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JOHN R. WEINGART
Chairman

EILEEN SWAN
Executive Director

MEETING AGENDA

Thursday, June 12, 2008 - 10:00 a.m.

1. CALL TO ORDER
2. ROLL CALL
3. OPEN PUBLIC MEETINGS ACT
4. PLEDGE OF ALLEGIANCE
5. APPROVAL OF MINUTES – June 5, 2008
6. CHAIRMAN'S REPORT (and Council Member Reports)
7. EXECUTIVE DIRECTOR'S REPORT
8. COMMITTEE REPORTS
9. CONSIDERATION OF RESOLUTION – *Approval of Certain Planning Assistance Grants* - (voting matter with public comment)
10. REGIONAL MASTER PLAN DISCUSSION
 - a. Forest Resource Management Program
 - b. Restoration of Streams and Riparian Areas Program
 - c. Water Deficit and Efficient Use of Water Programs
 - d. Agricultural Resources Program
 - e. Historic and Scenic Resource Protection Programs
 - f. Transportation Program
 - g. Land Use Capability Analysis Program
 - h. Cluster Development Program
 - i. Low Impact Development Program
 - j. Sustainable Economic Development Program
 - k. Plan Conformance Program
 - l. Agency Coordination and Local Participation Programs
 - m. Highlands Project Review Program
 - n. Water Resources and Ecosystem Science Agenda
 - o. Regional Master Plan Monitoring Program
 - p. Highlands Council Implementation Programs
11. PUBLIC COMMENTS
12. EXECUTIVE SESSION (if deemed necessary)
13. ADJOURN

NEW JERSEY HIGHLANDS WATER PROTECTION
AND PLANNING COUNCIL
MINUTES OF THE MEETING OF JUNE 12, 2008

PRESENT

JOHN WEINGART) CHAIRMAN

TRACY CARLUCCIO)
MIMI LETTS) COUNCIL MEMBERS
TIM DILLINGHAM)
KURT ALSTEDE)
BILL COGGER)
ELIZABETH CALABRESE)
TAHESHA WAY)

ABSENT

ERIK PETERSON)
JACK SCHRIER)
GLEN VETRANO)

TELECONFERENCE

SCOTT WHITENACK)
JANICE KOVACH)
DEBBIE PASQUARELLI)

CALL TO ORDER

The Chairman of the Council, John Weingart, called the 71st meeting of the New Jersey Highlands Water Protection and Planning Council to order at 10:23 am.

ROLL CALL

The members introduced themselves.

OPEN PUBLIC MEETINGS ACT

Chairman Weingart announced that the meeting was called in accordance with the Open Public meetings Act, N.J.S.A. 10:4-6 and that the Highlands Council had sent written notice of the time, date, and location of this meeting to pertinent newspapers or circulation throughout the State and posted on the Highlands Council website.

PLEDGE OF ALLEGIANCE was then recited.

APPROVAL OF MINUTES OF June 5, 2008

Ms. Letts introduced the motion to approve the minutes. Ms. Calabrese seconded the motion. Ms. Swan noted that Ms. Pasquarelli asked for a change to her comments regarding wastewater management plan and explained those changes. Ms. Pasquarelli was agreeable to those changes. *All other members present voted to approve. Mr. Peterson, Mr. Schrier, Mr. Vetrano, Mr. Alstede, and Ms. Kovach were absent. The minutes were APPROVED.*

CHAIRMAN'S REPORT

Chairman Weingart spoke about the schedule that he had discussed last week and the considering of amendments at the June 26th meeting. He stated that he believes it would be better to have a resolution on July 17th and that amendments be made at that time with voting and public comment. He stated that it would be beneficial for Council members to be able to review amendments that other members would bring forth. The Chairman asked the members to write up amendments and present them additionally on July 10th. On July 17th the amendments will be formally introduced and voted on for approval.

Ms. Carluccio supported this schedule and expressed that she was concerned that all of the issues may not be raised prior to the meeting on June 26th. She stated that being able to discuss the amendments on the July 10th meeting will help to make the members more informed. Ms. Swan asked the Chair if amendments could be sent to her for staff review and he agreed that this was the intention

Ms. Letts asked about public input and specific amendments that have been requested. Chairman Weingart stated that they have received emails about amendments and that the public may submit comments but that the official comment period is over. He recognized Jan Barry who is retiring at the end of the month.

MS. KOVACH JOINED THE MEETING VIA TELECONFERENCE.

EXECUTIVE DIRECTOR'S REPORT

Ms. Swan stated that a tentative schedule has been drafted. The Council members received the schedule and it is available to the public. She noted that this is a tentative schedule and will be subject to changes. Ms. Swan also discussed that the Highlands Build Out model should be posted by the end of business day today, including the appendices. She explained that a short report will accompany the model for further clarification.

COMMITTEE REPORTS

None to consider.

CONSIDERATION OF RESOLUTION – Approval of Certain Planning Assistance Grants

None to consider.

Ms. Pasquarelli had a question regarding two issues on the agenda for June 26th: WQMP policies and the Prime Ground Water issues. She asked where does the Council stand on these issues. Ms. Swan clarified that the staff is revisiting the WQMP recommendation and revising it in accordance with Council's discussion. Chairman Weingart explained that the Council voted to not support the staff's recommendation on this issue but did not resolve the matter. Regarding the Prime Ground Water Recharge, the Council asked for a white paper for further clarification. This paper is complete but will be sent after the meeting, as the agenda and packet for this meeting is quite large and the staff would like the Council to have sufficient time to review it.

Chairman Weingart clarified the schedule for future meetings.

REGIONAL MASTER PLAN DISCUSSION

Ms. Swan recognized that sometimes it is difficult to follow the presentation and find the corresponding document, so she stated she would point out the specific document being discussed.

A. Forest Resource Management Program

Ms. Swan began her presentation with an overview of the program changes within the Forest Resource Management and Sustainability Program. She noted that this program was updated to support the revised GPOs. Text was added regarding the fact that a partial cost-share reimbursement is available for non-profit organizations through the New Jersey Forest Service's Forest Stewardship Program. The Third Party Certification for Highlands Resource Products element was removed from the program as staff has concluded that this is not a realistic goal at the time and that it is more important to focus on sustainable guidance which is the first step toward a certification scheme.

Ms. Carluccio asked about Objective 1C2D regarding the removal of "could be used....farmland assessment tax credits". She discussed supporting incentives for the fulfillment of stewardship goals. Ms. Carluccio then discussed the Council's previous discussion of allowing credits instead of cash as a substitute in these plans (which is different under the Woodland Management Plan). Ms. Swan stated that the language added at the beginning of this Objective was broad enough to encompass incentives and opportunities. Public comments received expressed concern regarding the mention of the Farmland Assessment Act as opening it up might be an issue. Thus the concept for credits and incentives was supported without the specific mention of the Act.

Chairman Weingart expressed that the beginning of this objective was broad enough to cover not only the Farmland Assessment Act but others means of implementing this goal. Ms. Carluccio asked for an amendment (and stated that the Council has supported this concept in the past) to allow for an adjustment to allow Forest stewardship credits in lieu of cash which will support individuals who would not want to be cutting down trees. She explained that under the Farmland Assessment, individuals are being forced to cut down trees on their properties in order to receive their assessment. She asked that the language regarding the Farmland Assessment not be removed.

Ms. Swan explained that this issue will be coming up later in the meeting, and she also noted that a representative from the Farm Bureau and/or the Department of Agriculture has requested that the Farmland Assessment Act not be opened. Chairman Weingart stated that the language is broad enough to leave this issue open to be changed in the future and will allow time for the Council to hear comments from the individuals and Departments that supported the language being removed.

Mr. Dillingham stated his support for keeping this Objective more specific. He expressed that it doesn't do any harm to leave the language in place. Ms. Letts expressed her support for the farmers asking that the language be removed as they are best to make that judgment.

B. Restoration of Streams and Riparian Areas Program

Changes were then outlined regarding the Restoration of Streams and Riparian Areas Program. A Functional Value Assessment was added which provides a measurable and scientific approach to ensure improvements to stream buffer functional values. There was also the addition of a Stream Corridor Protection/Restoration Plans element to identify areas where existing land uses within buffers have impaired the functional values of those buffers and to identify opportunities for restoration of those areas. The final version of the GPOs for this section includes revisions considered by the Highlands Council on May 22, 2008 and highlights sections where changes have

been proposed based on Council discussion. Ms. Swan pointed out the areas highlighted within Objective 1D4I, which were in response to the Council's recommendations.

Mr. Dillingham expressed his concerns about buffer widths and the ability to adjust those buffers. He stated that this creates a loophole and will create issues regarding the protection element of the buffers. He asked for the deletion of #4. Ms. Carluccio supported the idea of deleting these (specifically within 1D4I). She expressed concerns about the buffers being able to be reduced. She explained that through the NJDEP adjustments water areas have been encroached upon and she stated that allowing towns to reduce their buffers will create further disturbance. She asked for the removal of 1D4I.

Mr. Cogger stated that the Highlands Council and staff's science needs to be supported throughout different objectives and standards and he expressed concern that sometimes science was supported but not consistently. There was discussion on the application of a set buffer throughout all areas. Dr. Van Abs clarified that this objective was only for areas with disturbance not in undisturbed areas. Ms. Letts stated that in previous discussions, topography surrounding the body of water was discussed as it might influence the functional values of the buffer. She expressed that flexibility is necessary for restoration to work. Ms. Pasquarelli stated that she did understand Mr. Cogger's point about supporting the science, but that there are issues where there aren't certainties within the science. She expressed that some areas have more established and supportive science than others. These issues are different in many ways.

Ms. Calabrese clarified that the municipality would work with the Council staff within their plan conformance on this issue. Ms. Swan stated that the staff would provide support and that the Council would vote for final approval of a stream restoration plan. Mr. Dillingham stated that the language isn't clear that it is limited to disturbed areas (section 4). He stated the difference in a restoration plan and modification of the buffers. Mr. Dillingham stated that there isn't a template and supportive evidence regarding reducing these buffers.

Chairman Weingart clarified that #1 needs to be repeated within #4. For instance, "within those areas" identify potential areas. Mr. Dillingham stated his lack of understanding of "where the 300ft buffer is not necessary". He stated that this language will open much argument over where it is in fact necessary.

Ms. Carluccio stated support for Ms. Pasquarelli's comment that it be important that there is clarification on what defines previously disturbed areas. She expressed that this will not allow for the 300ft buffer in areas where there is agriculture and where it is fully developed. This would affect the Council's ability to restore waterways. She mentioned that the integrity of the waterway isn't properly taken into account.

Ms. Letts explained a situation where a builder is willing to restore a waterway if he is able to do something within the 300ft buffer. Ms. Carluccio stated that this needs a site by site analysis. Ms. Letts discussed incentives to have builders assist in restoration. Ms. Swan clarified that there needs to be an analysis and that the Council has to vote on final approval, so if they believe that this analysis is too broad, they can disapprove.

Ms. Carluccio stated that this doesn't appropriately address the needed flexibility within this objective. She mentioned that the science supported the 300ft buffer and that with this objective

there may not be any restoration. Mr. Cogger clarified that this will be done during plan conformance and that the Council will be able to vote on the plan. Ms. Swan explained that the Council can reject the plan and then work on a specific site if necessary. Mr. Cogger supported the need for flexibility. Mr. Dillingham stated that there need to be as much predictability within this plan as possible. He agreed that there needs to be flexibility, but that the language isn't clear enough to provide the needed protection. There was discussion on what changes would need to be made to this objective to make it acceptable to Council members with enough flexibility for restoration to still work.

Ms. Carluccio asked for it not to be town wide but site by site. She stated that she doesn't see the functional analysis being completed with enough detail, for the entire town. Ms. Letts asked about town ordinances which address the 300ft and that it can be changed only with a restoration plan. Ms. Carluccio supported specific buffers and that flexibility can be added on a site by site basis. She stated that there needs to be two sections: one dealing with restoration and one dealing with flexibility of buffers. Mr. Cogger stated that he can see how a town wide analysis may be beneficial in certain projects. Mr. Dillingham agreed that particularly in redevelopment areas, a broader analysis may be best. Chairman Weingart stated that there is clear support for clarification of language regarding disturbed areas, but not a majority support for amending the entire objective.

C. Water Deficit and Efficient Use of Water Programs

Ms. Swan continued her presentation with changes to the Water Deficit Reduction Program. Additional text was added to the Program summary regarding what types of water uses are part of a net water availability analysis. Objective 2B8b and relevant program language were modified to reflect the Council's discussions on white papers. The modifications included the Water Use and Conservation Management Plans being required for all subwatersheds (especially in deficit areas), the range of mitigation requirements (125% to 200%), the contents of the mitigation plans, the timing of mitigation being relative to the volume of increased consumptive/depletive water uses and the existing deficit, and clarifications on enforcing mitigation. The need for coordination with NJDEP water allocation permit program is also emphasized.

Mr. Dillingham has questions about 2b8b language changes, regarding new consumptive uses. Dr. Van Abs clarified that that this language was to include approved or permitted new uses. He explained that "new" means "new to be approved". Mr. Dillingham expressed concerns about deficits that are currently in place even with some permitted uses not being maximized. He wanted to know how will this be accounted for and how will it affect the deficit. He asked if the language "increases in or new" would cover both usage and allow the Council to review that usage. Mr. Dillingham expressed his concern about increased usage not being reviewed by the Council. Dr. Van Abs replied with an explanation of the permit process and the authority of the Council. He also clarified the water allocation process within NJDEP and how it needs to be consistent with the RMP policies.

Ms. Swan explained the Council's authority over new permits and recognized Mr. Dillingham's concern of increased water use. She asked if an addition of an objective regarding increased consumptive depletive use and providing a recommendation to NJDEP consistent with the rules would satisfy council.

Chairman Weingart asked if there could be a statement regarding "proposed increases in approved consumptive or depletive water use shall occur" added. He clarified that NJDEP approved

increases will be not be reviewed by the Council. Therefore, they discussed that the language be modified to make the term “new” clearer to include both new facilities/projects or new use within an existing facility/project. It was agreed that the language be modified to include permit modification potential.

Ms. Swan then discussed the changes within the Efficient Use of Water Program. The Program summary provides more examples of appropriate methods to enhance efficiency of water use. Both Policy 2B4 and the new Objective 2B4 clarify the importance of efficient water use in all situations, and the importance of water use availability and efficiency for compatible agricultural water uses.

Ms. Swan explained that this was modified due to Council recommendations to make it clear that all situations reflect the important of efficient water use and language was added about agricultural uses, the difference between Planning and Preservation areas was directly from the Act. She explained that there were limited modifications to reflect GPO changes and links to Water Deficit Reduction Program as well as to provide more specifics regarding water loss reduction methods and irrigation efficiencies. More detail on the transfer limits and the potential role of beneficial water reuse was provided in the discussion of water transfers between subwatersheds. Ms. Swan noted that the requirement for Water Use and Conservation Management Plans for all subwatersheds is stated in this section along with the potential for combined Plans and cooperative planning efforts. The deficit mitigation requirements included more detail such as the thresholds for mitigation prior to initiation of a depletive/consumptive use.

Mr. Dillingham asked for clarification that there would still be water allocated within deficit areas before mitigation. Ms. Carluccio asked if the mitigation program has to have begun or the mitigation requirements have to be met. She expressed that there should be mitigation prior to new uses. Dr. Van Abs clarified that proof of mitigation is required. Ms. Carluccio stated that this will not have “done away with” the deficit.

MR. ALSTEDE JOINED THE MEETING.

Ms. Letts discussed the plans and conservation methods being asked of the areas within the Highlands but nothing being asked for others benefiting from the Highlands water. Ms. Swan stated that this was being addressed under the water usage fee, but that additional language could be added to address those areas.

D. Agricultural Resources Program

The changes to the Agricultural Resources Program were then discussed. Both the Issue Overview and Program Summary were expanded for clarification and to be consistent with the GPOs revisions. The Program components were also rearranged in order to be consistent with the flow of the revised GPOs. Within Policy 3B4 the language “advocate for the amendment of the Farmland Assessment Act to permit inclusion of credits” was revised to “support incentives and funding opportunities” for the control of invasive species, white-tailed deer reduction programs, and the water value of well-managed agricultural lands. Policy 3E3 was revised to state that conforming counties and municipalities should include Right to Farm provisions in their master plans and development regulations if they have farmland preservation programs or a significant agricultural land base. Mr. Dillingham asked for details about the Right to Farm Act. Mr. Alstede replied explaining that the municipalities need Right to Farm provisions. Mr. LeJava read from the Highlands Act regarding the recognition of the Right to Farm Act.

Ms. Swan explained that the Implementation of Strategies to Promote Preservation in the Agricultural Resource Area and the Agricultural Priority Areas (APA) (previously called the Establishment of Agricultural Preservation Priorities) includes discussion of the confidential inventory of agricultural lands. She pointed out that the Cluster Development section was merged with the Development of Cluster/Conservation Design Standards and expanded to reflect clarifications and changes to the Cluster Program GPOs. There was a revision to the section “Serve as a Regional Clearinghouse” (previously called the Establishment of a Farmland Preservation, Stewardship, and Technical Assistance Program) so that it would be consistent with Policy 3A8.

The section regarding the Establishment of Alternative/Innovative Agricultural Preservation Programs was expanded to be consistent with GPO discussions. The Program discussion on impervious cover limitations was expanded to include a brief discussion on the USDA NRCS Farm and Ranch Lands Protection Program. Lastly, a new Program discussion was added to specifically address the Right to Farm Act. Ms. Swan stated that there will be coordination with the SADC which manages a Right to Farm Program in partnership with the CADBs.

E. Historic and Scenic Resource Protection Program

Ms. Swan continued her presentation with the Historic Resource Protection Program changes. This Program was updated to support the GPOs and was expanded in response to public comments received. An item was added which encourages alternative strategies such as adaptive reuse.

Regarding the changes to the Scenic Resource Protection Program, there were updates to support the GPOs and the Program was expanded in response to public comments and for greater clarity. Items were added encouraging alternative strategies and encouraging municipalities and counties to pursue designation of scenic byways. Ms. Letts asked about the language commission versus committee and asked the language to be changed to committee. Mr. LeJava recommended changing the language to be more generic, such as using the term entity. Mr. Alstede asked about a nomination process for Scenic Resources. Ms. Swan explained that this was dealt with under procedures, but is not part of the actual plan.

F. Transportation Program

The Transportation Program was edited to reflect updated GPOs and to include additional language regarding the recognition of transportation projects that promote a sound and balanced transportation system consistent with smart growth strategies and principles. The Program narrative was also edited to include language regarding the seven regional airport facilities in the Highlands Region, scenic corridors and by-ways as well as agri-tourism.

Ms. Swan noted that the staff will be listing projects, after updates from Voorhees, for the Council’s review in a future meeting. Ms. Swan wanted to note a change that was made in the second to last page of the Transportation document within the statement “generally evaluate the following” if you look at #2, it was modified to be consistent with the requirement of policy 5B3. This was done in response to a request from DOT. Ms. Swan and Mr. LeJava clarified exemptions and where transportation projects would and would not be exempt.

G. Land Use Capability Analysis Program

Ms. Swan then outlined clarifications that were made to the Land Use Capability Analysis section. Language was added to clarify that the local build out process will include the Land Use Capability Analysis using the Highlands Regional Build Out Model as a tool. There was also text added for

clarification that the Water Use and Conservation Management Plans will be used to inform the local Land Use Capability Analysis. Lastly, regarding the extension of water and wastewater utility services the distinction between the Preservation Area (NJDEP waiver only) and the Planning Area was clarified.

H. Cluster Development Program

The Cluster Program was revised to be consistent with the GPOs. Ms. Swan explained that the Issue Overview was revised to include a general discussion on funding constraints associated with preserving land through fee simple and easement acquisition as well as to include cluster and lot-averaging provisions under the New Jersey Municipal Land Use Law (MLUL). Within the Program Summary, emphasis has been added that municipalities considering the use of clusters will be encouraged to take a holistic approach to planning for the entire municipality through the Plan Conformance process. Ms. Swan also stated that the language within the Program Summary and General Provisions was revised regarding the developed portion of the cluster project area in order to reflect GPO changes requiring that the developed portion occupy no more than 10% of the cluster project area (to the extent feasible) if served by a public or community on-site wastewater system. The design of the developed portion of the cluster project area will consider existing community character and Low Impact Development (LID) in addition to smart growth principles. Both existing community character and LID have been defined in the General Provisions of this section.

Ms. Swan continued her discussion on the Cluster Program Changes with the addition of General Provisions on non-contiguous clusters and lot-averaging, so that it would be in accordance with the MLUL and meet the resource management and protection requirements of the RMP. The specific requirements on Cluster Design which were originally organized by LUCM Zone are now organized by the resource targeted for protection (Environmental Protection or Agricultural Preservation). Within the Cluster Design for Environmental Protection, passive recreational trails are allowed provided they do not disturb habitats for threatened and endangered species and they are required to be naturally landscaped with native pervious surface (where feasible trails shall link to existing trail networks). The Cluster Design for Agricultural Preservation now requires a deed of easement with language similar to the SADC Farmland Preservation Program easement. Ms. Swan explained that the deed of easement and a legally enforceable Homeowner's Agreement, where applicable, shall include Right to Farm (RFT) Act provisions.

Manmade historic or archaeological features, such as rock walls, shall be retained in the developed portion of the cluster in addition to existing natural features. Ms. Swan continued explaining the changes to the cluster program pointing out that the required setbacks by LUCM Zone have been removed as these setbacks will not allow flexibility in cluster design to avoid Highlands' resources and would promote more impervious cover by extending roads and driveways to meet the setbacks. This will be discussed with municipalities during Plan Conformance. She explained that ordinances do not establish setbacks, but include a basic requirement that individual lots, buildings, structures, streets, and parking areas are situated to minimize the alteration of natural features, natural vegetation and topography (these will be outlined in the Cluster Development Design Guidelines and Standards including model cluster ordinance language and examples).

Mr. Dillingham asked about guidance within cluster design. Dr. Van Abs explained low impact designs and also read from this section within the Program. Ms. Swan then presented slides, as per the Council's request, that showed real life examples of cluster scenarios within specific block and

lots. Septic yield, On-site Package Plant, and sewer plans were outlined. Ms. Carluccio asked about the on-site package plant, whether 90% would be protected. Ms. Swan stated that it would be protected.

Mr. Cogger asked if a building unit will be with the preserved land. Ms. Swan stated that this is being open based on the specific cluster. Dr. Van Abs explained that it would depend on who owned the land and there are numerous possibilities. Mr. Cogger stated concern that by not including a farmstead, you are leaving the area open to be preserved but not maintained. Ms. Swan expressed that these slides have been shared with NJDEP.

I. Low Impact Development Program

Ms. Swan then continued her presentation regarding the changes within the Low Impact Development Program. She explained that this program was updated to support the GPO's and expanded to provide more details and components to advance the GPO's. There were also additions including site design & development process, open space & landscaping details, a water conservation section as well as a stormwater management section which included an 80% on-site stormwater capture goal.

J. Sustainable Economic Development Program

This program was both edited to reflect updated GPO's and to improve clarity. A discussion was added regarding the requirement for conforming municipalities to develop or amend an existing economic plan element. This requirement recognized that these plans will vary based on the size, composition, and current economic conditions of the municipality, as well as its plan for future growth.

K. Plan Conformance Program

Ms. Swan reviewed the changes to the Plan Conformance Program. These revisions provide greater detail on the requirements, particularly: to include review for RMP Updates as Step #1, Provide information on Filing of Petitions (Planning vs. Preservation Areas regarding timing and requirements) and notices of intent to petition, as well as to discuss model highlands supplements including both the Highlands Master Plan Element and the Highlands Resource Regulations). This section was also revised to discuss basic plan conformance and to outline requirements for plan conformance.

Mr. Dillingham expressed his negative experience with the State Planning Commission with regard to Initial Plan Endorsement. He cautioned that the Council be careful that these processes not be drawn out and therefore negatively effect the natural resources the Council is trying to protect.

L. Agency Coordination and Local Participation Programs

No slide was presented as there were no significant changes to these programs.

M. Highlands Project Review Program

The next section of the presentation outlined the changes to the Highlands Project Review Program. The discussion of the exemption determinations in the Planning Area were removed as the staff concluded that these determinations were not RMP consistency determinations and do not belong in this program. Updates were made to the review standards for each RMP element to reflect the changes that were made to the individual GPOs and programs. Ms. Swan noted that the Prime

Ground Water Recharge recommendations will be presented for consideration at the June 26th meeting.

Ms. Swan presented a slide on the Local Participation Program's GPO changes. There were edits to improve the clarity of the local participation GPOs and a policy was added to ensure public participation in municipal and county conformance activities; particularly, to require the statutory minimum be met (Notice, Open Public Meetings) and to encourage community visioning and other forums. She clarified that Master Plan changes required Public Hearings. An objective was added to the RMP Monitoring Policy to include a Fiscal Impact Assessment in the Highlands RMP Monitoring Review Report.

N. Water Resources and Ecosystem Science Agenda

There are no slides on this area as there were no significant changes to this area. Ms. Carluccio mentioned that a vote is still missing regarding assessing the impact of the HUC 14 nitrate levels by not monitoring wells as new developments go into HUC 14 areas. She expressed an issue with the 2mg as the target and wanted to make sure that there weren't any changes that would require such monitoring.

O. Regional Master Plan Monitoring Program

Ms. Swan then continued with reviewing the changes to the Regional Master Plan Monitoring Program. This Program was edited to reflect updated GPOs, including a reference to a fiscal impact assessment to be included in the Highlands RMP Monitoring Review Report. This Program was also edited to improve clarity. Ms. Swan drew attention to the statement "at least every 6 years" for the timing for the fiscal assessment, this timing was consistent with the timing of the RMP for reexamination.

P. Highlands Council Implementation Programs

The Highlands Implementation Program changes were outlined including edits to improve clarity and word flow. The priority definitions were clarified to indicate that the levels do not relate to importance but rather to the time needed to accomplish them. A petition for Plan Endorsement was added to items of immediate priority (required in 60 days). Lastly, the State and Federal Agency coordination was moved to an intermediate priority level.

Chairman Weingart reiterated the schedule, the next meeting being June 26th at 4pm, July 10th at 10 am (prior to which amendments should be written in and presented to the Council and staff), lastly the July 17th meeting at 4pm where the plan will be reviewed for adoption.

PUBLIC COMMENTS:

TOM COLLINS, attorney and planner with a Morristown firm and represents many municipalities, particularly Hardyston and Byram: Mr. Collins expressed objection for making the policies set in the Planning Area rather than allowing for voluntary conformance. They believe it is far reaching and not authorized by the Act. Based on the Act and according to law, the Council should not inadvertently impose restrictions it cannot impose directly. The RMP is incorrect in its mapping and affects Hardyston and Byram Township's ability to meet COAH requirements. The RMP for the Planning Area, as it currently is stated, would prevent the continuation of Smart Growth policies in the area and could force higher density housing in other areas. The WQMP policies should not be mandatory and could help future builders in going against municipalities.

Hardyston will be negatively affected by the Council's action to make these policies mandatory within the Planning Areas. Both municipalities have detailed their objections to the RMP and the mapping. He asked the Council not to make these municipalities have to wait for map adjustments, corrections or plan conformance for their smart growth plans to be effective through the RMP.

He noted correspondence from the municipalities to Chairman Weingart and his response, noting that conformance will not be mandated in the Planning Area. Mr. Collins also noted NJDEP responses to this mandate and to the implementation of NJDEP and Highlands rules. Both Byram Township and Hardyston urge the Council to not mandate this policy and to correct maps for both areas prior to conformance. He noted that in his opinion the mapping and the RMP are not ready for adoption. Particularly, as the RMP as written will affect municipalities ability to comply with both the Smart Growth and State Plan.

DAVID TROST, Director of Community Development for Sparta Township: He noted that Sparta Twp strongly objects to mandatory opting in for conformance. He expressed that this process is about trust and integrity. Sparta initially acknowledged the Preservation Area and the RMP, but now is looking to reject the whole plan. He stated that the trust of the municipalities is being broken. Specifically, he asked the Council to look at the mapping changes that have been requested within this municipality as the mapping does not reflect current condition. Mr. Trost expressed that the Council will not be able to operate if they are going to look at the projects on a case by case basis. He stated that this will affect not only the environment, the local residents but also economic development and the state as a whole. Lastly, he urged that Council to reconsider the WMP standards.

Ms. Swan expressed that map adjustments and updates are being cataloged and the staff will be working with the municipalities on these changes. She emphasized the difference between adjustments and updates and that certain information will be required to facilitate updates.

ELLIOT RUGA, NJ Highlands Coalition: He thanked the Council members for not accepting the staff's recommendation during the last meeting. He quoted sections from the Act and discussed how it relates to the WQMP standards. Mr. Ruga pointed out that he believes the Council should protect the Highlands without compromise. He also noted that the Council created the LUCMs with supporting science. Mr. Ruga discussed the future sustainability and that the Council needs to make difficult decisions to protect our resources.

Ms. Swan wanted to point out that when sections of the Act are read, it is important for the Council members to read the entire section, she gave the example of the section 34e that had been quoted but was septic thresholds for the DEP regulations in the Preservation Area.

Mr. Dillingham noted the public offers their perspective on these issues and that Council should both respect and properly represent their testimony, regardless of group or organization.

SYLVIA KOVACS, Warren County: Regarding streams and riparian areas, she discussed her experience with the issues of the functional analyses. She explained her experience with redevelopment. She stated her support for proactively promoting restoration. Within 1D4I, she recommended differentiating the definition for impervious cover within redevelopment and disturbed land. She also supported the idea of pushing for support for conservation measures for water users outside of the Highlands. She also supported comments on the difficulty of administratively following up on conditional approvals. Regarding Mr. Cogger's comments about

including a homestead on a farm, she agreed on having at least the option for a building to be included with the farm.

DEBRA POST: She discussed her apple trees and issues on her farm (as a metaphor). She stated that tax incentives need to stand alone with a new tax law. She asked the Council to stay away from the Farm Assessment. Ms. Post discussed the incentives for cleaning up contaminated areas and how those who do care for their properties do not receive incentives. She stated her belief that the water efficiency usage seems to only apply to those within the Highlands and not those using the Highlands water outside of the highlands.

CHRISTINE, HEPBURN, Madison: Ms. Hepburn expressed that she believes she is one of the many who support the plan and wants to see it implemented. She discussed the rural character within this area. Regarding the cluster presentation, she stated that in looking at the slides the one based on septic seems to go against the preservation the Council is trying to achieve.

MONIQUE PURCELL, Department of Agriculture: Regarding flexibility in buffers, she explained that this is important. She discussed functional value and how it is difficult to maintain. She stated her appreciation for the cluster presentation and how this is a good way of maintaining rural areas.

WILMA FREY, NJ Conservation Foundation: Ms. Frey discussed the Forest Resource sustainability, 1C2D, which initially included Farmland Assessment Program language, she pointed out that this is not just about farmers but also about public value. She asked for stronger language within this objective, at least to support regulatory and legislative incentives. The second issue, regarding the stream buffers, she stated that the change needs to be in the language regarding disturbed land versus existing development. It should be changed to existing development that includes impervious cover. She stated what shouldn't come under this language is farmland – it should not be removed from being able to be restored to the 300ft buffer. The third issue is within the scenic resources aspect, where it discusses the inventory of the highlands resources. She states that the Council simply needs to simply say that it identified the 131 publicly owned scenic resources which are already included in the DEP rules for the Highlands Preservation Area. The word “potential” should be deleted. She also asked for the deletion of “evaluate the initial baseline...refine the list” within the same sentence. She also asked for the inclusion of the Delaware and Musconetcong Rivers as well as the Highlands Millennium Trail.

JULIA SOMERS, NJ Highlands Coalition: Ms. Somers stated her support of Mr. Troast's comment that there is too much to do. She asked for the Council to drop mitigation in deficit areas and to keep buffers simple, but should differentiate between impervious cover and other development. She stated appreciation for the cluster presentation.

DAVID SHOPE, member of the Farm Bureau: Mr. Shope discussed the average amount of rainwater within NJ and the Council taking away people's equity for protection of water. He showed and discussed where water falls and where it flows (particularly in relation to pollution). He discussed Middlesex Water company and how they have raised their dividend again. Last week he had asked for the release of the confidential lists, and he is requesting that again. If this is not done, he considers it an issue of transparency. He discussed his belief that water deficit is a fraud and is simply politically based. Mr. Shope suggested shutting down the Pequest Fish Hatchery to conserve water. Regarding buffers, he mentioned the Strouds report and adjacent land use. Regarding

sustainable economic development, he cited eastern Europe and asked to Council to look at the corresponding fees which diminish land values. He then discussed rural character.

JIM KILDUFF, Franklin Borough: Mr. Kilduff discussed the presentation of Ms. Swan and Mr. Borden in Franklin Borough and thanked them for coming in spite of a difficult agenda which prohibited them from doing their full presentation. He stated the concern regarding the standards that may be mandated in the Planning Area.

MARION HARRIS, Morris County for Historic Trust: She stated that she was glad to see more detail emerging regarding historic preservation. She did state that the Council needs to revisit the use of the word commission versus committee. She explained the two different types of commissions, and pointed out that an advisory commission is necessary. Ms. Harris suggested that the standards that will be applied be included in the RMP (particularly how does the Council evaluate historic preservation since the Council doesn't have the authority to do historic preservation). She discussed legal standing and how to evaluate historic properties. Ms. Harris suggested using the Historic Sites Council and the State Review Board. She did state her support for cross referencing for historic preservation. Regarding the glossary, she clarified the meanings of the words historic and cultural. She asked for the definition of these terms so that they are identical.

HELEN HEINRICH, NJ Farm Bureau: Ms. Heinrich asked that cultural not be taken out but be defined more specifically. She discussed the importance of the Farmland Assessment Act to farmer and their property. Regarding clusters, she appreciated the presentation, and thought it represented the smaller amounts of development within cluster areas. She explained misconceptions and stated that there are many expensive steps that must be taken for farmers to pursue clustering on their properties. She expressed concerns with large lot zoning with minimal agriculture and how clustering would meet many of the farmers concerns. Ms. Heinrich stated that the one development that does not have to do a plan, is the cluster for environmental space and she wanted to know why this is the case.

STEVE KULLESSAR, Gracie & Herrigan Consulting Foresters: He supported leaving Farmland Assessment out of the RMP and spoke about an example regarding the Farmland Assessment. He explained how non-tree cutting was utilized within properties and how they still received Farmland Assessment. Regarding 1b2A, he expressed that he didn't understand the difference between #2 and #3 and expressed that he didn't find this to be realistic. He explained that the forest inspectors do also enforce that ban on excessive cutting provisions. At the end of the objective, he believes that the public and private forests should be compared regarding their management (sometimes the cutting of trees can be beneficial).

Mr. Dillingham stated his support for looking into the different forestry management practices. He also stated that the information regarding practices and examples (such as those that Mr. Kullessar mentioned) could be very useful for the Council and staff.

ANDREW DRYSDALE: He asked for clarification on the dates stated on zoning and the allocation credits. Mr. LeJava clarified that the date was simply for when the Council and staff had gathered all of the relevant zoning information. Mr. Drysdale discussed environmentalists and corruption within government. He discussed the complexity of the RMP and the different levels and red tape that people will need to go through. Chairman Weingart stated that he hadn't

addressed Mr. Shope's question about the confidential memo, and responded that it was a confidential legal memo and will not be released to the public.

**Vote on the Approval of
these Minutes**

	<u>Yes</u>	<u>No</u>	<u>Abstain</u>	<u>Abse nt</u>
Councilmember Alstede	✓			
Councilmember Calabrese	✓			
Councilmember Carluccio				✓
Councilmember Cogger	✓			
Councilmember Dillingham	✓			
Councilmember Kovach	✓			
Councilmember Letts	✓			
Councilmember Pasquarelli	✓			
Councilmember Peterson				✓
Councilmember Schrier			✓	
Councilmember Vetrano			✓	
Councilmember Way	✓			
Councilmember Whitenack	✓			
Councilmember Weingart	✓			

PUBLIC COMMENTS SUBMITTED

Table 44: **Summary of water quality conditions at 21 NJDEP/USGS sites sampled in the Raritan River basin from 1991-97**

[Green Cells = the 3 sites with most samples meeting the standard or 3 sites with lowest median values for each constituent (highest median DO and alkalinity values);
Red Cells = the 3 sites with most samples not meeting standards or 3 sites with highest median values (lowest median DO and alkalinity values); Alkalinity, biochemical oxygen demand, total ammonia + organic nitrogen (TKN) and total organic carbon do not have a standard; Ratings for pH and hardness are based on percent of samples meeting or not meeting both a high and low standard; * trout maintenance; ** trout production; # coastal plain waters have naturally low alkalinity]

Station Number	Nutrients					Inorganics						Other Constituents					
	Ammonia + Organic Nitrogen	Ammonia, Un-ionized	Nitrite plus Nitrate	Organic Carbon, Total	Phosphorus, total	Alkalinity	Chloride	Dissolved solids, total	Hardness	Sodium	Sulfate	Biochemical Oxygen Demand	Dissolved Oxygen	Fecal coliform	pH	Suspended solids, total	Water temperature
South Branch Raritan River Sub-basin																	
**01396280 – South Branch, Middle Valley																	
*01396535 – South Branch, High Bridge																	
**01396588 – Spruce Run																	
*01396660 – Mulhockaway Cr.																	
*01397000 – South Branch, Stanton																	
01397400 – South Branch, Three Bridges																	
01398000 – Neshanic River																	
North Branch Raritan River Sub-basin																	
**01398260 – North Branch, Chester																	
01399120 – North Branch, Burnt Mills																	
**01399500 – Larrington River, Pottersville																	
01399700 – Rockaway Creek																	
01399780 – Larrington River, Burnt Mills																	

Station Number	Nutrients					Inorganics						Other Constituents					
	Ammonia + Organic Nitrogen	Ammonia, Un-ionized	Nitrite plus Nitrate	Organic Carbon, Total	Phosphorus, total	Alkalinity	Chloride	Dissolved solids, total	Hardness	Sodium	Sulfate	Biochemical Oxygen Demand	Dissolved Oxygen	Fecal coliform	pH	Suspended solids, total	Water temperature
Millstone River Sub-basin																	
01400540 – Millstone River, Manalapan						#											
01400650 – Millstone River, Grovers Mill																	
01401000 – Stony Brook, Princeton																	
01401600 – Beden Brook																	
01402000 – Millstone River, Blackwells Mills																	
Raritan River Mainstem																	
01400500 – Raritan River, Manville																	
01403300 – Raritan River, Bound Brook																	
South River Sub-basin																	
01405302 – Matchaponk Br.						#											
01405340 – Manalapan Brook						#											

A Note from the President

To Our Shareholders,

For the quarter ended March 31, 2008, results were in line with our expectations. Consolidated operating revenues rose \$1.9 million or 9.8% over the same period in 2007. Earnings applicable to common stock were \$1.9 million, or \$0.15 per basic share, compared to \$1.7 million or \$0.13 per basic share in 2007.

First Quarter Results

The rise in consolidated revenues was largely due to an increase in the Middlesex and Tidewater system base rates and higher consumption in both of those water systems. Revenues in the Middlesex system in New Jersey rose \$1.1 million as a result of a 9.1% base rate increase implemented in October 2007, and by \$0.2 million as a result of higher customer consumption. Revenues improved \$0.3 million in our Tidewater system in Delaware, of which \$0.2 million was the result of an additional 12% base rate increase implemented in February 2007. Customer growth and higher consumption contributed \$0.3 million of revenues. Fees charged for initial connection of new customers in Delaware were \$0.2 million lower in 2008 as new residential and commercial development has slowed. Revenues from regulated wastewater operations in Delaware increased by \$0.1 million due to customer growth. All other operations accounted for \$0.2 million of additional revenues.

Board Declares Dividend

The Board of Directors declared a quarterly cash dividend of \$0.1750 per share, payable June 2, 2008, to common stockholders as of May 15, 2008. The Company has paid cash dividends in varying amounts continually since 1912 and has increased its dividends for 35 consecutive years.

Rate Filings

In April, our subsidiaries in Burlington County, New Jersey, Pinelands Water Company and Pinelands Wastewater Company, filed requests with the New Jersey Board of Public Utilities for an increase in rates to help offset increased costs associated with the operation and maintenance of the water and wastewater systems as well as increased capital investment in those systems. Pinelands Water is seeking an overall increase of approximately \$115,000 and Pinelands Wastewater is seeking an increase of \$212,000. The rate proposal will be examined by the New Jersey Board of Public Utilities and the New Jersey Division of Ratepayer Advocate.

Middlesex Earns National & Local Honors

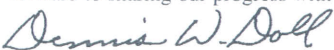
In March, Middlesex Water was named one of the top 100 most trustworthy publicly traded firms in the United States according to Audit Integrity, Inc., an independent Los Angeles firm that researches corporate governance best practices. Audit Integrity researched 8,000 public firms and selected its Top 100 based on their persistent excellence in transparent financial reporting and conservative corporate governance.

Middlesex is one of four utilities to make the Audit Integrity Top 100 list and ranks 6th among small-cap companies. We are honored to earn a place on this prestigious list and take our commitment to strong corporate governance very seriously. On a local level, Middlesex was also honored with the Outstanding "Green" Business award for its commitment to environmental stewardship and education/outreach.

Driving Business Performance

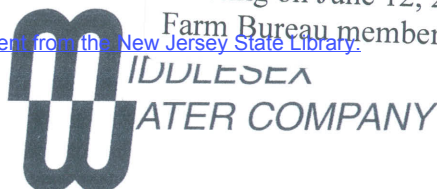
Middlesex Water has selected Oracle USA to help integrate critical business processes and drive performance across all companies. The initiative, aptly named Project LINK, involves implementing the "Oracle for Utilities" suite of applications across a broad range of business processes over the next 18 months. We believe implementing this comprehensive technology platform is an important step in meeting increasing customer expectations, delivering on our growth strategy and adding to shareholder value.

Despite a presently weakened economy, your management team continues to be encouraged by the level of opportunity we see to expand our water and wastewater services beyond our current geographic borders. Our focus remains on delivering quality service for our customers, developing the skills of our employees and building long-term value for our shareholders. We thank you for your support and look forward to sharing our progress with you.



Dennis W. Doll
President and Chief Executive Officer
May 6, 2008

[You are viewing an archived document from the New Jersey State Library.](#)



CONDENSED CONSOLIDATED STATEMENT OF INCOME

(Unaudited)

(In thousands except per share amounts)

	Three Months Ended March 31,	
	2008	2007
Operating Revenues	\$20,855	\$18,988
Operating Expenses:		
Operations	11,102	10,192
Maintenance	996	978
Depreciation	1,931	1,845
Other Taxes	2,479	2,251
Total Operating Expenses	16,508	15,266
Operating Income	4,347	3,722
Other Income:(Expense)		
Allowance for Funds Used During Construction	103	112
Other Income	241	226
Other Expense	(46)	(5)
Total Other Income, net	298	333
Interest Charges	1,517	1,384
Income before Income Taxes	3,128	2,671
Income Taxes	1,124	902
Net Income	2,004	1,769
Preferred Stock Dividend Requirements	62	62
Earnings Applicable to Common Stock	\$ 1,942	\$ 1,707
Earnings per share of Common Stock:		
Basic	\$ 0.15	\$0.13
Diluted	\$ 0.15	\$0.13
Average Number of Common Shares Outstanding:		
Basic	13,254	13,176
Diluted	13,585	13,507
Cash Dividends Paid per Common Share	\$0.1750	\$0.1725

Visit Our Investor Relations Website:

To learn more about developments at Middlesex Water Company and to register for periodic e-mail updates, please visit the Investor Relations Section of our website at www.middlesexwater.com

Issues for Council Discussion

June 12, 2008

Forest Resource Management and Sustainability Program Changes

- Program updated to support GPOs
- Added text regarding the fact that a partial cost-share reimbursement is available for non-profit organizations through the New Jersey Forest Service's Forest Stewardship Program
- Removed the Third Party Certification for Highlands Forest Products element of the program. Staff concluded that this goal is not realistic at this time; more important to focus program on sustainable guidance - a first step toward a certification scheme

Restoration of Streams and Riparian Areas Program Changes

- Functional Value Assessment concept was added to Stream and Riparian Assessment element of the program. Provides a measurable and scientific approach to ensure improvements to stream buffer functional values
- Stream Corridor Protection/Restoration Plans element was added to the program. The goal of these plans is to identify areas where existing land uses within buffers have impaired the functional values of those buffers; and to identify opportunities for restoration of those areas.
- Highlands Open Waters and Riparian Areas GPOs - shows the final version of GPOs previously considered by the Highlands Council on May 22, 2008, with highlighted sections indicating proposed changes based on Council discussion.

Water Deficit Reduction Program

- Program summary includes additional text on what types of water uses are part of a net water availability analysis.
- Modified Objective 2B8b and relevant program language to reflect Council discussions on white papers, regarding:
 - Water Use and Conservation Management Plans being required for all subwatersheds and especially for deficit areas;
 - range of mitigation requirements (125% to 200%);
 - the contents of mitigation plans;
 - timing of mitigation being relative to the volume of increased consumptive/depletive water uses and the existing deficit; and
 - clarifications on enforcing mitigation.
- The need for coordination with NJDEP water allocation permit program is emphasized.

Efficient Use of Water Program

- Program Summary provides more examples of appropriate methods to enhance efficiency of water use
- Policy 2B4 and new Objective 2B4 clarify the importance of efficient water use in all situations, and the importance of water use availability and efficiency for compatible agricultural water uses
- Limited modifications to reflect GPO changes and links to *Water Deficit Reduction Program*, and to provide more specifics regarding water loss reduction methods, irrigation efficiencies

Efficient Water Use 2

- Discussion of water transfers between subwatersheds provides more detail on transfer limits and the potential role of beneficial water reuse.
- Requirement for Water Use and Conservation Management Plans for all subwatershed is stated, with the potential for combined Plans and cooperative planning efforts.
- Deficit mitigation requirements provided in more detail, including thresholds for mitigation prior to initiation of a depletive/consumptive use.

Agricultural Resources

Program Changes

- Issue Overview and Program Summary expanded for clarification and to be consistent with revisions to the GPOs. Program components rearranged to be consistent with the flow of revised GPOs
- Policy 3B4 – Revised language to “support incentives and funding opportunities” rather than “advocate for the amendment of the Farmland Assessment Act to permit inclusion of credits” for the control of invasive species, white-tailed deer reduction programs, and the water value of well-managed agricultural lands.
- Policy 3E3 – revised to state that conforming counties and municipalities should include Right to Farm provisions in their master plans and development regulations if they have farmland preservation programs or a significant agricultural land base.
- Implementation of Strategies to Promote Preservation in the Agricultural Resource Area and the Agricultural Priority Areas (APA) (previously called: Establishment of Agriculture Preservation Priorities) includes discussion of the confidential inventory of agricultural lands.

Agricultural Resources

Program Changes

- Cluster Development section merged with Development of Cluster/Conservation Design Standards and expanded to reflect clarification and changes to Cluster Program GPOs.
- The section “Serve as a Regional Clearinghouse” (previously called: Establishment of a Farmland Preservation, Stewardship and Technical Assistance Program) revised to be consistent with Policy 3A8.
- Establishment of Alternative/Innovative Agriculture Preservation Programs was expanded to be consistent with GPO discussion.
- Program discussion on impervious cover limitations expanded to include a brief discussion on the USDA NRCS Farm and Ranch Lands Protection Program, which allows the SADC to leverage farmland preservation funds, but requires the landowner restrict impervious cover on the farm through the deed of easement.
- A new program discussion added to specifically address the Right to Farm Act. The Council will coordinate with the SADC, which manages a Right to Farm Program in partnership with the CADBs.

Historic Resource Protection Program Changes

- Program updated to support GPO's
- Program expanded to respond to public comments
- Added item encouraging alternative strategies, such as adaptive reuse

Scenic Resource Protection Program Changes

- Program updated to support GPO's
- Program expanded to respond to public comments and provide greater clarity
- Added item encouraging alternative strategies
- Added item encouraging municipalities and counties to pursue designation of scenic byways

Transportation Program Changes

- Program was edited to reflect updated GPO's;
- Program narrative was edited to include language regarding the seven regional airport facilities in the Highlands Region, scenic corridors and by-ways and agri-tourism; and
- Program was updated to include additional language regarding the recognition of transportation projects that promote a sound and balanced transportation system consistent with smart growth strategies and principles.

Land Use Capability Analysis

- Added language clarifying that the local build out process will include the Land Use Capability Analysis, using the Highlands Regional Build Out Model as a tool.
- Text added to clarify that Water Use and Conservation Management Plans will be used to inform the local Land Use Capability Analysis
- With regard to extension of water and wastewater utility services, the distinction between the Preservation (NJDEP waiver only) and Planning Areas is clarified.

Cluster Program Changes

- Program revised to be consistent with the GPOs.
- Issue Overview revised to include a general discussion on funding constraints associated with preserving land through fee simple and easement acquisition, and to include cluster and lot-averaging provisions under the New Jersey Municipal Land Use Law (MLUL).
- Program Summary emphasizes that municipalities considering the use of clusters will be encouraged to take a holistic approach to planning for the entire municipality through the Plan Conformance process.
- Program Summary and General Provisions has revised language regarding the developed portion of the cluster project area, to reflect GPO changes requiring that the developed portion occupy no more than 10% of the cluster project area (to the extent feasible) if served by a public or community on-site wastewater system.
- In addition to smart growth principles, the design of the developed portion of the cluster project area shall consider existing community character and Low Impact Development (LID). Both existing community character and LID are defined in General Provisions.

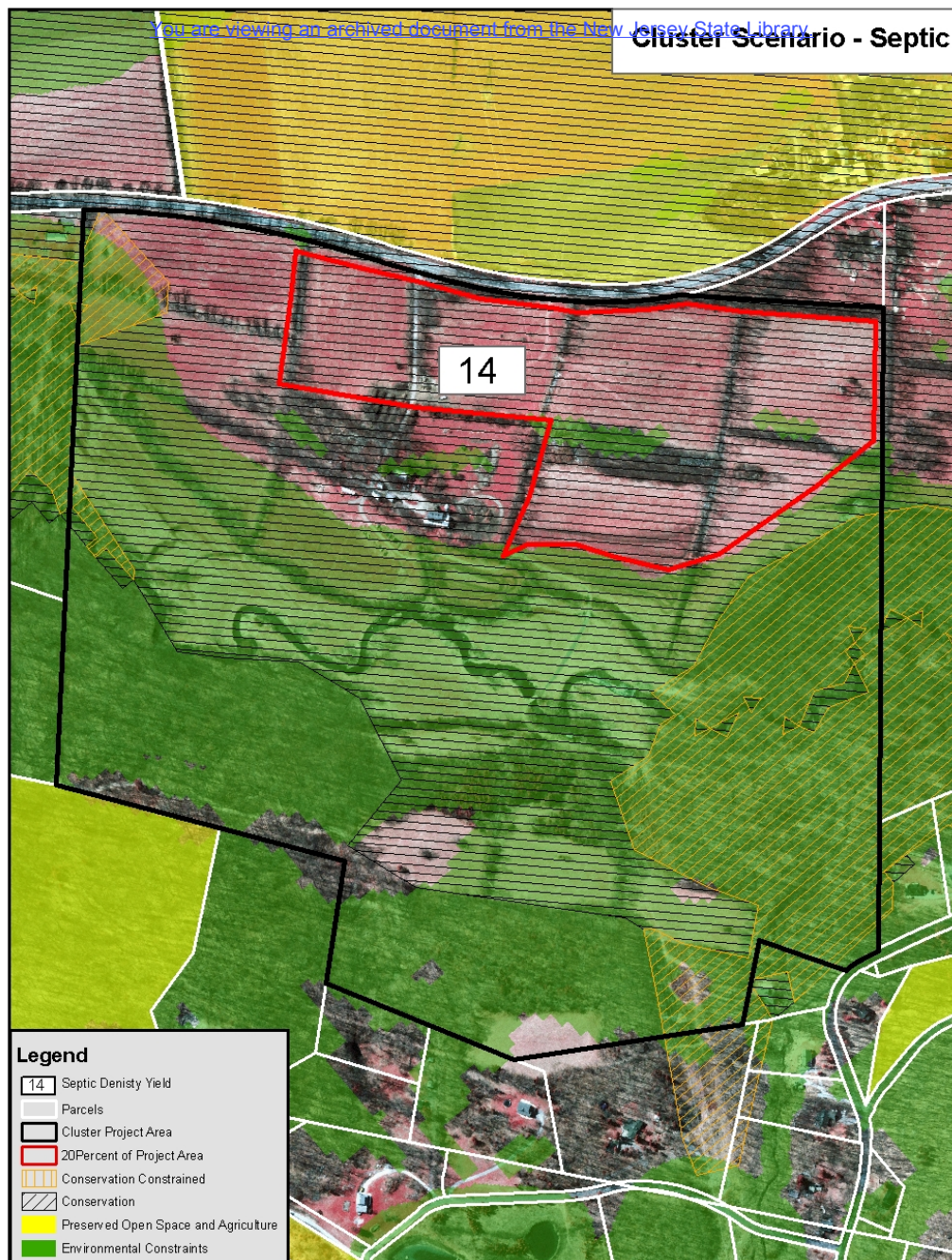
Cluster Program Changes

- General Provisions on non-contiguous cluster and lot-averaging added to be in accordance with the MLUL and to meet the resource management and protection requirements of the RMP.
- Specific Requirements on Cluster Design were reorganized by the resource targeted for protection – for Environmental Protection or for Agricultural Preservation
- Cluster Design for Environmental Protection continues to allow for passive recreational trails provided they do not disturb habitats for threatened and endangered species, but also requires the trails be natural landscaped trails constructed of native pervious surface. Where feasible, the trails shall link to existing trail networks.
- Cluster Design for Agricultural Preservation now requires a deed of easement with language similar to the SADC Farmland Preservation Program easement. The deed of easement and a legally enforceable Homeowner's Agreement, where applicable, shall include Right to Farm (RTF) Act provisions.

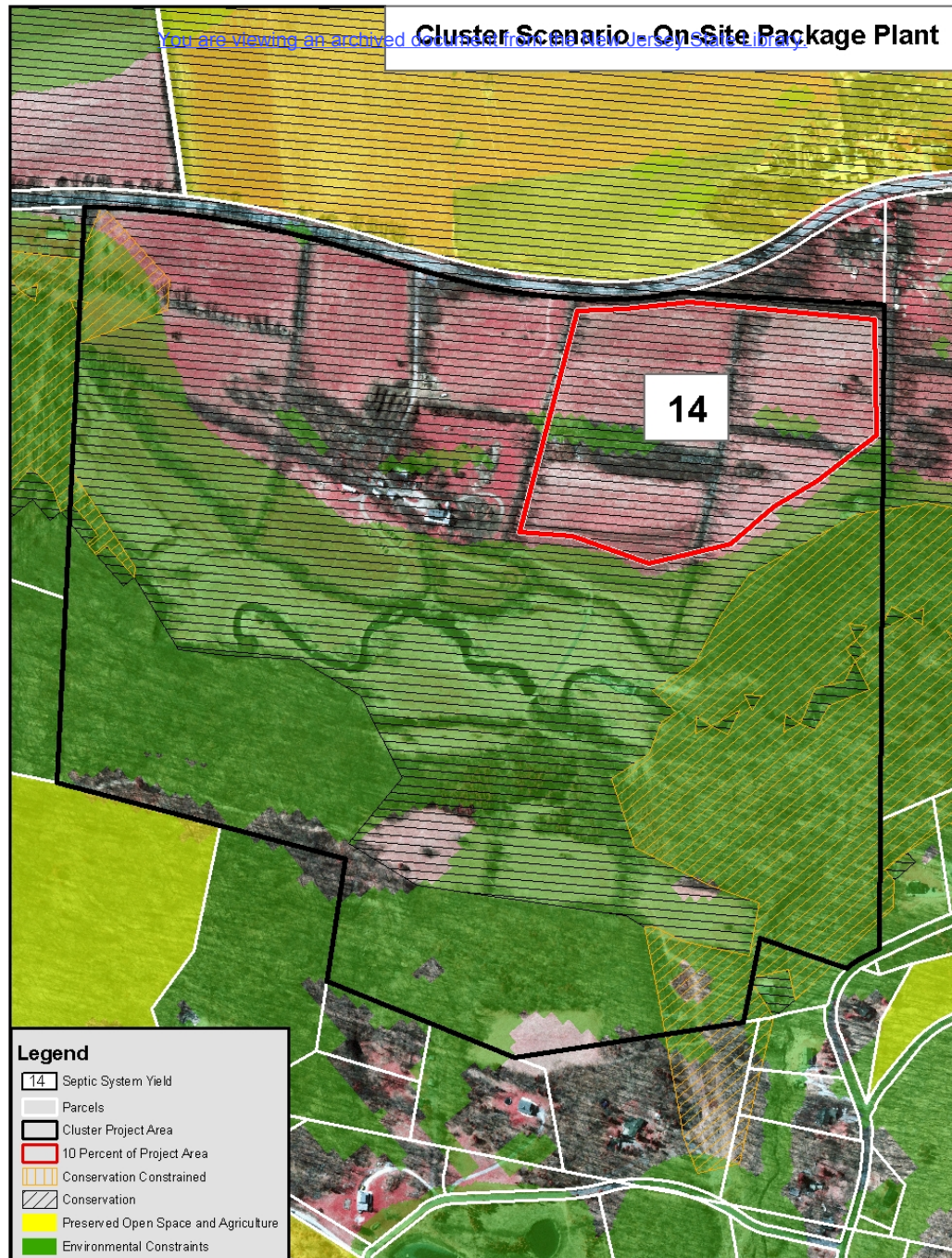
Cluster Program Changes

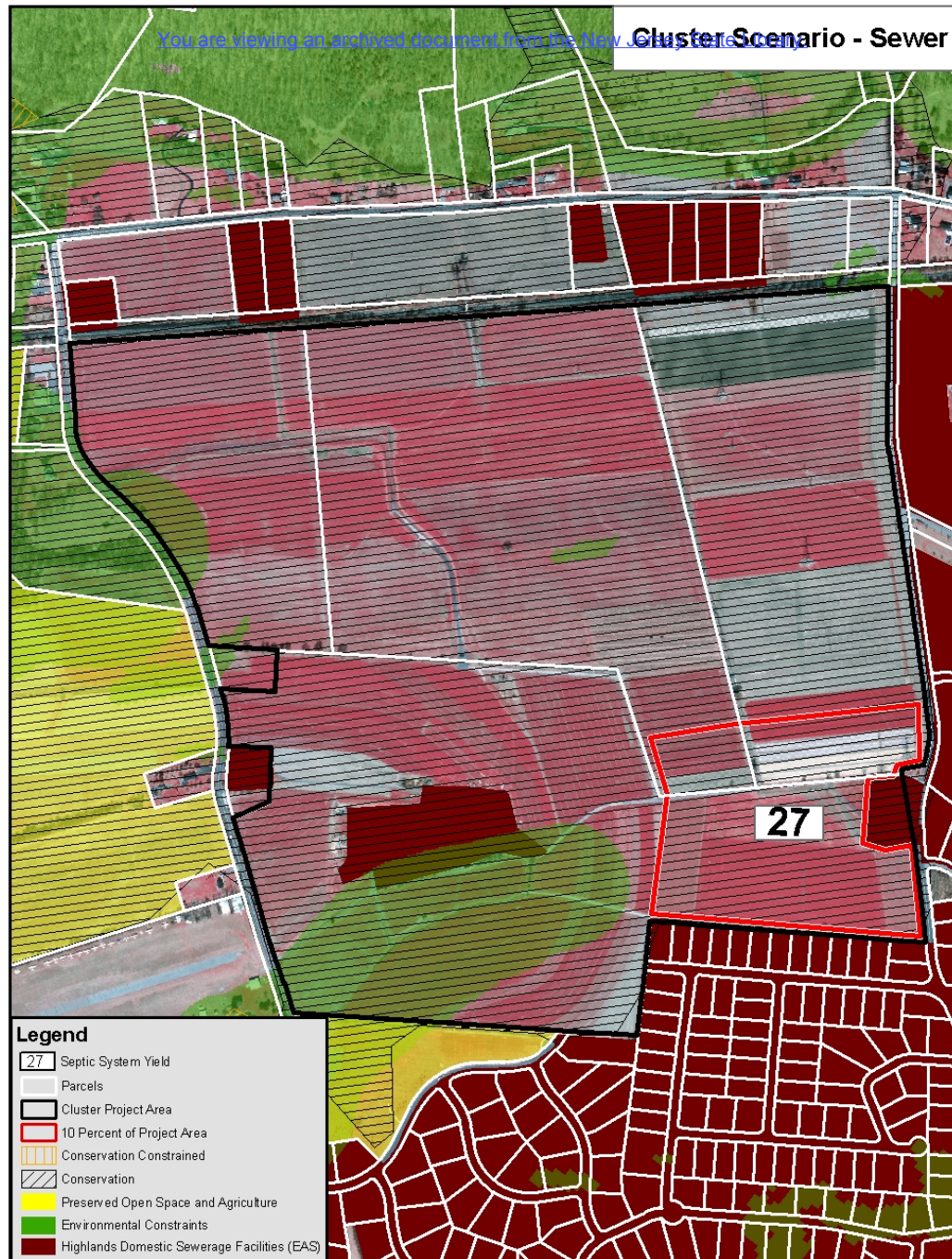
- In addition to existing natural features, manmade historic or archaeological features (such as rock walls) shall also be retained in the developed portion of the cluster.
- Required setbacks by LUCM Zone have been removed, because these setbacks will not allow flexibility in cluster design to avoid Highlands's resources and would promote more impervious cover by extending roads and driveways to meet the setbacks. This will be discussed with municipalities during Plan Conformance.
- Model cluster ordinances do not establish setbacks, but include a basic requirement that individual lots, buildings, structures, streets, and parking areas are situated to minimize the alteration of natural features, natural vegetation and topography. These parameters will be clearly outlined in the Cluster Development Design Guidelines and Standards, which will include model cluster ordinance language and examples of model ordinances.

Cluster Scenario - Septic



Cluster Scenario On Site Package Plant





Low Impact Development Program Changes

- Program updated to support GPO's
- Program expanded to provide more details and components to advance GPO's
- Added Site Design & Development Process
- Added Open Space & Landscaping details,
- Added Water Conservation section
- Added Stormwater Management section
 - With 80% on-site stormwater capture goal

Sustainable Economic Development Program Changes

- Program was edited to reflect updated GPO's;
- Program narrative was edited to improve clarity; and
- Discussion was added regarding the requirement for conforming municipalities to develop or amend an existing economic plan element, recognizing that plans will vary considerably in scope, depending on the size and composition of a municipality, its current economic conditions, and whether it chooses to grow or not.

Plan Conformance Program Changes

Program revisions provide greater detail on Plan Conformance requirements:

- Include Review for RMP Updates as Step #1
- Provide Information on Filing of Petitions
 - Planning v. Preservation A. – Timing, Requirements
 - Notices of Intent to Petition
- Discuss Model Highlands Supplements
 - Highlands Master Plan Element
 - Highlands Resource Regulations
- Discuss Basic Plan Conformance
- Outline Requirements of Plan Conformance

Highlands Project Review

Program Changes

- Discussion of exemption determinations in the Planning Area removed as staff concluded that these determinations are not RMP consistency determinations that belong in this program
- The review standards for each RMP element were updated to reflect changes that were made to individual GPOs and programs
- Prime Ground Water Recharge recommendations to be considered by Council on June 26th.

Local Participation GPO Changes

- Edits to Improve Clarity
- Policy Added:
 - To Ensure Public Participation in Municipal and County Plan Conformance Activities
 - Require: Statutory Minimum - Notice, Open Public Mtgs
 - Encourage: Community Visioning & Other Forums
- Objective Added to RMP Monitoring Policy:
 - Include a Fiscal Impact Assessment in the Highlands RMP Monitoring Review Report

Regional Master Plan Monitoring Program Changes

- Program was edited to reflect the updated (and relevant) Local Participation GPO's, including a reference to a fiscal impact assessment that measures the overall economic health of the Region as compared to the rest of the State, to be included in the Highlands RMP Monitoring Review Report
- Program narrative was edited to improve clarity.

Highlands Implementation Program Changes

- Priority Definitions Clarified to Indicate that Levels do not Relate to Importance
- Petition for Plan Endorsement Added to Items of Immediate Priority (Required in 60 Days)
- State and Federal Agency Coordination Moved to Intermediate Priority Level
- Edits to Improve Clarity & Word Flow

**DRAFT FOR CONSIDERATION BY THE HIGHLANDS COUNCIL
AT THE JUNE 12, 2008 COUNCIL MEETING**

Forest Resource Management and Sustainability

Issue Overview

The Highlands Region contains some of the most important forests in the state. These forests are vitally important to every element of the Highlands Region, including the natural and the built environment. Forests provide essential ecosystem functions, including the recharge of aquifers that supply Highlands Region wells and surface water filtration, both of which are important to protecting essential drinking water supplies for the Highlands Region and for the state as a whole. Forests protect stream water quality, supporting wild trout and healthy aquatic communities. Forests sequester atmospheric carbon and contribute to combating global warming. Forests serve as habitat for plants and animals, and as forests constitute a majority of the Region's critical habitat, are critically important to the maintenance of biodiversity in one of the most populous states in the nation. Highlands forests offer important recreational resources and contribute to the Region's unique scenic value. In addition, when managed for sustainable use, forests can be as source of renewable wood products. Forests are a defining visible and functional feature of the Highlands Region and constitute a majority of critical habitat in the Region.

The Regional Master Plan acknowledges the Highlands Act exemption under N.J.S.A. 13:20-28.a(7) for activity conducted in accordance with an approved woodland management plan, pursuant to section 3 of P.L.1964, c.48 (C.54:4-23.3) or the normal harvesting of forest products in accordance with a Forest Management Plan approved by the State Forester. Beyond exempt forestry activities, the Highlands Act mandates that the Regional Master Plan provide for the protection of the Region's forests.

Current forest management practices, incentives and regulations are evaluated that will support the continuation and enhancement of science based management of the forest resource for long term societal benefits for future generations. Despite being the most densely populated state in the nation, forests cover 45% of New Jersey's land mass and 54% of the total of land area (approximately 464,200 acres) of the Highlands Region.

Program Summary

This program seeks to balance the need to protect the forest resource, biodiversity and water resources with the economic use and continued sustainable management of forests while promoting active stewardship to provide/optimize the multiple benefits and services forests provide including clean air, clean water, soil protection, recreation, wildlife habitat and forest products. The foundation has been set for continued scientific management and long term sustainability of the forest resource in the Highlands Area.

A forest is far more than trees. It is a complex ecosystem – ever changing and defined by the interactions of living organisms and the surrounding environment. A native, healthy and diverse forest cover is the preferred land use to protect water quality and quantity. The multiple benefits and values provided by these forests are realized by society as a whole while the individual landowners are responsible for the care and stewardship of this resource.

**DRAFT FOR CONSIDERATION BY THE HIGHLANDS COUNCIL
AT THE JUNE 12, 2008 COUNCIL MEETING**

**RMP Policies and
Objectives
Addressed**

Policy 1A2. To limit human development in the Forest Resource Area in the Preservation Area in order to protect and enhance forest resources, forest ecosystem integrity, critical habitat, and the quantity and quality of water resources.

Objective 1A2c. To prohibit through local development review and Highlands Project Review the deforestation of lands within the Forest Resource Area of the Preservation Area for human development except where authorized as an exemption by the Highlands Act, or is an agricultural or horticultural development as defined at N.J.S.A. 13:20-31 and meets the requirement of that provision of the Highlands Act, or if qualifying as a major Highlands Development, the project must, at a minimum, be in conformance with the NJDEP Preservation Area Rules at N.J.A.C. 7:38-3.9.

Objective 1B1a. Implementation of resource management programs to encourage sustainable forest management, restoration and stewardship practices on public and private lands, including ecological and watershed protection measures such as those provided through New Jersey Forest Stewardship Program.

Objective 1B1b. Implementation of programs which encourage owners and operators of farmland with woodlots to obtain approved Forest Management Plans or Forest Stewardship Plans that conform to the protection standards of this Plan.

Objective 1B1c. Implementation of programs which encourage the inclusion of appropriate rare, threatened, and endangered wildlife and habitat protection and enhancement, and appropriate wildlife and invasive species management techniques in Forest Management Plans or in New Jersey Forest Stewardship Program's Forest Stewardship Plans adopted by any federal, state, county or municipal government entity.

Objective 1B1e. To encourage private lands management of forests for non-commodity benefits (e.g., wildlife habitat, water quality, recreation) or traditional commodities (e.g., timber and wood products) in accordance with the New Jersey Forest Stewardship Program's Forest Stewardship Plan.

Policy 1B2. To limit through local development review and Highlands Project Review human development of forests to low impact residential development in the Protection Zone and the Conservation Zone in the Planning Area.
Objective 1B2a. Implementation through Plan Conformance of regulations which limit permissible uses within forested lands in High and Moderate Integrity Forest Subwatersheds of the Planning Area to 1) maintenance of pre-existing uses, 2) the removal of woody vegetation from forested lands subject to an approved Forest Management Plan, 3) forest stewardship practices in accordance with a New Jersey Forest Stewardship Program's Forest Stewardship Plan, or 4) low impact residential development that utilizes low impact development best management practices and an approved forest mitigation plan.

Objective 1B2b. Implementation of regulations through Plan Conformance which allow for redevelopment of previously developed areas and for other compatible uses that minimize losses to forested lands within Low Integrity

**DRAFT FOR CONSIDERATION BY THE HIGHLANDS COUNCIL
AT THE JUNE 12, 2008 COUNCIL MEETING**

Forest Subwatersheds in accordance with an approved forest mitigation plan or low impact development best management practices.

Policy 1B3. To limit through local development review and Highlands Project Review deforestation in the Forest Resource Area and forested lands within High Integrity Forest Subwatersheds within the Existing Community Zone to maximum extent practicable.

Objective 1B3a. Implementation through Plan Conformance of regulations which limit the clearing of trees in conjunction with human development to circumstances where the clearing will not diminish the integrity of forest resources.

Objective 1B3b. Implementation of resource management programs to avoid loss of forests such as low impact development best management practices and mitigation and/or restoration.

Policy 1B5. To ensure that forest resources are protected on a site specific basis during local development review and Highlands Project Review.

Policy 1B6. To encourage conformance with standards and criteria for sustainable forestry activities in order to conserve and enhance the Forest Resource Areas and forested lands within High Integrity Forest Subwatersheds within the Highlands Region.

Policy 1B8. To encourage the development of forest management strategies and programs that improve the ecological health, water resource benefits and scenic quality of Highlands forests.

Policy 1C1. To require that conforming municipalities and counties address the protection of forested portions of Forest Resource Areas and High Integrity Forest Subwatersheds in their master plans and development regulations.

Objective 1C1a. Maintain forest cover to the maximum extent possible in the Highlands Region in the natural as well as the built environment.

Policy 1C2. To provide technical guidelines and procedures to assist municipalities and counties in the development of forest protection and mitigation and community forestry plans for inclusion in municipal and county master plans and development regulations.

Objective 1C2a. Provide technical guidelines and procedures for development and implementation of low impact development best management practices to protect, enhance and restore forest resources.

Objective 1C2b. Provide guidelines for the development of community forestry plans by municipalities for inclusion in municipal master plans.

Objective 1C2c. Provide a model municipal tree ordinance for municipalities that allows active forest management with a Forest Management Plan approved by the State Forester.

Objective 1C2d. Support [incentives and funding opportunities](#) and provide criteria for demonstrating and maintaining intrinsic forest values and societal benefits.

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Forest Sustainability

Objective 1C2e. Provide technical guidelines establishing forest clearing thresholds and mitigation requirements for inclusion in municipal development regulations.

Policy 1C3. To require that conforming municipalities adopt a tree clearing ordinance consistent with an approved community forestry plan under the New Jersey Forest Service Community Forestry Program as part of the municipal master plan and local development regulations.

Objective 1C3a. Standardize municipal tree protection ordinances throughout the Highlands Region to the extent feasible.

For long term sustainability of the forest resource in the Highlands there must be proactive management of deer populations, non-native invasive species and reductions in the rate of forest fragmentation.

- Criteria and indicators are needed to measure the sustainability of the forest resource. Data need to be collected to assess long term sustainability.
- Incentives must be developed for invasive species control and management of White tailed deer populations.
- Low impact development principles must be adopted to prevent further fragmentation of forest habitats.

Valuation methods are needed for carbon sequestration, invasive species control, and management activities tied to forest health improvement and the intrinsic societal values of forests including water quality protection.

**Provide a Model
Municipal Tree
Ordinance**

A model tree protection ordinance that provides protection of the water resource, maintain forest cover and regulate forest loss associated with land use change, while exempting forest management activities conducted, under a forest management plan approved by the State Forester and in conformance with New Jersey's Best Management Practices, will be provided by the Highlands Council. This ordinance will provide consistency in municipal regulation across the Region. The following standards should apply:

- Municipalities should adopt an ordinance which meets the intent of the Highlands RMP as far as exempting forest management activities conducted under a forest management plan approved by the State Forester.
- Ordinances should be consistent, to the extent possible, to provide equal protection of the resource throughout the Region.
- Ordinances should include methods to protect trees and forest cover during construction.

**Provide Guidance for
Community Forestry
Plans for Highlands
Municipalities**

Community Forestry Plans are used to maintain and improve forest cover in developed areas. Increased urban forest cover will improve storm water retention, water quality, air quality, community character and quality of life for residents of Highlands communities. They will be encouraged for municipalities during Plan Conformance. Grants are currently available from the New Jersey Forest Service to fund a portion of costs for these Plans.

Many Highlands municipalities are operating under tree deficits where they are removing more trees than are planted. In many communities the Community

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**Provide Guidance for
Forest Conservation
and Mitigation Plans**

Forest resource is nearing the end of its life expectancy and replacement trees have not been planted in advance in anticipation of mass loss of the resource. Community Forestry Plans are adopted as components of Municipal Master Plans and address portions of these plans.

Forest Conservation and Mitigation Plan guidance would be provided by the Highlands Council and distributed to all municipalities for use in the site plan review process.

- Forest Conservation Plans would be completed to protect existing trees on development and redevelopment sites to maintain the maximum forest cover long term.
- Forest Mitigation Plans would be developed for all areas from which forests are cleared resulting in an alteration in land use (deforestation). Mitigation banks (planting focus areas) can be designated by municipalities and monitored by the Council. If a developer clears one acre of forest they can replant an acre of similar forest on-site, in the proximate area or within the HUC14 subwatershed, or contribute financially to a municipal or regional mitigation bank from which municipalities can apply to implement planting projects designated in Community Forestry Plans. Preference should be given to reforestation sites that will increase the size of core forests.

**Provide Guidance for
Forest Stewardship
Plans for Preserved
Lands**

Guidance for Forest Stewardship Plans should be provided for and their use encouraged for all preserved lands or for private lands within the Highlands. Preserved lands include non-profit, municipal, county and State owned lands. Stewardship of the lands will provide and optimize the multiple benefits and services forests provide including clean air, clean water, soil protection, recreation, wildlife habitat and forest products. A partial cost-share reimbursement is available for non-profits through the New Jersey Forest Service Forest Stewardship Program. Additional funding sources for implementation should be developed including grants. Active management on preserved lands could reinvigorate the local forest product markets and create a critical mass for forest products industries to repopulate the Region.

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Restoration of Streams and Riparian Areas

Issue Overview

Streams transport floodwater, stormwater and suspended materials, support aquatic ecosystems, protect fish and wildlife habitat, and provide recreation opportunities and aesthetic beauty. Riparian areas moderate fluctuations in water temperature, help maintain ground water recharge and stream base flow, stabilize stream banks, and provide flood storage areas. During high flow or overland runoff events, riparian areas reduce erosion and sediment loads to surface water and remove excess nutrients and contaminants from flood water. Riparian areas also provide habitat for a variety of wildlife and support terrestrial and aquatic food webs through deposition of woody debris.

Stream and riparian area quality and function are influenced by intensity and type of land use. Anthropogenic disturbance to these systems disrupt the transport, storage, and quality of water that is critical to ecological functions. Land use change, increased impervious surfaces, and riparian vegetation removal decrease infiltration capacity within riparian areas, increase overland storm or flood water runoff, erode stream banks, alter stream profile, degrade water quality, alter stream flow regime, and damage aquatic fish and benthic communities.

The Highland Act requires that the Regional Management Plan protect, enhance, and restore the Region's waters. To meet this goal, several RMP policies and objectives address the requirement for preventing disturbance to high quality systems, and for restoring the Region's streams and riparian areas.

Program Summary

The Highlands Regional Master Plan focuses on several areas of action to address the need to protect, restore and enhance Highlands Open Waters and Riparian Areas. The Stream Restoration Program will promote consistent standards for the protection, restoration and acquisition of important waters and riparian areas of the Highlands Region. The program will include guidance for the restoration of degraded streams and riparian areas.

**RMP Policies and
Objectives Addressed**

Policy 1D4. Highlands Open Waters shall include a protection buffer of 300 feet from the edge of the Highlands Open Water feature. All development shall comply with buffer standards which provide for the protection of Highlands Open Waters reviewed on a site-specific basis during local development review and Highlands Project Review.

Objective 1D4f. Implement a Stream Corridor Protection/Restoration plan and Low Impact Development Best Management Practices for any development activity proposed within a Highlands Open Water buffer.

Objective 1D4i. Develop through Plan Conformance and implement municipality-wide, stream corridor or subwatershed-based Stream Corridor Protection/Restoration Plans which shall include Steps 1, 2 and 3, and may include Steps 4 and 5:

1. Identify areas where existing development, disturbances or land uses are within the Highlands Open Water buffers and have reduced or impaired the functional values of those buffers
2. Identify opportunities for restoration of areas identified in Step 1 as part of

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mitigation requirements under a Highlands Act waiver or Objectives 1D4e and 1D4f, and public or non-governmental remedial projects;

3. Identify the extent of stream corridor features that are critical to supporting the functions of a healthy Highlands Open Waters buffer and that extend beyond the requirements of Objectives 1D4b and 1D4c. The 300-foot buffer in these areas may be expanded to be most protective of these features which may include, but are not limited to, critical habitat areas, pollutant source areas identified through scientific techniques, and steep slopes;
4. Identify locations where, based on scientific analysis of site-specific conditions (e.g., topography, vegetation cover type, habitat, soil type, upstream land uses and pollution inputs, width of floodplain, rate and volume of run-off), the full 300 foot buffer is not necessary to achieve the protective roles of Highlands Open Water buffers and Riparian Areas for Category 2 surface waters. Identify a buffer that is fully protective of existing functional buffer values and is no less restrictive than any buffer established under State or municipal regulation, including Objectives 1D4b and 1D4c. Conduct a functional value assessment to ensure that there is no net loss in the overall functional value of the subwatershed's stream buffers. Buffer averaging for the purpose of accommodating development proposals is deemed *not* to meet the requirements of this provision;
5. Where a proposed Highlands Redevelopment Area would not meet in full Objectives 1D4b through 1D4h but affects an undisturbed area determined to not be necessary for the protection of the functional values for a Highlands Open Water buffer for a Category 2 surface water as determined through Step 4, modification of the buffer may be allowed to the extent allowed in State or municipal regulation.

Policy 1D5. Protect the integrity of the Riparian Areas through the application of RMP standards during local development review and Highlands Project Review.

Objective 1D5b. Limit disturbance of existing natural vegetation or increases in impervious area within High and Moderate Integrity Riparian Areas in any LUC Zone to the minimum alteration feasible in areas beyond the Highlands Open Water buffer requirements; protect the water quality of adjacent Highlands Open Waters; and maintain or restore habitat value of the Riparian Area.

Objective 1D5g. Require identification and implementation of opportunities where the restoration and enhancement of previously impaired Riparian Areas are feasible and appropriate as mitigation to any allowable modification to Riparian Area requirements.

Objective 1D6b. Consistent with Policy 1H1, identify opportunities for and implement Riparian Area restoration practices on public and private lands that give priority to ecological and watershed protection measures.

**Stream and Riparian
Functional Assessment**

The Highlands Council guidance for assessing stream corridor and riparian area condition will provide a comprehensive methodology for conducting a stream and riparian functional assessment to value or "score" specific stream reaches and riparian areas. Assessed stream and riparian area value or "score" will dictate

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**Stream Corridor
Protection/Restoration
Plans**

both the prioritization for preservation of lands draining to high quality streams and riparian areas and the extent and type of restoration required for impaired streams and riparian areas. The functional value assessment will provide a measurable and scientific approach to ensure improvements to one or more of the functional values that stream buffers provide while ensuring that there is no net loss of any of the functional elements resulting from a proposed restoration project. The use of a functional value assessment provides a tool to set measureable management objectives for restoration and enhancement of impaired Highlands Open Waters and Riparian Areas.

The Highlands Council will develop technical guidance for use by municipalities during Plan Conformance to develop and implement municipality-wide stream corridor or subwatershed-based Stream Corridor Protection/Restoration Plans. Two key element of these plans shall be: 1) to identify areas where existing development, disturbances, or land uses are within Highlands Open Waters buffers and have reduced or impaired the functional values of those buffers; and 2) to identify opportunities for restoration of those areas as part of mitigation requirements under a Highlands Act waiver or RMP Objectives 1D4e and 1D4f, and public or non-governmental remedial projects.

**Development of Stream
Restoration Guidance**

The Highlands Council will develop technical guidance for use by municipalities for the restoration of impaired streams. Highlands Council guidance for stream restoration may include goals and design guidelines for restoration of channel profile, flood control, sediment control, improved drainage, bank stabilization, improvement of aquatic habitat, and restoration of the ecological functions and processes of a stream and its adjacent riparian area and floodplain. Existing guidance manuals, *Stream Restoration Design*, developed by the Natural Resources Conservation Service, and *Stream Corridor Restoration*, developed by the Federal Interagency Stream Corridor Restoration Working Group, will be used as two examples for the Council's work.

**Development of
Riparian Restoration
Guidance**

The Highlands Council will develop or adapt technical guidance for use by municipalities for the restoration of impaired riparian areas. Highlands Council guidance for stream restoration may include goals and design guidelines for restoration of riparian vegetation, improvement of riparian wildlife habitat, increased riparian buffer width, reduction of impervious surface coverage, and restoration of the ecological functions and processes of a riparian area with its adjacent stream and upland terrestrial habitat. *Stream Corridor Restoration*, developed by the Federal Interagency Stream Corridor Restoration Working Group will be used as one example for the Council's work.

**Implementation of
Stream and Riparian
Area Restoration
Projects**

The Highlands Council will encourage restoration of streams and riparian areas by public and private landowners, government agencies, non-profit organizations and other interested parties wherever feasible. Opportunities for restoration include, but are not limited to:

- Redevelopment projects in areas containing previously degraded streams and riparian areas;
- Transportation projects where restoration of previously degraded streams

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and riparian areas can be cost-effectively incorporated into the capital project;

- Implementation of Watershed Restoration Plans approved by the NJ Department of Environmental Protection;
- Park development capital projects, where restoration of prior damage can be cost-effectively incorporated into the capital project.

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The following GPO section shows the final version of GPOs previously considered by the Highlands Council on May 22, 2008, with highlighted sections indicating proposed changes based on Council discussion.

Subpart b. Highlands Open Waters and Riparian Areas

Highlands Open Waters and their associated riparian areas are a primary focus of the Highlands Act and must be protected, enhanced and restored to ensure achievement of the Act's goals for water quality, water supply and ecological sustainability. The Highlands Regional Master Plan focuses on four areas of action to address the need to protect, restore and enhance Highlands Open Waters and Riparian Areas:

- Identify and inventory each type of resource area;
- Evaluate the integrity of each type of resource area;
- Establish resource protection measures; and
- Establish programs to promote consistent standards for the protection, restoration and acquisition of important waters and riparian areas of the Highlands Region.

“Highlands Open Waters” are defined by the Highlands Act as all springs, streams including intermittent streams, wetlands, and bodies of surface water, whether natural or artificial (excluding swimming pools), located wholly or partially within the boundaries of the Highlands Region. Highlands Riparian Areas are the lands associated with and bordering Highlands Open Waters that provide critical hydrologic, ecologic and pollutant attenuation functions for the open waters. Highlands Open Waters and Riparian Areas exist in a wide variety of settings, ranging from preserved lands to urban areas. Some support very high quality ecosystems, while others are degraded by existing land uses, stream corridor modifications, stormwater flows and pollutant loadings.

A high priority is for municipalities to develop and implement a Stream Corridor Protection/Restoration Plan that achieves the policies and objectives below, as refined using local scientific knowledge, with incorporation of local planning goals where they do not conflict with these policies and objectives. The Stream Corridor Protection/Restoration Plan will be used as a basis for both development review and restoration activities. Where a Stream Corridor Protection/Restoration Plan has not been approved by the Council, site-by-site development applications in municipalities will be required to strictly adhere to the RMP goals, policies and objectives below.

GOAL 1D	PROTECTION, RESTORATION, AND ENHANCEMENT OF HIGHLANDS OPEN WATERS AND RIPARIAN AREAS.
Policy 1D1	To establish and maintain an inventory of Highlands Open Waters and their integrity. “Highlands Open Waters” are all springs, streams including intermittent streams, wetlands, and bodies of surface water, whether natural or artificial, located wholly or partially within the boundaries of the Highlands Region, but shall not mean swimming pools.
Objective 1D1a	The Watershed Resource Value of Highlands HUC14 subwatersheds shall be established through an analysis of the relative amount of developed lands, habitat quality for threatened and endangered wildlife species, total forest and core forest in each HUC14 subwatershed.

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Policy 1D2	To establish and maintain an inventory of Highlands Riparian Areas and their integrity.
Objective 1D2a	Highlands Riparian Areas shall consist of the floodprone areas, wetlands, soils that are hydric, alluvial or have a shallow depth to ground water, and wildlife passage corridors that are associated with Highlands Open Waters.
Objective 1D2b	The integrity value of Highlands Riparian Areas within each Highlands HUC14 subwatershed shall be established through an analysis of the relative amount of impervious cover, agricultural land use, density of road crossings of streams, vegetative condition, and habitat for wetland/water dependent threatened and endangered wildlife species of the riparian areas.
Policy 1D3	To periodically review and update, as necessary, the Watershed Resource Value and Riparian Area Integrity Values.
Policy 1D4	Highlands Open Waters shall include a protection buffer of 300 feet from the edge of the discernable bank of the Highlands Open Water feature, or from the centerline where no discernable bank exists. With respect to wetlands and other Highlands Open Waters features (e.g., seeps, springs, etc.), the feature shall include a protection buffer of 300 feet from the delineated Letter of Interpretation (LOI) line issued by the NJDEP for wetlands, or from a field-delineated boundary for other features. Any proposed disturbance shall, through local development review and Highlands Project Review, comply with Highlands Open Waters buffer standards.
Objective 1D4a	Require that all applications for approval through local development review and Highlands Project Review include the identification and mapping of Highlands Open Waters.
Objective 1D4b	Preservation Area buffers for Highlands Open Waters shall comply with the Highlands Preservation Area rules at N.J.A.C. 7:38, which provide that all major Highlands developments are prohibited within a Highlands Open Water and its adjacent 300-foot buffer in the Preservation Area except for linear development, which may be permitted provided that there is no feasible alternative for the linear development outside the Highlands Open Waters or its buffer. Structures or other land improvements existing within a Highlands Open Waters buffer in the Preservation Area on August 10, 2004 may remain, provided that the area of disturbance is not increased other than through a Highlands Preservation Area Approval (HPAA).
Objective 1D4c	Require that proposed development within all Highlands Open Waters buffers (Preservation and Planning Areas) conforms through local development review and Highlands Project Review with the buffer requirements of N.J.A.C. 7:8 (Stormwater Management rules), N.J.A.C. 7:13 (Flood Hazard Area rules), and N.J.A.C. 7:7 (Freshwater Wetland rules), and with any applicable requirements of a Regional Stormwater Plan adopted pursuant to N.J.A.C. 7:8 (Stormwater Management Rules).
Objective 1D4d	Structures or other land improvements existing within a Highlands Open Waters buffer of the Planning Area on August 10, 2004 may remain, provided that the area of disturbance shall not be increased unless approved through local development review or Highlands Project Review in compliance with RMP policies and objectives.
Objective 1D4e	In the Protection and Conservation Zones of the Planning Area, proposed disturbances of Highlands Open Water buffers shall only occur in disturbed areas, unless a waiver is granted by the Highlands Council. Such proposed disturbances must demonstrate full utilization of the following performance standards in the listed order, to demonstrate

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	<p>the necessity of an encroachment into Highlands Open Water buffers: 1) avoid the disturbance of Highlands Open Waters buffers; 2) minimize impacts to Highlands Open Waters buffers; and 3) mitigate all adverse impacts to Highlands Open Waters buffers so that there is no net loss of the functional value of the buffer, in compliance with Objective 1D4h. Minimization and mitigation opportunities shall be considered only upon a clear and convincing demonstration by the applicant that the protection buffer cannot be avoided and in no case shall the remaining buffer be reduced to less than 150 feet from the edge of the Highlands Open Waters, unless a waiver is granted by the Highlands Council and the proposed disturbance complies with Objective 1D4c.</p>
Objective 1D4f	<p>In the Existing Community Zone of the Planning Area, proposed disturbances of Highlands Open Water buffers shall only occur in previously disturbed areas, unless a waiver is granted by the Highlands Council and the proposed disturbance complies with Objective 1D4c. Such disturbances shall employ performance standards such that all proposed disturbances of Highlands Open Water buffers shall employ low impact development best management practices to mitigate all adverse modification to Highlands Open Waters buffers so that there is no net loss of the functional value of the buffer, in compliance with Objective 1D4h.</p>
Objective 1D4g	<p>Encourage opportunities to restore and enhance Highlands Open Waters buffers of all zones in both the Preservation and Planning Areas. Restoration activities shall be targeted to ensure improvements to one or more of the functional values that the buffers provide while ensuring that there is no net loss of any of the functional elements, in compliance with Objective 1D4h. Specifically during site redevelopment, techniques may include, but are not limited to: disconnecting the direct drainage of impervious surfaces to Open Waters; retrofitting of stormwater management facilities to achieve the water quality, quantity, and recharge standards of the Stormwater Management Rules as specified in N.J.A.C. 7:8; reducing the temperature of stormwater discharges; and minimizing concentrated stormwater discharges through or into protection buffers.</p>
Objective 1D4h	<p>Key functional values that Highlands Open Water protection buffers provide or contribute to include but are not limited to habitat, storm water and flood water retention and filtration, water quality protection, temperature moderation, aquatic ecosystem integrity and channel integrity. The mitigation requirement of no net loss of functional value shall ensure improvements to one or more function and that there shall be no net loss of any function in the mitigation design. For the Highlands Open Water buffer functional value assessment, require that the applicant demonstrate improvement or no net loss of functions as follows:</p> <ol style="list-style-type: none">1) Habitat – no net loss of instream food sources and no net loss of terrestrial and aquatic habitat functional value due to a shift to a less valuable overall vegetative condition in the protection buffer based on the following continuum from highest to lowest: forest or wetland, scrub/shrub, pasture or meadow, agriculture, maintained lawn, unpaved impervious surface, and other structures;2) Water Quality – a degradation of this functional value will occur if, as a result of the proposed land conversions, pollutant loads increase to the Highlands Open Waters.3) Temperature Moderation – a loss in temperature moderation functional value will occur if changes to the existing vegetation result in reduced shading of the Highlands Open Waters or stormwater that discharges to Highlands Open Waters. Further, a loss in temperature moderation functional value may occur with the heating of stormwater

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	<p>by new structures and other impervious surface. Mitigation approaches include removing or relocating impervious surfaces away from the Highlands Open Waters or ensuring that stormwater temperature is reduced through shading or other techniques;</p> <p>4) Channel Integrity – a loss of channel integrity functional value will occur if the project will result in: the loss of bank stabilizing vegetation; the placement of infrastructure that can be feasibly located outside the stream corridor; an increase in the peak rate of stream flow generated, or in localized scour potential, that will increase stream bank and stream bed erosion; or the removal or burial of aquatic habitat in any substantial part of a stream bed or for threatened or endangered species.</p>
Objective 1D4i	<p>Develop through Plan Conformance and implement municipality-wide, stream corridor or subwatershed-based Stream Corridor Protection/Restoration Plans which shall include Steps 1, 2 and 3, and may include Steps 4 and 5:</p> <ol style="list-style-type: none">1. Identify areas where existing development, disturbances or land uses are within the Highlands Open Water buffers and have reduced or impaired the functional values of those buffers2. Identify opportunities for restoration of areas identified in Step 1 as part of mitigation requirements under a Highlands Act waiver or Objectives 1D4e and 1D4f, and public or non-governmental remedial projects;3. Identify the extent of stream corridor features that are critical to supporting the functions of a healthy Highlands Open Waters buffer and that extend beyond the requirements of Objectives 1D4b and 1D4c. The 300-foot buffer in these areas may be expanded to be most protective of these features which may include, but are not limited to, critical habitat areas, pollutant source areas identified through scientific techniques, and steep slopes;4. Identify locations where, based on scientific analysis of site-specific conditions (e.g., topography, vegetation cover type, habitat, soil type, upstream land uses and pollution inputs, width of floodplain, rate and volume of run-off), the full 300 foot buffer is not necessary to achieve the protective roles of Highlands Open Water buffers and Riparian Areas for Category 2 surface waters. Identify a buffer that is fully protective of existing functional buffer values and is no less restrictive than any buffer established under State or municipal regulation, including Objectives 1D4b and 1D4c. Conduct a functional value assessment to ensure that there is no net loss in the overall functional value of the subwatershed's stream buffers. Buffer averaging for the purpose of accommodating development proposals is deemed <i>not</i> to meet the requirements of this provision;5. Where a proposed Redevelopment Area would not meet in full Objectives 1D4b through 1D4h but affects an undisturbed area determined to not be necessary for the protection of the functional values for a Highlands Open Water buffer for a Category 2 surface water as determined through Step 4, modification of the buffer may be allowed to the extent allowed in State or municipal regulation.
Objective 1D4j	<p>The Highlands Council may require on a case-by-case basis, through Highlands Project Review, an expansion of the 300-foot buffer to protect the habitat of a water or wetlands-dependant rare, threatened or endangered species, to the minimum expansion necessary to achieve protection of that species.</p>
Policy 1D5	<p>Protect the integrity of the Riparian Areas through the application of RMP standards during local development review and Highlands Project Review.</p>

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Objective 1D5a	Require that all applications for approval through local development review and Highlands Project Review include the identification and mapping of Highlands Riparian Areas, including those identified by the Highlands Council and by site-specific analysis.
Objective 1D5b	Limit disturbance of existing natural vegetation or increases in impervious area within High and Moderate Integrity Riparian Areas in any LUC Zone to the minimum alteration feasible in areas beyond the Highlands Open Water buffer requirements; protect the water quality of adjacent Highlands Open Waters; and maintain or restore habitat value of the Riparian Area.
Objective 1D5c	Prohibit modifications to Riparian Areas in the Protection Zone except where a waiver is approved by NJDEP or the Highlands Council.
Objective 1D5d	Restrict modifications to Riparian Areas in the Existing Community Zone, other than those addressed by Objective 1D5b , that would alter or be detrimental to the water quality and habitat value of a Riparian Area.
Objective 1D5e	Implement Low Impact Development Best Management Practices for any development activity proposed within a Riparian Area, which minimize both alterations of natural vegetation and increases in impervious area, in compliance with Policies 6N3 and 6N4 and provide for mitigation through restoration of impaired Riparian Areas in the same HUC14 subwatershed.
Objective 1D5f	Require that development within Riparian Areas conforms through local development review and Highlands Project Review to any applicable requirements of a Regional Stormwater Plan adopted pursuant to N.J.A.C. 7:8 (Stormwater Management Rules).
Objective 1D5g	Require identification and implementation of opportunities where the restoration and enhancement of previously impaired Riparian Areas are feasible and appropriate as mitigation to any allowable modification to Riparian Area requirements.
Policy 1D6	To establish priorities for preservation of Riparian Areas.
Objective 1D6a	Assign high priority to land acquisition and development restrictions for lands within both High Resource Value Watersheds and High Integrity Riparian Areas.
Objective 1D6b	Consistent with Policy 1H1, identify opportunities for and implement Riparian Area restoration practices on public and private lands that give priority to ecological and watershed protection measures.

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Highlands Restoration: Water Deficits

Issue Overview

Sustaining the Highlands Region's water resources is a matter of statewide importance. Increases in human population and changes in land use threaten those water resources by contributing to over-withdrawal of ground water and surface water systems, and a reduction of recharge rates. Human demand for water, generated by growth, results in depleted aquifers, reduced base flows in streams and reduced safe yields of reservoirs. The protection of base flow is critical to maintaining viable aquatic ecosystems and protecting potable water supplies, particularly during periods of drought. Recent droughts, which resulted in historically low stream flows and rapid depletion of reservoir capacity, provide clear evidence that water resources of the Highlands, while large in scale, are also nearing or beyond their capacity. The lapse of four decades since the 1960's drought of record hampers public understanding of what would happen during another severe drought.

The northern population centers of the state and the Highlands Region itself rely on surface water reservoirs and aquifers, respectively, both of which are replenished by waters originating in the Highlands. Given these demands on Highlands water resources, there is a fundamental need to ensure adequate water supplies within the Region and outside the Region while also protecting its important ecological and riparian integrity. Because reservoirs store water from wet periods to sustain demand during dry periods, their effects differ from non-reservoir surface water withdrawals and from ground water withdrawals. The focus of RMP policies and this program is on non-reservoir withdrawals.

Where water is withdrawn and then returned essentially unchanged to the same Highlands waters, water systems are not stressed. Consumptive water uses, where the water is withdrawn and then evaporates (e.g., through irrigation), and depletive water uses, where water is withdrawn and transferred to another subwatershed, are the major causes of stresses because they deplete the water resources within a subwatershed. Where water resources are stressed, management strategies are necessary to reduce and where feasible eliminate deficits, and to ensure that supplies are not depleted further. These strategies should also endeavor, wherever possible, to mitigate existing water demands and ensure that future demands are only granted upon the condition of reduction of water deficits.

Program Summary

In order to address the requirements and goals of the Highlands Act, the Highlands Council conducted a net water availability analysis, at a HUC14 subwatershed level, to determine the amount of water required to protect aquatic ecological integrity and the amount that is "available" for consumptive and depletive uses. This analysis is at a more local scale than used by the NJ Department of Environmental Protection for its Statewide Water Supply Plan (i.e., HUC11 watersheds), as the Highlands Council is addressing a much smaller area. NJDEP intends to incorporate the Highlands Region analysis in its work to the maximum extent feasible. The RMP also uses more stringent constraints on human water uses, in furtherance of Highlands Act requirements for the protection of the Region's water resources and aquatic ecosystems.

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Consumptive and depletive uses represent a hydrologic “loss” to the system with a corresponding reduction in stream base flows. The analysis compared these consumptive and depletive demand patterns against water availability to see where water resources are being exceeded.

Where a subwatershed’s water use was determined to exceed its availability, it was deemed to be in deficit. The Goals, Policies, and Objectives of the RMP prevent increases in net consumptive and depletive uses from that subwatershed so that the deficit is not exacerbated. The RMP also mandates that municipalities, working with utilities and other interested stakeholders, develop a Water Use and Conservation Management Plan. The primary purpose of a Water Use and Conservation Management Plan is to reduce and where feasible eliminate deficits; the plan can identify appropriate management strategies that can help ameliorate such water deficits or potential impacts on water supply source areas.

The Highlands restoration water deficit program consist of five discrete tasks:

1. Identify HUC14 subwatersheds that have a deficit of water availability;
2. Verify the net water availability analysis and its associated deficits.
3. Require, as a condition of conformance, development of a Water Use and Conservation Management Plan for conforming municipalities, and especially those whose water supply is located in a deficit subwatershed.
4. For complex systems or where the development of deficit reduction plans for multiple subwatersheds is more appropriate, collaborate with NJDEP and affected interests to develop Water Use and Conservation Management Plans at a larger scale.
5. Coordination with NJDEP so that water allocation permits, including transfers of water between subwatersheds where required, support the reduction and elimination of water deficits.

**RMP Policies and
Objectives Addressed**

Objective 2B2c. Estimate Net Water Availability for each HUC14 subwatershed by subtracting from Ground Water Availability an estimate of maximum monthly consumptive and depletive ground water and surface water use (other than from reservoir storage or other supply with a NJDEP approved safe yield). Adjust consumptive and depletive water use to account for the return of wastewater to the same HUC14 subwatershed from which the water originated, or as appropriate, water originating from another HUC14 subwatershed.

Objective 2B2d. Designate Current Deficit Areas as those HUC14 subwatersheds where the Net Water Availability is less than zero.

Objective 2B4c. Establish and implement mandatory stormwater reuse for recreational and other non-agricultural irrigation, as well as other non-potable water purposes to minimize both the volume of stormwater discharges and water withdrawals for these purposes.

Policy 2B5. To require, through Plan Conformance (including through a Water Use and Conservation Plan developed under Objective 2B8c), local development review, and Highlands Project Review, the use of water conservation, recycling and reuse methods (where appropriate) and devices for any redevelopment or development activity, including renovations to existing residential, institutional, commercial or industrial buildings, to minimize consumptive water use tailored to meet the resource protection and other goals for each Zone and considering

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subwatershed-specific conditions and Net Water Availability status.

Objective 2B6a. Areawide Water Quality Management Plans, Wastewater Management Plans or their amendments shall ensure that the proposed service area will not directly or indirectly cause or contribute to a Net Water Availability deficit, and shall be in conformance with any Water Use and Conservation Plan developed under Objective 2B9c.

Objective 2B6b. NJDEP Water Allocation decisions and Highlands Project Reviews shall ensure that any new or increased water allocation permits within the Highlands Region are in conformance with the policies and objectives of the RMP policies and objectives and do not result in significant reductions in safe yields for any water supply facility with an existing water allocation permit and NJDEP-approved safe yield.

Policy 2B8. To require through Plan Conformance, local development review, and Highlands Project Review the efficient and effective use of water availability, the planning for future water needs, the reduction and elimination of water deficits, and the mitigation of new consumptive or depletive use in any Current Deficit Areas or subwatersheds that could become deficit areas based on projected development and water uses, to ensure sustainable water supply, water resource and ecological values in conformance with RMP policies and objectives.

Objective 2B8a. Prevent net increases in consumptive or depletive water uses in Current Water Deficit Areas to prevent exacerbation of and help reduce or eliminate the deficit to ensure sustainable water supply, water resource and ecological values, emphasizing techniques including, but not limited to water reuse, recycling and conservation.

Objective 2B8b. Proposed new consumptive or depletive water uses within a Current Deficit Area shall only occur under the auspices of a Water Use and Conservation Management Plan approved under Objective 2B8c or through mitigation of the proposed consumptive or depletive use within the same HUC14 subwatershed through: a permanent reduction of existing consumptive and depletive water uses; ground water recharge in excess of the requirements of N.J.A.C. 7:8 (Stormwater Management Rules); or other permanent means. Where a Water Use and Conservation Management Plan has not been approved:

1. Each project shall achieve mitigation ranging from 125% to 200%, based on the severity of the Current Deficit and the amount of consumptive or depletive water use proposed, and for large consumptive and depletive water uses or high Current Deficits will require achievement of the mitigation prior to initiating the water use;
2. Total consumptive and depletive water uses from any single project and all projects combined are not to exceed the Conditional Water Availability of Objectives 2B3a or 2B3b for any HUC14 subwatershed;
3. Mitigation shall be completed by one year of final municipal development approval or prior to initiation of the water use, whichever is later, for any mitigation volumes of less than or equal to 20,000 gallons per day in the Planning Area or 10,000 gallons per day in the Preservation Area. Mitigation may be phased in keeping with project development;
4. Mitigation shall occur prior to initiation of the water use, for water uses

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where the combination of proposed consumptive and depletive water uses and current subwatershed deficit is high, according to a schedule established by the Highlands Council. Mitigation may be phased in keeping with the level of consumptive or depletive water uses;

5. Mitigation for projects not addressed by #3 and #4 above shall occur within a schedule established through local development review and Highlands Project Review. The schedule is to be the shortest feasible time, shall be phased to ensure continuing implementation, and shall not exceed five years from project approval; and
6. Mitigation plans for a project shall include: specific objectives for each mitigation component; monitoring and reporting requirements; methods by which shortfalls in meeting the mitigation objectives shall be addressed through additional action; and be guaranteed through performance bonds.

Objective 2B8c. Water Use and Conservation Management Plans shall be required through municipal Plan Conformance for all subwatersheds to meet the policies and objectives of Goal 2B, to ensure efficient use of water through water conservation and low impact development best management practices, and to avoid the creation of new deficits in Net Water Availability. Where developed for Current Deficit Areas, the plans shall include provisions to reduce or manage consumptive and depletive uses of ground and surface waters as necessary to reduce or eliminate deficits in Net Water Availability, or to ensure continued stream flows to downstream Current Deficit Areas from Existing Constrained Areas, to the maximum extent practicable within each HUC14 subwatershed.

Objective 2B8d. All water users within a Current Deficit Area shall seek funding and opportunities to meet the intent of Objective 2B4b.

**Analysis of Net Water
Availability**

The Highlands Council conducted a net water availability analysis in the RMP to assess the sustainability of Highlands water resources. Reservoir supplies with approved safe yields were assessed separate from ground water and other surface water supplies, as reservoirs provide storage against drought conditions and therefore are affected in a significantly different manner than other resources.

The net water availability analysis was conducted using hydrologic data and annual water use and withdrawal data from the year 2003. The data were gathered primarily from NJDEP databases, with some instances of local input. However, much information regarding water supply utilities, their service areas, and zone usage rates exists as local knowledge. Enhancing the data in the availability analysis will be a critical component of the water deficit program to ensure the sustainability of water resources.

The net water availability analysis is described in the RMP's Water Resources Technical Report. In summary, the analysis consists of the following basic steps:

1. Estimate the ground water capacity within each HUC14 subwatershed of the Highlands Region;
2. Apply the threshold percentage of the ground water capacity necessary to protect aquatic resource integrity and preserve water supply by minimizing base flow reductions. The thresholds are more stringent in the Protection Zone and least stringent in the Existing Community Zone, but even in the

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latter case is somewhat more stringent than the NJDEP statewide threshold. Each threshold is multiplied by the ground water capacity; the product is called ground water availability.

3. Compare existing water uses and their associated consumptive/depletive volumes against the ground water availability. The difference is called net water availability; where consumptive and depletive water exceed the available water resources, those subwatersheds are deemed in deficit.

Net water availability has been calculated for all 183 HUC14 subwatersheds of the Highlands Region and 114 are in deficit based on 2003 usage data and applicable RMP thresholds.

**Verification of Net
Water Availability**

The Highlands Council shall routinely update and verify the data utilized in its capacity assessments. Through the conformance process with municipalities and counties, the Council will obtain local-scale information about water use and water supply from local governments and utilities, including through development of the Water Use and Conservation Management Plans. The Council will also utilize new annual demand data, as the information is reported and available from a variety of sources.

As a more refined understanding of regional and local water resources is developed, the Council will be able to update and verify the net water availability analysis. This process will allow the Council to validate its analytical tools and determine whether initial estimates are correct. Utilizing this information, the Council can evaluate whether each subwatershed is correctly assessed and reevaluate its status as necessary. The Water Use and Conservation Management Plans will be a major basis for verifying and providing more detail on deficits.

Following confirmation of deficit status, the Highlands Council will continue to monitor deficit areas for two purposes:

- To ensure that future demand patterns are not exacerbating deficits; and
- To evaluate the effectiveness of mitigation measures defined in Water Use and Conservation Management Plans.

**Strategic Approaches to
Mitigating Water
Deficits**

Where water deficits within a subwatershed are identified and validated, affected stakeholders should develop a strategic approach to addressing these shortages. These stakeholders will most often consist of municipalities, through the creation of Water Use and Conservation Management Plans, but may also include water supply utilities, wastewater systems, surrounding municipalities and counties. Any proposed measures should be prioritized upon feasibility, effectiveness, environmental benefits and funding issues.

Municipal conformance shall include consideration of the availability and viability of water supplies for future development. They should not assume that water will be available, absent a clear demonstration within a Water Use and Conservation Management Plan. Stakeholders shall give highest priority to water use reductions and ground water recharge enhancements within the deficit subwatershed, then to the development of new water supplies within the same subwatershed, and finally to the development of water resources from subwatersheds which are not in deficit. Water use efficiency and conservation are discussed further by a related RMP program (see *The Efficient Use of Water*

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**Development of
Municipal Water Use
and Conservation
Management Plans**

Program). All of these strategies must be detailed and implemented as appropriate and feasible through a Water Use and Conservation Plan.

Municipalities can rely upon numerous tools for planning at the local level: municipal and county master plans, the State Development and Redevelopment Plan, and wastewater management plans (WMPs).

Wastewater management plans require examination of current and future growth patterns to ensure that growth does not exceed the assimilative capacity of surface and ground waters for wastewater treatment. The intent, as with other sound planning practices, is to ensure that carrying capacity and land use are properly integrated. Similar in concept to a WMP, a Water Use and Conservation Management Plan is envisioned as a planning tool for using municipal and utility data to update and verify water availability models, deficit mitigation methods, and implementation alternatives.

Municipalities shall, as a requirement of conformance, be required to implement a Water Use and Conservation Management Plan; this requirement will be especially important for municipalities supplied by, or withdrawing from deficit areas. The Regional Master Plan calls for the Water Use and Conservation Management Plan to develop mitigation and restoration strategies as discussed previously.

The essential components of a Water Use and Conservation Management Plan shall include:

- **Identification of Water Sources and Uses** - To include a water utility profile complete with demand data, service areas, water sources, and wastewater returns.
- **Analysis of Net Water Availability** - To validate or modify prior results using new data regarding consumptive and depletive water uses and the movement of water with HUC14 subwatersheds, leading to more current and defensible net water availability results. The use of more sophisticated water models can also be proposed, but must be at least as protective of the water regime (focused especially on stream base flows) as the RMP approach.
- **Mitigation Approach** - To discuss mitigation strategies and a prioritized approach to reducing deficits.
- **Funding Opportunities** - To address financial mechanisms that reflect the strategic approaches adopted in a Water Use and Conservation Plan.
- **Operation and Monitoring** - To conduct ongoing monitoring of uses and validation of mitigation. In these cases, affected entities could include counties or multiple affected municipalities at this scale.
- **Deficit Reduction and Elimination Strategy** - To describe, based on the prior analyses, the selected strategies for deficit reduction and elimination, including responsible parties, schedules, funding commitments, etc. The strategies in the Water Use and Conservation Management Plan must be implemented as a commitment of RMP Plan Conformance.

**Development of HUC14
Water Management**

There will be instances when a deficit subwatershed is a source to multiple municipalities – even if one or more municipality is not located in the subwatershed. There may also be instances where a larger planning entity may

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Strategies

wish to develop the Water Use and Conservation Management Plan. These entities could include a large water purveyor, county government, or the Highlands Council itself if municipalities are unwilling or unable to develop such a plan. Therefore, the development of a HUC14 Subwatershed Water Use and Conservation Management Plan would be more appropriate. Additionally, there will be instances where the hydrologic system is sufficiently complex or HUC14 subwatersheds are sufficiently interconnected where development of a multi-subwatershed Water Use and Conservation Management Plan is appropriate.

The mitigation approaches employed at a HUC14 subwatershed or multi-subwatershed level should be based upon the same priorities required of municipal Water Use and Conservation Management Plans: stakeholders shall give water use efficiency and ground water recharge enhancements highest priority, then the development of new internal water supplies, and finally to the development of water resources from areas which are not in deficit.

**Coordination with
NJDEP Water
Allocation Program**

The Regional Master Plan addresses the potential for water use through a combination of land use capacity analysis and the required implementation of Water Use and Conservation Management Plans. However, NJDEP's Water Allocation Program is statutorily tasked with the actual allocation of water resources to those who wish to withdraw more than 100,000 gallons per day in the Planning Area and 50,000 gallons per day in the Preservation Area. Close coordination between the Highlands Council and NJDEP will be necessary to address water uses, and the NJDEP retains final approval authority on any water allocation permits, especially regarding any movement of waters to the Highlands Region from outside the region and any allocation of reservoir safe yields to address Highlands Region deficits. To ensure that water resource deficits in HUC14 subwatersheds are not exacerbated and over time are reduced or eliminated, the NJDEP should, to the extent feasible under law, modify water allocation permits in the following manner:

1. Prior to Plan Conformance, new water allocation permits should not be approved nor existing water allocation permits increased unless the applicant demonstrates that it will not exacerbate a deficit, that the water use will be conducted at the maximum possible efficiency, and that mitigation of increased consumptive and depletive water uses is ensured in accordance with the RMP policies and objectives and the *Efficient Use of Water Program*;
2. Prior to Plan Conformance, existing water allocation permits should be reviewed upon renewal and modified as necessary to limit the allocation to reasonably anticipated future needs, as constrained through improved water use efficiency, so that the allocation is limited to the minimum possible consumptive and depletive uses;
3. Subsequent to Plan Conformance, existing water allocation permits should be reviewed upon renewal and modified as necessary to reflect the reasonably anticipated future needs based on conformance with the RMP and implementation of a Water Use and Conservation Management Plan, which shall demonstrate mitigation strategies if deficits exist;
4. Subsequent to Plan Conformance, new water allocation permits should be approved only if they comply with the relevant Water Use and Conservation Management Plan.

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The Efficient Use of Water

Issue Overview

Water is a driving force behind many of the goals and policies of the Highlands Act, and protection of water supplies is a critical focus of the Regional Master Plan. Many Highlands Region subwatersheds face shortages of water, as current demands exceed estimated water availability for human and ecological purposes and therefore stress aquatic ecosystems and put human needs in jeopardy during droughts. In addition, non-Highlands municipalities served by Highlands reservoirs and some Highlands municipalities face future constraints on their ability to serve customers as water demands increase through redevelopment and development.

Therefore, it is important that New Jersey obtain the maximum benefit from its Highlands water resources through efficient use and, where feasible and appropriate, beneficial reuse and recycling of water. Water use efficiency has been increasing over the last 20 years, as State and federal requirements for water conserving plumbing fixtures, appliances and irrigation systems affect a greater proportion of total development. Farmers are also becoming more efficient in water use in response to new research and higher energy and chemical costs, moving to drip irrigation and other conserving systems instead of high-pressure broadcast spray systems.

However, both the public utility customer base and irrigated farm acreage are increasing, creating more demands that offset improved water use efficiency. For this reason, while some urban areas have seen declining water sales over time (due to both water conservation and the loss of water-intensive industries), other municipalities have seen significant increases in total water use. Further progress in water use efficiency is needed. Many RMP policies and objectives address this need by encouraging general efficiency in water use, providing higher priority to agricultural water uses that employ best management practices, and calling for the use of water conservation, recycling and beneficial reuse of reclaimed water (among other techniques) to both reduce and eliminate current and future water deficits.

Program Summary

Water use efficiency has three basic emphases. First, water should be used efficiently regardless of water availability. This conservation principle, equivalent to a “good housekeeping” concept, prevents wasteful use of water even when water is plentiful, so that environmental impacts are minimized, infrastructure capacity is not strained, and the water uses do not result in a false sense that new supplies are needed. Low Impact Development (LID) practices, water conserving fixtures and appliances and efficient irrigation practices all are appropriate techniques.

Second, water should be used even more efficiently to reduce existing water deficits in subwatersheds and watersheds. These deficits indicate stresses on the aquatic ecosystems, and often will indicate stresses on ground water yields and downstream water supply facilities and threats to human use during droughts.

Third, water use efficiency should also be enhanced to avoid the need for additional water infrastructure. Delaying the need for new water supply facilities is highly cost-effective; water conservation measures generally cost significantly

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**RMP Policies and
Objectives Addressed**

less per million gallons than new reservoirs, treatment facilities or water mains. There is a fourth component that this program does not address, regarding conservation during drought emergencies; NJDEP already addresses this component fully.

Water use efficiency can be achieved in many ways, including:

- Supply-side conservation, such as leak detection and control and improved management of water storage facilities;
- Demand-side conservation, such as improved plumbing fixtures, appliance selection, irrigation controls, modified landscaping that reduces water needs, and use of car washes instead of hand washing;
- Utility rate schedules that encourages customers to make efficient use of water and discourages excessive use;
- Beneficial reuse of reclaimed water within a single building, within a larger development using on-site wastewater treatment, or in a larger setting, where wastewater is treated off-site and then reused on-site; and
- Recycling of water, such as the use of stormwater for irrigation purposes, where no special treatment of the water is required.

Objective 2B2c. Estimate Net Water Availability for each HUC14 subwatershed by subtracting from Ground Water Availability an estimate of maximum monthly consumptive and depletive ground water and surface water use (other than from reservoir storage or other supply with a NJDEP approved safe yield). Adjust consumptive and depletive water use to account for the return of wastewater to the same HUC14 subwatershed from which the water originated, or as appropriate, water originating from another HUC14 subwatershed.

Objective 2B2f. Modify Net Water Availability in Existing Constrained Areas to be the 2003 consumptive and depletive ground and surface water use plus 5 percent of the Ground Water Capacity (up to the standard thresholds assigned to each Land Use Capability Zone) to ensure continued stream flows to downstream Current Deficit Areas, emphasizing techniques including, but not limited to, water reuse, recycling and conservation.

Policy 2B4. To strictly limit consumptive and depletive water uses to the water availability in each HUC14 subwatershed and to establish priorities for water uses that implement the policies and objectives of the RMP.

Objective 2B4d. The highest priority for agricultural water uses in the Conservation Zone shall be those Preservation Area uses that promote agricultural and horticultural uses and opportunities that are compatible with protection of the Highlands environment, and those Planning Area uses that promote the continuation and expansion of agricultural, horticultural, recreational, and cultural uses and opportunities. Compatible agricultural and horticultural uses shall minimize consumptive water uses through efficiency measures.

Policy 2B5. To require, through Plan Conformance (including through a Water Use and Conservation Plan developed under Objective 2B8c), local development review, and Highlands Project Review, the use of water conservation, recycling

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and reuse methods (where appropriate) and devices for any redevelopment or development activity, including renovations to existing residential, institutional, commercial or industrial buildings, to minimize consumptive water use tailored to meet the resource protection and other goals for each Zone and considering subwatershed-specific conditions and Net Water Availability status.

Policy 2B6. To require through Plan Conformance (including through a Water Use and Conservation Plan developed under Objective 2B8c), local development review, Highlands Project Review, and interagency coordination that proposed public water supply and wastewater service areas, new or increased water allocations and bulk water purchases will not directly or indirectly cause or contribute to a Net Water Availability deficit, and where feasible will help mitigate any existing deficit.

Objective 2B7a. Establish and implement best management practices for recreational, landscape irrigation and other practices through applicable State and federal programs.

Policy 2B8. To require through Plan Conformance, local development review, and Highlands Project Review the efficient and effective use of water availability, the planning for future water needs, the reduction and elimination of water deficits, and the mitigation of new consumptive or depletive use in any Current Deficit Areas or subwatersheds that could become deficit areas based on projected development and water uses, to ensure sustainable water supply, water resource and ecological values in conformance with RMP policies and objectives.

Objective 2B8a. Prevent net increases in consumptive or depletive water uses in Current Water Deficit Areas to prevent exacerbation of and help reduce or eliminate the deficit to ensure sustainable water supply, water resource and ecological values, emphasizing techniques including, but not limited to water reuse, recycling and conservation.

Objective 2B8b. Proposed **new** consumptive or depletive water uses within a Current Deficit Area shall only occur under the auspices of a Water Use and Conservation Management Plan approved under Objective 2B8c or through mitigation of the proposed consumptive or depletive use within the same HUC14 subwatershed through: a permanent reduction of existing consumptive and depletive water uses; ground water recharge in excess of the requirements of N.J.A.C. 7:8 (Stormwater Management Rules); or other permanent means. Where a Water Use and Conservation Management Plan has not been approved:

1. Each project shall achieve mitigation ranging from 125% to 200%, based on the severity of the Current Deficit and the amount of consumptive or depletive water use proposed, and for large consumptive and depletive water uses or high Current Deficits will require achievement of the mitigation prior to initiating the water use;
2. Total consumptive and depletive water uses from any single project and all projects combined are not to exceed the Conditional Water Availability of Objectives 2B3a or 2B3b **for any HUC14 subwatershed**;
3. Mitigation shall be completed by one year of final municipal development approval or prior to initiation of the water use, whichever is later, for any mitigation volumes of less than or equal to 20,000 gallons per day in the

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Planning Area or 10,000 gallons per day in the Preservation Area. Mitigation may be phased in keeping with project development;

4. Mitigation shall occur prior to initiation of the water use, for water uses where the combination of proposed consumptive and depletive water uses and current subwatershed deficit is high, according to a schedule established by the Highlands Council. Mitigation may be phased in keeping with the level of consumptive or depletive water uses;
5. Mitigation for projects not addressed by #3 and #4 above shall occur within a schedule established through local development review and Highlands Project Review. The schedule is to be the shortest feasible time, shall be phased to ensure continuing implementation, and shall not exceed five years from project approval; and
6. Mitigation plans for a project shall include: specific objectives for each mitigation component; monitoring and reporting requirements; methods by which shortfalls in meeting the mitigation objectives shall be addressed through additional action; and be guaranteed through performance bonds.

Objective 2B8c. Water Use and Conservation Management Plans shall be required through municipal Plan Conformance for all subwatersheds to meet the policies and objectives of Goal 2B, to ensure efficient use of water through water conservation and low impact development best management practices, and to avoid the creation of new deficits in Net Water Availability. Where developed for Current Deficit Areas, the plans shall include provisions to reduce or manage consumptive and depletive uses of ground and surface waters as necessary to reduce or eliminate deficits in Net Water Availability, or to ensure continued stream flows to downstream Current Deficit Areas from Existing Constrained Areas, to the maximum extent practicable within each HUC14 subwatershed.

Objective 2B8d. All water users within a Current Deficit Area shall seek funding and opportunities to meet the intent of Objective 2B4b.

Objective 2B8e. Allow water resource transfers between or from Highlands subwatersheds only when there is no other viable alternative and where such transfers would demonstrably not result in impairment of resources in any subwatershed. Potential effects on upstream and downstream subwatersheds should be included in any such evaluation.

Objective 2G5c. Implement agricultural best management practices for water conservation, water reuse, nutrient and pesticide application, animal waste management, environmental restoration, pollution assessment and prevention, and irrigation efficiency in farm operations for the protection of ground and surface water quality.

Objective 2J8a. Require maximized feasible water conservation and recycling or any redevelopment or development activity, including renovations to existing single family residences and commercial/industrial buildings.

Objective 2J8b. Require consideration of and the cost-effective use of recycled or re-used water rather than potable public water for non-potable purposes such as fountains, nonessential uses such as golf courses, certain recreational, commercial, or agricultural uses.

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**Analysis of Water Use
Efficiency for Public
Water Supplies**

Objective 6N1d. Minimum requirements for water conservation measures in site layout and structures, including but not limited to water efficient landscaping (including use of native and drought-tolerant plant species), rain collection systems, use of gray water, and water-efficient landscape irrigation.

Objective 7F1h. Ensure that Highlands Act exemption determinations are limited to the activities specifically authorized under the Act. While the construction activities of a single family dwelling may be authorized under an exemption, water conservation requirements, septic maintenance requirements, or any other activities related to the use of that dwelling are not exempt.

Analyzing the efficiency of water use for public water supplies, for all systems using Highlands water resources both within and outside the Highlands Region, requires an understanding of the customer base, affected land uses, leakage and water loss potential, and other factors. Efficient use rates for suburban areas (in gallons per capita per day, or gpcd) will be different from the rates for urban areas.

The Highlands Council will collaborate with NJDEP to determine existing water use rates for all public community water supply systems using Highlands water, categorize the systems for comparison purposes, and assess the relative efficiency of water uses among common classes of public community water systems.

**Analysis of Water Use
Efficiency for
Agriculture and
Irrigation**

The efficiency of water use by agriculture and other forms of self-supplied irrigation must be assessed based on the type of water need, irrigation practices, weather impacts, etc. The Highlands Council will collaborate with NJDEP, the NJ Department of Agriculture and Rutgers Cooperative Extension Service to determine existing water use rates for all agricultural and other self-supplied irrigation uses using Highlands water, categorize the uses for comparison purposes, and assess the relative efficiency of water uses among common classes of purposes. As these water users will be highly affected by weather, the assessment must include an analysis of how uses vary by season, crop type, year and climate conditions. This analysis will be used, in part, to understand what types of agriculture and horticulture are compatible with Highlands Act objectives in the Preservation Area.

**Identification of Water
Use Efficiency Metrics
and Targets**

The creation of programs and standards for efficient water use requires an identification of appropriate metrics and targets. The Highlands Council will collaborate with NJDEP for all uses, and the NJ Department of Agriculture regarding agricultural uses, to select the most appropriate metrics for water use efficiency, and either regulatory or normative standards (as appropriate for each type of water use) that should be applied. For public community water supply systems, metrics may include per capita water use and water loss ratios by system category. Similar metrics may be applicable to public noncommunity water supply systems as well. For non-potable uses, metrics will focus more on efficiency of meeting plant needs for specific crops during specific weather conditions.

**Implementation of
Water Use Efficiency**

All water uses in the Highlands should be efficient, so that environmental stresses are limited and the ability of water supplies to meet public needs is extended.

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Measures: General

The following general standards apply:

1. Meet all Uniform Construction Code requirements for the use of water conservation fixtures in new or rehabilitated structures;
2. All new and replacement lawn irrigation systems shall meet State requirements for controls based on soil moisture. The Highlands Council shall investigate the need for additional requirements within the Highlands Region;
3. Non-potable irrigation water uses shall ensure that only the necessary amounts of water are used to achieve optimum plant growth, and such uses with existing Water Allocation permits shall be required to increase water use efficiency over the permit life to the maximum extent practicable;
4. New commercial development shall use internal recycling or beneficial reuse of reclaimed water to the maximum extent practicable;
5. New development shall rely on stormwater for irrigation purposes to the maximum extent practicable, including but not limited to LEED-approved methods;
6. Water supply utility rates shall encourage end-user conservation;
7. Water supply utilities shall reduce water losses to the maximum extent practicable, including through application of American Water Works Association/International Water Association water loss analysis methods;
8. Water supply utilities shall provide routine consumer education to conserve water.

**Implementation of
Water Use Efficiency
Measures: Deficit Areas
and Deficit Utilities**

The reduction and elimination of water supply deficits on a subwatershed or watershed basis is addressed by a separate RMP program (see *Highlands Restoration: Water Deficits*) that give highest priority to water use efficiency and ground water recharge enhancements within the deficit area, then to the development of new water supplies within the deficit area, and last to the transfer of water resources from another area. Transfers between and from Highlands subwatersheds are prohibited unless there is no other viable alternative and where such transfers would demonstrably not result in impairment of resources in any subwatershed, including potential effects on upstream and downstream subwatersheds. Transfers from outside of the Highlands Region are allowed, subject to NJDEP approvals. Beneficial water reuse may be used to meet these requirements, provided the reclamation of the water does not adversely affect water resources in its original discharge location. These priorities address both environmental and cost issues.

In all subwatersheds, and especially where current deficit areas exist, the RMP calls for development of a municipal Water Use and Conservation Management Plan. For deficit areas, the plans must determine how the deficit can be alleviated and to the maximum extent possible, eliminated. Such plans may also be developed cooperatively for a subwatershed or multiple subwatersheds. Where a water supply utility faces constraints on its ability to supply consumers due to inadequate transmission mains, treatment facilities or supply sources, the most effective method of avoiding major capital costs is water use efficiency. The same efficiency methods are applicable to both situations.

The following enhanced water use efficiency measures shall be considered, and where feasible and appropriate, included in Water Use and Conservation

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**Ensuring
Implementation of
Water Use and
Conservation
Management Plans**

Management Plans or utility water supply plans to eliminate water availability or utility supply deficits, to the extent that they do not cause or exacerbate other environmental harm. Implementation or a firm and bonded commitment for implementation of the selected methods shall be required prior to approval of additional consumptive or depletive water uses or new water supply sources, depending upon the project, the proposed water use and the severity of the current deficit in water availability:

1. Incentive programs, up to and including full payment, for replacement of residential and commercial plumbing fixtures, water-using appliances and lawn irrigation systems with water conservation devices;
2. Incentive programs, up to and including full payment, for modification of residential landscaping to forms that require minimal if any artificial irrigation;
3. Incentive programs, up to and including full payment, for retrofitting of existing development with systems that allow for the beneficial reuse of water within the development;
4. Incentive and cost-share programs for replacement of agricultural irrigation and other water uses with water conservation techniques;
5. Reduction of water losses within water utility systems to the maximum extent that is technologically feasible;
6. Modification of water rates to enhance financial incentives for water conservation by end users;
7. Enhanced consumer education regarding water conservation, including the potential for direct-to-consumer approaches.

Where a water utility or water user makes a commitment to implementation of water use efficiency in a Current Deficit Area rather than implementing the measures prior to a new consumptive or depletive use, the following requirements shall apply:

1. All implementation measures shall be completed within one year of approval if the consumptive or depletive water use is less than 20,000 gallons per day in the Planning Area or 10,000 gallons per day in the Preservation Area, on average. Implementation may be allowed to occur within a longer time period for larger amounts, up to five years from approval, but may be required to occur prior to initiation of the consumptive or depletive water use under certain circumstances. The Highlands Council shall adopt procedures specifying the basis for implementation schedules, including but not limited to such considerations as the scope of the consumptive or depletive water use, the severity of the existing deficit in water availability, and whether the implementation measure will occur on-site as part of the development project or off-site as mitigation;
2. If the implementing entity is a public agency, the commitment must be in the form of a binding resolution or ordinance of the governing body, and the cost of implementation must be bonded to ensure sufficient resources;
3. If the implementing entity is a private corporation or individual, they must provide bonding to ensure that the commitments are met. A public entity must be named as recipient of the bonds in the event of default by the implementing entity, to be used by the public entity to complete implementation.

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The following GPO section shows the final version of GPOs previously considered by the Highlands Council on May 22, 2008, with highlighted sections indicating proposed changes based on Council discussion.

**CHAPTER IV. GOALS, POLICIES, AND OBJECTIVES
Part 2. Water Resources and Water Utilities**

A fundamental purpose of the Highlands Act is to protect water supplies for human use and ecological sustainability both within and outside of the Highlands Region. The Highlands Regional Master Plan addresses five fundamental issues with regard to water resources in the Highlands Region:

- The availability of water resources for human and ecological use;
- The protection and restoration of water resource availability;
- The protection, restoration, and enhancement of water quality;
- The management of land development patterns and densities to ensure that the carrying capacity of water resources are not exceeded; and
- The cost-effective and efficient provision and use of water utility capacity in a manner that ensures compatibility with the carrying capacity of water resources.

Subpart a. Water Resources Availability

The availability of water for human use is a critical factor in determining the capacity for growth and continued economic vitality for both existing development and agriculture within and outside the Highlands Region. The availability of water for ecological purposes is critical to sustaining the aquatic ecosystems of streams, ponds and lakes in the Highlands Region. The Highlands Regional Master Plan provides a method for identifying the quantity of available water resources in the Highlands Region, which is used to identify areas where water resources are or are not sufficient to support existing human and ecological uses, and to support future uses. Where sufficient water availability exists, the method fairly allocates available water resources among future human uses as shown in the Land Use Capability Zone Map. Where water resources have been stressed, additional planning and mitigation is necessary.

The Goals, Policies and Objectives for water resources availability establish a method for determining available water for human use by each subwatershed (HUC14), of which 183 are in (or partially in) the Highlands Region. Surface water availability from existing reservoir systems are addressed through regulations of NJDEP and a major purpose of the RMP is to protect the safe yields of those reservoir systems by limiting upstream use of ground waters, which has the added benefit of protecting aquatic ecosystems. Ground water availability is determined using stream flow information, with thresholds based upon the predominant Land Use Capability Zone for each subwatershed. Net water availability reflects current uses, and may show surpluses or deficits. For all subwatersheds, municipal Plan Conformance requires development of Water Use and Conservation Plans that will set priorities for the use of available water (where net water availability is positive) and will establish methods to reduce and, where feasible, eliminate deficits where they exist. In all cases, efficient use of water is required to make best use of limited resources. Where deficits exist and a Water Use and Conservation Plan has not yet been adopted, limited amounts of conditional water availability are provided for uses that will be permitted while the deficits are reduced through water conservation and enhanced recharge. The

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amount of mitigation is determined based on the amount of water use proposed and the severity of the current deficit, but is never less than 125 percent; mitigation will be required prior to the water use where either the proposed water use or current deficit is large.

GOAL 2A	PROTECTION OF THE VALUE OF THE HIGHLANDS REGION AS AN “ESSENTIAL SOURCE OF DRINKING WATER, PROVIDING CLEAN AND PLENTIFUL DRINKING WATER FOR ONE-HALF OF THE STATE’S POPULATION” (HIGHLANDS ACT, SECTION 2), ALONG WITH THE ECOLOGICAL VALUES OF CLEAN WATER, THROUGH THE PROTECTION, ENHANCEMENT AND RESTORATION OF WATER RESOURCES QUANTITY, FLOW CHARACTERISTICS AND QUALITY AS FUNDAMENTAL TO ENSURING THAT THERE ARE ADEQUATE WATER SUPPLIES TO SUPPORT THESE NEEDS.
Policy 2A1	To identify and periodically update net water availability and water deficits as a factor in the Land Use Capability Water Availability Map.
Policy 2A2	To ensure that increasing water demands do not exceed Net Water Availability or exacerbate existing deficits of subwatersheds. Net Water Availability is affected at a subwatershed level by location and extent of Land Use Capability Map Zone Map and its status as Current Deficit Area or Existing Constrained Area.
GOAL 2B	PROTECTION, RESTORATION AND ENHANCEMENT OF WATER QUALITY AND QUANTITY OF SURFACE AND GROUND WATERS (SECTIONS 10.B(1) AND 10.C(1)), AND TO DETERMINE “THE AMOUNT AND TYPE OF HUMAN DEVELOPMENT AND ACTIVITY WHICH THE ECOSYSTEM OF THE HIGHLANDS REGION CAN SUSTAIN WHILE STILL MAINTAINING THE OVERALL ECOLOGICAL VALUES THEREOF, WITH SPECIAL REFERENCE TO SURFACE AND GROUND WATER QUALITY AND SUPPLY...” (SECTION 11.A.(1)(A)).
Policy 2B1	To track and consider water availability in local development review and Highlands Project Review.
Policy 2B2	To estimate Net Water Availability on a HUC14 subwatershed basis.
Objective 2B2a	Establish Ground Water Capacity by HUC14 subwatershed by subtracting the subwatershed’s MA7CD10 (minimum average seven day low flow with a return period of ten years, also known as the 7Q10) from the September median stream flow.
Objective 2B2b (from 2B8, 2B9, 2B10)	Establish Ground Water Availability thresholds for application to HUC14 subwatersheds based on the Land Use Capability Zone and watershed resource value, and as modified by status as an Existing Constrained Area. Ground Water Availability shall be determined by multiplying Ground Water Capacity by percentage thresholds specified in the following table that are related to the nature of the environmental resources and conservation objectives of the Plan for each Zone. Ground Water Availability within the Protection Zone and Conservation Zone shall emphasize the integrity of aquatic ecosystems by ensuring that Ground Water Capacity is predominantly reserved for maintenance of stream flows, recognizing the regional significance of these resources; in the Conservation Zone, Ground Water Availability thresholds

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shall also specifically recognize agricultural water needs. Ground Water Availability within Existing Community Zone subwatersheds shall provide for the protection of water supply, water resources and ecological values of the Region.

Ground Water Availability Thresholds As Percentage Of Ground Water Capacity		
Predominant Land Use Capability Zone (or Watershed Value)	Standard Threshold	Existing Constrained Area*
Protection Zone (High)	5%	5%
Conservation Zone (Moderate)	5% non-agricultural 10% agricultural	5% + 2003 Depletive & Consumptive Use (up to Standard Threshold)
Existing Community Zone (Low)	20%	5% + 2003 Depletive & Consumptive Use (up to Standard Threshold)

*Within HUC14 Subwatershed upstream of a Current Deficit Area

Objective 2B2c	Estimate Net Water Availability for each HUC14 subwatershed by subtracting from Ground Water Availability an estimate of maximum monthly consumptive and depletive ground water and surface water use (other than from reservoir storage or other supply with a NJDEP approved safe yield). Adjust consumptive and depletive water use to account for the return of wastewater to the same HUC14 subwatershed from which the water originated, or as appropriate, water originating from another HUC14 subwatershed.
Objective 2B2d	Designate Current Deficit Areas as those HUC14 subwatersheds where the Net Water Availability is less than zero.
Objective 2B2e	Designate Existing Constrained Areas as those HUC14 subwatersheds that have positive Net Water Availability and are upstream of and contributing flow to a Current Deficit Area.
Objective 2B2f (from 2B8b, 2B9c, 2B10c)	Modify Net Water Availability in Existing Constrained Areas to be the 2003 consumptive and depletive ground and surface water use plus 5 percent of the Ground Water Capacity (up to the standard thresholds assigned to each Land Use Capability Zone) to ensure continued stream flows to downstream Current Deficit Areas, emphasizing techniques including, but not limited to, water reuse, recycling and conservation
Policy 2B3	To conditionally provide water availability (Conditional Water Availability) within a Current Deficit Area with appropriate standards regarding its use.
Objective 2B3a	A Current Deficit Area subwatershed that is primarily within the Protection Zone or Conservation Zone shall be assigned Conditional Water Availability not to exceed an aggregate of 1 percent of Ground Water Capacity, and will be applied to consumptive and depletive water uses that comply with the mitigation requirement in Objective 2B9b.
Objective 2B3b	A Current Deficit Area subwatershed that is primarily within the Existing Community Zone shall be assigned Conditional Water Availability not to exceed an aggregate of 2 percent of Ground Water Capacity, and will be

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Objective 2B3c	<p>applied to consumptive and depletive water uses that comply with the mitigation requirement in Objective 2B9b.</p> <p>The Highlands Council will track the use of Conditional Water Availability within each Current Deficit Area allocated during local development review and Highlands Project Review and adjust remaining Conditional Water Availability accordingly.</p>
Policy 2B4 (from 2B8, 2B9)	To strictly limit consumptive and depletive water uses to the water availability in each HUC14 subwatershed and to establish priorities for water uses that implement the policies and objectives of the RMP.
Objective 2B4a (from 2B8d, 2B9d, 2B9e)	<p>Give highest priority for the use of non-agricultural Net Water Availability or Conditional Water Availability within Protection Zone and Conservation Zone subwatersheds, through a Water Use and Conservation Plan developed under Objective 2B9c, local development review and Highlands Project review:</p> <ol style="list-style-type: none">1. to address a documented existing or imminent threat to public health and safety from contaminated domestic and other on-site water supplies that is of sufficient scale to justify a public water supply and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. Such needs shall have highest priority for Net Water Availability;2. to serve a designated Highlands Redevelopment Area;3. to serve a cluster development that complies with Objective 2J4b.4. to serve affordable housing projects where at least 10% of the units are affordable.
Objective 2B4b	The highest priority for use of Net Water Availability or Conditional Water Availability within Existing Community Zone subwatersheds, through a Water Use and Conservation Plan developed under Objective 2B9c, local development review and Highlands Project review to serve documented threats to public health and safety from contaminated water supplies, designated TDR Receiving Zones, infill development, designated Highlands Redevelopment Area, affordable housing projects where at least 10% of the units are affordable, or new areas for development that meet all other requirements of the RMP.
Objective 2B4c	Establish and implement mandatory stormwater reuse for recreational and other non-agricultural irrigation, as well as other non-potable water purposes to minimize both the volume of stormwater discharges and water withdrawals for these purposes.
Objective 2B4d	The highest priority for agricultural water uses in the Conservation Zone shall be those Preservation Area uses that promote agricultural and horticultural uses and opportunities that are compatible with protection of the Highlands environment, and those Planning Area uses that promote the continuation and expansion of agricultural, horticultural, recreational, and cultural uses and opportunities. Compatible agricultural and horticultural uses shall minimize consumptive water uses through efficiency measures.

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Policy 2B6	To require, through Plan Conformance (including , through a Water Use and Conservation Plan developed under Objective 2B9c), local development review, and Highlands Project Review, the use of water conservation, recycling and reuse methods (where appropriate) and devices for any redevelopment or development activity, including renovations to existing residential, institutional, commercial or industrial buildings, to minimize consumptive water use tailored to meet the resource protection and other goals for each Zone and considering subwatershed-specific conditions and Net Water Availability status.
Policy 2B7	To require through Plan Conformance (including through a Water Use and Conservation Plan developed under Objective 2B9c), local development review, Highlands Project Review, and interagency coordination that proposed public water supply and wastewater service areas, new or increased water allocations and bulk water purchases will not directly or indirectly cause or contribute to a Net Water Availability deficit, and where feasible will help mitigate any existing deficit.
Objective 2B7a	Areawide Water Quality Management Plans, Wastewater Management Plans or their amendments shall ensure that the proposed service area will not directly or indirectly cause or contribute to a Net Water Availability deficit, and shall be in conformance with any Water Use and Conservation Plan developed under Objective 2B9c.
Objective 2B7b (from 2B8e, 2B9f, 2B10h)	NJDEP Water Allocation decisions and Highlands Project Reviews shall ensure that any new or increased water allocation permits within the Highlands Region are in conformance with the policies and objectives of the RMP policies and objectives and do not result in significant reductions in safe yields for any water supply facility with an existing water allocation permit and NJDEP-approved safe yield.
Policy 2B8	To ensure through Plan Conformance (including through a Water Use and Conservation Plan developed under Objective 2B9c), local development review, and Highlands Project Review that the use of Net Water Availability and Conditional Water Availability within each subwatershed supports development patterns that are in conformance with RMP policies and objectives.
Objective 2B8a	Establish and implement best management practices for recreational, landscape irrigation and other practices through applicable State and federal programs.
Policy 2B9	To require through Plan Conformance, local development review, and Highlands Project Review the efficient and effective use of water availability, the planning for future water needs, the reduction and elimination of water deficits, and the mitigation of new consumptive or depletive use in any Current Deficit Areas or subwatersheds that could become deficit areas based on projected development and water uses, to ensure sustainable water supply, water resource and ecological values in conformance with RMP policies and objectives.
Objective 2B9a (from 2B8b, 2B9b, 2B10b)	Prevent net increases in consumptive or depletive water uses in Current Water Deficit Areas to prevent exacerbation of and help reduce or eliminate the deficit to ensure sustainable water supply, water resource and ecological values, emphasizing techniques including, but not limited to water reuse, recycling and

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Objective 2B9b

conservation.

Proposed **new** consumptive or depletive water uses within a Current Deficit Area shall only occur under the auspices of a Water Use and Conservation Management Plan approved under Objective 2B9c or through mitigation of the proposed consumptive or depletive use within the same HUC14 subwatershed through: a permanent reduction of existing consumptive and depletive water uses; ground water recharge in excess of the requirements of N.J.A.C. 7:8 (Stormwater Management Rules); or other permanent means. Where a Water Use and Conservation Management Plan has not been approved:

1. Each project shall achieve mitigation ranging from 125% to 200%, based on the severity of the Current Deficit and the amount of consumptive or depletive water use proposed, and for large consumptive and depletive water uses or high Current Deficits will require achievement of the mitigation prior to initiating the water use;
2. Total consumptive and depletive water uses from any single project and all projects combined are not to exceed the Conditional Water Availability of Objectives 2B3a or 2B3b;
3. Mitigation shall be completed by one year of final municipal development approval or prior to initiation of the water use, whichever is later, for any mitigation volumes of less than or equal to 20,000 gallons per day in the Planning Area or 10,000 gallons per day in the Preservation Area. Mitigation may be phased in keeping with project development;
4. Mitigation shall occur prior to initiation of the water use, for water uses where the combination of proposed consumptive and depletive water uses and current subwatershed deficit is high, according to a schedule established by the Highlands Council. Mitigation may be phased in keeping with the level of consumptive or depletive water uses;
5. Mitigation for projects not addressed by #3 and #4 above shall occur within a schedule established through local development review and Highlands Project Review. The schedule is to be the shortest feasible time, shall be phased to ensure continuing implementation, and shall not exceed five years from project approval; and
6. Mitigation plans for a project shall include: specific objectives for each mitigation component; monitoring and reporting requirements; methods by which shortfalls in meeting the mitigation objectives shall be addressed through additional action; and be guaranteed through performance bonds.

Objective 2B9c

Water Use and Conservation Management Plans shall be required through municipal Plan Conformance for all subwatersheds to meet the policies and objectives of Goal 2B, to ensure efficient use of water through water conservation and low impact development best management practices, and to avoid the creation of new deficits in Net Water Availability. Where developed for Current Deficit Areas, the plans shall include provisions to reduce or manage consumptive and depletive uses of ground and surface waters as necessary to reduce or eliminate deficits in Net Water Availability, or to ensure continued stream flows to downstream Current Deficit Areas from Existing Constrained Areas, to the maximum extent practicable within each HUC14 subwatershed.

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Objective 2B9d	All water users within a Current Deficit Area shall seek funding and opportunities to meet the intent of Objective 2B4b.
Objective 2B9e	Allow water resource transfers between or from Highlands subwatersheds only when there is no other viable alternative and where such transfers would demonstrably not result in impairment of resources in any subwatershed. Potential effects on upstream and downstream subwatersheds should be included in any such evaluation.

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Part 3. Agricultural Resources

Agricultural Sustainability, Viability, and Stewardship

Issue Overview

Agriculture, if it is to remain viable in the New Jersey Highlands, requires a sustainable land base. The Highlands Region contains over 859,000 acres of land of which over 118,000 acres consisted of agricultural land in 2002. Since the inception of the State Agriculture Development Committee's Farmland Preservation Program approximately 33,765 acres of agricultural land in the Highlands Region have been preserved for agricultural use. Agricultural land in the Highlands Region is an important resource that provides economic benefits to New Jersey in the form of agricultural production and agri-tourism, provides a local food source to area residents using less energy than would be required to import produce from other regions, and helps maintain the Highlands rural character. In order to preserve and sustain agricultural resources and enhance the viability of the agricultural industry, preservation of farms throughout the Highlands Region must be encouraged and funded. Programs are needed that focus more on the practices farmers can use to achieve sustainable profitability, sustainable stewardship practices for agricultural and natural resources, and sustainable coexistence with non-farmers in a densely populated state.

The preservation of agricultural land and the viability of the agricultural industry in the Highlands Region are two essential objectives of the Highlands Act. The New Jersey Legislature declared that the agricultural lands in active production in the Highlands Region are important resources of the State that should be preserved, and that the agricultural industry in the Highlands Region is a vital component of the economy, welfare and culture of the Garden State. The Legislature also declared that the maintenance of agricultural production and a positive agricultural business climate should be encouraged to the maximum extent possible wherever appropriate in the Highlands. To sustain and enhance agricultural resources and the viability of the agricultural industry, it is necessary to provide incentives and funding opportunities, to not only preserve agriculture, but to encourage land stewardship through best management practices (BMPs) that enhance the resources of the Highlands Region. As stewards of the land, many farmers already implement BMPs. The Agricultural Resources Program seeks to reward these individuals with incentives and funding opportunities.

Program Summary

This program inventories existing and preserved agricultural lands and evaluates the resource value of agricultural lands, in order to assess agricultural resources and the agricultural industry in the Highlands Region. The resource value of agricultural lands was developed by utilizing ranking criteria from the New Jersey Department of Agriculture State Agriculture Development Committee's Farmland Preservation Program and the County Agriculture Development Board farmland preservation programs. In order to maximize the preservation and stewardship of agricultural land the program shall coordinate with existing federal, State, county and non-profit farmland preservation and agricultural stewardship programs and develop alternative or innovative programs appropriate to the New Jersey Highlands Region. These programs are essential to the farmers and residents of New Jersey to sustain and enhance agricultural resources, to enhance the viability of the agricultural industry, to provide local

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availability of agricultural products, and maintain the Highlands rural character.

Policy 3A1. To create and maintain an inventory of preserved farms, farmland assessed lands, other lands in agricultural use, and undeveloped vacant lands which contain soils which are highly suitable for agricultural use in the Highlands Region.

Policy 3A4. To promote farmland preservation and limit non-agricultural uses within the Agricultural Resource Areas and accord priority to the preservation of agricultural lands within Agricultural Priority Areas, through fee simple acquisition, less than fee acquisition, Transfer of Development Rights (TDR) and other agricultural land conservation techniques.

Objective 3A4a. Create and maintain a confidential inventory of agricultural lands in the Agricultural Priority Areas, in coordination with the New Jersey Department of Agriculture and the State Agriculture Development Committee, to prioritize the preservation of farmland.

Objective 3A4b. Implement through Plan Conformance Agriculture Retention/Farmland Preservation Plan elements and development regulations promoting preservation in the Agricultural Resource Areas (ARA) and limiting non-agricultural uses within the ARA to those uses that support the preservation of farmland, avoid conflicts with agriculture, maintain and enhance the sustainability and continued viability of the agricultural industry, protect Important Farmland Soils, and meet resource management and protection requirements of the RMP.

Policy 3A5. Where it is not feasible to preserve agricultural lands within the Agricultural Resource Area (ARA) by such methods as fee simple acquisition, easement acquisition, or a TDR Program, require mandatory clustering through Municipal Plan Conformance, local development review and Highlands Project Review for residential development in an ARA. Cluster development within the Planning Area that incorporates public or community on-site wastewater utilities shall meet the requirements of Policy 2J4 with Objectives 2J4a through 2J4d, and Policy 2K3 with Objectives 2K3a through 2K3e, and within the Preservation area shall meet the requirements of Policy 2I1 and Objectives 2I1a and 2I1b, and where reliant on septic systems shall meet the requirements of Objective 6G1b.

Objective 3A5a. Implement regulations requiring that cluster or conservation design development proposed within an Agricultural Resource Area support the preservation of farmland, avoid conflicts with agriculture, maintain and enhance the sustainability and continued viability of the agricultural industry, protect Important Farmland Soils and meet resource management and protection requirements of the RMP.

Objective 3A5b. Implement regulations requiring that all cluster or conservation design development proposed in an Agricultural Resource Area be buffered appropriately with existing natural resources, such as hedgerows or trees, or with new buffers to avoid conflicts between non-agricultural development and agricultural activities, and to protect existing agricultural uses and sensitive environmental resources.

Objective 3A5c. Implement regulations requiring that all land preserved in perpetuity for environmental protection or agricultural purposes as a result of clustering be subject to a conservation easement enforceable by the Highlands

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Council and at least one of the following: the appropriate municipality, for agricultural purposes the County Agriculture Development Board or the State Agriculture Development Committee, and for environmental purposes Green Acres or a qualified non-profit land trust organization.

Objective 3A5d. Where the preserved land in the cluster project area is dedicated to agricultural purposes support continued agricultural viability of the agricultural land and require the implementation of best management practices through the cluster development ordinance and an Agriculture Retention/Farmland Preservation Plan, including development and implementation of a Farm Conservation Plan that addresses the protection of water and soil resources prepared by the USDA Natural Resources Conservation Service (NRCS), Technical Service Provider (TSP), appropriate agent or New Jersey Department of Agriculture (NJDA) staff, and approved by the local Soil Conservation District (SCD).

Policy 3A6. To permit through local development review and Highlands Project Review limited development, including family and farm labor housing in Agricultural Resource Areas which are necessary to support the viability of the agricultural operation, in coordination with the NJDA and the SADC, and subject to compliance with the resource management and protection requirements of the RMP.

Policy 3A8. To serve as a regional clearinghouse for information regarding agriculture preservation programs and funding sources, protection and enhancement of the agricultural industry, agriculture stewardship programs, and technical assistance for public and private organizations in order to maximize agriculture preservation efforts in the Highlands Region.

Objective 3A8a. Encourage coordinated activities of representatives of appropriate federal, State, county, municipal, and non-profit representatives for agriculture preservation and funding programs, and technical assistance in order to maximize agriculture preservation efforts in the Highlands Region.

Objective 3A8b. Coordinate with the State Historic Preservation Office and the State Agriculture Development Committee to include historic structures in tax incentive and adaptive reuse funding programs.

Policy 3B1. To encourage private and public owners of lands within an Agricultural Resource Area to lease open lands to farmers and/or to manage open space lands in a manner which is compatible with adjoining agricultural uses.

Policy 3B2. To promote research and study, and support proposals to enhance the long-term viability of the agricultural industry in the Highlands Region through innovative programs, including, but not limited to, health care, banking practices, housing, food distribution, education, energy, and labor.

Policy 3B3. To seek additional funding from any and all state and federal funding programs to maintain and enhance sustainability and continued viability of the agricultural industry within the Highlands Region.

Policy 3B4. To support incentives and funding opportunities for the control of invasive species, white-tailed deer reduction programs, and the water value of well-managed agricultural lands.

Policy 3B5. To promote and enhance innovative agricultural practices and

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programs that promote long-term viability of the agricultural industry including, but not limited to, direct marketing, organic farming, agri-tourism such as farmers markets and road side stands, niche markets, and community supported agriculture.

Policy 3C1. To prohibit through Plan Conformance, local development review and Highlands Project Review the development of additional water and wastewater infrastructure in a Agricultural Resource Area (ARA) within the Conservation and Protection Zones of the Planning Area, unless they meet the requirements of Policy 2J4 with Objectives 2J4a through 2J4d, and Policy 2K3 with Objectives 2K3a through 2K3e, and will maximize the preservation of agricultural lands within the ARA.

Policy 3D1. To work with the State Agriculture Development Committee and the Garden State Preservation Trust to establish incentives for any landowner in the Highlands Region seeking to preserve land under the farmland preservation program that would be provided in exchange for the landowner agreeing to permanently restrict the amount of impervious surface and agricultural impervious cover on the farm to a maximum of five percent of the total land area of the Farm Management Unit.

Policy 3D4. To promote the use of appropriate alternative and innovative wastewater treatment systems to provide enhanced protection of surface and ground water quality in Agricultural Resource Areas of the Conservation Zone.

Policy 3D5. To promote efforts to increase the use of USDA NRCS and Farm Service Agency cost-share programs, Integrated Pest Management, and Integrated Crop Management programs and other innovative management techniques, in coordination with the NJDA and Rutgers Cooperative Extension, that reduce pesticide and fertilizer use and promote best management practices in conjunction with agricultural activities.

Policy 3D6. To identify subwatersheds with elevated nitrate levels and develop and implement management plans to enhance water quality in these subwatersheds while maintaining and enhancing agricultural viability.

Policy 3E3. To require conforming municipalities and counties, with farmland preservation programs or a significant agricultural land base, to incorporate Right to Farm provisions, in accordance with N.J.S.A. 4:1C-1 et seq. and N.J.A.C. 2:76-2, in their master plans and development regulations.

Policy 3E4. To address agricultural or horticultural development and agricultural or horticultural use through Plan Conformance in accordance with the Right to Farm Act, N.J.S.A. 4:1C-1, and in coordination with the New Jersey Department of Agriculture, the State Agriculture Development Committee (SADC), and the County Agriculture Development Boards.

Objective 3E4a. To cooperatively develop, in coordination with the SADC, specific Agricultural Management Practices that address air and water, quality control, noise control, pesticide control, fertilizer application, integrated pest management, labor practices and other related activities consistent with the resource management and protection requirements of the RMP.

The loss of farmland over recent decades emphasizes the crucial need to promote the preservation of contiguous acres of agricultural land to sustain agricultural resources and ensure a positive agricultural business climate. In order to

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Agricultural Priority
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accomplish this goal, the Highlands Council, collaborating with the New Jersey Department of Agriculture (NJDA), the Highlands County Agriculture Development Boards (CADB) and the State Agriculture Development Committee (SADC), must first identify and inventory the scope of the agricultural industry in the Highlands Region, through the use of existing data. This assessment will be completed using the NRCS Soil Survey Geographic (SSURGO) Database for farmland soils, data on preserved farms, tax assessor records for farmland assessment, NJDEP land use/land cover data, aerial photography, agricultural surveys and other data sources.

To promote long-term sustainability of agricultural resources and the viability of the agricultural industry in the Highlands Region a healthy agricultural environment and an agricultural land base are necessary. To continue to achieve the objective of preserving farmland in the Highlands Region, the Council will identify productive agricultural lands within the Agricultural Resource Area (ARA) through an assessment of agricultural resource values in order to prioritize agricultural lands for preservation. The purpose for assigning values to agricultural resources enhances the goal to preserve a primary agricultural land base that is being used for, or offers the greatest potential for continued, commercially significant agricultural production. . Municipalities and counties involved in the Plan Conformance process will be required to implement Agriculture Retention/Farmland Preservation Plan elements and development regulations promoting preservation in the ARA and limiting non-agricultural uses in the ARA to those that sustain and enhance agricultural resources.

In order to determine the priority areas for farmland preservation, the Highlands Council, in coordination with the NJDA and SADC, utilized the results of the agricultural resource assessment to identify those lands within the Highlands Region which have the highest agricultural resource values. The figure *Agricultural Priority Area* displays the relative value of these agricultural resources in order to provide a prioritization mechanism for future farmland preservation activities in the Highlands Region. The *Agricultural Priority Area* figure also identifies lands preserved in perpetuity as farmland to show contiguity between preserved farmland and priority agricultural lands in the Region. In coordination with the NJDA and the SADC, the Council will create and maintain a confidential inventory of agricultural lands in the Agricultural Priority Area (APA). This inventory will also be analyzed using the Highlands CADB priorities to maximize preservation efforts in the Highlands Region. The identification of the APA and of the confidential inventory of agricultural lands in the APA is described in the *Sustainable Agriculture Technical Report*. In addition to promoting preservation and limiting non-agricultural uses in the ARA, the Highlands Council will coordinate with the NJDA and SADC to encourage private and public owners of lands in the ARA to lease open lands to farmers and manage adjacent open space lands in a manner that is compatible with adjoining agricultural uses to minimize Right to Farm conflicts.

**Cluster/Conservation
Design Development**

Due to limited funding and program opportunities not all agricultural lands worthy of preservation can be preserved through fee simple acquisition, easement acquisition, or TDR. The NJDA SADC Farmland Preservation Program includes outright purchases of development rights to preserve farmland under the Direct Easement and the Fee Simple Acquisition Programs. In both cases the land is permanently deed-restricted for agricultural use, but when the

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**Serve as a Regional
Clearinghouse for
Farmland Preservation,
Stewardship and
Technical Assistance**

SADC purchases a farm outright through fee simple, the farm is resold at public auction as a permanently preserved farm, deed-restricted to agricultural use. The landowner that purchases the farm at auction must adhere to the deed restrictions, which is no different than easements acquired through the CADB process.

State, county, and local farmland preservation programs have funding constraints and as a result techniques such as clustering that accommodate limited growth and preserve agricultural lands are necessary. In an Agricultural Resource Area (ARA), where other land preservation techniques are not feasible, clustering will be mandatory for residential development through Municipal Plan Conformance, local development review, and Highlands Project Review. The use of clustering must preserve at least 80 percent of the total cluster project area in perpetuity in agricultural use or for environmental protection. A set aside of 80 percent for preservation will prevent the fragmentation of agricultural land allowing for contiguous areas of agriculture to sustain and enhance agricultural resources. Preservation of up to 90 percent of the cluster project area will be achieved where feasible. The agricultural land set aside in the cluster project area must be preserved in perpetuity for agricultural use through a deed of easement enforceable by the Highlands Council and the municipality, the CADB, or the SADC.

The Highlands Council will develop Cluster Development Conformance Standards and Cluster/ Development Design Guidelines that support the RMP and take advantage of, but are not limited to, techniques such as contiguous and non-contiguous residential clustering and lot--averaging. Such programs will require the implementation of an Agriculture Retention/Farmland Preservation Plan element and a cluster ordinance that supports the continued viability of the agricultural land and requires the implementation of best management practices including an NRCS Farm Conservation Plan for the cluster project area dedicated to agricultural use.

The cluster development in the Planning Area should use public water and sewer systems where feasible and appropriate (i.e., not in the Preservation Area) to maximize the amount of open space, eliminate the impact of septic systems, and reduce the need for additional water and wastewater infrastructure in the ARA. There may be instances when clustering will require new water and wastewater infrastructure. The use of alternative and innovative wastewater treatment systems will be promoted in the ARA of the Conservation Zone to provide enhanced protection of surface and ground water quality. (see the *Cluster/Conservation Design Development Program*)

The Highlands Council, in cooperation with other entities, will serve as a regional clearinghouse for farmland preservation, stewardship and technical assistance. One of the fundamental elements of the Highlands Act is the emphasis on farmland preservation to ensure that public funds and other resources are focused on protection of critical Highlands resources. The *Sustainable Agriculture Technical Report* identifies nine federal, State, county, municipal, and nonprofit farmland preservation funding programs. The Highlands Council will encourage coordinated activities with agencies (in particular the NJDA and the SADC), local governments, and local organizations for agriculture preservation, funding, and stewardship programs, and for technical assistance in order to maximize

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	agriculture preservation efforts in the Highlands Region.
Willing Sellers	The Garden State Preservation Trust legislation requires that direct acquisitions by Green Acres and the SADC be from willing sellers. The Highlands Council will coordinate with Green Acres and the SADC to identify willing sellers and coordinate outreach and education to Highlands landowners for land preservation funding opportunities and incentives.
Funding Opportunities	Twenty-eight Highlands municipalities do not have open space and farmland trust funds to preserve farmland and open space. The municipalities and counties that have trust funds may not be maximizing their potential. In coordination with other entities, the Council shall encourage creating or amending open space and farmland trust funds. Additionally, the Highlands Council will coordinate with the State Historic Preservation Office (SHPO) and the SADC to include historic structures in tax incentive and adaptive reuse funding programs. Such programs could provide funding to farmers for restoration or rehabilitation of historic barns used for agricultural production.
Monitoring	Land acquisition by fee purchase or by easement is a major tool to protect agricultural lands. Typically the SADC, the CADB, a municipality, or a non-profit entity holds the easement on a permanently preserved farm and is responsible for monitoring the farm and ensuring the land remains in agricultural use in perpetuity. In some instances the individual retaining ownership of the land may not be a long-time farmer. Guaranteeing that these resources remain intact and viable is an overarching responsibility of the landowner and the easement holder. The Highlands Council will coordinate with the NJDA, the SADC, the CADBs, municipalities, and non-profit organizations on monitoring, landowner/user relations, and enforcement of deed-restricted agricultural easements.
Stewardship	The <i>Sustainable Agriculture Technical Report</i> also identifies 16 federal, State, county, municipal, and nonprofit conservation and stewardship funding programs. The Highlands Council will collaborate and coordinate with the NJDA, SADC, USDA Natural Resources Conservation Service (NRCS) and Farm Service Agency (FSA), the North Jersey Resource Conservation and Development Council (NJRC&D), Rutgers Cooperative Extension, local Soil Conservation Districts (SCD), local governments, and local non-profit organizations to properly manage and enhance preserved agricultural land. This effort is necessary to sustain and enhance agricultural and natural resources and enhance the viability of the agricultural industry through productive and cost-effective Best Management Practices (BMPs). Also, such efforts help to ensure that agricultural and natural resources targeted for acquisition are not later compromised through inappropriate stewardship.
Establishment of Alternative/Innovative Agriculture Preservation Programs	In addition to maximizing existing farmland preservation and stewardship programs and funding opportunities, the Highlands Council will encourage establishment of alternative and innovative programs to enhance farmland preservation and stewardship. The SADC, the CADBs and municipalities preserve farmland through the purchase or transfer of development rights by deed restricting the land in perpetuity for agricultural purposes. Where existing programs may not be a viable option for the landowner, the need will exist for alternative or innovative tools to create incentives for landowners to voluntarily

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**Establishment of
Alternative/Innovative
Agriculture Stewardship
Programs**

keep their land in agriculture. The *Land Preservation Program* lists a broad range of options and programs, developed by other states, for the Highlands Council to examine and assess for use in the Highlands Region. Many of these tools are used specifically for agriculture, such as the Next Generation Farmland Acquisition Program, land preservation tontines, and Agricultural Conservation Pension. All of these programs are described in the *Land Preservation and Stewardship Technical Report*.

One criterion for prioritizing farmland preservation is the percentage of tillable land or land in crop production. As a result, a farm that is heavily forested may not be considered a priority for preservation by the SADC. Additionally, lots that are entirely forested and farmland assessed with Woodland Management Plans are not considered priorities for State, county and municipal farmland preservation programs. However, such lands are productive woodlands and also critical to the protection of Highlands water and natural resources. The Highlands Council will collaborate with the NJDEP Green Acres and the NJDA SADC to develop an adequate method to preserve forested lands through easements to allow them to remain in private ownership and be properly maintained through woodland management. The Highlands Region is over 50% forested and maintaining forest land is important to protecting water quality. In addition to the Highlands regional TDR Program and the Cluster/Conservation Development Program; a program specifically for purchasing forest land easements should be available.

As introduced above there are numerous existing programs that promote incentives and funding opportunities for agricultural stewardship through the use of BMPs. The Highlands Council will collaborate with the NJDA, the NJDEP and all of the entities described above to develop and promote existing and alternative funding incentives and cost-share programs for BMPs that sustain and enhance agricultural and natural resources. The programs below are described in the *Sustainable Agriculture Technical Report*. For long-term sustainability of natural and agricultural resources in the Highlands Region, stewardship and implementation of BMP programs should include, but not be limited to:

- White-tailed deer reduction programs, control of non-native species and enhancing the water value of well-managed agricultural lands
- Reduction in forest fragmentation and the creation of incentives for landowners to retain land in its natural or agricultural state
- Innovative management techniques that reduce pesticide and fertilizer use and promote best management practices such as USDA NRCS and FSA cost-share programs, Integrated Pest Management and Integrated Crop Management
- Other innovative programs such as the NJRC&D River Friendly Farm Certification Program, the regional Dairy of Distinction Program, and the national American Farmland Trust Steward of the Land Award that seek to reward farmers who promote land stewardship.
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The Highlands Council will provide and encourage technical assistance, cost-share funding opportunities, and grant funding for the use of land stewardship through BMPs. Additionally, intrinsic values for forests and agriculture including

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**Implementation of
Strategies to Sustain
and Enhance the
Viability of the
Agricultural Industry**

water quality protection shall be established.

The Highlands Council will coordinate with the NJDA, the New Jersey State Board of Agriculture, the New Jersey Farm Bureau and the New Jersey Agricultural Society to promote existing programs that sustain and enhance the viability of the agricultural industry in the Highlands Region. In addition, the Council will promote research and study for innovative programs, including, but not limited to health care, banking practices, housing, food distribution, education, energy and labor. Innovative programs, such as the USDA national initiative Agriculture in the Classroom, the New Jersey Farmers Against Hunger food recovery program, and the use of agricultural production for bio fuels will be addressed in the *Sustainable Agriculture Technical Report*.

In order to enhance agricultural viability, agricultural operations need to evolve over time to meet ever changing market demands. The Highlands Council will promote and encourage innovative agricultural practices including, but not limited to direct marketing, organic farming, agri-tourism such as farmers markets and road side stands, niche markets and community supported agriculture businesses. Additional business opportunities should be provided to the owner/operators of farms to increase the economic potential of the farm unit.

The ability of a farm family to add business opportunities to their agricultural operation such as a farmers market, a bed and breakfast an agricultural product processing facility, or an artisan or craft business that employs several farm laborers other than family members enhances the agricultural operation. The enhancement of these operations may also require additional family and farm labor housing. In coordination with the NJDA and the SADC, and in accordance with the Right to Farm Act, the Council will ensure opportunities through local development review and Highlands Project Review for family and farm labor housing that is necessary to support the viability of the agricultural operation.

**Identification of
Subwatersheds with
Elevated Nitrate Levels
& Development of
Management Plans**

The Highlands Council will identify subwatersheds with elevated nitrate levels, develop management plans for restoring water quality, and implement those plans in ways that enhance agricultural viability through focused application of stewardship programs, such as those described above and in the *Sustainable Agriculture Technical Report*. (See *Water Quality Restoration Program* for more details.)

**Establish Incentives for
Voluntary Impervious
Cover Limitations on
Agricultural Lands**

The preservation of contiguous acres of farmland and Important Farmland Soils is vital to sustain and enhance agricultural resources in the Highlands Region. Incentives are necessary to maximize the utilization and preservation of agricultural soils. The creation of extensive impervious coverage on Highlands farms will result in significant environmental impacts, similar to the increase of impervious cover from residential and commercial development and infrastructure associated with this development. In addition, impervious cover that involves soil compaction and concrete pads can permanently damage soil productivity. Intensive impervious cover can harm the rural nature of agricultural areas. As a result, impervious cover limits on farmland through incentives, voluntary programs and easements that supplement SADC easement purchases should be made available. These voluntary impervious cover limits are distinct and separate from the Highlands Act and the RMP requirements for the implementation of conservation plans with increased impervious cover for farms

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in the Preservation Area and the Planning Area..

The Council will seek to limit impervious cover on farmland through such initiatives, including but not limited to the use of federal USDA Farm Bill programs. One such program is the Farm and Ranch Lands Protection Program (FRPP), a federal program managed by the USDA Natural Resources Conservation Service (NRCS) that protects farm and ranch lands that contain prime, unique, or statewide and locally important soils or historic and archaeological resources from conversion to non-agricultural uses. Landowners who agree to accept federal funds are required to include deed restrictions that are specific to the federal FRPP. One of the requirements is a restriction on impervious coverage allowed on the farm. The amount of impervious cover allowed is imposed on a sliding scale and varies between two and six percent. The FRPP is described in detail in the *Sustainable Agriculture Technical Report*.

Right to Farm

The Right to Farm Act (N.J.S.A. 4:1C-1 et seq.) and the NJDA Right to Farm Rules (N.J.A.C. 2:76-2) are important provisions to sustain and enhance agricultural operations and maintain public health and safety in the Highlands Region. The Right to Farm Act protects responsible commercial farmers from unduly restrictive municipal regulations and public and private nuisance actions. Through the Plan Conformance process the Highlands Council will coordinate with the NJDA, SADC, and the CADBs to require municipalities and counties with farmland preservation programs or significant agricultural land bases to incorporate Right to Farm provisions in their master plans and development regulations. Municipal Right to Farm ordinances can be less restrictive of agricultural activities, but not more restrictive, than the Right to Farm Act. In addition, through the Plan Conformance process, municipalities and counties shall address agricultural or horticultural development and agricultural or horticultural use in accordance with the Right to Farm Act and in coordination with the NJDA, SADC, and CADBs.

The SADC also manages a Right to Farm Program in partnership with the CADBs and has developed a model Right to Farm ordinance. Under the Right to Farm Program, the SADC helps to educate farmers, residents, and municipalities about the Right to Farm Act, the Act's formal conflict resolution process, and strategies for resolving agricultural conflicts and maintaining a positive agricultural business environment that enhances New Jersey's agricultural industry. The SADC has also adopted standards for nine Agricultural Management Practices (AMPs). The Highlands Council, in coordination with the SADC, will develop specific AMPs where appropriate and necessary to address agricultural or horticultural development or uses to be consistent with the resource management and protection requirements of the RMP.

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Part 4. Historic, Cultural, Archaeological and Scenic Resources

Historic Resource Protection

Issue Overview

The Highlands is home to many and varied historic, archaeological and cultural resources, and the Highlands Act requires that the Regional Master Plan include measures in both the Preservation and Planning Areas to preserve these resources. With a long history dating back at least 11,000 years to the first Native American settlements, the area has figured prominently in the history of both the State and the country. Rich in valuable resources, the Region has attracted human settlement for thousands of years and been the site of changing technology and anthropology. The Highlands' character is indelibly marked by its history and benefits from vestiges of earlier days. These resources contribute to the community's character, its economic vitality, its potential for heritage tourism, and its sense of place and time. Their protection and enhancement can continue to support these important characteristics of the Highlands into the future.

The Highlands' historic, archaeological and cultural resources have been treated differently from town to town and county to county within the Region. In some communities these resources are appreciated, utilized and incorporated into the fabric of daily life. In other instances they are not identified and so opportunities to protect or rehabilitate are lost.

Although the State Historic Preservation Office, the New Jersey Historic Trust, and the Office of Smart Growth may offer technical and funding assistance, there is no comprehensive program in place to encourage local agencies to proactively identify, protect and enhance their historic, archaeological and cultural resources. Many localities are not aware of all of the resources that exist within their borders and may lack access to programs geared toward protection and enhancement of these resources, as well as the methods that can turn these resources into meaningful contributors to the economic health of the community.

Program Summary

The Historic Resource Protection program is designed to identify where historic, archaeological and cultural resources exist within the Highlands Region and to provide guidance and support to local government entities in managing and protecting the resources within their borders.

**RMP Policies and
Objectives Addressed**

Policy 4A1. To maintain and periodically update the Highlands Region Historic and Cultural Resources Inventory.

Objective 4A1a. Encourage municipalities and counties to include a historic, cultural and archaeological survey(s) as part of the Historic Preservation Plan element of their master plans.

Policy 4A2. To provide a process whereby resources may be nominated, considered and included in the Highlands Historic and Cultural Resources Inventory.

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Objective 4A2a. Evaluate the cultural and historic significance of the concentration of abandoned mines within the Highlands Region.

Objective 4A2b. Consider the inclusion of cultural sites of regional significance due to their importance in the history of the region.

Policy 4A3. To ensure through local development review and Highlands Project Review that human development does not adversely affect the character or value of resources which are listed on the Highlands Historic and Cultural Resource Inventory to the maximum extent practicable.

Objective 4A3a. All development and redevelopment applications shall include submission of a report identifying potential historic, cultural and/or archaeological resources on the subject property or within the immediate vicinity.

Objective 4A3b. Historic, cultural and/or archaeological resources identified through the development review process shall be evaluated for inclusion in the Highlands Region Historic and Cultural Resources Inventory.

Policy 4A4. To require that the impact of proposed human development on the historic and cultural resources of the Highlands Region be addressed during local development review and Highlands Project Review and approval.

Objective 4A4a. All applications for site plan or subdivision approval shall include identification of any cultural, historic or archaeological resources in the Highlands Region which are listed on the Highlands Historic and Cultural Resource Inventory and may be affected by the proposed development.

Objective 4A4b. All development which affects identified cultural, historic or archaeological resources shall comply with minimum standards for the preservation of the affected resources.

Policy 4A5. To use the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties as the standard for municipal historic and cultural preservation review and include, at a minimum, the preservation and re-use of historic structures.

Policy 4A6. To coordinate the Highlands Council's activities with regard to the historic and cultural resources with the New Jersey Historic Trust and the State Historic Preservation Office.

Policy 4A7. To promote historic and cultural heritage tourism in the Highlands Region.

Policy 4A8. To encourage municipalities and counties to establish historic preservation commissions or boards to review applications for development which affect historic, cultural and archaeological resources listed on the Highlands Historic and Cultural Resources Inventory.

Policy 4A9. To advocate on the federal and state levels for grants and financial incentives to aid landowners in the preservation and maintenance of historic, cultural and archaeological resources.

Policy 4C1. To require that conforming municipalities and counties include a Historic, Cultural and Scenic Resource Protection Element in municipal and county master plans and development regulations and update the Historic and

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**Identification of
Historic, Archaeological
and Cultural Resources**

Cultural Resources Inventory through local development reviews.

Policy 4C2. To require that conforming municipalities and counties include minimum standards for the protection and enhancement of historic, cultural and archaeological resources listed in the Highlands Historic and Cultural Resources Inventory in their development regulations.

Municipalities are encouraged to use a range of methods to identify the historic, archaeological and cultural resources within their communities. They should require all development reviews to include identification of any relevant resources as part of their applications. Planning work sessions and checklists should include historic, archaeological and cultural resources as a review component. Sensitive treatment of existing resources and commitment to minimal negative impacts should be the standard for decision-making.

Municipalities and counties shall, as a requirement of conformance, include within their master plan a Historic Preservation Plan element that identifies the location and significance of known historic, archaeological and cultural resources within their borders and the immediate surrounding area, using accepted State or federal definitions of such resources. They should whenever appropriate conduct historic, archaeological and cultural survey(s) and include these as part of the Historic Preservation Plan element.

Historic, archaeological and cultural resources that are identified through surveys, preservation plans and development plans shall be provided to the Highlands Council and reviewed and evaluated for inclusion in the Highlands Region Historic and Cultural Resources Inventory. A procedure for conducting the reviews and evaluations shall be developed in coordination with the State Historic Preservation Office.

**Protection and
Management of
Historic Resources**

Municipalities will be encouraged to:

- establish a Historic Preservation Commission or similar entity to provide advice and recommendations on all land development applications and land planning decisions;
- adopt ordinances, zoning rules, development regulations and programs that protect the integrity of historic, archaeological and cultural resources and the integrity of their surroundings, and to address potential reuse and rehabilitation of historic structures;
- Consider alternative strategies to protect historic and cultural sites, such as allowing adaptive reuse to support their protection and maintenance;
- designate historic structures and their surrounding land as historic sites and permit clustering to help protect them within preserved lands or as open space to maintain the structures within their settings;
- allow density transfers to adjoining property as an incentive to preserve historic buildings and sites;
- allow mitigation of non-conforming status for historic structures by conditional use approvals; and
- adopt guidelines and/or regulations, where appropriate, to address the issue of teardowns, particularly in older, established lake communities (see the

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Lake Community Program) and historic downtown areas and residential neighborhoods.

In addition, both municipal and county governments will be encouraged and supported in advocating innovative methods to facilitate historic preservation within their communities, including purchase and use as public historic sites, easements, adaptive reuse, financial incentives and heritage tourism. (Heritage tourism opportunities will be developed as part of the economic vitality program.)

Municipal and county governments shall, as a requirement of conformance, impose a development review condition that all development proposals that may affect historic, archaeological or cultural resources shall demonstrate how such impacts will be avoided or minimized.

Counties shall, as a requirement of Plan Conformance, address historic transportation infrastructure within their county master plan and encourage them to develop a program to preserve the integrity of historic bridges that are part of their transportation system. (See the Transportation Program.)

The Highlands Council, in coordination with the State Historic Preservation Office, will develop or adapt a historic preservation manual to provide guidance, technical assistance and information on potential funding sources for use by local government, non-profit and preservation entities. The manual will include strategies for promoting historic, archaeological and cultural resources as part of the economic vitality of the Highlands. It will include design standards to assist communities, landowners and developers in rehabilitation or adaptation of buildings to preserve and enhance their historic qualities. It will offer innovative methods for advocating and publicizing historic preservation efforts, such as historic marker campaigns, local signage programs, awards programs and similar efforts to build awareness for Highlands historic, archaeological and cultural resources. Heritage tourism programs will be promoted as a component of the historic preservation program and the economic vitality of the Highlands. (See heritage tourism opportunities in the *Sustainable Economic Development Program*.)

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Scenic Resource Protection

Issue Overview

Protecting scenic resources and maintaining the visual integrity and scenic beauty of noteworthy viewsheds and natural and cultural features of significance in the Highlands Region is a goal of the Highlands Act and the RMP. The essential character of the Highlands is intrinsically tied to the physical environment and how one element relates to another. The scenic character of the Highlands will be a major contributor to the Region's success as a recreation and tourism destination and its ability to generate economic activity in the form of agri-tourism, eco-tourism and heritage tourism. Preservation of that essential character can best be accomplished through a comprehensive approach to scenic resource protection. Other than a few scenic resource ordinances and even less scenic resource inventories, there has been no comprehensive attempt to address the issue of scenic resource protection in the Highlands Region.

Program Summary

The Scenic Resource Protection program establishes a procedure for identifying regionally significant scenic resources within the Highlands Region and provides methods to preserve these vistas, byways, ridgelines, rivers and streams, cultural landscapes and natural features. The program provides for input from local government entities as well as public participation.

**RMP Policies and
Objectives Addressed**

Policy 4B1. To maintain and periodically update the Highlands Scenic Resources Inventory.

Objective 4B1a. Encourage municipalities, or groups of municipalities and/or counties, to conduct a scenic inventory(ies) to identify locally and regionally significant scenic resources, and involve local residents.

Policy 4B2. To provide a process whereby regionally significant resources may be nominated, considered and included in the Highlands Scenic Resources Inventory.

Policy 4B3. To ensure that human development does not adversely affect the character or value of resources which are listed on the Highlands Scenic Resources Inventory.

Policy 4B4. To establish minimum standards to ensure that Highlands Scenic Resources are not impaired by new human development.

Policy 4B5. To require that the impact of proposed human development on the scenic resources of the Highlands Region be addressed during local development review and Highlands Project Review and approval.

Objective 4B5a. All development applications shall include identification of any scenic resources in the Highlands Region that are listed on the Highlands Scenic Resources Inventory and may be affected by the proposed development.

Objective 4B5b. All development which affects identified scenic resources shall comply with minimum standards for the preservation of the affected resources.

Objective 4B5c. Any proposed action that requires federal permits, involves federal grants, or involves other federal actions that may impact the resource

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values of the Musconetcong National Scenic and Recreational River, pursuant to section 10(a) of the National Wild and Scenic Rivers Act, shall require review by the National Park Service, National Wild and Scenic Rivers Program.

Policy 4B6. To advocate on the federal and state levels for grants and financial incentives to aid landowners in the maintenance and protection of scenic resources.

Policy 4C1. To require that conforming municipalities and counties include a Historic, Cultural and Scenic Resource Protection Element in municipal and county master plans and development regulations and update the Historic and Cultural Resources Inventory through local development reviews.

Policy 4C3. To require that conforming municipalities and counties include minimum standards for the protection and enhancement of scenic resources listed in the Highlands Scenic Resources Inventory in their development regulations.

**Inventory of Highlands
Scenic Resources**

- Baseline Inventory – Having identified 131 publicly-owned potential scenic resources, the Highlands Council will evaluate the initial baseline sites, refine the list and seek to add to it through additional nominations.
- The Council will establish procedures for nomination, evaluation and inventory of Highlands regionally significant scenic resources.
- The Council will establish guidelines for the preparation of the scenic resource inventory, including modifications to the baseline inventory of 131 potential scenic resources.
- The Council will identify unique scenic vistas (big sky views) and protect them.
- Encourage municipalities and counties to conduct scenic resource inventories and relate them to their recreation and open space planning.
- Encourage municipalities and counties to work jointly with neighboring municipalities and counties to conduct the scenic resource inventories on a regional or sub-regional scale.
- Encourage municipalities and counties to include scenic resources in the open space and recreation plan elements of the municipal and county master plan.

**Scenic Resource
Protection Mechanisms**

- The Council will develop strategies to protect scenic ridgelines, including the identification of key provisions for a Ridgeline Protection Ordinance. The provisions may include location of buildings, preservation of trees up slope and down slope of structures, building colors and types of glass, and other siting techniques that would blend structures with the landscape.
- The Council will identify key provisions for scenic resource protection ordinances for use and adoption by municipal and county governments, either as part of Plan Conformance or through independent exercise of municipal and county authority.
- The Council will develop review procedures for consideration of scenic resources during Project Review.
- Municipalities and counties shall be encouraged to develop a Scenic Resources Management Plan for their jurisdictions or sub-regions.

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- Municipalities and counties will be encouraged to pursue designation of scenic byways, where appropriate, according to the New Jersey Scenic Byways Program.
- The Highlands Council will prepare a scenic resource protection model ordinance to serve as a template for use by the municipalities in drafting and adopting a local scenic resource protection ordinance.
- Municipalities, counties and other agencies will be encouraged to consider alternative strategies to protect scenic features, such as allowing adaptive reuse of existing agricultural structures to support their protection and maintenance.
- The Highlands Council will prepare guidelines to assist municipalities in drafting and implementation of scenic resource protection measures in the community, including scenic lake management.
- Municipalities shall be encouraged to advocate cluster development within rural areas, designing developments to fit within the character of the community and the rural landscape. Where land is in agricultural use, municipalities should retain this use along roads and locate development in locations that do no damage the scenic viewshed. Hedgerows, mature trees and other rural features should be protected.
- Relate scenic resource protection strategies and priorities to the open space and recreation component of the master plan and the expansion of recreation facilities.
- Establish road corridor guidelines that protect existing tree rows along scenic roads and require minimum buffer yards (e.g., 100 feet) to be left in natural vegetation, subject to safety considerations and environmental protection needs. Minimum landscape provisions of the buffer may be established for different types of roadside environments.

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Part 5. Transportation

Transportation Safety and Mobility

Issue Overview

The Highlands regional transportation system uses roads, highways, railways and bridges to move people and goods through various modes of travel, including private automobile, bus, plane, truck, rail, bicycle and walking. In the Highlands, numerous factors including inefficient land use patterns have led to an increased dependence on automobile travel, which has had adverse impacts on natural resources and overall quality of life. By promoting efficient mixed land uses and increasing access to a multimodal transportation system, better protection can be offered to environmentally sensitive areas of the Region.

The Highlands Act emphasizes the preservation and enhancement of the transportation system which integrates transportation and comprehensive land use planning. It emphasizes the promotion of a balanced, efficient and safe transportation system that is consistent with smart growth strategies and principles and which preserves mobility and maintains transportation infrastructure in the Highlands Region.

The Act also provides that the Council recognize projects that promote a sound, balanced transportation system that is consistent with smart growth strategies and principles. A preliminary evaluation of existing and planned transportation studies in the Highlands Region that are anticipated as near-term (5 years), mid-term (5 to 10 years) and long-term (greater than 10 years) projects was performed. The Council received input from State agencies, transportation planning professionals, non-profits and county, municipal and local stakeholders in its evaluation of projects. The projects were evaluated based on input received, research and participation in project studies, the viability of both an anticipated near term project and a longer term project, projects that promote preservation of the transportation system, incorporate transit or multi-model components, serve a significant portion of the Region, reduce vehicle miles traveled, improve mobility and accessibility for residents and visitors and support both the Highlands Act and RMP policies. The projects selected by the Council for inclusion in the 2008 RMP as a priority for further evaluation and focus in order to be considered by the Council include:.... The Council will continue to evaluate transportation projects with its agency partners and stakeholders and support intra- and inter-regional transportation and transit through Plan Conformance and the Transportation Safety and Mobility Program.

Section 11 of the Act states:

- 11. a. The regional master plan shall include, but need not necessarily be limited to...*
- (5) A transportation component that provides a plan for transportation system preservation, includes all federally mandated projects or programs, and recognizes smart growth strategies and principles. The transportation component shall include projects to promote a sound, balanced transportation system that is consistent with smart growth strategies and principles and which preserves mobility and maintains the transportation infrastructure of the Highlands Region. Transportation projects and programs shall be reviewed and approved by the council in consultation with the Department of*

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Transportation prior to inclusion in the transportation component;

An assessment of roadway conditions across the Highlands indicates that many of the Region's roads are at or approaching traffic capacity. Some of the major U.S. and State highways have recurring capacity constraints during the AM and PM peak travel periods. In addition, because mobile source pollution is generated by vehicle emissions, this traffic congestion increases emissions of harmful pollutants and adversely affects air quality.

Program Summary

The Highlands Act states that a primary goal is to promote a sound and balanced transportation system that is consistent with smart growth strategies and principles and which preserves mobility. The transportation program serves multiple purposes such as identifying roadway capacity constraints, addressing safety concerns, assessing agricultural and freight needs, and promoting efficient land use patterns which look comprehensively at land use and transportation planning. The program also looks to enhance a multi-modal transportation system which facilitates the movement of people and goods without adversely affecting ecosystem integrity and community character. Each program component addresses a specific need area while providing a set of strategies through which the Highlands Council, in coordination with state agencies, local government units and stakeholders, can ensure that RMP goals are achievable.

**RMP Policies and
Objectives Addressed**

Policy 5A1. To ensure that the Highlands transportation system provides safe and efficient intra-regional and inter-regional mobility and that critical safety road improvements use design and engineering controls to minimize induced demand and maximize resource protection.

Policy 5A2. To ensure that the Highlands transportation system affords the Highlands private economic sector, including agriculture, cost-effective transportation for raw materials, products and employees.

Objective 5A2a. Encourage the movement of goods from the roadway network to the freight rail network wherever possible.

Objective 5A2b. Evaluate opportunities to increase freight service through the reactivation of abandoned freight lines.

Objective 5A2c. Ensure sustainability of regional airport facilities and appropriately include the role of general aviation in meeting regional transportation planning needs.

Policy 5A3. To improve public safety through implementation of traffic calming measures in areas with high pedestrian activity.

Policy 5A4. To provide for safe and efficient pedestrian connections including features such as sidewalks, proper lighting, signage, shelters and green street initiatives consistent with NJDOT's Pedestrian Safety Initiative.

Policy 5A5. To promote safe routes for children to travel to and from school in support of the NJDOT's Safe Routes to School Program.

Policy 5B1. To promote more efficient use of existing road capacity by appropriate means, including but not limited to increased bus, van, jitney and car

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pool ridership.

Policy 5B2. To require through Plan Conformance and Highlands Project Review an evaluation of potential growth inducing effects such as substantial new land use, new residents, or new employment that could occur as a result of road improvements for increased motorized vehicle traffic capacity.

Policy 5B3. To prohibit through Plan Conformance and Highlands Project Review road improvements in the Highlands Region in areas for which a Growth Inducing Study demonstrates that proposed improvements do not support the RMP resource protection and smart growth policies and are likely to be growth-inducing for lands with limited or no capacity to support human development without an adverse impact on the Highlands ecosystem.

Policy 5C1. To ensure, to the extent practicable, that proposed transportation improvements which are not consistent with the RMP be modified to be consistent or be re-evaluated in the context of state and regional planning goals.

Policy 5C2. To coordinate with NJ DOT, NJ Transit, North Jersey Transportation Planning Authority (NJTPA), counties and municipalities with regard to transportation planning and strategies within both the Highlands Region and the larger 13-county metropolitan planning region.

Objective 5C2a. Highlands Region transportation site development activities will reflect RMP resource protection, development and redevelopment goals.

Policy 5C3. To limit road improvements through local development review and Highlands Project Review where roads are constrained by topography, forested lands or the community character of land uses fronting on the road.

Policy 5C4. To support economic development by ensuring that transportation planning and improvements support regional development, redevelopment, and tourism opportunities.

Objective 5C4a. Increase tourism opportunities through innovative multi-modal transportation measures and accessible transit schedules.

Objective 5C4b. Support regional tourism economy through enhanced street furnishings, directional signage and Highlands Region tourism information.

**Linking Transportation
and Land Use**

This program component discusses the critical relationship between transportation and land use in the Highlands Region, and the necessity to incorporate smart growth principles in transportation improvements in order to protect the environment while encouraging economic viability.

Many of the transportation improvements made in recent decades have been in the form of adding roadway capacity, with the intent of relieving or mitigating traffic congestion. It is widely acknowledged, however, that the strategy of adding roadway capacity is not a sustainable solution to the many problems facing the transportation system. By looking at transportation and land use planning comprehensively, a long-term strategy can be developed to better solve the Region's transportation issues. There are several integrated land use/transportation corridor studies currently underway or planned in the Highlands Region including but not limited to Interstate 78, Route 57 and Route

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23.

The idea of mixing land uses, combining jobs, housing, retail and other uses in a compact, efficient manner, is one approach which can lead to shorter and less frequent trips taken and fewer vehicle miles traveled. These mixed uses, when integrated as a compact, walkable community, can also create and enhance a sense of place and vitality, which may in turn lead to higher property values and lower infrastructure costs. Transit Oriented Development (TOD) is another method that integrates transportation planning specifically by promoting more compact development around existing transportation infrastructure as an alternative to sprawl. Innovative approaches to roadway design can also put greater focus on ecological systems. The NJTransit *Transit Score Program* is an approach for evaluating land use and transit supported links by defining a transit score index. The program evaluates the relationship between people, employment and vehicle use as related to land use to improve transit options in local and regional planning.

Green Street approaches seek to design a street system that protects water resources in order to prevent the adverse affects of surface runoff. A concept called "Shared Parking" is used extensively in traditional neighborhood commercial settings and downtowns. In these locations, higher densities and mixed uses often allow people to park in a single spot and then walk from one destination to another, allowing one parking space to serve multiple destinations.

The Highlands Region includes seven regional airport facilities that vary in size and aircraft capacity and they serve to support the regional transportation system.

This program component includes the following:

1. Municipal Plan Conformance includes the development of a circulation plan element in coordination with the land use plan element; that ensures mobility and accessibility, evaluates local Transit Scores in support of connecting land use to transit services and addresses smart growth principles consistent with the goals of the RMP.
2. A circulation plan element must show the location and types of facilities for modes of transportation required for the efficient movement of people and goods, including scenic byways and corridors and regional airports, as well as a municipal evaluation of transit and shared parking opportunities through a comprehensive parking study.
3. Conforming counties shall develop a transportation plan that supports local and regional land use planning, ensures mobility and accessibility, evaluates regional Transit Scores as a means to screen for improved and innovative transit options, promote connectivity, shared service opportunities and long-term transportation network needs.
4. Council shall evaluate the existing and proposed Residential Site Improvement Standards (RSIS) in the context of the RMP and develop recommendations for amendments to minimize environmental impacts and maximize utility efficiency from new residential developments in a context-specific manner.
5. Coordinate with NJ Transit, counties and municipalities to increase the performance of the public and private bus carrier systems, increasing transit rider-ship and the use of multi-modal transportation systems for peak hour

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**Regional Transportation
Safety and Pedestrian
Security**

travel including the use of shuttle service and innovative car sharing rental options.

6. Encourage development and redevelopment which provides a balance of jobs to housing in close proximity to rail and bus.
7. Ensure sustainability of regional airport facilities and recognize as appropriate in regional and local transportation planning.

The widespread usage of the Highlands roadway system does not come without certain risks for pedestrians, bicyclists, motorists and bus passengers. Many years of vehicle safety and traffic engineering improvements have resulted in generally safer conditions for automobiles, with fewer fatalities and fewer crashes per vehicle miles traveled. Beyond automobile safety, there has been a growing awareness of the need to protect the most vulnerable road users - pedestrians and bicyclists.

The Act emphasizes the importance of transportation safety and creates certain exemptions which allow for such things as the routine maintenance and reconstruction of transportation infrastructure provided that the activity is consistent with the goals of the Act, and does not result in new through-capacity travel lanes. The challenge of improving safety for all travelers in Highlands Region can best be addressed through strategic and coordinated efforts to integrate safety concerns into transportation planning with State agencies, local governments and stakeholders.

This program component emphasizes the following strategies in order to promote transportation safety:

1. Require municipalities to assess local transportation improvement needs and safety concerns as part of their circulation plan element for Plan Conformance.
2. Coordinate with municipalities, counties, NJDOT, NJTPA and NJ Transit in order to increase safety and security of inter-modal transportation for motorized and non-motorized users, and by implementing traffic calming measures in areas with high pedestrian activity.
3. Promote safe routes for children to travel to and from school in a coordinated effort with NJDOT's Safe Routes to School Program. In addition, encourage safe routes to public transportation through NJDOT's Safe Streets to Transit Program.
4. Provide for safe pedestrian connections including features such as sidewalks, proper lighting, shade trees, and shelters consistent with NJDOT's Pedestrian Initiative.

**Mobility of Agriculture
and Freight Access**

Transportation mobility is a vital component to the agricultural industry in the Highlands Region, as farmers rely on a functional transportation system in order to operate farms, ultimately bring a variety of goods to market and support agri-tourism initiatives. In order to ensure the safety and viability of farming as an occupation in the Highlands Region, safe travel routes for farmers need to be coordinated with local governments and state agencies.

Mobility is also critical to the needs of a growing freight industry which continues to use the Region's infrastructure to haul goods to and from the State's major ports. However, a growing number of freight trucks are having a negative

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impact on the Region's roads. By improving upon existing rail infrastructure and shifting from truck to rail for long-distance transport, more freight can be moved safely and efficiently.

The program components include:

1. Coordinate with municipalities, counties, New Jersey Department of Agriculture and NJDOT to identify and support the unique needs of the agricultural industry to move farm vehicles and goods along transportation corridors, and establish safe travel routes for farmers in order to ensure the safety and viability of farming as an occupation in the Highlands Region.
2. Require that all circulation plan elements and county plans, as part of Plan Conformance, evaluate "farm-to-market" opportunities to improve upon the movement of goods from farms and areas of supply to areas where goods are in demand and in support of agri-tourism initiatives.
3. Require that all circulation plan elements and county plan, as part of Plan Conformance, evaluate opportunities to increase freight service through the reactivation of abandoned freight lines.
4. Coordinate with NJDOT on new Comprehensive Statewide Freight Plan

(For more information on agricultural needs see Agricultural Management and Sustainability Program)

**Transportation and
Tourism Economy**

As a Region that reflects history, exhibits scenic beauty, and provides outdoor recreational activities, the Highlands offers residents and visitors a variety of recreational and tourism opportunities. A strong tourism industry in the Highlands depends upon a safe and efficient transportation system. The Region also includes scenic resource viewsheds along scenic byways and corridors that require protection.

This component seeks to focus on the relationship between the Highlands transportation system and tourism resources. Are transportation services available so that tourists can travel safely and by a variety of modes? Is information about transportation to tourist attractions and activities available? What are opportunities to expand tourism through transportation-related activities such as rail, bus, hiking trails and signage? By answering these questions, Highlands communities can support enhanced regional economic vitality and contribute to overall quality of life.

This program component includes the following:

1. Coordinate with NJDOT, NJTransit and NJ Division of Travel and Tourism to increase tourism opportunities through innovative multi-modal transportation measures and accessible transit schedules.
2. Support the regional tourism economy in cooperation with NJDOT through a road signage program which identifies significant natural and historic resources and landmarks including scenic viewsheds and byways.
3. Require that circulation plan elements evaluate opportunities to expand tourism through multi-modal transit connectivity, thus promoting the use of transit as a means to access Highlands' tourism resources.
4. Coordinate with NJDOT and NJ Department of Agriculture to promote agri-tourism through enhanced information sharing, education and outreach.

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**Overview of
Transportation Project
Review**

The review of transportation projects by Council is a critical step to ensuring that transportation improvements are consistent with the goals and policies of the RMP. The Act states that the Council may provide comments and recommendations on any transportation project undertaken by any State entity or local government unit in the Highlands Region. In the Preservation Area, the Council must establish procedures for conducting reviews of projects that, except in certain cases, involve the disturbance of two acres or more of land, or a cumulative increase in impervious surface by one acre or more. The Act also states that in the Highlands Region the Council has the power to approve, approve with conditions, or disapprove a project, and that except in certain cases no such project can move forward without approval of the Council.

Transportation project review will generally evaluate the following:

1. Consistency with the goals, policies and objectives of the RMP and smart growth planning principles.
2. Determination of net effect on through lane capacity, consistent with the requirements of Policy 5B3.
3. Impact on water quantity and quality, Highlands natural resources such as forests, habitat and open waters and historic and scenic resources.
4. The relationship to surrounding land uses and near and long-term transportation plans for the Highlands Region and the larger 13-county regional transportation planning area.
5. An evaluation of growth-inducing impacts regarding new land use, new residents, and new permanent employment which could have secondary growth implications, or greatly expand transportation infrastructure capacity, especially in areas with high natural resource values and limited capacity to support human development.
6. Use of alternative modes of transportation including transit, bus, pedestrian and bicycle.
7. Safety measures such as traffic calming strategies and pedestrian and bicycle safety features.
8. Impact on agricultural and freight mobility.
9. Effect on eco-tourism, agri-tourism and heritage tourism in the Region.

(Prior to Plan Conformance, guidelines and procedures will be developed in support of transportation project review detailing the specific requirements)

**Roadway Capacity
Monitoring**

The roadway capacity assessment included in the *Transportation Technical Report* provides a detailed assessment of roadway conditions, identifying major origin and destination trips generated in the Highlands for the base year 2002. The Council worked with NJDOT, NJTPA and counties to develop a Highlands Sub-Area model based on information developed from a larger model known as the North Jersey Regional Transportation Model (NJRTM). It is currently the primary analysis tool for transportation planning in the 13 county transportation planning region.

There is a need to re-examine, refine and monitor these roadway conditions and travel patterns, and the impact of future development and land use patterns on traffic conditions. The refined assessment will need to be conducted to a finer Traffic Analysis Zone standard and will require more local traffic count data in

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order to determine more accurately local roadway conditions by municipality in the Highlands Region. This more refined analysis can better reflect the impact of past land use changes in order to inform future land use decisions, and thereby shape transportation infrastructure improvements. The Council will continue to partner with NJDOT, NJTPA and counties to refine the model for future needs.

(More information on the Roadway Capacity Assessment can be found in the *Transportation Technical Report* pg.11)

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Land Use Capability Analysis

Issue Overview

Section 11.a(1)(a) and (6) of the Highlands Act requires that the Highlands Regional Master Plan include:

“(1) A resource assessment which:

(a) determines the amount and type of human development and activity which the ecosystem of the Highlands Region can sustain while still maintaining the overall ecological values thereof...”

“(6) A smart growth component that includes an assessment, based upon the resource assessment prepared pursuant to paragraph (1) of subsection a. of this section, of opportunities for appropriate development, redevelopment, and economic growth, and a transfer of development rights program which shall include consideration of public investment priorities, infrastructure investments, economic development, revitalization, housing, transportation, energy resources, waste management, recycling, brownfields, and design such as mixed-use, compact design, and transit villages. In preparing this component, the council shall:

(a) prepare a **land use capability map**;

In addition, Section 12 of the Act requires that the Regional Master Plan include:

“12. In addition to the contents of the regional master plan described in section 11 of this act, the plan shall also include, with respect to the preservation area, a **land use capability map** and a comprehensive statement of policies for planning and managing the development and use of land in the preservation area, which shall be based upon, comply with, and implement the environmental standards adopted by the Department of Environmental Protection pursuant to sections 33 and 34 of this act, and the resource assessment prepared pursuant to paragraph (1) of subsection a. of section 11 of this act.”

The land use capability map (LUCM) is not explicitly defined by the Highlands Act, but the Regional Master Plan (RMP) requirements give clear guidance that the LUCM is to provide information sufficient to determine, at a regional scale, the potential for land use based on a variety of factors including existing development, agricultural uses, high quality and contiguous natural areas, utility capacity and environmental constraints. As discussed in Chapter 2 of the RMP, the result is a series of maps (the LUCM Series) that in combination provide this information at a regional scale. These maps are:

1. Land Use Capability Zone Map
2. Land Use Capability Water Availability Map
3. Land Use Capability Public Community Water Systems Map
4. Land Use Capability Domestic Sewerage Facilities Map
5. Land Use Capability Septic System Yield Map

Municipalities engaged in Plan Conformance will need to use the information in the Land Use Capability Map Series to determine at a local scale the land use capabilities for their municipalities. Similarly, counties will need this information in Plan Conformance to update county master plans and development regulations. State agencies, which are required by the Highlands Act to

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coordinate their activities using the RMP, will be able to use the LUCM Series to perform a consistency analysis. Lastly, the Highlands Council will also use this information in their petition for State Development and Redevelopment Plan Endorsement, and in the process of Project Reviews and consideration of Petitions for Plan Conformance. The Highlands Council has developed a *Highlands Regional Build Out Model Technical Report* in support of its Plan Endorsement petition that is available for county and municipal use in their build out analyses.

Program Summary

Because the ultimate determination of land use capability requires a combination of technical and planning analyses, the Highlands Council determined that a series of maps regarding land use capability would provide more understandable information than a single LUCM that incorporates all factors of the LUCM Series. The LUCM Series and supporting data will be used by municipalities and counties during Plan Conformance to determine the local land use capability. For this process, the first analysis requires the examination of the Highlands Council's data and maps to determine whether any RMP Updates are appropriate based on more current data, factual corrections or new information. The next analysis requires a determination of available capacity based on three separate categories of constraints: developable lands, environmental resources, and utilities. Then, a "limiting factor analysis" will be completed for each area to determine the land use capability available based on the three categories of constraints. The result will be the municipality's local build out analysis. In the final analysis at the municipal scale, the municipality will determine if proposed development yields advanced in Plan Conformance will be equal to or less than the land use capability determined in the limiting factor analysis, or whether it will seek to modify the most limiting factors in ways that comport with RMP policies but allow for more development potential. The municipality may address these factors through various approaches, such as eliminating water deficits, or creating additional net water availability through water conservation. Where the municipality proposes changes that would result in changes to the LUCM Series, a Petition for Map Adjustment would be required either as part of Plan Conformance or as a separate petition.

The determination of land use capability is only the first step, though critical, in the process of municipal planning. The second step will be allocation of land use capability among the developable parcels in each LUCM Zone, to minimize the potential for large-scale conflict between zoned densities and environmental constraints. The third step will be subdivision and site plan review to ensure that individual project designs meet RMP project review standards for such issues as Highlands Open Water buffers, steep slopes, etc.

**RMP Policies and
Objectives Addressed**

Policy 2A1. To identify and periodically update net water availability and water deficits as a factor in the Land Use Capability Water Availability Map.

Policy 2A2. To ensure that increasing water demands do not exceed Net Water Availability or exacerbate existing deficits of subwatersheds. Net Water Availability is affected at a subwatershed level by location and extent of Land Use Capability Map Zone Map and its status as Current Deficit Area or Existing Constrained Area.

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Policy 2B6. To require through Plan Conformance (including through a Water Use and Conservation Plan developed under Objective 2B8c), local development review, Highlands Project Review, and interagency coordination that proposed public water supply and wastewater service areas, new or increased water allocations and bulk water purchases will not directly or indirectly cause or contribute to a Net Water Availability deficit, and where feasible will help mitigate any existing deficit.

Policy 2I1. To prohibit the expansion or creation of public water supply systems, public wastewater collection and treatment systems and community on-site treatment facilities in the Preservation Area unless approved through a Highlands Applicability Determination or a Highlands Preservation Area Approval with waiver pursuant to N.J.A.C. 7:38.

Policy 2I2. To identify through Plan Conformance and Highlands Redevelopment Area designation procedures those lands of the Preservation Area that may be appropriate for the extension or creation of public water supply systems, public wastewater collection and treatment systems and community on-site treatment facilities for redevelopment that would meet the waiver requirements of N.J.A.C. 7:38.

Objective 2J1b. The development and maintenance of an inventory of the service areas and capacity of Highlands Public Community Water Supply Systems, including a comprehensive data base of water utilities that are dependent on Current Deficit Areas or Existing Constrained Areas as a source of water, with estimates of the extent to which service area demands and water allocation permits may exceed available water.

Policy 2J2. To ensure, through Plan Conformance and Highlands Project Review, that Highlands Public Community Water Systems conform with Policy 2B6.

Objective 2J4a. Prohibit new, expanded or extended public water systems within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below. For approvals regarding parts 1, 2 and 4, the project must maximize the protection of sensitive environmental resources such as Open Water buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas and Critical Habitat Areas. For approvals regarding part 3, the project must avoid disturbance of Open Water buffer areas, Riparian Areas, Steep Slopes and Critical Habitat Areas, and must minimize disturbance of the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, and Prime Ground Water Recharge Areas. The extension or creation of systems shall follow the requirements in Objective 2J4b (parts 2 and 3). The applicable purposes are:

1. to address a documented existing or imminent threat to public health and safety from contaminated domestic and other on-site water supplies that is of sufficient scale to justify a public water supply and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. To address other issues of public health and safety. Such needs

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- shall have highest priority for allocation of existing system capacity;
- 2. to serve a designated Highlands Redevelopment Area;
- 3. to serve a cluster development that meets all requirements of Objective 2J4b;
or
- 4. to avoid the taking of property without just compensation.

Objective 2J4b. Clustered development served by public water supply within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area shall be approved only if the following conditions are met:

- 1. The development impacts are otherwise consistent with the requirements of the RMP, including provisions for mandatory clustering in Agricultural Resource Areas pursuant to Policy 3A6;
- 2. Extension of an existing public water system will occur only where the cluster development is within or immediately adjacent to an Existing Area Served with available capacity;
- 3. Creation of a new public water system will occur only where such development is not within or immediately adjacent to an Existing Area Served with available capacity;
- 4. The clustered development preserves in perpetuity for environmental protection or agriculture purposes the following portion of the project area:
 - a. If served by septic systems, at least 80 percent;
 - b. If served by a public or community on-site wastewater system, at least 80percent, and to the maximum extent feasible the developed portion of the project area (i.e. not including wetlands, open water buffers, recreational lands) is no more than 10 percent with the remaining undeveloped lands protected by permanent easement.
- 5. Where the preserved land in the cluster project area is preserved for agricultural purposes, the cluster development ordinance and an Agriculture Retention/Farmland Preservation Plan requires continued agricultural viability of the agricultural land and the implementation of best management practices, including development and implementation of a USDA Natural Resource Conservation Service Farm Conservation Plan focused on protection of water resources.

Objective 2J4c. Allow the expansion or creation of public water systems within the Existing Community Zone of the Planning Area, other than the Environmentally-Constrained Sub-zone, to serve lands which are appropriate for designated TDR Receiving Zones, infill or redevelopment, to meet needs and protection requirements equivalent to Objective 2J4a within the Existing Community Zone, or to serve new areas for development that meet all other requirements of the RMP. TDR Receiving Zones, affordable housing projects (where the affordable units exceed 10% of the total units), infill and redevelopment shall have higher priority for capacity than expansion of public water service areas within this Zone.

Objective 2J4d. All development within the Highlands Region, in areas that are not served by public water systems, shall be at a density that can be supported by on-site wells. Where cluster development in the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area shall be served by on-site wells, and the undeveloped land is

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preserved for agricultural purposes in perpetuity, the cluster design in combination with the Agriculture Retention/Farmland Preservation Plan required by Objective 2J4b shall provide for best management practices that protect the on-site wells from contamination resulting from agricultural practices and shall include provisions to minimize or reduce net pollutant loadings from the total project area including the preserved agricultural lands.

Policy 2K2. To base projected demand for current needs, appropriate economic revitalization and opportunities for designated TDR Receiving Zones within Existing Areas Served on existing maximum three month demands plus an estimate of redevelopment needs based on either Highlands Council regional analyses or more detailed local analyses, to assess whether there is adequate treatment capacity to encourage redevelopment.

Objective 2K3c. Prohibit new, expanded or extended public wastewater collection and treatment systems and community on-site treatment facilities within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below. For approvals regarding parts 1, 2 and 4, the project must maximize the protection of sensitive environmental resources such as Open Water buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas and Critical Habitat Areas. For approvals regarding part 3, the project must avoid disturbance of Open Water buffer areas, Riparian Areas, Steep Slopes and Critical Habitat Areas, and must minimize disturbance of the forested portion of the Forest Resource Area, agricultural lands of Agricultural Resource Areas, and Prime Ground Water Recharge Areas. The choice of extension or creation of systems shall follow the requirements in Objective 2K3d (2 and 3). The applicable purposes are:

1. to address a documented existing or imminent threat to public health and safety from a pattern of failing septic systems (where the failing systems cannot reasonably be addressed through rehabilitation or replacement) or highly concentrated septic systems, where the threat is of sufficient scale to justify a public wastewater collection and treatment system or community on-site treatment facility and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. To address other issues of public health and safety, such needs shall have highest priority for allocation of existing system capacity;
2. to serve a designated Highlands Redevelopment Area;
3. to serve a cluster development that meets all requirements of Objective 2K3d; or
4. to avoid the taking of property without just compensation.

Objective 2K3d. Clustered development served by a public wastewater collection and treatment system or community on-site treatment facility within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area shall be approved only if the following conditions are met:

1. The development impacts are otherwise consistent with the requirements of the RMP, including provisions for mandatory clustering in Agricultural

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Resource Areas;

2. Extension of an existing public wastewater collection and treatment system will occur only where the cluster development is within or immediately adjacent to an Existing Area Served with available capacity;
3. Creation of a community on-site treatment facility will occur only where such development is not within or immediately adjacent to an Existing Area Served with available capacity, where the proposed system is designed, permitted and constructed at a capacity limited to the needs of the clustered development, and where the system does not create the potential for future expansion into areas that are not the subject of cluster developments immediately adjacent to the initial cluster served;
4. The cluster development preserves at least 80 percent of the project area in perpetuity for environmental protection or agriculture purposes, and to the maximum extent feasible the developed portion of the project area (i.e. not including wetlands, open water buffers, recreational lands) is no more than 10 percent, with the remaining undeveloped lands protected by permanent easement.
5. Where the preserved land in the cluster project area is preserved for agricultural purposes, the cluster development ordinance and an Agriculture Retention/Farmland Preservation Plan requires continued agricultural viability of the agricultural land and the implementation of best management practices, including development and implementation of a USDA Natural Resource Conservation Service Farm Conservation Plan focused on protection of water resources.

Objective 2K3e. Allow the expansion or creation of wastewater collection systems within the Existing Community Zone of the Planning Area, other than the Environmentally-Constrained Sub-zone, to serve lands which are appropriate for designated TDR Receiving Zones, infill or redevelopment, to meet needs and protection requirements equivalent to Objective 2K3c within the Existing Community Zone, or to serve new areas for development that meet all other requirements of the RMP. The highest priority for allocation of excess or additional wastewater treatment capacity is to areas where there are clusters of failed septic systems that are located within or adjacent to Existing Areas Served. TDR Receiving Areas, where designated, affordable housing projects (where the affordable units exceed 10% of the total units), infill and redevelopment shall have higher priority for capacity than other developments requiring expansion of sewer service areas.

Objective 2K3f. All development within the Highlands Region, in areas which are not served by public wastewater collection and treatment system or community on-site treatment facility, shall be at a density that can be supported by septic systems under Goal 2L. Where cluster development in the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area shall be served by on-site wells, and the undeveloped land is preserved for agricultural purposes in perpetuity, the cluster design and the Agriculture Retention/Farmland Preservation Plan required by Objective 2K3d in combination shall include provisions for best management practices that protect the on-site wells from contamination resulting from agricultural practices and shall include provisions to minimize or reduce net pollutant loadings from

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the total project area including the preserved agricultural lands.

Policy 2L1. To use nitrate concentrations in ground water as an indicator of water quality, and to use nitrate dilution modeling as the primary method for assessing the carrying capacity of lands for development that relies on septic systems for wastewater treatment.

Policy 6A1. To use the Land Use Capability Map Series (LUCM Series) as a geographic framework for land use planning and management within the Highlands Region.

Objective 6A1a. A Highlands Land Use Capability Map Series based on the most current, relevant and available data.

Objective 6B2a. Provide a Highlands Build Out Model that evaluates Regional Master Plan policies, supports State, regional and local requirements, and provides a consistent framework for water supply, wastewater, transportation and affordable housing planning and the SDRP Plan Endorsement process.

Objective 6B2b. Counties shall, through Plan Conformance, use the Highlands Build Out Model or its equivalent to prepare a utilities plan element of the County Master Plan that evaluates available development capacity based on lands, resources and utilities.

Objective 6B2c. Municipalities shall, through Plan Conformance, use the Highlands Build Out Model to develop a local build out analysis that incorporates RMP policies and objectives to evaluate land use capability and capacity planning.

Technical and Planning Assistance

The Highlands Council will provide to each Highlands municipality and county the information developed for the Regional Master Plan and the LUCM Series specifically, as relevant to their jurisdiction, and provide technical and planning assistance that will assist local use of the information. The Highlands Council will also provide all information used in development of the *Highlands Regional Build Out Model Technical Report* for use in local build out model development and analysis. Further technical and planning assistance will be made available in the form of training programs for local officials, employees and consultants. See the *Plan Conformance Program* and the *Local Participation Program* for additional information on this component.

RMP Updates

Subsequent to receipt of the RMP information and assistance regarding its use, municipalities and counties will assist the Council by examining the information used in the LUCM Series and other elements of the RMP and recommending RMP Updates as needed. Of specific interest will be updates on the following information:

- Development or other land use changes that have occurred and development proposals that have been fully approved subsequent to the Land Use Land Cover aerial photography used in the LUCM Series (currently 2002);
- Additional lands preserved for natural resource preservation, parks and recreational open space, historic preservation, farmland preservation, etc.;
- Modifications to stream and flood hazard delineation maps, including both

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additions and corrections to stream corridor locations;

- Jurisdictional wetlands and transition areas for which NJDEP has provided an updated Letter of Interpretation (LOI);
- Topographic mapping that will enable a more precise delineation of steep slopes;
- Additional NJDEP certified vernal pools, and proposed modifications to vernal pool buffers based on the criteria in the Goals, Policies and Objectives and discussed in the *Critical Habitat Conservation and Management Program*;
- Modifications to critical habitat boundaries for rare, threatened and endangered wildlife species based on site-specific analyses using methods in Highlands Council guidance;
- Updates and corrections to the Existing Areas Served for both public community water supply systems and public wastewater treatment systems;
- Updates regarding transportation facilities that significantly alter the opportunity for multi-modal transportation connections and use;
- Updates to water withdrawal, water use, and wastewater discharge volumes and locations that would result in a modification of the Water Availability values for HUC14 subwatersheds affecting the municipality, including information that results in recalculation of consumptive and depletive water uses for any subwatershed. In addition, information may be provided regarding specific contracts or rights to utility capacity by municipality, service area or contracted uses (i.e., committed but unconnected users) that will allow for more specific utility capacity determinations by municipality.

Proposed RMP updates will be verified for accuracy by the Highlands Council and used to determine whether changes in any of the LUCM Series are appropriate. See the *RMP Updates Program* and the *Map Adjustments Program* for additional information.

**Calculation of Land Use
Capability**

The Highlands Council will provide updated LUCM Series and technical information, including the *Highlands Regional Build Out Model Technical Report*, to each Highlands municipality and county as necessary during the Plan Conformance process. Each municipality in the Plan Conformance process shall use the LUCM Series and any supporting tabular and mapped information to determine the land use capabilities within their municipalities at a local scale, as part of the local build out analysis required for Plan Conformance. Each County in the Plan Conformance process shall also use the LUCM Series and any supporting tabular and mapped information to determine the extent to which county conformance is affected by the information, such as impacts on county utility authorities, conservation elements of county master plans, etc. Land use capability has three components:

- Land based capacity
- Resource based capacity
- Utility based capacity

Land based capacity is determined through an examination of vacant lots, partially developed oversized lots that could be subdivided under existing zoning, and lots that could be viable for redevelopment or intensification of development

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(which can include those lots identified as potential sites through use of the Highlands Council's *Redevelopment and Infill Analysis Tool*). This step provides a sense of what lands could be developed assuming no resource or utility constraints. However, it does not address the actual density of that development, which will be affected in the near term by municipal intentions as expressed in local zoning policies, RMP policies, and current resource and utility constraints, and in the longer term by decisions regarding TDR Receiving Zones, infrastructure investments, the impact of water deficit reduction programs, etc.

Resource based capacity is determined through an examination of:

- **Septic Systems:** The number of septic systems that can be accommodated in each municipality for each Land Use Capability Zone, as defined by the RMP, which will be determined based on developable acreage within each HUC14 subwatershed. Where municipalities coordinate their planning, septic system yield within the same HUC14 subwatershed and Zone may be reallocated based on a mutually agreed upon formula, as long as the results are in conformance with all other RMP policies and objectives;
- **Water Availability:** The net or conditional water availability defined by the RMP for each municipality by HUC14 subwatershed. (Agricultural net water availability for the Conservation Zone may not be combined with the non-agricultural net water availability for that Zone.) Where municipalities coordinate their planning under a joint Water Use and Conservation Management Plan, net or conditional water availability within the same HUC14 subwatershed may be reallocated based on a mutually agreed upon formula, as long as the results are in conformance with all other RMP policies and objectives. (Municipalities will plan for future water uses through municipal Water Use and Conservation Management Plans as a condition of Plan Conformance. Where a Current Deficit Area exists, the plan must achieve reduction or elimination of the deficits);
- **Local issues** regarding the ability of local aquifers to sustain water demands, regardless of HUC14 subwatershed estimates. Subwatershed-based net water availability may not reflect variations in aquifer capacity within the subwatershed, nor contamination issues that may limit site-specific water availability. These local issues should be used as additional constraints on the location and density of development.

Utility based capacity is determined through an examination of public water supply and wastewater utility capacity by municipality, and where appropriate by service zones (i.e., portions of the overall service area that is served by a single transmission or collection main or is within a single pressure zone) within each municipality. Service zone analysis may be necessary where constraints in the ability of individual supply mains or collection systems to convey flows will limit development potential even where the utility treatment plant has available capacity. Because many utilities serve more than one town and service agreements differ, the capacity analysis also must address questions of capacity allocation – does a municipality have a guaranteed allocation or is capacity assigned on a “first come, first served” basis regardless of municipality? Finally, the implications of regulatory constraints such as NJPDES permits, TMDLs, water allocation permits, etc. must be addressed.

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The next step, determination of **land use capability**, is a “limiting factor analysis” using these three categories of capacity constraints. No one part of municipality will need to address all types of constraints, because a sewerage area will not address septic system yields, and vice versa. In general, however, a municipality should determine for each part of the municipality the type of capacity that is most constraining. The municipality can then directly zone or regulate for that capacity, or it may examine alternatives that create capacity as long as the alternatives are otherwise in conformance with the RMP:

- Where land based capacity is the most limiting factor, the municipality may consider modifying zoning to more fully utilize available resource or utility capacities, up to the second most limiting factor. The use of available capacity for TDR Receiving Zones in appropriate locations is one potential approach;
- Where water availability is the most limiting factor, the municipality will determine through its Water Use and Conservation Management Plan whether the most appropriate approach is to limit land use capability to that level, or to increase net water availability by conservation, new supplies, or eliminating existing deficit to create capacity, through the methods identified in the *Water Deficits Program* and the *Efficient Use of Water Program*;
- Where septic system yield is the most limiting factor, the municipality may explore extending or creating sewer service areas that provide an alternative to use of septic systems. (Note: the use of alternative design septic systems cannot be used to modify septic system yields.) New or expanded sewer service areas may only occur in the Preservation Area through a Highlands Act waiver through NJDEP. In the Planning Area, they must comply with all RMP policies and objectives protecting the Environmentally Constrained Sub-zones and Highlands resources. New or expanded sewer service areas proposed in the Conservation or Protection Zones of the Planning Area must be shown to be necessary for and are approved by the Highlands Council to address a Highlands Act waiver or cluster development, and will maximize the protection of sensitive environmental resources.
- Where utility capacity is the most limiting factor, the municipality may investigate increasing net utility capacity through water conservation (again, using methods in the *Efficient Use of Water Program* or *Water Deficit Reduction Program*) or through public water or wastewater infrastructure improvements.

The results of this technical analysis and planning process will be reflected in the documentation provided by a municipality with its Petition for Plan Conformance (see *Plan Conformance Program* for more information).

**Natural Resource
Limitations on Land
Use Capability**

The process defined above provides the total land use capability for large areas of a municipality or county. Municipalities will then determine how the land use capability will be allocated among developable lands through zoning. Factors that shall be considered include the location, density, quality and relative intensity of sensitive environmental features in the developable lands, to minimize and, where required, avoid possible conflict between the allocation of land use capability and the protection of environmental resources (including but not limited to Highlands Open Waters, Critical Habitat, Riparian Areas, steep slopes, Prime Ground Water Recharge Areas) during the local development review

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process. The Goals, Policies and Objectives of the RMP and the relevant maps, data layers and tabular data shall be included as part of this process, toward Plan Conformance.

For example, the Environmentally Constrained Sub-zones in both the Existing Community Zone and the Conservation Zone trigger special provisions restricting the extension or provision of public water supply and wastewater management facilities, beyond the general provisions of the Zones themselves. For natural resource protection requirements in all Zones, the Goals, Policies and Objectives require protection of the resources and may require responses ranging from modified layout of development at the zoned densities (where the natural resource constraints are limited relative to lot size and development density), to loss of development yield (where a high level of constrained areas exists on a specific property).

The figure *Site Specific Constraints Analysis* shows a Planning Area example from an Existing Community Zone that has significant developed areas but also some undeveloped or underdeveloped parcels. Site specific constraints on land use primarily include the 300 foot Highlands Open Water buffer, steep slopes and Tiers 1, 2 and 3 of a Wellhead Protection Area. In some cases, the developable lands are not affected by any of these constraints. In other cases, parcels are entirely or partially within one or more constraints. Tier 3 of a Wellhead Protection Area does not limit development capacity, but rather ensures that any potential discharges of hazardous materials are prevented. New development must be designed to protect the entire Highlands Open Water buffer, but redevelopment of already disturbed lands may be allowed within the buffer to a certain extent. New development must also generally avoid steep slopes. (See *Project Review Standards Program* for more details on specific standards.) Using the example area, one potential development solution for properties affected by the Highlands Open Water buffer and steep slopes would be clustering of zoned development yield onto the unconstrained portions of the affected properties. The result need not reduce the total development yield, but must include a significant movement of that yield away from the constrained area.

RMP Map Adjustments

Where municipal or county conformance planning results in a proposal for changes to the LUCM Series other than RMP Updates, the municipality must submit a Petition for Map Adjustment either as part of the Petition for Plan Conformance or separately. The *Map Adjustments Program* provides additional information on the limitations and policies for map adjustments.

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**Cluster/Conservation
Design Development**

Issue Overview

Aggressive agricultural and open space preservation programs have preserved a significant amount of land in the Highlands Region. Permanent protection of open space and agricultural resources typically occurs through fee simple acquisition or easement acquisition by leveraging public tax dollars. Increases in land value and budgetary funding constraints make it nearly impossible to preserve such resources with public tax dollars alone. Municipalities need several planning tools in their toolbox to achieve their desired resource protection goals and the requirements of the RMP. Planning mechanisms that do not require public funding for compensation, such as clustering techniques, shall be made available to retain agriculture and environmental resources. The Highlands Act recognizes that development, redevelopment and economic growth in certain areas of the Region are in the best interests of the State, providing innumerable social, cultural, and economic benefits. Locally, the need exists for a certain amount of growth to meet affordable housing obligations, take advantage of infill/redevelopment opportunities, increase the local tax base, and provide for general economic health.

However, communities throughout the region and New Jersey express concern about the tax implications of future growth, and the impact growth will have on existing community character. Sprawling suburban development under conventional zoning is incompatible with agricultural, environmental and historic resources; it fragments habitat, and does little to protect these resources. This type of development does not meet the requirements of the RMP or the goals of the New Jersey State Development and Redevelopment Plan (SDRP), which both seek to direct growth into compact, walkable, mixed-use centers and preserve significant resources in the environs. Development located in the environs is inefficient in that it requires new infrastructure, such as transportation, water, wastewater, and community facilities, which only increase traffic congestion and ultimately the cost of government services. Planning for more appropriate future growth requires the use of innovative tools, such as clustering, to preserve critical resources and retain community character.

Some of the key objectives of the Highlands Act are to minimize the impact of human development on the Highlands ecosystem and to maintain the rural, historic and scenic character of the region. When designed appropriately cluster development furthers these objectives by guiding future growth away from lands with high resource values or limited capacity to support growth to lands which are appropriate for development and able to accommodate it. Cluster development can moreover result in the preservation, usually in perpetuity, of significant resources.

Under the New Jersey Municipal Land Use Law (MLUL) clustering can be accomplished through contiguous or non-contiguous Planned

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Developments pursuant to N.J.S.A. 40:55D-65. A clustering program can also be implemented under a TDR program pursuant to the 2004 State TDR Act or the Highlands Development Credit (HDC) Program. The Highlands Act requires the Highlands Council establish a regional TDR Program, which the RMP addresses through the HDC Program (see Part 7. Landowner Equity).

Planned Developments are defined in N.J.S.A. 40:55D-6 to include residential clusters. Prior to 1996 only contiguous cluster developments were permitted. Contiguous clustering takes one parcel and groups new development on a small portion of that parcel, while preserving the remainder of the parcel. Non-contiguous clustering is now permitted pursuant to MLUL amendments, effective January 5, 1996 (P.L. 1995, c.364). Clustering provisions may be adopted into a municipal zoning ordinance pursuant to N.J.S.A. 40:55D-65(c), which includes allowance for “the clustering of development between non-contiguous parcels.” Such ordinances must establish standards for the type of clustering, whether contiguous or non-contiguous, as well as the permitted density and intensity of development. The zoning ordinance also sets forth the design, bulk, and location of the buildings, as well as the percentage of the lot or development area to be set aside for preservation and development purposes.

Essentially, cluster development permits smaller lots than required by the zone, as long as there is no increase in the number of lots that would be permitted under the zoning. The remaining parcel would be held in common by the lot owners for conservation or open space purposes, including agriculture, in accordance with standards set forth at N.J.S.A. 40:55D-43. These standards allow the open space set aside to be dedicated to the municipality or another government agency. If the land is not dedicated to either of these, the developer must “provide for an organization for the ownership and maintenance of any open space” (N.J.S.A. 40:55D-43), and the organization cannot be dissolved or dispose of the open space without first offering it to the municipality.

Typically the developer would create a Homeowner’s Association to retain ownership and maintain the property. In this instance under §40:55D-43(b) the municipality or officer designated by ordinance to administer the cluster development can monitor the property to assure it is retained properly. If the property is deeded to the municipality, the municipality is responsible for monitoring the property’s maintenance. If the open space is set aside for agricultural purposes, it can be sold “in fee” to the Homeowner’s Association and then leased to a local farmer. A more viable option for the farming community is for the farmer to retain ownership and sell only the “development rights.” Should the farmer retire the parcel can be sold to a younger farmer at an affordable price to keep the agricultural industry viable in the community.

Lot-averaging is also permissible under N.J.S.A. 40:55D-40, which allows for standards in a subdivision ordinance that deviate from conventional subdivision standards for lot areas, dimensions, yards and setbacks. The

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degree of flexibility is not specified but may include “standards encouraging and promoting flexibility, economy and environmental soundness in layout and design” (§40:55D-40(b)). A municipal lot-averaging ordinance allows for creation by subdivision of non-uniform lots which, when considered *on average*, must conform to the minimum lot size and dimensional requirements of the underlying zoning. This provides flexibility in land development in order to retain concentrated environmental or agricultural resources in contiguous areas on the largest of the remaining parcel(s). The resource areas remain in private ownership, but are protected by conservation easements or other forms of deed restriction.

When implemented appropriately cluster development should conserve land, reduce infrastructure costs, maintain landowner equity, reduce the cost of government services, and reduce the costs to the builder, which in turn reduces costs to the home buyer. The cluster should permanently protect a significant portion of the project area by clustering development within a small portion of the tract. If the new development is located adjacent or accessible to existing infrastructure, such as transportation, water, wastewater, and public facilities, this will reduce impervious surface and costs to construct or extend new infrastructure. The builder will save and filter the savings down to the home buyer. The municipality will save in terms of providing services to the new development. For example, added maintenance for new roads and facilities will be reduced. The limited impervious surface will also protect resources and enhance water and soil quality.

Program Summary

Preserving and enhancing undeveloped lands in the Highlands Region is one of the primary components of the Highlands Act. However, existing funding constraints to protect open space and agricultural land, coupled with the need to provide for some growth, require planning tools, such as clustering to protect significant resources and allow for limited growth. Cluster development shall balance these multiple needs, including, but not limited to maximizing the protection of environmental and agricultural resources, accommodating limited development and considering existing community character. To accomplish these objectives, when municipalities are considering the use of cluster development, they shall be encouraged to take a holistic approach to planning for the entire municipality through the Plan Conformance process.

A holistic approach will include a capacity and resource analysis to determine the potential for future growth and the need for resource protection for the entire municipality. An evaluation of existing infrastructure, including but not limited to transportation, water, sewer, and community facilities will be necessary to investigate the possibility of locating future growth adjacent to existing infrastructure. This will maximize the protection of resources and reduce costs associated with development not only for the builder and subsequent homebuyers, but for the governmental jurisdiction(s) having ultimate authority for the care

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and maintenance of the infrastructure systems. For instance, to the maximum extent possible, a cluster development that is situated adjacent to an existing village shall be designed to use existing infrastructure and consider the existing community character of the village.

Implementation of cluster development shall require municipal development plans and regulations that meet the requirements of the RMP. The Highlands Council will provide grants, technical assistance and planning assistance to municipalities for cluster development planning. Projects involving cooperative planning by neighboring municipalities will be encouraged. The Highlands Council will create Cluster Development Conformance Standards that include a model cluster ordinance and relevant master plan provisions. The Council will also create Cluster Development Design Guidelines for cluster development to guide municipalities, local development review, and Highlands Project Review. Cluster development design guidelines shall be incorporated into cluster zoning ordinances. To a certain extent the traditional rural village settlement in New Jersey resembles single-family cluster development, but conventional zoning will not produce this type of development. When designed appropriately cluster development will produce the desired effect of traditional rural settlement, which enhances the quality of life in the community, and the region as a whole.

Cluster development requirements are provided below in the policies and objectives of the RMP. These policies and objectives are necessary in order to meet the resource management and protection requirements of the RMP, and to maximize the preservation of the Highlands resources. The term "cluster project area," introduced in the policies and objectives below, refers to all of the individual parcels involved in the cluster development.

Regardless of the Highlands LUCM Zone, the use of clustering must preserve at least 80 percent of the total cluster project area in perpetuity in agricultural use or for environmental protection. A set aside of 80 percent for preservation will prevent the fragmentation of existing ecosystems and agricultural land. The preservation of contiguous areas of open space and agriculture will sustain and enhance these resources. Preservation of up to 90 percent of the cluster project area will be achieved where feasible. Clustering does not have a specific targeted lot size for the developed portion of the cluster, because each project area will require specific design parameters based on the presence of environmental or agricultural resources, and specific development layouts for existing and proposed infrastructure. Such infrastructure includes, but is not limited to, transportation (roads, transit), utilities (water and wastewater), community facilities and communal open space.

The cluster design should incorporate a tighter lot size, as appropriate, to meet the resource management and protection requirements of the RMP, to maximize the preservation of the Highlands resources, and to minimize impervious surfaces. Cluster development yields are based on the septic system density requirement of the RMP relevant to the LUCM

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Zone in which the cluster project area is located in, except where specifically allowed by the Highlands Council through the use of HDC purchases where wastewater infrastructure is available consistent with RMP policies and objectives. Higher development yields than those permitted within the requirements of the RMP, shall not be allowed in any Highlands LUCM Zone. Water and wastewater availability, expansion, or creation for cluster development shall be wholly dependent on the Highlands LUCM Zone that the cluster project area is located in. The cluster design development plans and regulations shall also consider existing community character, and should incorporate smart growth design principles, and Low Impact Development (LID). The cluster development shall be buffered appropriately to protect resources, and minimize conflicts with existing agricultural and environmental resources and new development. Clustering is mandatory in the Agricultural Resource Area, regardless of the LUCM Zone, for residential development, and shall be designed in such a way that maximizes the preservation of the agricultural resource, and sustains or enhances the viability of the agricultural industry in the municipality and the region as a whole. While the policies and objectives for the Cluster Program that follow are extensive, they are necessary to clarify when and how cluster development shall be considered and implemented. Cluster development shall meet the resource management and protection requirements of the RMP and maximize the preservation of resources in the Highlands Region.

**RMP Policies and
Objectives Addressed**

Objective 1A2d. To prohibit through Plan Conformance, local development review and Highlands Project Review the expansion or creation of public water supply systems or public wastewater collection and treatment systems or community-based on-site wastewater facilities into forested areas of the Forest Resource Area within the Planning Area except as provided for in Policy 2J4 with Objectives 2J4a through 2J4d, and Policy 2K3 with Objectives 2K3a through 2K3e, and within the Preservation Area except as provided for in Policy 2I1 and Objectives 2I1a and 2I1b.

Objective 2B9e. Give highest priority for the use of Net Water Availability for non-agricultural water uses to clustered or compact development, Highlands Redevelopment Areas as designated by the Highlands Council, and Receiving Zones that result in the preservation of agricultural and environmentally sensitive lands.**Objective 2J4a.** Prohibit new, expanded or extended public water systems within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below, and will maximize the protection of sensitive environmental resources including avoidance of Open Water buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands within the Agricultural Resource Areas, Steep Slopes, Prime Ground Water Recharge Areas and Critical Habitat Areas. The extension or creation of such systems shall follow the requirements in Objective

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2J4b (parts 2 and 3). The applicable purposes are:

1. To address a documented existing or imminent threat to public health and safety from contaminated domestic and other on-site water supplies that is of sufficient scale to justify a public water supply and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. To address other issues of public health and safety. Such needs shall have highest priority for allocation of existing system capacity;
2. To serve a designated Highlands Redevelopment Area;
3. To serve a cluster development that meets all requirements of Objective 2J4b; or
4. To avoid the taking of property without just compensation.

Objective 2J4b. Clustered development served by public water supply within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area shall be approved only if the following conditions are met:

1. The development impacts are otherwise consistent with the requirements of the RMP, including provisions for mandatory clustering in Agricultural Resource Areas pursuant to Policy 3A5;
2. Extension of an existing public water system will occur only where the cluster development is within or immediately adjacent to an Existing Area Served with available capacity;
3. Creation of a new public water system will occur only where such development is not within or immediately adjacent to an Existing Area Served with available capacity;
4. The clustered development preserves at least 80 percent of the cluster project area in perpetuity for environmental protection or agricultural purposes. To the maximum extent feasible the developed portion (i.e., not including wetlands, open water buffers, and recreational lands) occupies no more than 10 percent of the cluster project area if served by a public or community on-site wastewater system;
5. Where the preserved land in the cluster project area is dedicated to agricultural purposes, the cluster development ordinance and an Agriculture Retention/Farmland Preservation Plan supports continued agricultural viability of the agricultural land and requires the implementation of best management practices, including development and implementation of a Farm Conservation Plan that addresses the protection of water and soil resources prepared by the USDA Natural Resources Conservation Service (NRCS), Technical Service Provider (TSP), appropriate agent or NJDA staff, and approved by the local Soil Conservation District (SCD).

Objective 2J4d. All development within the Highlands Region, in areas that are not served by public water systems, shall be at a density that can be supported by on-site wells. Where cluster development in the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area will be served by on-site wells, and the undeveloped land is preserved for agricultural purposes in

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perpetuity, the cluster development in combination with the Agriculture Retention/Farmland Preservation Plan required by Objective 2J4b shall provide for best management practices that protect the on-site wells from contamination resulting from agricultural practices and shall include provisions to minimize or reduce net pollutant loadings from the total cluster project area including the preserved agricultural lands.

Objective 2K3c. Prohibit new, expanded or extended public wastewater collection and treatment systems and community on-site treatment facilities within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the purposes listed below, and will maximize the protection of sensitive environmental resources including avoidance of Open Water buffer areas, Riparian Areas, the forested portion of the Forest Resource Area, agricultural lands of the Agricultural Resource Area, Steep Slopes, Prime Ground Water Recharge Areas, and Critical Habitat Areas. The choice of extension or creation of systems shall follow the requirements in Objective 2K3d (2 and 3). The applicable purposes are:

1. To address a documented existing or imminent threat to public health and safety from a pattern of failing septic systems (where the failing systems cannot reasonably be addressed through rehabilitation or replacement) or highly concentrated septic systems, where the threat is of sufficient scale to justify a public wastewater collection and treatment system or community on-site treatment facility and where no alternative is feasible that would sufficiently assure long-term protection of public health and safety. To address other issues of public health and safety. Such needs shall have highest priority for allocation of existing system capacity;
2. To serve a designated Highlands Redevelopment Area;
3. To serve a cluster development that meets all requirements of Objective 2K3d; or
4. To avoid the taking of property without just compensation.

Objective 2K3d. Clustered development served by a public wastewater collection and treatment system or community on-site treatment facility within the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area shall be approved only if the following conditions are met:

1. The development impacts are otherwise consistent with the requirements of the RMP, including provisions for mandatory clustering in Agricultural Resource Areas;
2. Extension of an existing public wastewater collection and treatment system will occur only where the cluster development is within or immediately adjacent to an Existing Area Served with available capacity;
3. Creation of a community on-site treatment facility will occur only where such development is not within or immediately adjacent to an Existing Area Served with available capacity, where the proposed

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system is designed, permitted and constructed at a capacity limited to the needs of the clustered development, and where the system does not create the potential for future expansion into areas that are not the subject of cluster developments immediately adjacent to the initial cluster served; and

4. The cluster development preserves at least 80 percent of the cluster project area in perpetuity for environmental protection or agricultural purposes. To the maximum extent feasible the developed portion (i.e., not including wetlands, open water buffers, and recreational lands) occupies no more than 10 percent of the cluster project area if served by a public or community on-site wastewater system.
5. Where the preserved land in the cluster project area is dedicated to agricultural purposes, the cluster development ordinance and an Agriculture Retention/Farmland Preservation Plan supports continued agricultural viability of the agricultural land and requires the implementation of best management practices, including development and implementation of a Farm Conservation Plan that addresses the protection of water and soil resources prepared by the USDA NRCS, TSP, appropriate agent or NJDA staff, and approved by the local SCD.

Objective 2K3e. Allow the expansion or creation of wastewater collection systems within the Existing Community Zone of the Planning Area, other than the Environmentally-Constrained Sub-zone, to serve lands which are appropriate for designated TDR Receiving Zones, infill or redevelopment, to meet needs equivalent to those provided at Objective 2K3c within the Existing Community Zone, or to serve new areas for development that meet all other requirements of the RMP. The highest priority for allocation of excess or additional wastewater treatment capacity is to areas where there are clusters of failed septic systems that are located within or adjacent to Existing Areas Served. TDR Receiving Areas, where designated, affordable housing projects (where the affordable units exceed 10% of the total units), infill and redevelopment shall have higher priority for capacity than other developments requiring expansion of sewer service areas within this Zone.

Objective 2K3f. All development within the Highlands Region, in areas which are not served by public wastewater collection and treatment system or community on-site treatment facility, shall be at a density that can be supported by septic systems under Goal 2L. Where cluster development in the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones of the Planning Area shall be served by on-site wells, and the undeveloped land is preserved for agricultural purposes in perpetuity, the cluster development and the Agriculture Retention/Farmland Preservation Plan required by Objective 2K3d in combination shall include provisions for best management practices that protect the on-site wells from contamination resulting from agricultural practices and shall include provisions to minimize or reduce net pollutant loadings from the total cluster project

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area including the preserved agricultural lands.

Objective 2L2e. New residential development using septic systems where lot-averaging, clustering or conservation design techniques are employed shall have a gross density (for all parcels involved in the development proposal) based on the nitrate dilution target appropriate for the LUCM Zone, but with the density for the developed portion of the site based on a nitrate dilution target not to exceed 10 mg/L or any more stringent requirement as required by N.J.A.C. 7:15.

Policy 3A5. Where it is not feasible to preserve agricultural lands within the Agricultural Resource Area (ARA) by such methods as fee simple acquisition, easement acquisition, or a TDR Program, require mandatory clustering through Municipal Plan Conformance, local development review and Highlands Project Review for residential development in an ARA. Cluster development within the Planning Area that incorporates public or community on-site wastewater utilities shall meet the requirements of Policy 2J4 with Objectives 2J4a through 2J4d, and Policy 2K3 with Objectives 2K3a through 2K3e, and within the Preservation area shall meet the requirements of Policy 2I1 and Objectives 2I1a and 2I1b, and where reliant on septic systems shall meet the requirements of Objective 6G1b.

Objective 3A5a. Implement regulations requiring that cluster or conservation design development proposed within an Agricultural Resource Area support the preservation of farmland, avoid conflicts with agriculture, maintain and enhance the sustainability and continued viability of the agricultural industry, protect Important Farmland Soils, and meet resource management and protection requirements of the RMP.

Objective 3A5b. Implement regulations requiring that all cluster or conservation design development proposed in an Agricultural Resource Area be buffered appropriately with existing natural resources, such as hedgerows or trees, or with new buffers to avoid conflicts between non-agricultural development and agricultural activities, and to protect existing agricultural uses and sensitive environmental resources.

Objective 3A5c. Implement regulations requiring that all land preserved in perpetuity for environmental protection or agricultural purposes as a result of clustering be subject to a conservation easement enforceable by the Highlands Council and at least one of the following: the appropriate municipality, for agricultural purposes the County Agriculture Development Board or the State Agriculture Development Committee, and for environmental purposes Green Ares or a qualified non-profit land trust organization.

Objective 3A5d. Where the preserved land in the cluster project area is dedicated to agricultural purposes support continued agricultural viability of the agricultural land and require the implementation of best management practices through the cluster development ordinance and an Agriculture Retention/Farmland Preservation Plan, including

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development and implementation of a Farm Conservation Plan that addresses the protection of water and soil resources prepared by the USDA Natural Resources Conservation Service (NRCS), Technical Service Provider (TSP), appropriate agent or New Jersey Department of Agriculture (NJDA) staff, and approved by the local Soil Conservation District (SCD).

Policy 3C1. To prohibit through Plan Conformance, local development review and Highlands Project Review the development of additional water and wastewater infrastructure in a Agricultural Resource Area (ARA) within the Conservation and Protection Zones of the Planning Area, unless they meet the requirements of Policy 2J4 with Objectives 2J4a through 2J4d, and Policy 2K3 with Objectives 2K3a through 2K3e, and will maximize the preservation of agricultural lands with the ARA.

Objective 6A3b. Map Adjustments proposed to change Protection and Conservation Zones or the Environmentally Constrained Sub-Zones may be approved by the Highlands Council where it finds that the petition does not result in unintended or deleterious impacts on the LUCM Zone or RMP policies and objectives applicable to adjacent or nearby lands, and the petitioner demonstrates that the petition meets all of the following criteria:

1. Demonstrates that all other means to apply policies in an area that are different than those prescribed by the Zone designation are inadequate to address the planning considerations underlying the petition, including techniques such as:
 - Waivers under the Highlands Act
 - Exemptions from the Highlands Act
 - RMP Updates Program
2. Provides a no net loss of Highlands resources and resource values within a municipality and as appropriate any HUC 14 subwatershed, including but not limited to, water availability, water quality, critical habitat and agriculture, such that all Map Adjustments provide results that are equal to or exceed on a whole the resource protection provided by the RMP;
3. Uses Highlands Development Credits or reduces the equivalent development yield so that there is no net increase in land use intensity;
4. Complies with the intent of the Highlands Act and the RMP to protect environmental resources and employ smart growth principles in development projects, and demonstrates that Highlands resource protection and smart growth planning principles have been addressed.
5. Where the petition is for the creation or extension of Existing Community Zones, the Map Adjustment also creates a meaningful opportunity to provide affordable housing; improves the balance of housing and employment; and promotes the use of alternative modes

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of transportation, including transit, such as being located proximate to Highlands Baseline Transportation and Transit features.

Policy 6B1. To limit through Plan Conformance, local development review and Highlands Project Review, to the maximum extent permitted by law, development and use of undeveloped lands that are critical to protect, restore, or enhance sensitive environmental resources of the Highlands Region, including but not limited to Forests, Critical Habitat, Highlands Open Waters and their buffers, Riparian Areas, Steep Slopes, Prime Ground Water Recharge Areas, Wellhead Protection Areas, and Agricultural Resource Areas.

Objective 6B1e. Prevent the extension or creation of water and wastewater utility services in the Protection Zone, Conservation Zone and Environmentally Constrained Sub-zones of the Planning Area, unless they meet the requirements of Policy 2J4 with Objectives 2J4a through 2J4d, and Policy 2K3 with Objectives 2K3a through 2K3e, and will maximize the protection of agricultural and environmentally sensitive resources.

Objective 6B3g. Cluster and conservation design development plans and regulations shall consider existing community character, incorporate smart growth design principles, and require Low Impact Development (LID) including, but not limited to: locating development adjacent to existing infrastructure such as water, wastewater, transportation, and public, and permitting smaller residential lots in order to incorporate community open space and existing natural resources into the design.

Policy 6D3. To encourage owners of lands which are eligible for exemptions under the Highlands Act to voluntarily offer their land for acquisition, participate in the TDR program, or use cluster or conservation design development in cooperation with other exempt landowners, and comply with standards and criteria which protect the land and water resources of the Highlands Region from any adverse impacts.

Objective 6G1b. Adopt municipal master plans and land development regulations which require that cluster development preserves in perpetuity for environmental protection or agricultural purposes at least 80 percent of the cluster project area. To the maximum extent feasible the developed portion (i.e. not including wetlands, open water buffers, and recreational lands) occupies no more than 10 percent of the cluster project area if served by a public or community on-site wastewater system.

Policy 6G2. To require conforming municipalities and counties to include site development programs, such as clustering to preserve land in perpetuity for environmental protection or agricultural purposes.

Objective 6I1a Center based development initiatives shall be planned within the Existing Community Zone at densities appropriate to the Zone, the community character and the State Development and Redevelopment Plan. Densities of five dwelling units and above are

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encouraged, and are required in areas designated as voluntary TDR Receiving Zones where TDR benefits are sought under the Highlands Act.

Objective 6N1b. Implement flexible site development review programs that allow for adjustments, such as reduction of minimum setbacks, modification of uniform road frontage requirements, increase in maximum permitted height or non-contiguous clustering of development entitlements where necessary to mitigate or eliminate adverse impacts on Highlands natural resources.

Objective 6N3b. Limitation of site disturbance, clearing and grading to the minimum necessary to make reasonable use of the designated building envelope for the development parcel.

Objective 7H1b. Establish municipal clustering programs which allow for the clustering of development rights from willing landowners whose property is entitled to an exemption under the Highlands Act, for both contiguous and non-contiguous properties, so as to minimize the impact of such exempted development on the ecological integrity of the Highlands Region.

**Cluster/Conservation
Development General
Provisions**

Some aspects of cluster development apply regardless of the Highlands Land Use Capability Map (LUCM) Zone. The Highlands Council will provide Cluster Development Conformance Standards including a model cluster ordinance and relevant master plan provisions. The Council will also create Cluster Development Design Guidelines to guide municipalities in local development review, and for application in Highlands Project Review. Cluster development design guidelines shall be incorporated into cluster zoning ordinances. Municipalities shall include general provisions in cluster design and development plans and regulations including, but not limited to, the following:

- Cluster development shall be carefully planned and regulated in all Highlands LUCM Zones. The development and use of undeveloped lands shall be limited where it is critical to protect, restore, or enhance sensitive environmental and agricultural resources of the Highlands Region, including but not limited to Forests, Critical Habitat, Highlands Open Waters and their buffers, Riparian Areas, Steep Slopes, Prime Ground Water Recharge Areas, Wellhead Protection Areas, and Agricultural Resource Areas.
- The cluster development shall preserve at least 80 percent of the cluster project area in perpetuity for agricultural use or for environmental protection. Where it is feasible, preservation of 90 percent or higher of the cluster project area will be achieved. All land preserved in perpetuity shall require a deed of easement enforceable and monitored by the Highlands Council and the corresponding municipality, appropriate agency, or non-profit land trust organization (see the sections below on Environmental Protection and Agricultural Preservation for appropriate entities).
- The total cluster developed area shall not exceed 20 percent of the

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cluster project area. To the maximum extent feasible the cluster developed area shall occupy no more than 10 percent of the cluster project area, if the project area is served by a public or community on-site wastewater system.

- Cluster development yields shall be based on the septic system yields for the cluster project area unless approved by the Council for the use of HDC's **where infrastructure is available consistent with RMP policies and objectives**. Where a cluster is proposed as center-based development, densities in the Highlands LUCM Protection and Conservation Zones shall be at densities appropriate to the LUCM Zone.
- Clustering is mandatory for development within the Agricultural Resource Area (ARA) regardless of the underlying LUCM Zone for residential development. However, the majority of the ARA is within the Conservation Zone and the Conservation Environmentally Constrained Subzone.
- Water and wastewater availability, expansion, or creation for cluster development is wholly dependent on the Highlands LUCM Zone in which the cluster project area is located and must meet the requirements of the policies and objectives stated above. Technical assistance shall be provided through the Plan Conformance process, local development review, and Highlands Project Review to ensure the cluster development meets the resource management and protection requirements of the RMP.
- Non-contiguous clustering provisions shall be in accordance with the New Jersey Municipal Land Use Law (NJ MLUL) and those MLUL provisions stated above in the Issue Overview, and meet the Goals, Policies, and Objectives (GPOs) of the RMP. Lot-averaging provisions shall be in accordance with the NJ MLUL and only be permitted where demonstrated to be consistent with the resource management and protection requirements of the RMP.
- All cluster and conservation design development plans and regulations shall consider existing community character and incorporate smart growth principles, and the use of Low Impact Development (LID) techniques. The cluster development design should consider existing community character with respect to architectural style, scale, massing, and arrangement. Smart growth principles shall include compact, walkable mixed-use development that uses existing infrastructure to the maximum extent feasible, including but not limited to water, wastewater, transportation, and community facilities. Among other benefits these characteristics will limit the degree of new impervious surface, reduce the cost to provide infrastructure, and permit smaller residential lots in order to incorporate community open space and existing natural resources into the design. **LID shall be implemented in resource management practices, stormwater management methods, and low impact "green" construction activities (see Smart Growth and LID in Part 6. Future Land Use).**

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**Cluster Design for
Environmental
Protection**

- All buffers and setbacks shall consider and incorporate existing natural, historic, and scenic resources and community character (see the section below on Buffer Strips, Setbacks and Protection of Natural Landscape). Protection buffers on Highlands Open Waters and Riparian Areas apply regardless of the Highlands LUCM Zone.
- Site disturbance shall be restricted to clearing and grading to the minimum extent necessary to make reasonable use of the designated building envelopes for the development portion of the cluster project area.

The use of clustering in Highlands LUCM Zones with a high concentration of environmentally sensitive resources will be limited. Clustering for environmental protection purposes must meet the requirements of the policies and objectives stated above, along with the resource protection policies and objectives of the RMP. Municipalities shall include provisions in cluster design and development plans and regulations to preserve sensitive environmental resources based on provisions including, but not limited to, the following:

- At least 80 percent of the cluster project area shall be preserved in perpetuity for environmental protection. Where it is feasible, preservation of 90 percent or higher of the cluster project area will be achieved.
- All land preserved in perpetuity for environmental protection shall be subject to a deed of easement enforceable by the Highlands Council and the appropriate municipality, or NJDEP Green Acres, or a qualified non-profit land trust organization.
- When high value natural resources are preserved the deed of easement should prohibit active recreational purposes and allow only minimal passive recreational uses dependant on the nature of the resources.
- Passive recreational trails shall be allowed provided they do not disturb habitats for Threatened and Endangered species and must be natural landscape trails constructed of native pervious surface. Where feasible such passive recreational trails shall link to existing federal and State trail systems, greenways, and parks.

**Cluster Design for
Agricultural
Preservation**

Where other preservation tools such as fee simple acquisition, easement acquisition, or a TDR Program are not feasible to preserve agricultural lands, the use of clustering is strongly encouraged and is mandatory for residential development within the Agricultural Resource Area (ARA).

Municipalities shall prepare and implement cluster and conservation design development regulations in the ARA that support farmland preservation, avoid conflicts with agriculture, maintain and enhance the sustainability and continued viability of the agricultural industry, protect Important Farmland Soils, and meet resource management and protection requirements of the RMP. Municipalities shall include

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provisions in development regulations and master plan elements for cluster development including, but not limited to, the following:

- At least 80 percent of the cluster project area shall be dedicated in perpetuity for agricultural use. Where it is feasible, preservation of 90 percent or higher of the cluster project area will be achieved.
- All land preserved in perpetuity for agricultural purposes shall be subject to a deed of easement enforceable by the Highlands Council and the appropriate municipality, or the County Agriculture Development Board, or the State Agriculture Development Committee (SADC). The deed of easement shall use language similar to the New Jersey SADC Farmland Preservation Program easement. The deed of easement and a legally enforceable Homeowner's Agreement, where applicable, shall include Right to Farm (RTF) Act provisions. This RTF language will make the buyer aware they will be residing adjacent to working farms.
- The development of additional water and wastewater infrastructure in an ARA within the Conservation and Protection Zones of the Planning Area is generally prohibited, but can be approved by the Council where it meets the requirements of the Utility policies and objectives above for clustering and maximizes the preservation of agricultural lands in the ARA.
- Development in the cluster project area shall be buffered appropriately to avoid Right to Farm conflicts between the non-agricultural development and the agricultural use. Buffers shall consist of existing natural resources, such as hedgerows or trees, or new buffers similar to existing natural vegetation (see Buffer Strips below).
- The most productive Important Farmland Soils shall be given priority in determining the set aside agricultural parcel and shall be preserved to the maximum extent possible within the cluster project area.
- The cluster development ordinance and an Agriculture Retention/Farmland Preservation Plan shall be prepared, or amended as appropriate, to support continued viability of the agricultural land being preserved and the implementation of best management practices (BMPs).
- The preserved parcel remaining in agricultural use shall be required to use BMPs on the Farm Management Unit to reduce nutrient and chemical loading rates by implementing a Farm Conservation Plan (FCP) that focuses on the protection of water and soil resources. The FCP shall be prepared by the USDA Natural Resources Conservation Service (NRCS), Technical Service Provider (TSP), appropriate agent or NJDA staff, and approved by the local Soil Conservation District. The use of USDA NRCS and Farm Service Agency cost-share programs that support BMPs shall be promoted.
- Where appropriate, community supported agriculture businesses shall be encouraged to allow homeowners to take advantage of local

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**Buffer Strips,
Setbacks and
Protection of Natural
Landscape**

produce and enhance the viability of the agricultural industry.

All development in the cluster project area shall be designed to protect the most important resources, i.e. agriculture, open space, and/or environmentally constrained resources and shall maintain the Highlands rural, scenic, and historic character. Setback requirements shall be designed to consider and harmonize the cluster development in the cluster project area with existing development.

Existing natural resources and vegetation (hedgerows/trees, woodlands or forest, wetlands, and streams) shall be retained as buffers strips wherever feasible. In all Highlands LUCM Zones the developed area of the cluster shall be located behind an existing hedgerow (mature trees) or screened with a new buffer, such as a thickly planted berm of native trees or shrubs, that is landscaped in such a manner to resemble existing woodlands. Use of existing resources as buffers will protect natural vegetation, minimize the areas of lawn, and reduce non-point loadings associated with lawns. Natural areas preserved close to homes will enhance the value of the property, as well as protect the environment. Other natural or manmade historic features, such as rock walls, shall also be retained. All development design within the cluster project area shall meet the requirements of the goals, policies, and objectives of the RMP and shall be reviewed and approved by the Highlands Council.

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Low Impact Development Program

Issue Overview

The impact of development on natural resources is often the result of regulatory standards in local codes or development practices that result in greater negative impacts than are actually necessary to accommodate the development purposes. Cluster and small lot development may be effective in reducing the total development footprint. However, a wide variety of techniques have been developed in recent decades to reduce the environmental impacts within the building site itself. The design of roads, parking lots and roofs has the ability to reduce environmental impacts. A variety of site development and landscaping techniques also have value in reducing the impacts of development. The Highlands Regional Master Plan recognizes the value of such techniques, commonly referred to as “low impact development” measures. Low impact development or LID techniques are designed to reduce or prevent negative impacts of development and redevelopment particularly as related to resource management, stormwater management, and site design. It should be noted that under the Highlands Act, some LID techniques, such as pervious pavement and green roofs, are defined as impervious surfaces for the purpose of determining impervious surface limitations for development in the Preservation Area.

Program Summary

The Highlands Council will use Plan Conformance, Highlands Project Review, and the development and dissemination of guidance to encourage use of low impact development techniques for all types of development. Low impact development begins with a process that “reads” or analyzes the land first and allows the natural features of the land to guide site design, stormwater management and resource protection. An assortment of low impact development techniques may be utilized to achieve the goal of low impact on the land. These techniques include site design and development, open space and landscaping, water conservation, stormwater management, pervious pavements, green roofs, narrower roads, rain gardens, natural landscaping, rain barrels, re-use basins, curbless roads, swale blocks, and reverse soil compaction.

**RMP Policies and
Objectives Addressed**

Objective 1B2a. Implementation through Plan Conformance of regulations which limit permissible uses within forested lands in High and Moderate Integrity Forest Subwatersheds to maintenance of pre-existing uses and permit minimal removal of woody vegetation from forested lands, subject to an approved Forest Management Plan or development that utilizes low impact development best management practices and an approved forest mitigation plan.

Objective 1B2b. Implementation of regulations through Plan Conformance which allow for redevelopment of previously developed areas and for other compatible uses that minimize losses to forested lands within Low Integrity Forest Subwatersheds in accordance with an approved forest mitigation plan or low impact development best management practices.

Objective 1B3b. Implementation of resource management programs to avoid loss of forests such as low impact development best management practices and mitigation and/or restoration.

Objective 1C2a. Technical guidelines and procedures for development and implementation of low impact development best management practices to

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protect, enhance and restore forest resources.

Objective 1D4f. Implement a Stream Corridor Protection/Restoration plan and Low Impact Development Best Management Practices for any development activity proposed within a Highlands Open Water buffer.

Objective 1D5c. Implement Low Impact Development Best Management Practices for any development activity proposed within a Riparian Area, which minimize both alterations of natural vegetation and increases in impervious area, and provide for mitigation through restoration of impaired Riparian Areas in the same HUC14 subwatershed.

Objective 1D6c. Require, where land disturbance is otherwise permitted, that low impact development best management practices are followed to minimize any potential for habitat or water quality impairment.

Objective 1D7b. Require, where land disturbance is otherwise permitted, that low impact development best management practices are followed to minimize any potential for habitat or water quality impairment.

Objective 1F4a. Implementation of performance standards through local development review and Highlands Project Review requiring all development to employ low impact development best management practices and avoid disturbance of a critical habitat feature whenever possible and to promote avoidance and minimize impact when disturbance is unavoidable.

Objective 2D3a. Implement, through local development review and Highlands Project Review, low impact development or other best management practices to minimize the need for engineered recharge methods for the purpose of complying with N.J.A.C. 7:8 (Stormwater Management Rules).

Policy 2D9. To develop technical guidelines and procedures for low impact development, engineering and other appropriate best management practices to protect, restore and enhance Prime Ground Water Recharge Areas.

Objective 2G5b. Require low impact development and other best management practices standards for stormwater management to minimize the discharge of stormwater-entrained pollutants to ground and surface waters.

Objective 2G6a. Develop technical guidelines and procedures for low impact development and best management practices to protect ground and surface water quality.

Policy 2G7. To promote the implementation of low impact development standards and best management practices to protect the quality of ground and surface water quality.

Policy 6N1. To establish smart growth and low impact development (LID) principles for use within the Highlands Region to guide and control development and redevelopment throughout the Highlands Region.

Objective 6N1a. Conservation development standards which protect natural resources, environmentally sensitive areas, open space and agricultural lands, and enhance community character.

Objective 6N1d. Minimum requirements for water conservation measures in site

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layout and structures, including but not limited to water efficient landscaping (including use of native and drought-tolerant plant species), rain collection systems, use of gray water, and water-efficient landscape irrigation.

Objective 6N1e. Minimum requirements for use of micro-climate conditions to maximize solar gain for winter heating and minimize solar gain during high temperature summer conditions.

Objective 6N1f. Minimum requirements for re-use and recycling of building materials when development involves demolition.

Objective 6N1g. Minimum requirements that all development include energy efficient features in site layouts and all structures.

Objective 6N1h. Design roadway improvements to have minimum impacts on Highlands resources by assessing alternative designs regarding drainage, impervious cover, native vegetation, and other “green street” considerations.

Policy 6N2. To require municipalities to adopt low impact development standards to protect the natural hydrologic features of the land.

Objective 6N2a. Implementation of on-site stormwater management features that maintain, restore and enhance the pre-existing natural drainage patterns of the site.

Objective 6N2b. Limitations on the amount of impervious cover allowed on a site as a means to protect and increase stormwater infiltration and reduce stormwater runoff.

Objective 6N2c. Minimum requirements for site-specific hydrologic studies during local development review and Highlands Project Review which identify the velocity, volume and pattern of water flow into, through, and off of the parcel proposed for development.

Objective 6N2e. Minimum requirements for use of grass channels, dry swales, wet swales, infiltration basins, bio-swales and water gardens, green roofs, and other low impact approaches to attenuate and control stormwater and provide multiple environmental benefits.

Policy 6N3. To require through Plan Conformance that municipalities and counties adopt low impact development practices to minimize land disturbance during construction activities.

Objective 6N3a. Local development review programs which require a site specific analysis of environmental features and constraints of the property proposed for development as a basis for determining compliance with sustainable design requirements.

Objective 6N3b. Limitation of site disturbance, clearing and grading to the minimum necessary to make reasonable use of the designated building envelope for the development parcel.

Policy 6N4. To require through Plan Conformance that municipalities and counties adopt low impact development best management practices where disturbance of Highlands resources is proposed, including but not limited to steep slopes, forest resources, critical habitats, open water and riparian areas, and

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**Site Design and
Development**

Prime Ground Water Recharge Areas.

Objective 6N4a. Identification of Highlands resources as an early step in site planning in order to avoid disturbance, in conformance with the Regional Master Plan.

Objective 6N5a. Minimum requirements for the use of low impact development and sustainable design practices to support affordable maintenance of housing, particularly affordable housing. **Objective 8D1a.** Municipal and county master plans and development regulations which permit the establishment of home occupations, small business incubator programs and innovative technologies that promote compact design, native species landscaping, low impact development, energy efficiency and resource conservation in support of comprehensive RMP goals.

Development and redevelopment projects must begin with an “existing features and site analysis plan” which identifies and maps all critical environmental features, all water bodies, all historic, cultural, archaeological and scenic features, all existing structures, all topographic features, and all significant physical features. The details shall be submitted as part of site plan and subdivision application packages and shall be added as elements of the relevant municipal checklists.

Development and redevelopment projects shall follow the prescribed conservation design planning process:

1. Existing features and site analysis plan;
2. Sub-regional context evaluation – identify the physical and social character of the surrounding areas (including across municipal and county borders);
3. Select open space conservation areas based on the information gathered in the first two steps, and provide connections to the surrounding areas or plan for future connections if a dedicated open space system does not currently exist in the adjacent areas;
4. Lay out building lots and incorporate green design techniques for stormwater management, site design, and resource protection.
5. Establish the development yield – residential, retail, office, commercial, community facilities – and match to water and sewer availability.
6. Cross-reference with Highlands resource standards, lake management, critical habitat, wellhead protection, etc.

Site design should take advantage of the features and characteristics of the site to improve or retain development amenities through incorporation of natural and other existing features, and should also incorporate opportunities for resource efficiencies. Orienting buildings for solar gain, designing landscape plantings to control micro-climate, and employing energy and resource efficiency all aid in reducing impacts of development.

Development and redevelopment project proposals must include a solar and wind analysis to gauge microclimate conditions. Following are guidelines for managing microclimate on-site:

- Orient the majority of windows to optimize daylighting and heat gain during the winter season

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- Orient thermal mass (materials that absorb, store and conduct heat) and insulation to take advantage of southern exposure while blocking north winds
- Orient buildings to the south to maximize solar gain
- Provide tree canopy cover and reduce hardscape for areas with high summer solar exposure
- Orient open space to maximize winter solar exposure
- Site taller buildings to minimize shadows on open spaces and other buildings
- Provide opportunities for vegetated screening, awnings, overhangs, and adjustable shade structures on buildings with high summer solar exposure
- Use roof-top gardens to reduce solar gain and insulate in winter

Development and redevelopment project proposals shall include a site preparation plan that allows clearing and grading only within the construction envelope, which includes the building and roadway footprints and a minimum area for construction equipment maneuvering. Reverse soil compaction should be considered and utilized to mitigate the effects of construction activity.

Development and redevelopment projects shall incorporate energy-efficient technology into new and rehabilitated structures and shall provide for the re-use and recycling of building materials.

- Disassemble existing buildings (deconstruction) rather than demolishing and either re-use materials or sell them into the re-use market.
- Re-use salvaged materials where possible.
- Provide on-site bins and/or dedicated space to facilitate the sorting and re-use of scrap materials.

**Open Space and
Landscaping**

Conforming municipalities may adopt open space development ordinances for development and redevelopment projects. The open space requirements should be tailored to the Land Use Capability Map Zones and local zoning implementing these zones and, where feasible, should have at least 50% of the land area dedicated to some form of open space and otherwise as close to 50% as appropriate for the zone. Open space land may include, but is not limited to, active recreation, passive recreation, gardens, naturalized areas (including natural stormwater techniques such as naturalized swales), trail systems, and critical environmental areas such as steep slopes, habitat lands, wetlands, water bodies, riparian corridors, and forests. Development applicants may purchase adjacent or nearby lands to dedicate toward the 50% open space requirement.

A landscape plan shall be submitted with each project which incorporates native, drought-tolerant, disease-resistant plant species and does not include invasive plant species. Natural landscaping shall be considered for use when feasible (see below).

Water Conservation

Water conservation is a primary goal within the Highlands Region. Efficient utilization of Highlands water resources will effectively extend the available water supply. Consuming less water overall and only using fresh water for potable uses are strategies for effective water conservation. Low flow plumbing fixtures, re-

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**Stormwater
Management**

using water, and proper maintenance of water delivery systems contribute to conservation efforts.

Development and redevelopment projects shall incorporate water conservation strategies wherever feasible. Potable water shall not be dedicated for non-potable uses, i.e., landscape irrigation and toilet flushing. Any new landscape irrigation system shall utilize rain gauges or moisture sensors to limit watering of lawns. The *Efficient Use of Water Program* has additional details regarding this requirement.

Stormwater management shall be designed to employ a “design with nature” approach, as defined in the New Jersey Stormwater Best Management Practices Manual, prepared by the Department of Environmental Protection, Division of Watershed Management. Stormwater shall be managed in a decentralized manner and shall utilize low impact mechanisms wherever feasible.

Development and redevelopment projects shall be required, to the maximum extent feasible, to meet a performance standard of 80% on-site stormwater capture for average annual precipitation.

Pervious Pavements

Most pavement surfaces are designed to be impervious, serving to block the infiltration of precipitation to the ground below. Pervious pavement is designed to maintain or increase infiltration without damage to the transportation surface or to public safety. Pervious pavements range from pervious asphalt and concrete to gravel drive surfaces with a retainer to hold the gravel in place and prevent compaction that would reduce infiltration. The use of pervious asphalt and concrete on low-volume roads and parking lots may assist in reducing the impact of development. For individual home paving, pervious pavers of various types and gravel driveways may reduce the imperviousness of buildings and parking.

Pervious pavement is useful in all community character districts and all areas and zones. They work least well on high traffic volume roads. Paving systems that permit grass to grow within the paved area or require little underlying engineering are generally suitable for residential drives or infrequently used parking areas. Pervious pavement techniques have been proven to work in climates with winter freezes, such as New Jersey. Local site plan and subdivision regulations should be modified to allow and/or encourage the use of pervious paving materials and overall reduction in the amount of impervious materials.

Green Roofs

Like most pavement, roofs are designed to be impervious. Unlike pavement, pervious roofs are not acceptable. However, a technique known as green roofs is commonly used in Europe and frequently in this country. Green roofs use a combination of live plants and soil to create a stormwater management facility on roof tops. Green roofs are designed to hold water and provide for evapotranspiration and cleaning action, reducing the need for additional detention and pollutant reduction. They are installed on generally flat roofs where the roof can hold a significant amount of water and release it slowly. While there are some additional costs in installation, there are important energy savings that should offset the costs through energy savings and increased longevity of roof materials because they would not be subjected to extreme heat or cold or intensive sunlight.

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Green roofs should be considered as a low impact development technique for use on new non-residential development anywhere in the Highlands. Large buildings with roofs over 20,000 square feet may be the most appropriate for green roofs, but all non-residential development can implement this technique since few have a real need for sloped roofs. The rooftops of apartment buildings should also be considered as appropriate locations for green roofs. The technique can be used in both development and redevelopment. The use on steeper roofs is more difficult, and so for most residential units green roofs will not prove to be a practical technique, though building codes should allow for green roofs in low density zones.

The zoning or building codes should be modified to encourage green roofs on specific classes of buildings or land uses. Projects which do not include a green roof should be required to demonstrate use of other methods whereby stormwater is captured and utilized on-site.

Narrower Roads

The Highlands has a large number of cul-de-sac roads that cannot easily be connected due to topographic and geological conditions. Often these streets serve a small number of residences and lots are large enough that parking does not occur on the street. Narrower roads may be appropriate in these types of neighborhoods.

Local zoning or subdivision regulations should provide for narrower roads, where appropriate. The Highlands Council will develop recommendations for adoption into the Residential Site Improvement Standards (RSIS) to implement this concept, which will simultaneously reduce runoff, save land, protect environmental resources and reduce development costs.

Rain Gardens

Rain gardens are small, specifically designed, vegetated depressional areas typically used to store and recharge rain from a residential roof or driveway runoff, acting like a small retention facility. Rain gardens utilize native plants to intercept runoff from rooftops and adjacent impervious surfaces, allowing infiltration and recharge of ground water. The vegetated soil layer is underlain by gravel or small rock in a manner that ensures proper drainage so that ponding does not occur. Rain gardens can be used primarily for single-family dwellings or two- or three-family dwellings.

All development and redevelopment projects should utilize rain gardens whenever feasible. Local site plan and subdivision applications should require rain gardens as part of the landscape plan submission. Where a rain garden is not feasible, the application should demonstrate an alternative method for capturing and recharging rainwater on-site. A useful publication prepared by The Native Plant Society of New Jersey, "The Rain Garden Manual for New Jersey," provides a "how to" guide for constructing a rain garden. Rain gardens may be designed for any size lot.

Natural Landscaping

The average house or office building sits on a lot that is maintained as a lawn, and campus style office parks are situated within acres of manicured lawn. These lawn areas are compacted surfaces, limiting recharge to ground water, and for residential lawns often receive regular pesticide and nutrient applications.

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Natural areas of meadow or forest facilitate recharge, decrease stormwater runoff, and do not contribute chemicals to the environment. Replanting lawn areas with natural vegetation increases ground water recharge, reduces runoff and the flow of pollutants across the landscape.

Converting lawn areas to natural landscaping may help mitigate existing stormwater runoff problems as well as reducing maintenance costs.

Local planning and development programs should require that new development and redevelopment incorporate natural landscaping into their landscape plans wherever feasible. The Highlands Council will develop an educational program to encourage property owners to retrofit existing lawns, potentially including an annual awards program recognizing the best new landscaping and the best restoration landscaping of existing property to enhance the program.

Rain Barrels

Rain barrels and cisterns are rainwater storage facilities which save rainwater for future lawn and garden watering and other non-potable uses. The collection of rainwater reduces the use of potable water supplies and helps control stormwater runoff. Rain barrels are generally located at grade and have no mechanical systems, while cisterns are larger, may be above or below grade and often use pumps to increase flow.

Rain barrels may be used by single-family or smaller residential developments. They may also be effective for small nonresidential properties that have a lawn or planting area to maintain. Rain barrels and cisterns should be included as part of a low impact development and water conservation strategy where feasible. Proper design and maintenance will prevent standing water from becoming a breeding source for mosquitoes.

Re-Use Basins

The re-use basin is a retention basin that is designed to not only serve stormwater management objectives, but also store irrigation water. It is a multipurpose stormwater management facility that is designed to reduce consumptive water use for landscaping.

Re-use basins may be appropriate for use in large office parks, golf courses and campus style developments which have extensive lawn areas. Use of stormwater for irrigation and other non-potable uses would serve as a water conservation strategy. Where retention basins are proposed as part of a site plan or subdivision stormwater management plan, applicants should be required to design them for re-use purposes.

Curbless Roads

Curbs hold water on roads until it can be funneled into an engineered stormwater system. If water drains off the road into lawns or natural areas even when there is a storm sewer system, a portion of the stormwater is held on site for recharge. Time of concentration for stormwater runoff is reduced, which can reduce stormwater management costs.

This technique is most useful in residential development; in commercial and many other nonresidential areas, there generally is insufficient natural landscape or lawn area to handle the water. However, where there are extensive lawns in nonresidential areas, this technique may also be used.

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Site plan and subdivision regulations should provide for road crown and other standards that make a curbless road drain. A key part of this technique is to have reinforced shoulders, by installing base material several feet beyond the pavement. The regulations may need to identify areas where this is unsuited due to topography or require its use with other techniques. An alternative technique that may be used in more densely developed areas is the curb cut, which leads to a small sand infiltration area next to the road surface.

Swale Blocks

Swale blocks are small check dams in ditches or swales designed to slow runoff, allowing for greater recharge and cleaning and reduced peak runoff.. Swale blocks may be used in road side ditches, swales or, where regulations permit, ephemeral streams.

Local site plan and subdivision regulations should set forth areas where these should be used and the thresholds for using them. Terrain which is very flat or very steep may not be appropriate locations.

**Reverse Soil
Compaction**

During the process of development, even open spaces are compacted, greatly reducing the soil's capability to recharge and slow runoff. Grading, equipment movement and temporary storage all result in compaction. Tilling the land that will be planted in lawns or other landscaped areas enhances the ability to function efficiently.

All lawn areas and open spaces that are being revegetated should be required to have reverse compaction. The graded areas should be tilled prior to replacing top soil and again after top soil is spread to achieve maximum results. Subdivision regulations should require this of all such areas containing more than 3,000 square feet per lot or pervious area.

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Part 8. Sustainable Economic Development

Sustainable Regional Economy

Issue Overview

The Highlands Region is characterized by a dynamic economy that exhibits strength relative to the State as a whole. A challenge facing many communities in the Highlands Region is determining how best to balance resource protection requirements while maintaining and enhancing a vibrant community and a sustainable local and regional economy. The Highlands Act establishes water and natural resource protection as the fundamental goal for the Highlands Region, but also recognizes the many social, cultural, and economic benefits associated with development, redevelopment, and economic growth in appropriate locations. Agricultural viability, redevelopment, smart growth approaches, improved land use efficiency, transit oriented development, and shared services are encouraged in the Region, while piecemeal or scattered sprawl-type development is recognized as an inefficient use of land and an impediment to achieving a more sustainable regional economy.

Economic development can be broadly described as any effort or activity that improves general economic health. It may involve a range of activities aimed at increasing the local tax base and providing employment opportunities, including both land development and non-development approaches. Efforts can range in scale from local to regional, and individual economic activities will depend upon local conditions. In areas characterized by high natural resource values, economic activity may be in the form of agriculture and forestry, redevelopment of brownfield and greyfield sites and existing developed areas, and the expansion of recreation and tourism opportunities. Agricultural areas will benefit from a sustainable agricultural approach that includes agri-tourism and the reduction of the potential for conflicting land uses through clustering and redevelopment of existing developed lands. In existing developed areas with infrastructure, economic viability should stem from efficient land, infrastructure and resource use. These opportunities may include redevelopment, sharing of services, downtown revitalization, business retention and expansion, transit oriented development, and tourism. Economic growth should be focused to transit corridors and existing centers, rather than sprawling throughout the region.

Program Summary

The Sustainable Economic Development Program describes the tools, incentives, and assistance available to support sustainable economic development in the Highlands Region. The objective of the program is to ensure long-term, sustainable economic viability, not short-term economic activity.

The program overall seeks to promote appropriate, sustainable, and environmentally compatible economic development throughout the Highlands Region. In support of this, conforming municipalities are required to develop or update an existing economic plan element. The program also discusses recreation and tourism based economic initiatives, which derive economic benefit from the

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**RMP Policies and
Objectives Addressed**

sustainable use of natural resources of the Highlands Region. Enhancements to the Region's tourism infrastructure will encourage more visitors to come to the Region.

The economic monitoring components of the program will monitor and evaluate the health of the Highlands economy using a set of regionally available economic indicators. The data will provide periodic evaluations of the performance of Highlands Region economic conditions. The information provided by the economic tracking will also support the development of the required municipal economic plan element. Finally, the RMP Funding program component will address funding and technical assistance available to conforming municipalities. It will also outline the Cash Flow Timetable (as mandated by the Highlands Act), which monitors and tracks municipal fiscal performance in support of conformance activities and regional shared service opportunities.

Policy 8A1. To maintain and expand the existing job and economic base by promoting appropriate, sustainable, and environmentally compatible economic development throughout the Highlands Region.

Objective 8A1a. Highlands Economic Development Program to identify and promote sustainable economic development opportunities in the Highlands Region, in a manner that integrates economic, social and environmental factors.

Objective 8A1b. Serve as an advocate and technical resource for Highlands economic development initiatives in work with municipalities, counties, regional agencies, and the private sector to promote sustainable economic development in the Highlands Region.

Objective 8A1d. Positive fiscal impact to local governments and the Region through appropriate economic development initiatives.

Policy 8A2. To preserve the high quality of life in the Highlands Region through economic planning and implementation of the RMP.

Policy 8A3. To identify and pursue state and federal programs that offer financial and/or technical assistance for sustainable economic development in the Highlands Region.

Policy 8A4. To serve as a clearinghouse for economic development opportunities in the Highlands Region.

Objective 8A4b. A long-term Economic Tracking Program as a means to continually assess the long-term economic progress of the Region through specified economic indicators in order to establish Highlands trends and to support local economic plan elements.

Policy 8A6. To require that conforming municipalities develop an economic plan element that provides strategies for achieving sustainable and appropriate economic development consistent with local desire and identifies any development, redevelopment and brownfield opportunities.

Objective 8A6a. Coordinate with municipalities and counties as local and regional strategies are developed to improve the tax base and to create jobs and economic opportunities consistent with the policies and objectives of the RMP.

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Policy 8B2. To protect and enhance the agricultural economy in the Highlands Region.

Objective 8B2a. Coordinate activities with the NJ Department of Agriculture and other entities to ensure a sustainable agricultural industry and agricultural operations that improve farm incomes and the long-term viability of farming.

Policy 8C1. To promote recreation and tourism based economic initiatives, which derive economic benefit from sustainable use of the natural resources of the Highlands Region.

Policy 8C2. To enhance the Region's tourism infrastructure in order to increase visitors to the Highlands Region.

Policy 8C3. To promote public and private tourism attractions in the Highlands Region through the marketing of natural resources, the arts, cultural, historic, scenic, agricultural, and recreational resources, urban amenities, and accommodations.

Policy 8C4. To support local, state, and federal eco-, agri- and heritage tourism programs.

Policy 8C5. To advocate for state and federal funding of recreation and tourism initiatives in the Highlands Region.

Policy 8D1. To ensure opportunities for home office, entrepreneurial and other small business activities in the Highlands Region.

Objective 8D1a. Municipal and county development regulations which permit the establishment of home occupations, participation in small business incubator programs, and the use of innovative technologies that promote compact design, native species landscaping, low impact development, energy efficiency and resource conservation in support of comprehensive RMP goals.

Policy 8E1. The Cash Flow Timetable shall track the revenues and costs associated with the Highlands Protection Fund, with the exception of the Pinelands Property Tax Stabilization Aid category. Four components that shall be tracked in the Cash Flow Timetable include:

- Planning Grants Program (including Incentive Planning Aid and Regional Master Plan Compliance Aid);
- Highlands Property Tax Stabilization Aid;
- State Aid for Local Government Units (Watershed Moratorium Offset Aid and other State Aid funding); and
- Land Acquisition Tracking

Economic Planning

Sound land use planning is important to ensure economic vitality in the Region. Conforming municipalities are required where appropriate to develop (or update) an economic plan element that provides strategies for achieving sustainable economic development appropriate for the municipality and consistent with the policies and objectives of the RMP. The economic plan should also include a discussion of fiscal sustainability. These plans will vary considerably in scope, depending on the size and composition of a municipality, its current economic conditions and whether it chooses to grow or not. Any development,

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redevelopment, and brownfield opportunities should be identified in the economic plan. Economic plans should strive to maximize potential economic effects when locating future homes, commercial and industrial facilities through development and redevelopment, and public facilities.

Existing land uses and the transportation system provide a foundation for sustainable economic growth. Economic activity that involves land development should be concentrated around transportation corridors and in local and regional centers, which in turn protects sensitive natural and farming areas from conflicting uses. In sensitive natural and farming areas, zoning can permit agri- and eco-tourism uses while implementing RMP resource standards to prevent the degradation of natural resources. Throughout the Region, municipalities should consider development regulations that permit the establishment of home occupations, entrepreneurial, and other small business activities to increase economic viability while reducing transportation costs.

The Council will provide general assistance related to sustainable economic development planning, including the following:

- Information regarding state and federal programs that offer financial and/or technical assistance for sustainable economic development;
- Discretionary planning grants, which are intended to support important elements of the RMP through planning studies on targeted issues, including sustainable economic initiatives;
- Coordination between the Highlands Council and other key economic players, including state and federal agencies, as well as public entities; and
- Maintain information regarding economic development opportunities and initiatives in the Region, as identified through local economic plan elements.

Tourism Opportunities

Tourism is a major component of New Jersey's economy. It is the second largest industry in the State and continues to be a significant revenue source for the State in terms of billions of dollars annually and provides approximately 500,000 tourism-related jobs statewide. The Region's historic, cultural, recreational and scenic locations should be recognized not just as tourism resources, but as economic assets which can be managed and enhanced in a sustainable manner adding much benefit to local economies. Tourism initiatives should focus on increasing visitors to the Region by linking attractions to restaurants and accommodations. Transit-oriented recreation and tourism connections should be encouraged, where possible. From an economic perspective, the terms agri-, eco-, and heritage tourism refer to the business opportunities related to farm operations (other than the traditional sale of agricultural goods), natural, and heritage resources that do not involve the modification or consumption of the resource. The program component includes coordination with the NJ Division of Travel and Tourism to promote agri- and eco-tourism activities to support the farm economy by allowing farmers to benefit from additional sources of income; coordination with historic preservation, open space, and recreation efforts as a means to link agricultural preservation/retention efforts; and the development of economic development incentives that include flexible land use regulations to

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**Economic Monitoring -
Agricultural Vitality**

support the expansion of food and farm-related businesses. (See *Historic Resource Protection Program*, *Scenic Resource Protection Programs* and *Agricultural Management and Sustainability Program* for addition details) Additional RMP tourism strategies include:

- Support for existing eco-, agri- and heritage tourism program by partnering with appropriate agencies, municipalities, counties, and non-profit entities. The Cooperative Marketing Grant Program, a collaboration between the New Jersey Department of State, Division of Travel & Tourism and the New Jersey travel industry, is an example of an existing tourism grant program.
- Coordinate with NJDEP, New Jersey Commerce, Economic Growth and Tourism Commission, and NJ Division of Travel and Tourism on innovative ways to market and expand opportunities relating to the Region's natural resources, the arts, cultural, historic, scenic, agricultural, and recreational resources, and urban amenities.
- Advocate for state and federal funding of tourism initiatives in the Highlands.

In support of the protection and enhancement of the agricultural economy, agricultural economic metrics for the Highlands Region will be monitored and evaluated. This will be done in coordination with the United States Department of Agriculture, New Jersey Department of Agriculture, County Agriculture Development Boards, and additional sources as appropriate. Data from national, state, county and local resources will be utilized to evaluate regional conditions and performance. (See *Agricultural Management and Sustainability Program* for additional discussion relating to agriculture).

The program component will evaluate data including but not limited to the following:

1. Farmland assessment data as they relate to agricultural land use types, agriculture crop types and yields, specialty crops, and livestock types;
2. Value of farm land and buildings;
3. Net cash farm income;
4. Value of agricultural products sold for direct and organic; and
5. Benefit to community if farms are permitted second businesses.

**Economic Monitoring –
Economic Tracking**

In support of long term planning, economic indicators will help determine economic trends of the Region. Indicators will be used to evaluate economic segments over time so that Highlands-related trends can be distinguished from general trends. They will provide perspective on the economic impacts of certain land use restrictions relating to RMP implementation and measure the overall economic and fiscal health of the Region. The *Financial Analysis Technical Report* contains baseline data, and conforming municipalities will track data through local economic plan elements. The RMP Monitoring Review Report will present the periodic region-wide fiscal impact assessment, as well as Highlands Milestones. (See the *RMP Monitoring Program* for additional information).

This program component will initially track the following and is subject to

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**Regional Master Plan
Funding**

enhancement and refinement as required:

1. Population (distribution and age demographics);
2. Employment (industries and levels);
3. Housing units;
4. Income (median household and per capita income);
5. Property tax (average property tax);
6. Equalized property values and per acre calculations (vacant land, residential, commercial, industrial property, and farmland);
7. Property Transactions (number of transactions and sales data); and
8. Building Permits.

In recognition of the costs associated with municipalities and counties conforming to the RMP, the Highlands Act provides funding, planning and technical assistance to avoid placing undue financial burdens on these entities. It is recognized, however, that the current funding available to Council for the purposes of RMP implementation will not cover all associated costs. The Highlands Act also prescribes the tracking of certain fiscal information through the development of a Cash Flow Timetable, which tracks the revenues and costs associated with the Highlands Protection Fund, with the exception of the Pinelands Property Tax Stabilization Aid category.

This program component tracks and assesses data, provides technical assistance and funding and includes but is not limited to the following:

1. Track and update revenues and costs associated with the Cash Flow Timetable including: Highlands Planning Grants Program (including Incentive Planning Aid, Regional Master Plan Compliance Aid), Highlands Property Tax Stabilization Aid, State Aid for Local Government Units, and in support of Land Acquisition.
2. Provide funding and technical assistance to eligible municipal and county governments for the purposes of revisions to their master plans, development regulations, and other regulations through RMP Compliance and Incentive Planning Aid.
3. Provide planning grants and technical assistance to be used by municipalities for special projects including the preparation of case studies relevant to Plan Conformance.

For additional information on the Cash Flow Timetable, see the *Financial Analysis Technical Report*.

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CHAPTER VI. IMPLEMENTATION

The Highlands Regional Master Plan establishes a resources planning and management framework for the Highlands Region. The Highlands Regional Master Plan, however, is not self-executing and will require the concerted effort of agencies at all levels of government, the general public, property owners and private industry.

The Highlands Council is the lead agency responsible for the implementation of the Highlands Regional Master Plan. The Council has several critical implementation responsibilities including:

- preparation of implementation documents including model ordinances, handbooks, technical guides, bibliographies of substantive literature
- administration of local government conformance proceedings including review and approval of revised master plans and development regulations
- project review
- public education
- provision of financial and technical assistance to local governments
- creation and administration of the Highlands Development Credit program
- formation of the Highlands Credit Bank
- advocacy at the State and federal level for funding of RMP implementation, including land acquisition
- monitoring and updating of the Regional Master Plan

These functions are addressed below in the following categories and programs:

- Regional Master Plan Conformance, Consistency and Coordination
 - Plan Conformance – including the administrative, grants and technical assistance aspects
 - RMP Updates
 - Map Adjustments
 - Federal, State and Regional Agency Coordination
 - Local Participation
- Highlands Project Review
 - Project Review Process
 - Project Review Standards
- Improvement of the Regional Master Plan
 - Water Resources and Ecosystem Science Agenda
 - Regional Master Plan Monitoring

These programs focus on the procedural and programmatic methods for implementing and improving the Regional Master Plan over time. Plan Conformance is the process by which Highlands Region counties and municipalities implement relevant aspects of the RMP and gain the benefits of Plan Conformance, such as

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grants, technical and planning assistance, and a legal shield for local development review decisions that are based on conformance. RMP Updates provide a method for updating the RMP to address factual issues, while Map Adjustments address RMP modifications that relate to local planning initiatives. Map Adjustments will conform to the RMP policies and objectives and achieve no net harm to Highlands resources. Agency coordination and local participation are both critical aspects of RMP implementation.

The Highlands Council gains regulatory and advisory review authority and responsibilities upon adoption of the RMP, and the Highlands Project Review programs discuss the general approach that will be used for these reviews. The Highlands Council will adopt detailed procedures for implementation of the Highlands Project Review process.

Finally, the RMP will be the focus of continuing improvement and assessment through the final two programs. The science agenda will emphasize improved and alternative methods for determining the capability of the Highlands Region to sustain various types, intensities and locations of land uses. The RMP Monitoring program will allow the Highlands Council to identify significant successes and continuing issues related to RMP policies, objectives and programs, so that the RMP may periodically be improved through amendments, including the required six-year updates.

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Part 1. Regional Master Plan Conformance, Consistency and Coordination

Subpart a. Plan Conformance

Issue Overview

Municipal and county conformance with the RMP (Plan Conformance) is the overall goal for implementation of the various elements of the Plan. The Highlands Act establishes the requirement that all municipalities and counties with land in the Preservation Area bring their local plans and development regulations into conformance with the “goals, requirements, and provisions of the regional master plan.” Voluntary conformance for municipalities and counties with land in the Planning Area is also provided for in the Act, which outlines the benefits that shall accrue to those municipalities and counties that conform.

Program Summary

Plan Conformance is intended to align municipal and county plans, regulations and programs with the goals, requirements and provisions of the RMP. The process to achieve conformance will be logical, time efficient and comprehensive, and the Highlands Council will provide grant funding to assist local jurisdictions in completing it. The conformance process will begin with the development of detailed guidance for municipalities and counties, which will be provided along with planning and technical assistance from the Highlands Council. Each municipality and county going through the conformance process will follow a general approach that includes an assessment of current plans and regulations, an evaluation of future planning needs and conditions, modification of plans and regulations as necessary, and a public involvement process. The Highlands Council will review Petitions for Plan Conformance and decide to approve, approve with conditions or reject the petitions. Conformance approval will in most cases be with conditions, where a finding is made that the municipality or county has conformed with all immediate mandatory Conformance requirements, and will conform with all other mandatory Conformance requirements within an agreed upon implementation schedule. The Highlands Council will then track the progress of the municipality or county in meeting that schedule, and will monitor development reviews and capital projects for compliance with the conformance approval.

**RMP Policies and
Objectives Addressed**

This program addresses RMP provisions regarding the modification of municipal master plans, zoning ordinances and development review ordinances, and of county master plans and development review requirements, as needed to achieve Plan Conformance.

**Plan Conformance
Guidelines**

The Highlands Council will prepare and distribute to all Highlands municipalities and counties *Plan Conformance Guidelines* outlining the procedures for Plan Conformance. The *Plan Conformance Guidelines* will include a matrix outlining all of the immediate mandatory elements, the long term mandatory elements, and the discretionary elements. The Guidelines will describe each Conformance element in detail. The Guidelines will also provide descriptions and criteria for all of the associated grant programs that will be available to municipalities and/or counties in support of Plan Conformance.

**Planning and
Technical Assistance**

The Highlands Council has assembled a significant amount of data and analyses relative to the Region and will make this information available to municipal and

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county representatives prior to commencement of Plan Conformance.

The application of the Land Use Capability Map Series to individual municipalities will involve translating the boundaries in the LUCM Series to a more refined scale and to reflect local conditions. In order to ensure that the Land Use Capability Zone Map is accurate and up to date, municipalities and counties may request RMP Updates, which will be considered and processed throughout the process of Plan Conformance. Map Adjustments may also be requested as a component of a Petition for Plan Conformance. This process is defined in more detail in the *Land Use Capability Analysis Program* in Chapter V and the *RMP Update Program* and *Map Adjustment Program*.

The Highlands Council website will continue to serve as a means for sharing current technical data and Plan Conformance information. The Council will provide information in support of Plan Conformance to each municipality and county. The information will include but not be limited to: the Highlands *Regional Build-Out Model Technical Report* and background information, Highlands Resource data layers, the LUCM Series and supporting data layers, and various discretionary Plan Conformance tools. This information will support local knowledge and planning during Plan Conformance.

The Highlands Council will make grant funds and other financial and technical assistance available to Highlands municipalities and counties to support any revision of their master plans, development regulations or other regulations which are designed to bring those plans or regulations into conformance with the RMP or the implementation of a Transfer of Development Rights (TDR) program (see Grant Programs, below).

The Highlands Council staff will be available to offer planning and technical assistance throughout Plan Conformance and during municipal and county implementation of the elements of the RMP. Additionally, funding will be available in the form of grants to municipalities and counties to further assist them in implementing the elements of the RMP.

**Procedures for
Municipal and County
Plan Conformance**

Preservation Areas – All jurisdictions having lands in the Preservation Area must petition the Highlands Council for conformance with respect to that area within 9 to 15 months of adoption of the RMP. To initiate the conformance process, the Highlands Council will schedule and provide notice of submission deadlines to all Preservation Area jurisdictions upon the adoption of the RMP. Such notice will be followed by an information packet, which will include the *Plan Conformance Guidelines* as well as maps and technical information developed by the Highlands Council for, and specific to, each governmental unit.

Planning Areas – Municipalities and counties may choose whether or not to conform to the RMP with respect to lands located in the Planning Area, and may file petitions relative to such areas at any time. Planning Area petitions may be filed independently or in conjunction with mandatory filings for the Preservation Area. For municipalities located fully within the Planning Area, information packets including the above-listed items will be provided after the adoption of the RMP.

Notice of Intent – Information packets will include a model “Notice of Intent” to pursue Plan Conformance, which the applicable governing body must adopt

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**Municipal Plan
Conformance**

by resolution at a duly-noticed public meeting prior to commencing the petition process. For jurisdictions having lands in both the Preservation Area and the Planning Area, the resolution must indicate whether the petition will seek conformance with respect to the Preservation Area alone, or for both the Preservation and Planning Areas.

Petitions for Plan Conformance – Petitions for Plan Conformance must include (among other things) the proposed revisions to the municipal or county planning documents that are necessary to conform to the RMP. In recognition of the limited timeframe for submission of Preservation Area petitions, the Highlands Council will provide model supplements for master plans and development regulations, which petitioners may use to quickly develop petitions for Plan Conformance. A detailed list of submission requirements will be provided in the *Plan Conformance Guidelines* document.

Basic Plan Conformance – Petitions for Plan Conformance may be designed to accomplish immediate mandatory conformance requirements at the outset of the process, with more complex, long-term conformance tasks to be completed under a Council-approved Implementation Plan. Under this scenario, the Council will grant what is known as “Basic” Plan Conformance (which is Plan Conformance with conditions) once the petitioner has satisfactorily completed all immediate mandatory conformance requirements. Basic Plan Conformance will entitle the petitioner to all of the rights and benefits of full Plan Conformance, provided that the Implementation Plan and scheduling requirements included therein are rigorously adhered to. This approach will require that Highlands Resources be given immediate protection via adoption of specific regulations applicable to municipal and county review of land development applications. Highlands model master plan and development regulation supplements will address each of these areas.

Overview Meetings – After the effective date of the final RMP, the Highlands Council will host a series of overview meetings throughout the Highlands Region to explain the elements of the Plan and the Plan Conformance process. The Highlands Council encourages County Planning Departments to assist their constituent municipalities in the Plan Conformance process if the municipalities officially request that the County Planning Departments do so.

Municipal Process – The municipal Plan Conformance process will commence with municipal review of Highlands LUCM maps, charts and technical data to identify any need for RMP Updates. RMP Updates should be addressed as early as possible in the Plan Conformance process, but will be processed on a continuing basis, as needed throughout.

The municipality will then undertake a thorough review of its planning program, including master plan, zoning ordinances, development regulations, maps, and supporting documents, for consistency with the RMP. Foremost among RMP consistency requirements is the need for municipal regulations that protect Highlands resources and designated Highlands Resource Areas. Equally important is that municipal planning programs limit growth, development and/or redevelopment in Highlands communities to areas having the physical capacity to support it.

To determine the extent of the physical capacity, the municipality will conduct a Land Use Capability Analysis, involving a review and assessment of its land-,

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resource- and utility-based capacities. This will be followed by a “Limiting Factor” Analysis, to determine and map out the most significant constraints to community development. These analyses will reveal the municipality’s capacity to support existing development and any intended future growth, development and/or redevelopment. In conducting these analyses, the municipality may choose to work jointly with neighboring municipalities, such as those sharing the same sub-watershed(s) on issues of common interest or where economies of scale may be achieved through joint analysis. See the *Land Use Capability Analysis Program* in Chapter V for more details on this process.

In cases where the results of these analyses indicate a need for substantial changes in the municipal planning program, the municipality is encouraged to conduct a community visioning session(s) to involve the local public and to develop or confirm a representative vision of the community for the future. The results of community visioning shall be included as part of the Petition for Plan Conformance. Whether or not the municipality engages in community visioning, it will be required to hold public hearings during the process of conformance and prior to filing of a petition for conformance to the Highlands Council. Minutes from all public hearings shall be submitted to the Highlands Council as part of the municipality’s Petition for Plan Conformance.

The Petition for Plan Conformance shall be the formal submittal to the Highlands Council from a municipality for consideration of Plan Conformance. The Petition shall include the proposed master plan amendments, zoning ordinance revisions, and resource protection ordinances, as well as the community vision (if applicable), all supporting documentation, and a Municipal Self-Assessment Report.

Municipal Self-Assessment Report – The Municipal Self-Assessment (MSA) Report will describe the municipality’s progress toward achieving full Plan Conformance as of the date of filing its Petition. It will discuss and outline the steps remaining to fully align the municipal planning program with the RMP and thus achieve Plan Conformance. The MSA Report must in addition, include a proposed Implementation Schedule for completion of each outstanding task leading to full Plan Conformance.

In order to meet the requirements of Plan Conformance for immediate mandatory items (i.e., “Basic” Plan Conformance), the municipality must adopt the elements of the Highlands Regional Master Plan related to critical natural resources.. Where a municipality can demonstrate to the satisfaction of the Highlands Council that existing provisions of its master plan and land development regulations cover these areas in an equivalent or more restrictive manner than the RMP, the existing provisions shall be sufficient to satisfy the conformance requirement. The *Plan Conformance Guidelines* will include a table specifying the policies and objectives which are immediate mandatory items and must be adopted (or demonstrated to already exist) by the municipality in order to be eligible to receive Plan Conformance approval.

As noted previously, a series of long-term mandatory items may be made a condition of approval which must be accomplished according to an established schedule, unless the municipality has addressed them prior to submitting a petition for Plan Conformance. The municipality may also pursue Plan Conformance regarding discretionary items which may be included in the

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**County Plan
Conformance**

approved Implementation Schedule.

Municipalities may seek the designation of centers, cores, and nodes through Plan Conformance by proposing such a designation in a Petition for Plan Conformance that is both consistent with the State Development and Redevelopment Plan's (State Plan) criteria for center, core and node designation and is in conformance with the Regional Master Plan. Designated centers, cores and nodes in the Highlands Region may include the full range of types afforded by the State Plan.

The Highlands Region includes 20 previously designated centers (see figure *State Planning Commission Designated Centers*). The figure includes the expiration dates of these designated centers in order to identify the timeframe within which the Highlands Council and the State Planning Commission may examine the potential reestablishment of any expiring center designations through the Plan Conformance or Plan Endorsement process. The figure additionally provides an overview of the intersection of the boundaries of the existing designated centers and the Highlands Land Use Capability Zone Map. This information and the additional information in the RMP will allow municipalities, the Highlands Council and the State Planning Commission to reassess the designated center boundaries to ensure protection of Highlands resources and identification of appropriate areas for growth.

County Process – The county Plan Conformance process will commence with county review of Highlands LUCM maps, charts and technical data to identify any need for RMP Updates. RMP Updates should be addressed as early as possible in the Plan Conformance process, but will be processed on a continuing basis, as needed throughout.

The county will then review its planning and development documents and regulations for consistency with the RMP. In addition to adoption of policies and practices for application to county properties and facilities, counties will specifically be responsible for plans and regulations governing wastewater management, farmland preservation, recreation and open space, and transportation/circulation. Counties may choose to work in coordination with their constituent municipalities. The county is encouraged to participate in the community visioning events of its constituent municipalities and/or may choose to hold a county-wide visioning session.

In order to meet the requirements of Plan Conformance for immediate mandatory items, the county must adopt the elements of the RMP related to water availability and conservation measures. The long-term mandatory items which will be accomplished according to an established schedule include Wastewater Management Plans, Comprehensive Farmland Preservation Plans, Recreation and Open Space Plans, County Transportation Plans and Stormwater Management Plans. Where a county can demonstrate to the satisfaction of the Highlands Council that existing planning and regulatory programs address these topics in an equivalent or more restrictive manner than called for by the RMP, the existing programming shall be sufficient to satisfy the conformance requirement. The *Plan Conformance Guidelines* will include a table specifying the policies and objectives which are immediate mandatory items and must be adopted (or demonstrated to already exist) by the county in order to be eligible to receive Plan Conformance approval.

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**Highlands Council
Review, Evaluation
and Decision Process**

Counties will be required to hold one or more public hearings during the process of conformance and prior to filing of a petition for conformance to the Highlands Council. Minutes from all public hearings shall be submitted to the Highlands Council as part of the county's Petition for Plan Conformance.

The Petition for Plan Conformance shall be the formal submittal to the Highlands Council from a county for consideration of Plan Conformance. The Petition shall include the proposed master plan amendments, regulatory revisions, the county vision (if applicable), all supporting documentation, and a County Self-Assessment Report.

County Self-Assessment Report – The County Self-Assessment (CSA) Report will describe the county's progress toward achieving full Plan Conformance as of the date of filing its Petition. It will discuss and outline the steps remaining to fully align the county planning program with the RMP and thus achieve Plan Conformance. The CSA Report must in addition, include a proposed Implementation Schedule for completion of each outstanding task leading to full Plan Conformance.

The Highlands Council may convene a committee to review municipal and county Petitions for Plan Conformance. The membership of the Committee may change based on the municipality or county being reviewed in order to avoid a conflict of interest for any Council member. The Committee shall review the Municipal and County Assessment Reports, community visioning results, and all supporting documentation and make recommendations to the Highlands Council for each Petition to be approved, rejected or approved with conditions. It is anticipated that all Plan Conformance approvals will have conditions attached, at a minimum outlining all of the long-term mandatory items of Conformance.

If a Petition is rejected or approved with conditions relative to the immediate mandatory elements of Plan Conformance, the notification will be accompanied by a specific listing of the actions the municipality or county must take in order to receive a Plan Conformance approval.

Approval of Plan Conformance shall last for a period of six years or, for municipalities, until the next municipal reexamination of the municipal master plan if less than six years. Upon notification of approval, the municipality or county shall be eligible for all of the benefits of Plan Conformance including:

1. Strong Presumption of Validity, Extraordinary Deference, and Burden of Proof – As set forth in the Highlands Act, a strong presumption of validity applies to master plans, land use ordinances and local decisions of municipalities and counties that are in conformance with the RMP. If a conforming municipality or county is challenged in court, the actions they have taken to conform to the RMP shall be given extraordinary deference and the burden of proof shall be on the plaintiff to prove that the municipality or county acted in an arbitrary, capricious or unreasonable manner.

Legal Representation – The Council shall, where appropriate in accordance with the Highlands Act, provide legal representation to any requesting local government unit located in the Highlands Region in any cause of action

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Compliance Component	<p>filed against the local government unit and contesting an act or decision of the local government unit taken or made under authority granted pursuant to the Municipal Land Use Law, the State Uniform Construction Code Act, or the Highlands Act.</p> <p>2. Planning Grants – The Highlands Council is authorized to provide grants for the reasonable expenses associated with modifying master plans, land use ordinances, development regulations, and other relevant components of municipal and county planning programs to make them conform to the Regional Master Plan.</p> <p>Approval of Plan Conformance is equivalent to Plan Endorsement by State Planning Commission and brings with it the benefits of Plan Endorsement, such as State aid, planning assistance, technical assistance, and other benefits awarded by the State.</p> <p>Once a municipality or county has received Plan Conformance approval, it has an obligation to maintain the plans, ordinances and regulations that brought it into conformance. The Highlands Act specifies that “the council may revoke a conformance approval granted ..., after conducting a hearing, if the council finds that the local government unit has taken action inconsistent with the regional master plan”. Jurisdictions seeking to amend ordinances or regulations relating to the Highlands RMP must provide them to the Highlands Council for review and approval prior to adoption at the local level.</p> <p>Municipal and county Plan Conformance will be periodically verified through submission of periodic status reports. If the council revokes a Plan Conformance approval for a municipality or county that has received grants or funding based on its conformance status, it may be required to return those funds to the Council.</p>
Grants Programs	<p><u>Highlands Regional Master Plan Compliance Aid Grants</u></p> <p>The Highlands Regional Master Plan Compliance Aid Grants are intended to fund planning and science projects which are necessitated by the mandatory requirements of the RMP and the associated Plan Conformance and implementation process.</p> <p>*Initial Assessment Grant Program*</p> <p>The purpose of the Initial Assessment Grant is to enable municipalities and counties to conduct an initial review of the policies and requirements of the RMP to determine the level of effort anticipated for the municipality or county to conform to the RMP. The Initial Municipal Assessment Grants will support an early and preliminary assessment on the part of the municipality and county and will not obligate them in any way to commit to Plan Conformance for the Planning Area in the future.</p> <p>The funding assistance is to be used to review existing land use planning, development and regulatory documents and mechanisms against the policies, strategies and implementation techniques contained in the RMP.</p> <p>The Initial Assessment Grant program will accept applications from municipalities and counties located within the Highlands Region.</p> <p>*Plan Analysis and Conformance Grant Program*</p>

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Municipalities and counties within the Preservation Area are required to participate in Plan Conformance to bring their local planning and zoning into conformance with the RMP. Those within the Planning Area may, after completing the Initial Assessment, choose to participate in Plan Conformance for the Planning Area. Any municipality or county that submits a duly-adopted Notice of Intent to Petition for Plan Conformance will be eligible for grant funding to help offset the costs associated with the process.

The Plan Analysis and Conformance grants will fund municipal and county work that builds on the initial assessment. Funds may be used to analyze local plans, regulations, and programs and evaluate how well they support the goals, policies, and objectives of the RMP. Funds may also be used to perform capacity and constraints analyses, conduct community vision sessions, develop action plans that will align local planning with the RMP, conduct public outreach to involve and inform the community, and to prepare the Municipal or County Self-Assessment Report.

Immediate Mandatory Elements of Conformance Approval

As part of a municipality's or county's Petition for Plan Conformance, certain elements of the RMP must be adopted and enacted to receive Highlands Council conformance approval. The Plan Analysis and Conformance Grants are intended to also assist local governments in implementing these requirements. The immediate mandatory requirements will be summarized in the *Plan Conformance Guidelines*, during the Overview Meetings and during conformance discussions.

Highlands Implementation Grant Program

Long-term Mandatory Elements of Conformance Approval

As a condition of Plan Conformance approval, additional elements will be required of each conforming municipality and county unless they already conform to these elements as part of their initial Petition for Plan Conformance. An Implementation Schedule will be established to outline each element and the timeframe within which they must be achieved. The Highlands Implementation Grants will be made available to assist municipalities and counties in actions to complete these requirements. They may include development of such items as additional resource protection standards, resource management plans, fiscal sustainability measures, certain development standards, or historic and scenic resource protection plans.

Highlands Incentive Planning Aid Grants

The Highlands Incentive Planning Aid Grants are intended to fund planning and science projects which advance the goals, policies and objectives of the RMP, but are not mandatory requirements of Plan Conformance.

Discretionary Elements of Conformance Approval

The RMP contains a range of policies and objectives and associated elements that the Highlands Council is committed to as part of the future vision of the Highlands, but have been deemed discretionary. Highlands Incentive Planning Aid Grant monies will be available to initiate important elements of the RMP through planning studies on targeted issues. Sample projects that may be eligible include planning for brownfield and grayfield redevelopment, town

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center/transit village development, and local and regional economic development strategies.

Transfer of Development Rights (TDR) Grants

The Highlands Council has established a \$1 million Voluntary Receiving Zone Feasibility Grant Program. This grant program is designed to assist municipalities in assessing the potential for locating a receiving zone within the community. Eligible municipalities will receive both financial support and technical assistance from the Council. Participation in the grant program requires a commitment by the municipality to fully evaluate the feasibility and desirability of designating a receiving zone. Additional grant funding will be made available to offset the costs of implementation of a TDR program.

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CHAPTER VI. IMPLEMENTATION

Subpart c. Federal, State and Regional Agency Coordination

Issue Overview

The Highlands Act requires a coordination and consistency component which details the ways in which local, State, and federal programs and policies may best be coordinated to promote the goals, purposes, policies, and provisions of the RMP, and which details how land, water, and structures managed by governmental or nongovernmental entities in the public interest within the Highlands Region may be integrated into the RMP.

For a regional planning initiative to succeed, a substantial amount of participation and coordination is required from all levels of government. In addition to the 88 constituent municipalities and seven Highlands counties that will play a large role in implementing the RMP, it is necessary for the Council to incorporate thorough and effective interaction and coordination with federal and State agencies. Coordination with the seven county planning departments in support of both county and municipal Plan Conformance as well as RMP data management and data sharing is also a critical component.

This extraordinary degree of cooperation is vital in order to achieve the most positive, sustainable outcome for the environment and economy of the Highlands Region, and thus the quality of life for all who live and work within it or otherwise benefit from its resources. Establishing a process based on the consistent treatment of factors at all levels of government is key to the success of regional policies and initiatives.

State level coordination between the Council and the Department of Environmental Protection will be particularly important due to the requirements of the Act that establish stringent regulatory standards for development in the Preservation Area administered by the Department and the provisions in NJDEP regulations at N.J.A.C. 7:38-1.1(g) though (l), which require that consideration and weight be given to this Plan.

The Highlands Act provides that any municipality or county located entirely or in part in the Preservation Area shall be exempt from the State Planning Commission's Plan Endorsement process and provides that the Council must consult with the State Planning Commission before approving, rejecting, or approving with conditions the revised plans and associated regulations of Planning Area municipalities and counties for lands in the Planning Area. Further, the Act provides that upon the State Planning Commission's endorsement of the RMP, any municipal master plan and development regulations or county master plan and associated regulations that are found by the Council to be in conformance with the RMP shall be considered the equivalent of having those plans endorsed by the State Planning Commission.

Finally, regional coordination between the Highlands states (Connecticut, New York, and Pennsylvania) is necessary in order to address and implement comprehensive conservation measures, since regionally significant resources do not neatly follow political boundaries.

Program Summary

The purpose of this program is to establish a process based on the consistent treatment of factors at all levels of government to ensure the success of RMP policies and initiatives. Towards this end, a fundamental goal of this program is to establish or enhance interagency coordination to address critical issues such

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**RMP Policies and
Objectives Addressed**

as environmental review procedures, land use regulation, affordable housing, land acquisition, agriculture, TDR, and Smart Design practices. Additionally, through this program, the Highlands Council will establish regular lines of communication and exchange technical information with representatives of the broader Highlands Region in Connecticut, New York, and Pennsylvania.

Through proactive coordination with federal, State and county agencies the Council will promote the use of the RMP policies and standards to ensure the consistent protection of resources in the Highlands Region. Consistency is particularly important with those federal or State programs related to water supply availability, water quality, biodiversity conservation, and infrastructure capacity needed to handle growth.

Policy 1H4. To advocate for the establishment of dedicated sources of funding for the preservation and stewardship of open space lands in the Highlands Region including, but not limited to:

1. Dedicated sources of State revenue to be used for open space preservation in the Highlands Region, such as coordination with the NJDEP Green Acres Program for re-authorization of the Garden State Preservation Trust Fund, including a dedicated fund for the anticipated land acquisition needs of the Highlands Region, and enactment of a water user fee.

2. Dedicated sources of State revenue for a reserve fund to capitalize the Highlands Development Credit Bank.

3. An on-going program to secure significant federal funding in support of land acquisition and stewardship efforts in the Highlands Region including, but not limited to, additional appropriations under the Federal Highlands Conservation Act.

4. An on-going program to seek funding for land acquisition and stewardship from unique sources such as gifts, endowments and donations, and federal and state court-imposed fines for natural resource damages.

5. A dedicated source of revenue for the preservation and stewardship of open space through a surcharge on public water supply system rates for any system that directly or indirectly relies on Highlands water resources for more than 5 percent of their annual needs.

6. A Highlands Conservation Trust to secure monies from alternate sources of funding to assist in land acquisition and stewardship.

Policy 1H5. To support legislation to extend the dual appraisal methodology used by the Garden State Preservation Trust for lands in the Highlands Region beyond the June 30, 2009 expiration date to a minimum of five years beyond adoption of the RMP.

Policy 1J1. To promote the creation of a Forest Preservation Easement Program for the Highlands Region, eligible for use through the State Agriculture Development Committee or the Green Acres Program.

Policy 1N1. To develop innovative financing and administrative mechanisms for the maintenance and operation of public and private dams and lakes, where those dams and lakes provide a continuing public or private purpose.

Objective 2B6b. NJDEP Water Allocation decisions and Highlands Project Reviews shall ensure that any new or increased water allocation permits within the Highlands Region are in conformance with the policies and objectives of the

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RMP policies and objectives and do not result in significant reductions in safe yields for any water supply facility with an existing water allocation permit and NJDEP-approved safe yield.

Policy 2E2. To coordinate programs, funding and activities among public and private entities to encourage regional ground water recharge protection, restoration and enhancement activities consistent with the Plan.

Policy 2F2. To coordinate with NJDEP regarding a unified water quality assessment and the development and implementation of Total Maximum Daily Loads, where necessary, for all surface waters within the Highlands Region.

Policy 2F3. To coordinate with NJDEP regarding a unified ground water quality assessment, monitoring and attainment program.

Policy 2F4. To coordinate with NJDEP regarding efforts to monitor areas of known contamination to ground water resources within the Highlands Region and activities to remediate and restore water quality.

Policy 2F5. To coordinate with NJDEP and other agencies to identify impairments and implement improved regulatory actions and management practices that will also support the water quality goals of the Highlands Act.

Objective 2H1a. Coordinate with NJDEP to establish and maintain an inventory of Wellhead Protection Areas in or affecting the Highlands Region.

Objective 2J9b. Coordinate with NJDEP, water purveyors and water utilities to ensure that service areas and franchise areas are supplied by and consistent with sustainable yields from their designated sources.

Objective 3A7a. Coordinate with the NJDEP State Forester and conservation experts to provide guidance for the development of Forest Management Plans that improve the maintenance of ecosystem and water resource values of the Highlands Region.

Policy 3B4. To support incentives and funding opportunities for the control of invasive species, white-tailed deer reduction programs, and the water value of well-managed agricultural lands.

Policy 3D1. To work with the State Agriculture Development Committee and the Garden State Preservation Trust to establish incentives for any landowner in the Highlands Region seeking to preserve land under the farmland preservation program that would be provided in exchange for the landowner agreeing to permanently restrict the amount of impervious surface and agricultural impervious cover on the farm to a maximum of five percent of the total land area of the Farm Management Unit.

Policy 4A6. To coordinate the Highlands Council's activities with regard to historic and cultural resources with the New Jersey Historic Trust and the State Historic Preservation Office.

Policy 5C2. To coordinate with NJDOT, NJTransit, North Jersey Transportation Planning Authority (NJTPA), counties and municipalities with regard to transportation planning and implementation strategies within both the Highlands Region and the larger 13-county metropolitan planning region.

Policy 5C8. To evaluate the existing and proposed Residential Site Improvement Standards (RSIS) in the context of the RMP and develop

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recommendations for amendments that would minimize detrimental environmental impacts resulting from new residential developments while maximizing utility efficiency in a manner that addresses community and landscape character.

Objective 6K1a. Establish interagency teams as necessary to support and expedite redevelopment and development activities that conform to the Plan.

Objective 6K1b. Encourage and support the use of planning and financing tools that are available through state agencies and programs for appropriate redevelopment.

Objective 6M1a. Coordinate with NJDEP on Highlands Brownfield designations and in support of a mechanism that facilitates remedial activities within the Highlands Region.

Objective 6O1b. An interagency partnership with the Council on Affordable Housing (COAH) in support of the achievement of both the resource protection requirements of the RMP and the municipal constitutional obligation, in “growth areas”, to provide a realistic opportunity for the construction of a fair share of affordable housing for low and moderate income households.

Policy 7E4. The Highlands Council shall seek and support priority allocation of available State and federal funding for Highlands municipalities which have established TDR Receiving Zones for Highlands Development Credits.

Policy 8A3. To identify and pursue state and federal programs that offer financial and/or technical assistance for sustainable economic development in the Highlands Region.

Objective 8B1a. Coordinate activities with the NJ Department of Agriculture and other entities to maximize the potential benefits of existing programs that sustain agriculture.

Objective 8B2a. Coordinate activities with the NJ Department of Agriculture and other entities to ensure a sustainable agricultural industry and agricultural operations that improve farm incomes and the long-term viability of farming.

Policy 8C5. To advocate for state and federal funding of recreation and tourism initiatives in the Highlands Region.

Policy 9A4. To encourage and support state and federal air quality monitoring for the Highlands Region and regulatory action to reduce levels of air pollutants including but not limited to: ozone, carbon dioxide, sulfur compounds, volatile organic compounds, methane, and fine particulate matter pollutants in the Highlands Region.

Policy 9A6. To support State and federal initiatives that will reduce air pollution emanating from power plants, incinerators and landfills within and affecting the Highlands Region and particularly in Warren County due to out-of-State power plant air pollution.

Policy 10A1. To ensure that programs and policies are effectively coordinated to promote the purpose and provisions of the RMP, through efforts with all levels of government, including local, county, regional, State and federal agencies.

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**Creation of
Interagency
Committees**

The Highlands Council will work with State and federal agencies as needed to develop Interagency Teams to assist in implementation of the RMP. The Interagency Teams will reflect the multiple modes of coordination that are required and will change as needed, based on the nature of the issues at hand. The Interagency Teams may address critical coordination measures such as environmental review procedures, land use regulation, affordable housing, land acquisition, agriculture, Brownfields, TDR, historic and scenic resources, transportation and Smart Design practices. The Teams will serve in support of RMP policies, Plan Conformance reviews, and Project reviews and will act as technical and planning partners in the implementation of RMP policies. The role of the Interagency Teams is to provide local and regional support to all stakeholders on issues and concerns of the Highlands Region.

**Coordination with
Regional Agencies**

The Highlands Council will establish or enhance regular lines of communication and exchange technical information with representatives of the Federal Highlands Region in Connecticut, New York, and Pennsylvania. The Council will also ensure consistent coordination with relevant federal departments and agencies including the United States Departments of Agriculture (including the Natural Resources Conservation Service), Interior, Commerce, Transportation, and Defense and the Environmental Protection Agency, as well as any federal departments and agencies that engage in activities that affect the Highlands Region. The Council will maintain a liaison with each federal department or agency that administers or funds programs that affect the use of lands or protection of resources in the Highlands. These coordination efforts will encourage each federal entity to rely upon the RMP when their actions or decisions about programs, projects, or funding have the potential to affect the Highlands Region.

**Coordination with
State Agencies**

The Highlands Council will ensure consistent on-going coordination with State agencies and between the Council and NJDEP. The Council will work with NJDEP to actively encourage use of the RMP as the basis for establishing regulatory thresholds and standards. The Council will also work with NJDEP to develop a coordinated land use permitting strategy for lands subject to the NJDEP's Highlands Rules and the RMP's Preservation Area requirements. In addition, the Council will develop a process to ensure consistent coordination with the New Jersey Departments of Agriculture, Law & Public Safety, Community Affairs (including the Office of Smart Growth and the Council on Affordable Housing), Education, Health and Senior Services, Treasury and Transportation, and the NJ Commerce, Economic Growth and Tourism Commission on issues appropriate to each of their jurisdictions.

In order to aide municipalities where they seek appropriate opportunities for development, redevelopment, and/or preservation within the Highlands Region, the Council will coordinate with the Economic Development Authority, New Jersey Redevelopment Authority, the Housing and Mortgage Finance Agency, the New Jersey Environmental Infrastructure Trust, the New Jersey Historic Trust, and the Garden State Preservation Trust to facilitate funding and to institute policies that help to implement the RMP.

To help ensure that new infrastructure and State funded public development is guided to appropriate locations in the Highlands Region, the Council will work with the Board of Public Utilities, New Jersey Transit, the New Jersey School Construction Corporation, Department of the Treasury, New Jersey Building

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**Specific Coordination
with State Planning
Commission**

Authority, and the North Jersey Transportation Planning Authority.

The Highlands Council will take the following steps related to the State Development and Redevelopment Plan, consistent with its Memorandum of Understanding with the Office of Smart Growth and the State Planning Commission:

- Within sixty days of adoption of the RMP, the Council will, as required by the Highlands Act, submit the RMP to the State Planning Commission for Plan Endorsement for the Planning Area of the Highlands Region;
- Coordinate with the State Planning Commission to clarify the policies and use of the State Development and Redevelopment Plan and Map and the Highlands RMP and Land Use Capability Map;
- Maintain a cooperative planning process with the State Planning Commission to reconcile conflicting land use policies that municipalities may encounter when seeking Plan Endorsement by the State Planning Commission or Plan Conformance by the Highlands Council;
- Coordinate with the State Planning Commission to ensure the sharing of all reports, petitions, recommendations and/or reviews generated for the State Plan Cross Acceptance and Plan Endorsement processes by Highlands municipalities and counties as well as those prepared as part of the Highlands RMP and Plan Conformance process with local Highlands governments;
- Streamline the State Plan and Highlands processes for municipalities and counties by providing for simultaneous agency reviews as well as joint meetings, whenever possible;
- Coordinate with the State Planning Commission to ensure consideration of any written comments provided by the Council concerning petitions before the Commission prior to any action approving, rejecting, or approving with conditions the petition for Plan Endorsement; and
- Coordinate with the Department of Community Affairs' Office of Smart Growth to ensure the sharing of all relevant documents and data concerning the review and coordination of State infrastructure capital investment, community development, and financial assistance for local governments with lands in the Planning Area.

**Specific Coordination
with Regional,
County, and
Municipal Planning
Agencies**

The Highlands Council will ensure consistent, on-going coordination with regional, county, and municipal planning agencies in support of Plan Conformance and State agency coordination. The Council will work with these agencies to allow for coordination and consistency in support of County and municipal planning, project reviews and long term planning and funding programs. With particular reference to agriculture, these will include County Agricultural Development Boards, County Soil Conservation Districts, and Rutgers Cooperative Extension Service. The regional and county planning agencies serve as a critical interface between State, regional and local knowledge to ensure that RMP policies and initiatives are coordinated throughout the Region. The data sharing and management practices with regional, county, and municipal planning agencies will continue to be refined and enhanced to ensure that timely updates are achievable, quality assurance measures are in place and innovative approaches may be realized.

Subpart d. Local Participation

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Issue Overview

The local participation requirements in the Highlands Act call for the “maximum feasible local government and public input into the council’s operations, which shall include a framework for developing policies for the planning area in conjunction with those local government units in the planning area who choose to conform to the regional master plan” (Section 11.a.(3)). This includes the establishment of opportunities for public input in the regional planning process, including coordination with county and local governments, stakeholders and the general public. Section 6 of the Highlands Act additionally authorizes the Council:

j. To appoint advisory boards, commissions, councils, or panels to assist in its activities, including but not limited to a municipal advisory council consisting of mayors, municipal council members, or other representatives of municipalities located in the Highlands Region; and

k. To solicit and consider public input and comment on the council’s activities, the Regional Master Plan, and other issues and matters of importance in the Highlands Region by periodically holding public hearings or conferences and providing other opportunities for such input and comment by interested parties.

Local participation is a critical aspect of any planning process and has been a priority for the Highlands Council in the development of the RMP. This type of public participation is frequently used in land-use planning in order to involve citizens in the decision-making process, enhance outcomes, and establish a better sense of stewardship. Moreover, citizen participation may add knowledge to the planning process regarding local conditions, needs, and concerns that might otherwise go unaddressed.

To be successful, specific public participation strategies should be tailored to the needs of the individual planning effort and the relevant stakeholder groups. The Highlands Council has used a multi-faceted approach to involve stakeholders and interest groups in the development of the RMP. The Council will continue to encourage and enhance local participation in the implementation and refinement of the RMP, which in turn will enhance and maintain the natural, cultural and economic resources of the Highlands Region for years to come.

Program Summary

The Local Participation Component provides for a variety of approaches to meet the requirements of the Highlands Act. Various outreach and communication efforts have taken place since the adoption of the Highlands Act. Since its inception, the Highlands Council has coordinated outreach programs and events for a variety of audiences. The overall effort can be categorized into three separate programs: the Partnership, the Technical Advisory Committees (TACs), and the Network. The approaches that the Highlands Council uses to deliver information to the public and addresses constituent matters include: regular public meetings, public presentations, and the provision of individual outreach and constituent services. The Highlands Council website will continue to serve as a communication tool – one that reduces the need for physical production, distribution, and/or packaging of Highlands Council documents.

The Highlands Council has taken advantage of a variety of outreach approaches in order to provide details regarding the RMP, disseminate technical information, address individual comments and concerns, and meet the constituents of the Highlands Region. The Council operates in a transparent

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environment and will continue to promote and maximize public participation and stakeholder involvement.

The existing outreach components will continue to be utilized to encourage local participation. Additional strategies will include the development of training and educational programs on various subjects, resources and technical support on specific issues, and assistance in coordinating with other government entities in promoting regional goals.

To promote understanding and support for the various RMP policies and objectives at the local level, and in support of Plan Conformance, the Highlands Council shall take actions that include the following:

Resource Protection

- Develop or utilize existing educational programs on water conservation measures to reduce consumptive and depletive uses of water supplies;
 - Develop or utilize existing training and educational programs on methods for incorporating water capacity thresholds into land use decision-making;
 - Provide educational and technical training programs to promote understanding and implementation of consistent standards for the protection, restoration and enhancement of Prime Ground Water Recharge Areas;
 - Provide educational and technical training programs on Prime Ground Water Recharge Area protection measures applicable through municipal planning, zoning and land use regulation;
 - Provide training and educational programs on ground and surface water quality protection and restoration methods;
 - Develop a training and educational program on concepts, approaches and methods to achieve wellhead protection;
 - Develop training and educational programs on septic system design and maintenance and the protection of water quality;
 - Review information with counties and municipalities regarding areas of ground water quality impairment known to exist, or that are suspected to exist (e.g., lake communities with failing septic systems, public community water systems) and determine how best to protect or restore these resources;
 - Develop educational and technical training programs to promote consistent standards for the protection, restoration and acquisition of important waters and riparian areas of the Highlands Region;
 - Develop educational and technical training programs on resource protection standards, restoration and mitigation practices, and Low Impact Development Best Management Practices to minimize impacts from land development activities on Highland Open Waters and Riparian Areas;
 - Coordinate with municipal Environmental Commissioners and watershed organizations to encourage a comprehensive stream monitoring and riparian area assessment program within the Highlands Region;
 - Develop an educational program on methods to identify and protect steep slopes;
 - Develop an educational program on methods to develop a forest stewardship plan;
 - Establish an educational program on sustainable forest management
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practices;

- Educate the public on the ecological, economic, cultural and recreational value of maintaining healthy forests in the Highlands; and
- Develop educational program on methods to develop Habitat Conservation and Management Plans.

Land Preservation

- Educate the public on the economic, cultural and resource value of preserved open space in their communities;
- Assist municipalities and counties in gathering open space information in order to update and track existing data; and
- Develop educational and technical assistance on funding opportunities for land preservation, restoration and enhancement, and stewardship activities within the Highlands Region.

Agricultural Sustainability

- Develop educational and technical training programs to promote a viable and environmentally sustainable agricultural and horticultural industry in Highlands communities and in the Region overall;
- Educate the public on the economic, cultural and resource value of maintaining a viable and environmentally sustainable agricultural and horticultural industry in the Highlands; and
- Promote, establish and use an Agriculture Advisory Committees as a resource to meet the goals of the RMP.

Historic, Cultural and Scenic Resources

- Provide educational and technical assistance to municipal and county officials regarding methods to identify and preserve the historic, cultural and scenic resources of their communities; and
- Provide assistance to counties and municipalities interested in developing a heritage tourism program, to complement historic preservation and/or recreation planning efforts.

Future Land Use

- Develop educational and technical training programs for innovative/alternative development and redevelopment initiatives in support of the RMP's policies for development, infill development and redevelopment;
 - Support stakeholder understanding of the need to incorporate smart growth principles in development and redevelopment planning efforts in order to protect and restore resources and create parks and green spaces, while at the same time providing opportunities for housing, employment, and maximum use of high-efficiency modes of transportation;
 - Support economic improvement of the Highlands Region through development and redevelopment initiatives that balance housing, employment and quality of life;
 - Provide programs and materials to educate stakeholders regarding the vast array of affordable housing options;
 - Provide educational programs regarding residential green building features and rebates available for utilizing energy efficient construction elements for
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new development and home renovations; and

- Provide educational opportunities for Highlands Region stakeholders to learn about innovative design concepts related to natural resource protection, smart growth principles, green building practices and other strategies to enhance quality of life in the Highlands.

Water Resources and Utilities

- Develop educational programs on water conservation, low impact development, recycling and re-use measures and methods to reduce demand on existing water supplies;
- Develop training and educational programs for municipal utilities and public works departments to identify the adequacy or limitations of infrastructure for existing and future demands;
- Develop educational programs on water conservation, recycling and re-use measures and methods to control infiltration and inflow to maximize available wastewater treatment capacity; and
- Develop training and educational program for municipal and county planning boards and environmental commissioners on methods for using the RMP to revise and develop Wastewater Management Plans and in support of wastewater system maintenance.

Transportation System

- Provide resources, technical support, education and outreach in order to implement the RMP's transportation, transit and related air quality protection policies.

Recreation and Tourism

- Assist with tourism inventories to identify both public and private tourist attractions, such as historic, cultural, scenic and recreation opportunities, as well as facilities to support tourism, such as bed and breakfasts, inns, restaurants, bicycle rentals, and provisioners of outdoor equipment; and
- Assist municipalities in working cooperatively with counties and neighboring towns to approach tourism from a regional perspective.

Land Owner Equity

- Provide detailed guidance on Highlands Exemptions and Waivers;
- Provide public outreach and education for the Highlands TDR Program;
- Establish a process for designating voluntary receiving zones within the Highlands Region and the seven Highlands counties, which process shall allow for significant public input; and
- Develop and implement a Voluntary TDR Receiving Zone Feasibility Grant Program to encourage and support municipalities interested in identifying and evaluating opportunities to create TDR Receiving Zones.

Regional Economic Sustainability

- Provide a summary of the Cash Flow Timetable to the public on a periodic basis informing constituents regarding progress and expenditures related to implementation of the RMP.
 - Assist municipalities in maximizing the efficiency of land development practices and opportunities for economic development and redevelopment in support of a sustainable regional economy.
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RMP Policies and Objectives Addressed	<p><u>Conformance and Implementation</u></p> <ul style="list-style-type: none">• Assist municipalities, counties and stakeholders in understanding the nature and extent of Plan Conformance and Project Review requirements. <p>Policy 10A1. To ensure that programs and policies are effectively coordinated to promote the purpose and provisions of the RMP, through efforts with all levels of government, including local, county, regional, State and federal agencies.</p> <p>Policy 10A2. To ensure sufficient local participation in the development of the RMP and on-going work of the Highlands Council.</p> <p>Objective 10A2a. Engage stakeholder groups and individuals in public participation opportunities that provide meaningful input in the Highlands Council planning process.</p> <p>Policy 10A3. To ensure maximum RMP Conformance by municipalities and counties to achieve the highest level of protection for all important natural systems and resources of the Highlands.</p> <p>Objective 10A3a. Provide benefits and incentives to municipalities and counties that conform to the RMP.</p>
Partnership Program	<p>The Partnership is a consortium of government representatives of the 88 municipalities and seven counties of the Highlands Region. It was formed to provide a forum for disseminating information on the RMP and implementation process, as well as to create a direct line of communication between the Highlands Council and its constituent governments.</p> <p>This program was created to make certain that local and county representatives and officials continue to have an active role in shaping the future of their communities. Representatives of the constituent towns and counties provided information on local issues and planning efforts that related to elements of the RMP. Subjects of importance were identified and prioritized based on feedback from local and regional officials, including environmental protection, open space and land preservation, agriculture and forestry, economic development, tax ratables, affordable housing, infrastructure capacity, transfer of development rights, developing model ordinances, and potential legal issues and challenges. Partnership meetings also took place with Highlands municipalities on an individual basis. Workshops, luncheons and other meetings were also held with municipal representatives.</p> <p>The Council adopted data-sharing agreements with all of the seven Highlands Counties in order to facilitate the production of the RMP. These agreements allow the Council to collect and share data, such as parcel data, which will be helpful to other agencies and the individual municipalities. These agreements facilitate contact between the Council and the seven Counties and assist the Council and staff in creating a sound, data-rich plan. The data sharing agreements will provide updated information and resources on a continual basis. This process will benefit the participating entities as well as the Council.</p> <p>The Council will conduct constituent forums in support of the RMP and stakeholder understanding. In addition, it will provide education and training sessions covering a variety of topics integral to RMP implementation, including natural resources, housing, economic development, land stewardship,</p>

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**Technical Advisory
Committees**

innovative technologies, and waivers and exemptions, .

The Technical Advisory Committees (TACs), consisting of technical experts and practitioners from a variety of relevant fields, including but not limited to planning, science, engineering, agriculture, transportation, real estate appraisal, and business, were convened to serve as resources to the Council and Highlands Council staff on specific subject matters. This outreach program was developed by the Highlands Council in order to gain a range of expertise in areas related to the development of the RMP.

The 18 committees focused on subject matters that the Highlands Act mandated the Council to address as part of the RMP. Topics included water resources; land use planning; ecosystem management; land preservation; green construction; sustainable agriculture and forestry; eco-tourism; recreation; housing; community investment; regional development; brownfields; redevelopment; transportation; cultural, historic, and scenic resources; utility capacity; and transfer of development rights.

The TACs, acting in the capacity of "volunteer consultants," met to discuss and provide input on individual issues pertinent to development of the RMP. Where information pertaining to the scientific and technical basis for sections of the RMP was at issue, TAC members exchanged expert opinions with Highlands staff and offered a course of action for each topic. A two-day workshop forum (or charrette) was held by the Highlands Council to allow Highlands Council staff and TAC participants to freely discuss and consider a spectrum of approaches and strategies for addressing the goals of the RMP.

The Highlands Council plans to continue outreach with specific TACs, particularly in the development of the TDR Program and economic development and redevelopment initiatives. This process will allow the Highlands Council to gain different perspectives and will keep the TAC members informed of the Highlands Council's program approaches. In some cases, multiple TACs will be combined to improve the effectiveness and efficiency of the process. The number, focus, membership and meeting schedule for TACs will vary over time based on Council information needs.

The Network

The Network was created in order to open the door to stakeholders, including the general public, to share information about progress on the RMP, gain local insight and comments on significant issues, address individual questions of concern, host special stakeholder events, conduct public information sessions and provide web access.

To address stakeholder concerns, the Council has provided programs to inform citizens and business interests about the process surrounding the RMP and accept comments on any issues that arise. The Council has participated in constituent meetings and responded to all inquiries, whether made in person, or by telephone, e-mail, or letter. Highlands Council staff members have also made numerous presentations to municipal boards, commissions, and committees, to interest groups and at various conferences on planning and the environment. Several times throughout the planning process, the Council proactively reached out to the Network in order to provide notice of the availability of new and updated information in the form of draft RMP data releases.

Repositories containing hardcopies of the RMP are located at County libraries, several local libraries and community colleges in order for the public to

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	<p>have enhanced public access to the documents for review. Currently, a repository for all hardcopy data released exists at the Highlands Council Headquarters in Chester, New Jersey and is available for public viewing upon request.</p> <p>The Highlands Council will continue outreach to the general public in order to inform the conformance process and implementation of the plan as well as to benefit stakeholders.</p>
Regular Public Meetings and Presentations	<p>The Highlands Council meets on a regularly scheduled basis at the Highlands Council Office in Chester, New Jersey. Committees of the Council meet on an as-needed basis. These meeting forums are open to the public and include opportunities for public comment. In fulfillment of the requirements of the Highlands Act, the Council held numerous hearings regarding the draft RMP to receive public comments, and also held Council meetings in each of the seven constituent counties to inform the public about the goals of the Highlands Council.</p> <p>The Council also provides information to the public about a variety of topics related to the RMP at public meetings of its constituent municipalities and counties. Local concerns and comments are received at these meetings and will continue to be addressed on an individual basis.</p>
Individual Outreach and Constituent Services	<p>Outreach is also provided by the Highlands Council on a case-by-case basis. Beyond the larger meeting forum, citizens may have general concerns, questions, or request a follow-up after Highlands Council meetings by either visiting, writing to, or calling the Council offices. Depending on the subject matter and availability of information, Highlands Council staff will offer an immediate response or acknowledge the request and provide a reply within a reasonable timeframe. Additionally, the Council is bound by the Open Public Records Act (OPRA) and has an established procedure for responding to requests submitted via this procedure.</p> <p>The Highlands Council staff is also available to meet with representatives of constituent municipalities and counties regarding aspects of the Highlands Act, the RMP and Plan Conformance process, and any local concerns or information that these entities may wish to bring forward. There have been numerous meetings organized and/or attended by Highlands staff to interact and engage with property owners to provide specific information related to individual properties. Meeting handouts and other written documents have been prepared and distributed in an effort to educate the general public about the Highlands Region, the role of the Council, the RMP, and NJDEP's Highlands Preservation Area Rules. Highlands Staff will continue to provide this important outreach component to individuals and organizations in need of such assistance.</p>
Special Stakeholder Events	<p>Open meetings and special events geared toward addressing individual topics and/or stakeholder groups are another avenue for disseminating information to groups of constituents. This format was employed to inform Highlands landowners, particularly those in the Preservation Area, about the Highlands Act in order for them to make educated decisions regarding the future of their land. The "Landowner Forum" convened early in the RMP development process, provided this special stakeholder group important information about landowner rights and available options. More than 100 participants attended the forum which included presentations by Highlands Council staff, the State</p>

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Agriculture Development Committee (SADC), and NJDEP's Green Acres Program. The public was afforded the opportunity to meet with the various state, county and non-profit land preservation entities, including Morris Land Conservancy, Trust for Public Land, New Jersey Conservation Foundation, Association of New Jersey Environmental Commissions, Passaic River Coalition, Hunterdon Land Trust Alliance, as well as representatives from Morris, Passaic, and Warren Counties to discuss preservation opportunities. Another special stakeholder event was a bus tour for Highlands Council members and staff to view a variety of farms in the region with members of the New Jersey Farm Bureau and Highlands farmers to learn about local farmers needs.

Educational programs and technical training which will be developed as part of the plan implementation will be presented at the Highlands Office. The dates for these meetings are available at the Council's website.

**Web Access and data
sharing**

The Highlands Council has maintained a website since shortly after adoption of the Highlands Act (<http://www.highlands.state.nj.us/>). The site contains document releases, maps, Frequently Asked Questions, legal requirements of the Act, and other information for stakeholders including the Council's calendar, agendas, meeting minutes, public comments, and press releases. Summary reports from the initial TAC meetings as well as the TAC Charrette Workbooks are available at the Highlands Council website. The Highlands Council website is a rich source of information, as many of the public releases and all relevant documents provided by the Council have been posted there, including the RMP.

The "Stakeholder" page on the website provides specific information for many groups including homeowners, landowners, municipalities, counties, grassroots organizations, and farmers. A "hot topics" section contains timely issues and recent public information. There are also links to other State websites that deal with Highlands issues or that might affect the stakeholders in the Highlands Region. An important tool for stakeholders is the interactive mapping application which allows the public to determine if their property - by street address or specific block and lot designation - is in the Highlands Preservation or Planning Areas. The property search tool has been enhanced with Land Use Capability Zone Map data and Highlands resource data. It will continue to be improved as more information becomes available and as software capabilities expand.

**Training and
Education for
Municipal and County
Officials and Staff**

The RMP includes requirements and recommendations for municipal and county implementation through the Plan Conformance process, many of which require specialized knowledge regarding technical, scientific and planning fields. The Highlands Council will prepare and provide technical training and education for elected and appointed officials and their staff to ensure that Plan Conformance activities are implemented with the greatest possible understanding of the issues, thus ensuring effectiveness and efficiency. In most cases, these training and education opportunities will be provided at the regional level, and may be provided in cooperation with professional and municipal organizations.

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Part 2. Highlands Project Review

Subpart a. Project Review Process

Issue Overview

The Highlands Council is legislatively charged with reviewing proposed projects throughout the Highlands Region, including both the Preservation Area and the Planning Area, for consistency with the goals, requirements, and provisions of the Highlands Regional Master Plan. The Project Review responsibilities identified in the Highlands Act and specified through State agency coordination include the following:

1. Development applications submitted to Local Government Units
2. Call-up of Local Government Unit approvals
3. Capital, State and Local Government Unit projects
4. Highlands Preservation Area Approvals (HPAA)
5. Approvals, authorizations or permits issued by NJDEP

Development Applications. Section 6.r of the Highlands Act identifies the specific responsibility to “comment upon any application for development before a local government unit, on the adoption of any master plan, development regulation, or other regulation by a local government unit, or on the enforcement by a local government unit of any development regulation or other regulation, which power shall be in addition to any other review, oversight, or intervention powers of the council prescribed by this act.”

Call-up of Local Government Unit approvals. Section 17.a.(1) of the Act states that “[s]ubsequent to adoption of the regional master plan, the council may review, within 15 days after any final local government unit approval, rejection, or approval with conditions thereof, any application for development in the preservation area” with the ability to override the local decision of certain projects meeting the statutory criteria if inconsistent with the RMP. Within the Planning Area, the Council shall include as a condition of Plan Conformance, procedures for the Highland Council call-up of Local Government Unit approvals.

Capital, State and Local Unit Projects. Section 16 of the Act states that, for certain types and sizes of projects, “the council may provide comments and recommendations on any capital or other project proposed to be undertaken by any State entity or local government unit in the Highlands Region.”

Highlands Preservation Area Approvals (HPAA). The Highlands Act, in Sections 9 and 11, authorize the Highlands Council to “identify areas in which redevelopment shall be encouraged” in the Preservation Area and “any areas identified for possible redevelopment pursuant to this subsection shall be either a brownfield site designated by the Department of Environmental Protection or a site at which at least 70% of the area thereof is covered with impervious surface.” These Redevelopment Site Approvals would be reviewed and approved by the Highlands Council and then reviewed for consistency with NJDEP’s waiver provisions in accordance with N.J.A.C. 7:38-6.

Approvals, authorizations or permits issued by NJDEP. The NJDEP’s Highlands rules (N.J.A.C. 7:38) also empower the Council to review and

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comment on proposed projects in the Region. The rules state that “for the planning area, when consistent with its statutory and regulatory authority, the Department shall not issue any approval, authorization or permit that the Department determines, in consultation with the Highlands Council, to be incompatible with the resource protection goals in the RMP...”(N.J.A.C. 7:38-1.1(h)). N.J.A.C. 7:38-1.1(i) states “In its review of permits or approvals under this chapter in the preservation area, the Department shall apply the standards of this chapter and those in the RMP, to be incorporated by reference in (l) below, when adopted by the Highlands Council. Where the Department, in consultation with the Highlands Council, determines there is an inconsistency in the standards, the Department shall apply the Regional Master Plan.” As per N.J.A.C. 7:38-1.1(j), the NJDEP shall give great consideration and weight to the RMP, to be incorporated by reference in making permit decisions that: 1) provide relief from strict compliance with the standards of the applicable permit programs, such as making a determination of public benefit or hardship waiver from certain NJDEP permits; or 2) provide relief through the issuance of a HPAA with waiver.

Specifically, the rules at N.J.A.C. 7:38-1.1(k) require that NJDEP only approve a Water Quality Management Plan (WQMP) amendment after receiving from the Highlands Council a determination of consistency with the RMP, for both the Preservation and Planning Areas.

It is imperative to develop a comprehensive, coordinated system of project reviews to ensure that there is consistency and sufficient detail in review approach among different types of projects. Implementation of a detailed and comprehensive process will result in maximum efficiency, cost-effectiveness, and transparency and will serve as a mechanism to coordinate state agency reviews on projects requiring multiple permits.

Program Summary

The purpose of this program is to establish administrative and procedural standards to facilitate accurate, comprehensive and timely reviews of applications submitted to the Highlands Council. The procedures will be designed to provide accurate and complete information as a basis for Council determinations. The program will establish a process that is clear, transparent, and understandable to applicants, the Council, State agencies and the public. The program has three principal components:

- Administrative Review procedures to ensure that applications are processed and tracked and that the review process is efficient and transparent
- Technical Review procedures to ensure that technical reviews are accurate and consistent
- Council Review procedures leading to a reasoned and transparent Council determination

**RMP Policies and
Objectives Addressed**

This program relates to most components of the RMP and their associated policies and objectives regarding technical standards and criteria for development and redevelopment project reviews in support of Highlands Act requirements.

**Administrative
Procedures**

The Highlands Council will establish standard operating procedures regarding all project applications received:

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**Technical Review
Procedures**

The Council will implement its filing system by project category (e.g., WQMP, Redevelopment, etc.), county and municipality. Following are the general elements that will comprise the administrative procedures process:

- a system regarding the logging, tracking and filing of all applications
- a process of notifying the public regarding all pending reviews
- procedures regarding pre-application meetings
- a process for determining if an application is administratively complete
- appropriate permit fee schedules
- review timeframes/schedules
- procedures for public access to, and review of, applications
- procedures for establishing a service list for each application

The Highlands Council will establish detailed technical review procedures for all project categories. Following are the general elements that will comprise the technical review procedures:

- all applications must be submitted with sufficient information to allow a complete project review, including a GIS or AutoCAD site layout. Submittal of written and graphical information in electronic format will be required where the application was prepared in an electronic format
- all project reviews will utilize the standard RMP resource GIS layers
- all project reviews will utilize the standardized project review checklist; the checklist for a particular project category will be tailored as necessary to accommodate specific requirements (e.g., the 70% impervious surface determination for proposed redevelopment areas)
- all WQMP reviews will be based upon information provided by the NJDEP or applicant on behalf of NJDEP, in addition to the Council's RMP resource GIS layers
- based upon the GIS-layer review and the completion of the project review checklist, staff reviews will be summarized in a draft staff recommendation report
- applicants will be provided with the draft staff recommendation report and given an opportunity to provide comments

**Council Review
Determinations**

Highlands Council staff will present a final staff report with recommendations to the Highlands Council to approve, deny, or approve with conditions. Approval of a proposed project is dependant on the demonstration that it is substantially consistent with the goals, requirements, and provisions of the Highlands Act and the RMP. The Highlands Council shall provide an opportunity for public comment and then approve, approve with conditions, or deny the application. Where a project is approved with conditions, the conditions shall be specified. Where a project is denied, the specific justification for denial shall be specified. The Highlands Council's final determination shall include written findings of fact and conclusions based thereon.

Subpart b. Project Review Standards

Issue Overview

The purpose of this Project Review Standards Program is to summarize the technical standards for project reviews of applications submitted to or reviewed by the Council to ensure consistency with the goals, policies, objectives,

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Program Summary

program requirements, and other provisions of the RMP.

This program establishes the substantive standards for Highlands Council reviews of all applications submitted to or reviewed by the Council to ensure consistency with the RMP. The Highlands Council shall review projects against the RMP goals, policies, objectives and standards. All project reviews will use the standardized Highlands Council project review checklist and the Highlands RMP resource GIS layers as follows:

- Agricultural Resources
- Carbonate Rock
- Critical Habitat
- Forests
- Highlands Open Waters and Riparian Areas
- Historic, Cultural, Archaeological and Scenic Resources
- Prime Ground Water Recharge Areas
- Steep Slopes
- Wellhead Protection Areas

In addition to the resource-based standards, this program also includes smart growth standards for requiring or encouraging development patterns in the Region that are consistent with existing infrastructure and land uses that discourage scattered piecemeal development patterns.

The smart growth standards for project review will use a series of GIS data layers to support the evaluation. The data will be complemented by local and regional planning documents and land use policies to further inform the review. Where appropriate, standards for review have been developed to clarify the review process. The RMP smart growth data layers that support this analysis will be project specific based on the nature of the project and may include but are not limited to the following:

- Land Use Capability Map Series, including:
 - Zone Map
 - Water Availability by HUC14 Subwatershed
 - Public Water Supply System Capacity and Existing Area Served
 - Public Wastewater System Capacity and Existing Area Served
 - Septic System Yield by HUC14 Subwatershed, Zone and Municipality
- Contaminated Sites data layer
- Developed Lands data layer
- Highlands Composite and Municipal Zoning
- Impervious Surface data layer
- Local Conditions Indicator data layers
- State Development and Redevelopment Plan Designated Centers
- Transportation and Transit data layer

**Project Review:
Standard for Approval**

The RMP and the Highlands Act include a number of project review policies and objectives that are mandatory for all or for certain classes of projects. They also encourage consideration of other concepts for improved land development. Each project reviewed by the Highlands Council will be judged against all

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**Forest Review
Standards**

mandatory requirements of the RMP and the Highlands Act. Each project reviewed by the Highlands Council will also be evaluated regarding non-mandatory components of the RMP and the Highlands Act to determine if the proposed project could be designed in a manner that better fulfills RMP goals and policies. The Council may approve a project that does not fully reflect the non-mandatory components if it meets the mandatory requirements, but may include with its approval any recommendations for consideration by local government units, the State or other decision-making bodies for their consideration.

The Highlands Act exempts forestry activities conducted in accordance with a Forest Management Plan (also known as a woodland management plan) approved by the State Forester. For non-exempt land uses, the RMP protects forests through standards applicable to the Region's most important forested areas (i.e., within the Forest Resource Area) and highest quality forests, and NJDEP standards that apply to forests in the Preservation Area.

NJDEP review standards for proposed major Highlands developments in upland forested areas in the Preservation Area are in the Highlands Preservation Act Rules at N.J.A.C. 7:38-3.9. Applicants are required to identify all forest areas in existence on a lot as of August 10, 2004 as well as those forest areas that have been subsequently developed. Activities are prohibited that would result in disturbance to an upland forest located on a slope greater than 10 percent, except for certain linear development. An applicant must demonstrate that there is no alternative that would have less adverse impact on the upland forest or could be located outside the upland forest. Specific limits are applied to the protection of forest quality and extent, and also tree health where they may be affected by development activities.

Through the RMP, human development in the Forest Resource Area in the Preservation Area is limited in order to protect and enhance forest resources, forest ecosystem integrity, critical habitat and the quantity and quality of water resources. Permissible uses within the Forest Resource Area are limited to maintenance of pre-existing uses and restoration of impaired forest areas, where relief from strict adherence to these standards shall be permitted only upon approval of a forest mitigation plan. The deforestation of lands within the Forest Resource Area of the Preservation Area for human development is prohibited except where exempted by the Highlands Act. The expansion or creation of public infrastructure into forested areas of the Forest Resource Area is prohibited except as shown to be necessary for, and is approved by, the Highlands Council to serve a designated Highlands Redevelopment Area, to address a documented threat to public health and safety where no alternative is feasible, or to provide for minimum practical use in the absence of any alternative, all through issuance of a waiver by NJDEP, and will maximize the protection of forest resources. Forest clear-cutting within the Forest Resource Area is prohibited except in accordance with a Forest Management Plan approved by the State Forester.

Within the Protection and Conservation Zones in the Planning Area, human development of forests is limited to low impact residential development. Permissible uses within forested lands in High and Moderate Integrity Forest Subwatersheds is limited to: 1) maintenance of pre-existing uses; 2) removal of

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**Highlands Open
Waters and Riparian
Areas Review
Standards**

woody vegetation from forested lands, subject to an approved Forest Management Plan; or 3) development that utilizes low impact development best management practices and an approved forest mitigation plan. Redevelopment of previously developed areas (and other compatible uses) is permitted in forest lands within Low Integrity Forest Subwatersheds that minimize losses to forested lands and that are conducted in accordance with an approved forest mitigation plan or low impact development best management practices. Deforestation in the Forest Resource Area and forested lands within High Integrity Forest Subwatersheds within the Existing Community Zone is limited to the maximum extent practicable. The clearing of trees in conjunction with human development is limited to circumstances where the clearing will not diminish the integrity of forest resources.

Applications for local development review and Highlands Project Review require identification of any forest area on and adjacent to a site in accordance with the Highlands Council's *Alternate Method for Identifying Upland Forest Areas in the Highlands Region*. Forestry activities within a Forest Resource Area or forested lands within a High Integrity Forest Subwatershed are allowed only when in compliance with an approved Forest Management Plan. Clear-cutting of forest lands is prohibited (except pursuant to an approved Forest Management Plan) to the extent necessary to promote native forest regeneration, early successional wildlife habitat, or to remove invasive species.

Refer to the *Forest Resource Management and Sustainability Program* for additional project standards and criteria.

All applications for approval through local development review and Highlands Project Review are required to include the identification and mapping of Highlands Open Waters. Preservation Area buffers for Highlands Open Waters shall comply with the Highlands Preservation Area rules at N.J.A.C. 7:38, which provide that all major Highlands developments are prohibited within a Highlands Open Water and its adjacent 300-foot buffer in the Preservation Area except for linear development, which may be permitted provided that there is no feasible alternative for the linear development outside the Highlands Open Waters or its buffer. Structures or other land improvements existing within a Highlands Open Waters buffer in the Preservation Area on August 10, 2004 may remain, provided that the area of disturbance is not increased other than through a Highlands Preservation Area Approval (HPAA).

With respect to the Planning Area, the RMP provides a protection buffer of 300 feet from the edge of the discernable bank of the Highlands Open Water feature, or from the centerline where no discernable bank exists. In the Protection and Conservation Zones of the Planning Area, proposed disturbances of Highlands Open Water buffers shall only occur in disturbed areas, unless a waiver is granted by the Highlands Council. Such proposed disturbances must demonstrate full utilization of the following performance standards in the listed order, to demonstrate the necessity of an encroachment into Highlands Open Water buffers: 1) avoid the disturbance of Highlands Open Waters buffers; 2) minimize impacts to Highlands Open Waters buffers; and 3) mitigate all adverse impacts to Highlands Open Waters buffers so that there is no net loss of the functional value of the buffer, in compliance with Objective 1D4h. Minimization and mitigation opportunities shall be considered

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only upon a clear and convincing demonstration by the applicant that the protection buffer cannot be avoided and in no case shall the remaining buffer be reduced to less than 150 feet from the edge of the Highlands Open Waters, unless a waiver is granted by the Highlands Council and the proposed disturbance complies with Objective 1D4c.

In the Existing Community Zone of the Planning Area, proposed disturbances of Highlands Open Water buffers shall only occur in previously disturbed areas, unless a waiver is granted by the Highlands Council and the proposed disturbance complies with Objective 1D4c. Such disturbances shall employ performance standards such that all proposed disturbances of Highlands Open Water buffers shall employ low impact development best management practices to mitigate all adverse modification to Highlands Open Waters buffers so that there is no net loss of the functional value of the buffer, in compliance with Objective 1D4h.

The Highlands Council may determine to require, on a case-by-case basis, an expansion of the 300-foot buffer to protect the habitat of a water or wetlands-dependant rare, threatened or endangered species, to the minimum expansion necessary to achieve protection of that species.

All applications for approval through local development review and Highlands Project Review are required include the identification and mapping of Highlands Riparian Areas, including those identified by the Highlands Council and by site-specific analysis. Within High and Moderate Integrity Riparian Areas in any LUC Zone, beyond the Highlands Open Water buffer, disturbance of existing natural vegetation or increases in impervious area will be limited to the minimum alteration feasible. In such cases, low impact development best management practices will be required.

**Steep Slopes Review
Standards**

The RMP includes protection of steep slopes in each LUC Zone in both the Preservation and Planning Areas. Both local development review and Highlands Project Review will examine any Steep Slope Protection Areas located on the parcel proposed for development, forested lands, areas which are highly susceptible to erosion, depth to bedrock, and Soil Capability Classes. Disturbance of Severely Constrained Slopes (undeveloped areas with slope exceeding 20%, or slopes >10% within a Riparian Area) and Moderately Severe Constrained Slopes (forested slopes 15%-20% that is not within a Riparian Area) is prohibited. For other Steep Slopes, the use of low impact development best development practices are required for any land disturbance or human development.

For major Highlands development within the Preservation Area, the Preservation Area rules at N.J.A.C. 7:38-3.8 mandate that “a prohibition on development, except linear development for infrastructure, utilities, and the right-of-way thereof, provided that no other feasible alternative, as determined by the department, exists for the linear development, on steep slopes in the preservation area with a grade of 20% or greater, and standards for development on slopes in the preservation area exhibiting a grade between 10 and 20%” (N.J.S.A. 13:20-32j). NJDEP standards at N.J.A.C. 7:38-3.8 address development on slopes with a grade greater than 10 percent but less than 20 percent in the Preservation Area as follows:

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**Critical Habitat
Review Standards**

1. If the steep slope is a forest, linear development shall be permitted if there is no feasible alternative for the linear development outside the steep slope;
2. If the steep slope is not a forest and the appropriate Soil Survey for the on-site soil series and percent slope states that the soil capability class of the soil is III or higher, or IIe or IIs, linear development shall be permitted provided that there is no feasible alternative for the linear development outside the steep slope; or
3. If the steep slope is not address by (1) or (2), major Highlands development shall be permitted provided the proposed development meets all other standards, and the applicant demonstrates that there is no other location, design and/or configuration for the proposed development that would reduce or eliminate the disturbance to steep slopes and still fulfill the basic purpose of the proposed development.

In both the Preservation and Planning Areas, the RMP prohibits the direct impact of new human development or expansion or increased intensity of existing development within Critical Habitat. The indirect impact from any activity that is off-site, adjacent to, or within Critical Habitat that will jeopardize the continued existence of, or result in the likelihood of the destruction or adverse modification of Critical Habitat is prohibited except as permitted through the issuance of a waiver.

Proposed disturbances shall employ low impact development best management practices to, in this order, 1) avoid the disturbance of Critical Habitat, 2) minimize impacts to Critical Habitat, and 3) mitigate all adverse modification to Critical Habitat so that there is no net loss of habitat value. Proposed disturbances must demonstrate compliance with performance standards that include a requirement and criteria for mitigation of disturbed Critical Habitat. Mitigation shall be required for all adverse modification to Critical Habitat so that there is no net loss of habitat value.

For major Highlands development within the Preservation Area, the Highlands Preservation Act Rules at N.J.A.C. 7:38-3.11 state that the NJDEP shall not issue an approval unless it determines that the proposed activity will not jeopardize the continued existence of, or result in the likelihood of the destruction or adverse modification of habitat for, any rare, threatened or endangered species of animal or plant. Further the NJDEP shall not issue an approval unless the proposed activity would result in the minimum practicable degradation to a unique or irreplaceable land type (which includes vernal pools) on the site or within the immediate area of the proposed project.

Refer to the *Critical Habitat Conservation and Management Program* for additional project standards and criteria.

**Carbonate Rock
Review Standards**

The RMP implements a *Carbonate Rock (Karst) Topography Program* in the Preservation and Planning Area to address the potential problems that are common to karst areas, such as sinkholes. Projects will be reviewed to determine if the sites are in, or drain to the Carbonate Rock Area. Project sites located within the Carbonate Rock Area must ensure that public health and safety is protected through site design and layout controls to avoid or mitigate hazards from karst topography, and ground water quality is protected from

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**Prime Ground Water
Recharge Review
Standards**

contamination that may penetrate the ground surface through karst features.

Refer to the *Carbonate Rock (Karst) Topography Program* for additional project standards and criteria.

The RMP restricts development and uses of land within a Prime Ground Water Recharge Area that reduce natural ground water recharge volumes or may directly or indirectly contribute to or result in water quality degradation. Any development activity approved to occur in a Prime Ground Water Recharge Area shall provide an equivalent of 125% of pre-construction recharge volumes for the disturbed Prime Ground Water Recharge Area of the site within the following areas, in order of priority: (1) the same development site where feasible; (2) the same HUC14 subwatershed, or (3) an interrelated HUC14 subwatershed as approved by the Highlands Council where no feasible option exists in the same HUC14 subwatershed. Further, the RMP restricts the creation of impervious surfaces and other surfaces that significantly impede recharge within a Prime Ground Water Recharge Area in the Protection Zone. In the Conservation Zone, land uses will be discouraged and restricted that may reduce recharge volumes or that may degrade water quality in areas within or draining to a Prime Ground Water Recharge Area. In both the Protection and Conservation Zones, modifications will be allowed to Prime Ground Water Recharge Area protection requirements only upon demonstration that any relief from protection requirements will not impair or reduce ground water recharge quality or volumes.

**Agricultural Review
Standards**

The RMP requires that agricultural or horticultural development in the Preservation Area and the Planning Area which involves new agricultural impervious cover, since enactment of the Highlands Act, to the total land area of a Farm Management Unit (either individually or cumulatively) of greater than 3% but less than 9%, to develop and implement a Farm Conservation Plan. Further, the RMP requires that any agricultural or horticultural development in the Preservation Area and the Planning Area which involves new agricultural impervious cover (since enactment of the Highlands Act), to the total land area of a Farm Management Unit (either individually or cumulatively) of 9% or greater to develop and implement a Resource Management System Plan. Both the Farm Conservation Plan and the Resource Management System Plan shall be prepared by the USDA NRCS, TSP, appropriate agent, or NJDA staff, and approved by the local SCD.

The RMP limits non-agricultural uses within the Agricultural Resource Area to those uses that support the preservation of farmland, avoid conflicts with agriculture, maintain and enhance the sustainability and continued viability of the agricultural industry, protect important farmland soils, and meet resource management and protection requirements of the RMP. The RMP requires that cluster or conservation design development proposed within an Agricultural Resource Area support the preservation of farmland, avoid conflicts with agriculture, maintain and enhance the sustainability and continued viability of the agricultural industry, protect Important Farmland Soils, and meet resource management and protection requirements of the RMP.

The RMP permits limited development, including family and farm labor

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**Historic,
Archaeological and
Scenic Resources
Review Standards**

housing, in Agricultural Resource Areas which are necessary to support the viability of the agricultural operation, in coordination with the NJDA and the SADC, and subject to compliance with the resource management and protection requirements of the RMP.

The RMP requires that agricultural or horticultural development and agricultural or horticultural use be addressed, through Plan Conformance, in accordance with the Right to Farm Act, N.J.S.A. 4:1C-1, and in coordination with the New Jersey Department of Agriculture, the State Agriculture Development Committee, and the County Agriculture Development Boards. The RMP also requires the provision of municipal and county development regulations through Plan Conformance that are consistent with the Right to Farm Act and necessary to address agricultural practices that pose a direct threat to public health and safety. Refer to the *Sustainable Agriculture* and *Cluster Development Programs* for additional project standards and criteria.

Projects will be reviewed for a presence or absence determination regarding historic, archaeological and scenic resources. The project shall include the identification of any historic, archaeological or scenic resources in the Highlands Region which are listed on the Highlands Historic and Cultural Resource Inventory or the Highlands Scenic Resource Inventory that may be affected by the proposed development. The project shall address the requirements of N.J.A.C. 7:38-3.10 for Historic or Archeological areas and N.J.A.C. 7:38-3.12 for Existing Public Scenic Attributes.

If these identified scenic, historic or archaeological resources are affected the project shall comply with minimum standards for the preservation of the affected resources including but not limited to the following:

- To use the Secretary of the Interior's Standards for the Treatment of Historic Properties as the standard for municipal historic and cultural preservation review and include, at a minimum, the preservation and re-use of historic structures;
- To ensure that human development does not adversely affect the character or value of resources which are listed on the Highlands Scenic Resources Inventory; and
- Require that development proposals identify measures considered and used to protect the integrity of historic, archaeological and scenic resources and the integrity of their surroundings, and where appropriate, to address potential reuse and rehabilitation of historic structures.

Refer to the *Historic Preservation Program* and *Scenic Resource Program* for additional project standards and criteria.

**Smart Growth Review
Standards**

Smart Growth is a strategic approach that utilizes comprehensive planning to guide design, development and revitalization of communities. Smart growth principles support sound land use decisions and serve as an advocate for informing future land management decisions that consider environmental protection needs in the context of efficient land development.

In order to accommodate local and regional economic development of the Highlands Region, the RMP encourages growth to occur in locations that have limited environmental constraints, represent existing developed areas that have

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access to infrastructure, apply compact development concepts, and are in accordance with community character. The Highlands Act refers to the prohibition and limitation of construction and development within the Preservation Area and the revocation of water and sewer service areas that are not constructed, in support of this preservation goal. The Highlands Act recognizes the State Development and Redevelopment Plan goal to encourage development patterns that are consistent with existing infrastructure and compatible with historic and efficient land use development patterns, and discourages scattered piecemeal development patterns. Therefore infrastructure investments in the Highlands serve to support public health and safety, environmental resource protection and efficient land development in the context of local and regional conditions.

The Highlands Council will review proposed projects regarding the extent to which each addresses the following Smart Growth principles drawn from the Goals, Policies and Objectives, some of which are further detailed in this document or additional RMP program documents.

- Project is designed in compliance with Land Use Capability Zone Map and other LUCM Series components regarding development yield, water availability, public water supply and wastewater system capacity and general Zone standards (see *Land Use Capability Analysis Program*).
- Project is designed such that it would not increase pollutant loadings to waters for which TMDLs have been adopted by the NJDEP or for waters designated as impaired but lacking a TMDL. Project is in compliance with Lake Community Area standards for shoreline management, scenic features and water quality (see *Lake Management Area Program*).
- Project reflects developed land features, and the design and layout of the project complements surrounding land uses and community character and includes consideration of energy efficient features in site layouts and all structures.
- Project maximizes land use efficiency while protecting environmental resources and community character.
- Project has evaluated the non-developable portions of a parcel proposed for development for the purpose of satisfying on-site passive open space requirements and stewardship needs.
- Project complements local socio-economic needs and conditions for employment, quality of life and housing.
- Project supports the use of the Highlands Development Credits (see *Transfer of Development Rights Program*).
- Project complies with existing municipal zoning where more stringent than the LUC Zone standards and RMP policies and objectives.
- Project demonstrates that public water and wastewater capacity is available where proposed for use, and that all required water use efficiency measures are included in the development design (see *Water Use Efficiency Program*).
- Project reflects septic system yield limitations at the subwatershed, Zone and municipal level where septic systems are to be used.
- Project demonstrates that sufficient water availability exists for project needs, including HUC14 subwatershed, municipal and other limitations (see

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Highlands Restoration: Water Deficits Program).

- Project complies with wellhead protection standards for all Tiers (see discussion below).
- Project meets required impervious surface standards as applicable for the Preservation Area in accordance with N.J.A.C. 7:38-3.5 Impervious Surfaces, Agricultural Resource Area, Conservation Zone, storm water rules and low impact development standards.
- Project has addressed the minimum requirements for water conservation measures in site layout and structures, including but not limited to water efficient landscaping (including use of native and drought-tolerant plant species), rain collection systems, use of grey water, and water-efficient landscape irrigation (see *Water Use Efficiency Program*).
- Project has addressed the minimum requirements for site-specific hydrologic studies including the identification of the velocity, volume and pattern of water flow into, through, and off of the parcel proposed for development.
- Project supports transportation system preservation and promotes transit, multi-modal connections and pedestrian safety, and where appropriate reduces vehicle miles traveled (see *Air Quality Program* and *Transportation Safety and Mobility Program*).
- The project has addressed the resource protection standards to provide for the protection of mobile and stationary air quality concerns as appropriate (see *Air Quality Program*).
- Project supports local land use initiatives such as designated redevelopment area, urban enterprise zone or foreign trade zone or is within a Main Street Program, Special or Business Improvement District or Transit Village (see *Redevelopment Program*).
- Project supports RMP policies for redevelopment and incorporates Highlands resource protection, utilities, transportation and local community character into redevelopment planning (see *Redevelopment Program*).
- Project supports local land use conditions such as developed areas of a Designated Center that is anticipated for growth due to local planning and infrastructure investments.

Refer to the *Smart Growth Manual*, *Transportation Program*, *Housing and Community Facilities Program*, *Redevelopment Program*, *Transfer of Development Rights Program*, *Sustainable Regional Economy Program*, *Air Quality Program* and the *Land Use Capability Analysis Program* for additional information regarding the smart growth project review standards and criteria.

**Lake Management
Areas**

This program component seeks to protect, restore and enhance the water quality of Highlands lakes and to protect the unique character of Highlands lake communities. It facilitates land use and water resource planning on the basis of lake management tiers:

- A Shoreland Protection Tier consisting of an area measured 300-foot or the first property line perpendicular from the shoreline of the lake
- A Water Quality Management Tier consisting of an area measured 1,000-foot perpendicular from the shoreline of the lake, including the Shoreland Protection Tier

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- A Scenic Resources Tier consisting of an area measured 300 to 1,000-foot perpendicular from the shoreline of the lake, scaled based upon the view distance from the opposite shoreline, and determined through the size and layout of the lake, with wider portions of lakes having longer view distances; and
- A Lake Watershed Tier consisting of the entire land area draining to the lake, through the evaluation of drainage areas using LiDAR topographic analyses or other topographic data where LiDAR data are not available

Projects must comply with all mandatory provisions of the Lake Management Area for each tier in which the project would be located. Project review standards for each lake tier are listed in the *Lake Management Area Program*.

Wellhead Protection

The purpose of this program component is to establish resource protection measures to protect and enhance ground water and water supply resources within Wellhead Protection Areas consistent with the source water assessments for each water supply source and the RMP policies. New land uses are prohibited that have a significant potential to result in the discharge of pathogens (including but not limited to septic systems and engineered stormwater infiltration from surfaces with significant potential for contact with pathogenic contaminants) to ground water or to the land surface within a designated Tier 1 Wellhead Protection Area, such that they may degrade or contribute to the degradation of ground water quality. New land uses are prohibited that have a significant potential to result in the discharge of persistent organic chemicals (including but not limited to discharges of industrial or other non-sanitary wastewater effluent) to ground water or to the land surface within a designated Tier 2 Wellhead Protection Area, such that they may degrade or contribute to the degradation of ground water quality. New land uses in a Tier 3 Wellhead Protection Area must ensure that pollutant discharges to ground water are either regulated pursuant to a NJPDES permit or meet the LUC Zone requirement for septic system yields without clustering. Where a new land use in Tier 3 includes the storage or use of persistent organic chemicals and other toxic substances but does not propose a discharge of such substances, the land use must include measures to minimize the potential for discharge, and to respond to any discharge that does occur.

**Public Water Supply
Systems**

The purpose of this program component is to ensure that the service areas of Highlands Public Community Water Systems shall be limited such that the maximum monthly demand shall not exceed or contribute to an exceedance of the water availability of its source waters (see *Land Use Capability Analysis Program* and *Highlands Restoration: Water Deficits Program*). New, expanded or extended public water systems in the Preservation Area are prohibited unless approved through a Highlands Applicability Determination or a Highlands Preservation Area Approval with waiver pursuant to N.J.A.C. 7:38.

For the Planning Area, new, expanded or extended public water systems in the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones are prohibited unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the following purposes: 1) to address a documented existing or imminent threat to public health and safety; 2) to serve a designated Highlands Redevelopment Area; 3) to serve a

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**Wastewater
Management
Infrastructure**

cluster development that meets all requirements of Objective 2J4b; or 4) to avoid the taking of property without just compensation. In the Existing Community Zone of the Planning Area (other than the Environmentally-Constrained Sub-zone), the expansion or creation of public water systems is allowed, to serve lands which are appropriate for designated TDR Receiving Zones, infill or redevelopment, to meet needs and protection requirements equivalent to Objective 2J4a within the Existing Community Zone, or to serve new areas for development that meet all other requirements of the RMP.

New residential development served by new extensions of public community water systems shall have a minimum density of 1/2 acre per dwelling unit for the developed part of the site (i.e., not including wetlands, open water buffers, recreational or other preserved open space), and be at a minimum intensity of a floor area ratio (FAR) of 0.84 for the developed part of the site (i.e., not including wetlands, open water buffers, recreational or other preserved space) to ensure cost-effective utility service.

Refer to the *Water and Wastewater Utilities Program* for additional project standards and criteria.

New, expanded or extended public wastewater collection and treatment systems and community on-site treatment facilities in the Preservation Area are prohibited unless approved through a Highlands Applicability Determination or a Highlands Preservation Area Approval with waiver pursuant to N.J.A.C. 7:38.

For the Planning Area, new, expanded or extended public wastewater collection and treatment systems and community on-site treatment facilities in the Protection Zone, the Conservation Zone and the Environmentally-Constrained Sub-zones are prohibited unless they are shown to be necessary for and are approved by the Highlands Council for one or more of the following purposes: 1) to address a documented existing or imminent threat to public health and safety; 2) to serve a designated Highlands Redevelopment Area; 3) to serve a cluster development that meets all requirements of Objective 2J4b; or 4) to avoid the taking of property without just compensation. In the Existing Community Zone of the Planning Area (other than the Environmentally-Constrained Sub-zone), the expansion or creation of public water systems is allowed, to serve lands which are appropriate for designated TDR Receiving Zones, infill or redevelopment, to meet needs and protection requirements equivalent to Objective 2J4a within the Existing Community Zone, or to serve new areas for development that meet all other requirements of the RMP.

The RMP requires that new residential development served by new extensions of public wastewater collection and treatment systems be at a minimum density of 1/2 acre per dwelling unit for the developed part of the site (i.e., not including wetlands, open water buffers, and recreational or other preserved space). Further, it is required that that new non-residential development served by public wastewater collection and treatment systems be at a minimum intensity of a floor area ratio (FAR) of 0.84 for the developed part of the site (i.e., not including wetlands, open water buffers, recreational or other preserved space) to ensure cost-effective utility service.

Refer to the *Water and Wastewater Utilities Program* for additional project standards

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**Septic System
Densities**

and criteria.

Development proposals in conforming municipalities shall comply with municipal requirements for septic system yield where septic systems are proposed (see *Land Use Capability Analysis Program*). For development proposals in non-conforming municipalities, the project shall demonstrate compliance with the appropriate nitrate target for the LUC Zone in which the project occurs, using the project site area as the land basis, and drought ground water recharge for the HUC14 subwatershed as dilution:

1. Preservation Area: NJDEP requirements at N.J.A.C. 7:38
2. Planning Area, Existing Community Zone: 2 mg/L
3. Planning Area, Conservation Zone: 1.87 mg/L
4. Planning Area, Protection Zone: 0.72 mg/L

New residential development using septic systems where lot-size averaging, clustering or open space subdivision design techniques are employed shall have a gross density (for all parcels involved in the development proposal) based on the nitrate dilution target appropriate for the LUC Zone, provided that the density for the developed portion of the site is based on a nitrate dilution target not to exceed 10 mg/L. All new residential development using septic systems, and especially clustered development with septic systems, shall be designed in a manner that minimizes the risk of well contamination due to the flow of septic system plumes within or between developed lots, addressing general ground water flow patterns, major fracture systems and other appropriate geological, geophysical and hydrogeological issues, and well construction.

**Highlands
Redevelopment Area
Reviews**

The Highlands Council may designate one or more properties or portions of properties as a Highlands Redevelopment Area providing that the site satisfies the requirements of the Highlands Act and RMP. Proposed Highlands Redevelopment Areas will be reviewed to ensure that for the Preservation Area the site is either a Redevelopment Site with at least 70% percent of the area covered with impervious surface as that term is defined in N.J.A.C. 7:38-1.4 or is a Designated Highlands Brownfield Sites pursuant to N.J.A.C. 7:38-6.6.

For the Planning Area in the Protection and Conservation Zones, the Council will review proposed Highlands Redevelopment Areas to ensure that the site is a Redevelopment, Brownfield or Grayfield site. For the Existing Community Zone in the Planning Area, the Council will similarly review proposed Highlands Redevelopment Areas if the proposed development will require a waiver to proceed. For all proposed Highlands Redevelopment Areas (all zones in both Preservation and Planning Areas), the project must be substantially consistent with the resource protection and smart growth standards of the RMP and there must be sufficient water supply and wastewater capacity to serve the proposed Highlands Redevelopment Area. Infill development may be included within Highlands Redevelopment Areas to the extent that the full area meets the applicable designation requirements.

In general the Highlands Redevelopment Area must comply with the following:

1. Will not impair any Highlands Resource Area located on or adjacent to the Highlands Redevelopment Area.
2. Is consistent with the standards of the RMP and will advance the intent and

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**Water Quality
Management Plan
Reviews**

purpose of the Highlands Act.

3. Has sufficient water supply and wastewater treatment capacity to serve the proposed Highlands Redevelopment Area.

There are two documents that may be referred to for further detail regarding redevelopment area reviews – *Procedures for Highlands Redevelopment Site Approval* and the *Redevelopment Program* – both of which provide further details regarding the specifics of redevelopment review protocols and will be used by the Highlands Council when conducting redevelopment area project reviews.

The NJDEP's Highlands rules at N.J.A.C. 7:38-1.1(k) require that NJDEP only approve a Water Quality Management Plan (WQMP) amendment after receiving from the Highlands Council a determination of consistency with the RMP, for both the Preservation and Planning Areas.

Delineation of Wastewater Service Areas represents a critical component of WQMPs. Designation of appropriate wastewater service areas promotes sound development and redevelopment and protection of important Highlands Region resources. The RMP designates areas currently served by "in the ground" public wastewater collection or treatment systems as Existing Areas Served. Any area proposed for sewer service that is not an Existing Area Served would be a Future Sewer Service Area. Other areas are designated for service by septic systems at densities prescribed by the RMP.

The Highlands Council shall consider an area appropriate for inclusion in a Proposed Sewer Service Area if the area is previously developed, not connected to public wastewater collection or treatment systems, and represents an area with a documented threat to public health and safety that cannot reasonably be addressed through on-site alternatives. The Highlands Council shall also consider Highlands Redevelopment Areas and the Existing Community Zone as appropriate for inclusion in a Future Sewer Service Area, subject to the environmental constraints above in this program. Finally, the Highlands Council shall also consider areas identified as appropriate for clustered development as Future Sewer Service Areas when the cluster development will have densities that prohibit the use of septic systems. In each case the proposed Future Sewer Service Area must be consistent with the Resource Protection and Smart Growth standards and policies of the RMP. The Highlands Council review will include the following specific elements:

Water Availability. A WQMP amendment must include demonstration of sufficient water supply to accommodate current and future development. Wherever a new or expanded sewer service area is proposed that meets resource protection standards, the applicant must identify water sources with sufficient capacity to supply current and expanded demands for the proposed sewer service areas. However, this requirement does not mean that sewer service areas must be served by public community water systems.

The RMP establishes sustainable thresholds for development based on Net Water Availability which limit future consumptive and depletive water uses. Consumptive water use reduces water returned to the system by evaporation and other losses. Depletive uses can include, but are not limited to, an export of water out of the subwatershed, such as through a transfer of water via a wastewater collection system. The Net Water Availability Analysis provides

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information to determine if sufficient water supply is available to serve water supply needs associated with current and future demand (see *Land Use Capability Analysis Program*).

To determine if adequate water supply exists for a proposed sewer service area, the WQMP amendment must provide information about water supply needs within public water supply service areas and areas served by domestic wells.

The appropriate demand assignments should be compared with the net water availability calculated to each HUC14 subwatershed. Where the source HUC14 subwatershed is in, or anticipated to be in, a deficit of net water availability, then the applicant must address the following conservation or management practices:

1. Identify appropriate conservation methods or other means to reduce water demand or use.
2. Reduce the sewer service area creating the excess demand;
3. Reduce the future demand for consumptive and depletive water use; or
4. Submit a Water Management Plan that addresses the water deficit (see the Highlands Restoration: Water Deficits Program for more information).

Wastewater Capacity. Where proposed sewer service areas are identified that meet the water availability criterion, an applicant must demonstrate that wastewater treatment facilities have or will have sufficient capacity to accommodate projected flows of existing and proposed development. Where proposed sewer service areas encompass more than one municipality and a municipal contract or allocation exists, the potential wastewater generated in each municipality must not exceed capacity allocated to that municipality. Otherwise capacity shall be assessed for the full service area of the facility.

The LUCM Series and RMP standards should be referenced to determine total existing and projected wastewater flows. The RMP prohibits new, expanded or extended sewer service areas beyond Existing Areas Served in the Protection Zone and Conservation Zone except for limited circumstances as discussed in Wastewater Management Infrastructure above. The RMP allows proposed sewer service areas in the Existing Community Zone provided resource protection standards are met.

The Highlands Council requires that wastewater generation potential of sewer service areas match or be less than the allowable capacity of the associated treatment facility. Additionally, new or expanded wastewater infrastructure can be approved only if the proposed discharge will not impair water quality. The RMP specifically requires demonstration that the proposed discharge will not directly or indirectly be in violation of an adopted TMDL.

Water Quality. The patterns and types of land use within the existing areas served and proposed sewer service areas have the potential to affect water quality from the discharges of point source and nonpoint sources. To ensure the protection, restoration and enhancement of water quality within the Highlands, proposed sewer service areas shall demonstrate that they will not directly or indirectly degrade the water quality of Highlands waters.

Water quality requirements are addressed by four types of NJDEP documents: 1) Surface Water Quality Standards at N.J.A.C. 7:9B; 2) Ground Water Quality Standards at N.J.A.C. 7:9C; 3) TMDLs and associated implementation plans

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adopted under N.J.A.C. 7:15; and 4) identified water body impairments from the NJDEP Integrated List adopted under N.J.A.C. 7:15. Each WQMP amendment must include information on a receiving water body's designated use(s) or classification and how they will be protected; and provide associated water quality criteria and demonstration of how those criteria will be met, including information on all wasteload allocations that are relevant.

1. Nonpoint Source and Stormwater Pollution. The WMP must demonstrate that, utilizing best management practices and low impact development approaches, potential degradation of uses or water quality will be eliminated or otherwise meet NJDEP requirements.
2. Point Sources and Antidegradation. Where the projected wastewater generated from a proposed sewer service area requires an increase in the permitted capacity of the wastewater treatment facility or a new wastewater facility, the WQMP amendment must demonstrate that any new or expanded treatment facility will meet all relevant nondegradation or antidegradation requirements for the water quality in the receiving surface water or ground water resource.

Wellhead Protection Areas. The WQMP amendment must demonstrate compliance with the RMP requirements for wellhead protection.

Nitrate Dilution. The RMP establishes nitrate concentrations that must be met to ensure that development densities served by on-site septic systems will not impair water quality. Developments based on septic systems that do not comply with the septic system density requirements of the RMP are prohibited.

See *Procedures for Highlands Review of Water Quality Management Plan Amendments* for further details on the process used by the Highlands Council when conducting these project reviews.

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Part 3. Improvement of the Regional Master Plan

Subpart a. Water Resources and Ecosystem Science Agenda

Issue Overview	<p>The Data and Analysis chapter of the RMP includes resource assessments for a multitude of natural resources, particularly water resources, based on a significant research effort by the Highlands Council. Much of that information represents one-of-a-kind data products using innovative methods and techniques. For example, water utility service areas maps developed by the Highlands Council remain a unique product in the State.</p> <p>Implementing the Goals, Policies and Objectives of the RMP will require programs to guide the ongoing research agenda after its adoption. A major focus will be continued refinement, updating and research into new methods to improve the Council's understanding of the Highlands Region's resources.</p>
Program Summary	<p>The following components represent items for inclusion into a long-term science agenda for the Highlands Council, particularly as they related to water supply, water quality and watershed integrity. They represent a variety of research topics.</p> <p>Some of the research efforts began during drafting of the RMP. Therefore, many of these components have already been started. Others will require a long-term effort and their initial development will begin after RMP adoption and in some cases after Plan Conformance.</p>
RMP Policies And Objectives Addressed	<p>Policy 1C1 To require that conforming municipalities and counties address the protection of forested portions of Forest Resource Areas and High Integrity Forest Subwatersheds in their master plans and development regulations.</p> <p>Policy 1D1. To establish and maintain an inventory of Highlands Open Waters and their integrity.</p> <p>Policy 1D2. To establish and maintain an inventory of Highlands Riparian Areas and their integrity.</p> <p>Policy 1D3. To periodically review and update, as necessary, the Watershed Resource Value and Riparian Area Integrity Values.</p> <p>Policy 1E1. To establish and maintain an inventory of steep slope areas with slopes equal to or greater than 10% that constitute the Steep Slope Protection Area.</p> <p>Policy 2C1. To improve estimates of Net Water Availability over time, including testing, development and adoption of ecologically-based assessment techniques to evaluate the high and low flow needs of streams necessary to maintain the health of aquatic ecosystems, and the relationship between ground water recharge, ecological flow needs, consumptive water uses and estimates of water availability for both ground and surface water resources.</p> <p>Policy 2C2. To evaluate potable water supply reservoir safe yield and passing flow requirements and examine the effects of upstream consumptive and depletive water uses on safe yields and of passing flows on Highlands Open Waters and recommend regulatory changes to NJDEP as appropriate.</p> <p>Policy 2C3. To develop a more refined Hydrologic Unit Map using Light Detection and Ranging (LiDAR) technology and high resolution digital</p>

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**Ground Water
Capacity Estimates
And Ground Water
Availability
Thresholds**

elevation modeling to support more detailed geographic estimates of water availability.

Policy 2C4. To develop more refined estimates of the effects on Net Water Availability regarding the exportation and importation of water and wastewater.

Policy 2J9. To ensure continued refinement and development of the Regional Master Plan.

Objective 2J9a. Implement a coordinated program with NJDEP to track ground water and surface water withdrawals and water allocations within the Highlands Region to maintain current estimates of net utility capacity and to fill critical missing data gaps.

Policy 2M1. To monitor and assess nitrate-related impacts to water resources within the Highlands Region.

Policy 2M2. To develop appropriate and innovative resource management programs to protect, restore, and enhance subwatersheds where existing ground water quality is impaired.

Objective 2M2a. Identify innovative technologies that may be appropriate for the design, installation, and maintenance of on-site wastewater treatment systems to minimize impairment to ground water or surface water quality due to elevated nitrate concentrations and other pollutant loads from septic systems providing the systems meet the minimum standards of N.J.A.C 7:9A.

The estimates of ground water capacity are critical in the RMP's water resource assessments. They serve as the measure of natural sustainability of the Highlands waters and quantify stream base flows that are critical for aquatic ecological integrity and water quality.

The Highlands Council investigated several methods to calculate ground water capacity. However, no accepted method provided a direct relationship between aquatic ecosystem integrity and stream flows. Therefore, the Highlands Council focused on the severity and duration of base flows as a reasonable surrogate for ecosystem and water supply impacts. Ultimately, the Highlands Council utilized the Low Flow Margin of Safety method, which is also being used by the New Jersey Department of Environmental Protection for the upcoming NJ Water Supply Plan.

Several other methods, which were not initially selected because of the limited schedule and lack of regional data available, may yet show promise for additional research in estimating the availability of water resources for human and ecological needs. Additional research may be warranted for the following methods: New Jersey Hydrologic Assessment Tool (Eco-flow goals), Range of Variability, R2Cross, or Wetted Perimeter method. To facilitate the research, a regional flow monitoring network consisting of observation wells and stream gauges will be explored. The network would augment existing ground water level and surface water flow datasets, respectively, in strategically selected areas.

Another critical determinant in the net water availability analysis is determining the amount of ground water capacity that is available for human uses without adversely affecting aquatic ecological integrity. This parameter, known as ground water availability, is computed as a fraction (or threshold) of ground water capacity. The aforementioned models can aid in improving estimates of

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	<p>appropriate thresholds.</p> <p>As a long-term objective, the Highlands Council will develop a program for improving estimates of ground water capacity and availability. This effort will consist of development, testing and adoption of ecologically-based models or techniques that characterize varying flow regimes in streams necessary to maintain the health of aquatic ecosystems.</p> <p>The Highlands Council has already contracted with the USGS for additional support under this program. After RMP adoption, the Highlands Council and USGS will develop a specific scope of work for additional research under these water resource programs. Development and implementation of this program is anticipated to be an on-going, multi-year task.</p>
Protection Of Downstream Water Source/ Safe Yields	<p>NJDEP is currently updating its guidance for evaluating the safe yield and passing flow requirements for surface water systems with reservoirs. NJDEP is also reevaluating those safe yield values to reflect operational and infrastructure modifications in those systems while incorporating the new methodology.</p> <p>The Highlands Council will coordinate with NJDEP as appropriate as surface water supply systems examine the effects of upstream consumptive and depletive water uses on safe yields and of passing flows under the new procedure. The Highlands Council will recommend regulatory changes as part of the ongoing process. Of specific interest will be methods to better ensure that passing flows from reservoirs are sufficient to maintain ecological integrity.</p>
Water and Wastewater Tracking	<p>The RMP calls for refined estimates on Net Water Availability. Of particular importance in the analysis regards the transfer of water and wastewater between subwatersheds (depletive uses). The import and export of these utilities have a significant effect on the estimate of consumptive and depletive water demands.</p> <p>Understanding consumptive and depletive uses is a complex task, but is crucial to estimating Net Water Availability. Using its unique compilation of water and sewer service areas, and their associated demand/discharge data, the Highlands Council now has the ability to track water from its withdrawal point to its ultimate discharge. The tracking model will be conducted largely using GIS techniques, as have been utilized in the past the New Jersey Geological Survey (NJGS) and the New Jersey Water Supply Authority (NJWSA).</p>
Water and Wastewater Use Data	<p>The Highlands Council utilized several forms of water and wastewater data from NJDEP and utility sources. These data sets include permitted water allocation withdrawals, reported wastewater discharges, and public community water system demand data. The data were incorporated into both the Utility Capacity and Net Water Availability analyses.</p> <p>The information is typically collected and reported on an annual basis. However, the data must often be checked and validated before their use in regional capacity analyses. The most recent complete data set used by the Highlands Council was from the year 2003. Having the most up-to-date data is important for both capacity assessments.</p> <p>The Council will implement an ongoing effort to update water and wastewater data as they become available on an annual basis. The data will be incorporated into resource assessments to provide the most accurate capacity analyses possible. The Highland Council has already contracted with the USGS for continued technical support and intends to develop a defined scope of work for</p>

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	<p>this program component. This program is anticipated to be an ongoing program.</p>
Highlands Open Waters and Riparian Areas Inventory	<p>The Highlands Council will develop methods for continued development and refinement of Highlands Open Waters and Riparian Areas inventory with an emphasis on identification of headwater streams and headwater seeps and springs.</p>
Regional Stream Integrity Model	<p>A Regional Stream Integrity Model will aid in the evaluation of the protection, restoration and enhancement of streams within the Highlands Region. Regional integrity scores will be derived using a comprehensive stream and riparian functional assessment. The scores will be assigned to streams within a specific sub-watershed based upon measurement of the physical, biological and chemical integrity of a stream. The stream integrity model will serve as an aid in resource protection decision making and will provide a tool to set measureable management objectives for restoration and enhancement of impaired Highlands Open Waters and Riparian Areas.</p> <p>The Model will function to classify Highlands Region streams, which will aid in qualifying regional protection measures and restoration targets for water quality, aquatic community structure, and in-stream and riparian habitat enhancement. The data used to classify streams will also aid in evaluating existing State Water Quality Standards for stream classification, including identifying streams appropriate for petitioning NJDEP to upgrade streams to C1 status.</p>
Water Quality	<p>The Highlands Council will determine where water quality improvements are necessary or beneficial for the improvement of water quality, develop watershed-based plans to achieve such improvements, develop mechanisms, and identify funding sources to implement these plans. As part of this effort, the Council will determine in coordination with NJDEP and USGS the extent to which additional water quality monitoring stations are needed in the Highlands Region to better assess water quality in key watersheds. For more detail on this program, see the <i>Water Quality Restoration Program</i>.</p>
Ground Water Quality Management	<p>Nitrate has been selected as a surrogate for non-point source impacts to ground water quality, particularly for monitoring potential water quality degradation from on-site wastewater treatment systems, which can pose threats to human health and the environment.</p> <p>The Highlands Council proposes to improve existing monitoring networks and use additional data sources, in coordination with the NJGS and USGS, for monitoring and evaluating both natural conditions and anthropogenic factors in ground water quality. Particular emphasis will be placed on contaminants of interest, such as nitrates associated with septic systems in high density residential areas and agricultural areas, to more accurately characterize existing water quality conditions, land use impacts, and the efficacy of land planning and management practices. If possible, sampling should include potable wells in near proximity to different types of land uses so that a more representative characterization of potential health risks and their relation to land use can be achieved. Use of the Private Well Testing Act data, in a manner that fully complies with privacy provisions of that Act, will be explored.</p> <p>The Highlands Council has already contracted with the USGS for additional support under this program. After RMP adoption, the Highlands Council, NJGS, and USGS can develop a specific scope of work for defining an</p>

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Models for Establishing Septic Density	<p>improved ambient ground water quality monitoring network.</p> <p>Existing USGS logistical regression models for estimating septic densities based on median nitrate concentrations can be further tested and refined with additional data collected and modeling. Additionally, logistical regression models could be developed to assess the impacts of specific land use types, such as agricultural, residential, and undeveloped areas, and different hydrogeologic setting, such as limestone and unconsolidated.</p> <p>These models could not only better quantify septic densities for areas characteristic of varying land use types and settings, but increase an understanding of various land use factors and other conditions that influence water quality, which can lead to improve land planning and wastewater management practices.</p> <p>Development of this program is anticipated to be performed in conjunction with NJGS and USGS during design of the improved ambient ground water quality modeling network.</p>
Expand Ambient Biological Monitoring Network In Highlands Region	<p>The Ambient Biological Monitoring Network (AMNET) program, initiated by NJDEP in 1992, established sampling stations in every subwatershed of the state to evaluate the health of instream benthic macroinvertebrate communities. There are approximately 200 AMNET stations within the Highlands Region.</p> <p>The Highlands Council (in cooperation with Rutgers-Center for Remote Sensing and Spatial Analysis and the New Jersey Water Supply Authority) performed statistical analyses to assess correlations between key watershed characteristics and AMNET scores for the Region's streams. The analysis did not yield sufficiently strong statistical correlations for assigning scores to non-assessed watersheds.</p> <p>The intent of this program component is to coordinate with NJDEP to expand and establish a consistent AMNET to include additional stations in the Highlands Region. The Highlands Council will use the data as input into the continued development of a Regional Stream Integrity model to further refine protection requirements of Highlands Open Waters based on biological and water quality indicators.</p>
Forest Sustainability	<p>The Highlands Council will implement a long term forest sustainability program that will entail proactive management of deer populations and non-native invasive species and reductions in the rate of forest fragmentation. Criteria and indicators will be developed to measure the sustainability of the forest resource. Data will be collected to assess long term sustainability. Valuation methods will be developed for carbon sequestration, invasive species control, and management activities tied to forest health improvement and the intrinsic societal values of forests including water quality protection. See the Forest Resource Management and Sustainability Program.</p>
Digital Terrain Modeling And Determination of Hydrologic Units and Steep Slopes	<p>Many of the resource assessments in the RMP, including all hydrologic and many ecological assessments, are performed using the HUC14 subwatershed as the standard areal unit. HUC14s are the smallest standardized hydrologic drainage unit commonly used in water resource analysis. Delineation of HUC14 boundaries is only as accurate as the topographic mapping, typically developed using aerial photographs.</p> <p>The Highlands Council has contracted for the use of Light Detection and</p>

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Ranging (LiDAR) technology to generate high-resolution digital elevation modeling. This will enable the Council to develop more accurate topographic information that is necessary to refine HUC14 mapping. In addition, the LiDAR data could be used to map drainage areas at a smaller scale (HUC17) than the current subwatershed, if its utility warrants that effort.

The Highlands Council also will establish and maintain an inventory of steep slope areas in the Highlands Region showing slopes that are a minimum of 5,000 square feet and: a) 10% or greater, but less than 15%, b) 15% or greater , but less than 20%, and c) 20% and greater. The Highlands Council will apply (LiDAR) to develop a 2-foot interval contour topographic map as a basis for refining the identification of Steep Slope Protection Areas. Development of this program is already underway.

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CHAPTER VI. IMPLEMENTATION

Part 3. Improvement of the Regional Master Plan

Subpart b. Regional Master Plan Monitoring

Issue Overview

Monitoring and research are vital to understanding the impact and effectiveness of the RMP over time. Monitoring will ensure that the RMP continues to provide effective policies and programmatic approaches in an ever changing landscape. In order to evaluate regional conditions, identify new or emerging issues, and develop future RMP priorities, indicators will be identified and tracked by the Highlands Council. Indicators may relate to natural resources, water resources, agricultural resources, historic, cultural, archaeological and scenic resources, transportation, community character and smart growth, land owner fairness, air quality, government finances and economic development. Conclusions drawn from the findings of the monitoring program may result in updates or amendments to policies and programs of the RMP. The monitoring program is necessary to ensure the RMP's goal of long-term sustainability in the Highlands Region.

Program Summary

The RMP Monitoring Program and associated Monitoring Review Report will evaluate the progress in achieving the goals of the RMP through implementation of policies and programs. The approach is similar to that of a municipal master plan re-examination report. The implementation of a monitoring program will ensure that the RMP remain effective and current.

RMP Policies and Objectives Addressed

Policy 10A1. To ensure that programs and policies are effectively coordinated to promote the purpose and provisions of the RMP, through efforts involving all levels of government, including local, county, regional, state and federal agencies.

Policy 10A5. To ensure the long term success of the RMP, evaluate regional conditions, identify new or emerging issues, and develop future RMP priorities through the tracking and monitoring of regional indicators.

Objective 10A5a. Prepare a Highlands RMP Monitoring Review Report at least every six years to ensure that the RMP is meeting its goals.

Objective 10A5b. Prepare a fiscal impact assessment that measures the overall economic health of the Region as compared to the rest of the State, to be included in the Highlands RMP Monitoring Review Report.

RMP Monitoring

The RMP Monitoring Program will consist of on-going monitoring of indicators and a periodic monitoring report which documents the regional indicators and milestones. It will evaluate the progress in achieving the goals of the RMP as it is implemented locally. Data will be gathered for conforming municipalities and counties, as well as for non-conforming municipalities and counties (to the degree that information is available).

Environmental, social, and economic health indicators will be used to document changes in the Highlands Region. Indicators will be chosen based upon the usefulness of information they communicate and data availability and may be either quantitative or qualitative depending on the parameter to be measured.

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**RMP Monitoring
Review Report**

Should an indicator be found to be ineffective or another is found to better measure a parameter of the RMP, the indicator may be revised. The values may reflect a Highlands baseline data standard or a governmental standard. Monitoring will also identify gaps in available data and develop data-gathering mechanisms to fill such gaps or include recommendations for additional or alternative data.

Monitoring activities by the Highlands Council will guide potential amendments to the current or to future iterations of the RMP. Indicators will help to identify where RMP policy is most effective, and where amendments to policy or programs may be useful. The monitoring of indicators will be an on-going process, although the Monitoring Review Report will be prepared periodically, as described below.

The RMP Monitoring Review Report will be used to communicate with state, federal, county, and local planning partners and the general public the successes of the RMP, as well as the remaining challenges to the Region. Initially, the RMP Monitoring Review Report will be a baseline assessment of the Highlands Region, based upon the RMP monitoring indicators.

The initial assessment will inform the development of "Highlands Milestones." Milestones will be chosen for each indicator and are intended to reflect progress toward long-term RMP goals. For example, an RMP indicator that would be measured yearly may be "acres of Conservation Priority Areas that are preserved as open space". The milestone would be an "increase in preserved Conservation Priority Areas from the previous year." Another associated milestone would be an "increase in conservation easements from the previous year." The Monitoring Review Report will track changes to the indicators and report on Highlands Milestones achieved and not achieved. The Monitoring Review Report will also present a fiscal impact assessment, in which economic and fiscal indicators are used to assess the overall economic health of the Region, as compared to the rest of the State.

Examples of Highlands Milestones that may be used include:

- Increase in the acreage of new parks and preserved open space and farmland that preserve high priority lands;
- Increase in the number of redevelopment and brownfields properties that are redeveloped in conformance with RMP policies;
- Reduction or elimination of Water Deficits in HUC14 subwatersheds;
- Increase in the percentage of new development within areas served by public water and sewerage;
- Compliance of new development with RMP septic system densities, where public sewerage is not used;
- Increase in the number of zoning amendments and/or new/updated ordinances reflecting RMP policy;
- Increase in the percentage of new construction projects that include mixed use or green building approaches;
- Increase in the number of new/updated resource management plans or protection measures reflecting RMP policy;
- Increase in the number of opportunities for public participation in the

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Highlands planning process, including education and outreach programs;
and

- Increase in the number of municipalities or portions of municipalities participating in Plan Conformance.

The monitoring of indicators is an on-going process, and the RMP Monitoring Review Report will be produced at least every six years, or additionally, if necessary. RMP Monitoring Review Reports will be used to inform the development of future iterations of the RMP.

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Part 10. Local Participation

The Highlands Act calls for local participation in the development and implementation of the Regional Master Plan (RMP). Plan Conformance is voluntary in the Planning Area and mandatory in the Preservation Area. In both cases, municipal and county participation will be critical to achieving the aims of the RMP. In addition, the programs and policies of the RMP must be effectively coordinated and sustained over time. Cooperation between governmental and non-governmental interests will be vital to Plan success.

GOAL 10A	MAXIMIZE MUNICIPAL AND COUNTY PARTICIPATION TO ENSURE THAT THE REGIONAL MASTER PLAN ACHIEVES ITS LONG TERM GOALS OF PROTECTING, ENHANCING AND RESTORING HIGHLANDS RESOURCES WHILE MAINTAINING A SUSTAINABLE ECONOMY IN THE HIGHLANDS REGION.
Policy 10A1	To ensure that programs and policies are effectively coordinated to promote the purpose and provisions of the RMP, through efforts involving all levels of government, including local, county, regional, State and federal agencies.
Policy 10A2	To ensure sufficient local participation in the development of the RMP and on-going work of the Highlands Council.
Objective 10A2a	Engage stakeholder groups and individuals in public participation opportunities that provide meaningful input in the Highland Council planning process.
Policy 10A3	To ensure maximum RMP Conformance by municipalities and counties to achieve the highest level of protection for all important natural systems and resources of the Highlands.
Objective 10A3a	Provide benefits and incentives to municipalities and counties that conform to the RMP.
Policy 10A4	To ensure that municipal- and county-level efforts to conform to the RMP incorporate opportunities for public participation at the local level.
Objective 10A4a	Require that jurisdictions petitioning for Plan Conformance provide a public participation component demonstrating compliance with all statutory requirements regarding public meetings and provision of adequate public notice.
Objective 10A4b	Encourage all jurisdictions seeking Plan Conformance to provide opportunities for local participation that go above and beyond statutory requirements, regardless of the extent of changes proposed or necessary to conform to the RMP.
Policy 10A5	To ensure the long term success of the RMP, evaluate regional conditions, identify new or emerging issues, and develop future RMP priorities through the tracking and monitoring of regional indicators.
Objective 10A5a	Prepare a Highlands RMP Monitoring Review Report at least every six years to ensure that the RMP is meeting its goals.
Objective 10A5b	Prepare a fiscal impact assessment that measures the overall economic health of the Region as compared to the rest of the State, to be included in the Highlands RMP Monitoring Review Report.

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CHAPTER VI. IMPLEMENTATION

Part 4. Highlands Council Implementation Programs

Subpart a. Highlands Council

Implementation program priorities are presented in three categories:

1. **Immediate Priority** – As soon as possible after adoption of the RMP in order to support local government preparation of modified master plans and development regulations for conformance review.
2. **Intermediate Priority** – As soon as possible without delaying completion of Immediate Priority implementation actions. Many of these actions are no less valuable than the immediate priorities, but either will take longer or are somewhat less time sensitive.
3. **On-going Priority** - As soon as possible without delaying completion of Immediate or Intermediate Priority implementation actions. Many of these actions are no less valuable than the immediate and intermediate priorities, but either will take longer or are somewhat less time sensitive.

Immediate Priority

1. **Grant Programs for Plan Conformance.** The RMP requires the Council to establish and administer grant programs to cover the reasonable costs of local government Plan Conformance activities. These programs are a matter of immediate priority to encourage and support plan conformance, particularly in the case of Preservation Area jurisdictions required to submit revisions to local government master plans and development regulations within 9 to 15 months of the effective date of the RMP.
 2. **Minimum Requirements for RMP Substantive Programs.** The RMP calls for the preparation of minimum substantive requirements for RMP programs, *e.g.* the minimum requirements for a Community Forestry Plan. The minimum requirements are of the highest priority in order to guide local government efforts with regard to plan conformance.
 3. **Technical Assistance, Model Ordinances and Guidance Manuals Related to the Jurisdiction of Local Government Master Plans and Development Regulations.** The RMP programs call for the preparation and distribution of various technical assistance documents, guidance manuals and model ordinances which will be essential to modifying local government master plans and development regulations for Plan Conformance. These documents are anticipated to incorporate by reference existing resource materials from the literature and other agencies of government, supplemented with specific guidance for their use in the Highlands. Preparation of these documents is matter of very high priority because these documents must be available for local governments during their preparation of amendments to local government master plans and development regulations.
 4. **Highlands Development Credit Program.** The RMP anticipates that the Highlands Development Credit Program (“HDC”) will be initiated immediately upon adoption of the RMP. Implementation of the HDC program requires the creation of the Highlands Credit Bank, formal
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adoption of governing documents and rules of procedure and early capitalization of the Highlands Credit Bank. The Council should immediately and actively seek funding from the State of New Jersey and any other appropriate sources to facilitate the operations of the Highlands Credit Bank.

5. **Highlands Council Petition for Plan Endorsement from the State Planning Commission.** The Highlands Act requires that the Council submit the RMP to the State Planning Commission (SPC) within sixty days of its adoption, for Plan Endorsement with respect to the Planning Area. The Act further provides that upon SPC endorsement of the RMP, any Highlands Council grant of Plan Conformance to a local government entity shall be deemed equivalent to receipt of Plan Endorsement from the SPC. It is in the best interests of the Council and its constituent counties and municipalities that a petition be prepared and filed with the SPC as quickly as possible after adoption of the RMP.

Intermediate Priority

1. **Highlands State and Federal Agency Coordination.** The Council shall continue to work with State and federal agencies to ensure coordinated agency action and establish interagency teams, where necessary, to provide cooperation with regard to implementation of the RMP.
2. **Coordination with State Agencies.** The RMP recognizes that the activities of State agencies directly affect implementation of the RMP. The RMP provides that the Council will actively seek to coordinate with State agencies with regard to matters which affect resources in the Highlands and to promote implementation of the RMP. Where appropriate, the RMP provides that the Council should seek the formation of interagency working groups or other forms of multi-agency action in support of implementation of the RMP.
3. **Educational Programs.** The RMP requires the Council to develop and implement educational programs for public officials, other stakeholders, interested persons and the general public with regard to a variety of subjects. Education is critical to the success of the RMP in terms of local government plan conformance and long term implementation of the RMP.
4. **Research Initiatives.** The RMP identifies a number of research initiatives which would enhance implementation of the RMP. The RMP requires the Council to develop work programs for such research and encourages the Council to coordinate with other agencies with regard to the conduct and funding of the research.

On-going Priority

1. **Funding for On-going Highlands Programs.** The success of the RMP will be defined to some considerable degree, by the funding which is available for implementation, both in the short term and the long term. The RMP contemplates that the Council will actively and aggressively pursue funding for implementation of Highlands programs from any and all potential sources, including adoption of new state and federal legislation.
 2. **Establishment of a Highlands Water User Fee.** The equitable distribution of the benefits and burdens of the implementation of the RMP
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requires that all beneficiaries, including water users should share in the cost of implementation. The RMP identifies the establishment of a Highlands Water user fee which would be used for RMP implementation, as an equitable and vital means by which to ensure long term implementation of the RMP.

3. **Technical Assistance Documents and Guidance Manuals.** The RMP provides for the preparation of technical assistance documents and guidance manuals for resource management programs, like stream restoration (e.g., design guidelines for restoration of channel profiles, floor and sediment control, bank stabilization and restoration of aquatic habitat and ecological function) which involve programs in addition to local government development regulations. The RMP provides that the Council coordinate the preparation of technical assistance documents and guidance manuals with other agencies of government.
4. **Resource Planning and Management Initiatives.** The RMP calls for the Council to promote various long-term substantive resource planning and management programs, *e.g.* the development and implementation of Forest Stewardship Plans for all preserved lands within the Region or the restoration of open waters including streams and riparian areas in conjunction with development and redevelopment. The Council should develop these programs and over time, promote their implementation by appropriate public and private agencies. In addition, the Council should actively seek funding from public and private sources for the development and implementation of long-term resource planning and management programs.
5. **Monitoring Programs.** The RMP provides for the establishment of a variety of monitoring programs in order to improve the quality of data available for resource planning and management decisions and to better understand Highlands resources. The RMP contemplates that many monitoring programs will be conducted in cooperation and coordination with other agencies of government at the local, regional, state and federal levels.
6. **Award Programs.** The RMP provides for the establishment of award programs to recognize exemplary examples of RMP implementation programs.

Subpart b. Local Governments

The local governments within the Highlands Region are responsible for land and water resource planning and management at the local level and will be responsible for regulating the land and water resources within each community under the Highlands Regional Master Plan.

1. **Initiate Amendments to Local Government Master Plans and Development Regulations.** Local government entities seeking Plan Conformance must review existing planning programs and submit any amendments to master plans and development regulations necessary to achieve conformance with the Highlands RMP.
 2. **Petition Highlands Council for Plan Conformance.** Local governments within the Preservation Area shall submit revisions to local government master plans and development regulations to the Council for Plan
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Conformance review and determination within 9 to 15 months of the adoption of the RMP. With respect to Planning Areas, local governments may choose whether or not to align planning programs in conformance with the RMP and may submit petitions relating thereto, at any time.

Subpart c. State Government

Implementation of the RMP will require the active assistance and support of numerous state agencies including the Department of Environmental Protection, Department of Agriculture, Department of Community Affairs, and the Department of Transportation.

1. **Coordination with State Planning Commission.** The Council shall submit the RMP to the State Planning Commission, for the Planning Area, and coordinate with the Commission to implement both the RMP and the State Development and Redevelopment Plan.
2. **Coordination with State Agencies with Regard to RMP Implementation.** The Council shall work with State agencies to coordinate implementation of the RMP.
3. **State and Federal Agency Coordination.** State agencies shall continue to work with the Highlands Council and relevant State and federal agencies to ensure coordination and cooperation with regard to implementation of the RMP.
4. **Funding of RMP Implementation Programs.** The RMP anticipates that RMP implementation will require significant funding through existing state programs as well as new funding initiatives, e.g. a Highlands water use fee.

Subpart d. Federal Government

Implementation of the RMP will be enhanced through coordination and cooperation with federal agencies and financial assistance and support from existing and new programs.

1. **State and Federal Agency Coordination.** Federal agencies shall continue to work with the Highlands Council and relevant State and federal agencies to ensure coordination and cooperation with regard to implementation of the RMP.
 2. **Funding of RMP Implementation.** The RMP anticipates that RMP implementation will require significant funding through existing federal programs and, if necessary, through adoption of new legislation. Grants-in-aid in support of implementation of the RMP, for example, would be consistent with historical federal funding of other water resources bills.
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