



MEMORANDUM

TO: Mayor and Council Members

FROM: Chuck Lesniak, Environmental Officer
Watershed Protection Department

DATE: September 25, 2013

SUBJECT: September 26, 2013 Council Agenda Item 51: Response to Questions from Council

This memo provides additional information and responses to questions from Council regarding the proposed Garza SOS amendment.

Staff has further refined the estimated pollutant discharges from the Garza property for several different development scenarios. This data is provided in Attachment A. Please note that the August 27, 2013 memo to Council significantly underestimated the reduction in removal of total suspended solids obtained with all stormwater receiving SOS compliant treatment. The estimates contained in this memo have been verified and are the correct data.

We were also asked a number of questions about Country White sink, a Critical Environmental Feature (CEF) which is located just to the north of the Garza parcels.

What does the City and TCEQ require for setbacks from CEFs?

The City requires a standard setback of 150-ft with a maximum of distance of 300-ft. TCEQ has an optional (not required) setback of 150-ft.

Does the City have data on this particular sink?

The City's available data is shown on the attached map (Attachment B). We have its GPS location (dark purple point), its sinkhole rim or "immediate catchment area" (gold polygon), and its sinkhole catchment area (green polygon), and 300-ft setback is purple hatched polygon.

Does the City have flow data for this sink?

We do not have any data on how much water flows into this sinkhole. Staff geologist Nico Hauwert did observe surface water runoff backing-up within the sinkhole and discharging into Williamson Creek. This suggests the sinkhole is plugged with sediment/soil.

What setback is needed to protect this CEF?

The maximum setback that can be required under the Land Development Code (300-ft) is provided.

Part 4 of the proposed ordinance would allow re-irrigation of treated stormwater within the portion of the CEF as depicted in Exhibit B. Is Part 4 essentially removing the portion of the buffer that exists on the property (they would not be required to recognize this buffer)?

Re-irrigation of treated stormwater is not specifically prohibited within CEF buffers. As a general practice, staff has not supported irrigation within CEF buffers. However, in certain cases, staff has supported irrigation in the outer portion of maximum-size CEF buffers where surface slopes within the catchment area are less than 2%, there are no defined drainage-ways leading towards the feature and the buffer is well-revegetated with at least 75% coverage of native grasses, forbs, shrubs and trees (EMC 1.1.10). In this case, the maximum buffer of 300 ft. is still in place but with stormwater irrigation in the outer 150 ft. of the buffer.

What is the distance of potential development impact to the CEF?

It is 152-ft from the sinkhole rim to property line, but it is not known exactly where the development or limits of construction are proposed on the property. Approximately 148 ft of the buffer is on the Garza tract. According to City code no construction is allowed within a CEF buffer and other than stormwater re-irrigation no other development will be allowed.

Is it possible to add swales or study the drainage of the site to redirect drainage away from this feature?

Section 1.1.10 of the Environmental Criteria Manual states “the diversion of drainage out of or away from the catchment area of point recharge features will not constitute evidence of the protection of water quality and will not be considered, alone, a legitimate basis for lessening the buffer zone”. The vegetated buffer zone serves as a water quality control similar to a vegetated filter strip and providing pollutant uptake, so generally, Environmental Resource Management staff does not support the use of swales and berms to redirect treated runoff, but does support redirecting untreated runoff from development. The goal is to maintain the natural recharge and flow patterns as much as possible.

What is the estimated additional cost of providing SOS water quality controls for the project?

Staff was not able to estimate the cost differential, however, the owner’s engineer estimates the cost of providing SOS controls for 48.2% impervious cover to be approximately \$2.3M. Staff was not able to independently verify this estimate.

Please contact me at 512-974-2699 if you have any questions or if I can be of further assistance.

Attachments

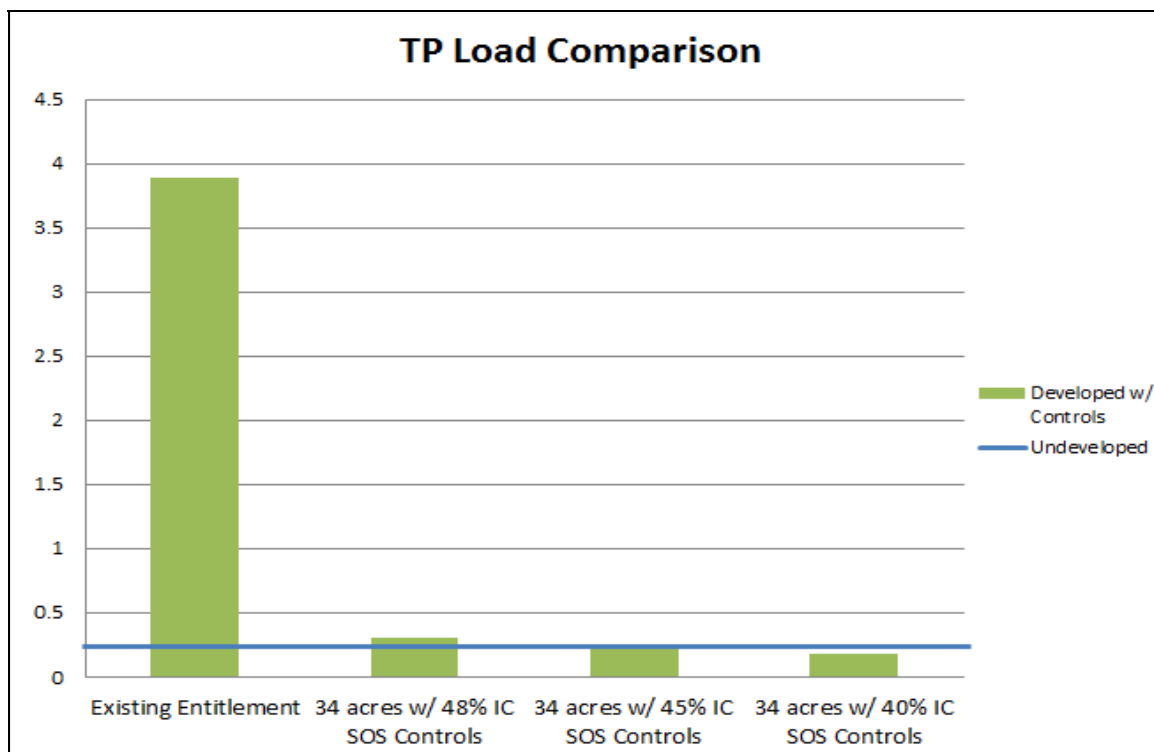
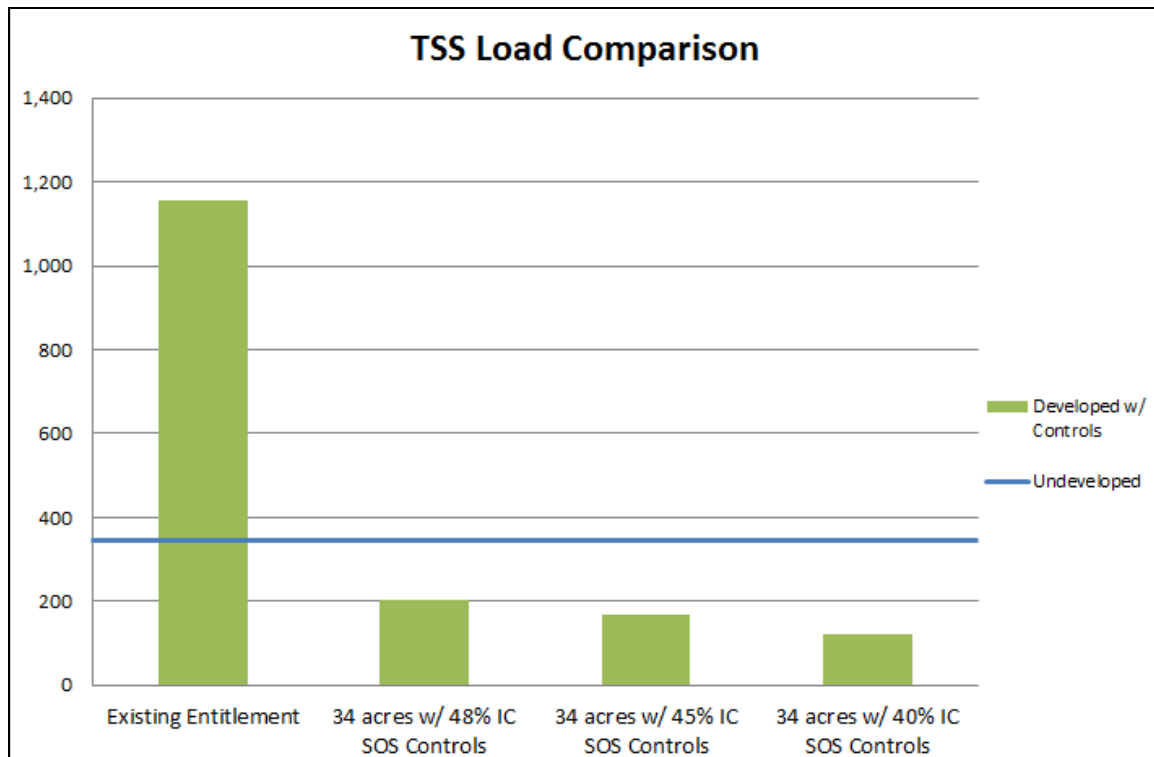
Cc: Marc Ott, City Manager
Sue Edwards, Assistant City Manager
Victoria Li, P.E., Director, Watershed Protection Department
Greg Guernsey, Director, Planning and Development Review Department

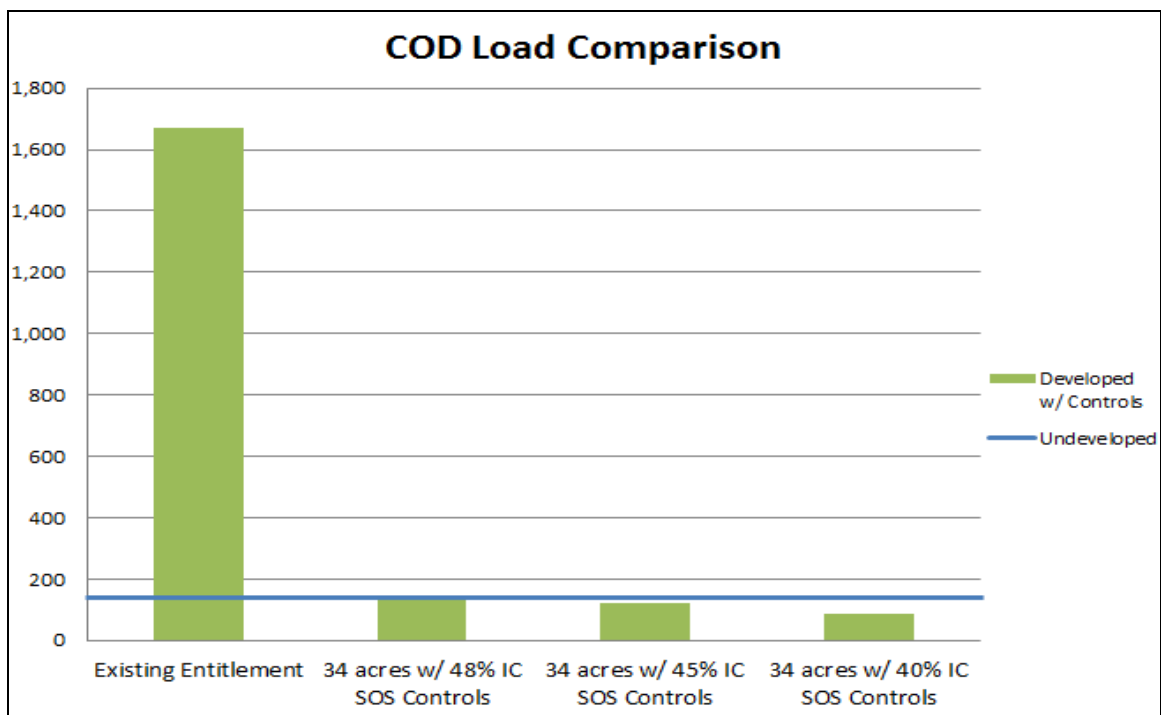
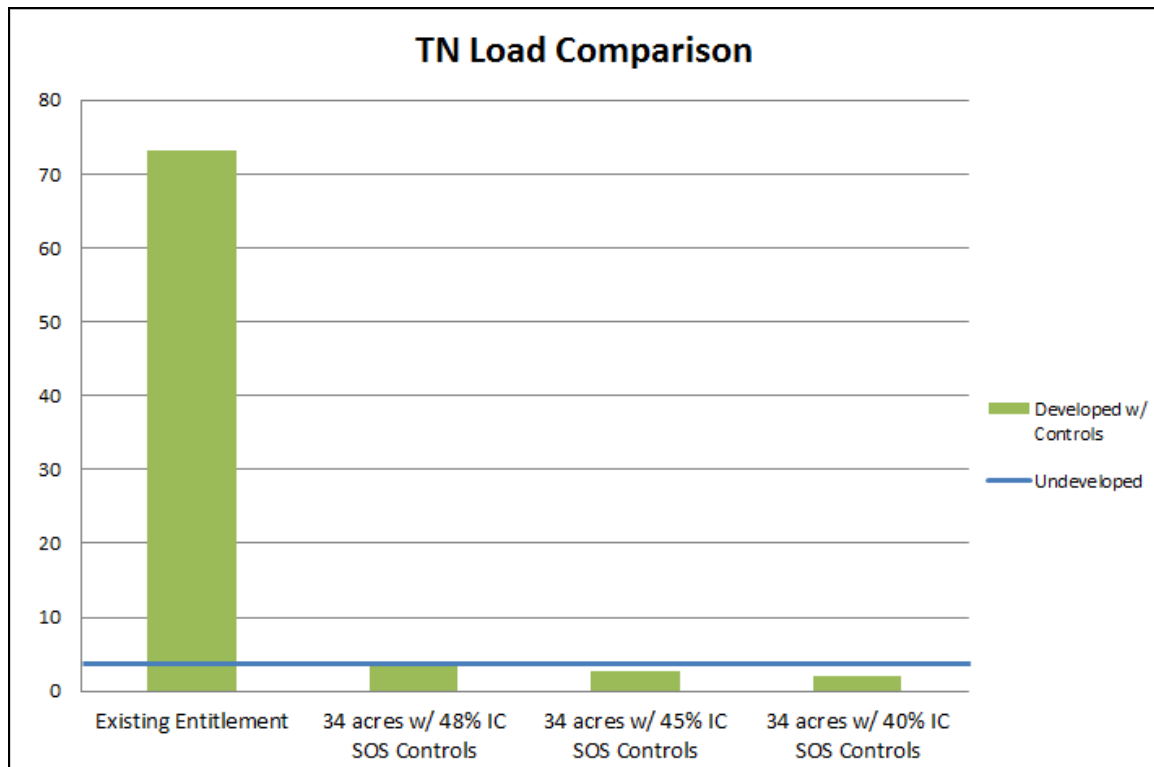
WQ Parameter	Pollution Loading Various Development Scenarios								
	34 acres w/ 48% IC SOS Controls			34 acres w/ 45% IC SOS Controls			34 acres w/ 40% IC SOS Controls		
	Loading	Removed	Remaining	Loading	Removed	Remaining	Loading	Removed	Remaining
TSS (lb/yr)	7,936	7,733	203	7,192	7,023	169	6,062	5,940	122
TP (lb/yr)	12	11	0.3	10.5	10.2	0.25	8.8	8.6	0.18
TN (lb/yr)	131	128	3.4	119	116	2.8	100	98	2
COD (lb/yr)	5,699	5,553	146	5,165	5,044	122	4,354	4,266	88
BOD (lb/yr)	577	562	15	523	511	12.3	441	432	8.9
TOC (lb/yr)	1,371	1,336	35	1,242	1,213	29	1,047	1,026	21
FC (colonies / 100 ml)	1.28E+13	1.24E+13	3.27E+11	1.16E+13	1.13E+13	2.72E+11	9.75E+12	9.55E+12	1.97E+11
FS (colonies / 100 ml)	1.50E+13	1.47E+13	3.85E+11	1.36E+13	1.33E+13	3.21E+11	1.15E+13	1.13E+13	2.32E+11
Pb (lb/yr)	2.2	2.1	0.06	2	1.9	0.05	1.7	1.6	0.03
Zn (lb/yr)	3.6	3.5	0.09	3.3	3.2	0.08	2.8	2.7	0.06

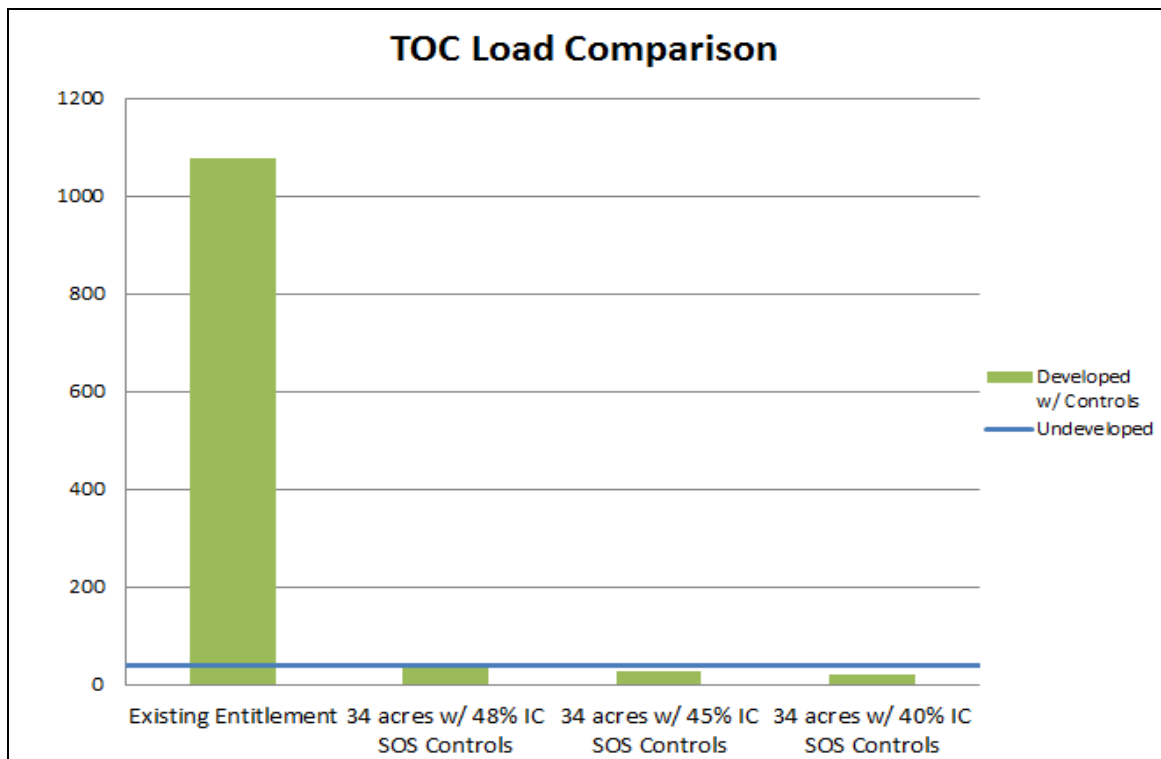
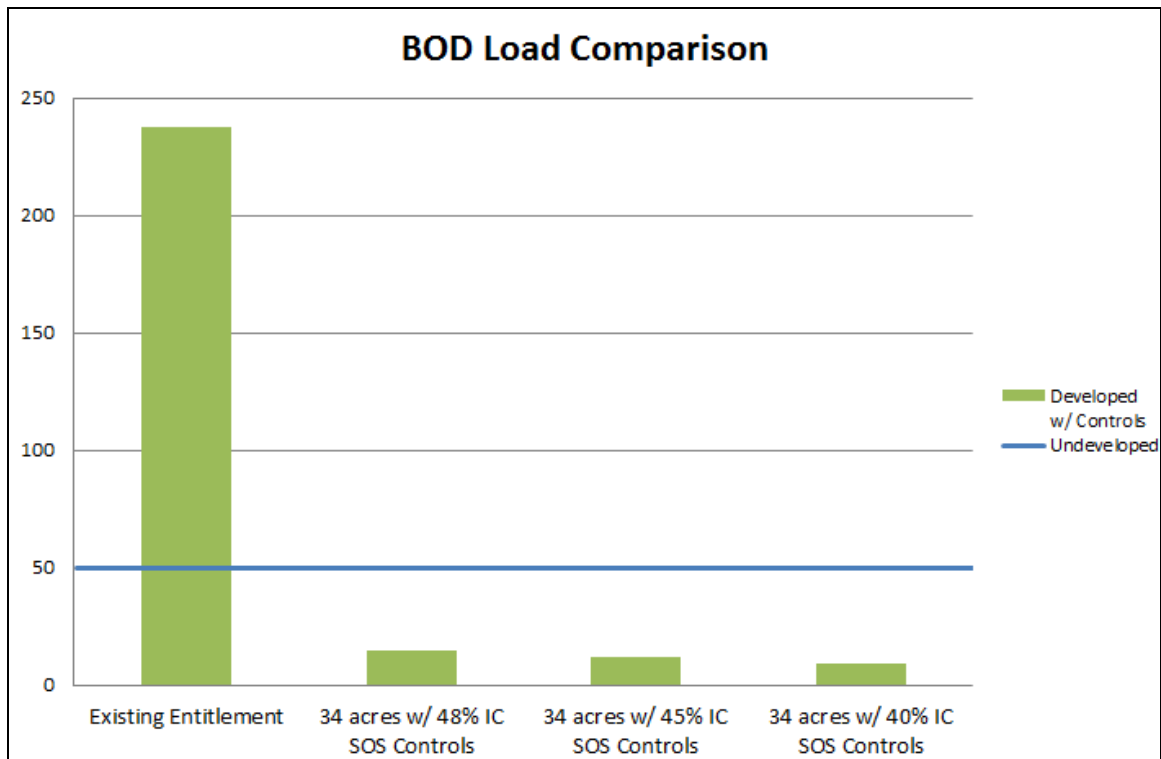
Note: All impervious cover calculations are on a gross site basis.

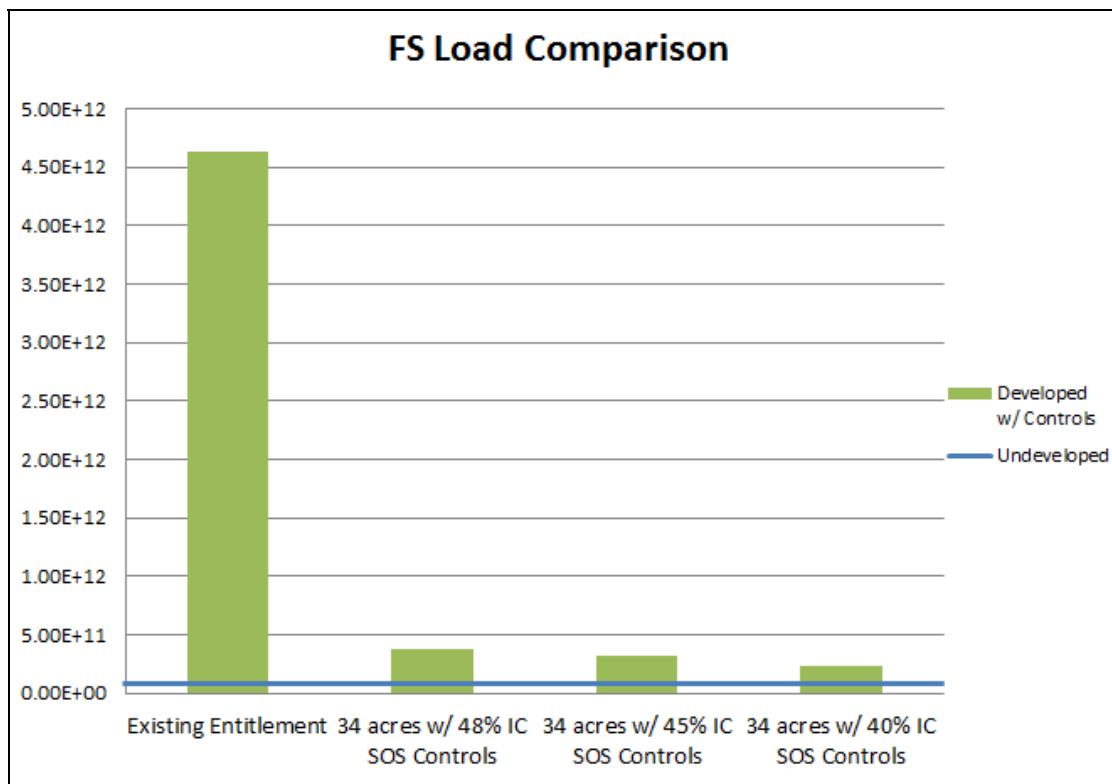
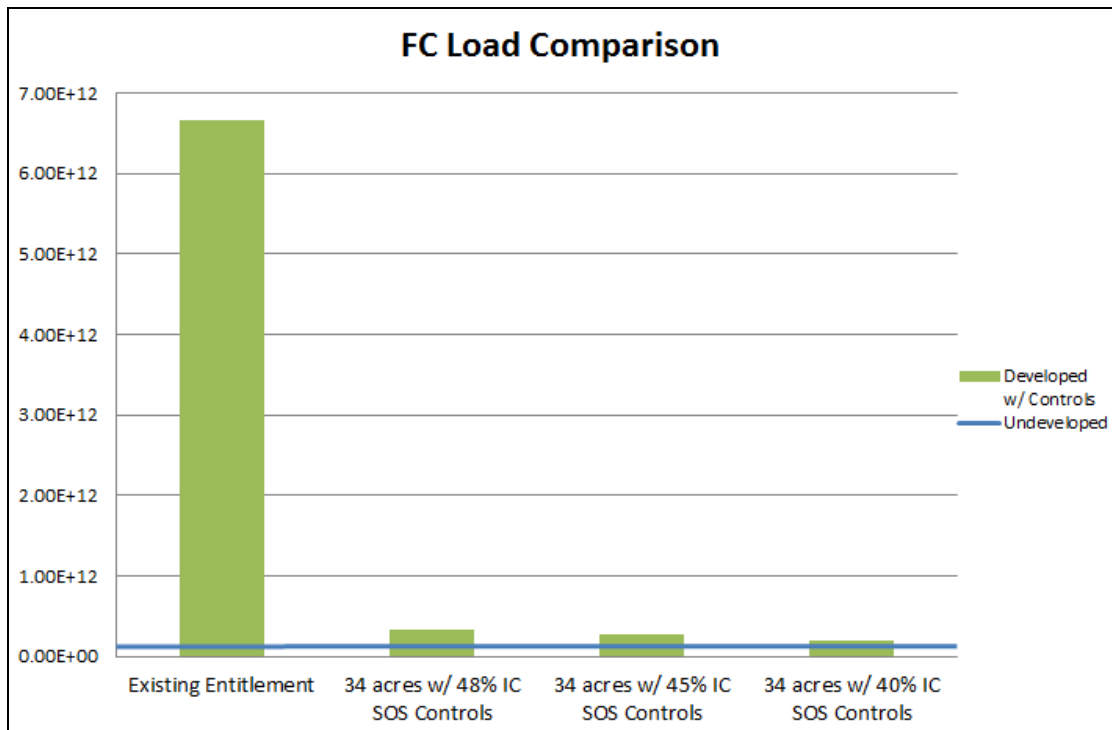
WQ Parameter	Undeveloped	Pollution Loading by Regulatory Area						Total Pollution Loading Existing Entitlement		
		Existing Entitlement								
		Area 1 (17 acres, 65% IC, CWO)	Area 2 (17 acres, 15% IC, SOS)							
	Loading	Loading	Removed	Remaining	Developed	Removed	Remaining	Loading	Removed	Remaining
TSS (lb/yr)	343	6,241	5,090	1,151	661	658	4	6,903	5,748	1,155
TP (lb/yr)	0.24	9.1	5.2	3.9	0.8	0.8	0.004	9.9	6	3.892
TN (lb/yr)	3.4	103	30	73	9.5	9.4	0.05	12.7	39.4	73.3
COD (lb/yr)	139	4,482	2,815	1,667	405	403	2.2	4,887	3,218	1,669
BOD (lb/yr)	51	454	217	237	64	64	0.4	518	281	237.3
TOC (lb/yr)	37.4	1078	0	1078	100	99.65	0.55	1,178	99.65	1078.55
FC (colonies / 100 ml)	1.14E+11	1.00E+13	3.39E+12	6.65E+12	7.82E+11	7.77E+11	4.29E+09	1.08E+13	4.16E+12	6.65E+12
FS (colonies / 100 ml)	8.53E+10	1.18E+13	7.21E+12	4.62E+12	8.91E+11	8.86E+11	4.89E+09	1.27E+13	8.10E+12	4.63E+12
Pb (lb/yr)	0.02	1.7	1.3	0.4	0.14	0.14	0.001	1.8	1.4	0.4
Zn (lb/yr)	0.05	2.8	2.1	0.7	0.23	0.23	0.001	3.1	2.4	0.7

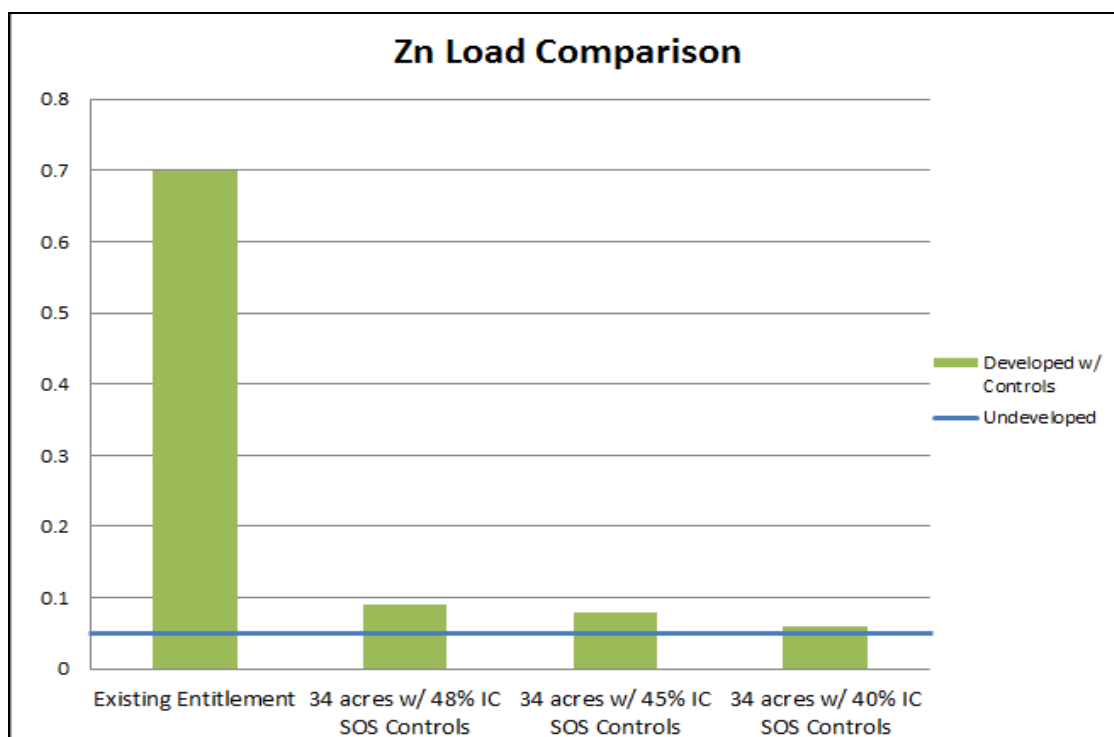
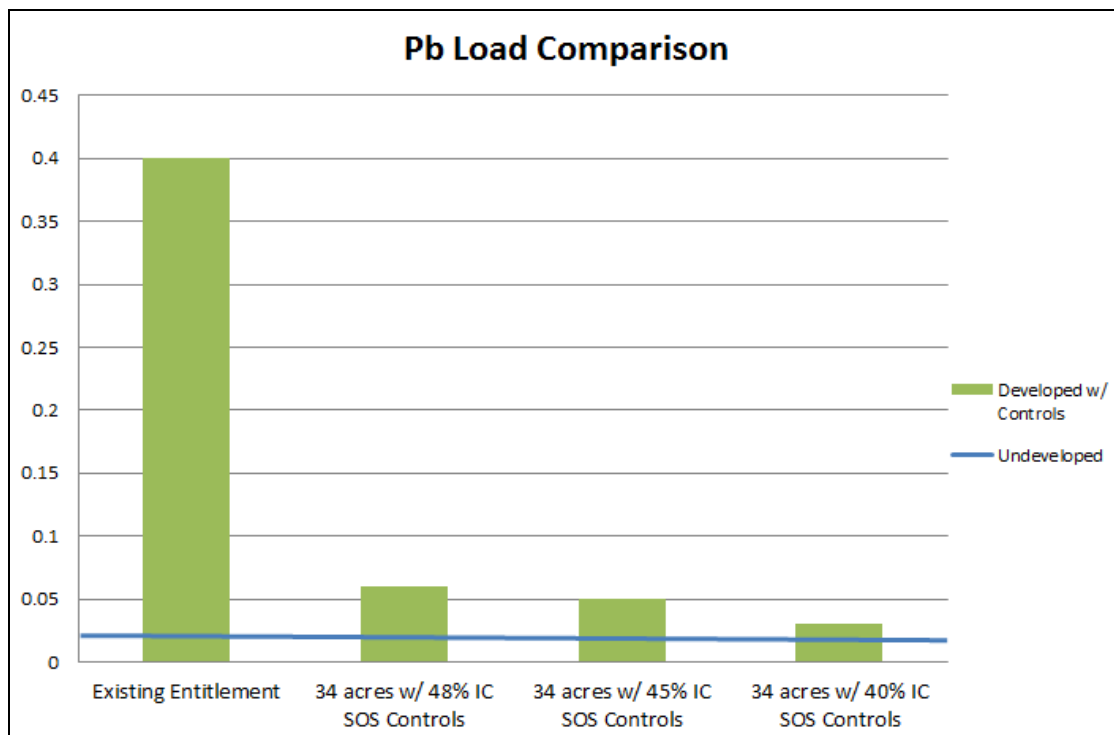
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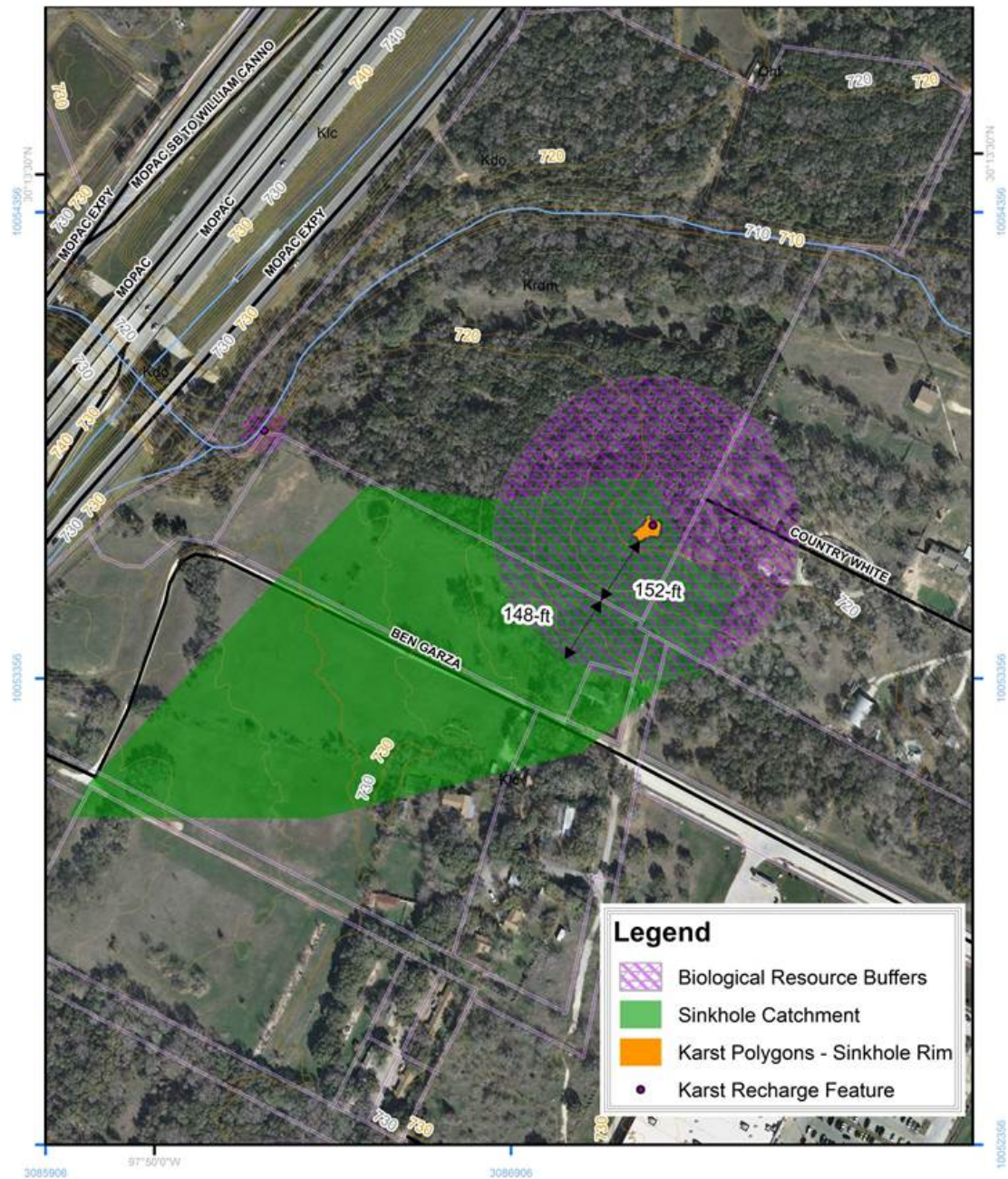




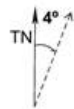




Environmental Constraints Maps



NAD 1983 StatePlane Texas Central FIPS 4203 ft
Projection: Lambert_Conformal_Conic
Geographic Coordinate System: GCS North American 1983
Angular Unit: Degree (0.0174532925199433)
Prime Meridian: Greenwich (0.0)
Datum: D North American 1983
Spheroid: GRS 1980
Semi-major Axis: 6378137.0
Semi-minor Axis: 6356752.314140356
Inverse Flattening: 298.257222101



0 75 150 300 450 Feet



This map was produced by the City of Austin's Watershed Protection Department for the sole purpose of showing environmental constraints. The information illustrated by this map is based on GIS information from the City of Austin GIS database. The author disclaims any responsibility or liability for the interpretations from this map or digital data or decisions based thereon.

Produced by Scott E. Hiers