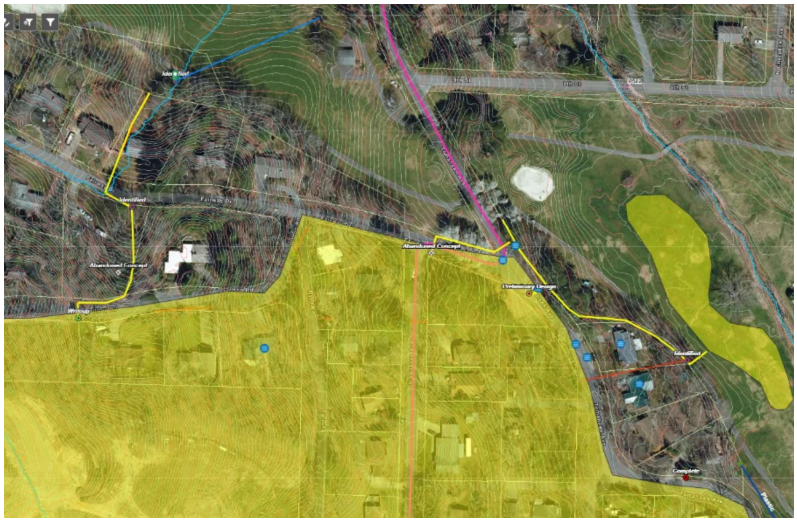
5.0 Fairway Drive / Tomahawk Ave to Golf Course Ditch Diversion with Potential Flood Storage (PID#35)

Type(s): Diversion, Pipe Replacement

Scale: Small-Medium

Background: This ditch has complaints of blockage and flooding and has recently been dug deeper along Hiwassee Ave (appears to be associated with residential home construction) which could pose a potential safety concern and/or erosion control issue. The ditch carries approximately 12-acres draining to it, including runoff from Hiwassee Ave, Byrd Road, Hilltop Road, and adjacent upland areas. It outlets to a pipe system that crosses Tomahawk Ave just north of S Oconeechee Ave, crossing under private property before it outlets into the golf course. The outlet has sedimentation issues and appeared to be submerged during site inspection. The Town has subsequently worked on the area.

The system also gets an additional estimated 2.5 acres from the north side of Fairway Drive which crosses Tomahawk Ave in an existing pipe (NCDOT) at the intersection of Fairway Dr. It then enters a ditch on the golf course side of the road that terminates at the pipe outlet discussed in the first paragraph. During larger events there is overtopping (or was, prior to ditch excavation) at Tomahawk Ave where runoff exceeds ditch capacity and the road overtops which has resulted in erosion on Town golf course property.



Project Description: Install a pipe diversion under Tomahawk Ave on the south side of Fairway Dr to route flow out of the existing ditch network and onto golf course. Maintain, but reconfigure, the existing roadside ditch for less runoff and to eliminate any safety or water quality concerns. Determine the limits, condition and elevation of the existing pipe outlet behind residential homes and completely map pipe system to final outfall. Rehabilitate the existing 400-foot long swale through the woods on east side of Tomahawk Ave on golf course property by either diverting the swale onto the golf course (to ponding storage) or by addressing the deficiencies at the current end of the swale where no outlet seems to exist.

Components:

- 30 LF 24-30” CMP or RCP
- Ditch rehabilitation and/or extension, up to 400 LF rehab and 100-200 LF of new ditch or water quality swale
- Potential flood storage grading on golf fairway 0.5 – 1 acre-foot to treat 1-3” of rainfall; situate most of storage in areas that will least affect play on golf course – flood study may be required for this component of project. This component would make entire project eligible for various water quality grant funding.

Land Ownership / Partnerships: Diversion is in presumed right-of-way (Town). Some potential overlap with NCDOT maintained road. City of Asheville water department may be able to advise on the water main that runs down Tomahawk Ave (not in Town GIS). Coordination with private property and golf course staff required for other project activities.

Next Steps: Improve/verify pipe mapping and outfall locations. Conduct pipe condition video camera condition assessment. Map utilities and evaluate conflicts and associated implications for design and cost. Discuss project with NCDOT to understand jurisdictional boundaries on Fairway Dr and Tomahawk Ave. Conduct more detailed design evaluation and prepare Basis of Design Report with design and cost estimate information.

Related Efforts: PID #67 is to perform O&M activities necessary to keep drainage functioning at the pipe outlet that currently conveys open channel ditch drainage.

Runoff reduction options include the potential to reduce drainage area by implementing a diversion of ditch flow along Hilltop Road into the natural drainage connecting to Fairway Dr (PID #43).

Budget: The proposed budget for this area is $120,000 – 166,000 depending on whether water quality / flood storage is implemented into design.