure that there is adequate coverage to ensure the project will be successfully completed. An

"Act of God" exclusion will be a common feature of most policies. While this exclusion can be negotiated out of the policy (with a resulting higher rate for the insured), it will be important to look closely at what kind of coverage for natural disasters is necessary. In many cases, "natural disasters" such as flooding or fire might be desired events in the management and success of the mitigation bank. Most mitigation banking instruments will have provisions that address "Acts of God" that should be considered when determining whether modifications to the insurance policy's exclusion are needed. Fraud on the part of the insured should not be an exclusion and should not limit the insurance company's obligation to pay. It may be appropriate for exclusions to cover other properties, claims that would be covered by a standard comprehensive general insurance policy, legal fees associated with defending any disputes between the insured and the insurer, and other site-specific matters.

c. Bankruptcy – Ensure the policy is payable upon bankruptcy or insolvency of the insured and that the insured's failure to satisfy the deductable does not release the insurance company's obligation to pay up to the full policy limit if a claim is made.

d. Modification – Provide that any modification of the policy should be contingent upon the approval of the Corps.

e. Notice of Cancellation – Include the regulatory requirement that any cancellation of the policy requires notice to the Corps at least 120 days prior to the proposed cancellation/release date.

f. Change in Law – Address the effects of any changes in applicable law or regulation after commencement of the policy on the terms would have on the policy.

g. Choice of Law/Forum – If a choice of law provision exists in the policy, it should not be applicable to the Corps. The provision should be clear that the Federal Courts are the only appropriate venue for any litigation regarding the policy that involves the Corps.

h. Filing Claims – The insured should generally not be able to file a claim. Only the Corps, and in some instances state regulators, should be the only party that can file a claim.

i. Third Party Rights – The policy should explicitly recognize the Corps' third party rights.

j. Definitions – For any terms that the policy defines that are also defined in Corps regulations, such as "adaptive management plan," "performance standards," "mitigation banking instrument," and "compensatory mitigation," the policy's definitions should reference the Corps regulations and adopt consistent definitions.

6. There will be a few additional matters that are not part of a casualty insurance policy but which should be considered before deciding whether to accept an insurance policy as financial assurance.

   a. State Law on the Effect of Fraud – Understand the effect that fraud on the part of the mitigation bank proponent would have on the validity of the policy under the applicable state law. Some states may have statutory provisions or common law that provides that if insurance was obtained fraudulently, the policy is rescinded.

   b. Qualifications of the Insurance Company – Review the qualifications of the issuing insurance company to ensure generally that they have an adequate rating from a rating agency (e.g., A.M. Best, Fitch, Moody's, or Standard & Poor's) , are licensed in at least one state, and are not closely financially tied to the insured (generally, the insurance company should not be wholly owned subsidiary of the parent company seeking insurance).

7. The Corps Institute for Water Resources (IWR) has developed an information paper on financial assurance products titled "Implementing Financial Assurance for Mitigation Project Success." This paper provides helpful background information on the different forms of financial assurance products, how they work, and the limitations and advantages of each. This background may be helpful in gaining a better understanding of how the Corps interest in ensuring the success of a mitigation project needs to be protected when negotiating a specific financial assurance instrument. This information paper is available on IWR's website (http://www.iwr.usace.army.mil/docs/iwrreports/Financial_Assurance.pdf).

8. My point of contact for this issue is Max Wilson (202-761-8544).

Phillip Steffen
Assistant Chief Counsel for Environment

Enclosure:
IWR Fact Paper: Implementing Financial Assurance for Mitigation Project Success

IWR White Paper

June 2011

Implementing Financial Assurance for Mitigation Project Success

US Army Corps of Engineers®

IWR

www.iwr.usace.army.mil

Implementing financial assurances for mitigation project success can be challenging and place demands on regulators outside their regular areas of practice and expertise. The Institute for Water Resources (IWR) prepared this white paper on financial assurance for mitigation project success to provide a reference resource for Corps district staff involved with establishing and overseeing financial assurances.

"*Implementing Financial Assurance for Mitigation Project Success*" reviews key design and implementation issues and considerations relating to the use of financial assurances for mitigation project success. It describes and compares key features of alternative assurance instruments.

The paper is intended to be a "living document" that will be updated periodically as more information becomes available. Therefore, IWR is soliciting comments relating to whether key design and implementation issues and considerations have been adequately addressed and accurately represented, as well as information on Corps district experiences in establishing and using financial assurances in the mitigation context.

Comments and information on experiences should be submitted in writing to Steve Martin (steven.m.martin@usace.army.mil).

Financial assurance for mitigation project success can be defined as a mechanism that ensures that a sufficient amount of money will be available for use to complete or replace a mitigation provider's obligations to implement a required mitigation project and meet specified ecological performance standards in the event that the mitigation provider proves unable or unwilling to meet those obligations.

Implementing Financial Assurance for Mitigation Project Success

June 2011

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Institute for Water Resources
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1. Introduction

The U.S. Army Corps of Engineers (Corps) has the authority to issue permits under Section 404 of the Clean Water Act for discharges of dredged or fill material into waters of the United States, including jurisdictional wetlands, and Section 10 of the Rivers and Harbors Act of 1899 for structures or work in navigable waters. This federal regulatory program requires applicants for section 404 permits to satisfy "mitigation sequencing" as a condition for permit issuance. Mitigation sequencing requires permit recipients to first avoid and minimize impacts on aquatic resources to the extent practicable. Permit recipients may also be required to provide "compensatory mitigation" for any remaining unavoidable impacts to aquatic resources. Compensation is expected in the form of restoration of former or severely degraded aquatic resources, the enhancement of somewhat degraded aquatic resources, the establishment of new aquatic resources, and the preservation of well-functioning aquatic resources.

The program allows permit recipients to provide compensatory mitigation using three different types of mitigation providers. One allowable mitigation type is "permittee-responsible mitigation" in which a mitigation activity is undertaken by a permit recipient as compensation for the permit recipient's own permitted impacts on aquatic resources, and for which the permit recipient retains full responsibility. Permittee-responsible mitigation may be undertaken at or contiguous to the site of the permit recipient's discharge (on-site), and/or at a location away from the discharge site (off-site).

Two other allowable types of mitigation involve third-party mitigation providers that assume legal responsibility for providing the required compensatory mitigation of multiple permit recipients at one or more off-site locations. One form of third-party compensatory mitigation is mitigation banking. Mitigation banks produce large areas of restored, enhanced, established, and preserved aquatic resources for the express purpose of providing consolidated, off-site compensatory mitigation for the permitted aquatic resource impacts of multiple permit recipients. Most mitigation banks are commercial ventures developed by private entrepreneurs to create mitigation "credits" for sale to the general universe of permit recipients in need of compensatory mitigation. In-lieu fee (ILF) programs are another form of third-party mitigation provider in which permit recipients pay mitigation fees to non-federal government or non-governmental natural resource management entities that consolidate and use the fee revenues to construct large-scale, off-site mitigation projects. The use of mitigation banks and ILF programs to provide compensatory mitigation can reduce the costs and delays associated with the permit review process, and the large-scale mitigation projects they provide are generally more ecologically valuable and protected than smaller and scattered permittee-responsible mitigation projects.

In 2008, the Corps and the U.S. Environmental Protection Agency jointly promulgated regulations governing compensatory mitigation for permitted losses of aquatic resources under the federal regulatory program (33 CFR Part 332). The rules establish standards and criteria for the use of all types of compensatory mitigation. Among the rule provisions are general requirements for implementing financial assurances for compensatory mitigation projects that state in part, "The District Engineer shall require sufficient financial assurances to ensure a high level of confidence that the mitigation project will be successfully completed." [33 CFR 332.3(n)(1)]. Further, the rules state that financial assurances "…may be in the form of performance

bonds, escrow accounts, casualty insurance, letters of credit, legislative appropriations for government sponsored projects, or other appropriate instruments, subject to the approval of the district engineer." [33 CFR 332.3(n)(2)].

1.1 Purpose and Scope

This report reviews key design and implementation issues and considerations relating to the use of financial assurances for mitigation project success, and describes and compares key features of alternative assurance instruments, including letters of credit, performance bonds, cash in escrow, and casualty insurance. The information contained herein is intended to serve as a reference resource for Corps regulators involved with establishing and overseeing financial assurances for compensatory mitigation projects pursuant to the federal rules cited above.

Financial assurance for mitigation project success can be defined generally as a mechanism that ensures that a sufficient amount of money will be available for use to complete or replace a mitigation provider's obligations to implement a required mitigation project and meet specified ecological performance standards in the event that the mitigation provider proves unable or unwilling to meet those obligations. Such assurances can be provided by third-party institutions, such as a surety (bonding) companies, insurance companies, banks and other financial institutions that agree to hold themselves financially liable for the failure of a responsible party to perform compensatory mitigation obligations.

The purpose of requiring financial assurance in the mitigation context is to indemnify the public (through the Corps) against the potential loss of aquatic resources due to the failure of mitigation providers to perform their compensatory mitigation obligations. Mitigation project failure is always a possibility. Mitigation projects are generally complex and the final outcomes are uncertain even when mitigation providers fully implement approved mitigation plans and diligently apply adaptive management and corrective measures as problems are encountered. Mitigation providers might also become unable to successfully complete mitigation projects because of financial difficulties, which in the extreme could cause a mitigation provider to enter into bankruptcy or dissolution. Financial assurances for mitigation project success are meant to counter these risks.

Mitigation providers may also be required to ensure that funds are available for use in the legal protection and long-term management of mitigation project sites when deemed necessary. Legal protection is often referred to as "defense of easement" and refers to protection of the mitigation site from encroachment, which may include measures such as fencing, posting, and taking legal action against unlawful entry. Long-term management refers to the active management of mitigation projects after mitigation success has been achieved. When mitigation projects are fully constructed and the required monitoring and maintenance period is successfully completed in accordance with established performance standards, then any remaining financial assurances posted to ensure mitigation success can be fully released. However, at that point there may still be a concern that active monitoring and management of the mitigation site may be needed to maintain it as a well-functioning aquatic resource and ensure the integrity of the site. Examples of long-term management activities include prescribed burning and control of invasive species. To account for this, regulators may require mitigation providers to establish and fund endowments that provide the landowner

(or some other entity that is charged with maintaining the site) with the resources needed to defend the easement and conduct long-term site management. Such funding for easement defense and long-term management serves different purposes than financial assurances for mitigation project success, and these purposes are not addressed in this report.

1.2 Background

Private entities and public agencies, including the Corps, routinely require financial assurances from the general contractors they hire for construction projects. Assurances are also regularly required of certain regulated entities pursuant to a variety of federal regulatory programs, including the owners of municipal landfills, waste treatment facilities, mining operations, nuclear power facilities, underground gasoline storage tanks, ships carrying oil and hazardous materials, and offshore oil and gas facilities. Of these federal assurance requirements, perhaps the most analogous to compensatory mitigation are those required for the reclamation of surface mines pursuant to the Surface Mine Control Reclamation Act, and for the closure of solid and hazardous waste treatment, storage, and disposal facilities under the Resource Conservation and Recovery Act.

Financial assurances were rarely required for compensatory mitigation projects until the widespread emergence of Corps-approved, commercial mitigation banks beginning in the mid-1990s. Before then, most compensatory mitigation was provided through permittee-responsible mitigation projects for which financial assurances were seldom required. When Corps regulators were faced with the first few proposed commercial mitigation banks seeking regulatory approval in the early 1990s they had to confront the issue of whether those banks could be allowed to sell credits before their mitigation projects were fully constructed and/or had achieved ecological success. That issue was important because the sponsors of the proposed banks argued that the commercial viability of those banks depended on their ability to generate revenue from credit sales before mitigation bank projects were demonstrated to be fully successful. The bank sponsors were concerned that if they were not allowed to sell any credits before their mitigation projects met specified performance standards, the credit prices they would need to charge to ensure a competitive, risk-adjusted rate of return would be above that which permit recipients would be willing to pay. Corps regulators, on the other hand, were concerned about allowing such “early” credit sales, given the potential for the failure of mitigation bank projects. These competing concerns were reconciled by allowing those early commercial mitigation banks to engage in limited credit sales before mitigation obligations had been fully met in return for posting financial assurances for mitigation project success.

In subsequent years, as more commercial mitigation banks were proposed and approved, several states passed laws and promulgated regulations governing mitigation banking, and at least one Corps district (Chicago) issued mitigation banking guidelines that allowed for early credit sales when backed with financial assurances. Such provisions were also included in 1995 *Federal guidance for the establishment, use and operation of mitigation banks* issued by the Corps and several federal resource agencies. In 2005, Corps Headquarters issued a regulatory guidance letter that provided general guidance for the use of financial assurances for compensatory mitigation projects when assurances were included as a permit condition. Finally, the 2008 federal rulemaking for compensatory mitigation, which supersedes much of the earlier

guidance, codified new directives for the use of financial assurances for mitigation project success, but did not provide specifics on the various types of financial assurance instruments.

Today, mitigation banks, ILF programs, and permittee-responsible mitigation projects are used by permit recipients to meet their compensatory mitigation obligations. In general, those mitigation banks that have been allowed to sell credits before mitigation obligations have been fully met have been required by the Corps to post financial assurances for mitigation project success. On the other hand, financial assurances generally have not been required for most permittee-responsible mitigation projects and ILF programs. For many permittee-responsible mitigation projects, it is not practical to require financial assurances, so alternative mechanisms are often used instead, such as taking enforcement action to compel compliance with permit conditions relating to compensatory mitigation. For in-lieu fee programs, contingency funding is commonly built into the credit prices charged as an alternative to the types of financial assurances covered in this report.

1.3 Report Organization

This report is organized as follows. Section 2 reviews key design and implementation for the use of financial assurances in the mitigation context. This review includes a description of the various alternative assurance instruments specifically mentioned in the mitigation rule. Section 3 provides a comparative review of key features of alternative assurance instruments, highlighting features that may be advantageous or potentially problematic for the Corps and mitigation providers. Section 4 provides concluding remarks on the challenge of implementing financial assurances for mitigation project success. Figures that illustrate the basics of how alternative assurance instruments work are provided in the appendix.

2. Design and Implementation Issues

The goal of the federal regulations found at 33 CFR 332 is to ensure that compensatory mitigation projects offset the aquatic resource functions lost through permitting. The role of financial assurances toward that end is to ensure that mitigation projects are successfully completed and meet their established performance standards. The federal mitigation rule speaks at some level to the applicability, timing and release, amount, and types of financial assurance instruments that may be used to assure the success of compensatory mitigation projects. What the rule says about these assurance design and implementation issues, and how different Corps districts have handled these issues in practice, are reviewed below.

2.1 Applicability

The mitigation rule says the following with respect to when financial assurances for mitigation success are applicable, "*The district engineer shall require sufficient financial assurances to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with applicable performance standards. In cases where an alternative mechanism is available to ensure a high level of confidence that the compensatory mitigation will be provided and maintained (e.g. a formal,*

documented commitment from a government agency or public authority) the district engineer may determine that financial assurances are not necessary for that compensatory mitigation project." [33 CFR 332.3(n)(1)]

This rule language suggests that financial assurances are applicable whenever there is doubt about whether a mitigation project will be completed and meet specified performance standards. At the same time, it recognizes that there may be alternative means of ensuring mitigation success, and it gives regulators discretion to decide when those alternatives are sufficient substitutes for financial assurances. The ways in which different districts have used this discretion with respect to different types of mitigation providers are outlined briefly below.

In general, Corps districts have required commercial mitigation banks to post financial assurances when those banks have been allowed to engage in limited credit sales prior to the achievement of specified performance standards at bank projects. In some cases, however, districts have delayed release of commercial mitigation bank credits until mitigation success has been achieved instead of requiring them to post financial assurances. Sometimes this alternative has been workable due to the particular circumstances of the mitigation project. For example, one mitigation bank sponsor in Idaho agreed to an arrangement whereby bank wetland restoration credits would not be released for sale until all performance standards were met, while bank credits generated from wetlands preserved at the bank site were released for sale when the bank instrument went into effect. In other cases, districts have allowed for the initial release of some bank credits without requiring financial assurances, while withholding the release of most bank credits until performance standards for the entire bank project have been met.

Approximately 25% of the approved mitigation banks nationally are "single-client" banks developed by state Departments of Transportation to fulfill their own compensatory mitigation needs (rather than to sell credits to others). Because these banks are sponsored by state agencies that routinely seek permits for transportation projects and that have track records of successful completion of compensatory mitigation for those projects, they have not typically been required to post financial assurances.

Similarly, many ILF programs are sponsored by state resource agencies that have not been required to post financial assurances. Instead, these state agencies have committed in writing to successful completion of ILF project mitigation. For example, the North Carolina Department of Environment and Natural Resources provided a formal commitment to the Corps guaranteeing completion of mitigation projects undertaken by the North Carolina Ecosystem Enhancement Program.

Other ILF programs are sponsored by non-governmental entities and these likewise generally have not been required to post financial assurances for mitigation success. Instead, these programs have been required to build into fee rates a contingency charge intended to provide funds for correcting any deficiencies in mitigation project work. This practice is consistent with the mitigation rule, which states, *"For in-lieu fee programs…the cost per unit credit must include financial assurances that are necessary to ensure successful completion of in-lieu fee projects."* [33CFR 332.8(m)(ii)]

The Virginia Aquatic Resources Trust Fund (VARTF), an ILF program sponsored by the Nature Conservancy of Virginia, uses this alternative to financial assurances. The VARTF charges 20% of each mitigation project's estimated full cost of completion that is earmarked for use to implement remedial or corrective measures during the construction and performance monitoring phases of the project. Once performance monitoring is complete and performance standards have been met (typically 10 years following construction), the earmarked funds are applied to long-term stewardship of the project site.

In the case of permittee-responsible mitigation, most districts have required financial assurance only in the case of large, complex mitigation projects required by individual permits. Financial assurances have generally not been required for smaller mitigation projects required by either individual permits or general permits. These cases have generally relied on compliance with permit special conditions in lieu of requiring financial assurances. For example, assurances may be handled through permit special conditions that indicate that if the project does not meet its performance standards, the permittee would have to secure replacement mitigation.

Another consideration for when the Corps regulatory program might require financial assurances for mitigation involves whether such requirements are already required by state or local regulations. States that often require posting of financial assurances for mitigation projects include Florida, New Jersey, Ohio, Oregon, and West Virginia, among others. The Corps districts covering these states generally have treated the assurances posted to comply with state or local rules as providing sufficient assurances for mitigation project success.

2.2 Coverage, Timing and Release

The issues of assurance coverage, timing, and release are closely interrelated. Assurance "coverage" relates to the specific mitigation responsibilities that are backed by an assurance instrument. For example, separate assurance instruments might be employed to first assure project construction and then assure project success in accordance with performance standards. And in the case of large mitigation bank projects that are implemented in phases, one or more assurances might be employed to cover each different project phase in succession. Assurance "timing" relates to the time at which assurances are posted, and assurance "release" relates to the time at which the Corps determines that the mitigation responsibilities covered by the assurance have been met, enabling the assurance instrument to be terminated.

The mitigation rule speaks directly to assurance timing and release. With respect to timing in the case of permittee-responsible mitigation projects, the rule states, *"If financial assurances are required, the permit must include a special condition requiring the financial assurances to be in place before commencing the permitted activity."* [33 CFR 332.3(n)(3)]. With respect to assurance timing for mitigation banks, the rule states, *"The mitigation banking instrument may allow for an initial debiting of a percentage of the total credits projected at mitigation bank maturity, provided the following conditions are satisfied: the mitigation banking instrument and mitigation bank plan have been approved, the mitigation bank site has been secured, appropriate financial assurances have been established…"* [33 CFR 332.8(m)(ii)].

With respect to assurance release, the rule states, *"Financial assurances shall be phased out once the compensatory mitigation project has been determined by the district engineer to be successful in accordance with its performance standards. The DA permit or instrument must clearly specify the conditions under which the financial assurances are to be released to the permittee, sponsor, and/or other financial assurance provider, including, as appropriate, linkage to achievement of performance standards, adaptive management, or compliance with special conditions."* [33 CFR 332.3(n)(4)].

The rule does not speak directly to assurance coverage, and there is considerable variation in the ways in which districts have approached coverage issues, particularly for mitigation banks. How some districts have handled assurance coverage, timing, and release is outlined briefly below.

When financial assurances have been required for permittee-responsible mitigation projects, many districts have required a single financial assurance instrument to assure project construction and success. The dollar amount of assurance initially established is then generally reduced in phases as project performance milestones are met, such as completion of construction, attainment of hydrology, and annual monitoring reports that show the project is trending toward successful attainment of performance standards. This approach to implementing financial assurances for permittee-responsible mitigation projects is used in the Buffalo, Norfolk, San Francisco, and Seattle districts.

In the case of mitigation banks, several districts (including Baltimore, Chicago, Mobile, Omaha, Savannah, and in some cases, Seattle) have required bank sponsors to post a single financial assurance instrument to assure construction and success for the entire mitigation bank project. These assurances are then released in phases as performance milestones are reached.

Other districts have required two distinct assurances for mitigation bank projects, one to assure project construction and the other to assure that the project meets its performance standards. The construction assurance is released when construction has been completed and deemed successful by the interagency review team, often through review and approval of as-built drawings. The performance assurance is released in phases as ecological success milestones are reached. This is a common practice in the New Orleans, Seattle, and Baltimore districts.

A variant of this approach is used in the Buffalo and Norfolk Districts. Once a mitigation bank instrument has been finalized, these districts will release a limited share of bank credit for sale prior to project construction in return for a financial assurance that assures construction for only that part of the project that backs the released credits (rather than construction for the entire bank project). Once construction associated with the initial release of credits is complete, that assurance may be released to the sponsor. At that point the bank sponsor is required to post another financial assurance to assure project success during the required monitoring and maintenance period. This assurance is usually an escrow account funded through a percentage of the revenues generated through credit sales. This assurance may be reduced in phases as monitoring reports show the project is trending toward attainment of performance standards. Norfolk District also requires bank sponsors to fund an escrow account that provides funding to address project deficiencies caused by catastrophic events such as hurricanes.

Perhaps the most comprehensive approach to financial assurances for mitigation banks is employed by the Corps districts in California (Los Angeles, Sacramento, and San Francisco). These districts use a state-wide Mitigation Bank Enabling Instrument template that requires three different assurances over the life of a mitigation bank (as well an endowment for long-term site management). These include a construction assurance, a performance assurance, and an interim management assurance.

The construction assurance remains in effect only during bank site construction. The performance assurance goes into effect when the first credit is sold and remains in effect until all performance standards are met. The interim management security goes into effect following construction and stays in force until performance standards are met and the endowment for long-term site management has been fully funded.

2.3 Amount

Among the most challenging aspects of implementing financial assurances for mitigation success is setting the dollar amount. With respect to this issue the mitigation rule states, *"The amount of the required financial assurances must be determined by the district engineer, in consultation with the project sponsor, and must be based on the size and complexity of the compensatory mitigation project, the degree of completion at the time of project approval, the likelihood of success, the past performance of the project sponsor, and any other factors the district engineer deems appropriate … The rationale for determining the amount of the required financial assurances must be documented in the administrative record for either the DA permit or the instrument. In determining the assurance amount, the district engineer shall consider the cost of providing replacement mitigation, including costs for land acquisition, planning and engineering, legal fees, mobilization, construction, and monitoring."* [33 CFR 332.3(n)(2)]

In order to ensure that sufficient funds are available to remediate or replace a failed mitigation project, the assurance amount should reflect all possible component costs of remediation or replacement, including possible contingencies. Component costs can include costs for land purchase and surveys; project planning, design and engineering; site construction and planting; monitoring and maintenance; remedial work and other contingencies, and legal and administrative tasks. These component costs can be further divided into costs for specific tasks; for example, construction could include earthwork, sediment and erosion controls, and installation of water control structures among other tasks.

Not all of the component costs listed above might be applicable in every case, however. In particular, land cost, which is often the single largest mitigation project cost component in many areas of the country, may or may not be relevant for determining assurance amounts. Determining whether land costs are relevant depends on whether or not it is believed, a priori, that the mitigation project in question could and should be successfully completed in the event that the mitigation sponsor was unable to meet its mitigation obligations. If it is believed that mitigation project remediation would be desirable and likely to be successful (e.g., the mitigation site is an excellent candidate for a successful restoration project), then there would be no need to include component costs for land purchase when setting assurance amounts. Alternatively, if there is uncertainty surrounding the possibility or benefits of remediating a failed mitigation project, then assurance amounts should be based on the cost of

completing a separate mitigation project at another location. Assurance amounts based on such off-site replacement would need to include component costs for land purchase.

In general, remediation of a failed mitigation project might be deemed a priori to be desirable and likely to succeed if all of the following criteria were met:

- The mitigation project site is in a favorable location—that is, the site has a high probability of providing the desired resource type and current and projected future uses of adjacent lands would not threaten the sustainability of the mitigation project—and long-term protection of the project site is secured.
- There is a high likelihood that mitigation project remediation would succeed in achieving mitigation performance standards and provide the project's intended functions and services.
- An independent third-party can be secured that is willing and able to use the assurance monies to remediate a failed mitigation project, and that party's access to the mitigation site for remediation work and monitoring and maintenance is assured.

In general, the mitigation provider is expected to provide the Corps with estimates of the cost of the sponsor's mitigation project, itemized by project task, for purposes of establishing financial assurance amounts. Some districts have required mitigation providers to provide cost estimates developed by independent sources or contractors. Other sources of cost data that may be useful for preparing a mitigation project cost estimate or for validating the accuracy of an estimate provided by a mitigation provider include:

- Corps in-house engineering costs estimates.
- Independent cost estimates for similar mitigation projects in the area.
- Publicly-available bid data for similar projects included in proposals for mitigation work, such as data available online from the North Carolina Ecosystem Enhancement Program (http://www.nceep.net).
- Cost estimates from commercially available software such as the Property Analysis Record developed by the Center for Natural Lands Management.
- Credit prices charged by mitigation banks and ILF programs for similar types of compensation in the same area.

Consideration should be given to several factors when developing or reviewing project cost estimates, including:

1. Quality of the source data (is it from a reliable source and current?);
2. Completeness (are costs for all reasonable and expected project elements included in the estimate?);
3. Potential for escalating costs over time (does the estimate include an adjustment for inflation or increasing component costs?), and;
4. Potential for project failure (what is the mitigation provider's previous experience and record in providing compensatory mitigation?).

Another alternative for costing and using assurances to provide replacement mitigation for a failed mitigation project involves Corps-approved mitigation banks and ILF programs in the same area. Such banks or ILF programs provide a ready supply of mitigation credits that could be purchased to replace a failed mitigation project, and the credit prices they charge could be used to establish required financial assurance amounts. This obviates the challenge of developing cost estimates for the purpose of setting assurance amounts, as well as the need to secure a third-party that is willing and able to use assurance monies to remediate a failed mitigation project or provide a replacement project.

This approach to setting financial assurance amounts has been employed by some districts where mitigation banks and ILF programs are located. One potential problematic factor for this approach is that the credit prices charged by mitigation banks, at least, would be expected to be higher than the actual costs of providing replacement mitigation for a failed mitigation project. This is because bank credit prices reflect not only the costs of producing the mitigation but also a competitive, risk-adjusted rate of return to bank owners.

2.4 Claims & Performance

The term "claim" refers to calling-in a financial assurance when the Corps determines that a mitigation provider has defaulted on the provider's mitigation obligations. The term "performance" relates to use of a financial assurance to ensure remediation or replacement of a failed mitigation project.

With respect to assurance claims that involve the transfer of assurance monies, the rule states, *"Financial assurances shall be payable at the discretion of the district engineer to his designee or to a standby trust agreement. When a standby trust is used (e.g. with performance bonds or letters of credit) all amounts paid by the financial assurance provider shall be deposited directly into the standby trust fund for distribution by the trustee in accordance with the district engineer's instructions."* [33 CFR 332.3(n)(6)].

The rule also states, "*The compensatory mitigation project must comply with all applicable federal, state, and local laws. The DA permit, mitigation banking instrument, or in-lieu fee program must not require participation by the Corps or any other federal agency in project management, including receipt or management of financial assurances or long-term financing mechanisms, except as determined by the Corps or other agency to be consistent with its statutory authority, mission, and priorities."* [33 CFR 332.3(o)]

The above rule language is meant to ensure that the Corps does not participate in any management of mitigation projects, including receiving or managing financial assurance funds. The Corps prohibition on Corps receipt and management of assurance monies stems from statutory restrictions imposed by the Miscellaneous Receipts Statute [31 USC 3302(b)], which requires that funds obtained by any federal agency that does not have statutory authority to collect or use those funds must be deposited in the U.S. Treasury. Congress has not given the Corps regulatory program explicit authority to collect or use mitigation assurance funds. This statutory restriction can be addressed either by ensuring that financial assurance payouts are made payable to a standby trust or to a third-party designee of the Corps who agrees to complete the project or provide alternative mitigation.

A standby trust is an agreement between a neutral third party, such as a financial or legal institution (the trustee), and a mitigation provider whereby the trustee agrees to hold any money collected when a claim has been made on a financial assurance, and then disperse that money as directed by the Corps. Standby trusts are useful when the financial assurance instruments used to assure mitigation obligations do not directly name a designee of the Corps as the beneficiary of monetary claims. Any assurance monies deposited in a standby trust will remain secure until the Corps can arrange for and direct payment from the trust to a Corps designee that agrees to repair a failed mitigation project or provide replacement mitigation. When deemed applicable, a standby trust could be established by a mitigation provider at the same time that the sponsor established the required financial assurance; the trust would remain dormant until a claim on assurance funds was made.

Instead of establishing a standby trust to receive assurance claims, an assurance instrument may name a third-party designee of the Corps as the recipient of assurance payouts. But even when a standby trust is established to receive assurance payouts, the Corps must still secure a third party who agrees to use the assurance monies to remediate or replace a failed mitigation project.

Corps districts have named different types of entities as third party designees who would use assurance funds to ensure performance in the event of default by mitigation providers, including non-governmental resource conservation organizations, state, county and municipal resource agencies, as well as quasi-state agencies such as soil and water conservation districts. In some Corps districts, the conservation easement holder for a mitigation project is usually named as the beneficiary of financial assurances for that project. Several districts have named approved ILF programs and mitigation banks as beneficiaries of financial assurances.

It is important to note that some assurance instruments promise performance of the mitigation sponsor's obligations by the assuring entity rather than simply payment of funds for that purpose. That feature of assurance instruments is considered in Section 3.

2.5 Instruments

With respect to the different types of financial assurance instruments (sometimes referred to as assurance "forms") that can be used to assure mitigation obligations, the mitigation rules states, *"…Financial assurances may be in the form of performance bonds, escrow accounts, casualty insurance, letters of credit, legislative appropriation for government sponsored projects, or other appropriate instruments, subject to the approval of the district engineer…"* [33 CFR 332.3(n)(2)]

This rule language gives the District Engineer flexibility in the type of financial assurance instrument used to assure successful compensatory mitigation, including the potential to combine different instruments to fulfill a responsible party's assurance requirements. Table 1 presents a basic description of alternative assurance instruments, and figures that illustrate the basics of how they work are presented in the appendix. The narrative that follows briefly reviews how these instruments can be set up to work in the mitigation context in compliance with the federal rule on compensatory mitigation. A comparative review of important features of these assurance instruments is provided in Section 3.

Table 1. Overview of Alternative Financial Assurance Instruments	
Instrument	**Use to Assure Compensatory Mitigation Obligations**
Letter of Credit	A letter of credit is a document issued by a financial institution (the issuer) on behalf of a mitigation provider (the account party) that provides for payment of the account party's obligations for the benefit of the Corps (the beneficiary). Payment is assured up to a specified dollar amount during a specified period of time (generally no more than one year). If the beneficiary determines that the account party has failed to fulfill its obligations referenced in the letter, the beneficiary can demand payment of all or part of the dollar amount specified in the letter. When the beneficiary draws on the money, the account party then owes that amount to the issuer according to the terms of a loan agreement between the issuer and the account party established to secure the letter. These loan agreements often require the account party to post collateral with the issuer (e.g., maintain a certain cash balance at the financial institution).
Performance Bond	A performance bond is an assurance contract with a specified dollar limit (penal sum) for a specified period of time whereby a bonding company (the surety) assumes the obligations of a mitigation provider (the principal) for the benefit of the Corps (the obligee) in the event that the principal fails to fulfill those obligations. The surety may fulfill the principal's obligations either by performing those obligations up to the limit of the penal sum, or by paying an amount up to the penal sum (less any costs already incurred by the surety) to the obligee. To secure a performance bond, the principal must enter into an indemnity agreement with the surety that requires the principal to reimburse the surety for any loss the surety may incur under the performance bond, and such agreements often require the principal to post collateral with the surety. The indemnity agreements can put at risk the personal assets of mitigation providers and their investors.
Cash in Escrow	An escrow is an agreement between a mitigation provider (the grantor) and the Corps (the grantee) to transfer ownership of cash from the former to the latter if the grantor fails to meet its obligations specified in the agreement. A neutral third party such as a law firm or financial institution (the depositary) receives and holds the money and assures its transfer to the grantee if the grantor fails to fulfill its obligations. Prior to a claim, legal title to the money in escrow remains with the grantor; however, after the money has been transferred to the depositary, the cash cannot be returned to the grantor until the grantee notifies the depositary that the grantee has fulfilled its obligations.
Casualty Insurance	Casualty insurance is a contract between a mitigation provider (the insured) and an insurance company (the insurer) for claims against the policy made by the Corps up to a specified dollar limit (limit of insurance) for a specified period of time. The insurer agrees to fulfill the obligations of the insured in the event that the Corps makes a claim on the policy after the Corps has notified the insurer that the insured has not met its obligations. The insurer may satisfy the claim by fulfilling the obligations of the insured or by cash payment (up to the limit of liability) to a Corps designee. The insured is required to repay to the insurer any insurer costs that result from claim up to a specific deductible amount.

2.5.1 Letter of Credit

In the mitigation context, a letter of credit is an agreement between a financial institution such as a bank (the issuer) and a mitigation provider (the account party) whereby the issuer agrees to provide cash for the benefit of the Corps or its designee (the beneficiary) if the Corps determines that the mitigation provider has not fulfilled its mitigation obligation, which is the condition for payment that is directly referenced in the letter (see Appendix Figure 1). Essentially, the issuer extends its credit to cover the mitigation provider's obligations. The letter assures payment for the mitigation provider's unmet mitigation obligation up to a specified dollar amount during a specified period of time.

To make a claim, the named beneficiary must present to the issuer the letter of credit along with documentation of mitigation project failure and an estimate of the amount of assurance funds needed to repair or replace the project. Since the Corps does not have the authority to directly collect and use assurance payouts, the letter should either 1) name as beneficiary a designee of the Corps, or 2) name the Corps as beneficiary with the stipulation that any payments must be made payable to a standby trust.

Typically, letters of credit are issued for no more than one year terms, but may be set up to be "evergreen," meaning they can be automatically extended for another term if necessary. But even with an evergreen letter of credit, the issuer always has the option not to renew the letter of credit at the end of the specified term. Such letters should be "irrevocable" (that is, it cannot be revoked during its term without the agreement of the beneficiary) to ensure that the bank will honor all claims by the Corps or its designee that occur during the letter term.

2.5.2 Performance Bond

In the mitigation context, a performance bond is an agreement between an insurance or bonding company (the surety) and a mitigation provider (the principal) whereby the surety agrees to fulfill the principal's mitigation obligation to the Corps (the obligee) if the Corps determines that the principal has failed to meet that obligation, which is the condition for surety liability directly referenced in the bond (see Appendix Figure 2). As with a letter of credit, a performance bond specifies a dollar limit of liability for the surety (called the penal sum) and a term during which claims can be made against the bond. Typically, performance bonds are issued for 1-2 year terms, although the period of coverage can be longer. Under a performance bond, the surety agrees to complete the mitigation provider's obligation either by performing that obligation itself (up the dollar limit of the penal sum) or by paying the penal sum (less any costs already incurred by the surety) to the obligee when a claim is presented on the bond during its term. If the Corps is the named obligee, then the bond should stipulate that any bond payouts be made payable to an established standby trust or to the Corps' designee.

2.5.3 Escrow Agreement

In the mitigation context, an escrow is an agreement between a mitigation provider (the grantor) and the Corps (the grantee) to transfer ownership of up to a certain amount of cash from the mitigation provider to a designee of the Corps, if the Corps determines that the grantor has failed to meet its mitigation obligation (see Appendix Figure 3). The escrow account is maintained by a neutral third party such as a law firm or financial institution (the depositary) who agrees to hold and transfer the funds per

the terms of the agreement. Under an escrow agreement, the grantor deposits cash into an escrow account administered by the depositary. The agreement identifies non-compliance with the provider's mitigation obligation as the condition for transfer of cash held in escrow to the Corps' designee. To make a claim, the grantee must provide to the grantor documentation of mitigation project failure and an estimate of the amount of assurance funds needed to repair or replace the project.

The mitigation provider retains legal title to the cash in escrow (and may earn interest on the funds held that is invested in safe, liquid investments such as certificates of deposit). However, once the cash has been transferred to the depositary, it cannot be returned to the mitigation provider until the Corps notifies the depositary that the mitigation provider's obligation has been fulfilled.

An escrow agreement can be established for an indefinite period to accommodate the time necessary for successful completion of the mitigation obligation. Upon a determination by the Corps that a mitigation provider is in default of its obligation, the Corps can direct the depositary to transfer all or part of the funds held in escrow to a Corps designee that is identified either in the escrow agreement or named at the time that the Corps demands payment. Alternatively, an escrow agreement could stipulate that claims will be made payable to a standby trust that is to be established by the depositary at the time a claim is made.

2.5.4 Casualty Insurance

In the mitigation context, casualty insurance is an agreement between an insurance company (the insurer) and a mitigation provider (the insured) whereby the insurer agrees to fulfill the mitigation obligation of the insured, up to a specified dollar limit within a specified period of time, if the Corps determines that the mitigation provider has failed to meet its mitigation obligation (see Figure 4). An insurance product now being marketed to prospective mitigation banks is a "claims made" policy that can be established to allow for claims over as much as a 10 year time period during which a mitigation bank is required to achieve mitigation success. A claim can be filed only by the Corps. The policy specifies that the insurer will satisfy a claim (up to the dollar limit of liability) by remediating the failed mitigation project or providing replacement mitigation, or by making payment to a Corps designee, as directed by the Corps. In general, there is no need for a pre-established standby trust to receive any insurance payouts, since the Corps could ask the insurer to establish a standby trust to receive the payout if a Corps designee had not been identified to receive a claim payout.

2.5.5 Alternative: Credit Sales Revenue to Escrow

In recent years, some mitigation bank sponsors have reported difficulties finding financial institutions and sureties willing to issue letters of credit and performance bonds at affordable terms, as well as obtaining the funds necessary for establishing upfront cash escrows as assurances for mitigation obligations. One way around these difficulties that has been used in at least one district (Norfolk), allows for an initial release of a limited share of bank credits available for sale without the posting of financial assurances, but requires that the revenue from the sale of those credits be placed in escrow until attainment of performance standards for at least a portion of the bank project. This escrow option differs from the traditional use of escrow as financial assurance only in that there is no requirement for upfront posting of funds to escrow as a condition of credit release.

Holding bank credit sales revenue in escrow, as an alternative to posting financial assurances as a condition of credit release, is not included in the comparative review of assurance instruments presented below. Nevertheless, this alternative to traditional financial assurance in the mitigation banking context should, in principle, be acceptable to the Corps, since it is akin to requiring a mitigation bank to achieve project milestones and performance standards before credits sales are allowed. And importantly, this alternative obviates the challenge faced by the Corps in setting assurance amounts when traditional financial assurance instruments are used.

3. Comparative Review of Assurance Instruments

Table 2 compares alternative financial assurance instruments according to several features. The narrative that follows provides further elaboration of these features for different assurance instruments, and provides limited commentary on their possible implications for mitigation providers and the Corps. The review considers the following assurance features:

1. Availability and procurement, which relates to the general availability of the assurance instrument and the process and demands that a mitigation provider must meet in order to secure it.

2. Price and opportunity cost, which relates to the fee charged to a mitigation provider to secure the assurance instrument as well as the costs to the mitigation provider of tying-up money in the assurance instrument or in any collateral that may be required by the assurance provider.

3. Term and renewal, which relates to the period of assurance coverage provided by the assurance instrument as well as prospects for renewal if more time is needed.

4. Claims and performance, which relates to the process required for making and honoring a claim against an assurance instrument, and whether additional steps are needed to secure the repair or replacement of a failed mitigation project.

3.1 Availability and Procurement

Letters of credit and performance bonds have been used fairly extensively to assure mitigation obligations in the past. In recent years, however, some mitigation providers have had difficulty securing these instruments from financial institutions and sureties. Recent financial and market conditions may have reduced the credit capacity of financial institutions and sureties and their willingness to extend credit generally. There was a general retrenchment in the willingness of sureties to issue bonds during the early 2000's following a spike in surety industry losses experienced during previous years. Sureties may have become even more conservative in recent years due to the current economic stress in the construction industry, the main market for performance bonds.

Table 2. Comparative Overview of Assurance Instrument Features				
Instrument	**Availability and Procurement**	**Price and Cost**	**Term and Renewal**	**Claims and Performance**
Letter of Credit	Letters of credit (LOC) are issued by many financial institutions, but have become more difficult to procure for mitigation projects in recent years because of financial institutions' reduced credit capacity and willingness to lend. Procuring a LOC is a credit transaction that requires the mitigation provider (buyer) to complete a loan application process with the issuing financial institution. If a claim is made against a LOC, the buyer will owe the issuer the claim amount per the terms of a pre-established loan agreement.	Prices vary but generally are around 1% of the credit limit per year. Financial institutions often require buyers to post collateral by, for example, maintaining a certain cash balance in an account at the issuing institution. Procuring a LOC may also decrease by a corresponding amount any other credit lines that might be available to the buyer.	LOC are issued for no more than one year terms. An "evergreen" LOC provides for automatic renewal at the end of the term, but financial institutions have the option to not renew. Non-renewal could result from a negative judgment by financial institutions about a buyers' ability to complete its obligation, or from external factors that limit the willingness of financial institutions to extend credit generally.	LOC provide a guaranteed source of funds when the Corps determines that a mitigation sponsor is in default. The financial institution will not contest a claim against a LOC during the coverage period when provided with Corps documentation indicating default under the terms of the LOC and an estimate of the amount of assurance money needed to repair or replace a failed project. Any money drawn from a LOC must be made payable to a designee of the Corps or to a standby trust. LOC provide the funds to implement a solution to a failed mitigation project, but not the solution itself; the Corps is still faced with arranging for another entity to use the money to remediate the failed project or provide replacement mitigation.
Performance Bond	Bonds are issued by many insurance and bonding companies primarily for standard classes of business within the construction industry. Sureties appear to be less willing to bond mitigation projects, or may provide bonding for the construction phase of mitigation projects but not for mitigation success. Sureties emphasize careful selection of buyers based on an exhaustive review of buyers' capacity to complete the obligation, financial standing, and character. The buyer must enter into an indemnity agreement whereby it agrees to reimburse the surety for any loss the surety may incur under the bond; such indemnity agreements can reach down to the personal assets of the buyer and the buyer's investors.	Prices range from 1.5-5% of the bond dollar limit (penal sum), and sureties often require a buyer to post liquid collateral with the surety.	Typically, bonds are issued for limited terms (1-2 years) with the potential for renewal. Renewals may not be forthcoming, however. Non-renewal of a bond could result from a negative judgment by the surety about the buyer's ability to complete its obligations, or from external factors that reduce the surety's willingness to bond certain types of projects.	When a claim is made, a surety will try to fulfill the buyer's obligation in the most cost-effective way for the surety; payout of part or all of the penal sum (less any costs already incurred by the surety) is a last resort. Payout must be made payable to a designee of the Corps or to a standby trust. Bond payouts provide the funds needed to implement a solution to a failed mitigation project, but the Corps must still arrange for another entity to use the funds to remediate the project or provide replacement mitigation. A surety may dispute a bond claim if the surety disagrees with a default judgment by the Corps.

Table 2. Comparative Overview of Assurance Instrument Features *(continued)*				
Instrument	**Availability and Procurement**	**Price and Cost**	**Term and Renewal**	**Claims and Performance**
Cash in Escrow	Escrow accounts hold cash as assurance for performance of mitigation obligations and can be easily set-up at many law firms and financial institutions (the depositary). The main hurdle with establishing cash escrow as assurance in the mitigation context relates to the mitigation provider's ability to post the required cash in escrow at the same time that the mitigation provider must expend funds to implement the mitigation project.	The depositary will charge a minimal fee to the mitigation sponsor who secures the account. The main cost of establishing an escrow account relates to the opportunity cost to the mitigation sponsor of tying-up cash in escrow.	The term of an escrow account can be set up for an indefinite period to accommodate the amount of time necessary to successfully complete the mitigation project.	An escrow account provides a ready source of cash that is available to a designee of the Corps when demanded by the Corps. The depositary cannot contest a claim against an escrow account and will payout all claims when provided with Corps documentation indicating default under the terms of the escrow agreement and an estimate of the amount of assurance money needed to repair or replace a failed project. Draws on escrow provide the money to implement a solution to a failed mitigation project, but arrangements must be made for another entity to use the money to repair or replace the mitigation project .
Casualty Insurance	To date, casualty insurance to assure mitigation obligations has been approved in connection with two mitigation banks, and has been proposed for multiple mitigation banks now in development in several districts. In principle, this product is available to any mitigation provider deemed qualified. To obtain a policy, mitigation providers must show the insurer that they have the capacity and financing to complete their obligations, although this qualification process is less detailed and time-consuming than that required of applicants for performance bonds. The policy includes a deductible clause that requires the mitigation provider to reimburse the insurer for any costs that the insurer incurs up to the deductible amount.	A mitigation provider must pay a one-time, non-refundable premium of about 2 to 4% of the dollar limit of insurance written into the policy. The policy does not require the insured party to post collateral with the insurer. Prices vary with the size of the mitigation bank project and other underwriting considerations.	The policy period can be established to cover the time period over which a mitigation project is required to achieve success (e.g., the term of a mitigation bank as set forth in the banking instrument) up to 10 years. Once in force, the policy cannot be canceled within the policy period unless the Corps releases the insurer from coverage.	Claims against the policy can be made only by the Corps. The insurer will respond to a claim by either 1) working with the Corps to settle claim to the full satisfaction of the Corps (up to the limit of insurance), or; 2) pay to a Corps designee the claim amount that the Corps determines is necessary to meet the compensatory mitigation requirement (which could involve purchase of mitigation bank or ILF credits, as directed by the Corps).

A further issue that may limit the availability of performance bonds in the mitigation context relates to the possibly nebulous nature of what constitutes mitigation project success from the perspective of sureties. Sureties are accustomed to issuing bonds for construction projects that have a clear expected end result that can be readily evaluated against pre-established plans and specifications. Thus, when sureties are willing to issue bonds in the mitigation context, they may limit their bonding to assure mitigation project construction (e.g., grading and placement of water control structures to produce the needed topography and hydrology) while choosing not to bond the risk that mitigation success will not be achieved in accordance with performance standards.

Procuring a letter of credit is essentially a credit transaction that requires the mitigation provider to successfully complete a loan application with the issuing financial institution. In the event that a claim is made against a letter of credit during its term, the mitigation provider then owes the issuer the amount of the claim per the terms of the loan agreement.

Bond sureties view their underwriting as both a performance obligation and a credit transaction and emphasize careful selection of buyers based on an exhaustive review of the buyer's capacity and resources for completing its obligation, as well as the buyer's character. Procuring a performance bond as assurance for mitigation obligations can be a time-consuming and onerous process for mitigation providers. Sureties will also require a mitigation provider to enter into an indemnity agreement whereby the provider agrees to reimburse the surety for any losses the surety incurs from claims made on the bond. Such indemnity agreements can potentially put at risk the personal assets of the mitigation provider as well as those of any investors in the provider's mitigation venture.

The availability of letters of credit and performance bonds in the mitigation context is related to any collateral requirements imposed on prospective buyers of these instruments. Generally, financial institutions will issue letters of credit and sureties will issue performance bonds for mitigation project success when the buyers agree to post collateral with these assurance providers in amounts that approach the full face amount of a letter of credit or bond. Such collateral requirements greatly increase the cost of these assurance options, however, and thus limit their potential affordability for mitigation providers.

Similarly, escrows established to hold cash as assurance for mitigation obligations can be readily established at many legal and financial institutions. The main hurdle with establishing a cash escrow as assurance is the ability of mitigation providers to post the required cash at the same time that they need substantial funds to implement their mitigation projects.

At the time of this writing, casualty insurance had been used in two cases to assure mitigation bank obligations (for a bank in the Wilmington District and a bank in the St. Louis District). However, that insurance product is currently being marketed to mitigation banks nationwide and has been proposed as financial assurance for multiple prospective mitigation banks now under review in several districts. In principle, this product is available to any mitigation provider deemed qualified by the insurer. To obtain a policy, a mitigation provider must show the insurer that the provider has the capacity and resources to complete their mitigation obligations, although this qualification process is much less detailed and time-

consuming than that required of applicants for performance bonds. The policy also includes a deductible that requires the mitigation provider to reimburse the insurer for any costs the insurer incurs from claims up to a stated amount. The insurer recognizes that it will not recoup all of its claim costs, and will seek to pool that risk across many premium-paying policyholders.

3.2 Price and Opportunity Cost

The prices charged for letters of credit can vary according to the credit-worthiness of buyers, but generally are around one percent of the specified annual credit limit. More importantly in terms of cost to mitigation providers, financial institutions often require buyers to post collateral for the credit line by, for example, maintaining a certain cash balance in an account at the issuing institution. And a letter of credit will typically reduce by a corresponding amount a mitigation provider's other available credit lines.

The prices charged for performance bonds can range from 1.5-5% of the bond dollar limit, where prices at the high end of the range are associated with bonds issued for activities that carry risks that are considered "substandard" (i.e., higher than normal) by the surety. As with issuers of letters of credit, sureties may require mitigation providers to post significant collateral with the surety as a condition for bond issuance.

The institution that serves as depositary for an escrow account will charge the mitigation provider a minimal annual fee, which is often paid from the interest earned on the deposited cash that is invested in safe, liquid investments such as certificates of deposit. The main cost of establishing an escrow account relates to the opportunity cost to the mitigation provider of tying-up significant sums of money in escrow at the same time that the provider needs substantial funds to implement the provider's mitigation project.

As noted above, letters of credit and performance bonds can impose significant costs on mitigation providers when, as a condition of issuance, providers are required to post collateral with the assurance provider. If collateral requirements were set at 100% of the face value of the letter of credit or bond, the opportunity cost of these assurance options would reach the level incurred by mitigation providers when they deposit cash in escrow as assurance for mitigation obligations. To the extent that some mitigation providers are unable to post the funds needed to establish an escrow or to meet any collateral requirements of a letter of credit or performance bond, these instruments are unworkable assurance options for those providers.

The casualty assurance policy now being marketed to mitigation banks was developed in recognition of potential limits on the availability and affordability of other assurance options for mitigation providers. To secure a policy, a mitigation bank sponsor must pay a one-time, non-refundable premium equal to about 2-4% of the sum of dollar limit of insurance for each year that is written into the policy. For example, consider a mitigation bank that is allowed to sell a limited share of bank credit capacity when a casualty insurance policy has been established to assure that the mitigation work associated with those credits is completed and meets performance standards within a ten-year monitoring and maintenance period. The premium for this policy would be based on a Corps-approved estimate of the amount of

assurance dollars required for the release of credits during each year of the required monitoring and maintenance period. The insurer charges the full premium amount for the ten year period upfront, because once in force the insurer cannot cancel the policy during its multi-year term.

The casualty insurance policy does not require a mitigation bank sponsor to post collateral as a condition of policy issuance. For mitigation bank sponsors this is an important potential advantage of the insurance option over cash in escrow, as well as letters of credit and performance bonds when those instruments impose significant collateral requirements. Unlike those instruments, casualty insurance does not require a mitigation bank sponsor to tie-up large amounts of cash as assurance or collateral at the same time that the sponsor needs substantial resources to implement the sponsor's mitigation project. This obviates the need for bank sponsors to secure additional funds for assurances or collateral, and then carry the cost of those funds until mitigation obligations are met. That casualty insurance has been used by two mitigation banks and has been proposed in connection with multiple prospective mitigation banks suggests that it may be the most cost-effective available assurance option for some mitigation bank sponsors.

3.3 Term and Renewal

Letters of credit are issued for no more than one-year terms, and performance bonds are also generally issued for limited terms (1-2 year), although sureties have issued bonds for longer terms in the mitigation context. Issuers generally offer prospects for the automatic renewal of letters of credit and performance bonds at the end of their terms, although they always have the option not to renew these instruments. Non-renewal of a letter of credit or performance bond could result from a negative judgment by an issuer about a mitigation provider's ability to complete the mitigation obligation, or from external factors that reduce the issuer's willingness to extend credit to certain types of projects generally.

The limited terms of letters and performance bonds, and the less-than-certain prospects for their renewal, can be problematic for mitigation providers and the Corps alike. Both parties must closely monitor mitigation progress against the remaining term of the assurance instrument, and the mitigation provider must move to secure renewal of the instrument when necessary. A renewal may be offered by an assuring entity but at a higher price or involving higher collateral. If a needed renewal were not forthcoming, a mitigation provider would then have to quickly secure a Corps-approved replacement assurance. And if such replacement assurance were not quickly secured, the Corps might feel compelled to take regulatory enforcement action. In the case of a mitigation bank, such enforcement might involve suspension of further credit sales, reduction in the amount of credits awarded to the bank, or suspension or termination of the venture.

Escrows and casualty insurance, on the other hand, do not involve complications relating to limited assurance terms and uncertain renewal prospects. The term of an escrow agreement can be set up to coincide with the time period required for mitigation success set forth in a permit or mitigation bank instrument, or could be established for an indefinite period to accommodate the amount of time needed to successfully complete a mitigation project. Similarly, casualty insurance provides coverage for the full term over which a mitigation bank is required to achieve mitigation success in accordance with

performance standards. The extended period of coverage provided by escrows and casualty insurance is an important advantage of these assurance options from the perspectives of mitigation providers as well as the Corps.

3.4 Claims and Performance

In the case of escrows, letters of credit, and casualty insurance, claims made against the assurance instruments will be honored if received within the specified term as long as the Corps provides notification indicating that the mitigation provider is in default of its mitigation obligation. That is, a depositary for an escrow account, an issuer of a letter of credit, and an insurer for an insurance policy will not contest a claim that meets the stated conditions of the assurance instruments. Sureties for performance bonds, on the other hand, generally do have the ability to contest a claim against a bond, and may do so if they disagree with a Corps determination that a bonded mitigation obligation has not been met. From the Corps' perspective, the possibility that a surety will resist a bond claim is a potential drawback for the use of performance bonds to assure mitigation obligations.

Although escrows and letters of credit provide an assured source of funds when the Corps makes a claim against these instruments within the terms and stated conditions of the instruments, these funds provide the means to effect a remedy for a failed mitigation project, but not the remedy itself. When monetary claims are made against these instruments the Corps is still faced with the added steps of 1) securing a Corps designee to receive and apply the funds to implement a remedy (if a designee had not already been secured), and 2) deciding upon and making arrangements for an appropriate remedy, such as having the designee remediate the failed mitigation project or implement or secure replacement mitigation.

Unlike escrows and letters of credit, performance bonds promise the performance of mitigation obligations rather than simply cash payout. When a surety receives what it deems to be a valid claim against a bond, the surety will seek to fulfill the mitigation provider's obligation in the most cost-effective way for the surety. This could involve hiring contractors to remediate a failed mitigation project. Typically, monetary payment to a Corps designee or to a standby trust would be a last resort for a bond surety (and would be limited to the penal sum of the bond less any costs already incurred by the surety in trying to fulfill the mitigation obligation). And as noted above, a surety may resist a Corps determination that the mitigation provider is in default, or maintain that surety expenditures to remedy a failed mitigation project have been successful, even if the Corps does not agree.

The casualty insurance policy now being marketed to mitigation banks is singular in that it offers a claim service whereby the insurer will settle a claim in any manner deemed acceptable by the Corps (up to the dollar limit of insurance). The policy states that when presented with a claim by the Corps that includes documentation of mitigation default, the insurer will either: 1) work with the Corps to settle a claim to the full satisfaction of the Corps by a certain date agreed to by the Corps, or 2) pay to the Corps' designee a claim amount that the Corps determines is necessary to complete or replace the mitigation provider's obligation.

The insurance option thus affords the Corps flexibility in ensuring the performance of mitigation obligations when the Corps determines that a mitigation provider has failed to meet its compensatory mitigation obligation. If the Corps deems the mitigation project is remediable, the Corps might invoke the first option by requiring the insurer to hire contractors to develop and implement a remediation plan. If, on the other hand, the Corps determines that the mitigation project could not be successfully remediated, the Corps could invoke the second option by, for example, requiring the insurer to purchase credits at an approved mitigation bank or ILF program. From the Corps' perspective, the flexible claims service provided by casualty insurance is advantageous since it can provide a remedy to a failed mitigation project as well as the ability for the Corps to direct the form of that remedy.

3.4.1 District Experiences with Assurance Claims

Based on the information on district experiences with financial assurances obtained for this report, it appears that there have been very few cases where an assurance claim was been made because of non-compliance with compensatory mitigation obligations. Several examples involving both permittee-responsible mitigation projects and mitigation bank projects are outlined briefly below.

In one case involving a permittee-responsible mitigation project for which a letter of credit (LOC) was posted as financial assurance, a claim was made on the LOC because the permittee proved unwilling to correct project deficiencies. Funds from the LOC were released to a state resource agency that was named as the LOC beneficiary; that state agency applied the assurance funds to bring the project into compliance.

In another case, a district attempted to draw funds from a LOC posted as project assurance because of non-compliance with a permittee-responsible mitigation project. When the district presented a copy of the LOC to the financial institution that issued it, the financial institution said that it would honor the assurance only if provided with the originally-issued LOC document (not a copy). The district could not locate the original LOC, however, and the result was that the claim was not honored and non-compliance with mitigation project obligations was not resolved. This case highlights the need for districts or the named beneficiaries of LOC to maintain all original assurance documents, as well as to monitor them over time to ensure that their terms do not expire before any needed renewals or replacement assurance can be obtained.

In another case involving a permittee responsible mitigation project, project deficiencies remained after the district had notified and given the permittee time to bring the project into compliance. At that point the district notified the permittee as well as the surety that had issued a performance bond as project assurance. A meeting was held involving the district, the permittee, and the surety to review project deficiencies and possible corrective actions, at which the district informed the surety that a claim would be made on the bond if project deficiencies were not promptly corrected. In the aftermath of the meeting the permittee corrected all project deficiencies, obviating the need to make a claim on the bond.

Examples of assurance claims for mitigation bank projects involve escrows, LOC, and performance bonds posted as financial assurance. In one case involving a problem with invasive vegetation at a bank

project, the bank sponsor requested a partial release of assurance funds held in escrow to address the problem. Upon district approval, escrow funds were released to the bank sponsor who used the funds to bring the invasive vegetation under control.

Another case involves a mitigation bank project for which a LOC was posted as assurance. Project deficiencies remained after the district had notified and given the sponsor time to correct them, and then later when the district subsequently informed the sponsor that it would suspend credit sales if corrections were not made. At that point the district suspended credit sales at the bank and informed the bank sponsor that it would draw from the LOC if project deficiencies were not addressed. The sponsor subsequently corrected project deficiencies before a claim on the LOC was made.

This last example illustrates that the Corps has other options apart from financial assurances for enforcing mitigation performance and other obligations set out in mitigation banking and ILF program agreements. For example, the Corps can suspend or otherwise restrict credit sales, reduce the amount of credits awarded, and suspend or terminate the venture. Use of these enforcement options may be sufficient to compel compliance without the need to make a claim on financial assurances.

3.5 Security of Assuring Entities

Another relevant issue for establishing financial assurances involves the financial strength and stability of the assuring entities, which bears on their ability to provide payment or perform obligations when an assurance claim is made.

Under the Miller Act, which requires performance bonds for federal construction contracts exceeding $100,000 in amount, bonds can be accepted only from sureties that are listed as a qualified by the U.S. Treasury (Department circular 570, found at http://www.fms.treas.gov/c570/c570.html.). Although the Miller Act may not apply to performance bonds for mitigation projects required by federal permits, many districts will only accept bonds as assurances for such projects from sureties that are on the Treasury list and that are licensed to issue bonds in the state where the assurances are provided.

For insurance, the underwriter should be licensed in the state where the insured mitigation project is located. Further, several independent rating agencies provide ratings of the financial strength of insurance underwriters that can be used to assess the financial security of the insurer. These include A.M. Best, which provides “an independent opinion of an insurer’s financial strength and ability to meet its ongoing insurance policy and contract obligations.” Other agencies that rate the ability of insurers to meet their policy obligations include Standards & Poor and Moody’s Investor Services, among others. If an insurer has been rated by one or more of these agencies, the ratings should be available from the insurer’s website and from the relevant insurance broker.

With respect to letters of credit, districts typically require that the issuing financial institution be federally regulated and insured, and rated investment grade or higher. And in the case of the institutions that serve as depositaries for escrow accounts, districts often require that they be licensed, neutral third-parties that have no personal or professional ties to the relevant mitigation sponsor.

4. Concluding Remarks

Implementing financial assurances for mitigation project success can be challenging and place demands on regulators that are outside their regular areas of practice. The information included herein is meant to provide regulators with a basic understanding of different assurance instruments and how they work, as well as key design and implementation issues and how those have been handled in practice by different Corps districts. This information is intended to provide a useful reference for regulators who face the task of implementing assurances.

Nevertheless, it is important to recognize that there are few hard and fast rules for implementing financial assurances in the mitigation context. The decision on when assurance is needed in any case as well as decisions relating to what instrument is to be used and how it is to be structured involve judgment calls that must be made in consideration of all the other regulatory requirements imposed on a specific mitigation provider, as set out in the provider's permit or mitigation bank or ILF program instrument.

One important decision involves the choice of assurance instrument. As a general matter, it is the mitigation provider's responsibility to propose a financial assurance instrument. This proposal will be made in consideration of the availability, cost, and other terms of alternative assurance instruments and other factors specific to each mitigation provider. At the same time, individual Corps districts may hold preferences for using certain assurance instruments based on various factors, including issues relating to assurance term and renewal, ease of access to funds and performance considerations, as well as past district practices and experiences with alternative instruments. However, regulators should maintain at least some flexibility in the choice of assurance instrument, given that in some cases a district-preferred instrument may not be available or workable for a particular mitigation provider. In such cases, creativity may be necessary to fashion an assurance form that is both acceptable to the regulator and workable for the mitigation provider.

Setting the dollar amount of assurance is perhaps the most challenging task faced by regulators. The assurance amount should reflect all possible component costs of repairing or replacing a failed mitigation under the worst case scenario. However, assurance amounts should not be set at amounts that are greater than that which could possibly be needed, as this could limit the availability or workability of assurance instruments for mitigation providers. That said, from the perspective of regulators, the simplest way to secure replacement mitigation for a failed mitigation project is through the purchase of credits from approved mitigation banks or ILF programs in the same area, and when this option is workable, the credit prices they charge provide a benchmark for setting assurance amounts.

When necessary, regulators should consult with and solicit the help of district staff with experience in establishing assurances for mitigation success. Regulators should also seek review by district counsel before finalizing an assurance instrument in any particular case.

Finally, work to establish assurances in those cases where regulators deem them necessary should begin well before the finalization of a permit or mitigation bank or ILF program instrument. Given the many

challenges of establishing assurances, work on this task should not wait until all other permit or instrument provisions have been fully addressed.

Appendix:

Illustrations of Alternative Assurance Instruments

Figure 1 Letter of Credit with Standby Trust

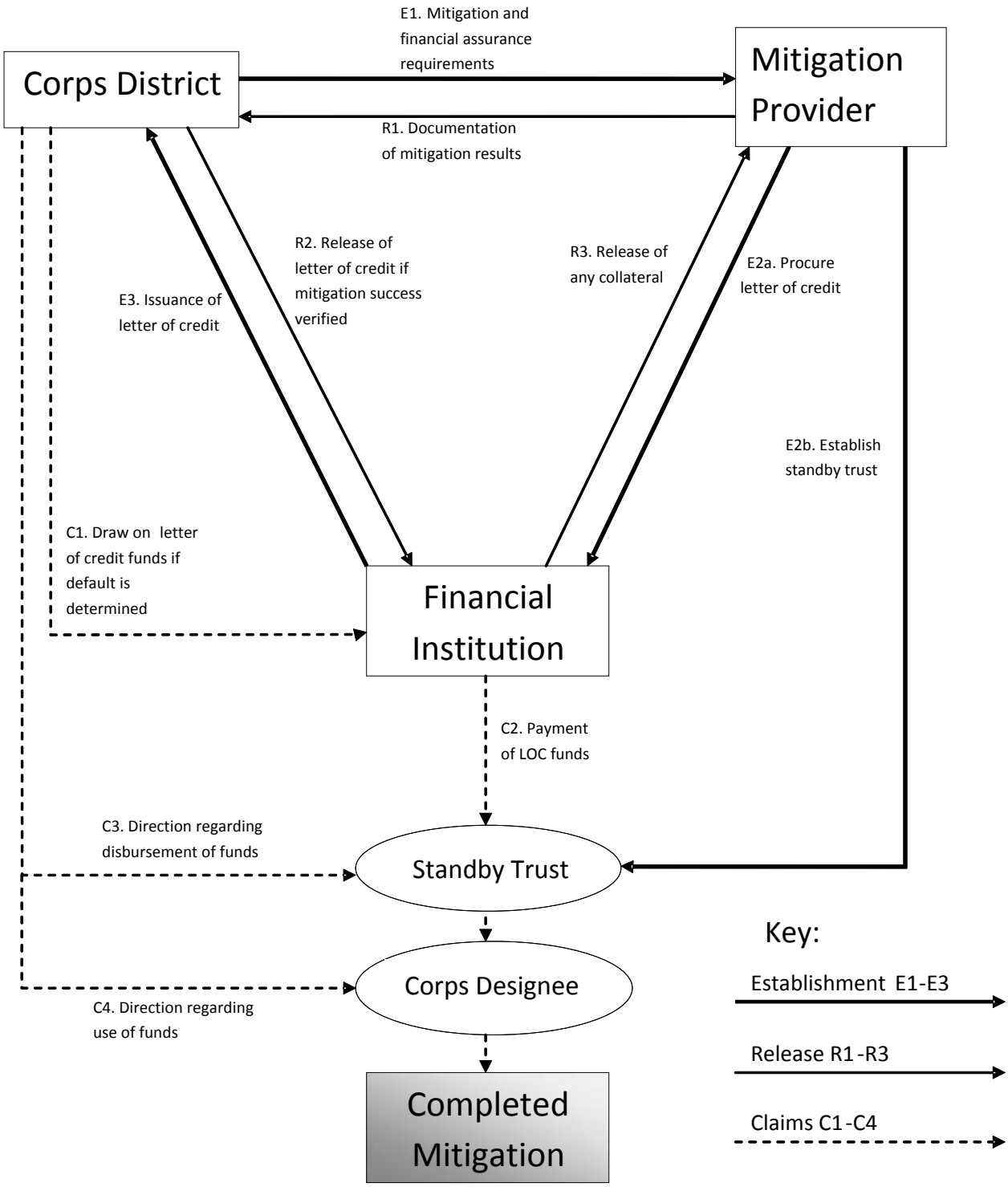


Figure 2 Performance Bond with Standby Trust

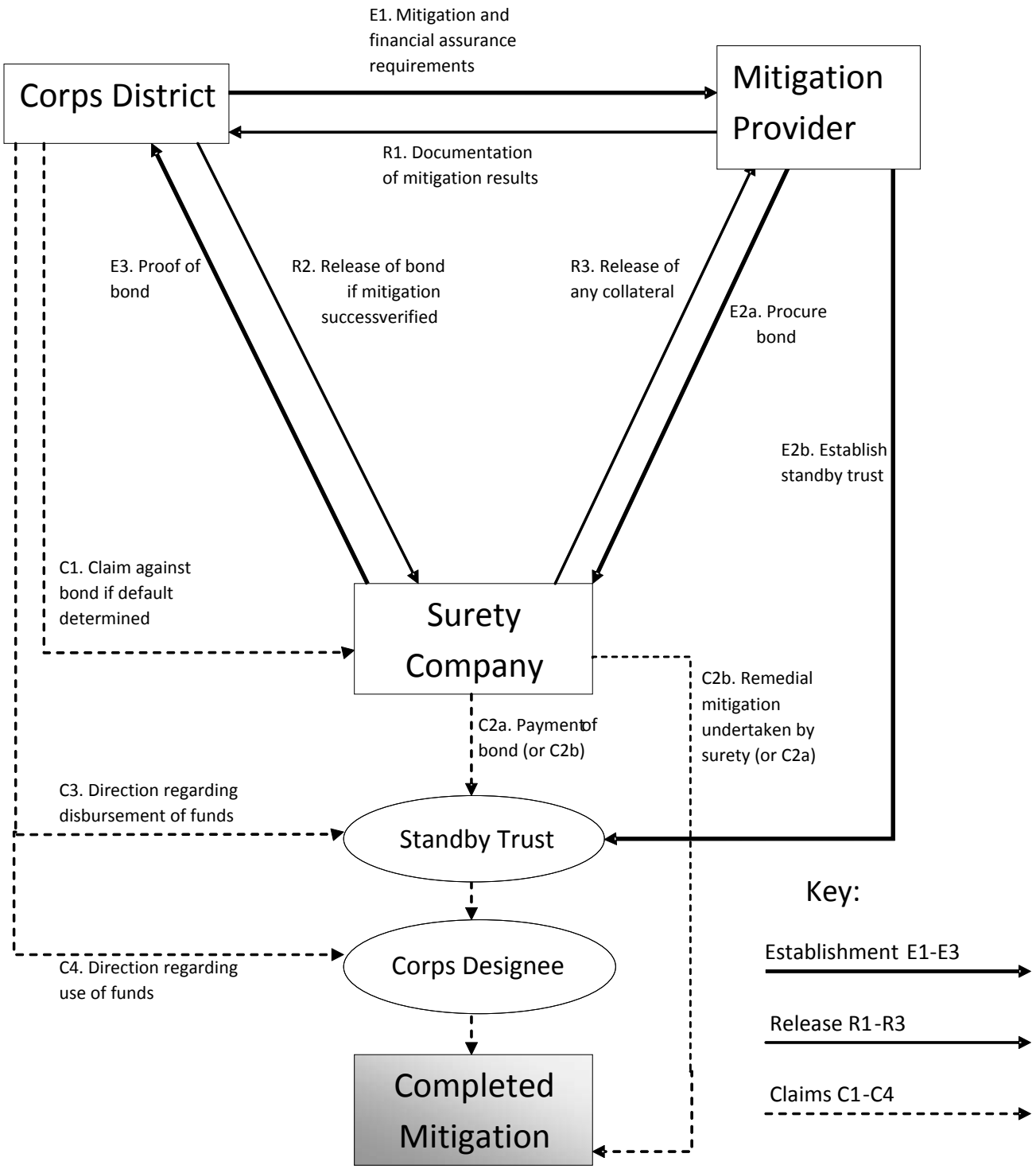


Figure 3 Cash in Escrow

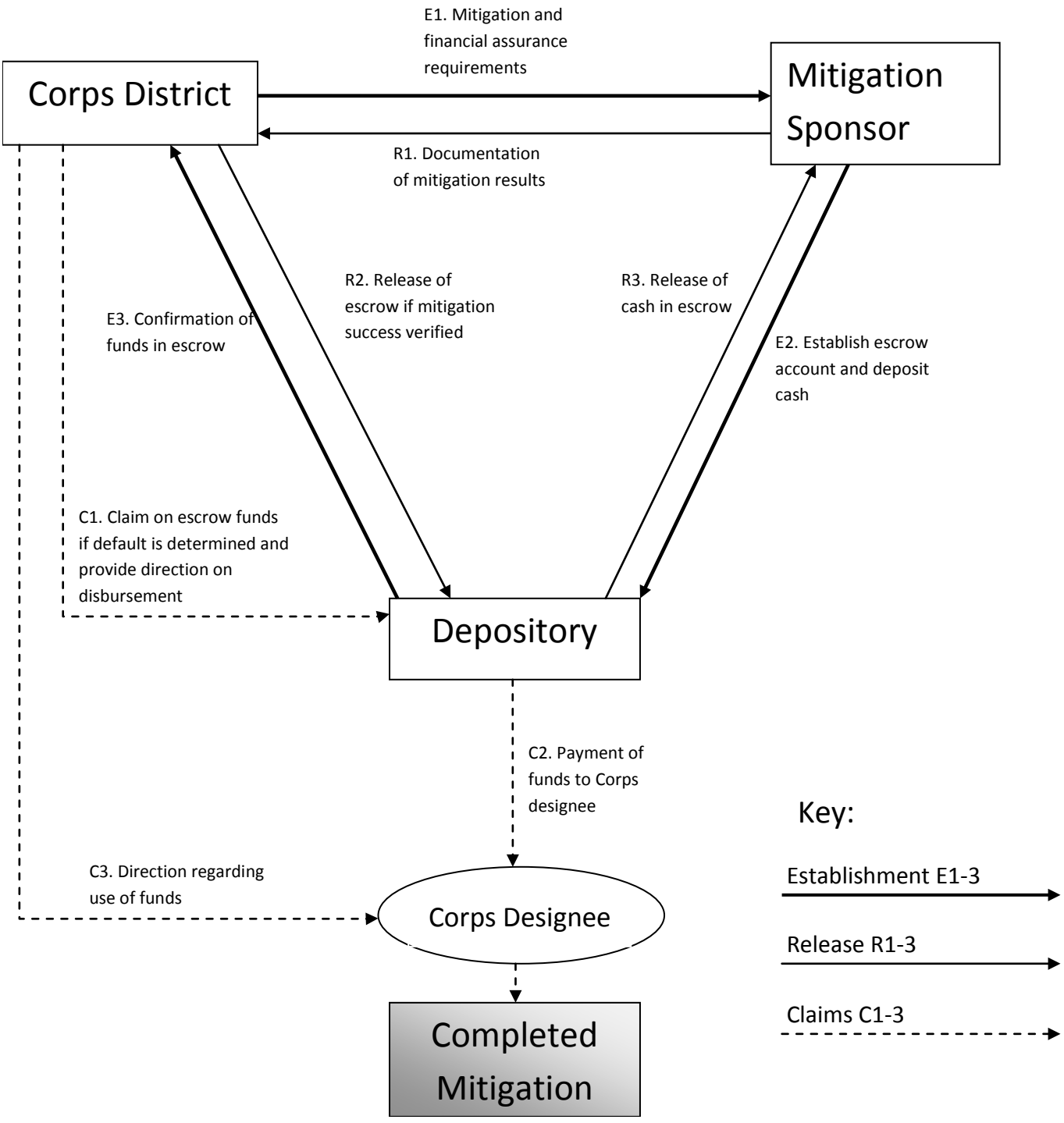
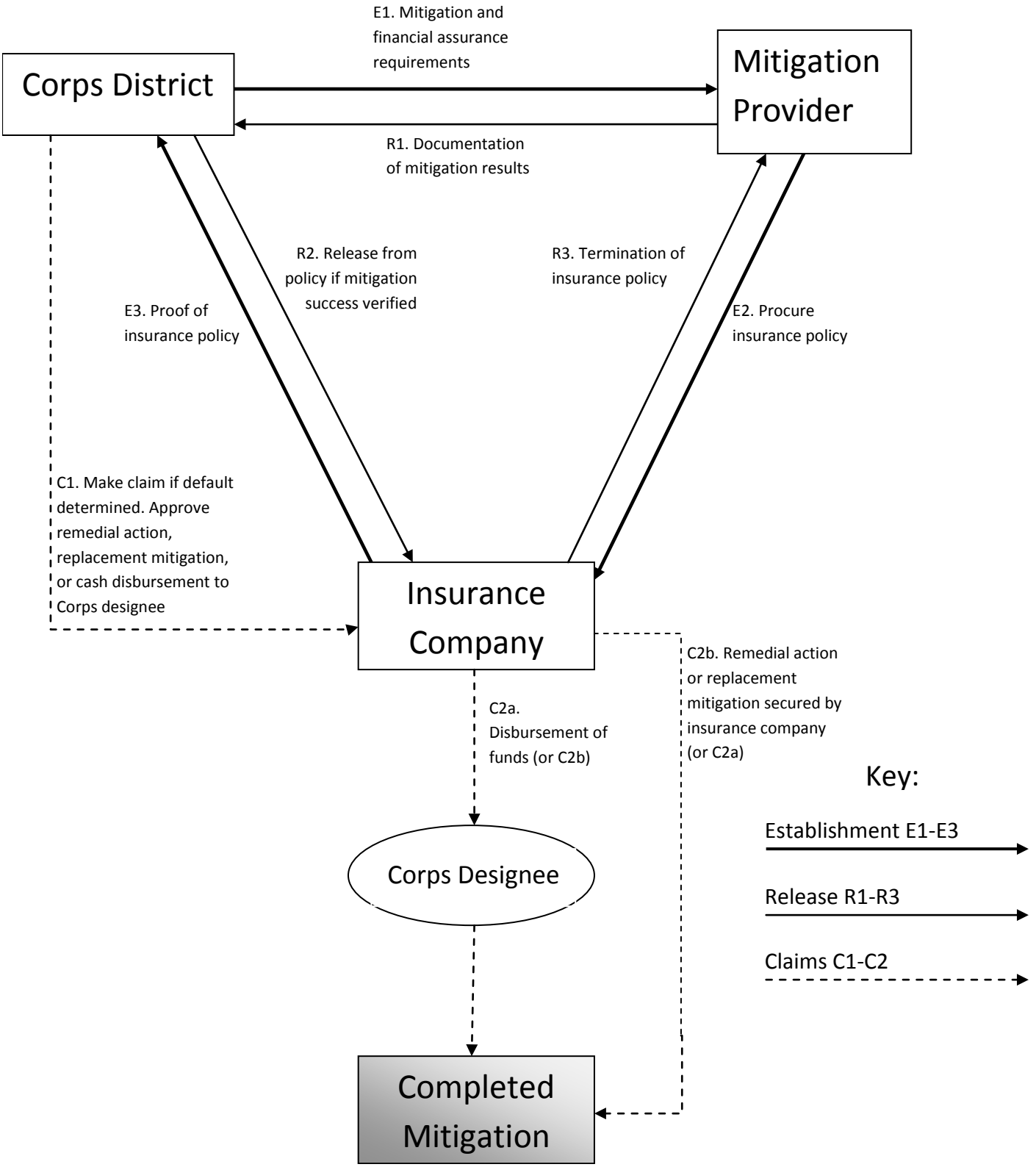


Figure A-4 Casualty Insurance



U.S. Army Engineer Institute for Water Resources

The Institute for Water Resources (IWR) is a Corps of Engineers Field Operating Activity located within the Washington DC National Capital Region (NCR), in Alexandria, Virginia and with satellite centers in New Orleans, LA and Davis, CA. IWR was created in 1969 to analyze and anticipate changing water resources management conditions, and to develop planning methods and analytical tools to address economic, social, institutional, and environmental needs in water resources planning and policy. Since its inception, IWR has been a leader in the development of strategies and tools for planning and executing the Corps water resources planning and water management programs.

IWR strives to improve the performance of the Corps water resources program by examining water resources problems and offering practical solutions through a wide variety of technology transfer mechanisms. In addition to hosting and leading Corps participation in national forums, these include the production of white papers, reports, workshops, training courses, guidance and manuals of practice; the development of new planning, socio-economic, and risk-based decision-support methodologies, improved hydrologic engineering methods and software tools; and the management of national waterborne commerce statistics and other Civil Works information systems. IWR serves as the Corps expertise center for integrated water resources planning and management; hydrologic engineering; collaborative planning and environmental conflict resolution; and waterborne commerce data and marine transportation systems.

The Institute's Hydrologic Engineering Center (HEC), located in Davis, CA specializes in the development, documentation, training, and application of hydrologic engineering and hydrologic models. IWR's Navigation Data Center (NDC) and its Waterborne Commerce Statistical Center (WCSC) in New Orleans, LA, is the Corps data collection organization for waterborne commerce, vessel characteristics, port facilities, dredging information, and information on navigation locks.

Other enterprise centers at the Institute's NCR office include the International Center for Integrated Water Resources Management (ICIWaRM), which is a distributed, intergovernmental center, established in partnership with various Universities and non-Government organizations; and a Collaborative Planning Center which includes a focus on both the processes associated with conflict resolution, and the integration of public participation techniques with decision support and technical modeling – Computer Assisted Dispute Resolution (CADRe). The Institute plays a prominent role within a number of the Corps technical Communities of Practice (CoP), including the Economics CoP. The Corps Chief Economist is resident at the Institute, along with a critical mass of economists, sociologists and geographers specializing in water and natural resources investment decision support analysis and multi-criteria tradeoff techniques.

For further information on the Institute's activities associated with the Corps Economics Community of Practice (CoP) please contact Chief Economist, Dr. David Moser, at 703-428-6289, or via e-mail at: david.a.moser@usace.army.mil. The IWR contact for the Corps Planning CoP activities is Ms. Lillian Almodovar at 703-428-6021, or: lillian.almodovar@usace.army.mil.

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