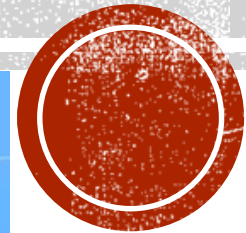


LANDFILL CONSTRUCTION / CLOSURE CHALKYITSIK VILLAGE COUNCIL(CVC)

**ENVIRONMENTAL PROGRAM
CHALKYITSIK (JALKITSIK) 2018**



ENVIRONMENTAL PROGRAM \$ & STAFF

- Environmental Program-base & solid waste grants.
- Rural CAP Foundation- \$5,000 backhaul.
- YRITWC- \$3,500 backhaul
- Chalkyitsik Village Council-Cleanup day food, split charters or let me backhaul for free.





CHALKYITSIK TRIBAL GOVERNMENT

- Chalkyitsik Village/a federally Recognized Tribe.
- Draanjik Gwitch'in Tribe
- Draanjik River (255 miles).
- Geographical location is 66.56815 Latitude, -142.4499 Longitude.
- CVC / 7 members/159 tribal members.
- Yukon Flats/Interior of Alaska
- Population 65
- Isolated community/air transportation other than boat/snow machine.



TRIBAL OFFICE

- Log day-to-day activities.
- Reports
- Class III Landfill Visual Monitoring Report.
- Solid Waste Management Plan
- EPA-Tribal Environmental Plan
- Constitution of the Draanjik Gwich'in Tribe.
- Village of Chalkyitsik By-Laws
- Personnel Policies and Procedures
- Financial Polices/QuickBooks



LAND

Early 1940's, people started dumping garbage-David Salmon's Native Allotment.



BLM-did not approve application filed in 1931 before ANCSA then people started building houses on the allotment, land ownership eventually went to Chalkyitsik Native Corporation, Salmon's family filed elsewhere. The landfill plot eventually was transferred to Chalkyitsik Village Council for managing the landfill.





LANDFILL FUNDING MANAGED BY ANTHC

Indian Health Service- \$250,000.

Environmental Protection Agency-
Chalkyitsik Environmental Program-P.
Salmon

Fence

Surveying/platting

Trash bins

Burn box

John Deere Dozer

Truck

Recycle Center

Storage sheds

Designated Legislative Grant-\$150,000.



UNPERMITTED/LACK OF CONTROL OF SOLID WASTE



THE DUMP..

A mess



Work crew pulled out white goods, e-waste, plastics etc.



HIGH THREAT TO HUMAN HEALTH

- Exposure to toxic substances-smoke.
- Landfill was uncovered and uncompacted open sewer.
- Vector of diseases-flies, scavengers, ravens and mosquitos.
- Pollution-negative affect to aquatic and terrestrial plants (dying vegetation or algae)and animals that come in contact with soil and surface water.
- Lack of trash containment-fencing improperly installed.
- Unregulated burning which can cause respiratory problems & asthma.
- Random garbage is discarded into landfill such as animal carcasses, freezers, couches, bed frames antifreeze, paints, solvents or heavy metal.
- Harmful leaching carried by surface water, rain or snowmelt into homes, village and the river.
- Native foods contamination-Little Marten Lake showed contamination, Dwayne....25 years ago did a research project.



HUMAN WASTE DISPOSAL



- Community letter
- Lack of sewer system.
- Plumbing-public buildings like the clinic, tribal office, school & 3 private homes.



LANDFILL DISTANCES FROM HUNTING AREAS

Table 1-2 Distance from Existing Landfill and Village Center to Water Bodies

Water Body	Distance from Existing Landfill Location (feet)	Distance from Village Center (feet)
Chalkyitsik Slough	2,660	750
Little Marten Lake	1,000	1,200
Big Marten Lake	1,150	1,800
Black River	2,600	250



EXISTING LANDFILL



- Location-The YRITWC's "Brownfields Information System in 2009 listed the existing landfill location as a "very severe" health concerns for human and animals (YRITWC, 2015).



LANDFILL-EXISTING

Unpermitted open dump



40 years in service on 2-acres of land

- $\frac{1}{4}$ mile from the nearest house.
- Landfill has reached capacity.
- Located on potential flooding area.
- Score 17 when I was hired.
- Contaminates drinking water.
- Flies/scavengers/bears-it creates a hazard to the community by having the landfill close by.
- Fires-June 3, 2003 caused by smoldering at the dump and in 2004.
- Landfill is too accessible-tracking
- No supervision.
- Blowing debris PLASTIC BAGS.
- Unregulated & self-haul system.



WASTES

- Medical wastes mailed to Chief Andrew Isaac Health center in Fairbanks for disposal.
- Construction debris-clinic, open to the public to take left-over material from the construction area-new clinic.
- Est. 85.4 tons of solid waste is generated in Chalkyitsik annually-working on reduce, reuse & recycle.
- Burn barrel use is discouraged but people need a place to store trash until collection. Trash burning still happens occasionally.



GRAVEL SOURCE

Gravel pit, 1 mile from CIK.

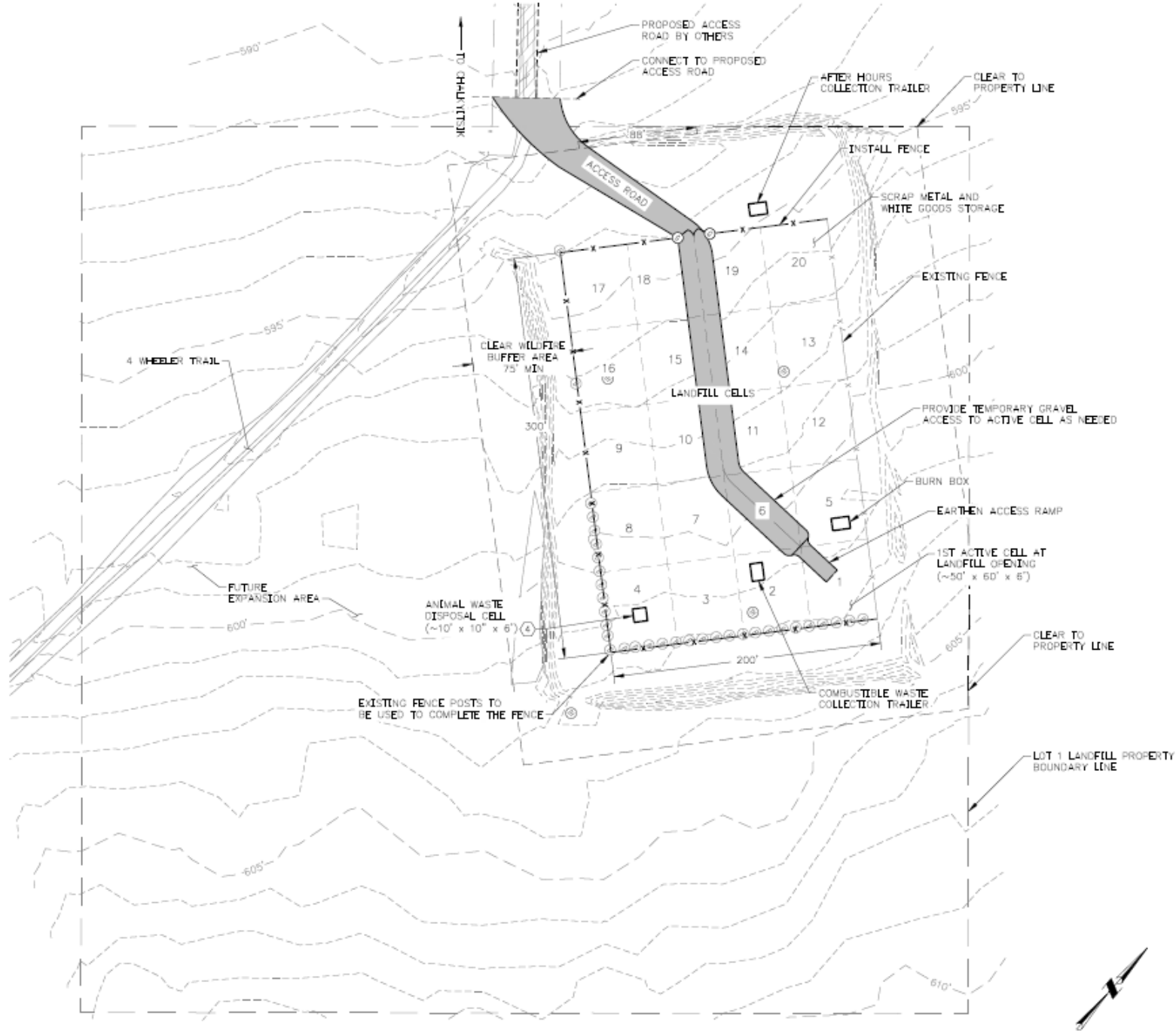


NEW LANDFILL

Distance from landfill

- 4,500 ft. from Draanjik River.
- 5,500 ft. from the nearest home.
- Ground is conducive for landfill-no drainage problem.
- Located on Tsuk Taiih-no flooding possibility.
- Signs posted.
- Fencing.
- Access road-graveled
- Turn-around





NOTES:

1. LANDFILL WILL BE A TRENCH AND FILL. EACH CELL WILL BE 6 FT DEEP. FINAL COVER WILL BE 2 FT WITH A 5% SLOPE.
2. USE EXCAVATED SOILS TO CREATE BERM AROUND ACTIVE CELL TO PREVENT SURFACE WATER RUNOFF INTO CELL.
3. EXCAVATE ACTIVE CELL IN THE FALL SEASON.
4. ANIMAL WASTE DISPOSAL CELL TO BE LOCATED AWAY FROM TRAFFICKED AREAS. TO BE MOVED AS REQUIRED AS LANDFILL IS FILLED.



Division of Environmental
Health and Engineering
4500 Diplomacy Drive
Anchorage, Alaska 99508
(907) 726-3600



1" = 100'
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CHALKVITSIK, AK
LANDFILL DEVELOPMENT
ISSUED FOR CONSTRUCTION

DATE	DESCRIPTION	BY

PLAN SET: CD-10-005
PROJ MGR: BS
PROJ ENG: AM
DRWG ENG: PC
DRAWN BY: ALH

SHEET TITLE
PROPOSED LANDFILL
SITE PLAN

C-102

SHEET 3 OF 7

A1 PROPOSED LANDFILL SITE PLAN

1" = 40'

0 20 40 60

LANDFILL

Before



After



ACCESS ROAD-BEFORE & AFTER.



AIRPORT

- Airport separation 2,700 ft, required 5,000 ft.
- Aircraft collision.
- New landfill is located 8,000 ft. from the airport.
- Increase the cost of operating landfill/cost of fuel.



FUTURE PLANS FOR THE LANDFILL

- 20-year life span, reduce, reuse and recycle to minimized waste.
- Fee structures.
- Burn box-to be installed.
- Home trash bins-purchase material.
- Heavy equipment to load/unload charter.
- Laborers/operators for maintenance.
- Drum crushing- 55 55-gallon barrels, 11 5-gal cans September 2018.
- Flying Cans Program-aluminum cans & plastic bottles.
- Brochures/notices to the public.
- Capacity building for community/staff.
- Abandon vehicles.



BACKHAUL

Collection of backhaul items

- Backhaul as much as we can to extend the life of the landfill.
- Annual backhaul.
- Work crew-collect & metal band on pallets.
- White good, e-waste, lead-acid batteries, vehicles & plastics.

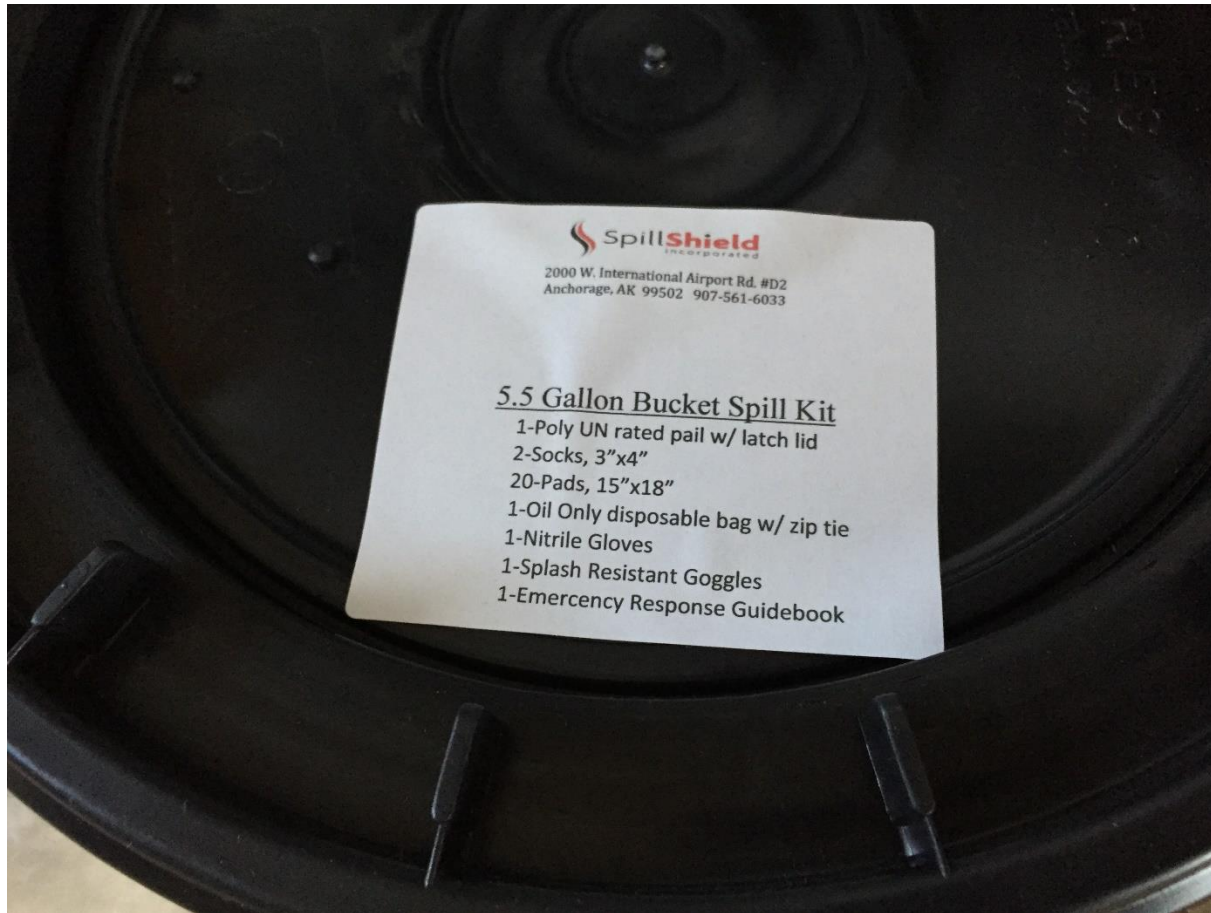
Sampling/consolidating/reuse 235 drums



CONSOLIDATING LIKE FLUIDS



SPILL PREVENTION AND SUPPLIES FOR BACKHAUL AND CONSOLIDATING FLUIDS



NRC LIQUIDS AND DRUM INVENTORY

- Quote from NRC was \$10,000
- NRC Visit to Chalkyitsik
- Final Cost:
- I have the figures for drum testing of 235 containers, 55 gal drums and 5 gal. buckets, the cost for two people to come to Chalkyitsik from NRC Alaska is \$6,627.59. Two men did an overnight stay, the cost break-down is:
- Labor- \$4,018.63
- Materials- \$500
- Other NRC- \$2,004.96
- Equipment- \$104
- Total: $\$6,627.59 + \$1,070.40 = \$7,697.99$ total costs for drum testing.



DRUMS SAMPLED



DRUM INVENTORY LIST

Customer: Chalkyitsik
Project Number: 126131

Inventory Items:
235

Drum	Description	Content Volume (Gallons)	Ratios
1	Glycol, rags ✓	5	
2	Oily water	4	
3	Oily water	2	1 gallon oil/1 gallon water
4	Rags, water	2	
5	Rags, water	3	
6	Glycol, oil	2	
7	Rags, oil filters, debris	4	
8	Oil filters, rags	4	
9	Garbage, oil filters	4	
10	Water, garbage, oil film on top	5	
11	Oil	3	

Pull

Pull

Pull

Pull

NRC INVENTORY REPORT

This allowed us to prioritize what to ship out.

CVC has a SmartAsh burner and an Energy Logic oil burner.



DEMOLITION OF STUCTURES



CVC CLEANED STORAGE TANKS

40 PALLETS TO TAKE OUT.



PROCESSING WHITE GOODS



CRUSHING DRUMS

Barged drum crusher to Chalkyitsik by Yukon Cargo September 2018.



Trained at Solid Waste training in Ft. Yukon in August 2018.



DRUM CRUSHER RENTED FROM YRITWC.



COLLECTION

- Weekly collection.
- Trash bins/cages-work perfectly, we did something right!
- Reduces barreled trash burning.
- Public is not in contact with the landfill.
- Organized & scheduled pick-up.
- Clean village.



RECYCLE

Building/storage shed

- Recycle building/office-storage, spill supplies, scale, office, filing cabinets, phone.





05/26/2016 15:02



CVC
RECYCLE
CENTER
848-6613

Inside of Recycling Center



Outside of Recycling Center



The Back and Outside the Recycling Center





What
Will



IGAP
Take



NATURAL DISASTER-FLOODING

- Flooding cause backlash into the Draanjik River from lagoon/landfill.
- Contaminate drinking water.
- Landfill garbage flow into the village.



PLANS FOR COMPACTING, BURN-OFF, DOWNSIZE, REUSE, AND RECYCLE

- Used oil burner
- Smart ash burner
- Waste oil burner
- Household hazardous wastes-backhaul.
- Aerosol can punctures.



CREATED JOBS-WORK CREW

- Environmental planner
- Operator
- Laborer
- Work crew
- Youth
- Construction workers



CHALKYITSIK LANDFILL

- Class III Municipal Solid Waste permit.
- “involves federal funds and therefore requires review under the National Environmental Policy Act (NEPS). An Environmental Assessment for the new 1.5 mile landfill access road was completed by the Bureau of Indian Affairs (BIA) and a Finding of No Significant Impact (FONSI) was issued by BIA on August 14, 2013.”
- Improve air quality by reducing barrel and dump fires & smoke.
- Homes are healthier by not tracking germs into their houses.
- Environmental assessment for opening landfill \$125,000.
- Budget \$485,000.
- Construction design and Plans.
- Platting and surveying.
- CNC donated 10-acres of land to CVC.





BEGINNING OF CONSTRUCTION



CONSTRUCTION PHASE

**Planning, surveying, platting,
design**



Cost: \$485,000





Landfill

- 1.2 miles from housing area.
- Important for 5,000 ft. airport separation required by FAA.
- Maintaining includes snow remove to prevent leachate for proper water irrigation.
- Controlled & supervised burning.
- Fenced & contained garbage.



MORE PICTURES...

Gated



Salvage area





- Project manager
- Laborers
- Operators
- Engineers
- Accountants
- Administrators
- Alaska Native Tribal Health Consortium.
- Alaska Department of Conservation.
- CVC Staff/Council members.
- TCC/CATG involved.

Expertise needed to make it happen...



MORE PICTURES OF THE LANDFILL...

Signs



Salvage area



CLOSING PREPARATION

- Cut willows to cover swampy area.
- Landfill cover with 24 inches of gravel
- Cover with soil.
- Top soil, grass seeds.
- Funding-Designated Legislative Grant \$150,000.



ASSESSMENT & CLEAN-UP



STOCKPILE / COVERAGE



2012 TO 2018: SAME TREES ☺



EXISTING LANDFILL

Before 2018



September 2018



CLOSURE 2018



CLOSED TO THE PUBLIC

September 2018



Heavy eq. storage



GRAVEL PIT



SUMMER 2018 PROJECTS

- *Open Landfill*
- *Close Landfill*
- *Drum Crushing-training*
- *5-gallon/55 gallon drums clean-up & consolidation*
- *Construction/painted storage shed*
- *Purchase a boat for sampling/clean-up*
- *Purchase trash bin material for homes*
- *Purchase 3 trash cages for landfill*
- *Freon removal demonstration-Jerry Sam*
- *Solid waste management training-Trisha Bower*



CHALLENGES

- Buy heavy equipment to deal with backhaul charter to load/unload.
- Burn box installed-need heavy equipment.
- Purchasing agreement with Tribe CVC/EPA.
- Disagreements.
- Budget
- Capacity building-compaction, coverage, grading, separation and maintenance, not there yet.
- Dust control-gravel use.
- Illegal dumping.
- Funding-15 years in the making.



MISTAKE



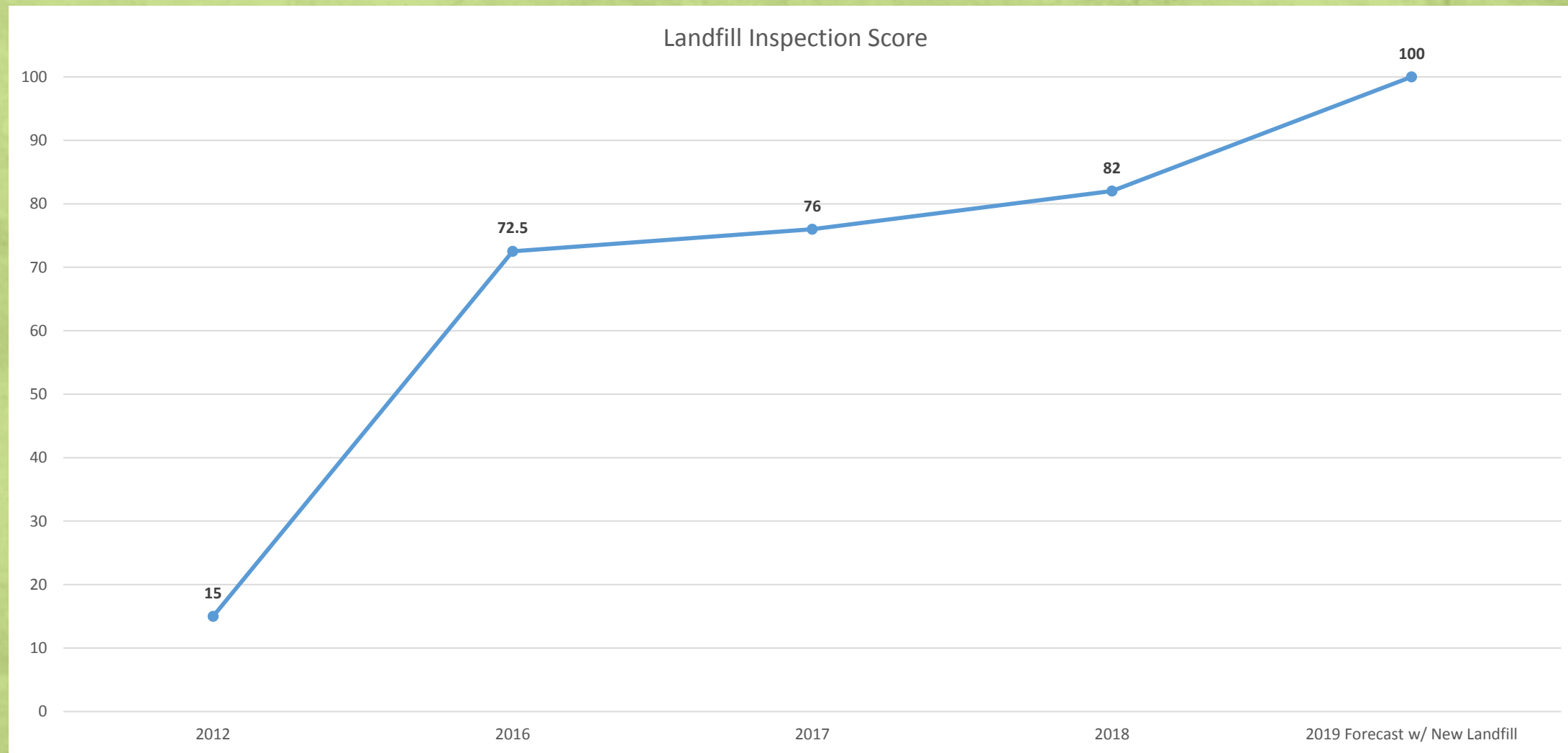
REFERENCES

- Environmental Assessment, Chalkyitsik Landfill Project, February 2016.
- 2005 and 2013 Landfill Facilities Master Plans. ADEC, ASCG engineers and Chalkyitsik Community members.
- Chalkyitsik Village Council
- YRITWC





Chalkyitsik Landfill Is Improving Thanks to IGAP Program



ANTHC = Alaska Native Tribal
Health Consortium

EPA IGAP = Environmental Protection
Agency Indian General Assistance Program

New Landfill Construction and Old Dump Closure =
ANTHC Clean Water Act Funding =
ANTHC Project Manager Bryan Sanford → Hired
Project Manager to oversee BIA Road Project → LF Projects

EPA IGAP: Annual

grant of \$128,000 to do capacity building in
Air, water, climate change, and solid waste. Implementation
is only allowed for solid waste activities.

Most of the grant goes to salaries and indirect costs
(payment to CVC for office space etc). 30K goes toward Landfill Operator.

Legislative Appropriation: \$150,000 to Supplement the
ANTHC Clean Water funding to build the new landfill
and close the old dump.

BIA Roads: Funding that is paying for the road to the
new landfill.

Recent IGAP Funded Projects

- Backhauled 60,000 lbs of metal + hazardous materials
- Built Recycling Center
- Ordered \$2,000 worth of signs
- Surveyed the new landfill site
- Bought fencing for old and new landfills
- Closed sections of the old landfill
- Bought trash cages
- Bought Tok enclosed burn unit
- Hired Chalkyitsik's first Landfill operator
- Bought Smart Ash burner
- Bought materials for a fuel spill
- Contracted NRC to assess fluids
- Hired Laborers for cleanup projects

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