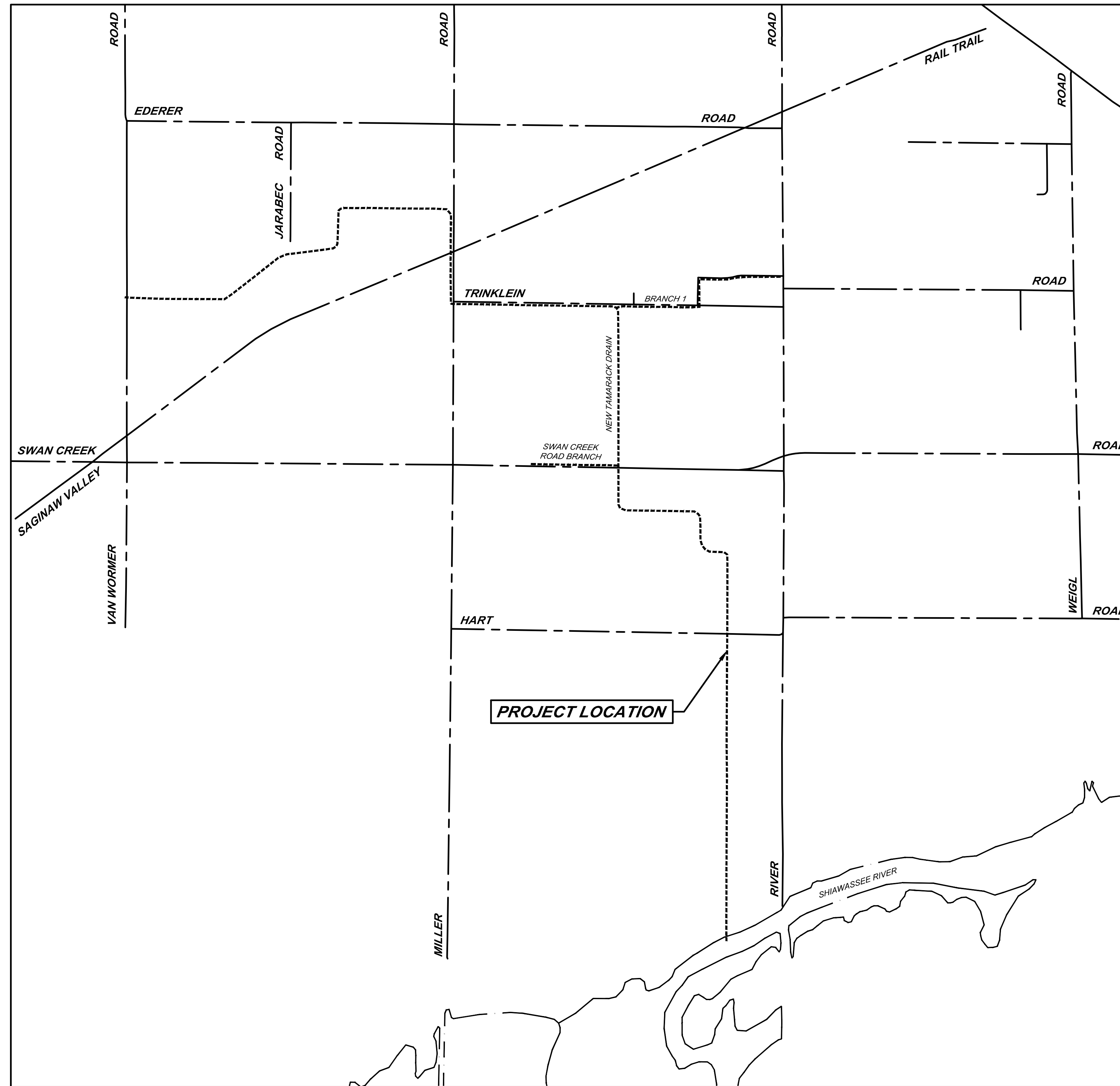


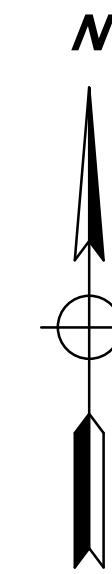
NEW TAMARACK DRAIN

SAGINAW COUNTY PUBLIC WORKS COMMISSIONER - BRIAN J. WENDLING



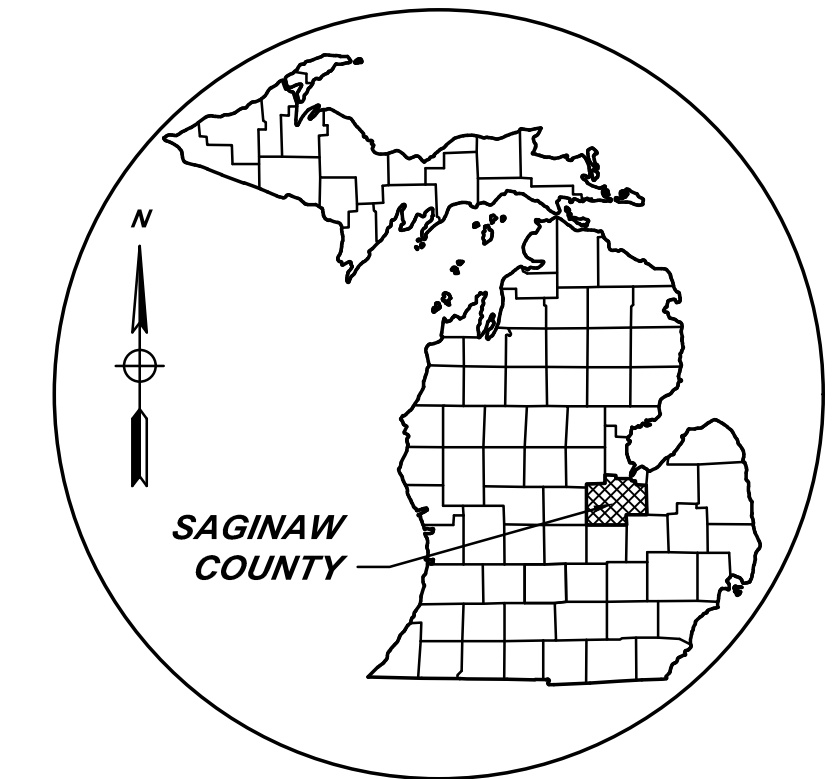
LOCATION MAP
NOT TO SCALE

PLAN INDEX		
FILE NO.	DESCRIPTION	NO.
DR-4625-01	COVER SHEET	1
DR-4625-02	CONTACTS, GENERAL NOTES, LINE TYPE LEGEND	2
DR-4625-03	SOIL EROSION AND SEDIMENTATION CONTROL PLAN	3
DR-4625-04	DRAINAGE DISTRICT MAP	4
DR-4625-05	PLAN AND PROFILE - NEW TAMARACK DRAIN - STA 0+00 TO STA 50+00	5
DR-4625-06	PLAN AND PROFILE - NEW TAMARACK DRAIN - STA 50+00 TO STA 100+00	6
DR-4625-07	PLAN AND PROFILE - NEW TAMARACK DRAIN - STA 100+00 TO STA 149+00	7
DR-4625-08	PLAN AND PROFILE - NEW TAMARACK DRAIN - STA 149+00 TO STA 200+00	8
DR-4625-09	PLAN AND PROFILE - NEW TAMARACK DRAIN - STA 200+00 TO STA 218+00	9
DR-4625-10	PLAN AND PROFILE - SWAN CREEK ROAD BRANCH - STA 0+00 TO STA 14+00	10
DR-4625-11	PLAN AND PROFILE - BRANCH 1 - STA 0+00 TO STA 30+85	11
DR-4625-12	CROSS SECTION - NEW TAMARACK DRAIN - STA 1+20 TO STA 109+01	12
DR-4625-13	CROSS SECTION - NEW TAMARACK DRAIN - STA 117+47 TO STA 151+63	13
DR-4625-14	CROSS SECTION - NEW TAMARACK DRAIN - STA 156+08 TO STA 217+43	14
DR-4625-15	CROSS SECTION - SWAN CREEK ROAD BRANCH - STA 2+74 TO STA 13+15	15
DR-4625-16	CROSS SECTION - BRANCH 1 - STA 1+43 TO STA 12+22	16
DR-4625-17	STANDARD DETAILS	17
DR-4625-18	STANDARD DETAILS	18



SECTIONS 1-2, & 12-13, T.11 N.-R.3 E.,
JAMES TOWNSHIP,
SAGINAW COUNTY, MICHIGAN

SECTION 3, T.11 N.-R.3 E.,
SWAN CREEK TOWNSHIP,
SAGINAW COUNTY, MICHIGAN



AREA MAP
NOT TO SCALE

BY	MARK	REVISIONS	DATE
<small>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</small>			
NEW TAMARACK DRAIN SAGINAW COUNTY, MICHIGAN			
COVER SHEET			
		<small>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 49807 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</small>	
DE. BY: POC/LDO	CH. BY: LDO	PROJECT NO. 1344885G2023	
DR. BY: MJC	APP. BY: NDC		
STDS.	SHEET 01 OF 18	DR	
DATE: APRIL, 2024	FILE NO. DR-4625-01	01	
SCALE: NOT TO SCALE			

GENERAL NOTES

NO WORK SHALL BE PERFORMED BEFORE 7:00 AM OR AFTER 7:00 PM MONDAY THROUGH SATURDAY. NO WORK SHALL HAPPEN ON SUNDAYS OR HOLIDAYS, UNLESS AUTHORIZED BY THE OWNER.

CONTRACTOR SHALL NOTIFY ENGINEER 48 HOURS PRIOR TO START OF CONSTRUCTION, CONSTRUCTION STAKING AND INSPECTION.

CONTRACTOR SHALL MAINTAIN ACCESS FOR MAIL DELIVERY AND GARBAGE PICKUP AT ALL PARCELS. IF THESE SERVICES CANNOT BE PERFORMED, CONTRACTOR IS RESPONSIBLE FOR TAKING THE NECESSARY MEASURES TO CARRY THEM OUT.

COORDINATE DRIVE CLOSURES AND MAIL BOX RELOCATION WITH LANDOWNERS A MINIMUM OF ONE DAY IN ADVANCE.

CONTRACTOR TO PROVIDE DUST CONTROL AND SWEEP ROADS DAILY.

ALL EXCAVATED MATERIAL NOT TO BE REUSED OR DISPOSED OF ON SITE SHALL BE REMOVED FROM SITE. THE CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF MATERIALS ACCORDING TO LOCAL AND STATE REQUIREMENTS.

UNDERGROUND UTILITIES/MISS DIG

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL DIAL 1-800-482-7171 OR 811 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS, PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

THE EXISTING UTILITIES ON THESE DRAWINGS HAVE BEEN SHOWN ACCORDING TO THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND SHALL NOTIFY THE ENGINEER AS TO WHERE POSSIBLE CONFLICT EXISTS.

ALL CONSTRUCTION UNDER EXISTING UTILITIES, INCLUDING HOUSE SERVICES, SHALL BE COMPLETELY BACKFILLED WITH SAND, IN 12" LAYERS, AND COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM UNIT WEIGHT.

ANY UTILITIES ENCOUNTERED DURING CONSTRUCTION SHALL BE SUPPORTED, PER THE SPECIFICATIONS OF THE INDIVIDUAL UTILITY COMPANY CLAIMING OWNERSHIP OF THE UTILITY.

SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

APPROPRIATE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EARTH-DISTURBING ACTIVITIES. PLACE TURF ESTABLISHMENT ITEMS AS SOON AS POSSIBLE ON POTENTIAL ERODABLE SLOPES AS DIRECTED BY OWNER. CRITICAL DITCH GRADES SHALL BE PROTECTED WITH EITHER SOD, SEED/MULCH, OR SEED/MULCH BLANKET AS DIRECTED BY OWNER.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ARE IN PLACE AND MAINTAINED UNTIL THE CONTRACT HAS BEEN COMPLETED AND ACCEPTED. MEASURES SHALL ONLY BE PAID FOR ONCE.

ALL CATCHBASINS AND SEDIMENTATION TRAPS/BASINS SHALL BE CLEANED OUT UPON COMPLETION OF THE PROJECT.

CONTRACTOR SHALL CONFORM TO SOIL EROSION AND SEDIMENTATION CONTROL ACT, PART 91 OF ACT 451 OF 1994.

PROPERTY OWNERS

PROPERTY OWNERS' NAMES, WHERE SHOWN, ARE FOR INFORMATION ONLY, AND THEIR ACCURACY IS NOT GUARANTEED.

ADJUSTING MONUMENT BOXES

ALL GOVERNMENT CORNERS ON THIS PROJECT SHALL BE PRESERVED, WHETHER SHOWN OR NOT. IT MAY BE NECESSARY TO PLACE OR ADJUST MONUMENT BOXES, AS REQUIRED.

TRAFFIC

THE CONTRACTOR SHALL MAINTAIN LOCAL TRAFFIC AT ALL TIMES. SIGNAGE MUST BE IN ACCORDANCE WITH THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND SHALL BE COORDINATED WITH THE ENGINEER AND GOVERNING ROAD AGENCY. PERMITS MAY BE REQUIRED.

PERMITS

PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED BY THE APPROPRIATE AGENCIES.

CONSTRUCTION PROCEDURES SHALL CONFORM TO THE REQUIREMENTS OF THE APPROPRIATE AGENCIES.

CONTACTS

SAGINAW COUNTY PUBLIC WORKS COMMISSIONER ATT: BRIAN J. WENDLING 111 S MICHIGAN AVE SAGINAW, MI 48602 PHONE: (989) 790-5258	OWNER
SPICER GROUP ATT: LUKE D. O'BRIAN, P.E. 230 S WASHINGTON AVE SAGINAW, MI 48605 PHONE: (989) 280-2109	ENGINEER
CONSUMERS ENERGY ATT: VIRGIE DOWNS 2400 WEISS STREET SAGINAW, MI 48602 PHONE: (989) 791-5353	ELECTRIC
CONSUMERS ENERGY ATT: BENJAMIN LEWIS 2400 WEISS STREET SAGINAW, MI 48602 PHONE: (989) 791-5918	GAS
AT&T TELEPHONE ATT: LASHAUNDRA WILSON 309 S MICHIGAN AVE, RM 438 SAGINAW, MI 48607 PHONE: (989) 771-5412	TELEPHONE
CHARTER COMMUNICATIONS ATT: LAURA HEISER 2928 STATE STREET SAGINAW, MI 48602 EMAIL: LAURA.HEISER@CCISYSTEMS.COM	CABLE
JAMES CREEK TOWNSHIP ATT: MARK JEBB 6060 SWAN CREEK ROAD SAGINAW, MI 48609 PHONE: (989) 737-1969 EMAIL: MARK@JAMESTWP.ORG	WATER

GENERAL NOTES CONT.

ALL WORK SHALL BE CONFINED TO THE RIGHT-OF-WAY OR CONSTRUCTION LIMITS SHOWN ON THE PLANS. ANY WORK OUTSIDE OF THESE LIMITS SHALL BE AGREED TO BY THE CONTRACTOR AND THE LANDOWNER IN WRITING.

RESTORE ALL LAWN AREAS PER SPECIFICATIONS AND PLANS.

CONTRACTOR TO RESTORE INCIDENTAL DAMAGES ON THE PROJECT AS DIRECTED BY OWNER AND ENGINEER AT THE CONTRACTOR'S EXPENSE.

ALL DRAIN SIDE SLOPES SHALL BE 2H:1V OR FLATTER, UNLESS SPECIFIED OTHERWISE.

THE WORDS "RIGHT SIDE" OR "LEFT SIDE" IMPLY A REFERENCE TO THE DRAIN FACING UPSTREAM.

REMOVE EXISTING FENCES, LANDSCAPING, AND OTHER STRUCTURES IN RIGHT-OF-WAY OR CONSTRUCTION LIMITS AS-NEEDED FOR CONSTRUCTION. COST TO BE INCLUDED IN SITE CLEARING.

REINSTALLATION OF FENCES MUST BE COORDINATED WITH THE LAND OWNER AT THE LAND OWNER'S EXPENSE, UNLESS STATED OTHERWISE IN THE PLANS.

ALL SPRINKLER SYSTEMS DAMAGED SHALL BE REPAIRED BY CONTRACTOR. COST OF THE PAY ITEM BEING INSTALLED, UNLESS OTHERWISE NOTED.

CONTRACTOR TO CLEAR TREES WITHIN THE RIGHT-OF-WAY OR CONSTRUCTION LIMITS AS NECESSARY TO CONSTRUCT PROJECT AND LEVEL SPOILS AS SHOWN IN DETAILS. COORDINATE REMOVALS WITH THE ENGINEER/LANDOWNER.

ROADS, DRIVEWAYS AND SIDEWALKS

ALL JOINTS AT INTERSECTION APPROACHES AND DRIVEWAYS SHALL BE SAW-CUT WITH BUTT-JOINTS.

FOR OPEN CUT PAVEMENT REMOVAL, CONTRACTOR SHALL SAW CUT THE EXISTING PAVEMENT FULL DEPTH PRIOR TO REMOVAL.

ALL DRIVING SURFACES ARE TO BE RESTORED TO IN-KIND DEPTH AND MATERIAL, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

PROTECT ALL ROADS NOT SPECIFIED TO BE REMOVED DURING CONSTRUCTION. REPAIR ANY UNAUTHORIZED DAMAGE AT CONTRACTOR'S EXPENSE.

BROKEN CONCRETE AND DEBRIS SHALL BE CONSIDERED WASTE AND SHALL BE DISPOSED OF BY THE CONTRACTOR OFF-SITE. COST SHALL BE INCLUDED IN THE OTHER PAY ITEMS OF THE PROJECT.

MATCH EXISTING TYPE FOR CONCRETE CURB AND GUTTER RESTORATION.

CONTRACTOR SHALL REMOVE AND REPLACE ALL STREET AND TRAFFIC SIGNAGE AS NECESSARY FOR CONSTRUCTION. ALL COST SHALL BE INCLUDED IN THE BID PRICE FOR SITE CLEARING.

CONTRACTOR SHALL COORDINATE LOCATION OF ANY ACCESS ROADS WITH THE LANDOWNER AND THE ENGINEER. ANY ACCESS ROAD SHALL BE REPAIRED TO THE OWNER'S SATISFACTION.

ALL WORK WITHIN THE ROAD RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND GENERAL SPECIFICATIONS OF THE AGENCY WITH JURISDICTION OVER THE ROAD.

MAIL BOXES

CONTRACTOR SHALL REMOVE AND TEMPORARILY RELOCATE ALL EXISTING MAIL BOXES AS NEEDED FOR CONSTRUCTION. COSTS TO BE INCLUDED IN THE UNIT PRICE BID FOR SITE CLEARING.

ALL TEMPORARILY RELOCATED MAIL BOXES, STREET AND TRAFFIC SIGNS TO BE REINSTALLED TO ORIGINAL LOCATIONS AS CONSTRUCTION ALLOWS. COSTS TO BE INCLUDED IN THE UNIT PRICE BID FOR CLEANUP AND RESTORATION.

UTILITIES

UTILITIES LOCATED IN THE ROAD AND DRAIN RIGHTS-OF-WAY WILL BE RELOCATED BY OTHERS, UNLESS OTHERWISE NOTED ON THE PLANS.

THE PUBLIC WORKS COMMISSIONER'S MINIMUM CLEARANCE STANDARDS SHALL BE MET WHENEVER RELOCATING EXISTING UTILITIES WITHIN THE DRAIN RIGHT-OF-WAY.

ALL WATER VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADE. COST SHALL BE INCLUDED IN THE PAY ITEM BEING INSTALLED.

ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

ALL MANHOLE RIMS IN ROADWAYS AND DRIVES SHALL BE ADJUSTED PRIOR TO FINAL PAVING TO BE FLUSH WITH FINISHED GRADE.

GRADING AROUND MANHOLES/CATCHBASINS, FLARED END SECTIONS, AND OTHER INLETS SHALL BE SMOOTH AND SHAPED TO PROVIDE POSITIVE DRAINAGE INTO THE INLETS.

DEMOLISH EXISTING STRUCTURE(S) AND DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. COST TO BE INCLUDED WITH THE ITEM BEING INSTALLED AS DIRECTED BY OWNER/ENGINEER.

CONTRACTOR SHALL CONNECT ANY AND ALL FIELD TILE OUTLETS AND OTHER STORM LEADS TO PROPOSED STORM SEWER WITH PREMANUFACTURED TEES, WYES, GASKETS, SEALS, COUPLERS, BOOTS, ETC. PER SPECIFICATIONS.

SOIL EROSION SEDIMENT CONTROL

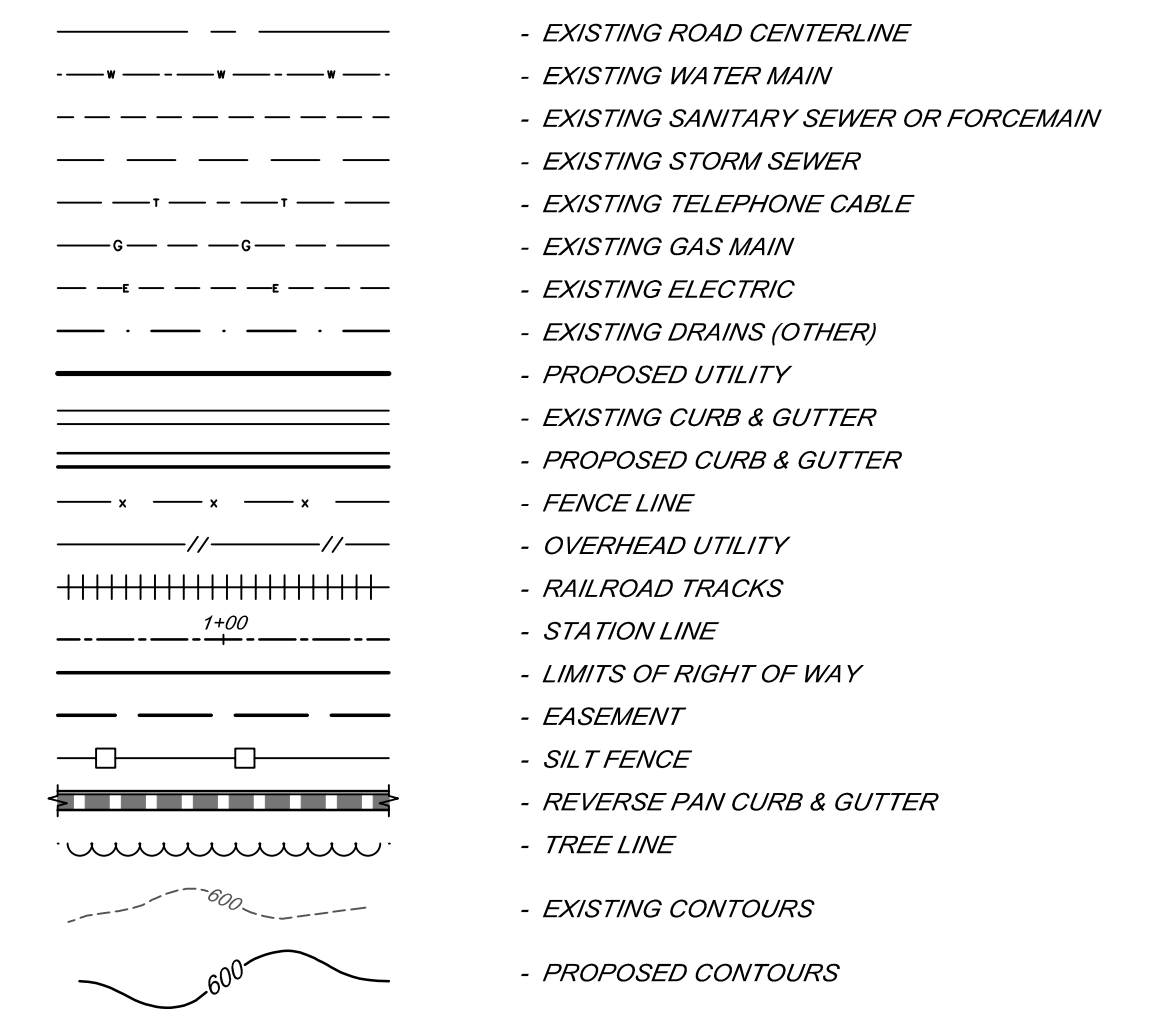
ALL RIPRAP MATERIAL SHALL BE APPROVED BY THE ENGINEER. OWNER AND ENGINEER RESERVES THE RIGHT TO REJECT ANY AND ALL RIPRAP.

CONTRACTOR SHALL FINISH GRADE, SEED, FERTILIZE, AND MULCH DAILY ON ALL DISTURBED AREAS AS DESCRIBED IN THE SPECIFICATIONS.

ABBREVIATIONS

- BC = BACK OF CURB
- BM = BENCH MARK
- CB = CATCH BASIN
- C/C = CENTER TO CENTER
- CJ = CONSTRUCTION JOINT
- CL = CENTERLINE
- CMP = CORRUGATED METAL PIPE
- CONC = CONCRETE
- CORR = CORRUGATED
- CSP = CORRUGATED STEEL PIPE
- DI = DUCTILE IRON PIPE
- EF = EACH FACE
- ELEC = ELECTRIC
- EL OR ELEV = ELEVATION
- EOM = EDGE OF METAL
- EOP = EDGE OF PAVEMENT
- EQ/SP = EQUALLY SPACED
- ESMT = EASEMENT
- EW = EACH WAY
- EX OR EXIST = EXISTING
- FES = FLARED END SECTION
- FF = FINISH FLOOR
- FG = FINISH GROUND
- FL = FLOW LINE
- FS = FINISH SURFACE
- FT = FEET
- GALV = GALVANIZED
- G = GUTTER
- GA = GAUGE
- HOG = HOT DIP GALVANIZED
- HDPE = HIGH DENSITY POLYETHYLENE
- HMA = HOT MIX ASPHALT
- HOR = HORIZONTAL
- HP = HIGH POINT
- HYD = HYDRANT
- INV = INVERT
- LP = LOW POINT
- OC = ON CENTER
- OH = OVERHEAD
- MH = MANHOLE
- MIN = MINIMUM
- MON = MONUMENT
- NFL = NOT FIELD LOCATED
- NTS = NOT TO SCALE
- PROP = PROPOSED
- PVC = POLYVINYL CHLORIDE
- RCP = REINFORCED CONCRETE PIPE
- ROW = RIGHT OF WAY
- SAN = SANITARY
- SB = SOIL BORING
- SS = STAINLESS STEEL
- STA = STATION
- STM = STORM
- SWR = SEWER
- T/B = TOP AND BOTTOM
- TC = TOP OF CURB
- TOB = TOP OF BANK
- TOS = TOE OF SLOPE
- TELE = TELEPHONE
- TRW = TOP OF RETAINING WALL
- TW = TOP OF WALK
- UG = UNDERGROUND
- UNO = UNLESS NOTED OTHERWISE
- VERT = VERTICAL
- WM = WATER MAIN
- WSEL = WATER SURFACE ELEVATION

LINE TYPE LEGEND



SYMBOL LEGEND

EXISTING SYMBOLS

- - MANHOLE
- ⊗ - CATCH BASIN
- ⊕ - CURB CATCH BASIN
- ⊕ - FIRE HYDRANT
- ⊕ - GAS VALVE
- ⊕ - WATER VALVE
- ⊕ - TELEPHONE PEDESTAL
- - POWER POLE
- ⊕ - TELEPHONE POLE
- ⊕ - POWER AND TELEPHONE POLE
- ⊕ - LIGHT POLE
- ⊕ - GUY ANCHOR AND POLE
- - MAIL BOX
- ⊕ - WATER METER
- ⊕ - TELEPHONE MANHOLE
- ⊕ - ELECTRIC MANHOLE
- ⊕ - MONITORING WELL
- ⊕ - HAND HOLE
- ⊕ - TRANSFORMER
- - ELECTRICAL PEDESTAL
- ⊕ - BARRIER FREE PARKING
- ⊕ - SPRINKLER
- ⊕ - RAILROAD SIGNAL
- ⊕ - ANTENNA
- ⊕ - SATELLITE DISH
- ⊕ - AIR CONDITIONING UNIT
- ⊕ - SOIL BORING
- ⊕ - CONTROL POINT
- ⊕ - BENCH MARK
- ⊕ - FOUND SURVEY CORNER
- - SET 1/2" IRON ROD
- - 1/4 SECTION CORNER
- ⊕ - BREAK IN LINE
- ⊕ - EXISTING SIGN-1 POST
- ⊕ - EXISTING SIGN-2 POST
- ⊕ - STUMP
- ⊕ - WETLANDS
- ⊕ - PINE
- ⊕ - BUSH
- ⊕ - TREE

PROPOSED SYMBOLS

- - MANHOLE
- ⊕ - CATCHBASIN
- ⊕ - FIRE HYDRANT
- ⊕ - WATER VALVE
- ⊕ - BARRIER FREE PARKING
- ⊕ - LIGHT POLES
- ⊕ - DRAINAGE FLOW
- ⊕ - SPOT ELEVATION LABELS
- ⊕ - G = GUTTER
- ⊕ - TW = WALK
- ⊕ - TC = TOP OF CURB
- ⊕ - FS = FINISH SURFACE

PROJECT DATUM			
HORIZONTAL:	STATE PLANE SOUTH MI 83 2113		
VERTICAL:	NORTH AMERICAN VERTICAL DATUM 88		
BY	MARK	REVISIONS	DATE

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

**NEW TAMARACK DRAIN
SAGINAW COUNTY, MICHIGAN**

**CONTACTS, GENERAL NOTES,
LINE TYPE LEGEND**



SAGINAW OFFICE
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DE. BY: POC/DO	CH. BY: LDO	PROJECT NO.
DR. BY: MJC	APP. BY: NDC	1344885G2023
STDS.	SHEET 02 OF 18	DR 02
DATE: APRIL, 2024	FILE NO. DR-4625-02	
SCALE: NOT TO SCALE		

EROSION CONTROL MEASURES

KEY	SESC MEASURE	SYMBOL	WHERE USED
1	Seeding		When bare soil is exposed, temporarily or permanently, to erosive forces from wind and/or water on flat areas, mild slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles.
2	Mulch		On flat areas, slopes, grassed waterways and spillways, diversion ditches and dikes, borrow and stockpile areas, and spoil piles when areas are subject to raindrop impact, and erosive forces from wind or water.
7	Storm Drain Inlet Protection		Around the entrance to a catch basin or an inlet that will capture runoff from an earth change activity.
15	Riprap		Along drain banks, shorelines, or where concentrated flows occur. Slows velocity, reduces erosion and sediment load.
16	Riprap Toe of Slope		Riprap toe of slope protection is used in areas where velocities are causing drain bank erosion and are too high to stabilize using other methods.
18	Reinforced Vegetated Spillway		When slope failure at eroded outfalls are observed or are likely to occur from concentrated runoff on very shallow slopes (where flow velocities will be low enough not to undermine the reinforced grass root structure).
19	Armored Spillway		When concentrated flow must be conveyed down a drain bank or slope or discharge into another drain. Where slope failure or channel scour is observed or is likely to occur, or when runoff must be redirected around work in the drain.
23	Outfall Stabilization		In the stream or drain bank usually above the ordinary high water mark where an enclosed drain or tile discharges to an open drain.
26	Dust Control		As a temporary measure on exposed and unstabilized areas that must be protected from wind or water erosion.
28	Stone Construction Access		At locations where construction equipment will enter and exit the drain easement and tracking of soil is anticipated.

ROUTINE MAINTENANCE ACTIVITIES

KEY	BEST MANAGEMENT PRACTICE	SESC PLAN
A	Debris Removal	NO
B	Sediment Removal	> 100 FEET
C	Stormwater Basin Maintenance	NO
D	Drain Crossing Maintenance	NO
E	Enclosed Drain Maintenance	NO

DETAILED DRAWINGS AND SPECIFICATIONS ARE LOCATED IN THE MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS SOIL EROSION AND SEDIMENTATION CONTROL AUTHORIZED PUBLIC AGENCY PROCEDURES MANUAL.

SYMBOLGY FOR INSERTION INTO CONSTRUCTION DRAWINGS:

= PERMANENT MEASURE

= TEMPORARY MEASURE

GENERAL TIMING & SEQUENCE

INSTALL TEMPORARY CONTROL MEASURES
SITE CLEARING
OPEN CHANNEL CONSTRUCTION
RESTORATION
INSTALL AND ESTABLISH PERMANENT CONTROL MEASURES
REMOVE TEMPORARY CONTROL MEASURES

GENERAL TIMING & SEQUENCE

ALL PROPOSED CHANNEL EXCAVATION ACTIVITIES FOR THIS PROJECT MUST ADHERE TO THE FOLLOWING SEQUENCE.

- CONTRACTOR MUST CLEAR THE DRAIN CHANNEL AND RIGHT-OF-WAY AS NOTED PLANS. THIS INCLUDES ALL DEBRIS AND STUMP REMOVAL AS NOTED ON PLANS. CONTRACTOR MUST VERIFY WITH ENGINEER THAT CLEARING REQUIREMENTS HAVE BEEN MET PRIOR TO MOVING FORWARD WITH EXCAVATION.
- DRAIN EXCAVATION STAKES WILL BE PLACED FOLLOWING APPROVAL OF SITE CLEARING.
- CONTRACTOR IS TO PERFORM PROPOSED EXCAVATION ACTIVITIES REQUIRED TO OBTAIN PROPOSED GRADES AND SIDE SLOPES AS DESIGNATED ON PLANS.
- CONTRACTOR MUST PERFORM DAILY RAKING, SEEDING, AND MULCHING OF DRAIN BANKS AND SPOILS.
- ENGINEER WILL STAKE ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES ALONG PORTIONS OF DRAIN THAT HAVE BEEN EXCAVATED DURING ROUTINE INSPECTIONS.
- CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING SOIL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE ENTIRE PROJECT.
- FINAL PAYMENT WILL BE MADE ONCE ALL DRAIN BANKS, SPOILS, AND DISTURBED AREAS HAVE ESTABLISHED VEGETATION GROWING. ALL LAWN AREAS MUST BE RESTORED TO IN KIND CONDITIONS PRIOR TO FINAL PAYMENT.

SAGINAW COUNTY	
SOIL CLASS	SOIL COMPOSITION
10C	GRATTAN SAND, 4 TO 12 PERCENT SLOPES
12	CORUNNA SANDY LOAM
13	BELLEVILLE FINE SAND
14	PELLA SILT LOAM
17B	FRANKENMUTH VERY FINE SANDY LOAM, 0 TO 4 PERCENT SLOPES
26A	PIPESTONE SAND, LOAMY SUBSTRATUM, 0 TO 3 PERCENT SLOPES
29	SLOAN SILT LOAM, FREQUENTLY FLOODED
31A	PIPESTONE SAND, ERIE-HURON LAKE PLAIN, 0 TO 3 PERCENT SLOPES
33	GRANBY FINE SAND
44	SLOAN-CERESCO COMPLEX, FREQUENTLY FLOODED
57B	PELLA-FRANKENMUTH COMPLEX, 0 TO 4 PERCENT SLOPES
58B	COVERT SAND, 1 TO 6 PERCENT SLOPES
60B	ARKONA SAND, 0 TO 4 PERCENT SLOPES
64A	SANILAC VERY FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES
70	UDIPSAMMENTS, UNDULATING
71	UDORTHENTS, LOAMY, NEARLY LEVEL TO STEEP
77	CHESANING-COHOCTAH COMPLEX, FREQUENTLY FLOODED
78	FLUVAQUENTS, FREQUENTLY FLOODED
82	GRANBY SAND, LOAMY SUBSTRATUM
89	ROUNDHEAD MUCK
95	SLOAN-CERESCO COMPLEX, RARELY FLOODED
96	CHESANING-COHOCTAH COMPLEX, RARELY FLOODED
98A	POSEYVILLE LOAMY FINE SAND, 0 TO 3 PERCENT SLOPES
124A	SELFRIDGE LOAMY SAND, 0 TO 3 PERCENT SLOPES
MgaaA	MISTEGUAY SILTY CLAY, 0 TO 1 PERCENT SLOPES, RARELY FLOODED
W	WATER
Zwaaa	ZILWAUKEE AND MISTEGUAY SILTY CLAYS, 0 TO 1 PERCENT SLOPES, RARELY FLOODED
Zwaba	ZILWAUKEE AND MISTEGUAY SILTY CLAYS, 0 TO 1 PERCENT SLOPES, FREQUENTLY FLOODED

MAINTENANCE PROGRAM FOR SESC MEASURES

GENERAL MAINTENANCE

- CONTRACTOR SHALL MAINTAIN ALL PERMANENT SESC MEASURES FOR A PERIOD OF 1 YEAR FOLLOWING THEIR INSTALLATION.
- TEMPORARY SESC MEASURES MUST BE INSTALLED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.
- TEMPORARY MEASURES MUST BE MAINTAINED AND IN PLACE UNTIL AREAS ARE PERMANENTLY STABILIZED.
- PERMANENT MEASURES MUST BE INSTALLED AND MAINTAINED BY THE CONTRACTOR UNTIL FINAL COMPLETION.
- DAILY MAINTENANCE IS THE CONTRACTOR'S RESPONSIBILITY.
- TEMPORARY SESC MEASURES MUST BE REMOVED AT THE END OF THE PROJECT ONCE PERMANENT MEASURES ARE ESTABLISHED.
- TEMPORARY SESC MEASURES MUST BE INSTALLED PRIOR TO OR AT THE TIME OF EARTH DISTURBANCE.
- INSPECT WEEKLY AND AFTER EACH RAIN EVENT UNTIL VEGETATION HAS BEEN ESTABLISHED.
- IF NECESSARY, REPAIR AND RE-SEED OR REPLANT ERODED AREAS IMMEDIATELY.

SEEDING AND MULCHING

- SEEDING PRACTICES INCLUDE TOPSOIL (AS DIRECTED BY ENGINEER), SEED, POLYMER, AND MULCH OR MULCH MATTING (AS DIRECTED BY ENGINEER OR WHERE SHOWN ON PLANS).
- WHERE NECESSARY, APPROPRIATE MULCH MUST BE APPLIED BASED ON SLOPE AND GROWING CONDITIONS AS APPROVED BY THE PROJECT ENGINEER.
- ALL SLOPES AND HIGHLY ERODIBLE AREAS MUST BE SEEDED, POLYMER APPLIED AND MULCHED AS NEEDED WHEN CONSTRUCTION ACTIVITY IS NOT TAKING PLACE.
- SEED AND MULCH IS TO BE INSPECTED DAILY FOLLOWING EACH RAIN EVENT TO DETERMINE IF CONCENTRATED FLOWS ARE PRESENT.
- IN THE EVENT THAT SEED AND MULCH ARE REMOVED BY ERODIBLE RUNOFF, REPAIRS ARE TO BE MADE IMMEDIATELY.
- ALL AREAS DURING CONSTRUCTION MUST BE PERMANENTLY STABILIZED WITHIN 72 HOURS OF FINAL GRADE (GRADE LISTED ON PLAN).

STORM DRAIN INLET PROTECTION

- INSPECT ROUTINELY AND FOLLOWING A PRECIPITATION EVEN THAT RESULTS IN RUNOFF UNTIL SEDIMENT FILTER IS REMOVED.
- ROUTINELY REMOVE SEDIMENT ACCUMULATION.
- REPAIR AND / REPLACE CONTROL MEASURES AS NEEDED.

STABILIZED CONSTRUCTION ACCESS

- INSPECT WEEKLY AND AFTER EACH RAINFALL.
- WHEN CONSTRUCTION ACCESS IS NO LONGER EFFECTIVE, SCRAPE THE TOP LAYER AND ADD 2" OF AGGREGATE.

COMPLIANCE WITH PART 91 OF PA 451

- RESPOND IMMEDIATELY TO STORMWATER OPERATOR AND/OR SOIL EROSION AND SEDIMENTATION CONTROL INSPECTOR CONCERNS. MAKE CORRECTIVE MEASURES AS REQUIRED IMMEDIATELY AS DETAILED BY THE APPROVED APA MANUAL(S).

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- INSTALL AND MAINTAIN ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THE APPROVED PLAN PRIOR TO COMMENCEMENT OF CONSTRUCTION OR MASS GRADING. ALL SESC MEASURES MUST BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE NEW TAMARACK DRAIN SESC PLAN AND PROJECT SPECIFICATIONS.
- SOIL EROSION CONTROL MEASURES MUST BE INSPECTED BY A STATE CERTIFIED INSPECTOR AFFILIATED WITH THE COUNTY DRAIN COMMISSIONER'S OFFICE PRIOR TO COMMENCEMENT OF CONSTRUCTION OR MASS GRADING.
- DAILY INSPECTION AND MAINTENANCE MUST BE MADE TO ENSURE ALL EROSION CONTROL MEASURES ARE FUNCTIONING PROPERLY AND INTACT. NECESSARY REPAIRS MUST BE PERFORMED WITHIN 24 HOURS.
- ADDITIONAL SOIL EROSION CONTROL MEASURES MUST BE PROVIDED THROUGHOUT CONSTRUCTION ACTIVITY AS NEEDED AND DETERMINED BY THE AP/ENGINEER. THE SOIL EROSION AND SEDIMENTATION CONTROL PLAN IS TO BE AMENDED TO INCLUDE ADDITIONAL EROSION CONTROL MEASURES IMPLEMENTED ON-SITE.
- SEDIMENT FROM WORK ON THIS SITE IS TO BE CONTAINED ON THE SITE AND IS NOT TO BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MANMADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, PONDS, AND WETLANDS.
- ALL VISUAL TRACKING INCLUDING MUD, DIRT, AND DEBRIS TRACKED ONTO EXISTING ROADWAYS MUST BE IMMEDIATELY REMOVED NO LESS THAN ON A DAILY BASIS BY SCRAPING AND SWEEPING AND/OR AS DIRECTED BY THE ENGINEER OR APA.
- DUST CONTROL MUST BE EXERCISED AT ALL TIMES DURING THE PROJECT AND AS DIRECTED BY THE ENGINEER OR APA. APPLY DUST SUPPRESSANT TO SURFACES USING A PRESSURE TYPE WATER DISTRIBUTOR TRUCK EQUIPPED WITH A SPRAY SYSTEM.
- ALL PERMANENT SOIL EROSION CONTROL MEASURES MUST BE IN PLACE WITHIN 24 HOURS OF FINAL GRADING (GRADE LISTED ON PLANS). THIS INCLUDES ALL VEGETATIVE STABILIZATION. VEGETATIVE STABILIZATION WILL BE ONGOING. TOPSOIL, FERTILIZER, SEED, POLYMER, SILT STOP (OR EQUAL), MULCH AND OR RIPRAP MUST BE IN PLACE BEFORE PROCEEDING TO THE NEXT WORK AREA. ALL TEMPORARY MEASURES SUCH AS SILT FENCE AND INLET PROTECTION BAGS ARE TO BE REMOVED ONCE PERMANENT SESC MEASURES ARE IN PLACE AND VEGETATION IS ESTABLISHED. REMOVAL OF TEMPORARY MEASURES, FOLLOWING ACCEPTANCE OF THE PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- PRIOR TO WINTER CONSTRUCTION, ALL EXPOSED SOILS MUST BE STABILIZED WITH A COMBINATION OF SILT STOP 705 POLYMER BLEND, NORTH AMERICAN GREEN EROSION CONTROL BLANKETS, MULCH, OR OTHER APPROVED METHOD IF VEGETATION COULD NOT BE ESTABLISHED DURING THE GROWING SEASON AS DETERMINED BY THE APA OR ENGINEER.
- WORK AREAS MUST BE STABILIZED WITH TOPSOIL, SEED, FERTILIZER, AND MULCH WITHIN 24 HOURS FOLLOWING CONSTRUCTION. VEGETATIVE STABILIZATION IS ONGOING THROUGHOUT THE PROJECT.
- ALL SOIL EROSION CONTROL MEASURES MUST BE INSPECTED DAILY. THE STORM WATER OPERATOR IS TO MAKE A WEEKLY INSPECTION OR INSPECT AFTER EACH RAIN EVENT THAT RESULTED IN A DISCHARGE TO ENSURE PROPER MAINTENANCE OF THE SOIL EROSION CONTROL MEASURES. ANY DEFICIENCIES OR REPAIRS TO SOIL EROSION CONTROL MEASURES MUST BE CORRECTED IMMEDIATELY. INLET PROTECTION MEASURES, DANDY BAG II (OR EQUAL), FLEX STORM (OR EQUAL), MUST BE INSTALLED IN CATCHBASINS BEFORE ANY STORMWATER RUNOFF IS ALLOWED TO ENTER THE TOP OF THE STRUCTURES. THE SILT AND SEDIMENT MUST BE REMOVED FROM INLET PROTECTION MEASURES AS NEEDED TO ENSURE PROPER FUNCTION OF THE BAGS.
- THE NEED FOR TEMPORARY MEASURES SUCH AS SILT FENCE AND DANDY BAG II (OR EQUAL), FLEX STORM (OR EQUAL) FOR EXISTING OR NEW CATCHBASINS MUST BE ASSESSED ON A DAILY BASIS. PIPES ARE TO BE GAPPED AT THE END OF EACH WORKDAY. AT NO TIME SHOULD SEDIMENT COLLECT IN A CATCHBASIN OR AN OFF-SITE AREA. TEMPORARY MEASURES MUST BE REMOVED ONCE PERMANENT MEASURES ARE IN PLACE AND VEGETATION IS ESTABLISHED.
- IF DEWATERING IS NECESSARY, CONTRACTOR SHALL SUBMIT A DEWATERING PLAN TO THE ENGINEER OR APA FOR APPROVAL.
- THE NOTICE OF COVERAGE (IF REQUIRED), SOIL EROSION AND SEDIMENTATION CONTROL PLAN, AND STORMWATER OPERATOR LOGS MUST BE LOCATED ON SITE AT ALL TIMES.
- ALL RESTORATION TO OCCUR WITHIN 24 HOURS OF FINAL GRADING.

CONTINUED MAINTENANCE PROGRAM FOR PERMANENT SESC MEASURES

RESPONSIBLE PARTY:	SAGINAW COUNTY PUBLIC WORKS COMMISSIONER
PERMANENT SESC MEASURE	MAINTENANCE PROCEDURE
SEEDING:	REPAIR BARE AREAS, APPLYING SUPPLEMENTAL SEED, MULCH, AND WATER AS NEEDED. MOWING CAN BE USED PERIODICALLY TO DISCOURAGE WEEDS.
RIPRAP:	REPAIR AREAS WHERE ROCK HAS BEEN DISPLACED. EXPAND RIPRAP AREA IF NEEDED.

BY	MARK	REVISIONS	DATE

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PRESENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

**NEW TAMARACK DRAIN
SAGINAW COUNTY, MICHIGAN**

SOIL EROSION AND SEDIMENTATION CONTROL PLAN

SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607
Tel: 989-754-4717
Fax: 989-754-4440
www.SpicerGroup.com

SOIL EROSION & SEDIMENTATION CONTROL PLAN

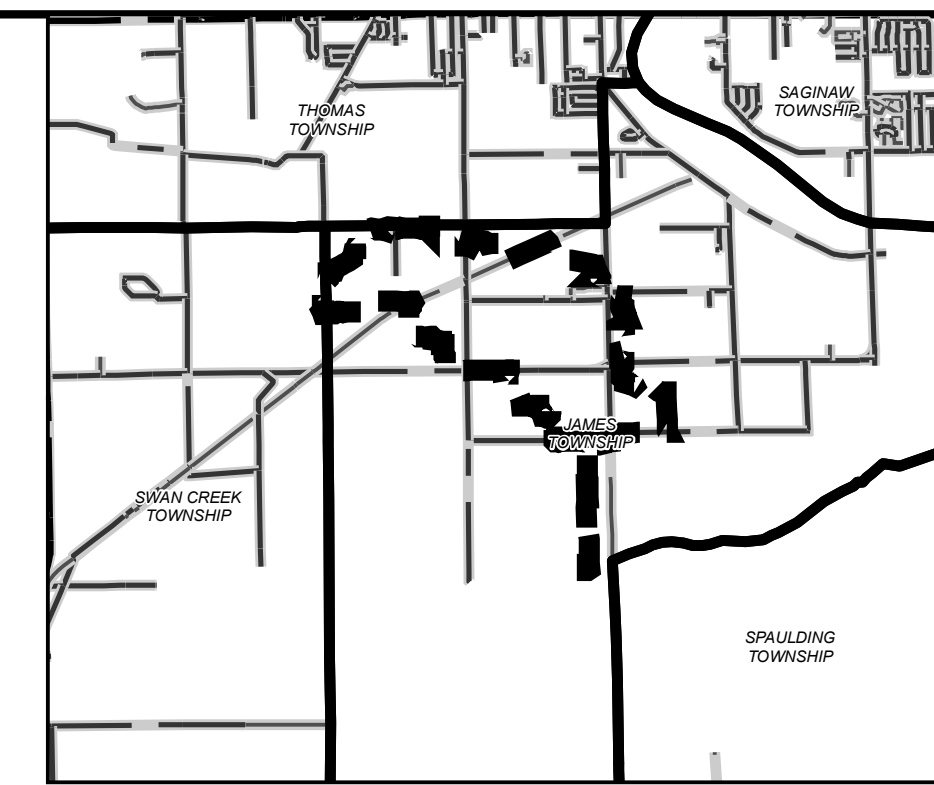
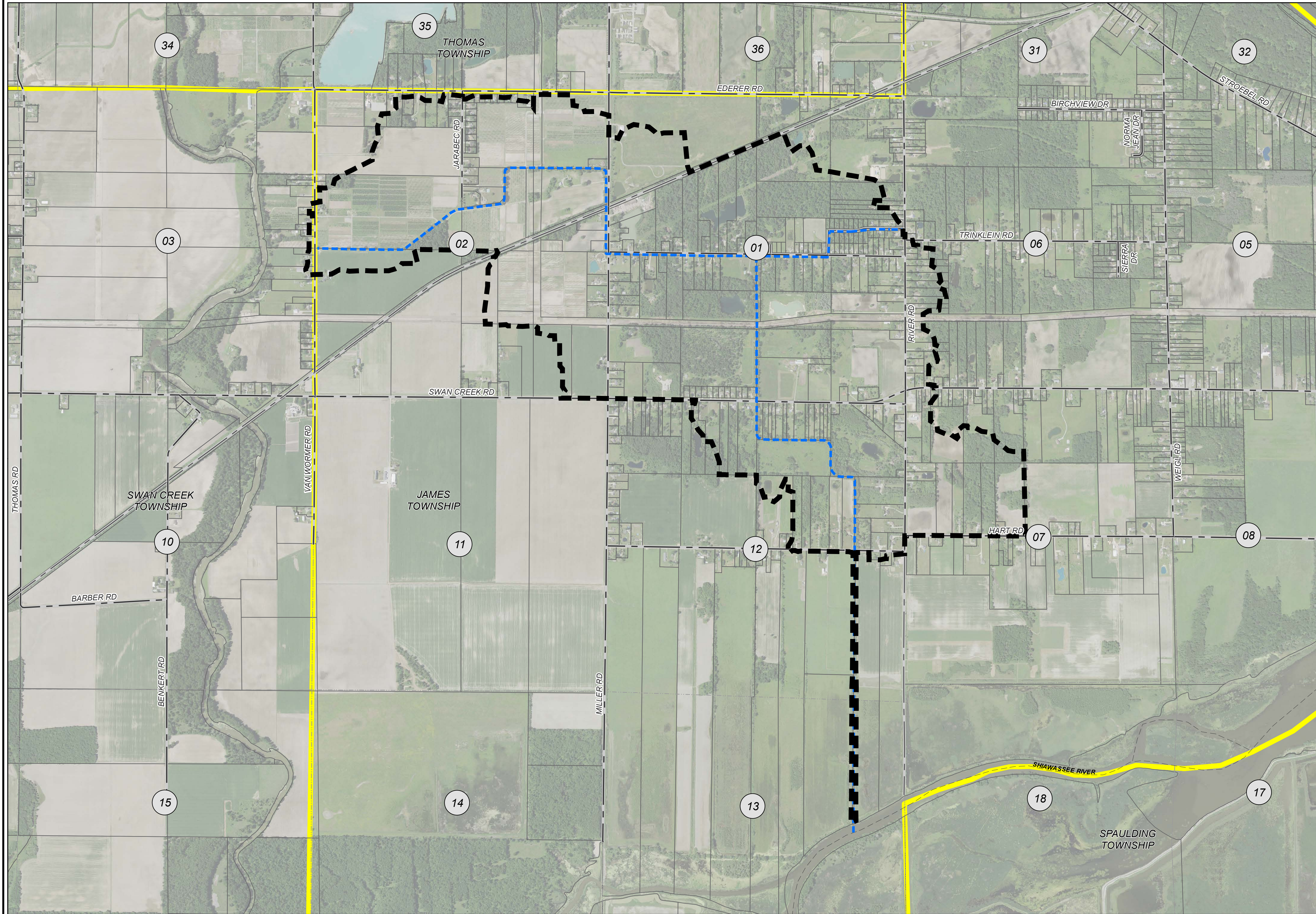
IN COMPLIANCE WITH SECTION 323.1703 OF PART 91, SOIL EROSION AND SEDIMENTATION CONTROL, OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, 1994 PA 451, AS AMENDED.

DE. BY: POC/DO	CH. BY: LJO	PROJECT NO.
DR. BY: MJC	APP. BY: NDC	1344885G2023
STDS.	SHEET 03 OF 18	DR
DATE: APRIL, 2024	FILE NO.	03
SCALE: NOT TO SCALE	DR-4625-03	

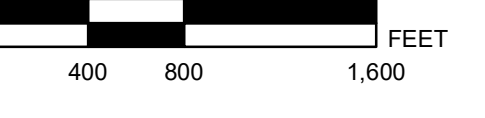
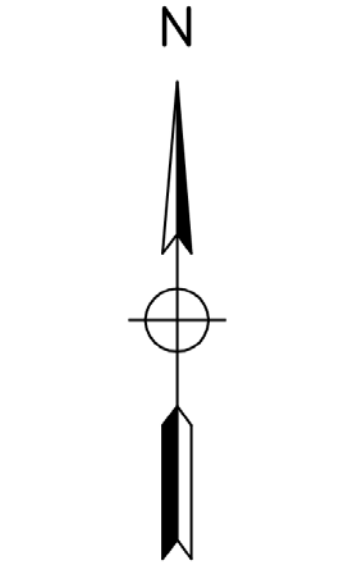
NEW TAMARACK DRAIN

SAGINAW COUNTY, MICHIGAN

SAGINAW COUNTY PUBLIC WORKS COMMISSIONER - BRIAN J. WENDLING



AREA MAP
NOT TO SCALE



LEGEND

- DRAINAGE DISTRICT BOUNDARY
- APPROXIMATE DRAIN CENTERLINE
- OUTLET WATERCOURSE
- SECTION

DRAINAGE DISTRICT BREAKDOWN

JAMES TOWNSHIP	1,231.60 AC.
SWAN CREEK TOWNSHIP	3.20 AC.
TOTAL ACREAGE IN DISTRICT	1,234.80 AC.
LENGTH OF DRAIN	
NEW TAMARACK DRAIN	26,280.64 FT.

BY	MARK	REVISIONS	DATE

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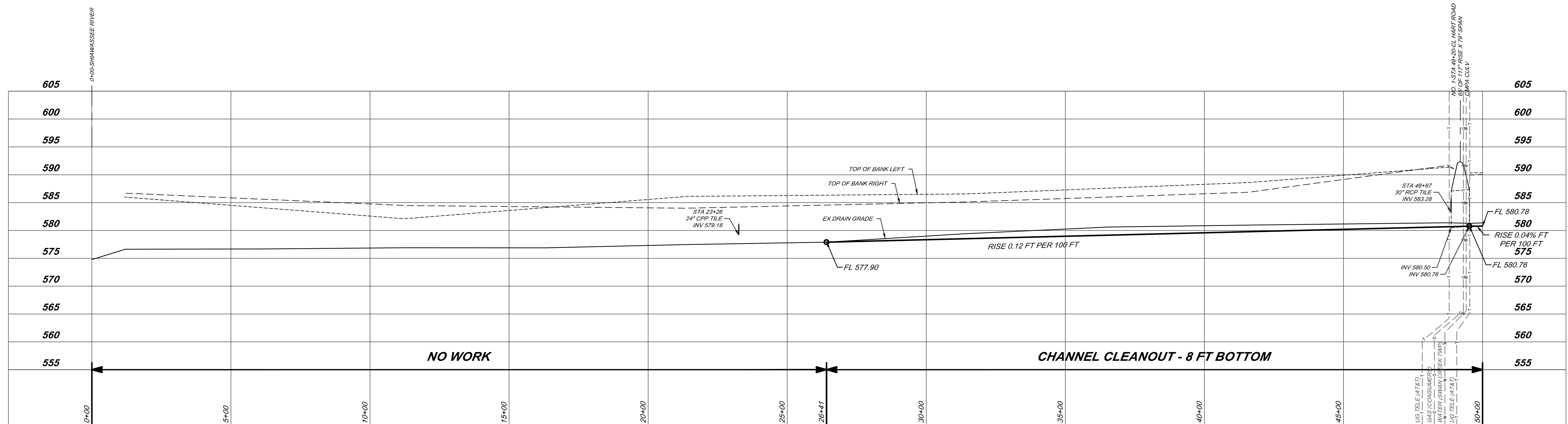
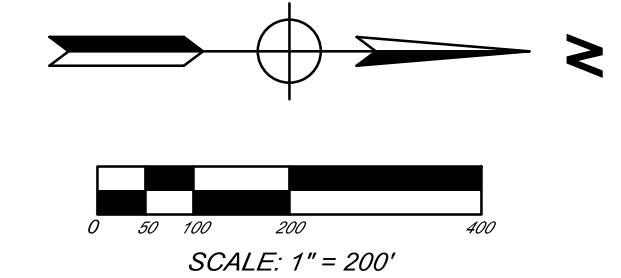
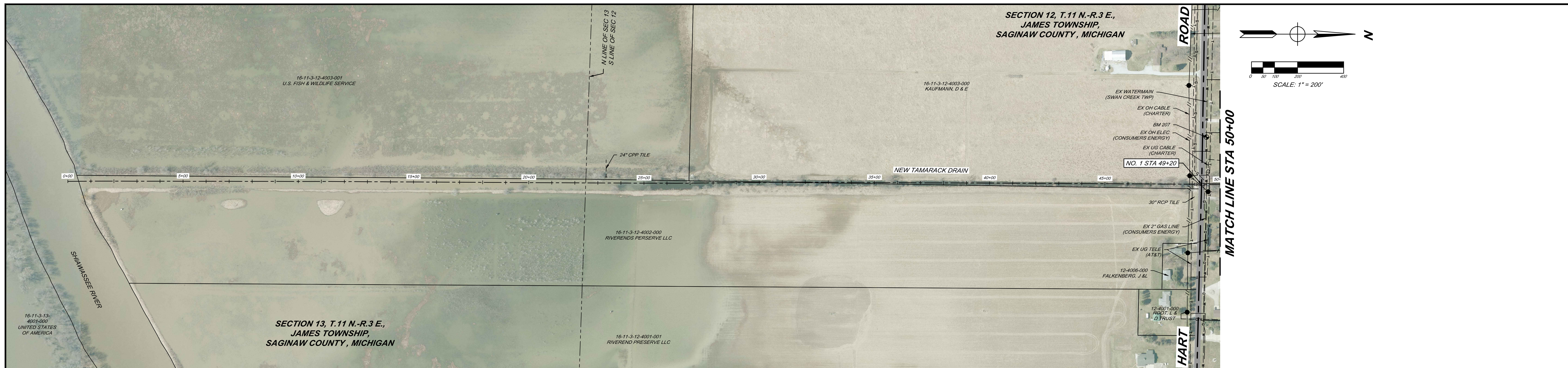
NEW TAMARACK DRAIN
SAGINAW COUNTY, MICHIGAN

DRAINAGE DISTRICT MAP

SAGINAW OFFICE
233 S. Washington Ave.
Saginaw, MI 48607
Tel. 989-754-4717
www.SpicerGroup.com

DE. BY: LDO	CH. BY: LDO	PROJECT NO.
DR. BY: JML	APP. BY: NDC	134488SG2023
STDS.	SHEET 04 OF 18	DR
DATE: APRIL 2024	FILE NO.	04
SCALE: 1" = 800'		

PATH: P:\PROJ\2023\134488\2023 - NEW TAMARACK DRAIN\GEODATA\NEW TAMARACK DRAIN\DISTRICT_MAP.AXD PRINTED ON: 4/20/24 BY: JEFFREY LEWIS



NO. 1 - STA 49+20 - HART ROAD
CLEANOUT EXISTING CROSSING

EROSION CONTROL TABLE					
KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY
1 P	0+00	50+00	BOTH	SEEDING OF ALL DISTURBED	LUMP SUM
2 T	0+00	50+00	BOTH	MULCH OF ALL DISTURBED AREAS	LUMP SUM
19 P	AS STAKED BY ENGINEER		-	RIPRAP SPILLWAY	40 LIN FT
23 P	ALL EX FIELD TILE OUTLETS AND S.O.T.		BOTH	OUTFALL STABILIZATION	2 EA

NOTE: COORDINATE INSTALLATION OF EROSION CONTROL STRUCTURES WITH ENGINEER PRIOR TO CONSTRUCTION. LOCATIONS, QUANTITIES, OR TYPES MAY VARY BASED ON FIELD DECISIONS.

SPOIL LEVELING TABLE			
STATION FROM	STATION TO	DETAIL	SIDE TO EXCAVATE FROM
26+41	49+53	"A"	BOTH
49+53	50+00	HAUL - LIMITED ACCESS	LEFT

NOTE: USE SPOIL LEVELING DETAIL "A" THROUGH FIELD AREA. USE SPOIL LEVELING DETAIL "B" THROUGH WOODED AREA. SPOILS TO BE HAULED IN LAWN AREAS.

CONSTRUCTION NOTES

- STA 26+41 to STA 49+53 - CONTRACTOR TO CLEAR TREES AND BRUSH FROM TOP OF BANK TO TOP OF BANK AND ALONG THE TOP OF EXISTING BERM WHERE PRESENT ON BOTH SIDES OF DRAIN.
- STA 49+53 TO STA 50+00 - LEFT SIDE - PROTECT EXISTING CONCRETE WHEN WORKING ALONG DRIVEWAY. ALL REPAIR COSTS ARE INCIDENTAL AND ARE THE CONTRACTOR'S RESPONSIBILITY.

BENCHMARKS

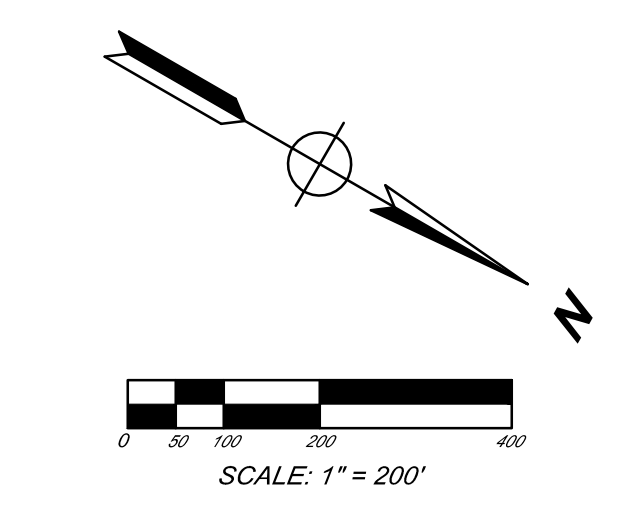
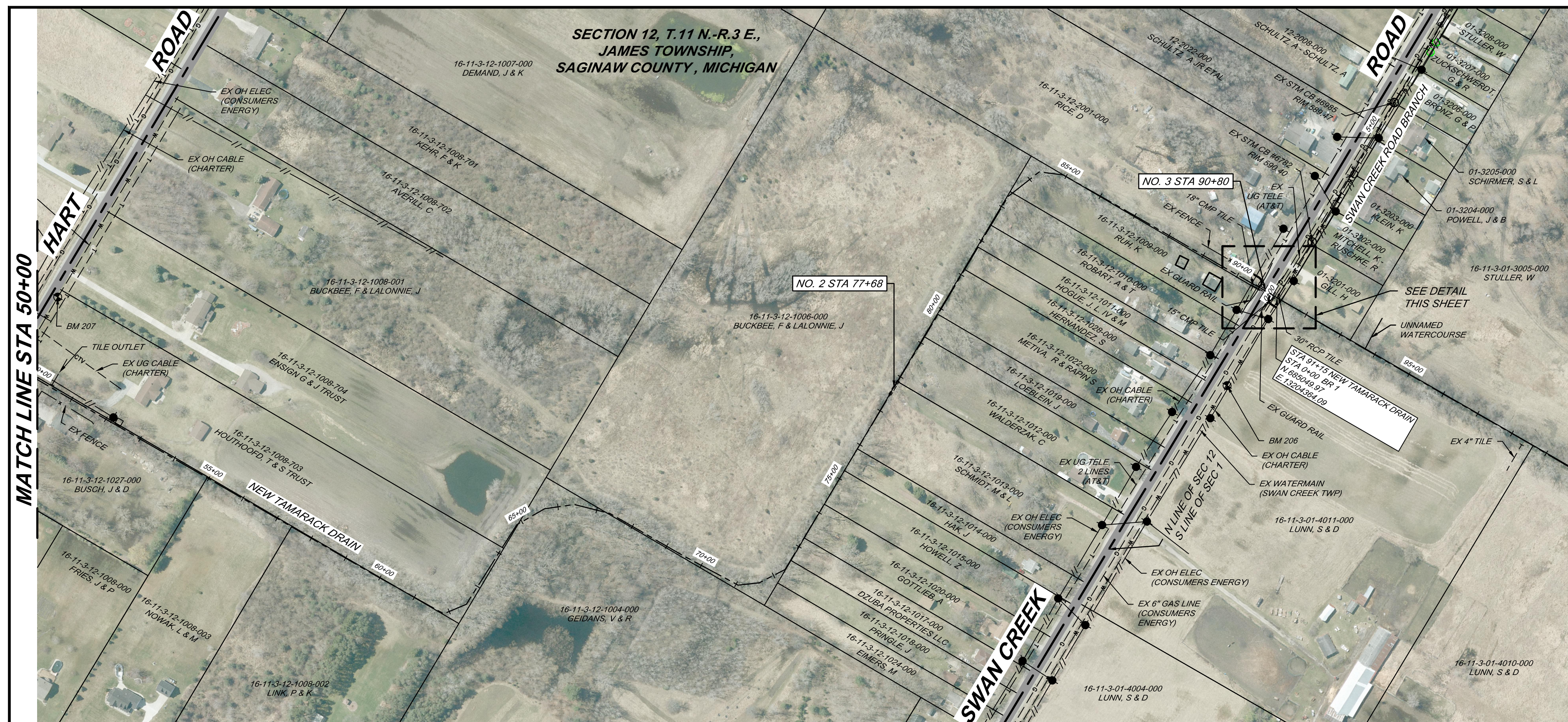
BM 207 - CHISELED "*" ON TOP OF NORTHWEST FLANGE BOLT ON HYDRANT ON THE NORTH SIDE OF HART ROAD AT HOUSE #7198

EL 591.80

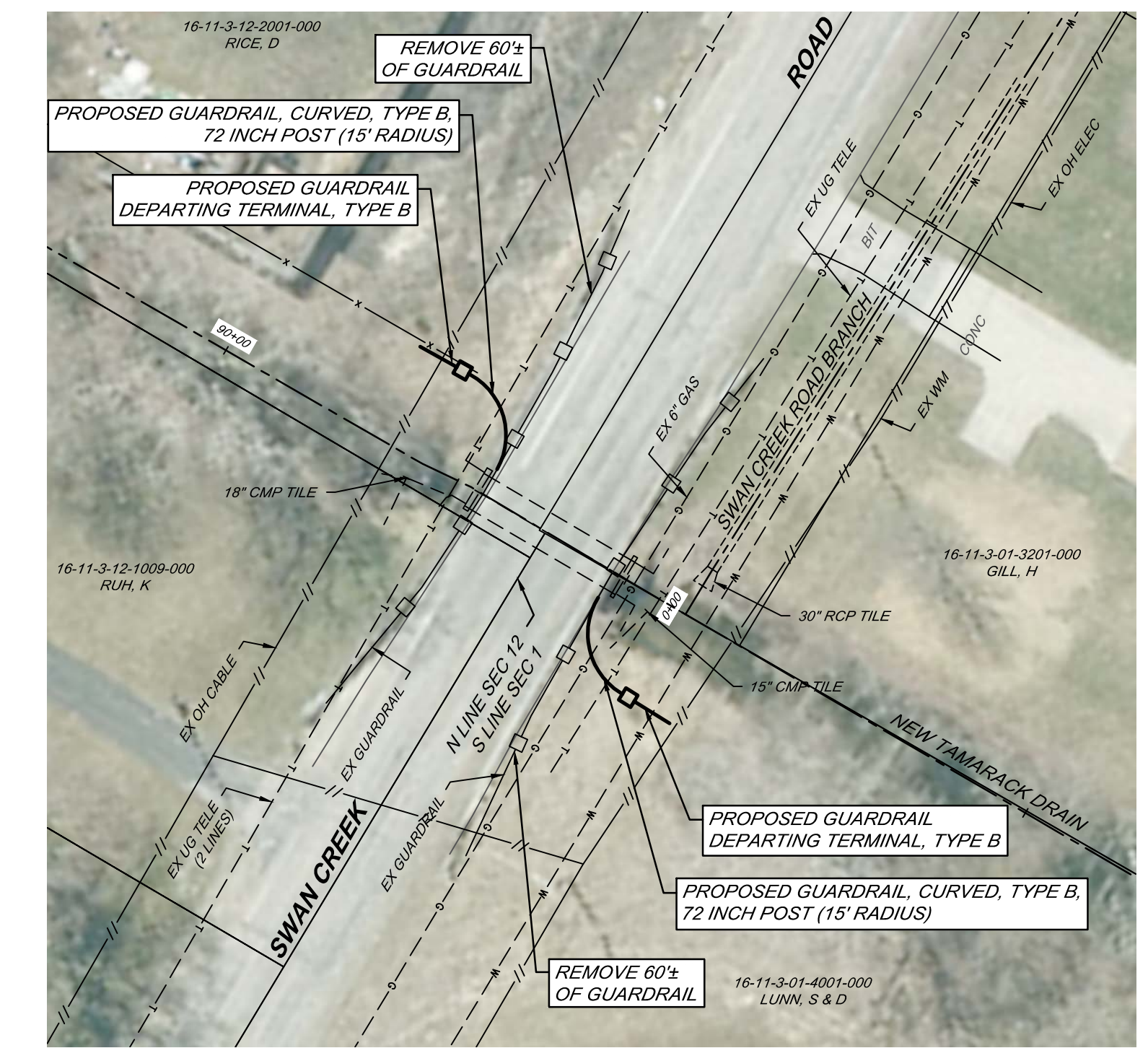
RIGHT OF WAY

NEW TAMARACK DRAIN - DRAIN RIGHT-OF-WAY IS 66' WIDE ON EACH SIDE OF CENTERLINE OF DRAIN.

BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>NEW TAMARACK DRAIN SAGINAW COUNTY, MICHIGAN</p>			
<p>PLAN AND PROFILE NEW TAMARACK DRAIN STA 0+00 TO STA 50+00</p>			
		<p>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</p>	
DE. BY: POC/LDO	CH. BY: LDO	PROJECT NO. 1344885G2023	
DR. BY: MJC	APP. BY: NDC		
STDS.	SHEET 05 OF 18	DR	
DATE: APRIL, 2024	FILE NO. DR-4625-05	05	
SCALE: H:1"=200' V:1"=10'			

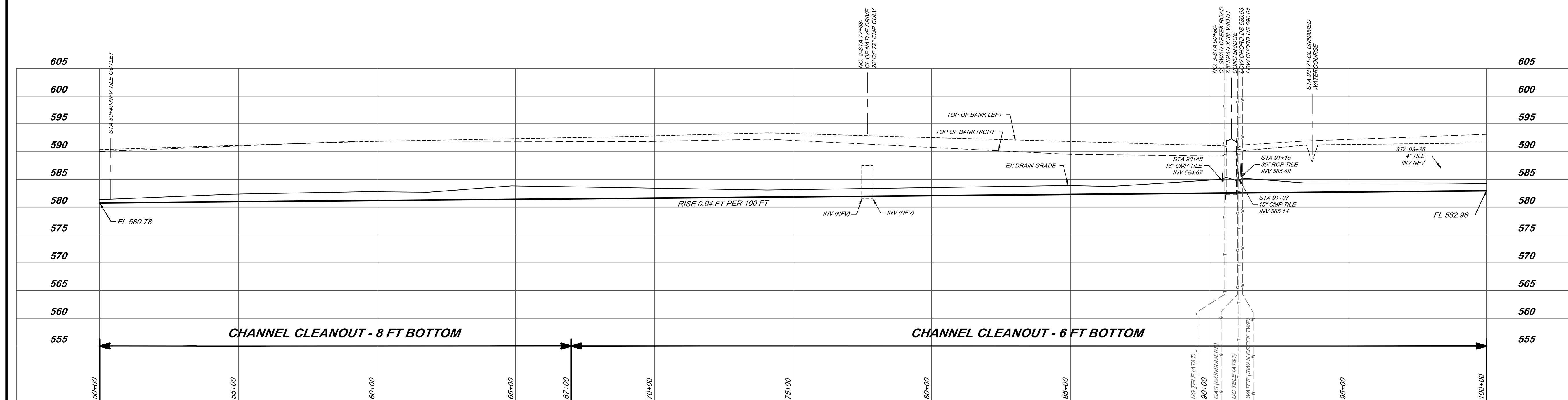


SECTION 1, T.11 N.-R.3 E.,
JAMES TOWNSHIP,
SAGINAW COUNTY, MICHIGAN



SWAN CREEK ROAD - GUARDRAIL DETAIL

SCALE: 1"=30'
NOTE:
TOTAL LINEAR FEET OF GUARDRAIL REMOVAL TO BE FIELD DETERMINED.



NO. 2 - STA 77+68 - BUCKBEE, F AND SCHMIDT, M & L
REMOVE EXISTING CROSSING

NO. 3 - STA 90+80 - SWAN CREEK ROAD
CLEANOUT EXISTING CROSSING

EROSION CONTROL TABLE					
KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY
1 P	50+00	100+00	BOTH	SEEDING OF ALL DISTURBED	LUMP SUM
2 T	50+00	100+00	BOTH	MULCH OF ALL DISTURBED AREAS	LUMP SUM
19 P	AS STAKED BY ENGINEER	-	-	RIPRAP SPILLWAY	20 LIN FT
23 P	ALL EX FIELD TILE OUTLETS AND S.O.T.	-	BOTH	OUTFALL STABILIZATION	5 EA

NOTE: COORDINATE INSTALLATION OF EROSION CONTROL STRUCTURES WITH ENGINEER PRIOR TO CONSTRUCTION. LOCATIONS, QUANTITIES, OR TYPES MAY VARY BASED ON FIELD DECISIONS.

SPOIL LEVELING TABLE			
STATION FROM	STATION TO	DETAIL	SIDE TO EXCAVATE FROM
50+00	50+50	HAUL - LIMITED ACCESS	LEFT
50+50	55+00	HAUL - LIMITED ACCESS	RIGHT
55+00	90+80	"A"	LEFT
90+80	100+00	"A"	RIGHT

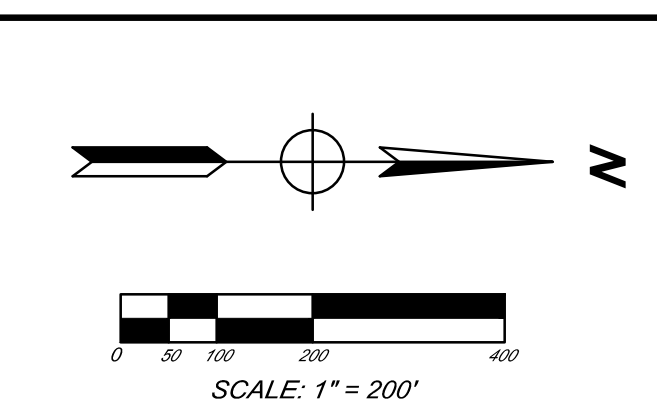
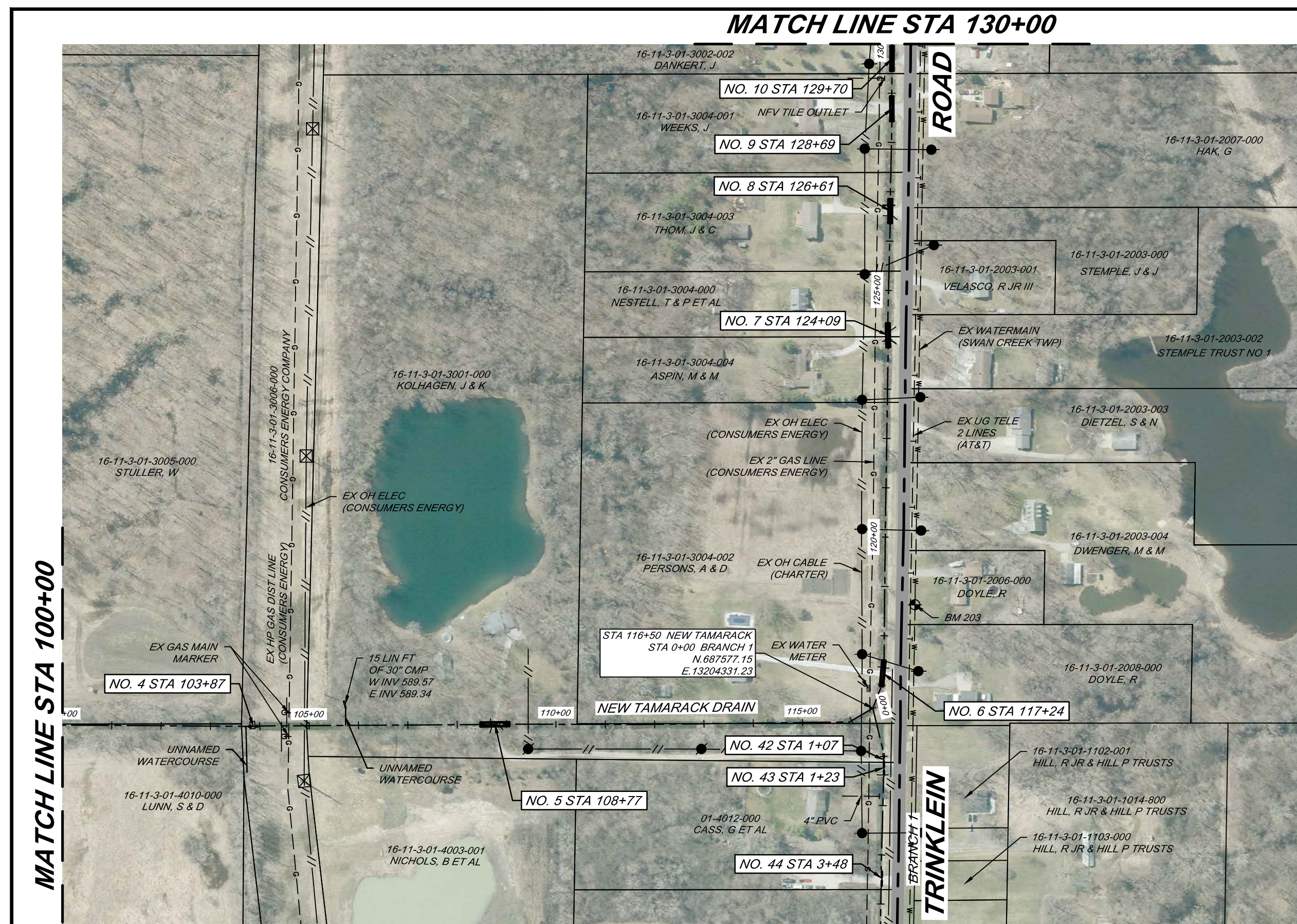
NOTE:
USE SPOIL LEVELING DETAIL "A" THROUGH FIELD AREA.
USE SPOIL LEVELING DETAIL "B" THROUGH WOODED AREA.
SPOILS TO BE HAULED IN LAWN AREAS.

- CONSTRUCTION NOTES**
- STA 50+00 TO STA 50+50 - LEFT SIDE - PROTECT EXISTING CONCRETE WHEN WORKING ALONG DRIVEWAY. ALL REPAIR COSTS ARE INCIDENTAL AND ARE CONTRACTORS RESPONSIBILITY.
 - STA 55+00 - CONTRACTOR TO INSTALL TEMPORARY 60" CULVERT TO ACCESS DRAIN ON RIGHT SIDE. LENGTH OF CULVERT TO BE DETERMINED BY CONTRACTOR. CULVERT NOT TO REMAIN IN PLACE FOR MORE THAN 30 DAYS.
 - STA 50+50 TO STA 55+00 - RIGHT SIDE - REMOVE FENCE AND OTHER OBSTRUCTIONS LOCATED WITHIN DRAIN RIGHT OF WAY AS NEEDED IN ORDER TO PERFORM WORK REQUIRED. ITEMS REMOVED TO BE STOCKPILED OUTSIDE OF DRAIN RIGHT OF WAY. UTILIZE TEMPORARY CULVERTS TO ACCESS RIGHT SIDE.
 - STA 58+50 TO STA 65+00 - CONTRACTOR TO RESTORE GRASS LANE FOLLOWING LEVELING OF SPOILS. RESTORATION INCLUDES BUT NOT LIMITED TO RACKING TO REMOVE STONES, STICKS, AND ANY OTHER DEBRIS PRIOR TO SEEDING.
 - STA 88+00 TO STA 90+50 - LEFT SIDE - CONTRACTOR TO REMOVE AND SALVAGE EXISTING FENCE. FENCE TO BE STOCKPILED OUTSIDE OF DRAIN RIGHT-OF-WAY. COST TO BE INCLUDED IN LUMP SUM PRICE BID FOR SITE CLEARING.

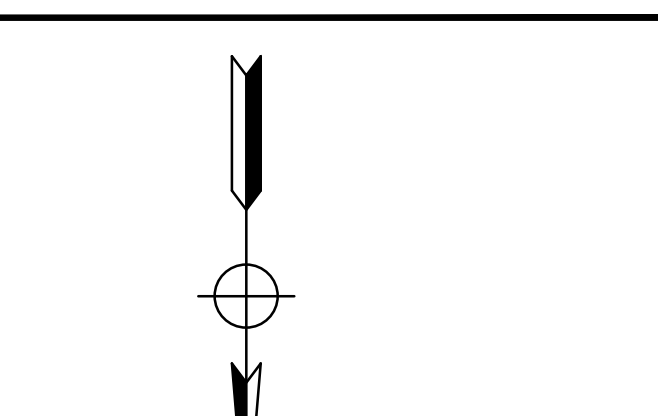
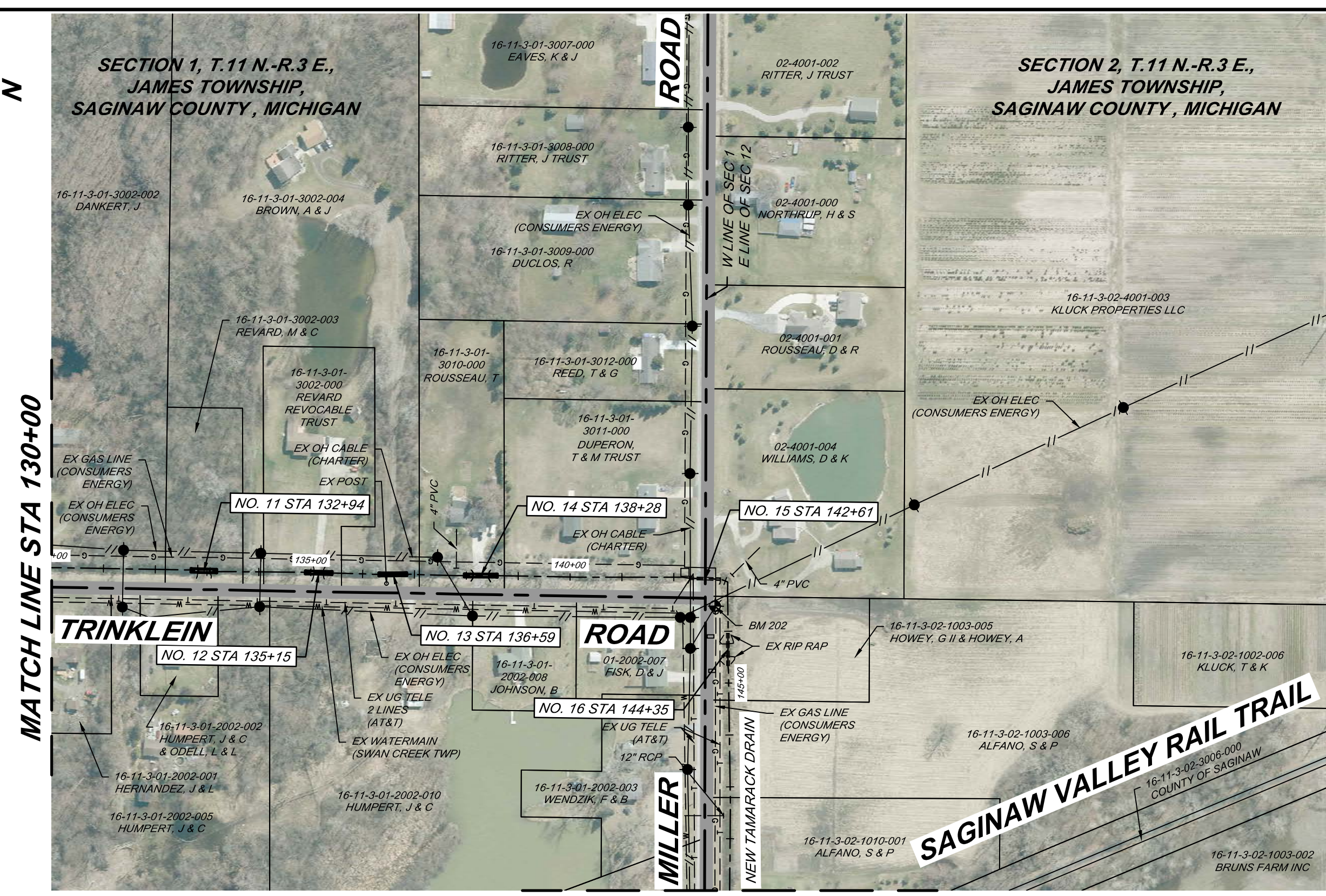
- BENCHMARKS**
- BM 206 - TOP OF NORTHEAST FLANGE BOLT ON HYDRANT ON NORTH SIDE OF SWAN CREEK ROAD OPPOSITE OF HOUSE #7455. EL 592.51
 - BM 207 - CHISELED "*" ON TOP OF NORTHWEST FLANGE BOLT ON HYDRANT ON THE NORTH SIDE OF HART ROAD AT HOUSE #7198. EL 591.80

RIGHT OF WAY
NEW TAMARACK DRAIN - DRAIN RIGHT-OF-WAY IS 66' WIDE ON EACH SIDE OF CENTERLINE OF DRAIN.

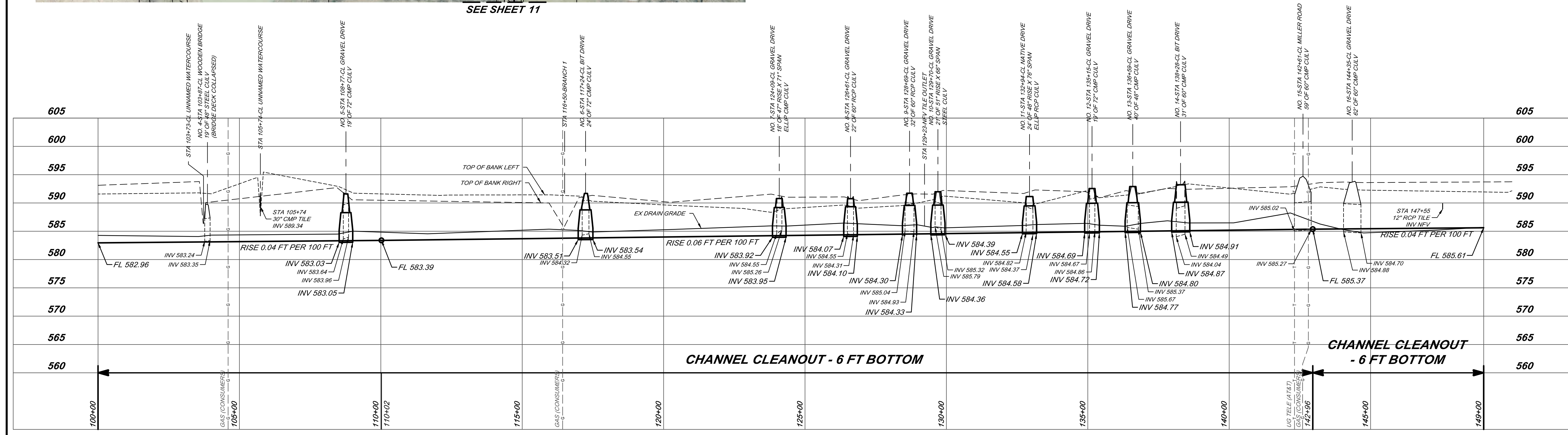
BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>NEW TAMARACK DRAIN SAGINAW COUNTY, MICHIGAN</p>			
<p>PLAN AND PROFILE NEW TAMARACK DRAIN STA 50+00 TO STA 100+00</p>			
<p>DE. BY: POC/LDO DR. BY: MJC</p>		<p>CH. BY: LDO APP. BY: NDC</p>	
<p>PROJECT NO. 134488SG2023</p>		<p>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</p>	
<p>STDS.</p>		<p>SHEET 06 OF 18</p>	
<p>DATE: APRIL, 2024 SCALE: H:1"=200' V:1"=10'</p>		<p>FILE NO. DR-4625-06</p>	
		<p>DR 06</p>	



SECTION 1, T.11 N.-R.3 E.,
JAMES TOWNSHIP,
SAGINAW COUNTY, MICHIGAN



SECTION 2, T.11 N.-R.3 E.,
JAMES TOWNSHIP,
SAGINAW COUNTY, MICHIGAN



- CONSTRUCTION NOTES**
- STA 104+50+ - CAUTION - HIGH PRESSURE GAS LINES - REPRESENTATIVE FROM CONSUMERS ENERGY TO BE ON SITE WHEN WORKING IN VICINITY OF GAS LINES. CONTRACTOR TO COORDINATE WITH CONSUMERS ENERGY.
 - STA 112+00 TO STA 149+00 - CONTRACTOR TO CLEAR TREES AND BRUSH 10' BEYOND TOP OF BANK ON LEFT SIDE OF DRAIN. COST TO BE INCLUDED IN LUMP SUM PRICE BID FOR SITE CLEARING.
 - PROTECT EXISTING PAVEMENT WHEN WORKING ALONG ROAD. ALL REPAIR COSTS ARE INCIDENTAL TO THE PROJECT AND ARE THE CONTRACTOR'S RESPONSIBILITY.

- BENCHMARKS**
- BM 202 - GEAR SPIKE IN EAST FACE OF LIGHT POLE AT INTERSECTION OF MILLER AND TRINKLEIN ROAD ON THE WEST SIDE OF MILLER AND NORTH OF TRINKLEIN ROAD. EL 595.04
 - BM 203 - CHISELED "4" ON TOP OF NORTHWEST FLANGE BOLT ON HYDRANT ON THE NORTH SIDE OF TRINKLEIN ROAD 1.68 FEET EAST OF THE DRIVE CENTERLINE OF HOUSE #7550. EL 591.35

RIGHT OF WAY
NEW TAMARACK DRAIN - DRAIN RIGHT-OF-WAY IS 66' WIDE ON EACH SIDE OF CENTERLINE OF DRAIN.

- | | | | |
|---|---|--|---|
| NO. 4 - STA 103+87 - CONSUMERS POWER COMPANY REMOVE EXISTING CROSSING | NO. 8 - STA 126+61 - THOM, J & C REMOVE EXISTING CROSSING, INSTALL 48 LIN FT OF 87" SPAN X 63" RISE CMPA (3"X1" CORR, 10 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE. | NO. 12 - STA 135+15 - REVARD REVOCABLE TRUST REMOVE EXISTING CROSSING, INSTALL 52 LIN FT OF 87" SPAN X 63" RISE CMPA (3"X1" CORR, 10 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE. | NO. 16 - STA 144+35 - HOWEY, G II & HOWEY, A CLEANOUT EXISTING CROSSING |
| NO. 5 - STA 108+77 - KOLHAGEN, J & K REMOVE EXISTING CROSSING, INSTALL 58 LIN FT OF 95" SPAN X 67" RISE CMPA (3"X1" CORR, 10 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE. | NO. 9 - STA 126+69 - WEEKS, J REMOVE EXISTING CROSSING, INSTALL 50 LIN FT OF 87" SPAN X 63" RISE CMPA (3"X1" CORR, 10 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE. | NO. 13 - STA 136+59 - BROWN, A & J REMOVE EXISTING CROSSING, INSTALL 54 LIN FT OF 87" SPAN X 63" RISE CMPA (3"X1" CORR, 10 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE. | |
| NO. 6 - STA 117+24 - PERSONS, A & D REMOVE EXISTING CROSSING, INSTALL 48 LIN FT OF 87" SPAN X 63" RISE CMPA (3"X1" CORR, 10 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE BITUMINOUS DRIVE. | NO. 10 - STA 129+70 - DANKERT, J REMOVE EXISTING CROSSING, INSTALL 50 LIN FT OF 87" SPAN X 63" RISE CMPA (3"X1" CORR, 10 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE. | NO. 14 - STA 138+28 - ROUSSEAU, T REMOVE EXISTING CROSSING, INSTALL 64 LIN FT OF 87" SPAN X 63" RISE CMPA (3"X1" CORR, 10 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE. | |
| NO. 7 - STA 124+09 - NESTELL, T & P ET AL REMOVE EXISTING CROSSING, INSTALL 48 LIN FT OF 87" SPAN X 63" RISE CMPA (3"X1" CORR, 10 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE. | NO. 11 - STA 132+94 - REVARD, M & C REMOVE EXISTING CROSSING, INSTALL 50 LIN FT OF 87" SPAN X 63" RISE CMPA (3"X1" CORR, 10 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE. | NO. 15 - STA 142+61 - MILLER ROAD CLEANOUT EXISTING CROSSING | |

EROSION CONTROL TABLE

KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY
1 P	100+00	149+00	-	SEEDING OF ALL DISTURBED	LUMP SUM
2 T	100+00	149+00	-	MULCH OF ALL DISTURBED AREAS	LUMP SUM
19 P				AS STAKED BY ENGINEER	
23 P				RIPRAP SPILLWAY	150 LIN FT
15 P				ALL EX FIELD TILE OUTLETS AND S.O.T.	6 EA
15 P				CROSSING 5-14	200 SQ YDS TOTAL

NOTE: COORDINATE INSTALLATION OF EROSION CONTROL STRUCTURES WITH ENGINEER PRIOR TO CONSTRUCTION. LOCATIONS, QUANTITIES, OR TYPES MAY VARY BASED ON FIELD DECISIONS.

SPOIL LEVELING TABLE

STATION FROM	STATION TO	DETAIL	SIDE TO EXCAVATE FROM
100+00	105+50	"A"	RIGHT
105+50	108+77	"B"	RIGHT
108+77	112+00	"B"	LEFT
112+00	117+24	HAUL	LEFT
117+24	149+00	HAUL	RIGHT

NOTE: USE SPOIL LEVELING DETAIL "A" THROUGH FIELD AREA. USE SPOIL LEVELING DETAIL "B" THROUGH WOODED AREA. SPOILS TO BE HAULED IN LAWN AREAS.

BY MARK REVISIONS DATE

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

NEW TAMARACK DRAIN
SAGINAW COUNTY, MICHIGAN

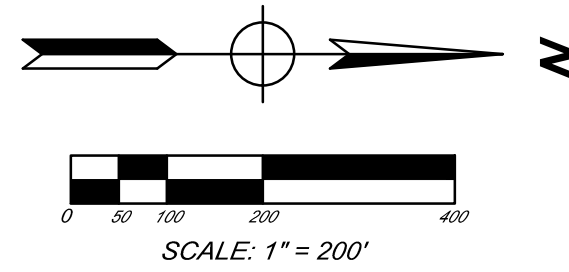
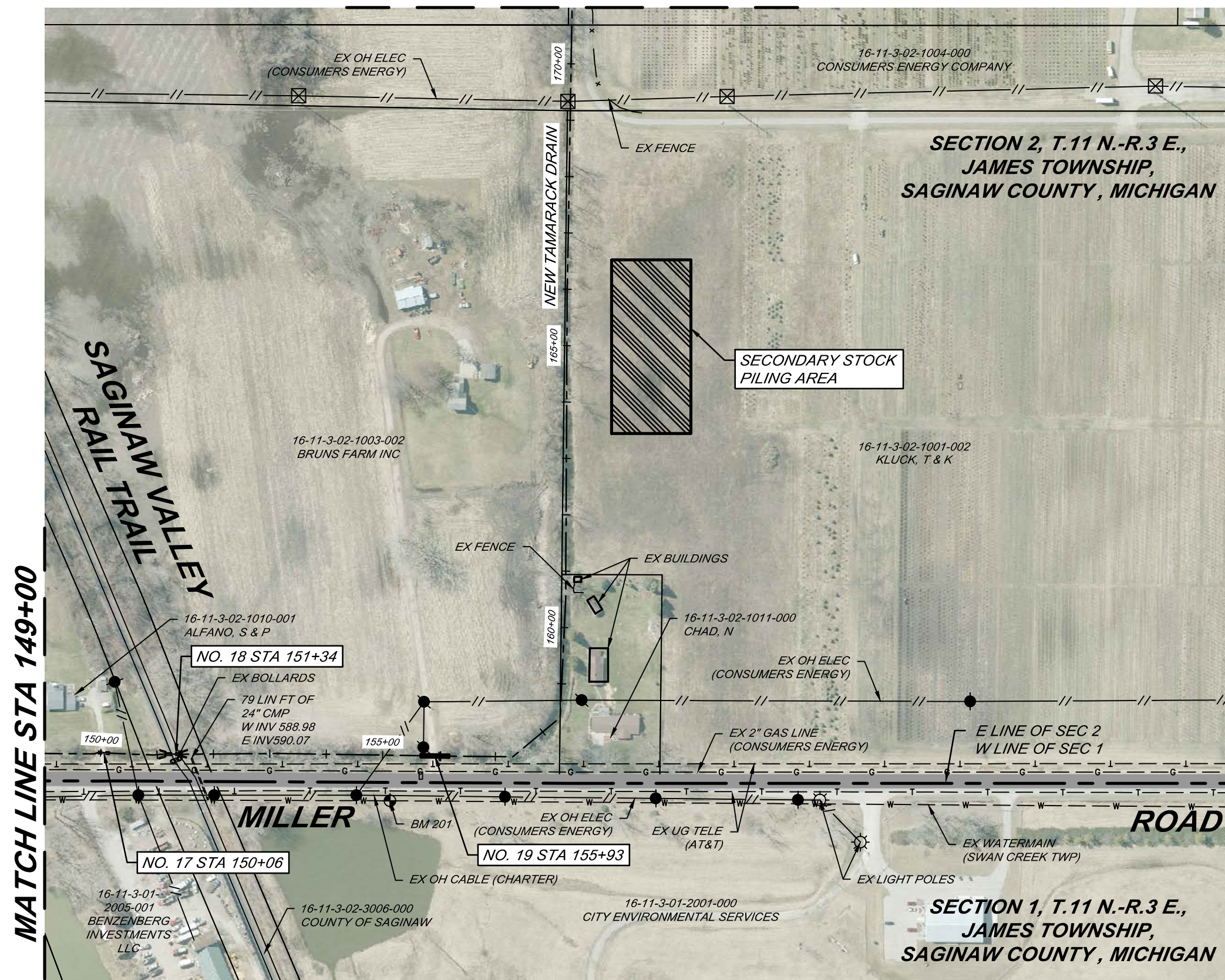
PLAN AND PROFILE
NEW TAMARACK DRAIN
STA 100+00 TO STA 149+00

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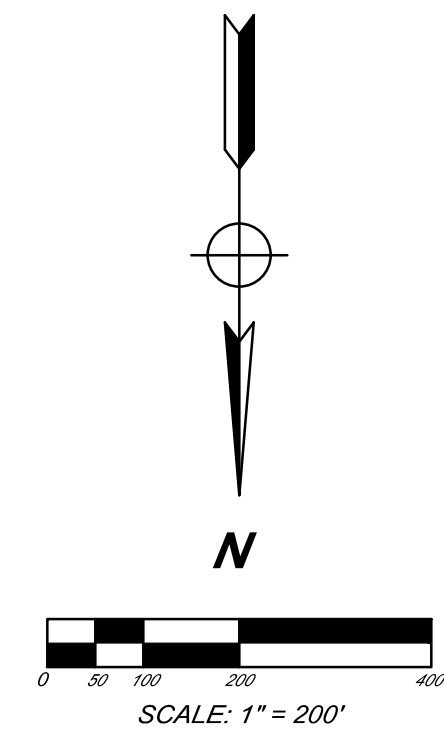
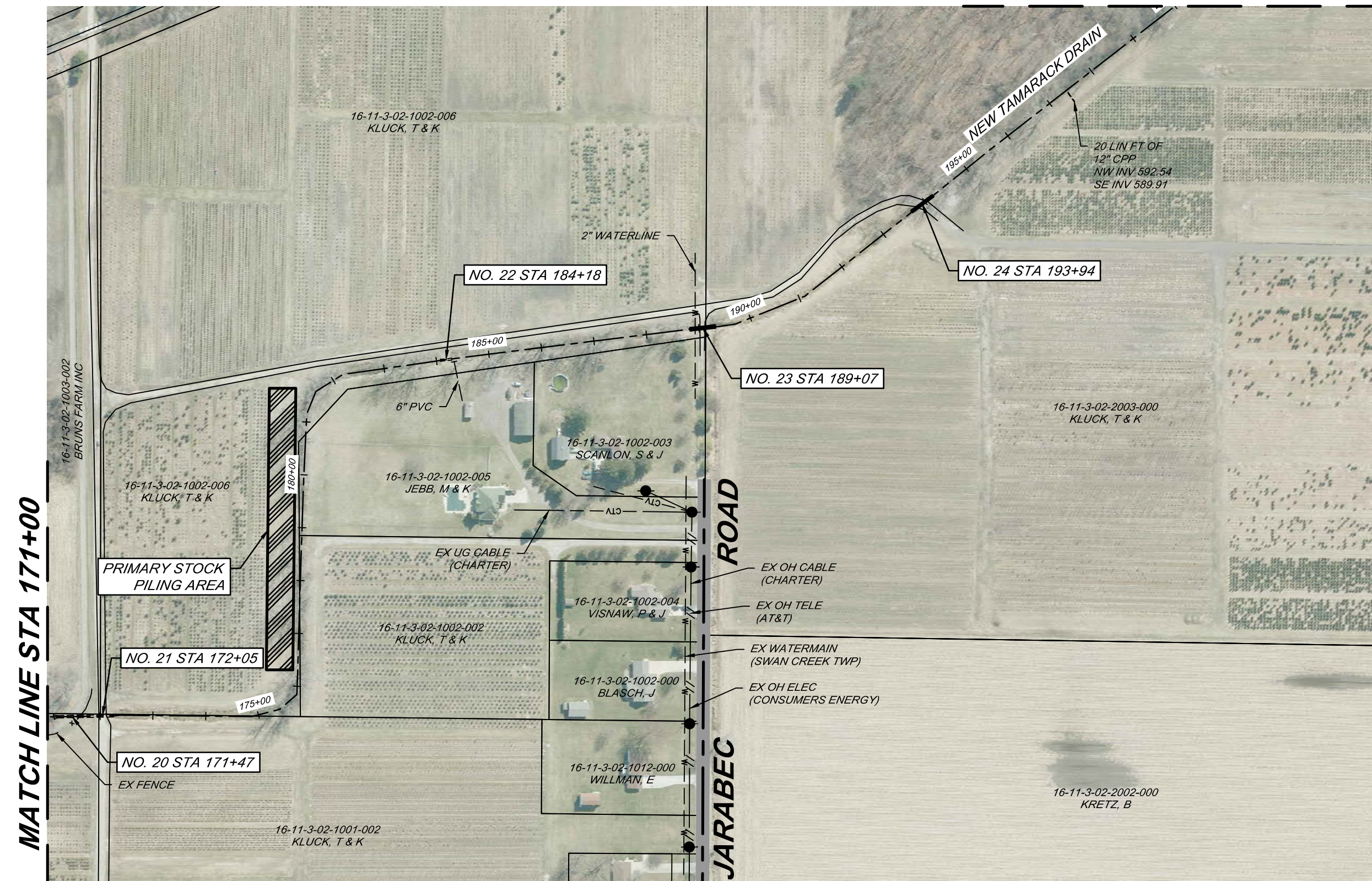
DE. BY: POC/LDO CH. BY: LDO PROJECT NO. 1344885G2023
DR. BY: MJC APP. BY: NDC

STDS. SHEET 07 OF 18 DR
DATE: APRIL, 2024 FILE NO. DR-4625-07
SCALE: H:1"=200' V:1"=10'

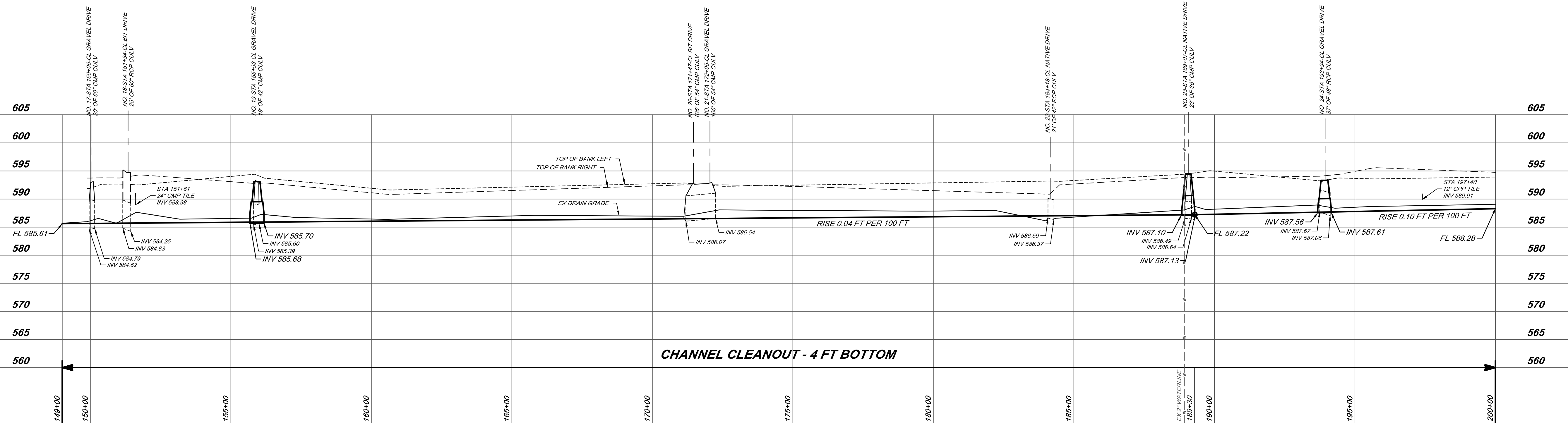
MATCH LINE STA 171+00



MATCH LINE STA 200+00



SECTION 2, T.11 N.-R.3 E.,
JAMES TOWNSHIP,
SAGINAW COUNTY, MICHIGAN



NO. 17 - STA 150+06 - ALFANO, S & P
CLEANOUT EXISTING CROSSING

NO. 21 - STA 172+05 - KLUCK, T & K
CLEANOUT EXISTING CROSSING

NO. 18 - STA 151+34 - COUNTY OF SAGINAW
CLEANOUT EXISTING CROSSING

NO. 22 - STA 184+18 - KLUCK, T & K
REMOVE EXISTING CROSSING

NO. 19 - STA 155+93 - BRUNS FARM INC
REMOVE EXISTING CROSSING, INSTALL 50 LIN FT
OF 60" SPAN X 46" RISE CMPA, (3'X1" CORR, 14 GA)
BEVEL CULVERTS END 2 HOR TO 1 VERT.
RESTORE GRAVEL DRIVE.

NO. 23 - STA 189+07 - KLUCK, T & K
REMOVE EXISTING CROSSING, INSTALL 46 LIN FT
OF 42" CMP, (2-23"X12" CORR, 12 GA)
BEVEL CULVERTS END 2 HOR TO 1 VERT.
RESTORE GRAVEL DRIVE.

NO. 20 - STA 171+47 - KLUCK, T & K
CLEANOUT EXISTING CROSSING

NO. 24 - STA 193+94 - KLUCK, T & K
REMOVE EXISTING CROSSING, INSTALL 48 LIN FT
OF 30" CMP (2-23" X 12" CORR, 14 GA)
BEVEL CULVERT ENDS 2 HOR. TO 1 VERT.
RESTORE GRAVEL DRIVE

EROSION CONTROL TABLE

KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY
(1) D	149+00	200+00	-	SEEDING OF ALL DISTURBED	LUMP SUM
(2) T	149+00	200+00	-	MULCH OF ALL DISTURBED AREAS	LUMP SUM
(19) P	AS STAKED BY ENGINEER	-	-	RIPRAP SPILLWAY	75 LIN FT
(23) P	ALL EX FIELD TILE OUTLETS AND S.O.T.	BOTH	-	OUTFALL STABILIZATION	5 EA
(15) P	CROSSING 19 & 24	BOTH	-	INSTALL RIPRAP PROTECTION AT INLET & OUTLET OF CROSSING	30 SQ YDS TOTAL

NOTE: COORDINATE INSTALLATION OF EROSION CONTROL STRUCTURES WITH ENGINEER PRIOR TO CONSTRUCTION. LOCATIONS, QUANTITIES, OR TYPES MAY VARY BASED ON FIELD DECISIONS.

SPOIL LEVELING TABLE

STATION FROM	STATION TO	DETAIL	SIDE TO EXCAVATE FROM
149+00	151+34	HAUL	RIGHT
151+34	172+05	"A"	LEFT
172+05	193+44	HAUL - TO STOCK PILE SITE	LEFT
193+44	200+00	HAUL - TO STOCK PILE SITE	RIGHT

NOTE: USE SPOIL LEVELING DETAIL "A" THROUGH FIELD AREA. USE SPOIL LEVELING DETAIL "B" THROUGH WOODED AREA. SPOILS TO BE HAULED IN LAWN AREAS.

CONSTRUCTION NOTES

- STA 188+75± - CONTRACTOR TO COORDINATE WITH LANDOWNER PRIOR TO EXCAVATING IN DRAIN BOTTOM TO LOCATE BURIED 2" WATER LINE.
- PROTECT EXISTING PAVEMENT WHEN WORKING ALONG ROAD. ALL REPAIR COSTS ARE INCIDENTAL TO THE PROJECT AND ARE THE CONTRACTOR'S RESPONSIBILITY.
- STA 172+05 TO STA 200+00 - ALL SPOILS FROM CHANNEL CLEANOUT ARE TO BE HAULED TO PRIMARY OR SECONDARY STOCK PILING SITES AND STOCK PILED AS DIRECTED BY LANDOWNER AND ENGINEER.

BENCHMARKS

BM 201 - CHISELED "*" ON SOUTHEAST FLANGE BOLT ON HYDRANT ON EAST SIDE OF MILLER ROAD AND ±90 FEET SOUTH OF THE DRIVE CENTERLINE OF HOUSE #2270

EL 595.45

RIGHT OF WAY

NEW TAMARACK DRAIN - DRAIN RIGHT-OF-WAY IS 66' WIDE ON EACH SIDE OF CENTERLINE OF DRAIN.

BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREIN IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>NEW TAMARACK DRAIN SAGINAW COUNTY, MICHIGAN</p>			
<p>PLAN AND PROFILE NEW TAMARACK DRAIN STA 149+00 TO STA 200+00</p>			
<p>DE. BY: POC/LDO DR. BY: MJC</p>		<p>CH. BY: LDO APP. BY: NDC</p>	
<p>STDS.</p>		<p>PROJECT NO. 134488SG2023</p>	
<p>DATE: APRIL, 2024 SCALE: H:1"=200' V:1"=10'</p>		<p>SHEET 08 OF 18 FILE NO. DR-4625-08</p>	
<p>DR</p>		<p>08</p>	



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PROJECT NO.
134488SG2023

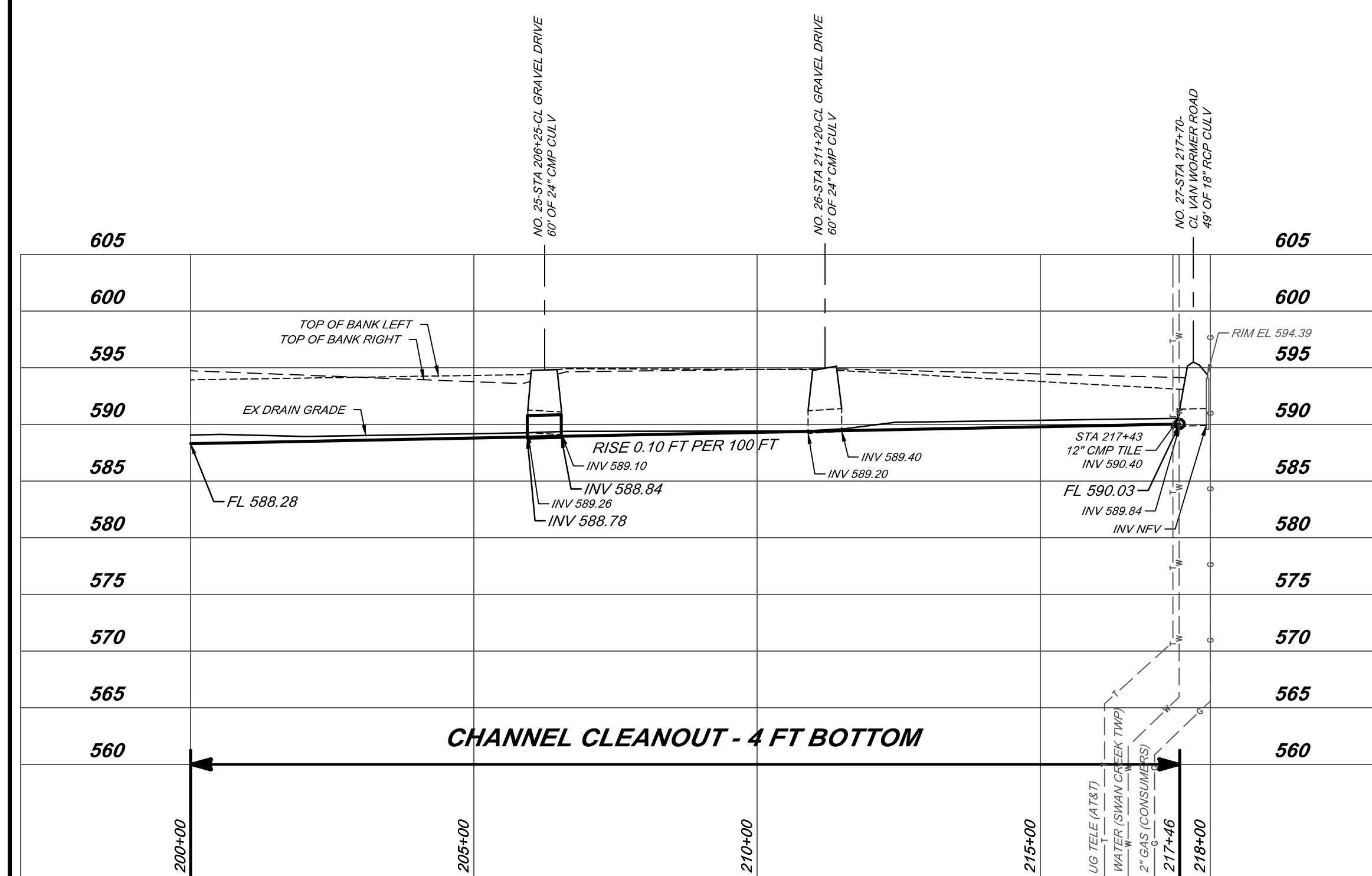
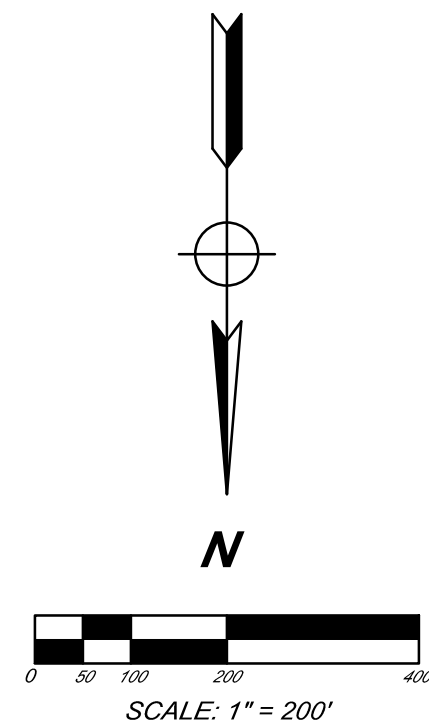
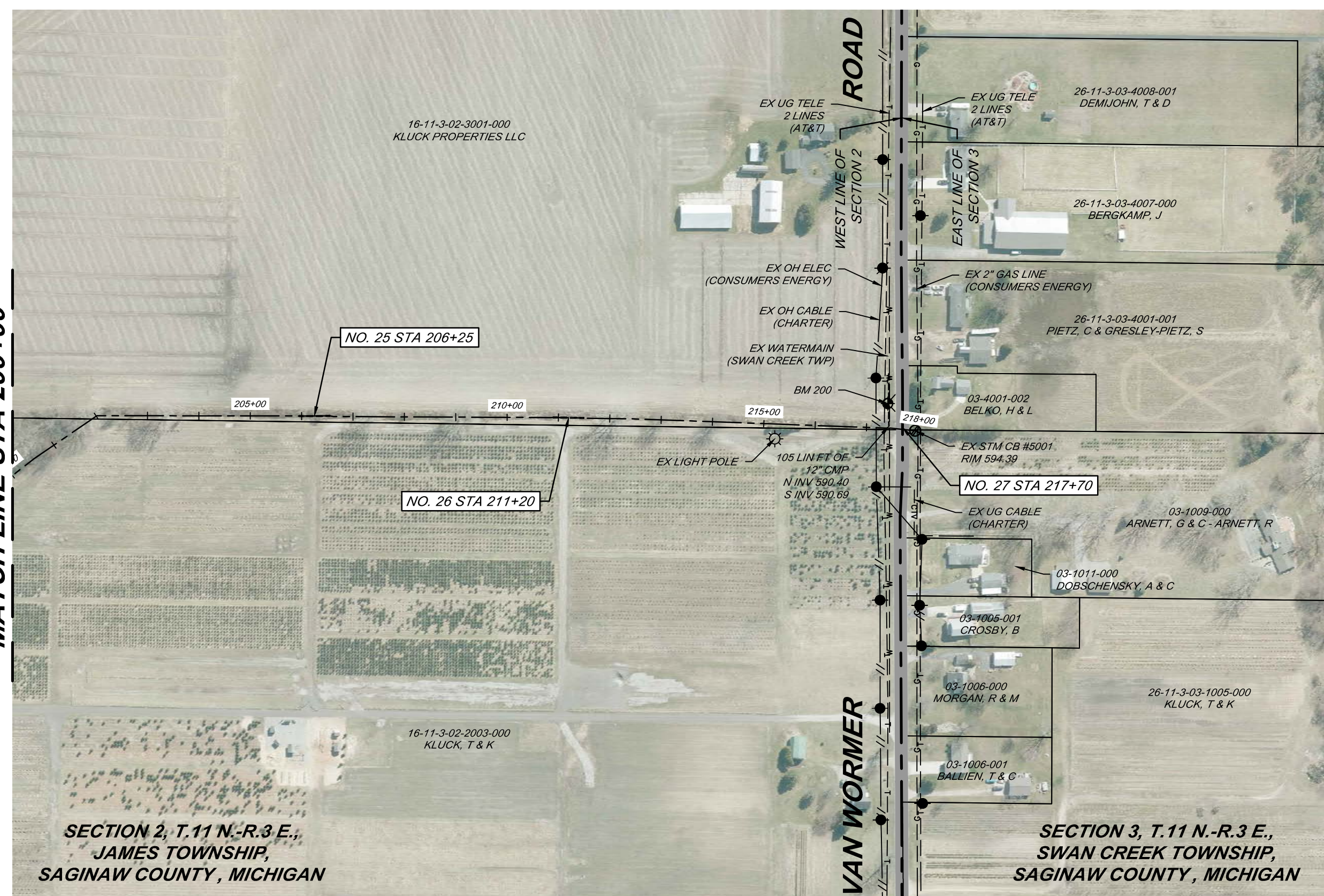
SHEET **08** OF **18**

FILE NO.
DR-4625-08

DR

08

MATCH LINE STA 200+00



NO. 25 - STA 206+25 - KLUCK PROPERTIES LLC REMOVE EXISTING CROSSING, REINSTALL AT PROPOSED GRADE, AND RESTORE GRAVEL DRIVE.

NO. 26 - STA 211+20 - KLUCK PROPERTIES LLC CLEANOUT EXISTING CROSSING

NO. 27 - STA 217+70 - VAN WORMER ROAD CLEANOUT EXISTING CROSSING

EROSION CONTROL TABLE					
KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY
(1) D	200+00	218+00	-	SEEDING OF ALL DISTURBED	LUMP SUM
(2) T	200+00	218+00	-	MULCH OF ALL DISTURBED AREAS	LUMP SUM
(19) P	AS STAKED BY ENGINEER	-	-	RIPRAP SPILLWAY	30 LIN FT
(23) P	ALL EX FIELD TILE OUTLETS AND S.O.T.	BOTH	-	OUTFALL STABILIZATION	3 EA
(15) P	CROSSING 25	BOTH	-	INSTALL RIPRAP PROTECTION AT INLET & OUTLET OF CROSSING	5 SQ YDS TOTAL

NOTE: COORDINATE INSTALLATION OF EROSION CONTROL STRUCTURES WITH ENGINEER PRIOR TO CONSTRUCTION. LOCATIONS, QUANTITIES, OR TYPES MAY VARY BASED ON FIELD DECISIONS.

SPOIL LEVELING TABLE			
STATION FROM	STATION TO	DETAIL	SIDE TO EXCAVATE FROM
200+00	206+25	HAUL - TO STOCK PILE SITE	RIGHT
206+25	218+00	HAUL - TO STOCK PILE SITE	LEFT

NOTE: USE SPOIL LEVELING DETAIL "A" THROUGH FIELD AREA. USE SPOIL LEVELING DETAIL "B" THROUGH WOODED AREA. SPOILS TO BE HAULED IN LAWN AREAS.

CONSTRUCTION NOTES
 1. STA 200+00 TO STA 217+46 - ALL SPOILS FROM CHANNEL CLEANOUT ARE TO BE HAULED TO PRIMARY OR SECONDARY SPOIL STOCKED PILING SITES AND STOCK PILED AS DIRECTED BY LANDOWNER AND ENGINEER.

BENCHMARKS
 BM 200 - CHISELED "*" ON NORTHEAST FLANGE BOLT ON HYDRANT ON THE EAST SIDE OF VAN WORMER ROAD AND ±45 FEET SOUTH OF CENTERLINE OF TAMARACK DRAIN.
 EL. 595.33

RIGHT OF WAY
 NEW TAMARACK DRAIN - DRAIN RIGHT-OF-WAY IS 66' WIDE ON EACH SIDE OF CENTERLINE OF DRAIN.

BY	MARK	REVISIONS	DATE

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

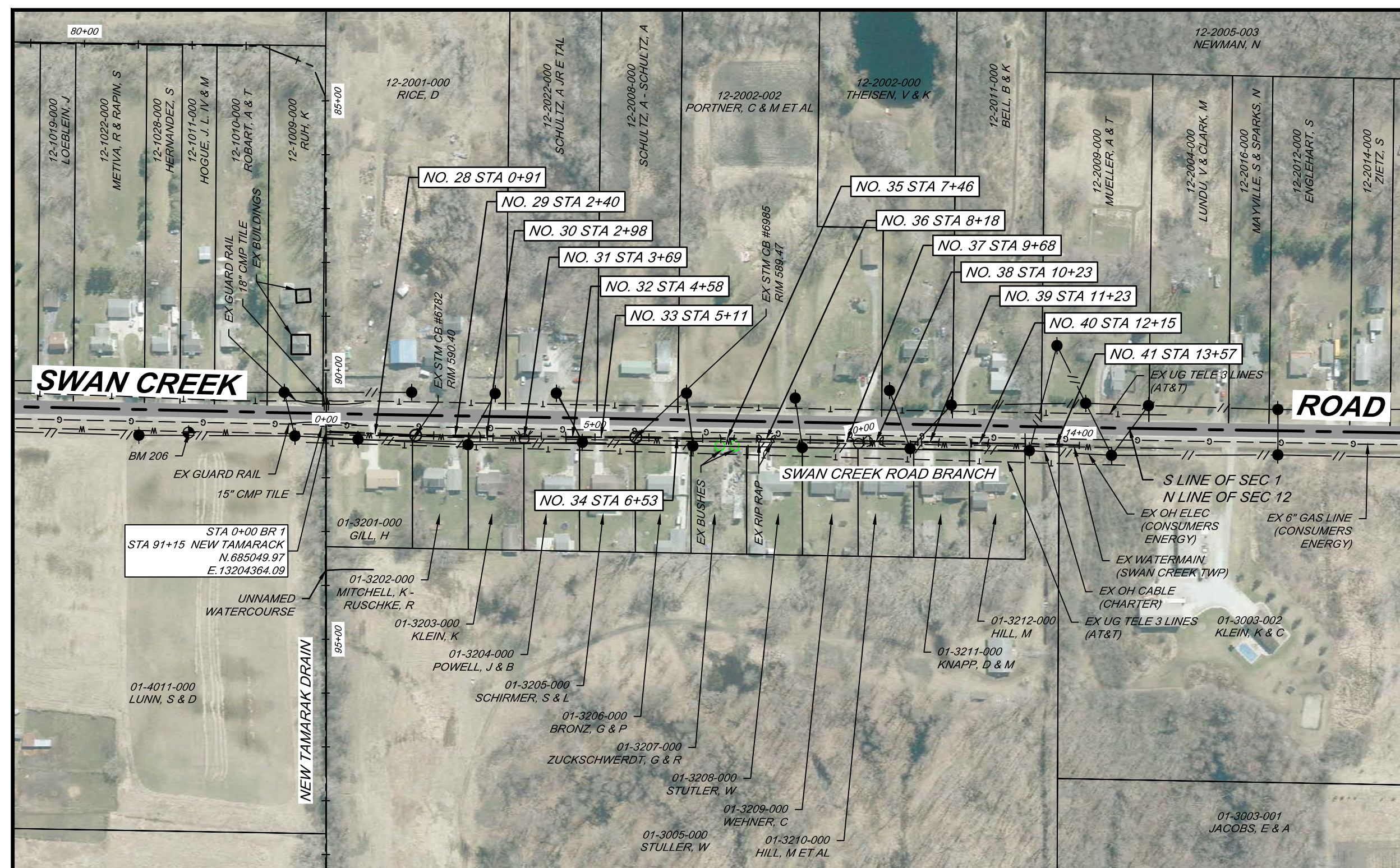
**NEW TAMARACK DRAIN
SAGINAW COUNTY, MICHIGAN**

**PLAN AND PROFILE
NEW TAMARACK DRAIN
STA 200+00 TO STA 218+00**

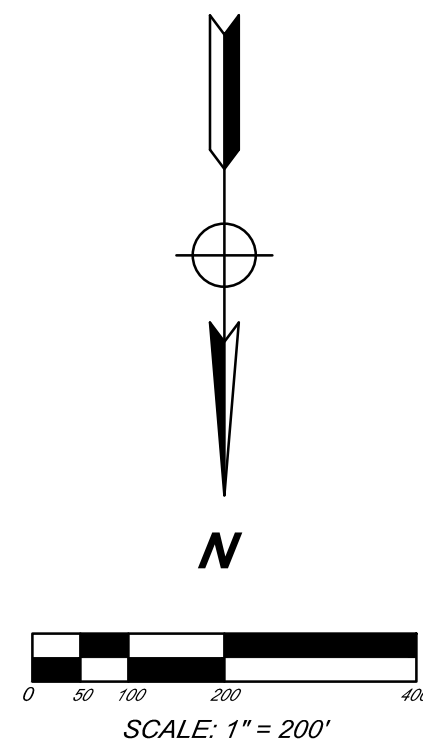
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DE. BY: POC/LDO	CH. BY: LDO	PROJECT NO.
DR. BY: MJC	APP. BY: NDC	134488SG2023

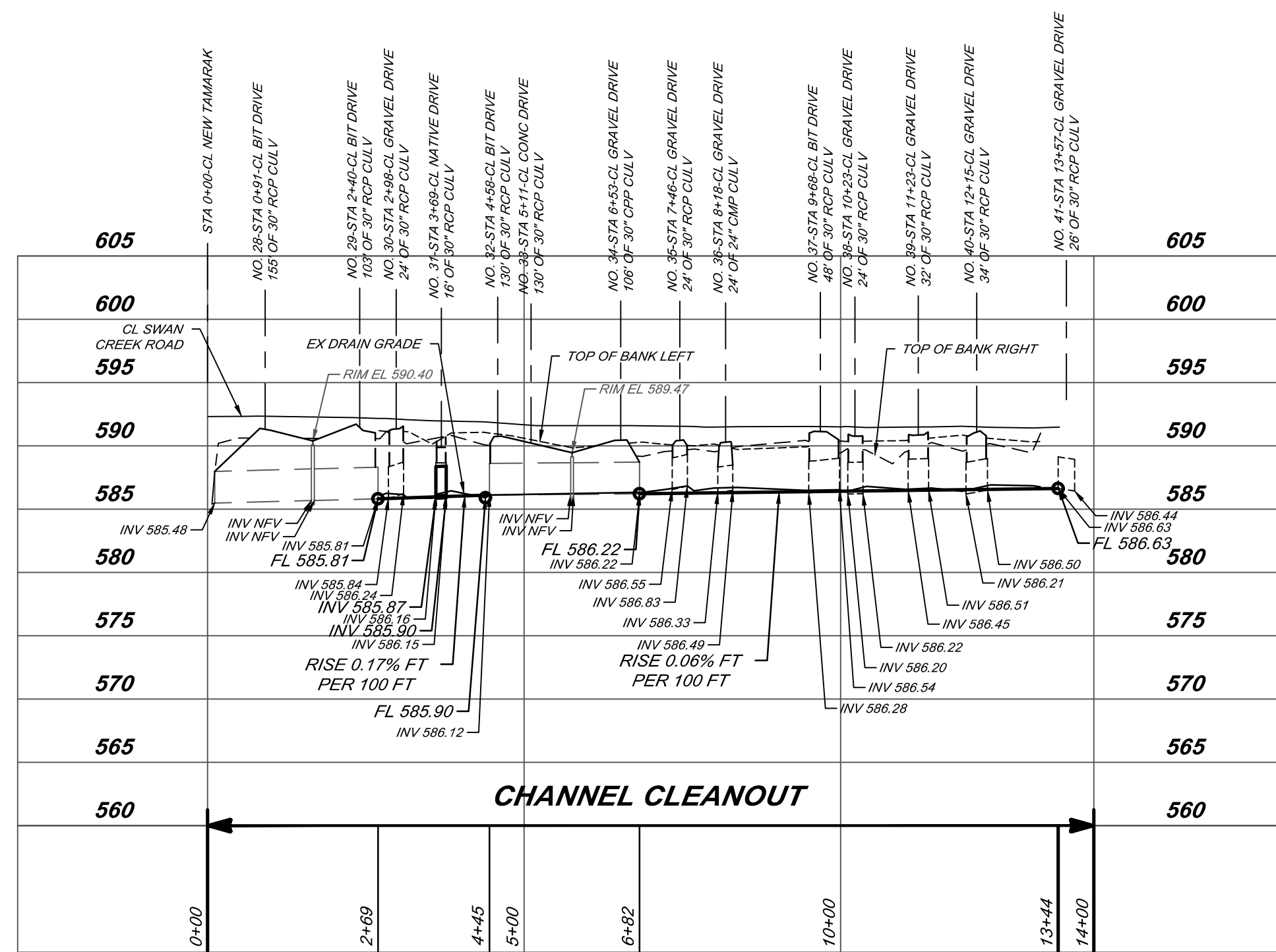
STDS.	SHEET 09 OF 18	DR 09
DATE: APRIL, 2024	FILE NO. DR-4625-09	
SCALE: H:1"=200' V:1"=10'		



SECTION 12, T.11 N.-R.3 E.,
JAMES TOWNSHIP,
SAGINAW COUNTY, MICHIGAN



SECTION 1, T.11 N.-R.3 E.,
JAMES TOWNSHIP,
SAGINAW COUNTY, MICHIGAN



NO. 28 - STA 0+91 - GILL, H
CLEANOUT EXISTING CROSSING

NO. 33 - STA 5+11 - SCHIRMER, S & L
CLEANOUT EXISTING CROSSING

NO. 38 - STA 10+23 - HILL, M ET AL
CLEANOUT EXISTING CROSSING

NO. 29 - STA 2+40 - MITCHELL, K - RUSCHKE, R
CLEANOUT EXISTING CROSSING

NO. 34 - STA 6+53 - BRONZ, G & P
CLEANOUT EXISTING CROSSING

NO. 39 - STA 11+23 - KNAPP, D & M
CLEANOUT EXISTING CROSSING

NO. 30 - STA 2+98 - KLEIN, K
CLEANOUT EXISTING CROSSING

NO. 35 - STA 7+46 - ZUCKSCHWERTD, G & R
CLEANOUT EXISTING CROSSING

NO. 40 - STA 12+15 - HILL, M
CLEANOUT EXISTING CROSSING

NO. 31 - STA 3+69 - POWELL, J & B
REMOVE EXISTING CROSSING, REINSTALL AT PROPOSED GRADE, AND RESTORE NATIVE DRIVE.

NO. 36 - STA 8+18 - STUTLER, W
EXISTING CROSSING

NO. 41 - STA 13+57 - STULLER, W
CLEANOUT EXISTING CROSSING

NO. 32 - STA 4+58 - POWELL, J & B
CLEANOUT EXISTING CROSSING

NO. 37 - STA 9+68 - HART ROAD
CLEANOUT EXISTING CROSSING

EROSION CONTROL TABLE					
KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY
(1) P	00+00	14+00	-	SEEDING OF ALL DISTURBED	LUMP SUM
(2) T	00+00	14+00	-	MULCH OF ALL DISTURBED AREAS	LUMP SUM

NOTE: COORDINATE INSTALLATION OF EROSION CONTROL STRUCTURES WITH ENGINEER PRIOR TO CONSTRUCTION. LOCATIONS, QUANTITIES, OR TYPES MAY VARY BASED ON FIELD DECISIONS.

SPOIL LEVELING TABLE			
STATION FROM	STATION TO	DETAIL	SIDE TO EXCAVATE FROM
0+00	14+00	HAUL	LEFT

NOTE:
USE SPOIL LEVELING DETAIL "A" THROUGH FIELD AREA.
USE SPOIL LEVELING DETAIL "B" THROUGH WOODED AREA.
SPOILS TO BE HAULED IN LAWN AREAS.

- CONSTRUCTION NOTES**
- CONTRACTOR TO COMPLETE CHANNEL CLEANOUT BY WORKING IN GRAVEL/GRASS ROAD SHOULDER. CONTRACTOR IS RESPONSIBLE TO RESTORE SHOULDER WHEN WORK HAS BEEN COMPLETED.
 - PROTECT EXISTING PAVEMENT WHEN WORKING ALONG ROAD. ALL REPAIR COSTS ARE INCIDENTAL TO THE PROJECT AND ARE THE CONTRACTOR'S RESPONSIBILITY.

BENCHMARKS

BM 206 - TOP OF NORTHEAST FLANGE BOLT ON HYDRANT ON THE NORTH SIDE OF SWAN CREEK ROAD OPPOSITE OF HOUSE #7455.

RIGHT OF WAY

NEW TAMARACK DRAIN - DRAIN RIGHT-OF-WAY IS THE SOUTH 30' OF PARCELS 01-3201-000 TO 01-3212-000 AND THE SOUTH 50' OF PARCEL 01-3005-000.

BY	MARK	REVISIONS	DATE

THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.

**NEW TAMARACK DRAIN
SAGINAW COUNTY, MICHIGAN**

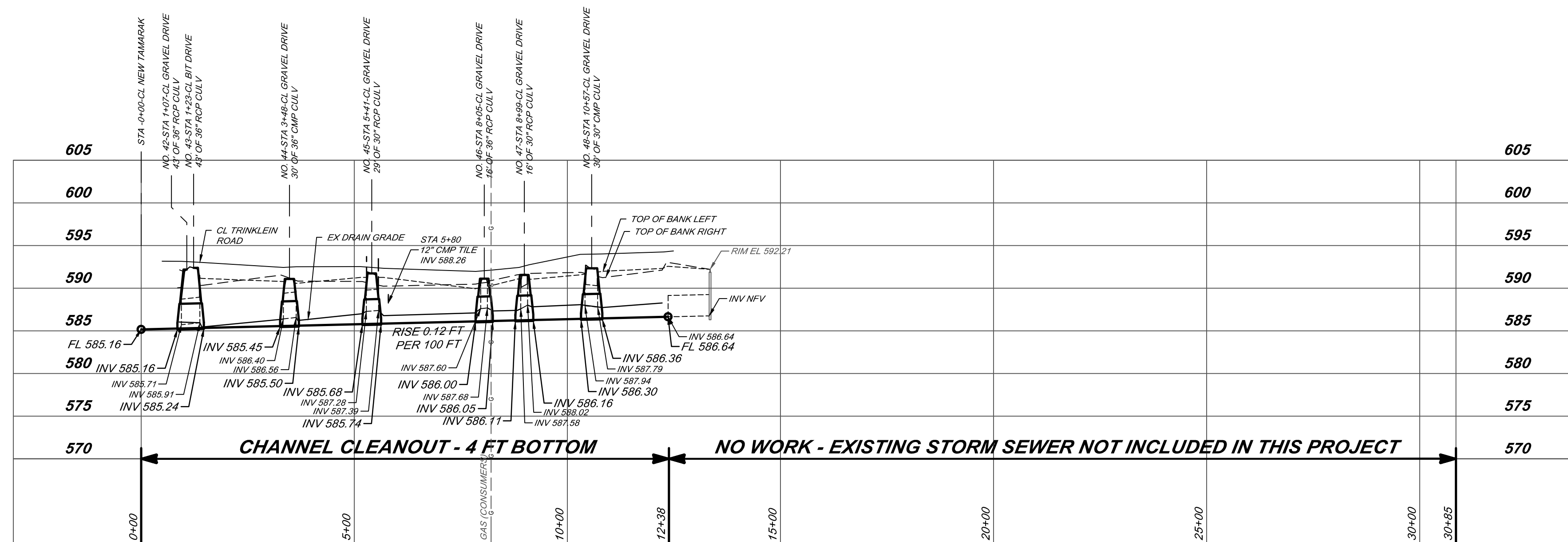
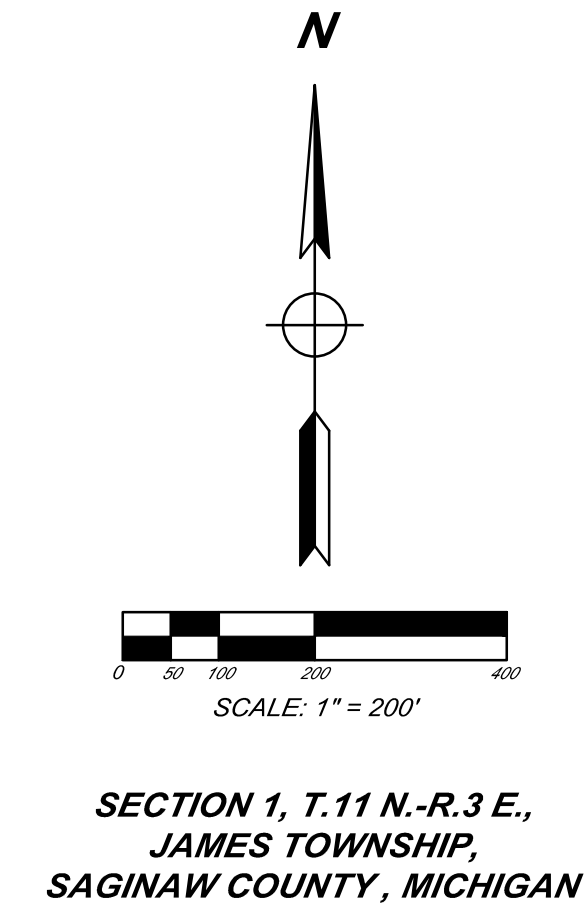
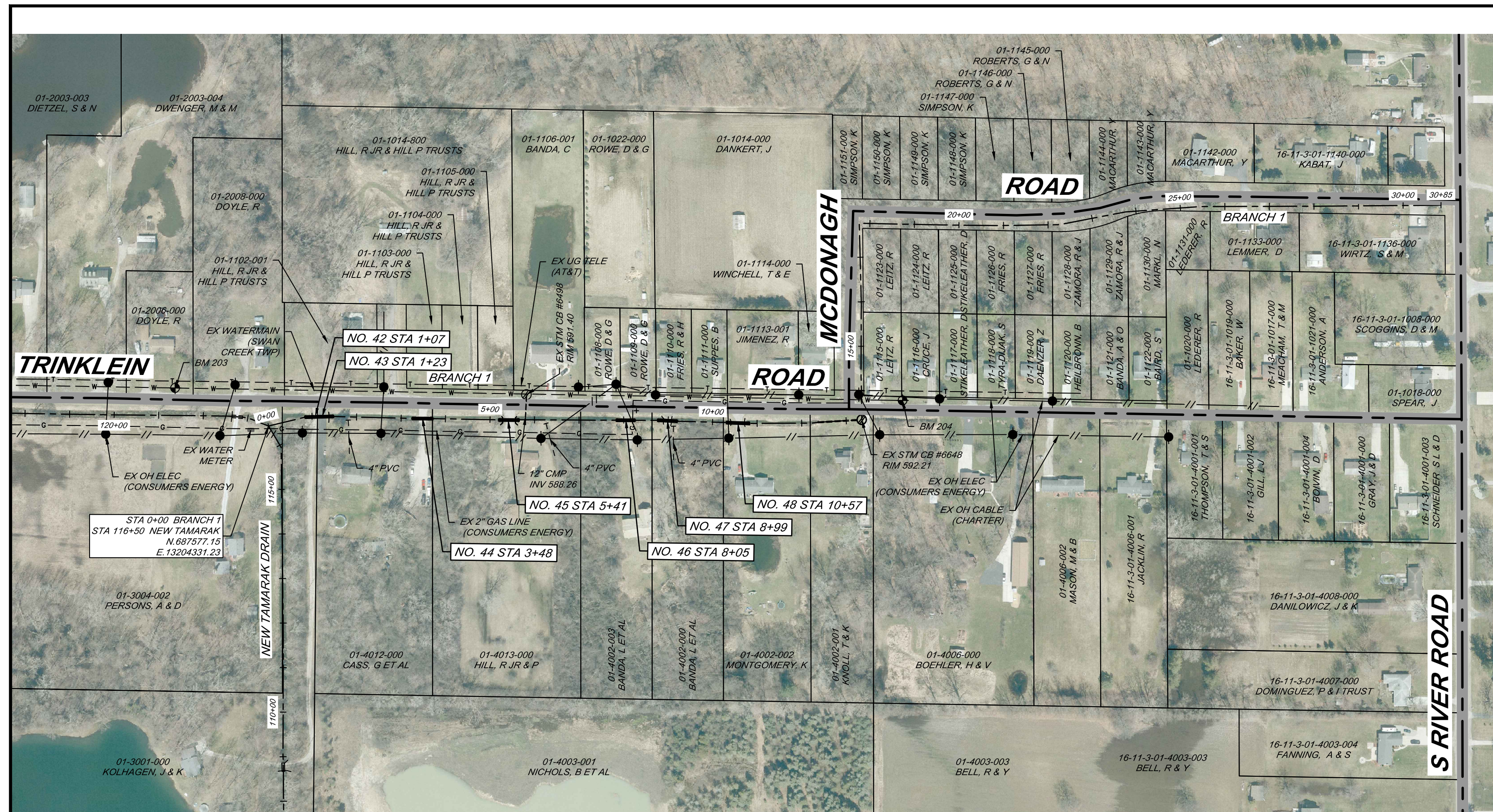
**PLAN AND PROFILE
SWAN CREEK ROAD BRANCH
STA 0+00 TO STA 14+00**

Spicer Group

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DR. BY: MJC APP. BY: NDC

STDS. SHEET 10 OF 18 DR 10
DATE: APRIL, 2024 FILE NO. DR-4625-10
SCALE: H:1"=200' V:1"=10'



NO. 42 - STA 1+07 - KOLHAGEN, J & K
 REMOVE EXISTING CROSSING. INSTALL 62 LIN FT OF 36" CMP (2 2/3"x12" CORR, 12 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE.

NO. 46 - STA 8+05 - BANDA, L
 REMOVE EXISTING CROSSING. INSTALL 40 LIN FT OF 36" CMP (2 2/3"x12" CORR, 12 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE.

NO. 43 - STA 1+23 - CASS, G
 REMOVE EXISTING CROSSING. (SEE CROSSING NO. 42) RESTORE BITUMINOUS DRIVE.

NO. 47 - STA 8+99 - BANDA, L
 REMOVE EXISTING CROSSING. INSTALL 42 LIN FT OF 36" CMP (2 2/3"x12" CORR, 12 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE.

NO. 44 - STA 3+48 - CASS, G
 REMOVE EXISTING CROSSING. INSTALL 44 LIN FT OF 36" CMP (2 2/3"x12" CORR, 12 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE.

NO. 48 - STA 10+57 - MONTGOMERY, K
 REMOVE EXISTING CROSSING. INSTALL 50 LIN FT OF 36" CMP (2 2/3"x12" CORR, 12 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE.

NO. 45 - STA 5+41 - HILL, R JR & P
 REMOVE EXISTING CROSSING. INSTALL 44 LIN FT OF 36" CMP (2 2/3"x12" CORR, 12 GA) BEVEL CULVERTS END 2 HOR TO 1 VERT. RESTORE GRAVEL DRIVE.

KEY*	FROM STATION	TO STATION	SIDE	DESCRIPTION	QTY
(1)	0+00	12+38	-	SEEDING OF ALL DISTURBED	LUMP SUM
(2)	0+00	12+38	-	MULCH OF ALL DISTURBED AREAS	LUMP SUM

NOTE: COORDINATE INSTALLATION OF EROSION CONTROL STRUCTURES WITH ENGINEER PRIOR TO CONSTRUCTION. LOCATIONS, QUANTITIES, OR TYPES MAY VARY BASED ON FIELD DECISIONS.

STATION FROM	STATION TO	DETAIL	SIDE TO EXCAVATE FROM
0+00	13+50	HAUL	LEFT

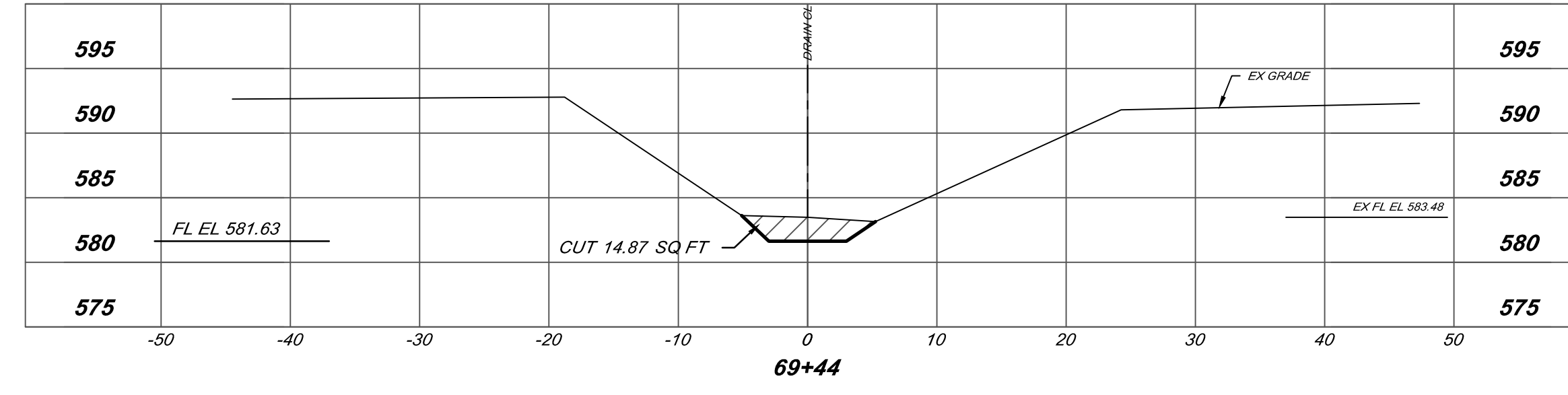
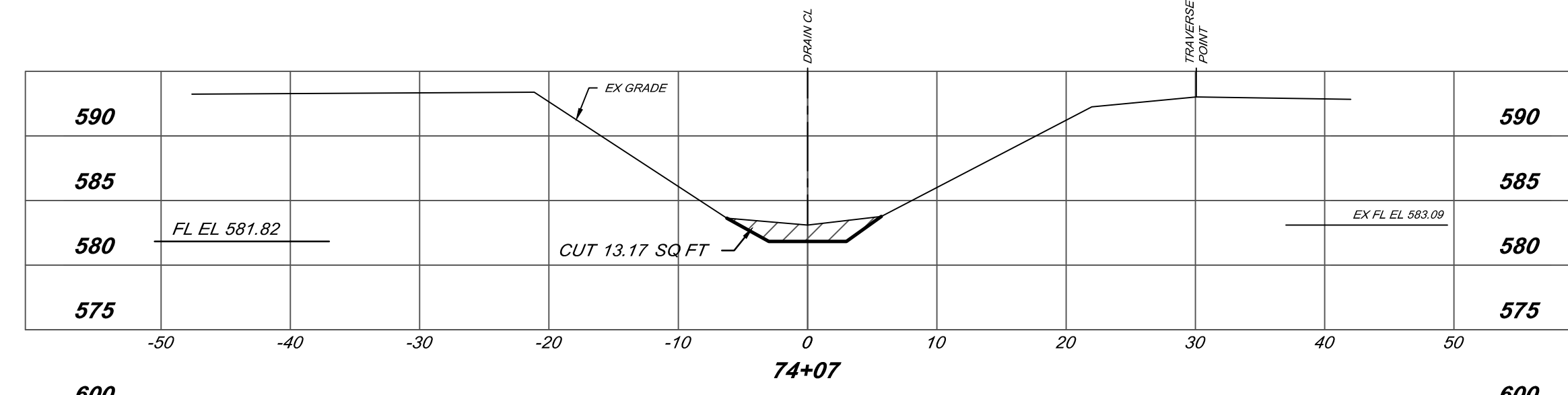
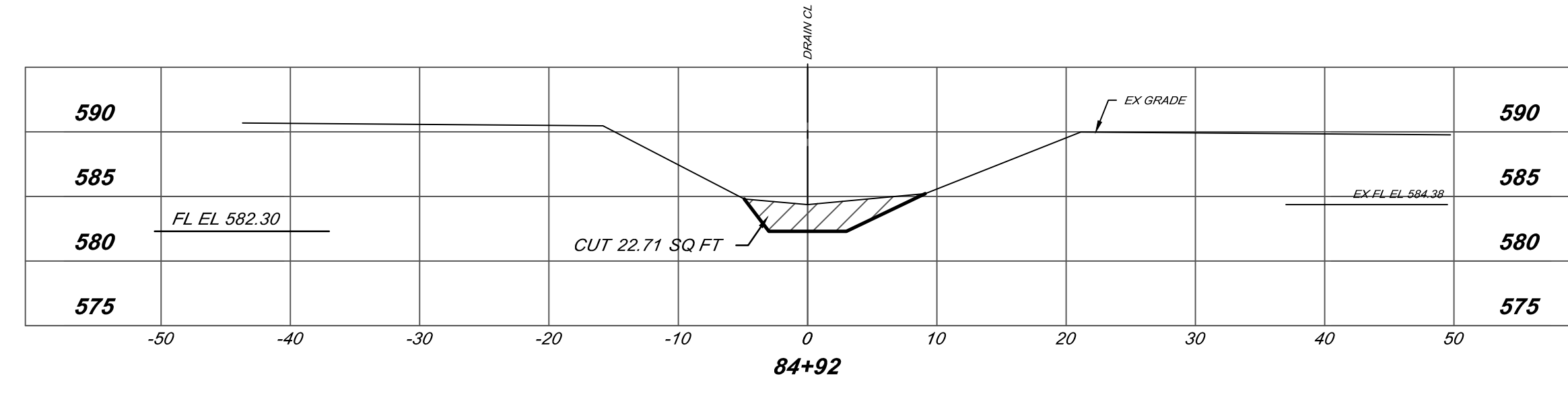
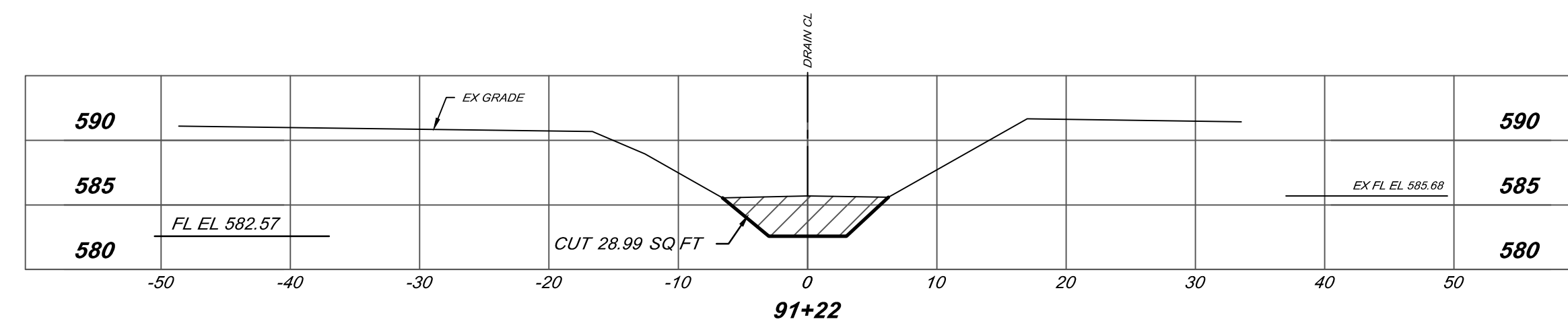
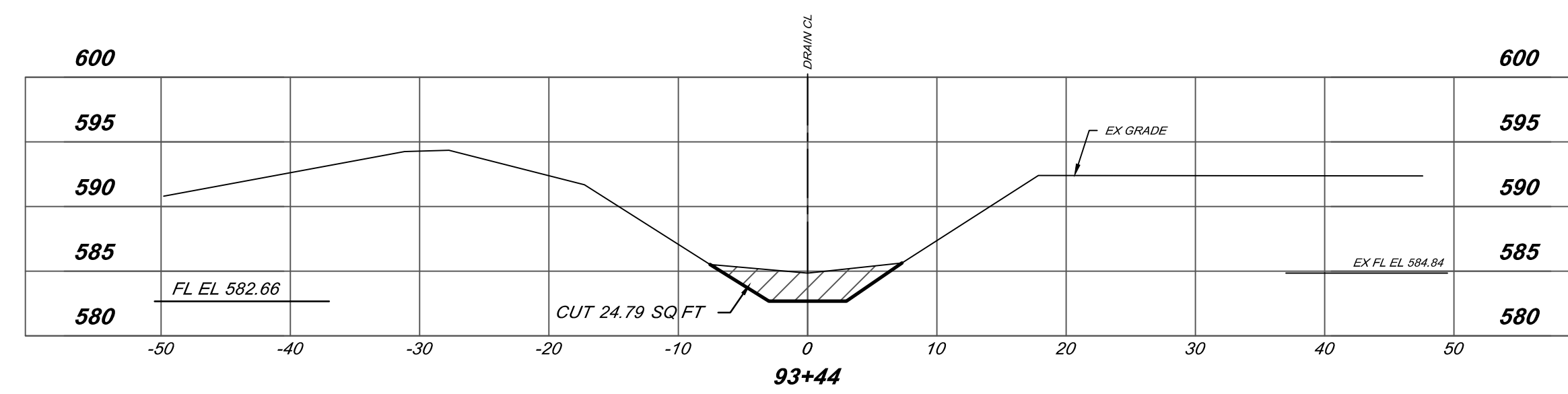
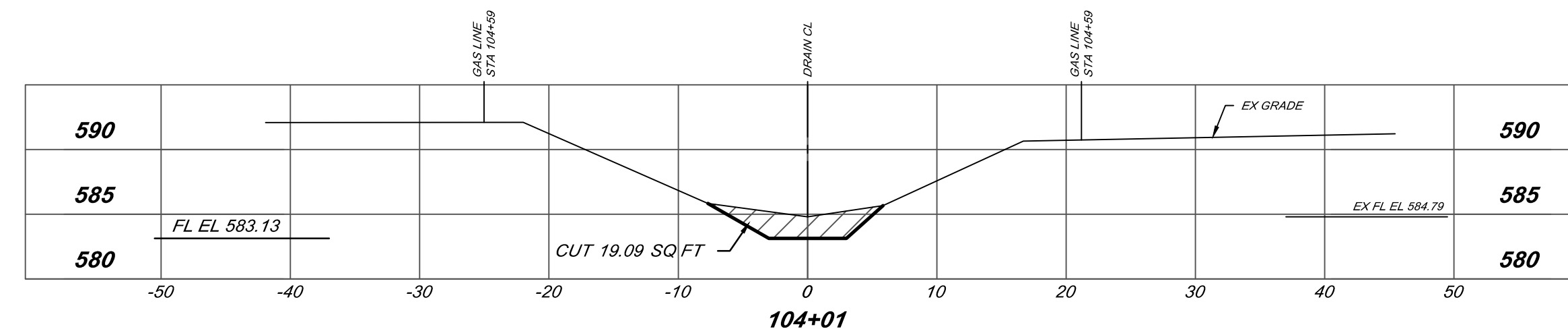
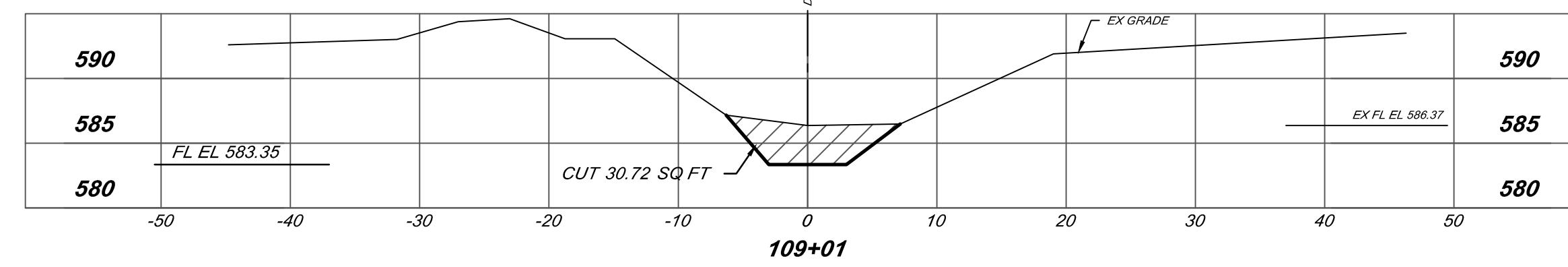
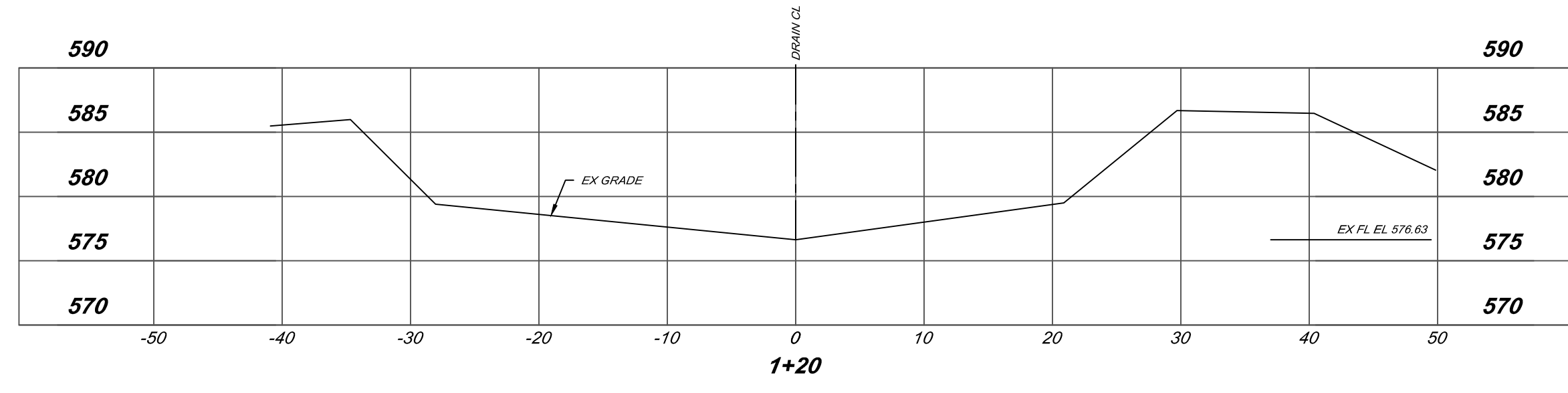
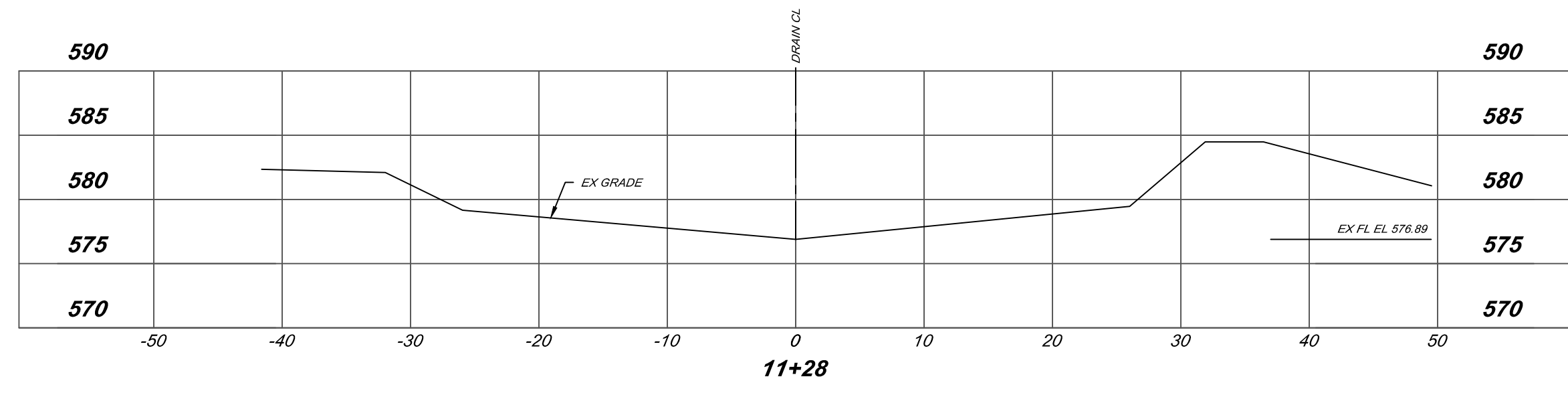
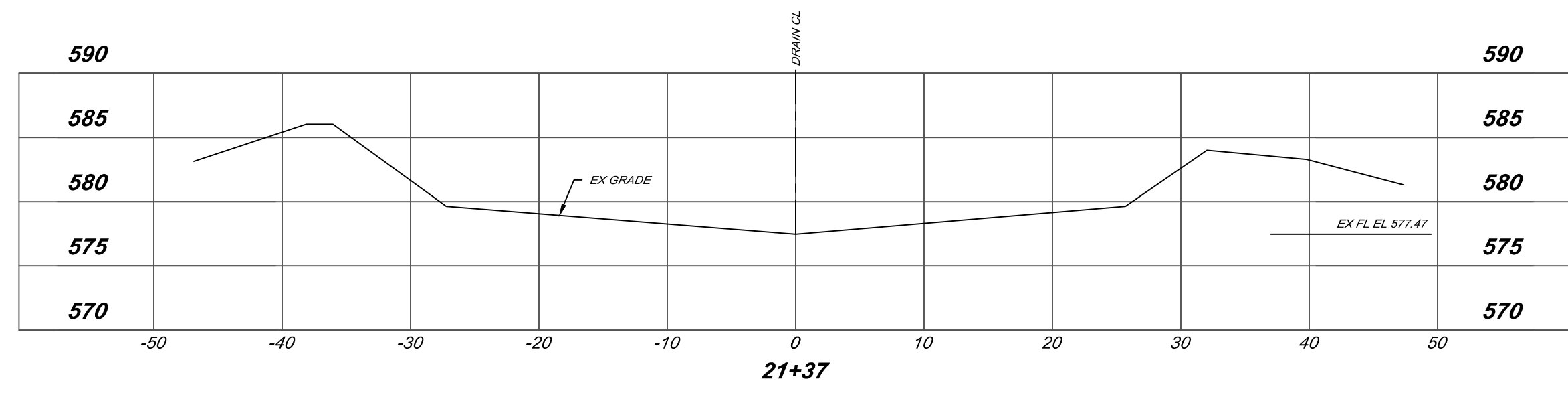
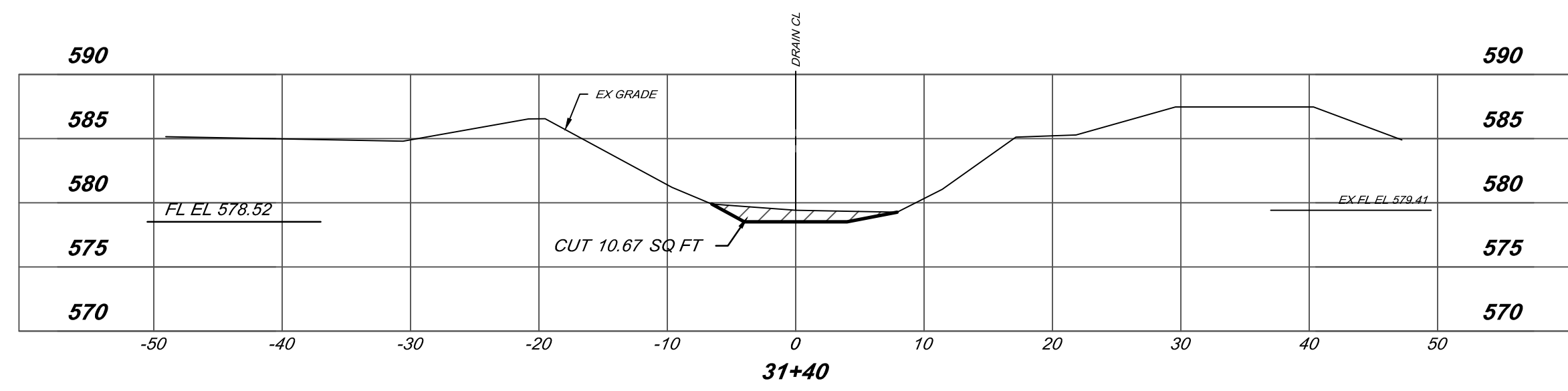
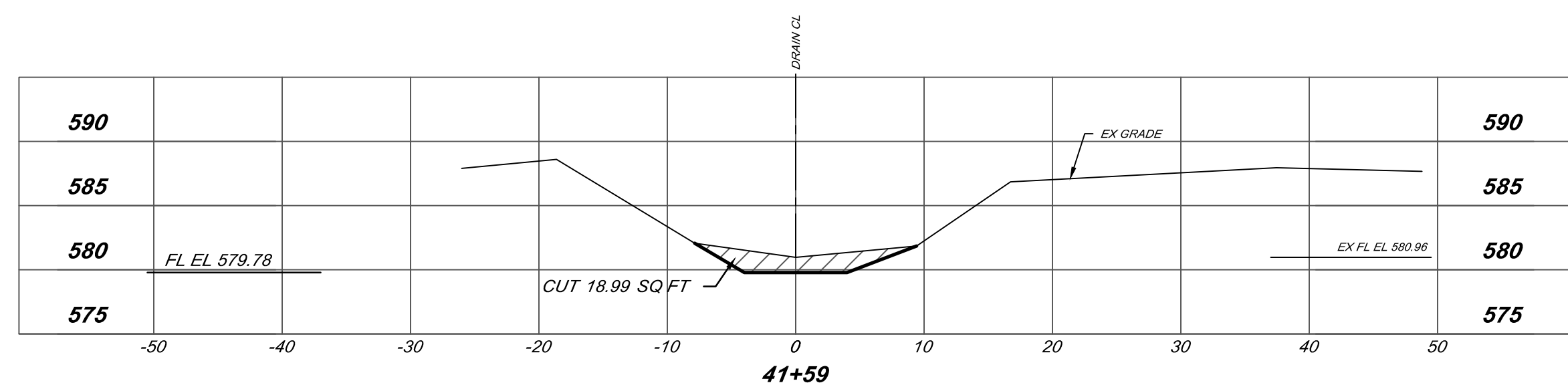
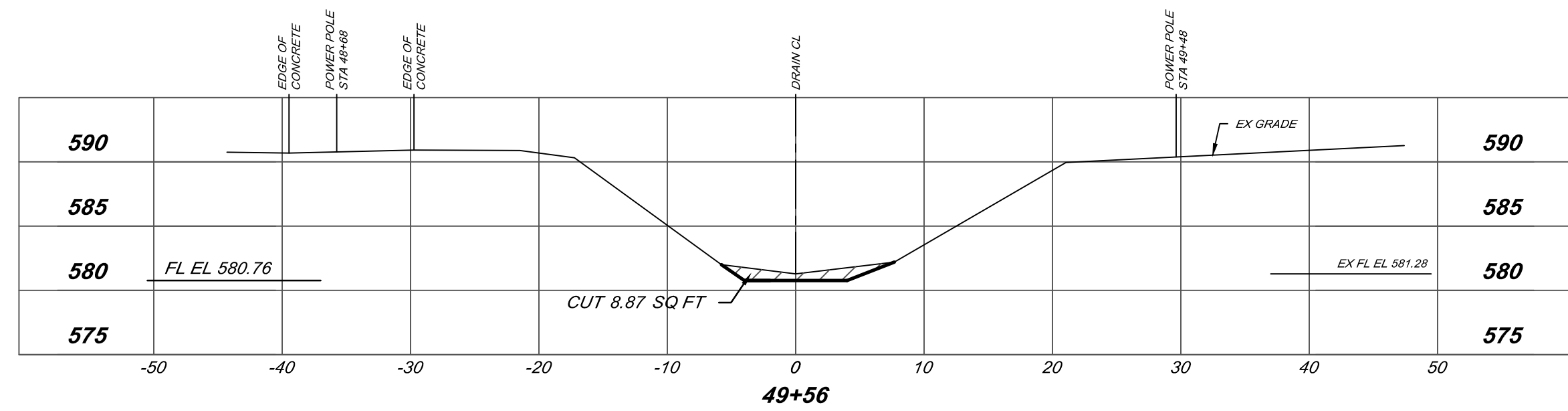
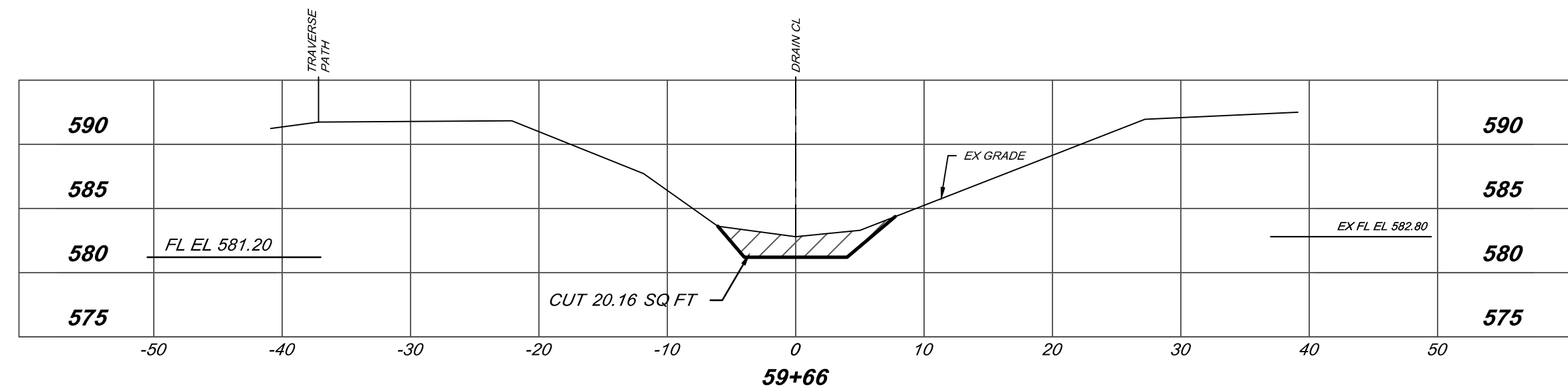
NOTE: USE SPOIL LEVELING DETAIL "A" THROUGH FIELD AREA. USE SPOIL LEVELING DETAIL "B" THROUGH WOODED AREA. SPOILS TO BE HAULED IN LAWN AREAS.

CONSTRUCTION NOTES
 1. PROTECT EXISTING PAVEMENT WHEN WORKING ALONG ROAD. ALL REPAIR COSTS ARE INCIDENTAL TO THE PROJECT AND ARE THE CONTRACTOR'S RESPONSIBILITY.

BENCHMARKS
 BM 203 - CHISELED "X" ON NORTHWEST FLANGE BOLT OF HYDRANT ON NORTH SIDE OF TRINKLEIN ROAD, 166 FEET EAST OF DRIVE CENTERLINE OF HOUSE #7550.
 EL 591.35
 BM 204 - TOP OF NORTHWEST FLANGE BOLT ON HYDRANT ON THE NORTH SIDE OF TRINKLEIN ROAD BETWEEN HOUSE #7224 AND #7240.
 EL 595.13

RIGHT OF WAY
 NEW TAMARACK DRAIN - DRAIN RIGHT-OF-WAY IS THE NORTH 50 FEET OF THE PARCEL FROM STATION 0+00 TO STATION 12+38 ALONG THE SOUTH SIDE OF TRINKLEIN ROAD.

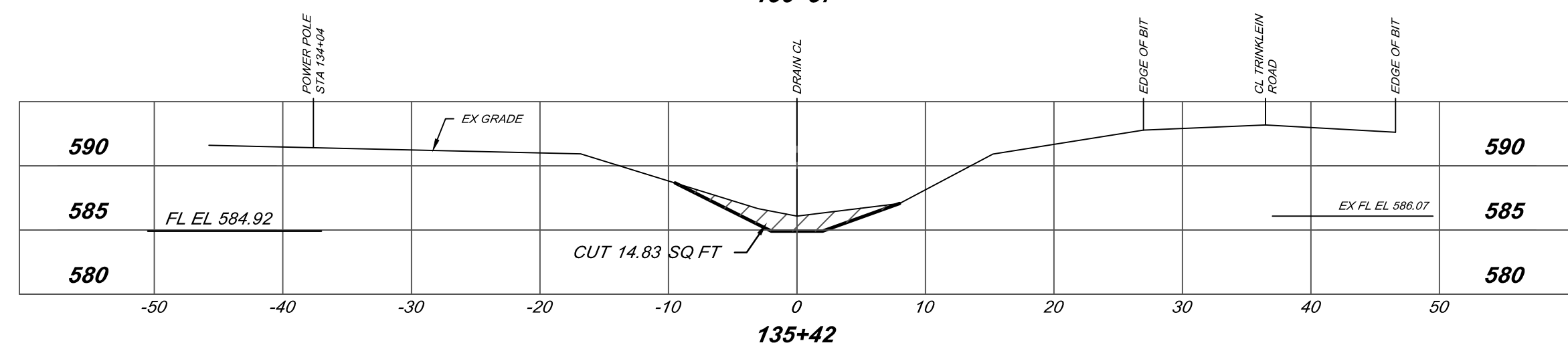
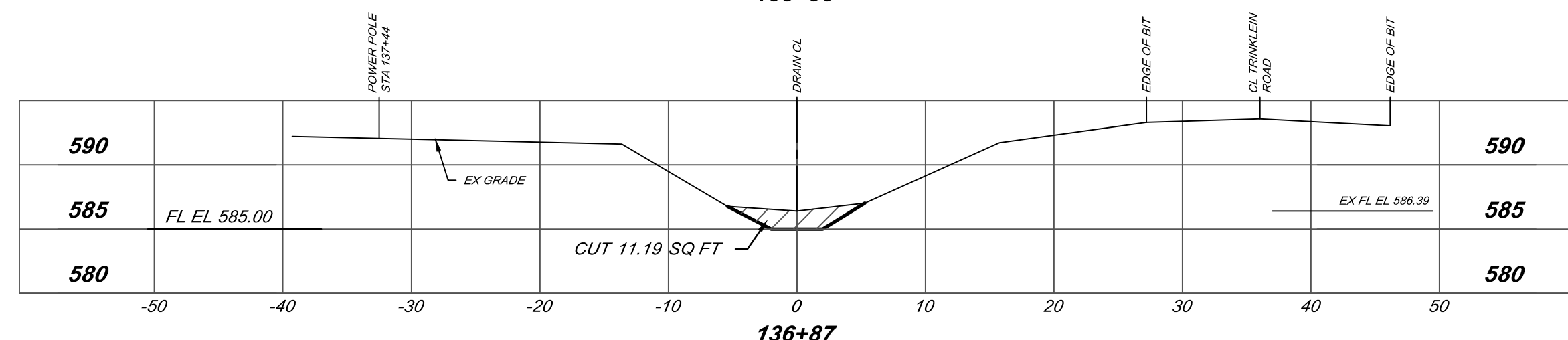
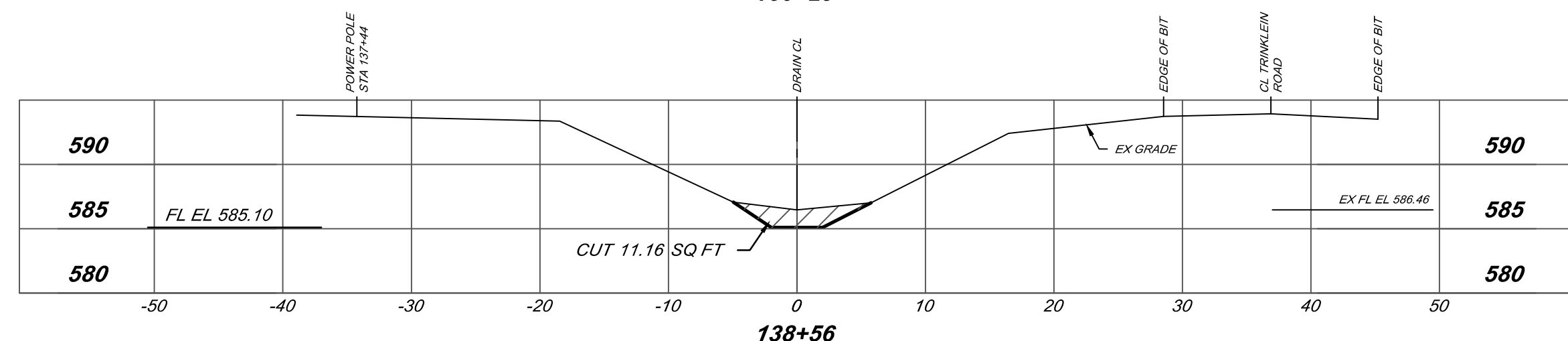
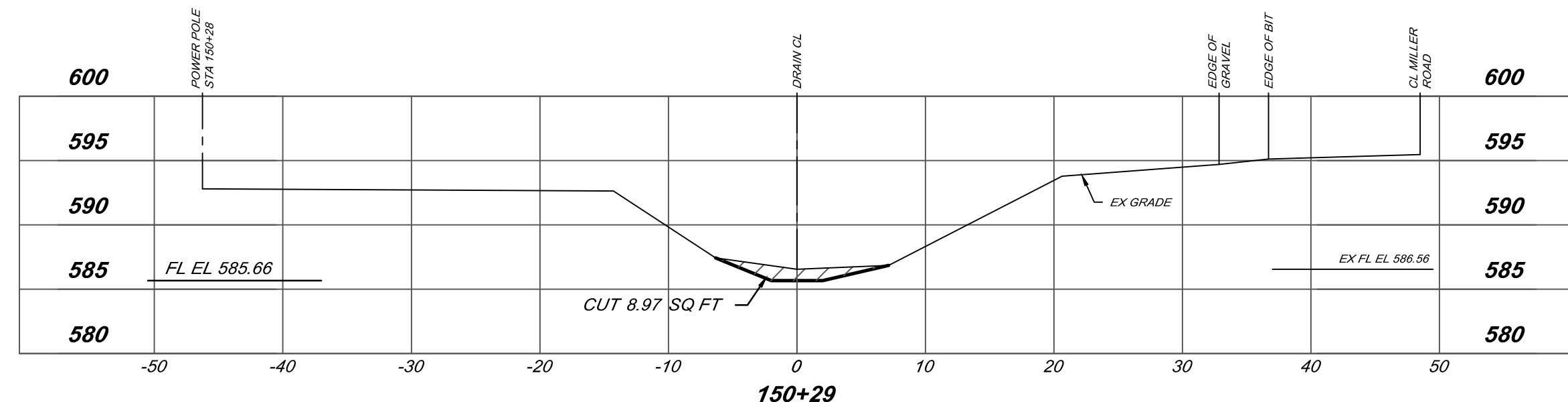
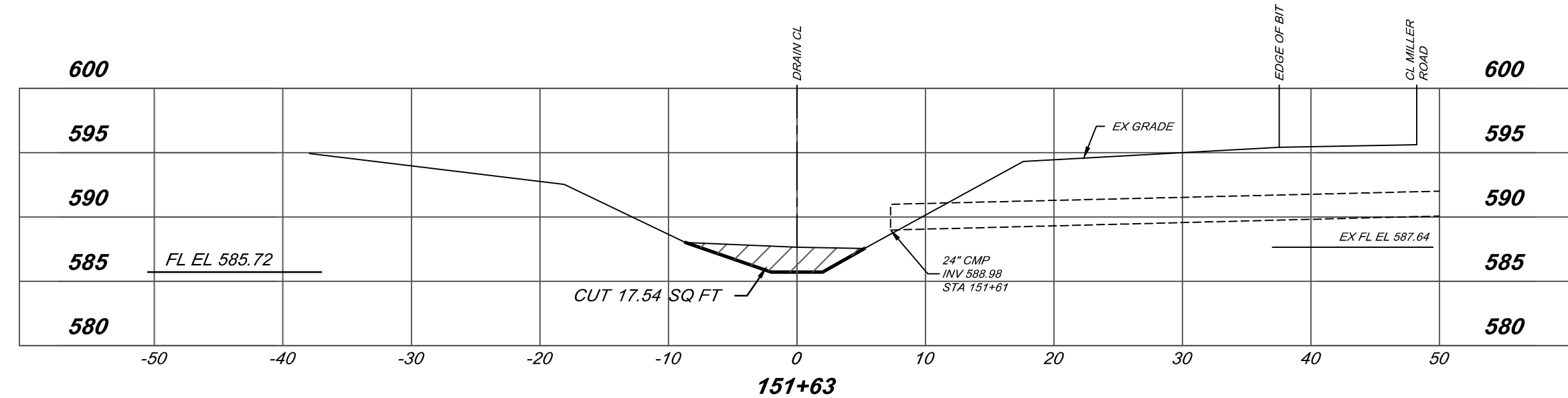
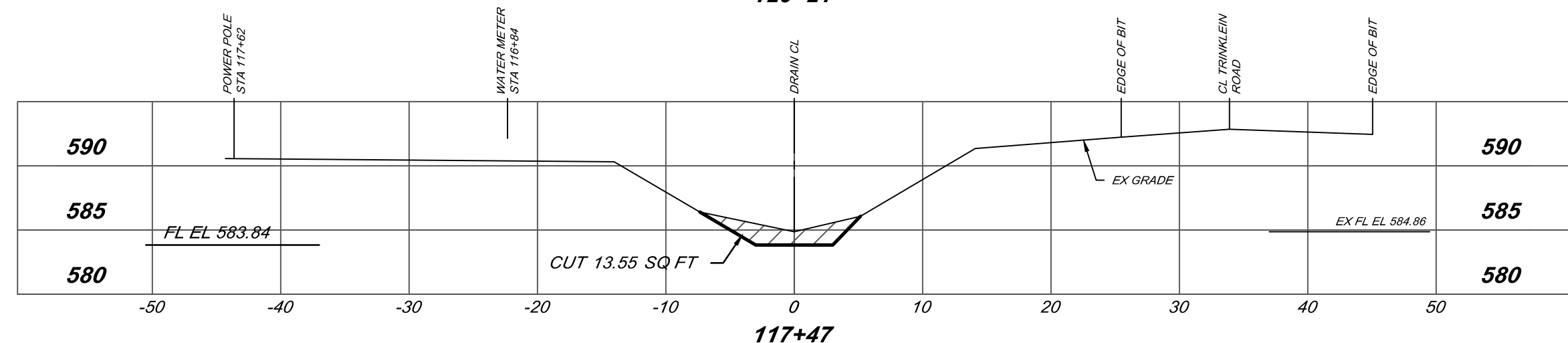
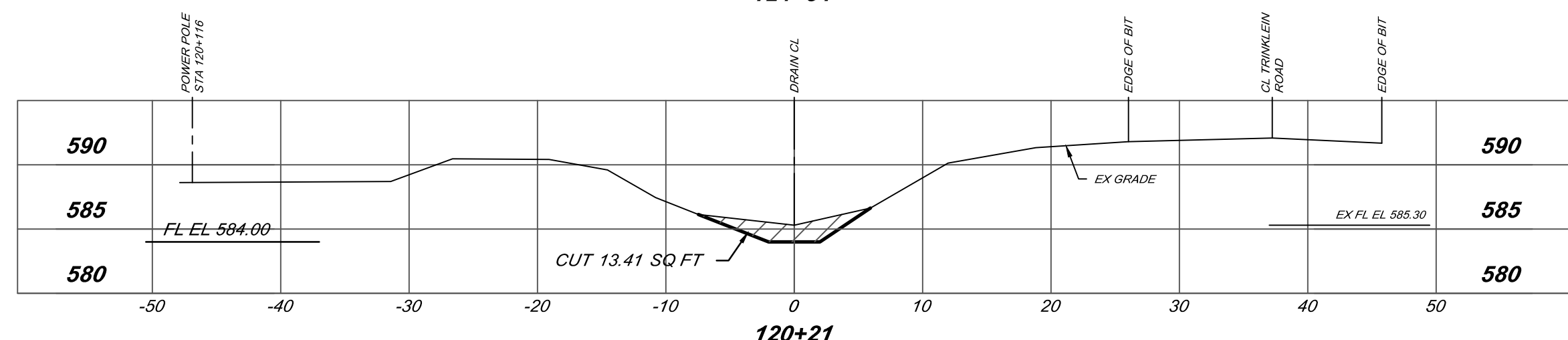
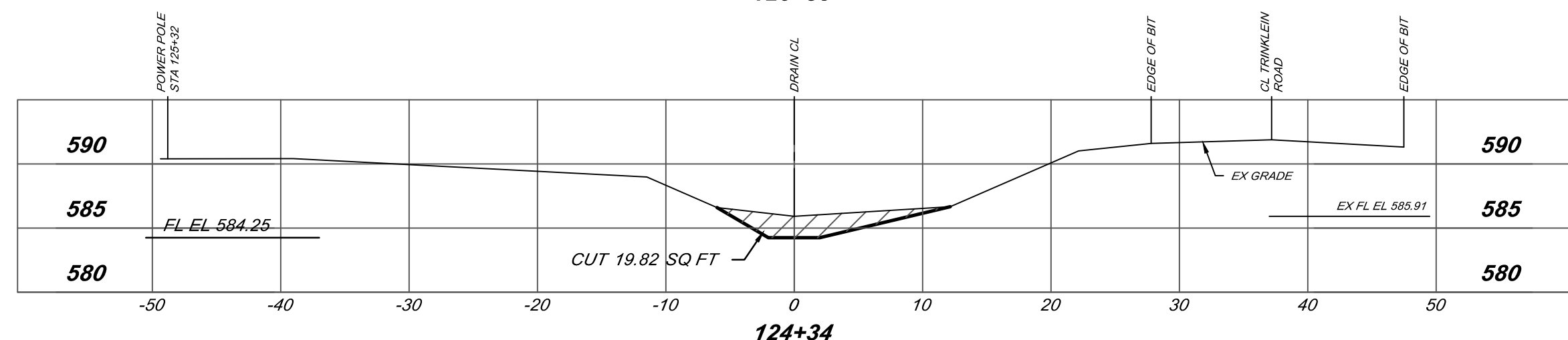
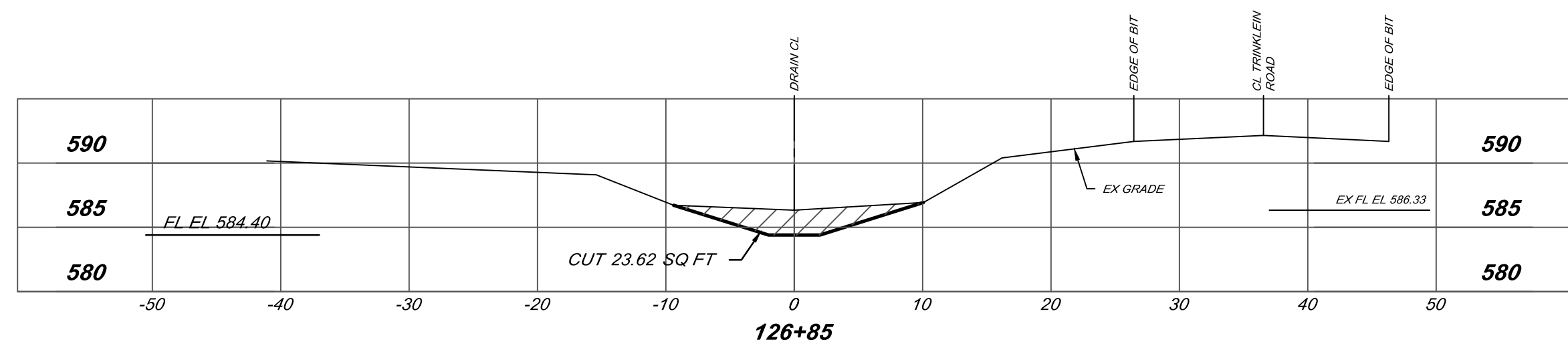
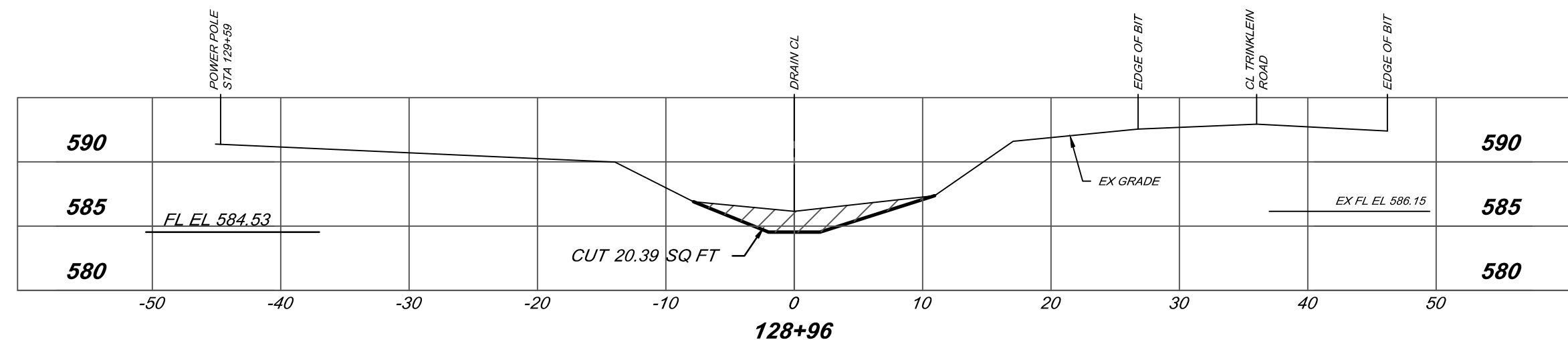
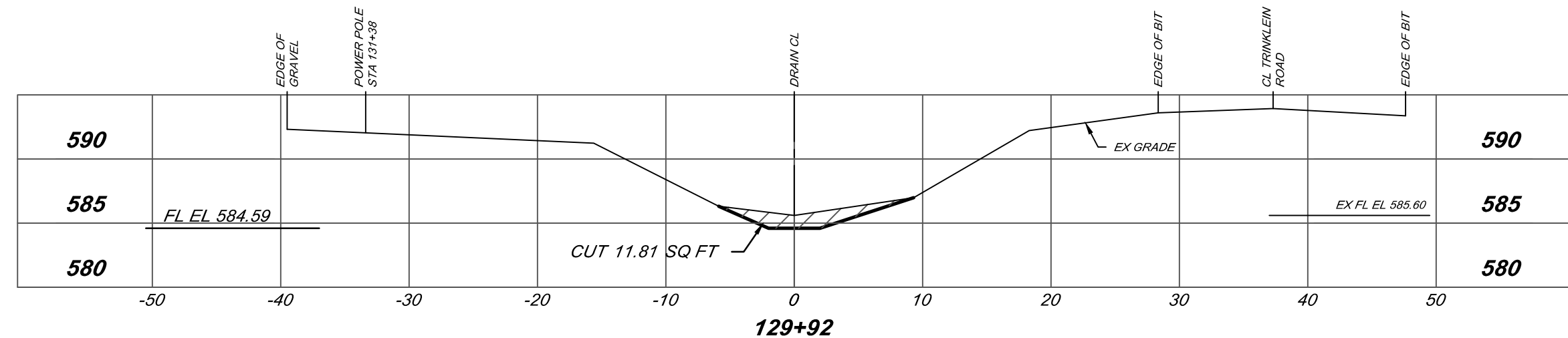
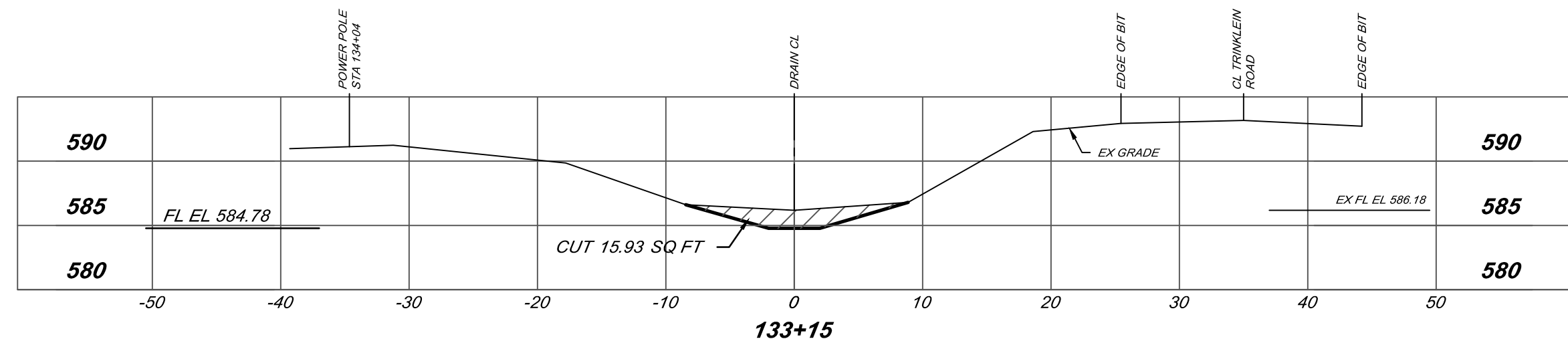
BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>NEW TAMARACK DRAIN SAGINAW COUNTY, MICHIGAN</p>			
<p>PLAN AND PROFILE BRANCH 1 STA 0+00 TO STA 30+85</p>			
<p>DE. BY: POC/LDO DR. BY: MJC</p>		<p>CH. BY: LDO APP. BY: NDC</p>	
<p>PROJECT NO. 1344885G2023</p>		<p>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</p>	
<p>STDS.</p>		<p>SHEET 11 OF 18</p>	
<p>DATE: APRIL, 2024 SCALE: H:1"=200' V:1"=10'</p>		<p>FILE NO. DR-4625-11</p>	
		<p>DR 11</p>	



BY	MARK	REVISIONS	DATE
<small>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PRESENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</small>			
NEW TAMARACK DRAIN SAGINAW COUNTY, MICHIGAN			
CROSS SECTION NEW TAMARACK DRAIN STA 1+20 TO STA 109+01			
		<small>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</small>	
DE. BY:	POC/LDO	CH. BY:	LDO
DR. BY:	MJC	APP. BY:	NDC
			PROJECT NO. 1344885G2023
STDS.	SHEET 12 OF 18		DR 12
DATE	APRIL, 2024	FILE NO.	
SCALE	1"=10'	DR-4625-12	

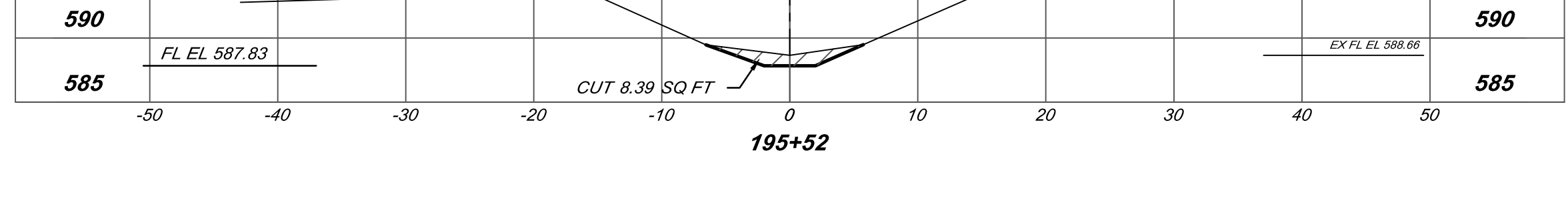
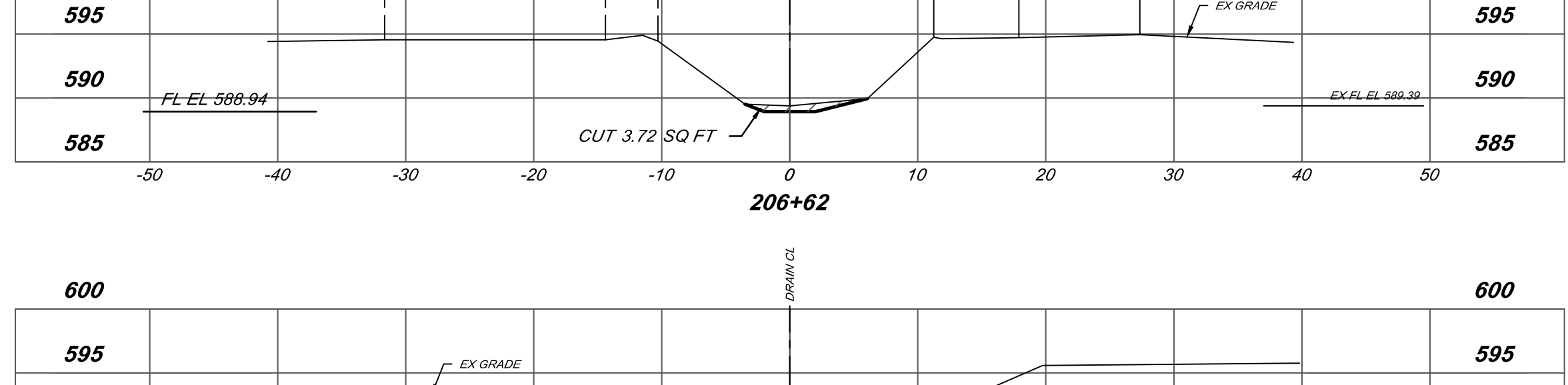
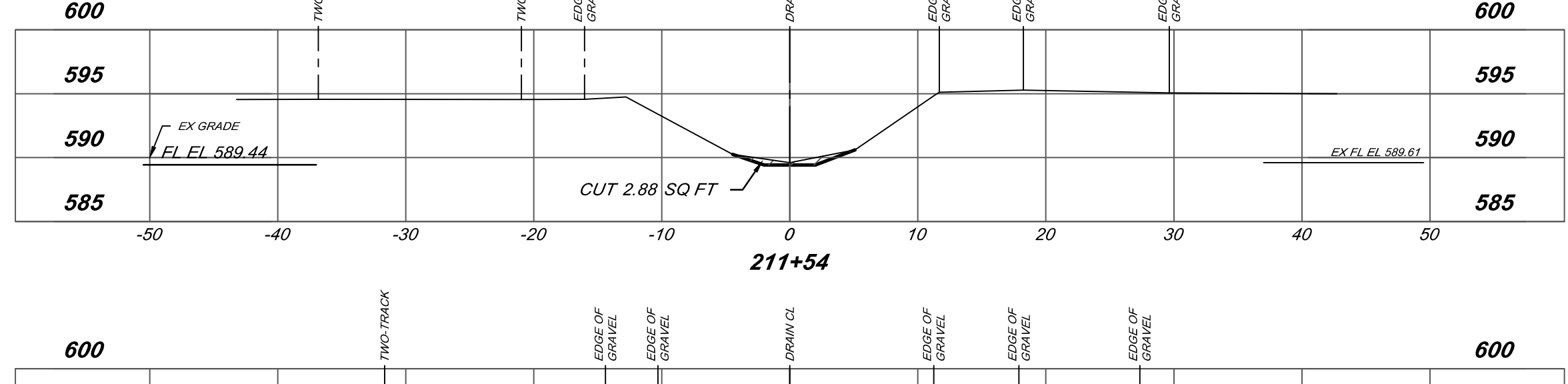
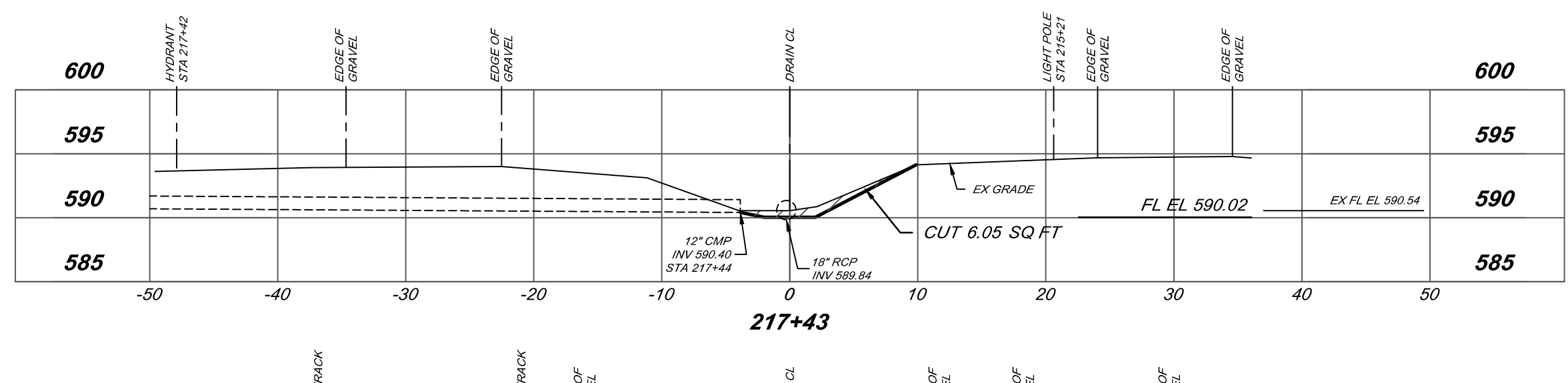
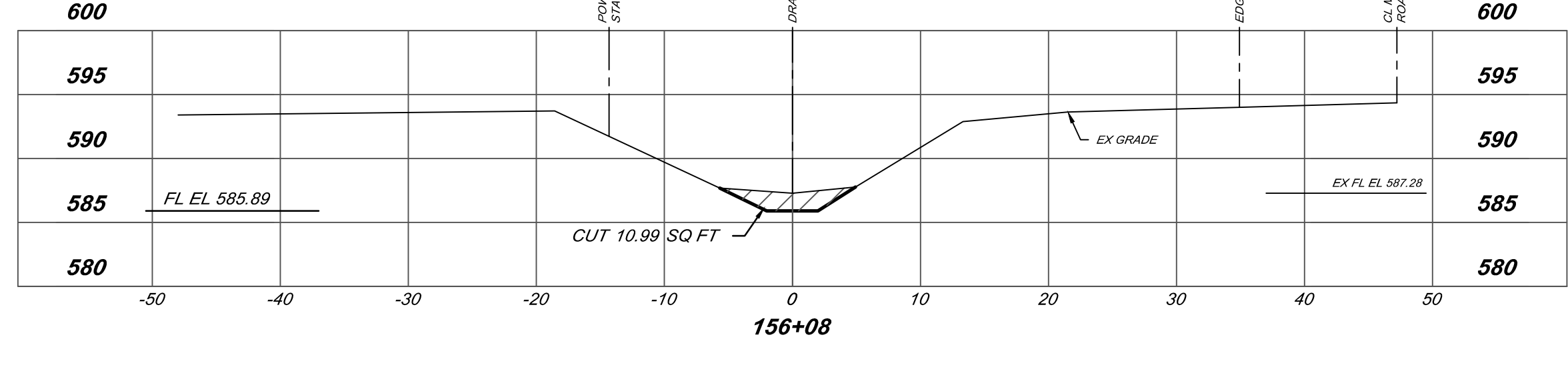
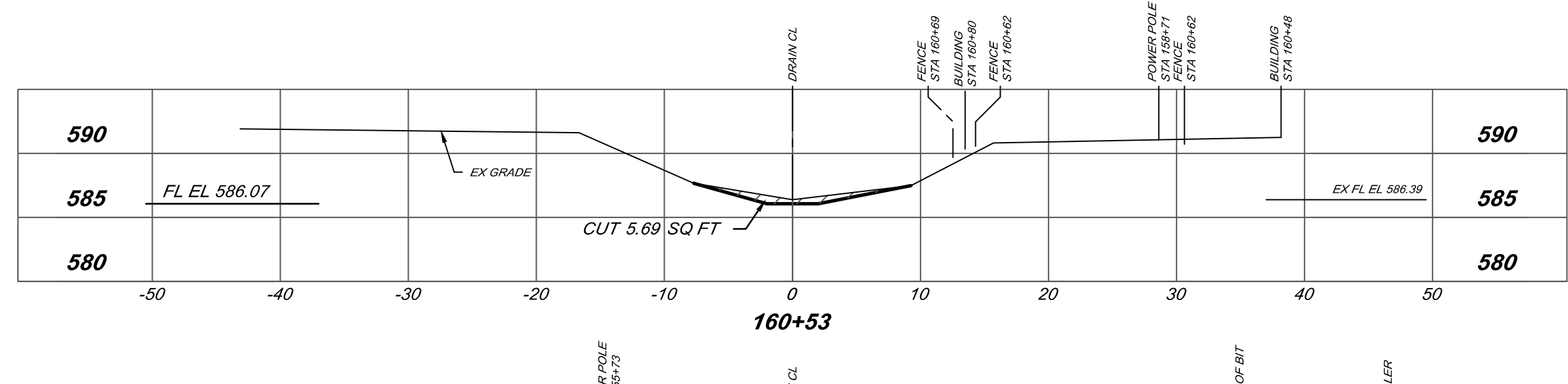
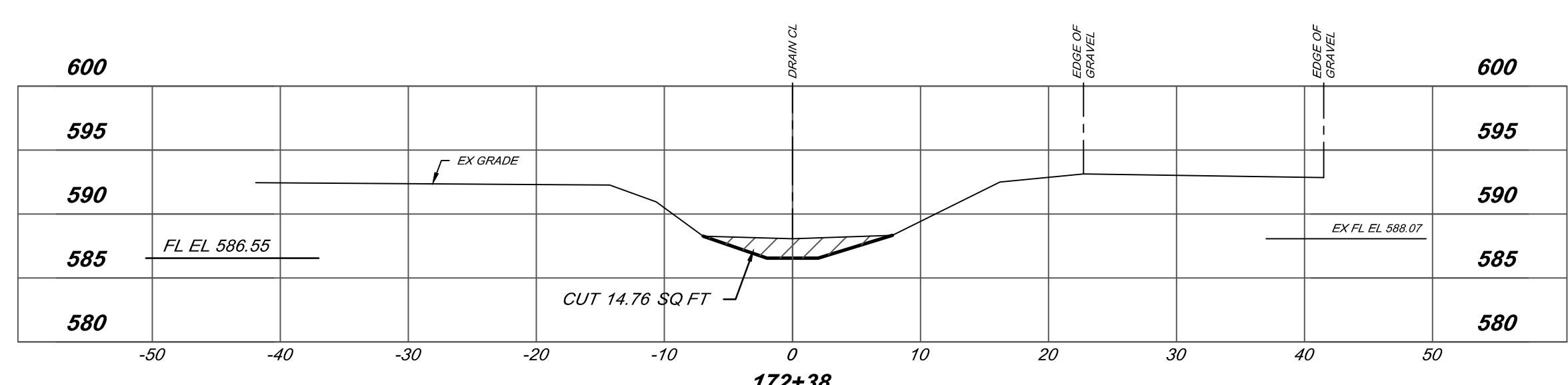
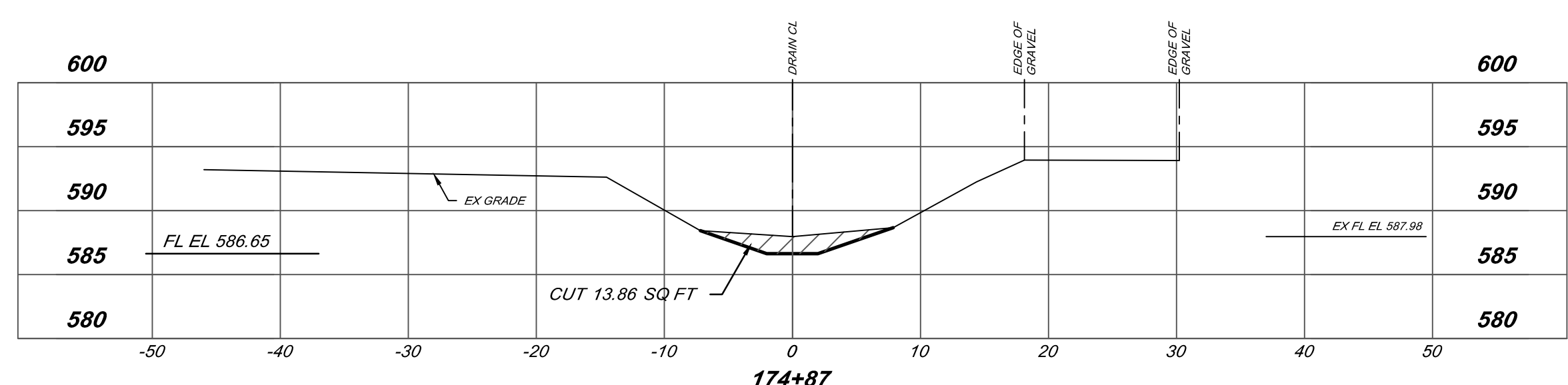
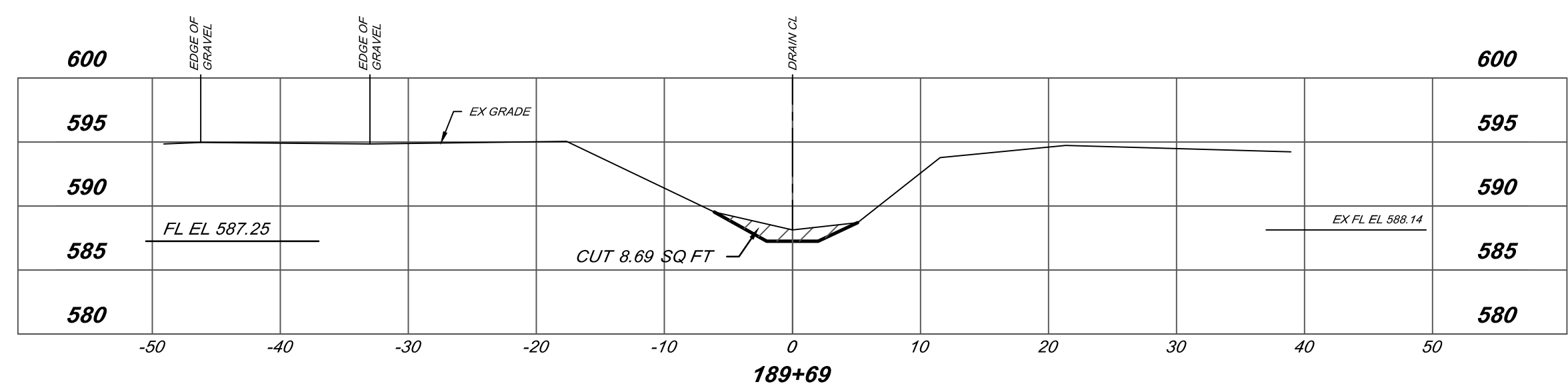
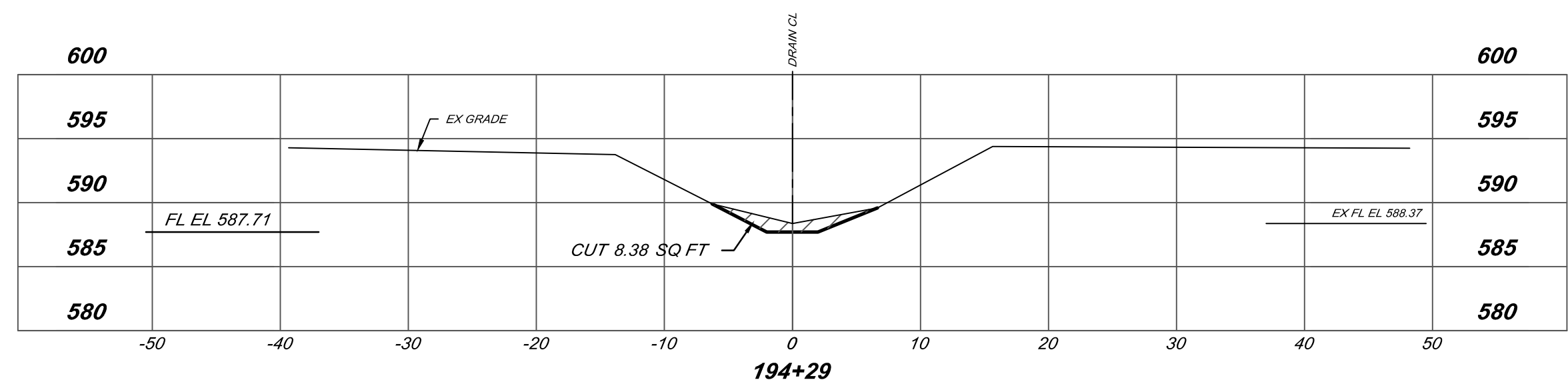
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CHAD.SCHWARTZ



BY	MARK	REVISIONS	DATE
<small>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</small>			
NEW TAMARACK DRAIN SAGINAW COUNTY, MICHIGAN			
CROSS SECTION NEW TAMARACK DRAIN STA 117+47 TO STA 151+63			
		<small>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</small>	
DE. BY:	POC/LDO	CH. BY:	LDO
DR. BY:	MJC	APP. BY:	NDC
			PROJECT NO. 134488SG2023
STDS.	SHEET 13 OF 18		DR 13
DATE	APRIL, 2024		
SCALE	1"=10'		FILE NO. DR-4625-13

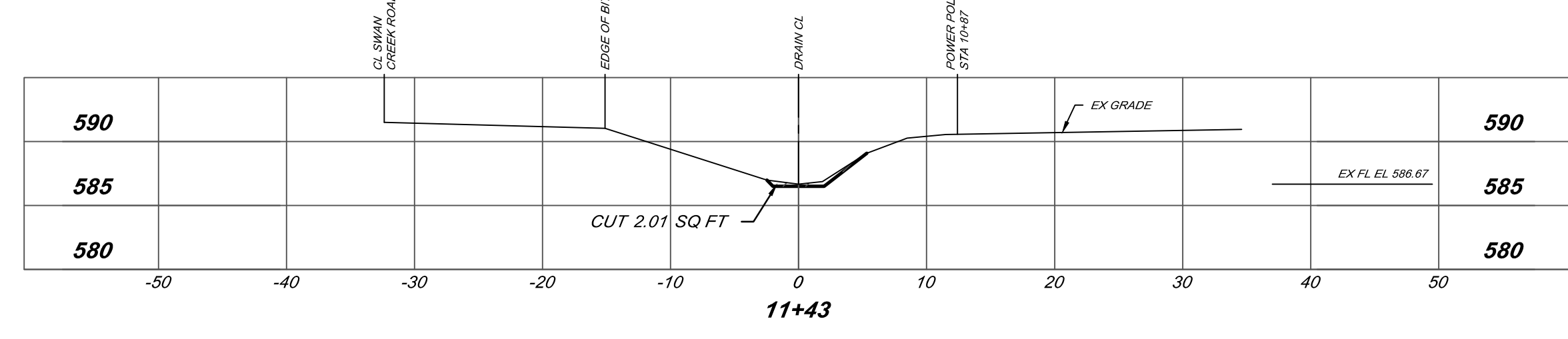
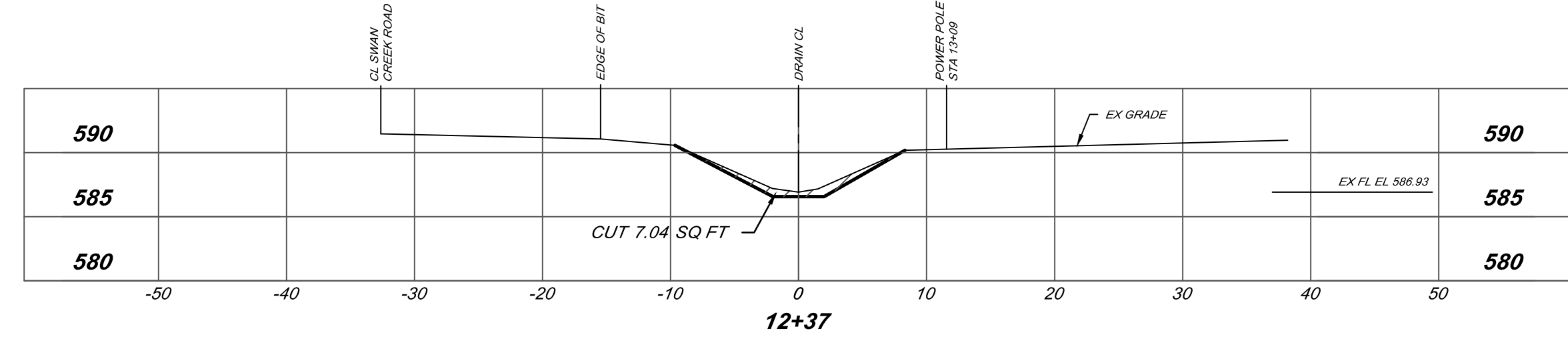
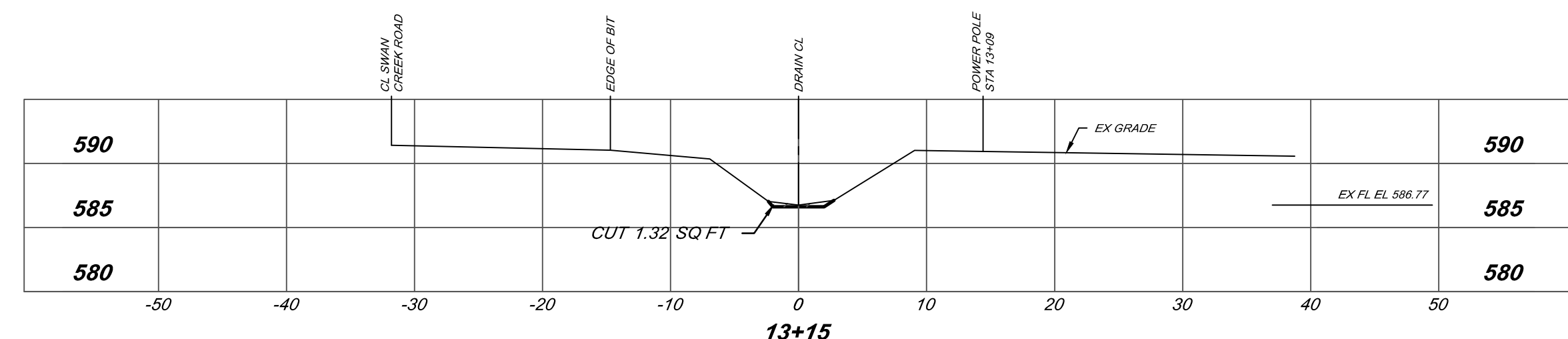
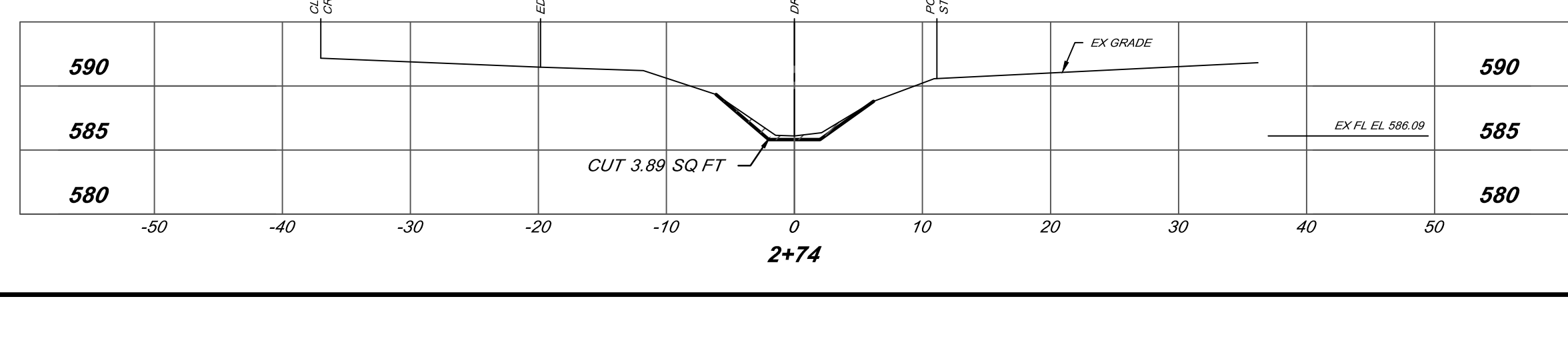
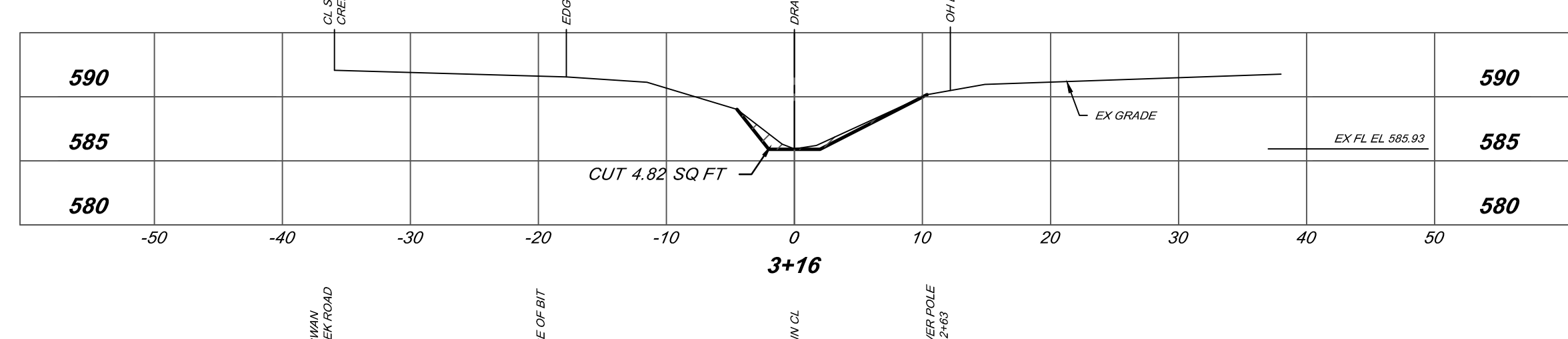
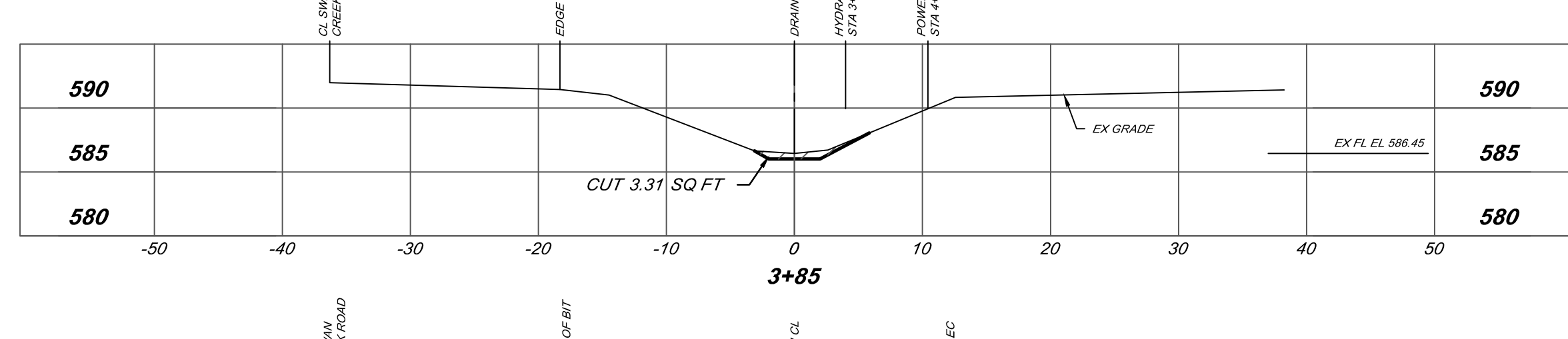
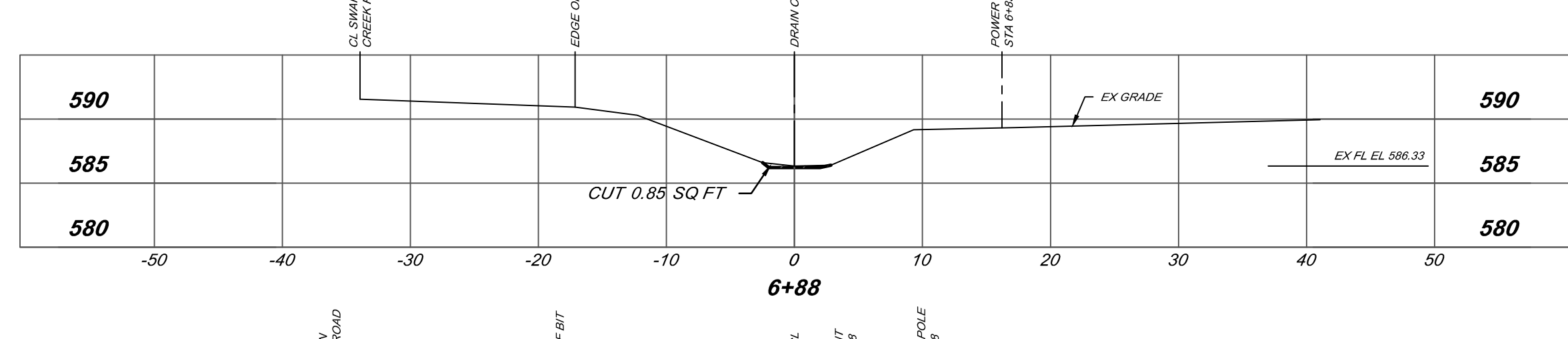
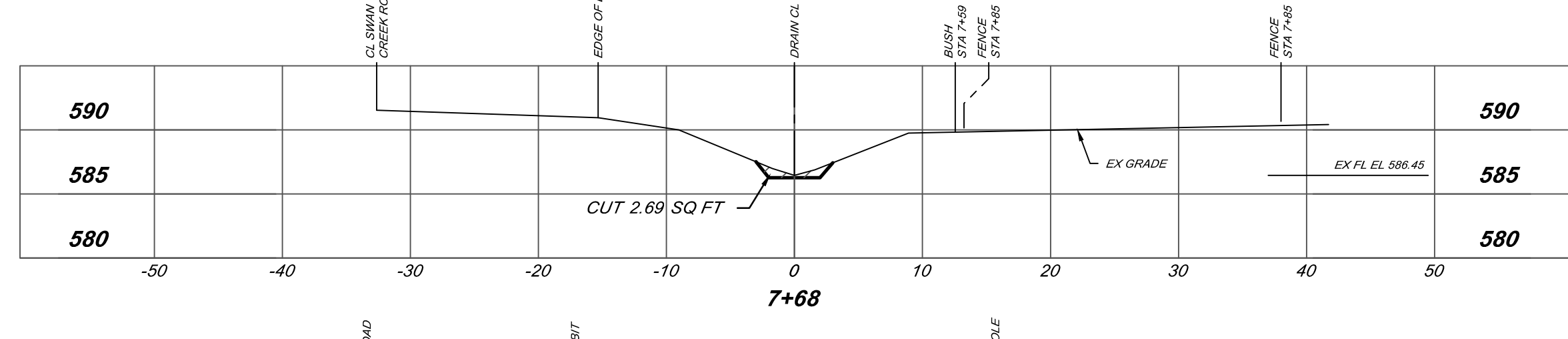
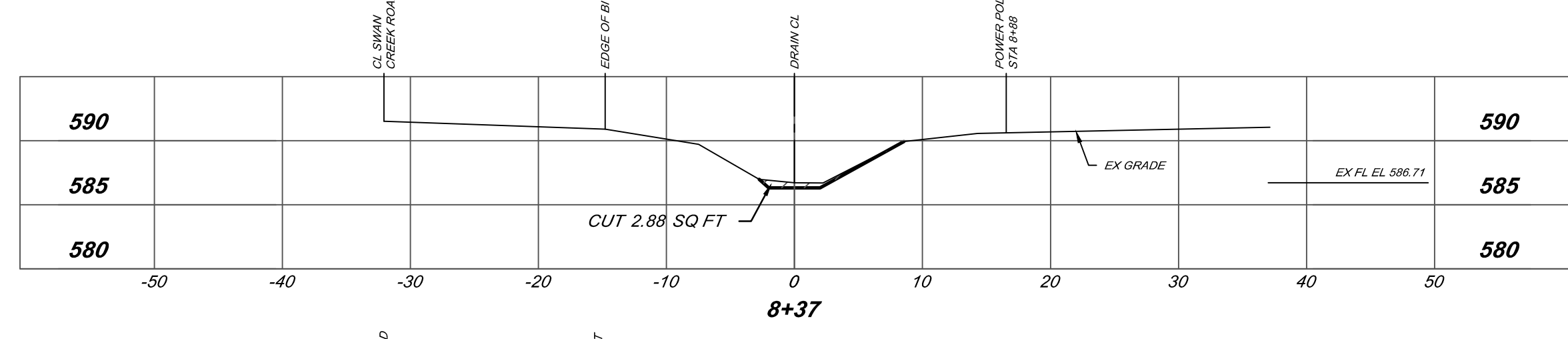
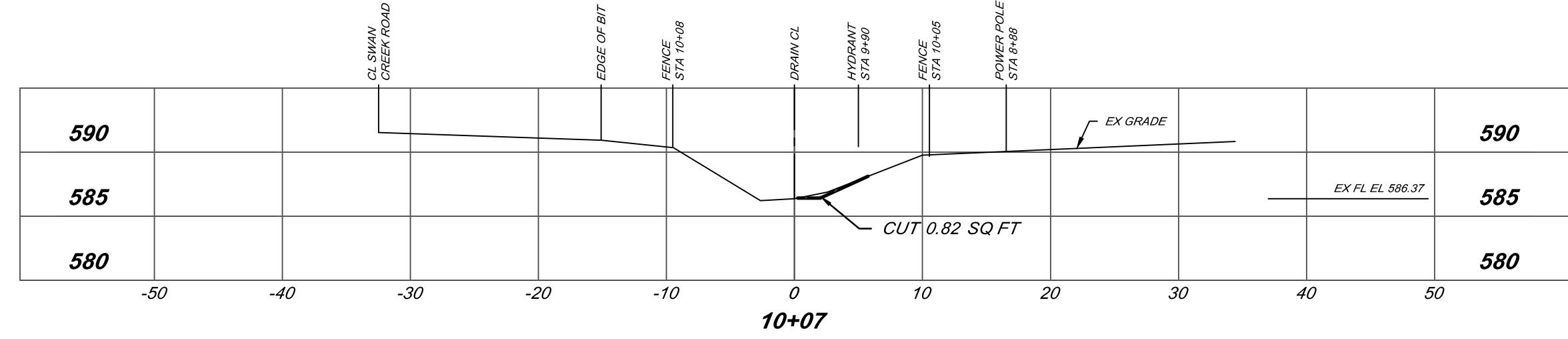
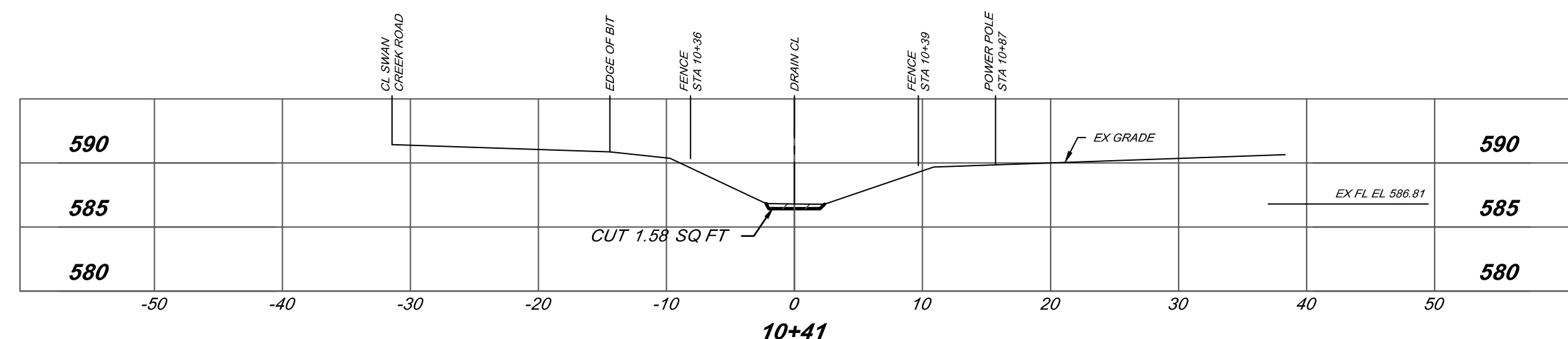
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BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>NEW TAMARACK DRAIN SAGINAW COUNTY, MICHIGAN</p>			
<p>CROSS SECTION NEW TAMARACK DRAIN STA 156+08 TO STA 217+43</p>			
		<p>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</p>	
DE. BY:	POC/LDO	CH. BY:	LDO
DR. BY:	MJC	APP. BY:	NDC
		PROJECT NO. 134488SG2023	
STDS.		SHEET 14 OF 18	
DATE		FILE NO.	
SCALE		DR-4625-14	
			DR 14

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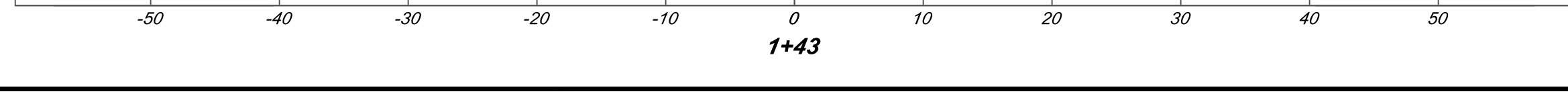
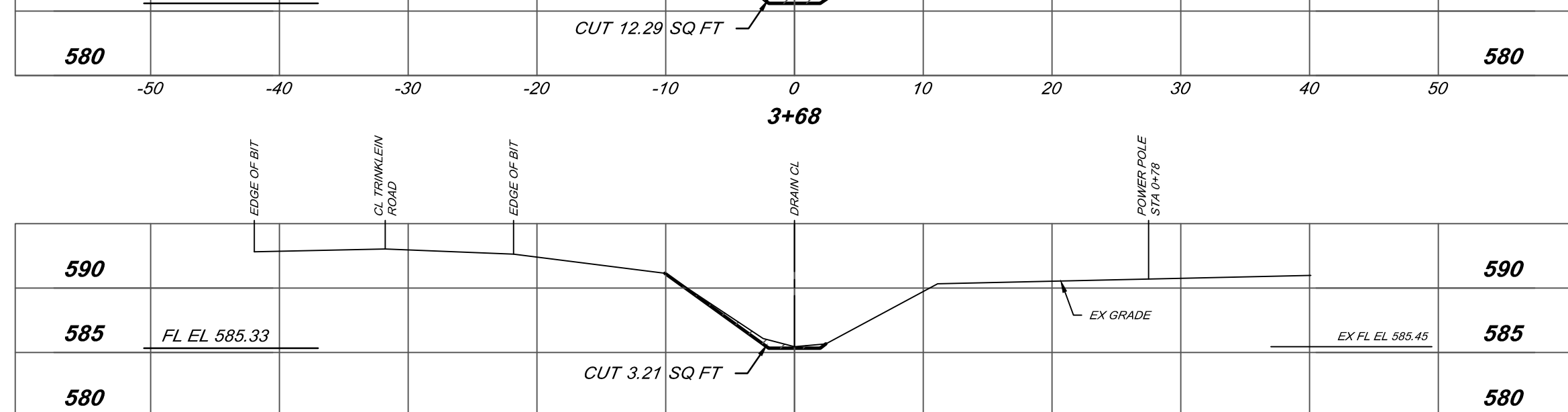
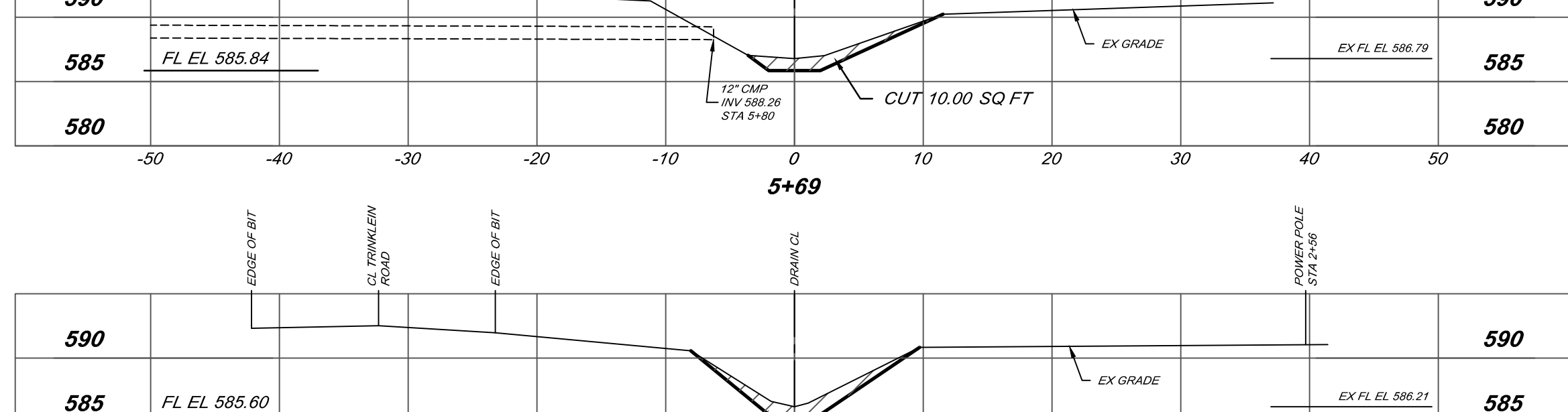
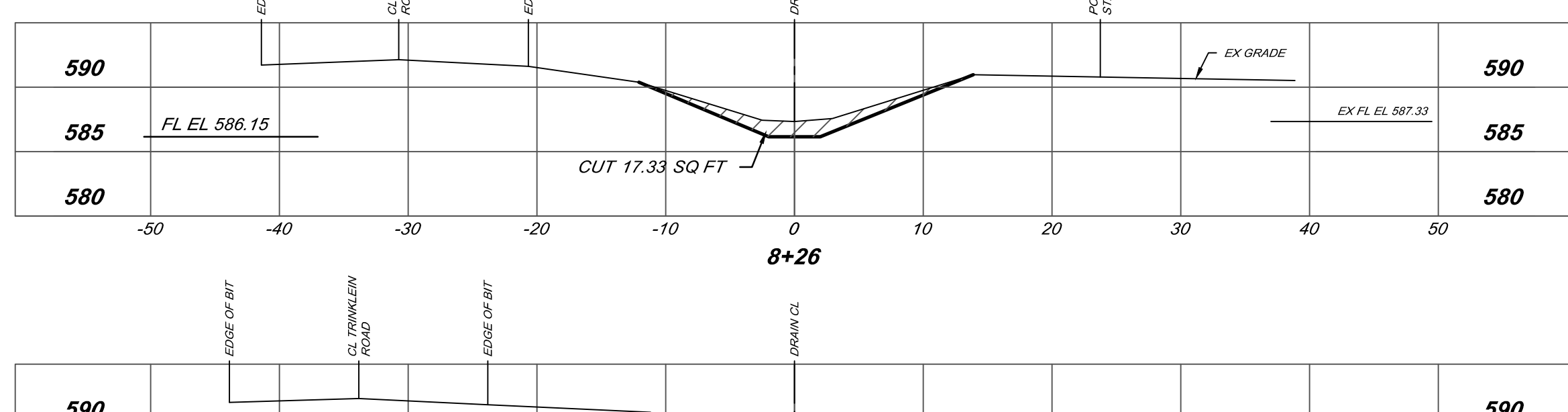
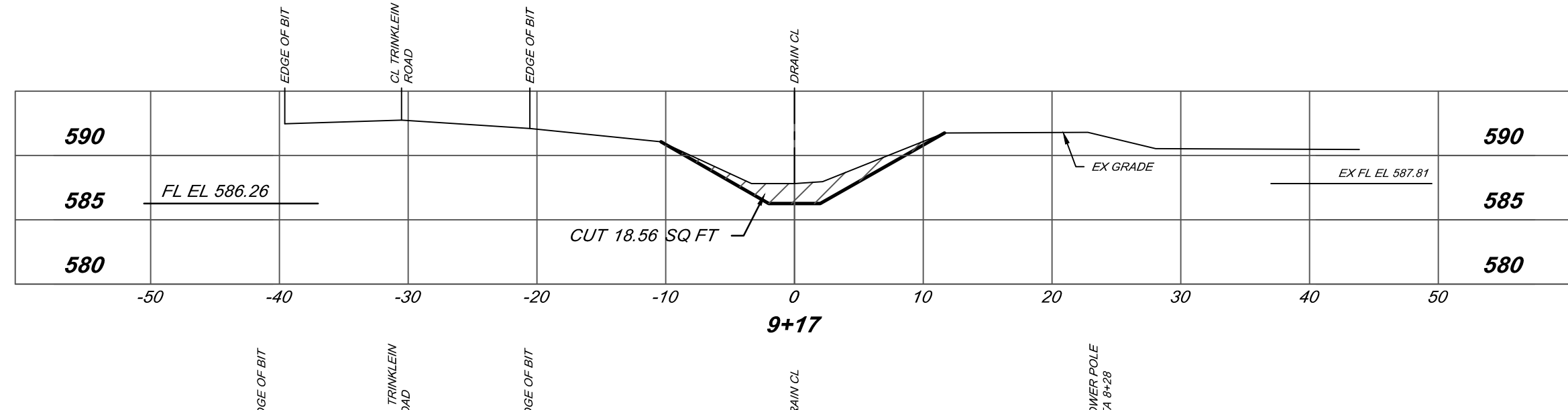
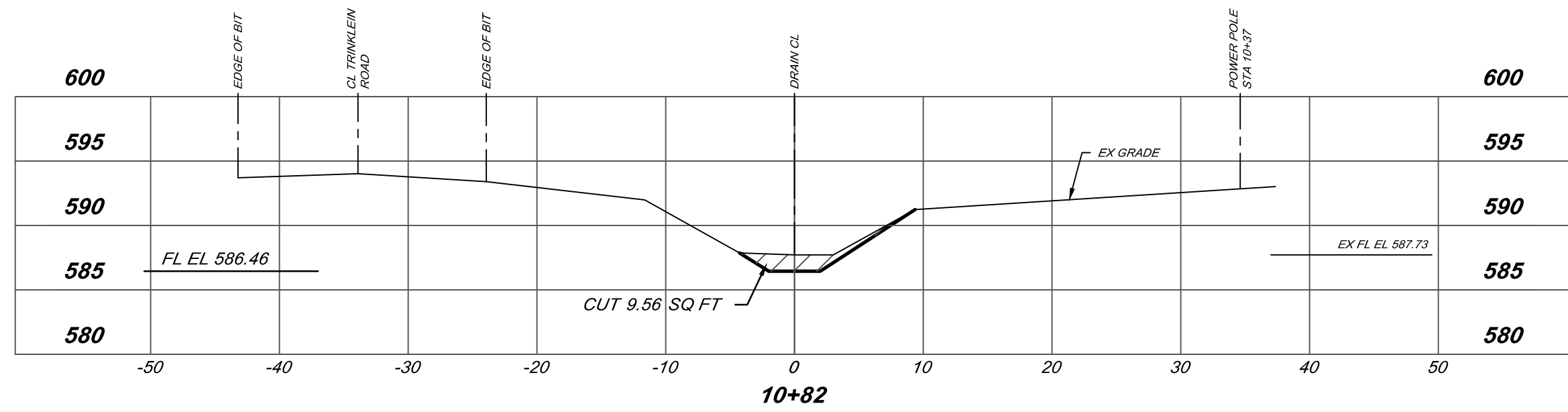
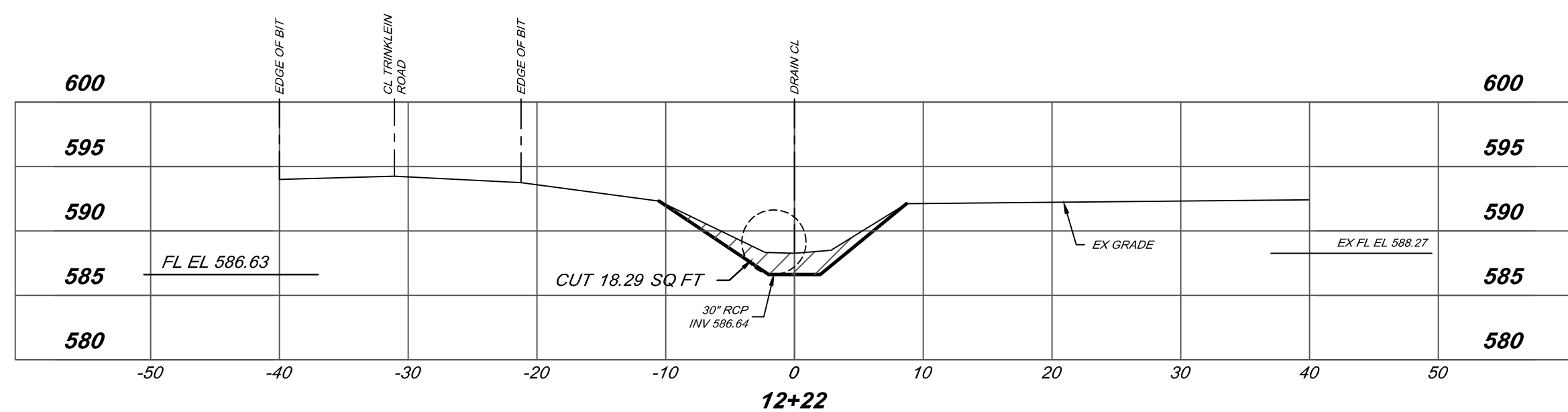
TAMARACK



BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>NEW TAMARACK DRAIN SAGINAW COUNTY, MICHIGAN</p>			
<p>CROSS SECTION SWAN CREEK ROAD BRANCH STA 2+74 TO STA 13+15</p>			
		<p>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</p>	
DE. BY:	POC/LDO	CH. BY:	LDO
DR. BY:	MJC	APP. BY:	NDC
			PROJECT NO. 134488SG2023
STDS.	SHEET 15 OF 18		<p>DR 15</p>
DATE	APRIL, 2024		
SCALE	1"=10'		FILE NO. DR-4625-15

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1/4"=1"=10'



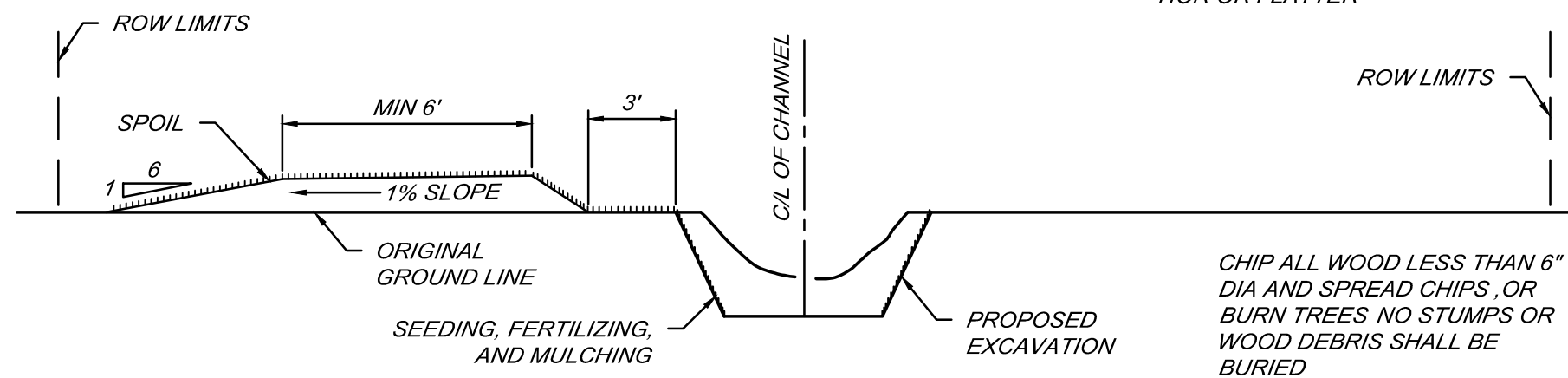
BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>NEW TAMARACK DRAIN SAGINAW COUNTY, MICHIGAN</p>			
<p>CROSS SECTION BRANCH 1 STA 1+43 TO STA 12+22</p>			
		<p>SAGINAW OFFICE 230 S. Washington Ave. Saginaw, MI 48607 Tel: 989-754-4717 Fax: 989-754-4440 www.SpicerGroup.com</p>	
DE. BY:	POC/LDO	CH. BY:	LDO
DR. BY:	MJC	APP. BY:	NDC
			PROJECT NO. 134488SG2023
STDS.	SHEET 16 OF 18		<p>DR 16</p>
DATE	APRIL, 2024		
SCALE	1"=10'		FILE NO. DR-4625-16

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EXCAVATE FROM ONLY ONE SIDE OF DRAIN AS DESIGNATED ON PLANS OR DETERMINED BY ENGINEER

FOR EXCAVATION FROM ONE SIDE OF DRAIN, OPPOSITE SIDE OF DRAIN MUST BE CLEARED TO TOP OF BANK

LEAVE OPENINGS IN DEBRIS PILE AND SPOIL BANK WHERE NECESSARY SO THAT NO PONDING OF SURFACE WATER OCCURS SIDE SLOPES ON OPENINGS SHALL BE 1 VERT ON 10 HOR OR FLATTER



PROVIDE 4" TOPSOIL IN LAWN AREAS NO SPOILS WILL BE LEVELED IN LAWN AREAS UNLESS INDICATED ON PLAN OR WITH WRITTEN PERMISSION FROM LAND OWNER

SPOIL LEVELING DETAIL "A"
NOT TO SCALE

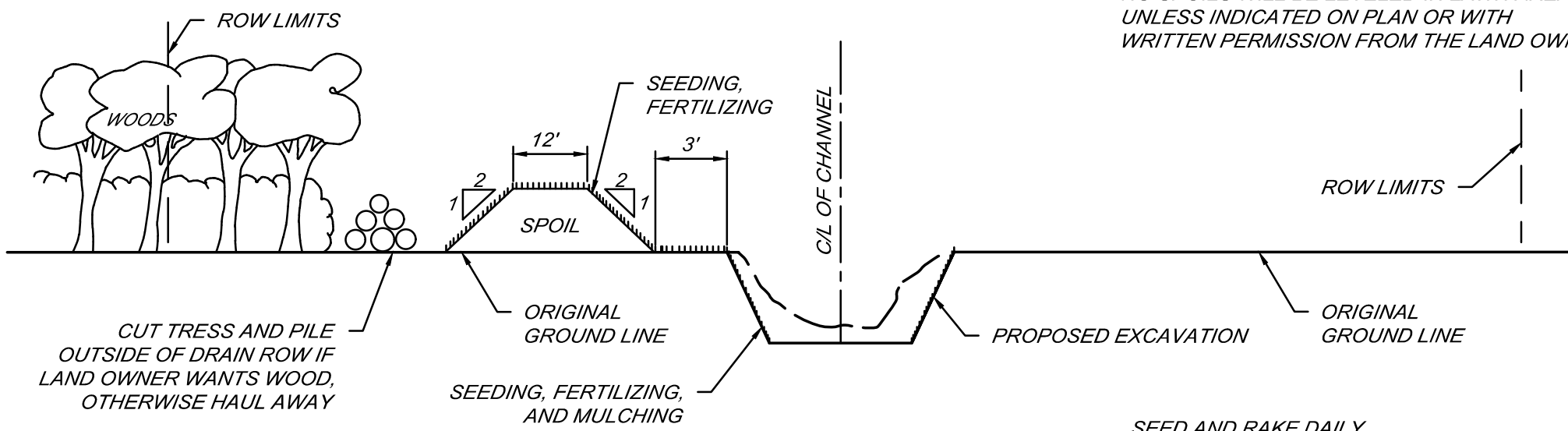
RAKE, SEED, FERTILIZE AND MULCH ALL DISTURBED AREAS DAILY SEE SPECIFICATION FOR APPLICATION RATES

FOR EXCAVATION FROM ONE SIDE OF DRAIN, OPPOSITE SIDE OF DRAIN MUST BE CLEARED TO TOP OF BANK

PILE OR WIND ROW DEBRIS WITHIN DRAIN RIGHT OF WAY

PROVIDE 4" OF TOPSOIL IN LAWN AREAS

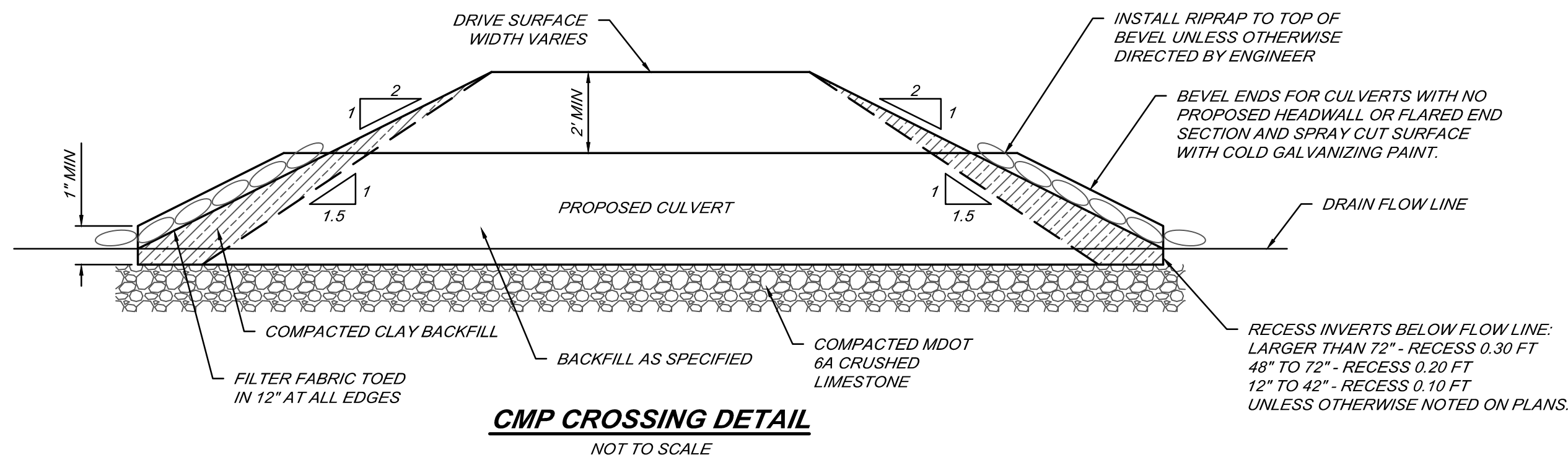
NO SPOILS WILL BE LEVELED IN LAWN AREAS UNLESS INDICATED ON PLAN OR WITH WRITTEN PERMISSION FROM THE LAND OWNER



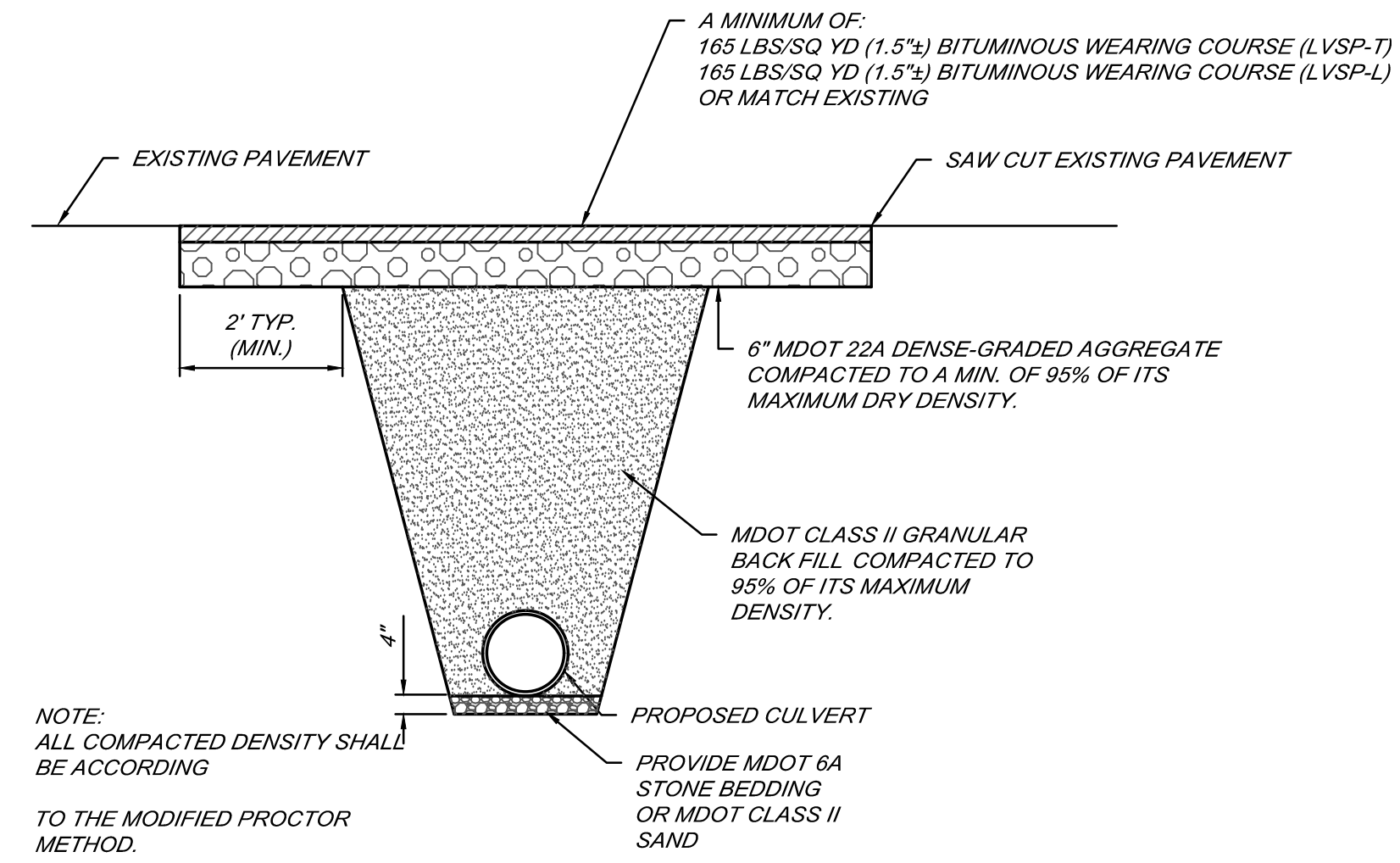
SPOIL LEVELING DETAIL "B"
NOT TO SCALE

LEAVE OPENINGS IN DEBRIS PILE AND SPOIL BANK WHERE NECESSARY SO THAT NO PONDING OF SURFACE WATER OCCURS SIDE SLOPES ON OPENINGS SHALL BE 1 VERT ON 10 HOR OR FLATTER FOR TRAFFICABILITY

SEED AND RAKE DAILY SEE SPECIFICATION FOR APPLICATION RATES

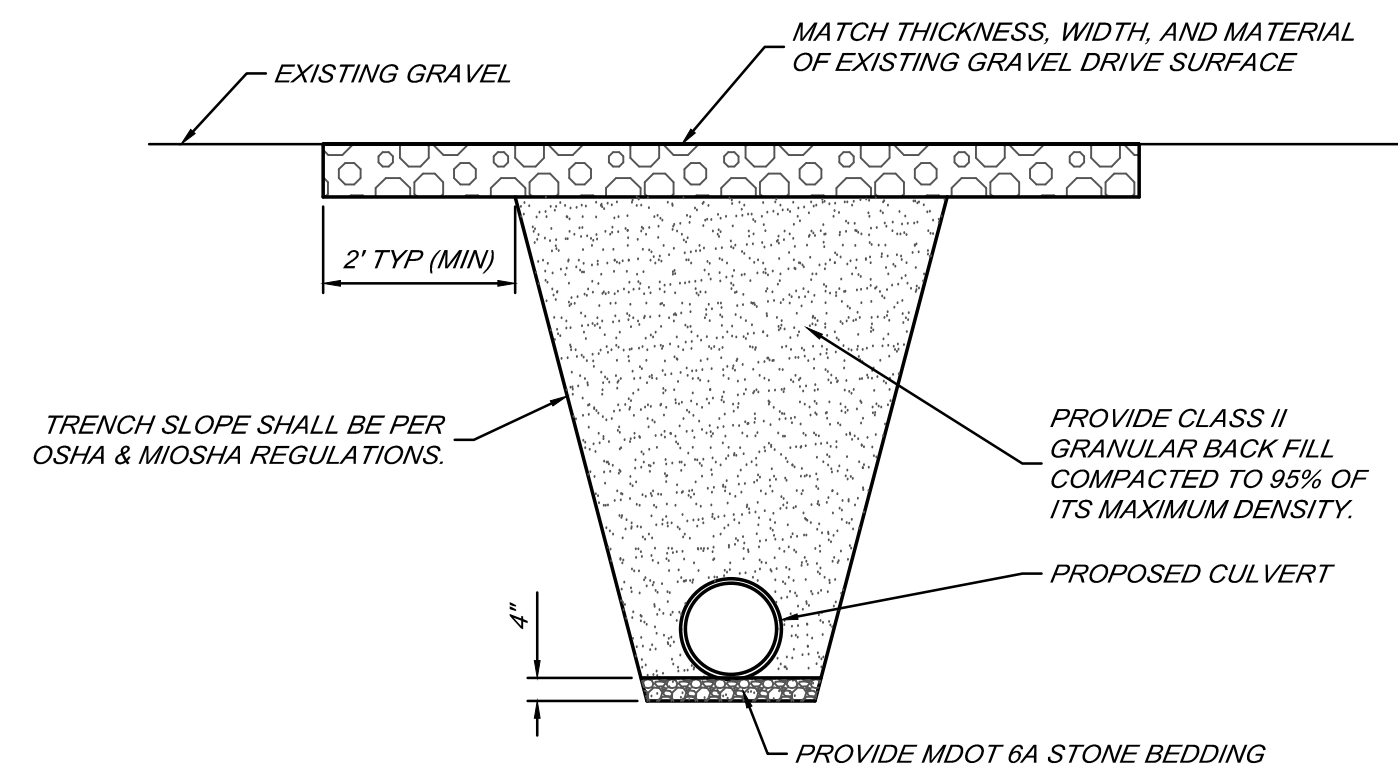


CMP CROSSING DETAIL
NOT TO SCALE

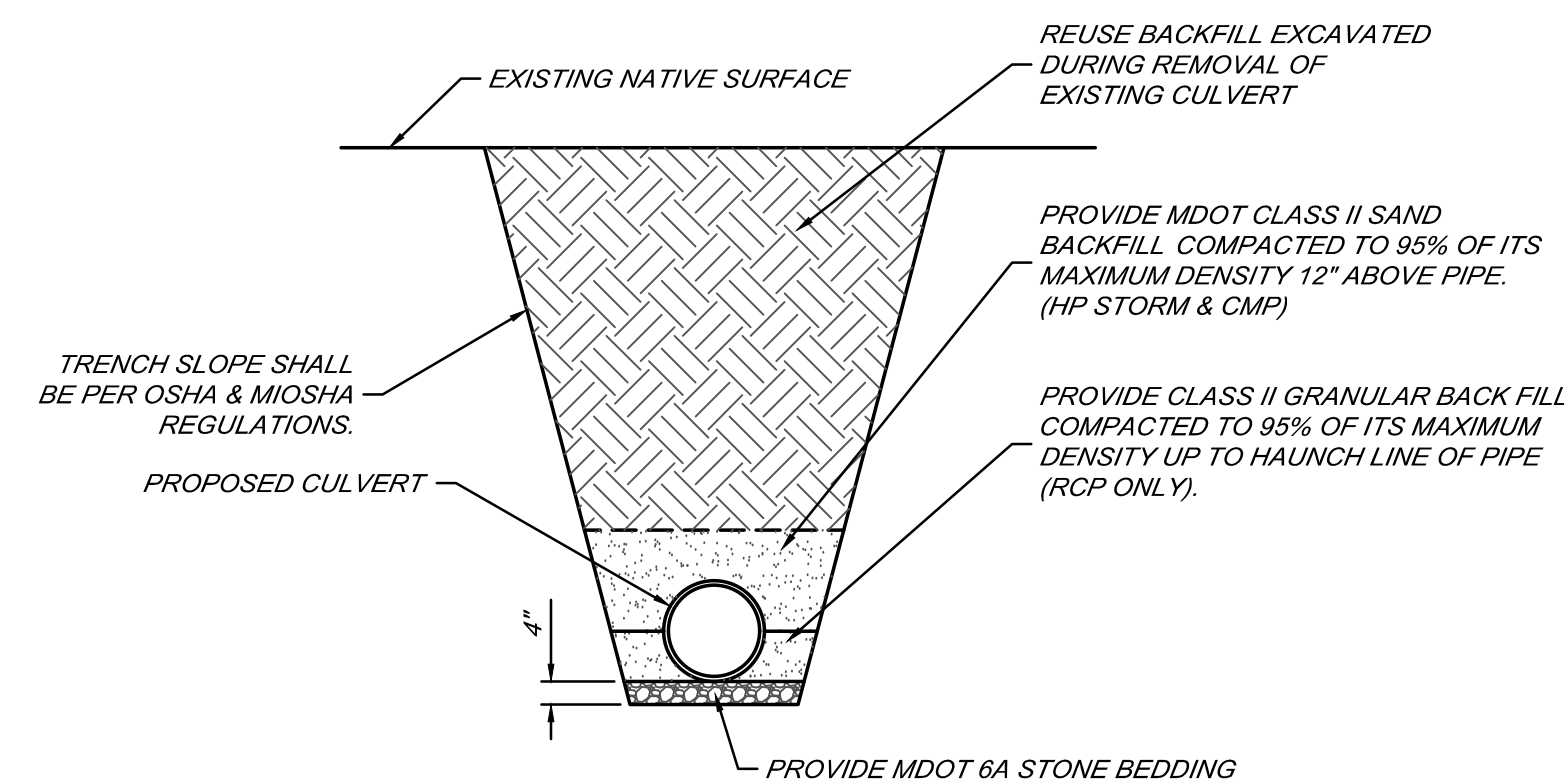


TYPICAL BITUMINOUS DRIVE CROSSING DETAIL
NOT TO SCALE

NOTE: ALL COMPACTED DENSITY SHALL BE ACCORDING TO THE MODIFIED PROCTOR METHOD.



TYPICAL GRAVEL DRIVE CROSSING DETAIL
NOT TO SCALE



TYPICAL NATIVE DRIVE CROSSING DETAIL
NOT TO SCALE

BY	MARK	REVISIONS	DATE
<p>THE WORK REPRESENTED BY THIS DRAWING WAS DESIGNED BY THE ENGINEER FOR THIS SPECIFIC APPLICATION AND SPECIFIC LOCATION DESCRIBED HEREON IN ACCORDANCE WITH THE CONDITIONS PREVALENT AT THE TIME THE DESIGN WAS DONE. THE ENGINEER DOES NOT GUARANTEE AND WILL NOT BE LIABLE FOR ANY OTHER LOCATION, CONDITION, DESIGN OR PURPOSE.</p>			
<p>NEW TAMARACK DRAIN SAGINAW COUNTY, MICHIGAN</p>			
<p>STANDARD DETAILS</p>			
<p>DE. BY: POC/LDO DR. BY: MJC</p>		<p>CH. BY: LDO APP. BY: NDC</p>	
		<p>PROJECT NO. 134488SG2023</p>	
<p>STDS.</p>		<p>SHEET 18 OF 18</p>	
<p>DATE: APRIL, 2024 SCALE: AS SHOWN</p>		<p>FILE NO. DR-4625-18</p>	
		<p>DR 18</p>	

Spicer Group
SAGINAW OFFICE
230 S. Washington Ave.
Saginaw, MI 48607
Tel: 989-754-4717
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