ROOTSTOCK COLLECTIVE

Rewards

WHITEPAPER

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ABSTRACT

The Collective Rewards program is designed to boost engagement of builders and RIF stakers (stRIF holders) with RootstockCollective. Through this program, eligible builders can earn rewards in cycles that repeat every two weeks. A builder's reward is determined by the level of on-chain support they receive from various RIF stakers – referred to as their backers. A RIF staker's ability to back builders is derived from their balance of stRIF tokens. A RIF staker can allocate their total backing power (stRIF balance) across builders of their choosing. Builders, in turn, can encourage RIF stakers to back them by automatically sharing a percentage of their reward with their backers. Builders can do this by adjusting the "Backer–Reward %" feature built into the Collective Rewards program. In this way, both builders and their backers can earn rewards for contributing to the growth of the Rootstock ecosystem. To be clear, RIF stakers can only earn rewards indirectly, through the builders they back. To be eligible for rewards, builders must get Whitelisted, by successfully completing both a Know Your Customer (KYC) process, as well as an on-chain Community Approval process. The RootstockCollective Foundation will manage the KYC process. The Foundation will initially bootstrap the rewards program using a mix of RIF and RBTC from its treasury and also set the total rewards for each cycle. In the long term, rewards will be sourced from sustainable sources driven by ecosystem growth such as a share of transaction fees and protocol fees from applications on Rootstock that use RootstockCollective for governance.

INTRODUCTION

The RootstockCollective (aka the Collective) launched with a simple use case – the decentralized allocation of grants to builders on Rootstock. As noted in the RootstockCollective whitepaper, this was merely the initial step in expanding opportunities for value capture to those contributing to the growth of the Rootstock ecosystem. The Collective Rewards program represents the next phase in RootstockCollective's roadmap to enable value–capture mechanisms for builders and RIF stakers who engage with the program.

In RootstockCollective, community members stake RIF tokens to obtain an equivalent amount of the Collective's governance token – stRIF. Thus, 'RIF staker' and 'stRIF holder' mean the same thing. When a member stakes RIF, they transfer their RIF tokens to a staking smart contract and interact directly with the protocol. They never actually lose control of their RIF tokens, since they can withdraw (unstake) some, or all, of their staked RIF at any time. RIF holders do not need to join a group of holders to pool their RIF in order to meet any type of requirements for staking or unstaking. The staking smart contract is managed by the Collective's governance contract and therefore the staked RIF and the distribution of rewards are not centrally managed by a person or entity, but are decentralized. Further details about stRIF are in the RootstockCollective Whitepaper – available from the Collective's site.

RIF stakers (stRIF holders) can participate in the rewards program by voting on the eligibility of individual builders and by backing specific builders. In every cycle, the reward allocated to each builder will be determined from the support they receive from RIF stakers. In order to gain a higher portion of available rewards, builders can offer to share a percentage of their rewards with RIF stakers who back them. The reward–sharing mechanism is implemented on–chain, so stRIF holders can view and compare offers before deciding which builders to back. RIF stakers can modify their backing whenever they want.

The RootstockCollective Foundation (aka the Foundation) will initially fund the Collective Rewards program by drawing from its own treasury. These will be in a combination of RIF and RBTC. The Foundation will keep the community informed about the amounts disbursed and the details of the wallets and smart contracts where the designated funds will be held – from where their spending can be tracked in a transparent manner.

Despite the initial role of the Foundation, the Collective is a set of smart contracts that are not operated by any central organization or body. The Collective serves the objectives of its community members through on-chain voting. Neither the Foundation, nor any centralized body, has any discretion as to the allocation of grants or rewards to builders, or the sharing of rewards between builders and their backers. Everything is decided in a decentralized manner by the community interacting with the Collective.

As mentioned in the RootstockCollective whitepaper, the Foundation's role is to bootstrap the initial phase of development of the Collective, and this includes its support of the Collective Rewards program. In the future, funds for Collective Rewards and grants can come from sources such as RootstockLab's share of network fees, from protocol fees of applications that are integrated to the Collective's governance system, and donations from the community.

ELIGIBILITY FOR REWARDS

Community Approval, Know Your Customer and Whitelisting

Builders can apply for the Collective Rewards program through the Collective's dApp. Each builder can submit a proposal to get Community-Approved through on-chain voting in the DAO. The proposal lifecycle for community approval will follow the Collective's (i.e. The DAO's) standard process. Ideally, such proposals should be introduced using the Collective's governance forum Discourse) prior to voting. This is an opportunity for builders to introduce themselves and their projects to the community. Builders can also use other public channels, e.g. social media, to promote their projects and generate enthusiasm in the community to vote for them. After on-chain voting concludes, successful proposals enter an execution queue before they become effective. Once the approval is executed, the builder's status is stored on-chain as Community-Approved.

For due diligence and to protect against bad actors, the Collective will lean on the RootstockCollective Foundation for builders to go through a Know Your Customer (KYC) process. Builders will be identified through their Rootstock account (address), but will also provide additional off-chain information as part of the KYC process. During the KYC application, builders can register a separate receiver account for rewards. Builders must always maintain secure control of their builder and receiver accounts (e.g. private keys). Builders using a smart contract as the receiver account must ensure that it can be used to claim rewards in the form of RBTC as well as ERC20 tokens. Instructions for the KYC process will be provided in the Collective's site and through the dApp. Once complete, the Foundation will designate (on-chain) the builder's account as KYC-Approved.

A builder who is both KYC-Approved as well as Community-Approved achieves an on-chain status called Whitelisted – and subsequently becomes eligible to start receiving rewards. Builders do not have to create their own proposals for community approval. Any member of the Collective with sufficient voting power to meet the required threshold can create a proposal on behalf of a builder. As mentioned above, Whitelisted status can come into effect only after a builder has completed the mandatory KYC check – and the KYC process must be initiated by builders themselves and this process will be managed by the Foundation. If a builder is KYC Approved, but their community-approval proposal fails for any reason – they are free to try again by creating a fresh proposal for on-chain voting.

KYC Revocation and De-Whitelisting

Once whitelisted, builders will ordinarily not be required to repeat the process to maintain their status. However, a builder's whitelisted status should not be considered permanent or irrevocable. When warranted, the Foundation or the community can take action to alter a builder's status in the Collective Rewards program.

The community will expect all whitelisted builders to continue creating value by driving growth in transaction volume and expanding the user base for the Rootstock ecosystem and the Collective. If a whitelisted builder is unable to meet expectations, then the community can initiate action to de-whitelist the builder. For example, if a builder's dApp consistently fails to gain adoption from users – it could indicate a lack of alignment with the Collective and the rewards program. The Collective's governance system will have a separate proposal and voting process for de-whitelisting builders. Any de-whitelisting can be expected to be preceded by off-chain discussions on the forum, or other public venues, before on-chain voting.

Depending on compliance needs, the Foundation may find it necessary to review a builder's information or to update parts of the KYC process from time to time. The Foundation will retain the ability to alter a builder's KYC status – which can lead to a temporary suspension, or a permanent revocation of KYC-Approved status. If the Foundation marks a builder's status as KYC-Revoked, then any community member can initiate the governance process to de-whitelist the builder.

Temporary suspensions of KYC-Approved status will be reflected on-chain using a Paused status. If a builder's KYC eligibility is paused (while under review) by the Foundation, the builder's share of rewards are not lost. They will be held on their behalf until all issues are resolved, after which the Foundation will restore (unpause) the builder's status to KYC-Approved. As community members, builders will always have a voice to share their concerns about Collective Rewards and suggest improvements through off-chain discussions and on-chain proposals.

REWARDS CYCLE

The distribution of rewards will be based on a duration of time called a rewards cycle. The Foundation will allocate the amount of rewards to be distributed in each cycle – using a mix of RIF and RBTC. The rewards cycle will be set to a period of approximately two weeks. This duration is a system parameter stored on the blockchain and can be updated by community voting.

There are no universal clocks in blockchains. The passage of time can only be approximated by using block timestamps or by a certain number of blocks starting from a reference block. Rewards cycles will be determined based on block timestamps. The "wall-clock" duration of how long a rewards cycle actually lasts will depend on the rate at which Rootstock blocks get mined. The time taken to produce a block is a random variable – due to Rootstock's reliance on Bitcoin's Proof of Work based consensus (recall that Rootstock is a merged-mined Bitcoin sidechain). If blocks are mined much faster than the average value of around 30 seconds, then a cycle will end earlier than anticipated. Likewise, if blocks are being produced very slowly, then a cycle could last longer than two weeks.

Rewards accrued during a cycle will be made available to builders once the cycle is over. Unlike builder-rewards, which are credited at the end of a reward cycle, backer-rewards are made available for claiming by RIF stakers in a continuous manner throughout a cycle.

The initial funds allocated by the Foundation for the Collective Rewards program will be held in a multisig Safe wallet. The rewards available can differ across reward cycles. The drawdown rate from the Safe wallet and asset mixture (RIF, RBTC) will be determined by the Foundation. Since the Safe wallet is a multisig, the Foundation will work in concert with other signatories such as StableLabs. The Foundation will periodically move some of the funds to a Collective Rewards system smart contract designed to manage rewards distribution logic. The Foundation can transfer assets to the distribution contracts to prefund multiple rewards cycles in one go. At the end of each cycle, the Foundation can trigger a distribution transaction which makes the reward allocations for that cycle available to the beneficiaries. In fact, anyone can trigger this distribution transaction, not just the Foundation.

In technical documentation and software repositories (e.g. smart contract code, or dApp code), the rewards cycle may sometimes be referred to as an epoch. This is a technical term that is commonly used in blockchains to refer to fixed durations of time and should be familiar to builders. In this paper we use the less technical 'rewards cycle', but readers should note that rewards cycle and epoch are interchangeable.

REWARDS DISTRIBUTION: BUILDER AND BACKER REWARDS

This section describes the mechanism of reward distributions for builders and RIF stakers in greater detail. Throughout this paper, we use the term backers to distinguish RIF stakers who choose to engage with the Collective Rewards program from those who do not. All backers must clearly be RIF stakers. But the reverse need not hold, because one cannot assume that all RIF stakers will participate in the Collective Rewards program. Only backers (not all RIF stakers) can earn rewards, and this only happens when the builders they back share a portion of rewards with them.

Builders' reward-sharing strategies

The Collective Rewards system allows builders to share a percentage of their reward with their backers. Builders can do this by using a setting called 'Backer-Reward %' that is built into the reward program's smart contract system and user interface. The reward system's smart contracts will enforce a maximum limit of 100 percent on the Backer-Reward % setting.

Suppose a builder sets their sharing strategy (Backer-Reward %) at 50 percent. Then the Collective Rewards system will reserve and direct 50 percent of any reward to their backers as a group. Once set, the reward-sharing percentage remains in place until the builder updates it. After a builder adjusts their Backer-Reward %, there is a Cooldown Period of approximately one week after which the change becomes effective. In the meantime, if the builder changes it again, then the previous change is discarded, and the latest change will take effect after a fresh cooldown period. The rewards allocation and distribution logic is explained later with examples.

If a builder decides not to share any portion of their reward with stRIF holders, then those who back the builder earn no rewards from that builder's allocation of rewards. Builders are free to update their Backer-Reward % setting at any time - but changes become effective only at the end of the rewards cycle, after the cooldown period ends. If a builder does not receive the backing of any RIF stakers during a cycle, then that builder will not receive any rewards in that cycle. Therefore, it is important for builders to set their Backer-Reward % strategy thoughtfully. Of course, if a builder is developing a product that generates immense interest, then RIF stakers may back that builder irrespective of the builder's reward-sharing decisions.

In some rare and unusual situations, a builder may feel obligated to pause their participation in the Collective Rewards program. In such cases, builders can revoke their Backer-Reward % and suspend their participation in the rewards program. This action becomes effective after the cooldown period. The builder and their backers can still claim all rewards they have accumulated prior to the revocation. When a builder is in this (strategy revoked) state, they will no longer earn rewards. Consequently, their backers will not earn rewards through them either. RIF stakers will not be able to increase the allocation of their backing power to this builder – but they can lower their level of backing. Their backers continue earning rewards from other builders they are backing. These RIF stakers can reduce their backing of the builder who has revoked, and reallocate more backing power to other builders. When they are ready, a builder who has revoked their strategy can reengage with the rewards program. They can do this by setting a new value for Backer-Reward %. This is effective immediately because a cooldown period was already enforced when they revoked their participation.

As mentioned above, builders' strategies and the rewards distribution mechanism will be fully decentralized (i.e. on-chain). However, it would be too cumbersome, and inefficient, to implement each builder's rewards-sharing strategy (and updates) as distinct proposals to be voted on-chain in the DAO. Therefore, unlike a builder's community-approval proposals, which will follow the standard lifecycle for proposals in RootstockCollective, we adopt a different approach for backing. The Collective Rewards program implements a custom voting mechanism for RIF stakers to formally register their backing (on-chain support) of specific builders.

Customized Voting System to Back Builders

The Collective Rewards program relies on two voting systems. It uses the DAO's voting system to onboard builders. It uses its own custom built voting system for RIF stakers to register their support for builders. For clarity, we use "backing" when talking about "voting" using the custom-built system.

Voting on a DAO proposal typically involves a one-time decision. For instance, this could be a YES, NO, or ABSTAIN vote for a builder's community-approval proposal. Once the voting period is over, the issue is decided one way or another. However, for the rewards program, we need a mechanism that enables RIF stakers to indicate continuing support for a builder. This will allow a RIF staker to register their support by voting for builders as frequently (or as infrequently) as they wish.

In the rewards program, when a RIF staker registers their support for (i.e. formally back) a builder, their backing power is determined by their current balance of stRIF tokens. This is quite different from voting in the Collective (i.e. the DAO). In the DAO, voting power (or weight) is not derived from current stRIF balances. Instead, it is based on two concepts: snapshots and delegation. In the DAO, each proposal has a fixed voting window for users to vote on-chain. During this window, a user's voting power is locked to the value they had in the block immediately following the creation of the proposal on chain. This reference block is called a snapshot. For example, any addition to a user's stRIF holdings, beyond the snapshot block, will not increase their voting power for that proposal. The second concept is delegation. Delegation refers to the fact that, in the DAO, merely holding stRIF tokens does not grant the holder with any voting power. The holder must select a single Rootstock account as their delegate, and it is this address which gains the voting power for the user's entire holdings of stRIF tokens. A user can select their own address – this is called self-delegation. As mentioned in the Collective's whitepaper, at the time of staking RIF tokens, the DAO simplifies the process by automatically assigning a RIF staker to be their own delegate. A stRIF holder can later nominate someone else to vote on their behalf by selecting them as their delegate. They can change this setting back to their own account – when they wish to vote directly – but at any point of time, there can only be a single delegate associated with any stRIF holder's address.

The Collective Rewards program uses the DAO's voting system (based on snapshots and delegation) to vote on a builder's proposal to join the rewards program. If there is a need to de-whitelist a builder, this is also performed using the DAO's voting system. However, once a builder is approved – and whitelisted (i.e. also completed the KYC check) – then the rewards program uses its own customized voting system to allow RIF stakers to back builders. The rewards program's internal voting (backing) mechanism is based on current stRIF balances alone – snapshots and delegation have no bearing when it comes to backing whitelisted builders for rewards. Another difference that should be apparent by now is that the backing system allows RIF stakers to allocate 100% of their backing power to a single builder, or spread it across different builders. They can even decide to allocate a portion (say 60%) of their backing power (stRIF balance) to a set of builders, and leave the rest unallocated – so they can unstake that part if needed. Such partial or fractional allocation of voting power (or partial delegation) is not possible in the DAO's voting system.

Backers do not have to actively manage their allocations in each reward cycle. Once set, a RIF staker's allocation of their backing power remains in place – until they modify it. RIF stakers can modify their allocation of their backing power whenever they want – and they can do so in a single transaction. However, at any point of time, their total allocation of votes across various builders can never exceed their stRIF balance. Such differences across the two voting systems (DAO proposals vs backing builders in rewards program) require some changes in the way the stRIF token works – these are explained in a later section.

To receive any meaningful rewards, builders must attract the attention of many backers – with significant backing power in the aggregate. Builders can do so by building compelling products and through their strategy for setting the Backer-Reward %. If a builder receives any rewards, then the Collective Rewards program (the smart contract system) will automatically credit the appropriate amount (from the builder's current strategy) to their backers.

Reward Allocations

Conceptually, the rewards distribution logic is fairly straightforward. In each rewards cycle, the total rewards for that cycle are allocated to various builders based on the fraction of votes each of them receives. If a builder gets 10% of the votes, then 10% of the reward (for that cycle) will be allocated to that builder. However, each builder only gets a portion of this allocation – the rest is allocated to their backers as a group – as per the builder's own reward-sharing strategy. Each backer, in turn, receives a fraction according to their share of total votes for that builder.

For example, suppose the total reward for some rewards cycle is set by the Foundation at M RIF. Assume that Builder-Juli gets 20% of all the votes in that cycle. This (20% of M RIF) is the amount of reward that will be allocated collectively to this builder, and all their backers combined, as a group. Now suppose Builder-Juli had proposed to share 25% of any reward with their backers (i.e. Backer-Reward % set at 25%). In this case, Builder-Juli will receive 15% of M RIF for that cycle, because they get to keep 75% of 20%. All those who backed Builder-Juli collectively earn backer-rewards of 5% of M RIF (which is 25% of 20%). Suppose one of backer's votes, say Backer-X (backers are not KYC'd) accounted for 40% of all votes received by Builder-Juli. In this case, Backer-X will be credited with backer-rewards of 2% of M RIF (40% of 5%).

In practice, this accounting can get a bit more complex. For example, halfway through a rewards cycle, a backer could decide to switch their votes from Builder-Juli to some other builder. Other dynamics can also be at play, such as builders updating their Backer-Reward %, new builders getting whitelisted, etc. The Collective Rewards smart contract system will be designed to account for these changes and compute the correct amounts to credit to each party. Some changes are effective right away, while other changes are restricted to take effect only at the start of the next rewards cycle. In general, actions taken by the stRIF holders are effective right away, while those taken by builders are effective only after the current cycle is over. Backers can switch their allocation of voting-power over builders as often as they want – and their changes become effective immediately once their transaction is confirmed. Therefore, for every cycle, builder-rewards computations are actually time-weighted to account not only for the support received (voting power) from backers, but also for the duration of support (in seconds).

Distribution Period and Distribution Window

Several factors affect the computation of builder rewards. These include the total amount of rewards to be distributed, the number of whitelisted builders, changes to a builder's status, the level of backing each builder received, backer-reward % settings etc. For cleaner accounting, all such factors must remain frozen for a while. This duration of time is called a Distribution Period. In this time, builder-rewards are computed and distributed according to rewards allocated and votes cast in the previous rewards cycle.

Anyone can send a transaction to initiate a distribution period. However, a distribution period can only be trigerred within the first hour of a rewards cycle – a duration of time called the Distribution Window. Just like the rewards cycle, the distribution window is measured in seconds using the block timestamp for reference. In practice, a distribution window may be shorter or longer than one hour – depending on the rate at which Rootstock blocks get mined. In the bootstrapping phase, the Foundation can modify the length of the distribution window as per operational requirements. In the future, the window can be modified through community voting. During periods of network congestion, the Foundation can increase the length of the distribution window to reduce the chance that an opportunity is missed. If a reward distribution is not kicked off during a distribution window, then the next opportunity to distribute accumulated rewards will be during the distribution window of the following cycle.

Unlike the distribution window, the distribution period is not a fixed duration of time. Rewards are distributed to builders in batches of up to 20 builders (a modifiable system parameter). Anyone can call these transactions. A distribution period lasts as long as it takes to distribute rewards to all builders. These distribution transactions can continue to be sent after the distribution window is over. Once initiated, changes to factors that affect reward computations remain blocked until the distribution process is complete. Backers, for instance, cannot modify (increase or decrease) their allocation of backing power during the distribution period. To avoid the process from dragging on for too long, builders, backers, the Foundation, or anyone blocked by the process in some way, could decide to speed it up by triggering the transactions themselves.

The distribution period is relevant only for distributing rewards to builders, not for backers. Once a builder's reward is determined, their backers receive credit for their shares in a continuous manner – computed by the second, as per their level of backing.

Claiming Rewards

Reward distributions will take the form of ledger or database updates – and will not involve direct transfer of assets to beneficiaries. In order to receive the rewards (e.g. in RIF, RBTC), builders and backers must withdraw them using a claim (i.e. withdraw) transaction. Builder-rewards are credited only after a reward cycle is over – i.e. in the next distribution period. Backer-rewards are credited to RIF stakers in a continuous manner (accruing by the second).

Builders and backers can claim rewards that have already been credited to them at any point. Builders can claim the accumulated rewards using a transaction sent from their builder account or from their receiver account. No matter which account the transaction is sent from, builder-rewards can only be transferred to the receiver account registered during the KYC process. In the future, the community or the Foundation can enable mechanisms to permit builders to change their receiver account. There is no separate receive account (or KYC process) for backers.

Cold Start for New Builders

Newly whitelisted builders face a cold-start problem. Even though they have become eligible to receive rewards, they will not get any until they gain some backers. Unless their project has already gained a lot of attention from the community, they may not be able to attract their first backers. A similar situation can also arise when a builder loses the level of support they were previously receiving from backers – and stops receiving meaningful rewards. The Collective Rewards system includes a feature to help builders deal with the situation. This feature allows anyone to fund a builder's rewards management smart contract, such that those funds can then be distributed as rewards to RIF Stakers who back that builder.

UPGRADES TO stRIF TOKEN

As mentioned earlier, deploying the Collective Rewards program will require some changes in the way the stRIF token works. Suppose a stRIF token holder is currently backing some builder. Now assume they unstake all of their stRIF tokens to withdraw the underlying RIF tokens. In this situation, a builder whose strategy this backer was supporting may continue to receive rewards at the previous level – which it should not.

A similar problem can arise with a partial unstaking of stRIF tokens as well – if the user's remaining balance of stRIF (after the withdrawal) is lower than the total amount of votes they have allocated across builders. Readers will note that such situations can also occur if a user were to transfer stRIF from an account currently used to back builders, to another account.

This creates a challenge. It is very inefficient and expensive (in terms of transaction fees) to implement the Collective Rewards program in a manner so that it actively tracks each backer's stRIF balances. It is far simpler, and much more efficient, to modify the stRIF contract to trigger a query (i.e. an internal call) to check whether a transaction to transfer, or unstake, stRIF tokens could lead to inconsistencies in the Collective Rewards program. If such inconsistencies are identified, then the staker's participation level in Collective Rewards must be adjusted (by the staker), prior to allowing the transfer (or withdrawal) transaction to proceed.

In order to implement the appropriate checks, the stRIF token contract must be upgraded with modifications to the code. Specifically, the portions of smart contract code responsible for the transfer and withdrawal features, must be modified to initiate automatic status checks before such transactions can succeed. The automatic queries will take the form of internal calls from the stRIF contract to another contract. This contract will read the user's level of backing various builders in the Collective Rewards system, compare that with the amount the user wants to unstake, and then return with a response to the stRIF contract indicating whether the unstaking (or transfer) should be allowed to proceed, or not. If the response is negative, then the user must deallocate some of their backing first. When necessary, backers can always reduce their level of backing for some builders to free up the appropriate amount of RIF they wish to unstake (or stRIF they want to transfer). The only exception is during a distribution period, when adjustments to allocations of backing power are not allowed. Recall that a distribution period can only be initiated during a distribution window – which is the first hour of a rewards cycle.

An Example

For example, suppose a RIF staker is backing some builders with 500 stRIF in the rewards program and that this represents their entire holdings of stRIF. When the staker attempts to withdraw their entire holdings of stRIF back to RIF, the stRIF contract will internally query Collective Rewards system's smart contracts to check if the unstaking can proceed. The Collective Rewards smart contracts will note that this user's stRIF is currently backing some builders at a level where the intended unstaking will create problems. This negative response will be sent back to the stRIF token contract and the unstaking transaction will be blocked. The user will be automatically redirected by the RootstockCollective DApp user interface to first de-allocate their backing of builders in the rewards program, and then unstake their stRIF.

In a different scenario, if the user has 700 stRIF, 500 allocated to builders and 200 unallocated, then they would be allowed to unstake up to 200 of their stRIF to RIF without any restrictions

An interdependent system

The additional Collective Rewards logic in the transfer and withdraw functionality make the stRIF token a bit unusual for an ERC20 token. However, the stRIF token was created specifically to serve as the governance token for the RootstockCollective and support its value-capture systems. Therefore, the stRIF token and the Collective Rewards program should be viewed as interdependent components – rather than separate modules that simply interact with each other in an oblivious manner. Given stRIF's critical role in The Collective, all changes to the stRIF smart contract will be transparent for the community to observe and will undergo rigorous testing and security audits.

CONCLUSION

The Collective Rewards program is part of Phase 2 of the RootstockCollective's product roadmap, which has been voted and approved by the community. The rewards program is a major step towards strengthening the alignment between developers building on Rootstock and other members of the Collective – RIF stakers in particular. This enables mechanisms for value capture for builders and stakers rewarding them for innovation and their contributions to long-term growth of the ecosystem.

LEGAL DISCLAIMER

The purpose of this whitepaper is to provide general information about the RootstockCollective Rewards program and how rewards are granted and allocated. The content of this whitepaper is for informational purposes only, may not be complete and may be changed. There is no obligation to update the content of this whitepaper, and no representation or warranty is given in respect of the accuracy or completeness of such content. Certain statements and information in this whitepaper may constitute "forward-looking statements." All statements that address operating performance, events, structures or developments that we expect or anticipate will occur in the future are forward-looking statements. We believe that these forward-looking statements are reasonable as and when made. They can be affected by assumptions used, or by known or unknown risks or uncertainties, some of which are beyond our control. Consequently, no forward-looking statements can be guaranteed.

The RootstockCollective Rewards program (which includes but is not limited to the tokens described, the token-enabled features, and the technologies on which they will be based) is under development. We make no warranties or representations and offer no assurances (in each case whether express or implied) that the tokens described in this whitepaper shall confer any actual and/or exercisable rights, rights of use, functionality, features, purpose or attributes in connection with the RootstockCollective Rewards program. Any use and potential future use of the tokens described in this whitepaper shall be subject to and governed by the applicable terms and conditions that governs the relevant token.

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END OF COLLECTIVE REWARDS WHITEPAPER

ROOTSTOCK COLLECTIVE