Detailed Study Area	Reported by Residents	Recommendation
AZ-1	Standing water in road (Azalea). Water intrusion into home due to roadway runoff coming down driveway from Street.	Restore proper function to existing culvert by cleaning it out. This restores 10-year performance and prevents backup on roadway which pushes water down the driveway of Azalea resident.
BA-1	Water from street comes down front yards/driveways causing flooding problems at garages and crawlspaces.	Reconstruct/regrade ditch on east side of Balsam to intercept and hold flow from yards and road rather than have it pushed out into the road where it crosses over to the new curb (or road shoulder if curb not constructed). Install curbing and reconstruct driveways along west side of Balsam (1,200 LF).
BA-2	Residents report severe yard erosion, flooded living space, improperly functioning drainage inlets, street puddling	Option 1: Reroute drainage in Huckleberry to Azalea/Huckleberry intersection via piping. Install inlets along the way to take drainage sub-surface and reduce required size of ditch section. Optional bioswale in upper, flat reaches of roadside ditch. Option 2: Install new pipe between houses to convey flow below grade from backyard channel to discharge point below residences.
BA-3	High volume of water comes down Balsam and ponds at low point in road. Discharges into yards via riprap "channel" but still ponds in road up to 8" during storm events. Lack of ditch on opposite side of Balsam pushes more water out into street and also contributes to erosion of roadway sideslopes	Construct well defined ditch on east side of Balsam; waterline may conflict in certain areas. Place curbing (1,200 lf) and rebuild driveways on west side of Balsam for roadway drainage. Install small wetland in yard of 4109.
BX-3	Basement flooding during Fran only. Erosion at end of stub street (curbline discharge) and yard associated with stream in sideyard	Extend curbing slightly to create flat location for filterra unit and additional overflow inlet. Tie overflow inlet into downstream curb inlets within Boxwood R/W. Install toe-stone along existing stream and stabilize bank with vegetation.
BX-4	Drainage complaint (1992) indicates some problem was reported in the bend of the channel that runs along the western property boundary.	No action recommended. Field investigation and conversation with property owner indicate no problems.
GA-3	Roadside ditch erosion between upper and lower driveways. Leaf debris that overwhelms upper driveway culvert.	Stabilize ditch by construction of bioswale using traditional media with check dams to limit longitudinal slope to 2% or less. 100% of water quality volume is treated and ditch is stabilized with grass.
GA-4	Street flooding reported. Resident occasionally looses vehicular ingress/egress and has to park elsewhere in anticipation of coming storm. Emergency vehicle access compromised. Second resident identified erosion around mailbox and driveway due to street and creek water.	Upsize driveway culvert to 54" for 10 year level of service.
GA-5	Erosion in the ditch at the end of the stub street to which street drainage structures and ditch/channel in front yards discharge. Eroded ditch is in unbuilt public R/W between Glen Laurel and Galax.	No action recommended due to size of drainage area and space limitations (steep slope on right, short length). No significant private property damage occurring.

JP-1	Backyard flooding when creek rises into yard during tropical storms/hurricanes	Install 1-2 grade control structure to prevent further upstream migration of headcut. No action recommended for backyard flooding.
LH-1	Minor erosion in private swale / runoff channeled through front yard landscaped area requiring some maintenance and stabilization to manage. Also some erosion in channel between these properties Cause in both cases purpoted to be filling of ditch across the street during construction of home at 4508 LH (2006) resulting in water being dumped into street and crossing over.	Construct clearly defined roadside ditch on south side of Laurel Hills Road to intercept runoff.
LH-3	Private property erosion at back of lot. Source of water: Woodbine culvert discharge.	Install limited grade control structures at stragetic locations where drainage is clearly concentrated and erosion is occurring. Older trees will be impacted.
LH-5	Obstructed or partially obstructed culvert under Laurel Hills Rd. doesn't allow proper drainage out of roadside ditch.	Plug and abandon existing non-functioning pipe and minor modification to receiving ditch to drain small puddle that collects at existing pipe inlet. This avoids having to locate the pipe discharge point and rehabilitate a potentially abandoned pipe.
LH-7	Ditch erosion, poor drainage through pipe under Laurel Hills	Since existing pipe is damaged and also undersized, install 24" RCP to eliminate roadway overtopping in 10-Year event. Install 45' long bioswale with Filterra media
LR-1	Driveway culvert clogs or is overwhelmed and roadside drainage ditch overflows sending water down driveway and towards/into garage (4115). Street water runs down driveway and must be directed away from garage and around house (4205). Also erosion in channel beside house.	Increase depth of roadside ditch upstream and lower driveway pipe to reduce tendancy of water to jump out of ditch. Upsize driveway pipe to prevent collection of debris therein. Tailditch from driveway pipe discharge to ditch in sideyard.
LR-2	Roadside and yard ditch erosion. Crush and run washes away. Muddy spot at SS easement down Shearon property. Erosion down easement.	Stabilize existing channel with 9" riprap. Construct roadside ditch on the east side of existing culvert to intercept yard/house runoff prior to entering the roadway and direct to culvert.
PC-1	High volume of water down both sides of Picardy during storm event. Driveway culvert clogging/overwhelmed at 4121 can force water out into street during heavier storm events.	Due to distance of slope tie-in to regrade, perform maintenance on existing channel by supplementing existing riprap with new, larger riprap. Flush driveway culvert.
RD-1	Roadside ditch erosion along Laurel Hills Road	Stabilize existing ditch with 9" riprap; preserve existing dimensions.
RD-2	Water on street	No action recommended. Street water appears to be due to pavement grades. Field investigation indicates no instability at culvert discharge.
WP-1	Frequent yard and driveway flooding. Water in finished basement (not in connection with yard/driveway flooding).	Construct BMP on church property with permission. Upgrade drainage system along properties to a 10-Year level of service (combination of piping/channel starting at church property and extending downstream of 4115; possibly to culvert under White Pine).