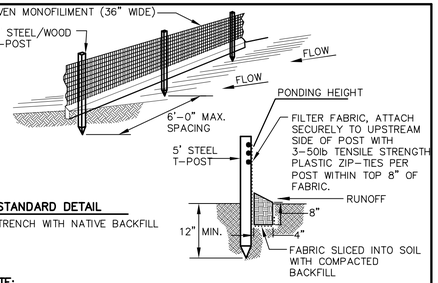


STANDARD DETAIL

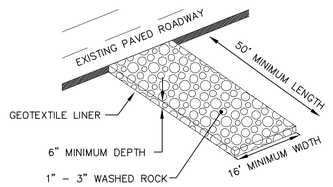
TRENCH WITH NATIVE BACKFILL

NOTE:

1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN ACCUMULATED TO 1/3 THE HEIGHT OF THE FABRIC OR MORE.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
4. ALL ENDS OF THE SILT FENCE SHALL BE WRAPPED UPSLOPE SO THE ELEVATION OF THE BOTTOM OF FABRIC IS HIGHER THAN "PONDING HEIGHT".

	SILT FENCE	LAST REVISED: 11/24/08 GD03

****ACCESS ROADS SHALL BE CONSTRUCTED FROM PUBLIC ROADS WHERE THE CONSTRUCTION DELIVERY TRAFFIC WILL TRAVEL ON THE CONSTRUCTED ACCESS ROAD. SEDIMENT TRACKING ONTO PUBLIC PAVED ROADS IS NOT ANTICIPATED. IF SEDIMENT TRACKING DOES OCCUR, THE SEDIMENT SHALL BE REMOVED AND A ROCK CONSTRUCTION ENTRANCE CONSTRUCTED****

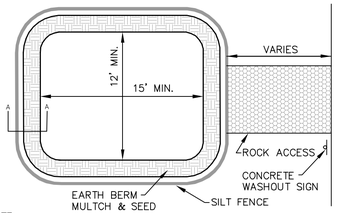


NOTE:

ROCK CONSTRUCTION ENTRANCE SHOULD BE A MINIMUM THICKNESS OF 1.0' AND CONTAIN MAXIMUM SIDE SLOPES OF 4:1. ROCK ENTRANCE SHOULD BE INSPECTED AND MAINTAINED REGULARLY. ROCK ENTRANCE LENGTH MAY NEED TO BE EXTENDED IN CLAY SOILS.

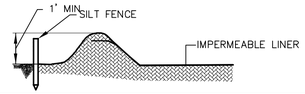
	ROCK CONSTRUCTION ENTRANCE	LAST REVISED: 11/24/08 GD05

AN APPROVED ALTERNATE MAY BE USED

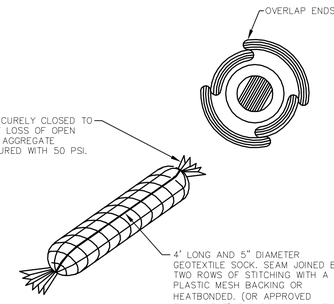


NOTE:
CONCRETE WASHOUT AREAS WILL HAVE AN IMPERMEABLE LINER TO PREVENT CONCRETE WASHOUT WATER FROM INFILTRATING/CONTACTING WITH SOIL. IMPERMEABLE LINER INCLUDES 10 MIL POLYLINER OR COMPACTED CLAY LINER. WASHOUT SYSTEMS CAN BE USED AS ALTERNATE WASHOUT AREAS.

SECTION A-A



	CONCRETE WASHOUT AREA	LAST REVISED: 11/24/08 GD08

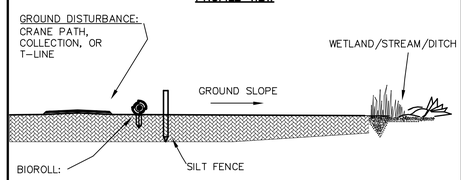


NOTE:

1. ALL GEOTEXTILE USED FOR INLET PROTECTION SHALL BE MONOFILAMENT IN BOTH DIRECTIONS.

	INLET PROTECTION WITH ROCK LOG	LAST REVISED: 03/03/08 GD11

PROFILE VIEW



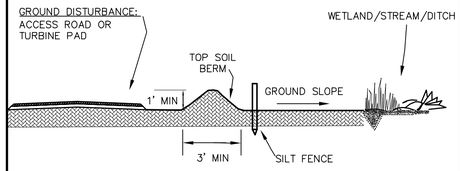
SEE DETAIL/SWPPP FOR BIOROLL & SILT FENCE INFORMATION

NOTES:

1. SEE PLAN FOR DISTURBANCE LIMITS AND LOCATIONS OF SECONDARY CONTROLS.
2. TO BE UTILIZED WHEN DISTURBANCE WILL BE WITHIN 50' OF WETLAND/STREAM/DITCH DELINEATIONS.
3. SEDIMENT CONTROLS TO BE AT EDGE OF DISTURBANCE, KEEPING AS MUCH BUFFER AS POSSIBLE BETWEEN DISTURBANCE AND WETLAND/STREAM/DITCH

	REDUNDANT SEDIMENT CONTROL OPTION 1	LAST REVISED: 08/20/14 GD12

PROFILE VIEW

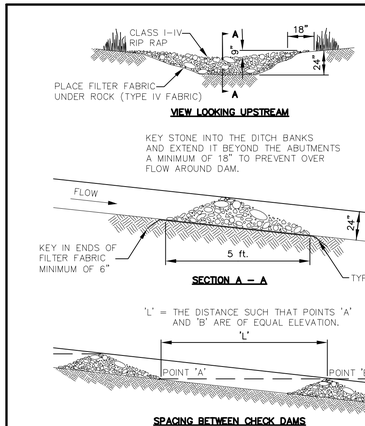


SEE DETAIL/SWPPP FOR TOP SOIL BERM & SILT FENCE INFORMATION

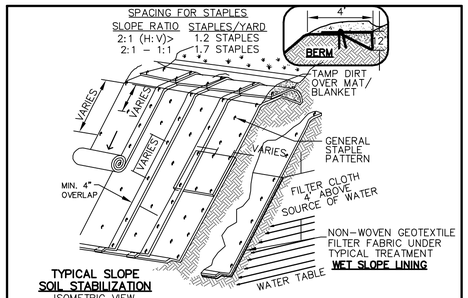
NOTES:

1. SEE PLAN FOR DISTURBANCE LIMITS AND LOCATIONS OF SECONDARY CONTROLS.
2. TO BE UTILIZED WHEN DISTURBANCE WILL BE WITHIN 50' OF WETLAND/STREAM/DITCH DELINEATIONS.
3. SEDIMENT CONTROLS TO BE AT EDGE OF DISTURBANCE, KEEPING AS MUCH BUFFER AS POSSIBLE BETWEEN DISTURBANCE AND WETLAND/STREAM/DITCH

	REDUNDANT SEDIMENT CONTROL OPTION 2	LAST REVISED: 08/20/14 GD13



	TEMPORARY ROCK CHECK DAM	LAST REVISED: 03/03/08 GD18

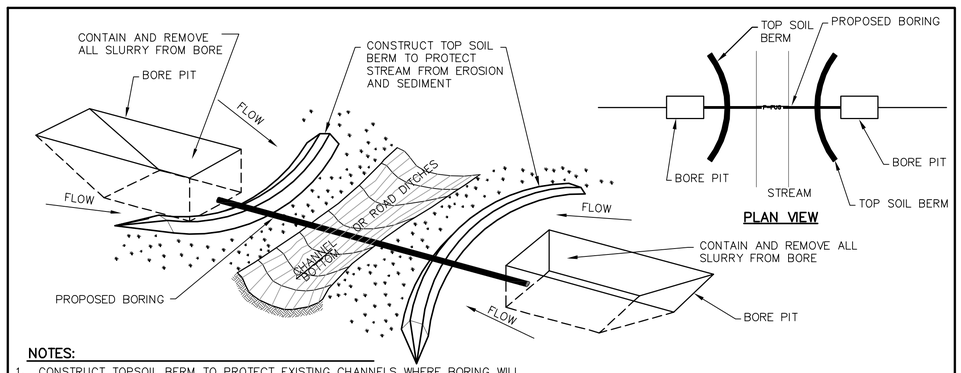


TYPICAL SLOPE SOIL STABILIZATION
ISOMETRIC VIEW

NOTE:

1. REFER TO THE PROJECT SWPPP FOR IMPLEMENTATION REQUIREMENTS.
2. MATS/BLANKETS SHOULD BE INSTALLED VERTICALLY DOWNSLOPE.
3. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICK AND GRASS.
4. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
5. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WTH THE SOIL.
6. DO NOT STRETCH.
7. BLANKET TYPE AND WEIGHT MUST BE CHOOSEN BASED ON SITE CONDITIONS AND MANUFACTURERS RECOMMENDATIONS.
8. STAPLE LENGTHS SHALL CONFORM TO MANUFACTURERS RECOMMENDATIONS.

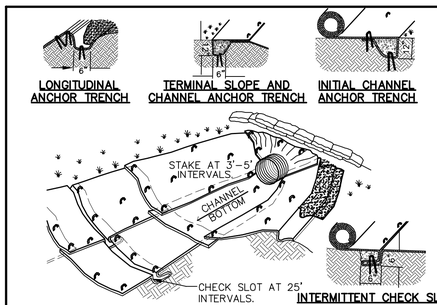
	TEMPORARY EROSION BLANKETS TURF REINFORCEMENT MATS FOR SLOPES	LAST REVISED: 11/24/08 GD21



NOTES:

1. CONSTRUCT TOPSOIL BERM TO PROTECT EXISTING CHANNELS WHERE BORING WILL OCCUR FOR UNDERGROUND COLLECTION SYSTEM INSTALLATION.
2. MINIMIZE DISTURBANCE TO THE STREAM DURING CONSTRUCTION.
3. SILT FENCE MAY BE SUBSTITUTED FOR THE TOPSOIL BERM.
4. UPON REMOVAL OF THE BORE PITS, THE DISTURBED AREAS SHALL BE RESTORED TO NATIVE CONDITIONS. REFER TO THE POCAHONTAS SWPPP DATED MARCH, 2011.

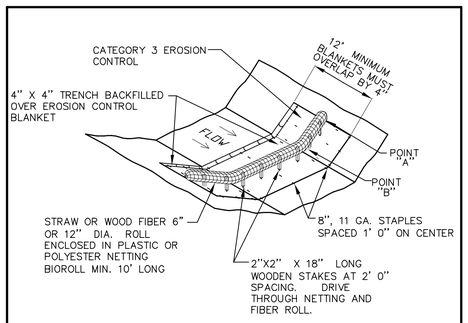
	TYPICAL UNDERGROUND COLLECTION SYSTEM STREAM CROSSING	LAST REVISED: 09/23/08 UT06



NOTE:

1. REFER TO THE PROJECT SWPPP FOR IMPLEMENTATION REQUIREMENTS.
2. CHECK SLOTS TO BE CONSTRUCTED PER MANUFACTURERS SPECIFICATIONS.
3. STAKING OR STAPLING LAYOUT PER MANUFACTURERS SPECIFICATIONS.
4. MINIMUM OF 3.5 STAPLES/YARD.
5. BLANKET TYPE AND WEIGHT MUST BE CHOSEN BASED ON SITE CONDITIONS AND MANUFACTURERS RECOMMENDATIONS.
6. STAPLE LENGTHS SHALL CONFORM TO MANUFACTURERS RECOMMENDATIONS.
7. EROSION CONTROL BLANKETS SHALL EXTEND TO THE EDGE OF THE DISTURBANCE LIMITS.

	TEMPORARY EROSION BLANKETS TURF REINFORCEMENT MATS FOR CHANNELS	LAST REVISED: 03/03/08 GD22



NOTE:

1. REFER TO THE PROJECT SWPPP FOR IMPLEMENTATION REQUIREMENTS.
2. POINT "A" MUST BE HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.
3. TYPE OF MATERIAL FOR EROSION CONTROL BLANKET IS SUBJECT TO FIELD CONDITIONS AND MANUFACTURERS RECOMMENDATION.

	TEMPORARY BIOROLL BLANKET SYSTEM (DITCH APPLICATION)	LAST REVISED: 03/03/08 GD23

Westwood Professional Services, Inc.
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Eden Prairie, MN 55344

PHONE 952-937-5150
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TOLL FREE 1-888-937-5150

www.westwoodps.com

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER, under the laws of the State of Minnesota.

Robert Stanley Copouls

Date: 1/18/16 License No. 47876

Designed:	KLM
Checked:	RSC
Drawn:	IJH
Record Drawing by/date:	

Revisions:

#	DATE	DESCRIPTION
A	5/30/14	30% CIVIL CONSTRUCTION PLAN
B	8/15/14	60% CIVIL CONSTRUCTION PLAN
C	8/26/14	ISSUED FOR PERMITTING
D	9/08/14	ISSUED FOR PERMITTING
E	9/24/14	ISSUED FOR PERMITTING
F	10/22/14	ISSUED FOR PERMITTING
G	11/13/14	ISSUED FOR PERMITTING
H	6/11/15	ISSUED FOR PERMITTING
I	7/10/15	ISSUED FOR BID
J	8/07/15	ISSUED FOR PERMITTING
K	1/18/16	ISSUED FOR PERMITTING

Prepared for:

Black Oak Getty Wind
488 8th Avenue, HQ11,
San Diego, CA 92101

Black Oak/Getty Wind Farm

Stearns County, Minnesota

SWPPP Details

ISSUED FOR PERMITTING

Turbine Array:
~~BOGY_39xV110-80mHH_20140718_r1~~

Date: 1/18/16

Sheet: 9 OF 43

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ROAD DESIGN PARAMETERS

1. THE ROAD HAS BEEN DESIGNED TO ACCOMMODATE LIGHT DUTY TRUCKS FOR LOW VOLUME USE IN NORMAL OPERATING CONDITIONS. THE ROAD DESIGN SPECIFIED IS NOT INTENDED FOR ALL WEATHER USE FOR HEAVY DUTY, HIGH VOLUME, CONSTRUCTION LOADS.
2. ROAD MAINTENANCE CAN BE EXPECTED OVER THE LIFE OF THE PERMANENT FACILITY.
3. ROAD SECTION AND SPECIFICATION SHOWN ON THE PLANS WERE PROVIDED BY AMERICAN ENGINEERING TESTING.
4. REFER TO GEOTECHNICAL REPORT BY RENEWABLE RESOURCES CONSULTANTS FOR ADDITIONAL RECOMMENDATIONS AND REQUIREMENTS. THE REPORT WAS NOT AVAILABLE TO WESTWOOD PRIOR TO PROVIDING CONSTRUCTION PLANS. THE CONTRACTOR SHALL NOTIFY WESTWOOD IF ANY OF THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT DEFER FROM THESE PLANS
5. TEMPORARY ROADS, INTERSECTION IMPROVEMENTS AND FACILITIES ARE DESIGNED BASED ON NORMAL FIELD CONDITIONS. FIELD CONDITIONS AT THE TIME OF CONSTRUCTION OR DELIVERY/USE MAY REQUIRE A REVISED ROAD SECTION.

SPECIAL PROVISIONS FOR GRADING AND EROSION CONTROL

THE CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES AS PLANNED AND SPECIFIED FOLLOWING BEST MANAGEMENT PRACTICES AS OUTLINED BY THE MINNESOTA POLLUTION CONTROL AGENCY (MPCA) AND BEING IN CONFORMANCE WITH THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL STORMWATER PERMIT. SEE THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR EROSION CONTROL AND RESTORATION SPECIFICATIONS. UNLESS OTHERWISE NOTED OR MODIFIED HEREIN, ALL SECTIONS OF THE GENERAL CONDITIONS SHALL APPLY.

PRODUCTS

1. ROAD SUBGRADE SHALL CONSIST OF TYPE 1 OR TYPE 2 CEMENT MIXED WITH NATIVE MATERIAL.
2. ROAD AGGREGATE SHALL BE CRUSHED AGGREGATE AND CONSIST OF CLASS 5 AGGREGATE BASE MEETING MNDOT SPEC 3138 AND THE GRADATION PROVIDED IN TABLE 1.
3. CRANE PATHS AND CRANE PADS SHALL CONSIST OF COMPACTED NATIVE SOILS.
4. CULVERTS: SEE PLAN FOR DRAINAGE CULVERT LOCATIONS. ACCESS ROAD CULVERTS SHALL MEET THE MINIMUM SPECIFICATIONS SET FORTH BY THE MINNESOTA DEPARTMENT OF TRANSPORTATION AND/OR STEARNS COUNTY. ALL CULVERTS SHALL BE MANUFACTURED OF CORRUGATED METAL PIPE. COUNTY ROAD CULVERTS MAY BE REQUIRED TO BE A DIFFERENT MATERIAL BASED ON FINAL PERMITTING WITH THE COUNTY.
5. AGGREGATE USED FOR TEMPORARY PURPOSES SHALL BE CRUSHED AGGREGATE AND CONSIST OF CLASS 5 AGGREGATE BASE MEETING MNDOT SPEC 3138 AND THE GRADATION PROVIDED IN TABLE 1.
6. GEOTEXTILE FABRIC SHALL BE MIRAFI HP570 OR APPROVED EQUAL.

EXECUTION

1. CLEARING AND GRUBBING
   A. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE ALL TREES, STUMPS, BRUSH, AND DEBRIS WITHIN THE GRADING AREAS SHOWN ON THE PLANS. THE CONTRACTOR IS TO REMOVE ONLY THOSE TREES WHICH ARE DESIGNATED BY THE OWNER'S REPRESENTATIVE FOR REMOVAL, AND SHALL EXERCISE EXTREME CARE AROUND EXISTING TREES TO BE SAVED.
2. TOPSOIL STRIPPING
   A. TOPSOIL SHALL BE STRIPPED FROM ALL ROADWAY AREAS THROUGH THE ROOT ZONE. TOPSOIL SHALL NOT BE STRIPPED OUTSIDE OF THE DESIGNATED DISTURBANCE AREAS.
   B. ANY TOPSOIL, THAT HAS BEEN STRIPPED, SHALL BE RE-SPREAD OR STOCKPILED WITHIN GRADING AREAS AND/OR USED AS FILL OUTSIDE OF THE DISTURBANCE AREAS, AS DIRECTED BY THE ENGINEER. ALL TOPSOIL SHALL BE REDISTRIBUTED TO THE LAND OWNER'S PROPERTY OF WHERE IT ORIGINATED FROM.
3. EMBANKMENT CONSTRUCTION.
   A. EMBANKMENT CONSTRUCTION SHALL CONSIST OF THE PLACING OF SUITABLE FILL MATERIAL, AFTER TOPSOIL STRIPPING, ABOVE THE EXISTING GRADE. GENERALLY, EMBANKMENTS SHALL HAVE COMPACTED SUPPORT SLOPES OF ONE FOOT HORIZONTAL TO ONE FOOT VERTICAL. THE MATERIAL FOR EMBANKMENT CONSTRUCTION SHALL BE OBTAINED FROM THE ACCESS ROAD EXCAVATION (SEE GEOTECHNICAL REPORT FOR RESTRICTIONS), OR ANY SUITABLE, APPROVED SOIL OBTAINED OFFSITE BY CONTRACTOR, AS DIRECTED OR APPROVED BY THE ENGINEER. THIS MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8" LOOSE MATERIAL FOR COHESIVE SOILS OR 12" LOOSE MATERIAL FOR GRANULAR SOILS.
   B. SIDE SLOPES GREATER THAN 4:1 WILL NOT BE PERMITTED, UNLESS OTHERWISE NOTED ON THE PLAN.

STORM WATER DESIGN PARAMETERS

1. CULVERTS WITHIN THE COUNTY OR TOWNSHIP RIGHT OF WAYS WERE NOT SIZED BASED ON SPECIFIC STORM INTERVALS. IT IS EXPECTED THAT CULVERTS WILL BE OVERTOPPED DURING SOME STORMS AND MAINTENANCE WILL BE REQUIRED THROUGH THE LIFE OF THE PROJECT. INSTALLED CULVERTS SHALL BE SIZED TO MATCH THE DOWNSTREAM CULVERT SIZE (E.G. IF THE DOWNSTREAM CULVERT IS A 18" THE INSTALLED CULVERT SHALL BE A 18", UNLESS IN CIRCUMSTANCES WHERE THERE MAY BE CONSTRUCTIBLITY CONCERNS) OR MATCH THE EXISTING CULVERT SIZE IF THERE WAS AN EXISTING CULVERT PRIOR TO CONSTRUCTION. ALL CULVERTS SHALL BE INSTALLED PER MINNESOTA DEPARTMENT OF TRANSPORTATION AND/OR STEARNS COUNTY STANDARD SPECIFICATIONS. ALL CULVERTS SHALL BE PLACED AT A MINIMUM 0.5% GRADE. ALL TEMPORARY PORTIONS OF THE INSTALLED CULVERTS SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
2. CULVERTS WITHIN THE STATE RIGHT OF WAYS WERE SIZED BASED ON A 25 YEAR, 24 HOUR STORM EVENT. IT IS EXPECTED THAT CULVERTS WILL BE OVERTOPPED DURING SOME STORMS AND MAINTENANCE WILL BE REQUIRED THROUGH THE LIFE OF THE PROJECT. ALL CULVERTS SHALL BE INSTALLED PER MINNESOTA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. ALL CULVERTS SHALL BE PLACED AT A MINIMUM 0.5% GRADE. ALL TEMPORARY PORTIONS OF THE INSTALLED CULVERTS SHALL BE REMOVED UPON COMPLETION OF THE PROJECT.
3. CULVERTS ON PRIVATE PROPERTY HAVE BEEN SIZED BASED ON A MINIMUM 2 YEAR STORM EVENT. IT IS EXPECTED THAT CULVERTS WILL BE OVERTOPPED DURING SOME STORMS AND MAINTENANCE WILL BE REQUIRED THROUGH THE LIFE OF THE PROJECT. ALL CULVERTS SHALL BE INSTALLED PER MINNESOTA DEPARTMENT OF TRANSPORTATION AND/OR STEARNS COUNTY STANDARD SPECIFICATIONS AND SHALL BE MANUFACTURED OF CORRUGATED METAL PIPE. ALL CULVERTS SHALL BE PLACED AT A MINIMUM 0.5% GRADE.
4. TEMPORARY CULVERTS FOR CRANE TRAVEL WERE NOT SIZED BASED ON SPECIFIC STORM INTERVALS. CULVERTS HAVE BEEN SIZED BASED ON THE DOWNSTREAM CULVERT SIZE. CULVERTS COULD BE OVERTOPPED DURING CONSTRUCTION AND MAINTENANCE MAY BE REQUIRED. CONTRACTOR SHALL MINIMIZE THE AMOUNT OF TIME TEMPORARY CULVERTS ARE INSTALLED AND THE CONTRACTOR IS RESPONSIBLE FOR ANY CLEAN UP SHOULD THE CROSSING BE OVERTOPPED WITH WATER WHILE INSTALLED. AT THE CONTRACTORS DISCRETION, CRANE MATTING MAY BE USED IN LIEU OF TEMPORARY CULVERTS. REGARDLESS OF THE TYPE OF CROSSING USED FOR EXISTING DITCH CROSSINGS (BOTH ROAD AND FIELD), THE AREA SHALL BE RESTORED TO PRECONSTRUCTION CONDITIONS AS SOON AS CRANE TRAVEL IS COMPLETE
5. WHEN INSTALLING DRAINAGE CULVERTS THE CONTRACTOR SHALL USE JUDGMENT IN SETTING THE FLOW LINE ELEVATIONS AND CULVERT LONGITUDINAL SLOPE. TYPICALLY THE FLOW LINE ELEVATIONS AND LONGITUDINAL SLOPE OF THE CULVERT SHOULD MATCH THE NATURAL GROUND ELEVATIONS AND SLOPE TO ENSURE POSITIVE DRAINAGE. WHEN POSSIBLE, ALL CULVERTS SHOULD BE PLACED AT A MINIMUM 0.5% GRADE.
6. LOW WATER CROSSINGS HAVE BEEN DESIGNED TO ALLOW NATURAL DRAINAGE TO OCCUR POST CONSTRUCTION OF THE ACCESS ROADS. IT IS ANTICIPATED THAT DURING "HEAVY" RAIN STORM EVENTS AND DURING THE FREEZE/THAW CYCLE, SOME ACCESS ROADS WILL BE IMPASSABLE DUE TO THE SEASONAL ENVIRONMENTAL CONDITIONS. MAINTENANCE OF THE ACCESS ROADS MAY BE REQUIRED DUE TO THE NATURAL DRAINAGE.
7. ANTICIPATED CULVERTS AND LOW WATER CROSSINGS ARE SHOWN ON THE CONSTRUCTION PLAN, ADDITIONAL CULVERTS MAY NEED TO BE INSTALLED IN AREAS WHERE CONCENTRATED FLOW IS EXPECTED DUE TO CONSTRUCTION ACTIVITIES. IF THE CONTRACTOR DETERMINES THIS IS NECESSARY, THE ENGINEER SHALL BE CONTACTED TO SIZE THE CULVERTS TO BE CONSISTENT WITH THE REST OF THE PROJECT AND THE SAUK RIVER WATERSHED SHALL BE NOTIFIED THAT ADDITIONAL CULVERTS WILL BE INSTALLED BEYOND WHAT WAS APPROVED IN THE PERMITTING PLAN SET.
8. THE SAUK RIVER WATERSHED DISTRICT SHALL BE NOTIFIED A MINIMUM OF 72 HOURS BEFORE WORK BEGINS IN ANY DITCH OR STREAM.

TABLE 1: MNDOT CLASS 5, MNDOT SPEC 3138

SIEVE SIZE	PERCENT PASSING
1"	(100)
3/4"	(90–100)
3/8"	(50–90)
#4	(35–80)
#10	(20–65)
#40	(10–35)
#200	(3.0–10.0)

TABLE 2: TESTING SCHEDULE SUMMARY

LOCATION	TEST	FREQUENCY
STRUCTURAL FILL	GRAIN SIZE ANALYSIS, MOISTURE CONTENT, ATTERBERG LIMITS ON FINES CONTENT, AND PROCTOR	1 PER MAJOR SOIL TYPE
COMPACTED SUBGRADE	PROOF-ROLL	ENTIRE LENGTH
	OTHER TESTS PER CEMENT STABILIZED SUBGRADE SPECIFICATION	DISTANCE VARIES (REFER TO SPECIFICATION)
COMPACTED SUBGRADE (NO CEMENT)	PROOF-ROLL	ENTIRE LENGTH
	DCP (NOT REQUIRED UNLESS PROOF-ROLL FAILS)	1 PER 500 LF OF ROAD
	MOISTURE DENSITY TEST (NUCLEAR DENSITY)	1 PER 500 FT OR MIN. 3 PER ROAD
AGGREGATE BASE	PROOF-ROLL	ENTIRE LENGTH
	SIEVE ANALYSIS	1 PER 2500 CY
	DCP TEST	1 PER 500 LF
CRANE SHOULDERS	PROOF-ROLL	ENTIRE LENGTH
CRANE PADS	MOISTURE DENSITY TEST (NUCLEAR DENSITY)	5 PER PAD
	PROOF-ROLL SUBGRADE	ENTIRE PAD

TESTING REQUIREMENTS:

1. TESTING SHALL BE PERFORMED BY A DESIGNATED INDEPENDENT TESTING AGENCY.
2. SUBMIT TESTING AND INSPECTION RECORDS SPECIFIED TO THE CIVIL ENGINEER OF RECORD FOR REVIEW.
   A. THE ENGINEER WILL REVIEW THE TESTING AND INSPECTION RECORDS TO CHECK CONFORMANCE WITH THE DRAWINGS AND SPECIFICATIONS. THE ENGINEER'S REVIEW DOES NOT RELIEVE THE CONSTRUCTION CONTRACTOR FROM THE RESPONSIBILITY FOR CORRECTING DEFECTIVE WORK.
3. PROOF ROLLING:
   A. PROOF-ROLLING SHALL BE PERFORMED IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER OR QUALIFIED GEOTECHNICAL REPRESENTATIVE USING A FULLY LOADED TANDEM AXLE DUMP TRUCK WITH A MINIMUM GROSS WEIGHT OF 33 TONS. NO RUTTING GREATER THAN 0.5 INCHES, AND NO "PUMPING" OF THE SOIL BEHIND THE LOADED TRUCK IS ALLOWED. PUMPING IS DEFINED AS THE MIXING OF THE UN-STABILIZED SUBGRADE SOILS WITH STABILIZED SUBGRADE.
4. SIEVE ANALYSIS:
   A. SIEVE ANALYSIS SHALL BE CONDUCTED IN ACCORDANCE WITH AASHTO T27
5. PROCTOR:
   A. PROCTORS SHALL BE DETERMINED IN ACCORDANCE WITH AASHTO T99
6. ATTERBERG LIMITS:
   A. ATTERBERG LIMITS SHALL BE DETERMINED IN ACCORDANCE WITH AASHTO T89 AND T90
7. MOISTURE DENSITY (NUCLEAR DENSITY):
   A. MOISTURE DENSITY TESTING SHALL BE DONE IN ACCORDANCE WITH AASHTO T310
8. DYNAMIC CONE PENETROMETER (DCP) TESTING:
   A. DCP TESTING SHALL BE DONE IN ACCORDANCE WITH ASTM D6951-03
9. MICRO-WAVE OVEN
   A. MICRO-WAVE OVEN TESTING SHALL BE DONE IN ACCORDANCE WITH ASTM D4643

SUBGRADE COMPACTION, TEST ROLLING AND AGGREGATE BASE COMPACTION:

1. FILL MATERIAL:
   A. SOILS USED AS FILL MATERIAL SHALL BE TESTED FOR GRAIN SIZE ANALYSIS, MOISTURE CONTENT, ATTERBERG LIMITS ON FINES CONTENT, AND PROCTOR TESTS (STANDARD DRY MAXIMUM DENSITY).
      a. FOR PLACED & COMPACTED FILLS, PROVIDE ONE COMPACTION TEST PER LIFT FOR EVERY 1000 FT OF ROAD LENGTH. INCLUDE THE LOCATION, DRY DENSITY, MOISTURE CONTENT, AND COMPACTION PERCENT BASED ON STANDARD PROCTOR MAXIMUM DRY DENSITY.
   B. IN ROADWAY CUT AREAS, OR WHERE EMBANKMENT CONSTRUCTION REQUIRES LESS THAN 12 INCHES OF FILL PLACEMENT, COMPACT TO A MINIMUM OF 95 PERCENT OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY.
   C. IF STRUCTURAL FILL IS REQUIRED, GEOTECHNICAL ENGINEER SHALL BE CONSULTED BY GENERAL CONTRACTOR FOR DETERMINATION OF SUITABILITY.
2. COMPACTED SUBGRADE:
   A. REFER TO THE SPECIFICATION FOR CEMENT STABILIZATION OF ROADWAY SUBGRADES
   B. THE ENTIRE SUBGRADE SHALL BE PROOF-ROLLED PRIOR TO THE PLACEMENT OF THE AGGREGATE BASE
3. COMPACTED SUBGRADE (NO CEMENT):
   A. THE SUBGRADE ALONG THE ACCESS ROADWAYS SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 12 INCHES, MOISTURE CONDITIONED TO WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT AND RECOMPACTED TO A MINIMUM OF 97% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.
   B. THE ENTIRE SUBGRADE SHALL BE PROOF ROLLED PRIOR TO THE PLACEMENT OF THE AGGREGATE BASE TO IDENTIFY AREAS OF UNSTABLE SUBGRADE. IF EXCESS PUMPING IS ENCOUNTERED, PARTIALLY REMOVE UNSUITABLE SOILS AND RECOMPACT AND/OR REPLACE WITH GRANULAR SOILS AND RECOMPACT.
4. AGGREGATE BASE:
   A. AGGREGATE BASE SHALL BE PROOF-ROLLED OVER THE ENTIRE LENGTH. PROVIDE 1 DCP TEST FOR EVERY 500 L.F. OF ROAD LENGTH. ROAD BASE SHALL BE COMPACTED TO ACHIEVE A PENETRATION INDEX VALUE LESS THEN OR EQUAL TO 10 MM/BLOW. PROVIDE 1 SIEVE ANALYSIS PER 2500 CY OF ROAD BASE PLACED.
      a. IF PROOF ROLLING DETERMINES THAT THE ROAD IS UNSTABLE, ADDITIONAL AGGREGATE SHALL BE ADDED UNTIL THE UNSTABLE SECTION IS ABLE TO PASS A PROOF ROLL.
   B. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE CONDITION OF THE ROADS DURING CONSTRUCTION AND THE FINAL ACCEPTANCE OF THE ROADWAY WILL BE BASED ON A PROOF ROLL OF THE AGGREGATE SURFACE AT THE END OF THE PROJECT.
5. CRANE TRAVEL SHOULDERS:
   A. CRANE TRAVEL SHOULDERS SHALL BE PROOF-ROLLED OVER THE ENTIRE LENGTH.
   B. WHERE REQUIRED TO SUPPORT CRANE TRAVEL, SCARIFY AND COMPACT EXISTING SOILS TO A DEPTH OF 6-INCHES AND TO A MINIMUM OF 97% STANDARD PROCTOR MAXIMUM DRY DENSITY AT ±2% OF OPTIMUM MOISTURE CONTENT.
6. CRANE PADS:
   A. CRANE PADS SHALL CONSIST OF COMPACTED NATIVE MATERIAL TO A DEPTH OF 12-INCHES. PAD SHALL BE GRADED LEVEL.
   B. MOISTURE DENSITY TESTING SHALL BE PERFORMED AT A MINIMUM OF 5 PER CRANE PAD. CRANE PADS MUST BE COMPACTED TO A MINIMUM OF 97% STANDARD PROCTOR MAXIMUM DRY DENSITY AT ±2% OF OPTIMUM MOISTURE CONTENT.
   C. ALL CRANE PADS SHALL BE PROOF ROLLED
   D. CRANE MATS SHALL BE UTILIZED TO PROVIDE ADDITIONAL STABILITY BASED ON CONTRACTOR'S REQUIREMENTS AND FIELD CONDITIONS AT THE TIME OF CONSTRUCTION.

SPECIFICATIONS FOR CEMENT STABILIZED ACCESS ROADS

THE SPECIFICATIONS BELOW ARE PRELIMINARY GENERAL RECOMMENDATIONS/GUIDELINES FOR CEMENT STABILIZATION OF PROPOSED SITE ACCESS ROADS AND EXISTING ROADS. THE CONTRACTOR SHALL REFER TO THE AMERICAN ENGINEERING TESTING (AET) REPORT DATED AUGUST 19TH FOR ADDITIONAL RECOMMENDATIONS AND REQUIREMENTS AND PROCTOR RESULTS. ACTUAL FIELD CONDITIONS MAY ALTER APPLICATION RATE, CONSULT PROJECT ENGINEER FOR FURTHER RECOMMENDATIONS.

1. DUE TO THE SPEED THAT THE RECLAMATION WILL BE PERFORMED IN THE FIELD, A QUALIFIED TECHNICIAN SHOULD OBTAIN FIELD SAMPLES TO DETERMINE THE APPROXIMATE ORGANIC CONTENT AND PROCTOR OF THE SOIL TO BE STABILIZED.
2. FOR EXISTING ROAD IMPROVEMENTS, PRIOR TO THE INCORPORATION OF CEMENT, BUT FOLLOWING THE PRE-GRIND THAT WILL BLEND THE AGGREGATE SURFACING AND THE SUBGRADE SOILS, A PROCTOR TEST SHALL BE PERFORMED, BY THE SAME PROCEDURE AS DOCUMENTED IN THE AET REPORT, TO DETERMINE THE OPTIMUM MOISTURE CONTENT. IF THE PROCTOR RESULTS DO NOT CLOSELY FOLLOW THE PROCTOR RESULTS FROM THE AET REPORT, THE ENGINEER SHALL BE CONTACTED TO DISCUSS MODIFICATION OF THESE RECOMMENDATIONS.
3. FOR PROPOSED SITE ACCESS ROADS, STRIP THE TOP ±6 INCHES OF TOPSOIL (THROUGH THE ROOT ZONE) FROM THE PROPOSED ROAD SURFACE. PRIOR TO THE INCORPORATION OF CEMENT, A PROCTOR TEST SHALL BE PERFORMED, BY THE SAME PROCEDURE AS DOCUMENTED IN THE AET REPORT, TO DETERMINE THE OPTIMUM MOISTURE CONTENT. IF THE PROCTOR RESULTS DO NOT CLOSELY FOLLOW THE PROCTOR RESULTS FROM THE AET REPORT, THE ENGINEER SHALL BE CONTACTED TO DISCUSS MODIFICATION OF THESE RECOMMENDATIONS.
4. THE CEMENT CONTENT RECOMMENDED BY THE MIX DESIGN SHOULD BE FOLLOWED UNTIL FIELD TESTS INDICATE MORE OR LESS CEMENT MAY BE NEEDED TO MEET THE DCP TEST CRITERIA SHOWN BELOW.
5. IN-SITU MOISTURE CONTENT WILL BE CHECKED BY NUCLEAR DENSITY GAUGE OR MICRO-WAVE OVEN IMMEDIATELY IN FRONT OF THE RECLAIMER, PRIOR TO INCORPORATION OF THE CEMENT BUT AFTER THE SOIL AND AGGREGATE SURFACING HAVE BEEN BLENDED IN A PRE-GRIND PASS.
6. THE CONTRACTOR WILL BE ADVISED OF MOISTURE CONTENT, AND MOISTURE ADJUSTMENTS SHOULD BE MADE IF IN-SITU MOISTURE IS LESS THAT 90% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY PROCTOR (ASTM D 558).
7. THE STABILIZED SUBGRADE SHOULD EXTEND A MINIMUM OF 1' BEYOND THE GRAVEL SURFACE. FOR A 16 FEET WIDE GRAVEL SURFACED ROAD, A 18 FEET WIDE STABILIZED AREA IS REQUIRED
8. A ROLLING PATTERN WILL BE ESTABLISHED USING A NUCLEAR DENSITY GAUGE. COMPACTION WILL BE PERFORMED UNTIL THE STABILIZED MATERIAL "BREAKS." COMPACTION IS TYPICALLY ACHIEVED BY MULTIPLE PASSES OF A PADFOOT ROLLER UNTIL THE ROLLER "WALKS" OUT OF THE RECLAIMED MATERIAL (SPACE IS VISIBLE BETWEEN THE DRUM AND THE RECLAIMED MATERIAL). THIS IS FOLLOWED BY BLADING THE HIGH AND LOW POINTS OF THE MATERIAL OFF AND SHAPING THE RECLAIMED MATERIAL TO FINAL PROFILE AND CROSS SECTION. SMOOTH DRUM OR RUBBER TIRE ROLLERS ARE THEN USED TO FINISH ROLLING, (THIS IS WHEN THE DENSITY TESTS ARE PERFORMED) UNTIL THE DENSITY OF THE MATERIAL "BREAKS."
8. IT IS RECOMMENDED THAT DENSITY TESTS BE TAKEN AT THE RATE OF ONE TEST EVERY 500 SQUARE YARDS (APPROXIMATELY 1 TEST PER 8' PASS PER 500') TO CONFIRM THE DENSITY IS MATCHING THE TARGET ESTABLISHED BY THE ROLLING PATTERN. ONCE THE ROLLING PATTERN HAS BEEN CONFIRMED IT IS RECOMMENDED THAT TESTING CONTINUE AT ONE TEST EVERY 1,000 SQUARE YARDS (APPROXIMATELY 1 TEST PER 8' PASS PER 1000')
9. IF IT IS NOT POSSIBLE TO ATTAIN 98% OF THE TARGET DENSITY (AS ESTABLISHED BY THE ROLLING PATTERN), AND ADDITIONAL APPLICATION OF COMPACTION DOES NOT IMPROVE THE DENSITY, A NEW ROLLING PATTERN SHOULD BE ESTABLISHED.
10. THE STABILIZED MATERIAL NEEDS TO BE CONTINUOUSLY WET CURED FOR A MINIMUM OF 24 HOURS (WET CURED IS IDENTIFIED VISUALLY AS SURFACE DAMP). THIS MAY REQUIRE THE APPLICATION OF WATER EVERY 2-3 HOURS, INCLUDING AN APPLICATION AT DUSK AT THE END OF THE DAY'S WORK.
11. THE FOLLOWING DAY, (24+/- HOURS AFTER COMPACTION) SUBGRADE STRENGTH TESTING BY DCP SHALL BE DONE RANDOMLY FOR EVERY 1,000 LF IN EACH PASS OF THE RECLAIMER (APPROXIMATELY ONE TEST PER 500 OR 1000 SQUARE YARDS). A MINIMUM OF 20 CBR IS REQUIRED PRIOR TO PROOF ROLLING BY THE CONTRACTOR. THE RELATIONSHIP CBR = 292/PI AS RECOMMENDED BY THE US ARMY CORPS OF ENGINEERS. (PI (PENETRATION INDEX) = DCP INDEX IN MM/BLOW). THE DCP TESTS SHOULD BE PERFORMED TO A DEPTH OF AT LEAST 12 INCHES, WITH THE PENETRATION DEPTH RECORDED AT 10 BLOW INTERVALS (OR MORE FREQUENTLY IF THE PENETRATION PER BLOW EXCEEDS 25MM). ADDITIONAL TESTING AFTER 24 HOURS MAY BE REQUIRED IF A CBR OF 20 IS NOT ACHIEVED WITH THE INITIAL TESTING. IF TESTING DOES NOT INDICATE A CBR OF 20 WITHIN 72 HOURS, A NEW ROLLING PATTERN OR ADDITIONAL CEMENT MAY BE REQUIRED FOR FUTURE SUBGRADE STABILIZATION AREAS. ADDITIONAL GRAVEL SURFACING MAY BE REQUIRED FOR AREAS THAT DO NOT MEETING A CBR OF 20 WITHIN 72 HOURS. CONTACT THE ENGINEER FOR RECOMMENDATIONS. 1.12
12. THE SURFACE AGGREGATE SHALL BE PLACED OVER THE STABILIZED SUBGRADE NO SOONER THAN 24 HOURS AFTER THE COMPLETION OF CEMENT STABILIZATION. PRIOR TO PLACING THE AGGREGATE, THE SUBGRADE SHALL BE PROOF-ROLLED. THE PROOF-ROLLING SHOULD NOT BE PERFORMED WITHIN 12 INCHES OF THE EDGE OF THE STABILIZED SECTION OR IT IS LIKELY THAT THE STABILIZED SUBGRADE IN THIS AREA WILL BE DAMAGED. NO HEAVY HAULING SHALL BE DONE ON STABILIZED SUBGRADE THAT DOES NOT HAVE SURFACE AGGREGATE APPLIED.
13. NO CEMENT STABILIZATION WILL OCCUR IF THE TEMPERATURE IS LESS THAN 40°F. CONTACT ENGINEER IS THERE ARE CONCERNS WITH THE CEMENT/SOIL BLEND CURING PROPERLY BASED ON SOIL TEMPERATURES.

TABLE 3: RECOMMENDED CEMENT ADDITIONAL RATES (PERCENT BY WEIGHT) VS. SOIL MOISTURE CONTENT

SAMPLE	LOCATION	ASTM/AASHTO	NEAR OPT	2-4 ABOVE OPT	4-6% ABOVE OPT
A	EX ROAD	SC (A-1-B)	5%	6%	7%
B-1	FIELD	SM (A-6)	7%	NA	NA
B-2	FIELD	OL (A-6)	8%	NA	NA
C	FIELD ROAD	SC (A-6)	5%	7%	9%

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I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Robert Stanley Copouls

Date: 1/18/16 License No. 47876

Designed: KLM
Checked: RSC
Drawn: IJH
Record Drawing by/date:

Revisions:

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Prepared for:

Black Oak Getty Wind
488 8th Avenue, HQ11,
San Diego, CA 92101

Black Oak/Getty Wind Farm

Stearns County, Minnesota

Construction Notes

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Turbine Array: ~~BOGY_39xV110-80mHH_20140718_r1~~

Date: 1/18/16

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GENERAL NOTES:

1. THE PLANIMETRIC FEATURES AND GROUND SURFACE CONTOURS (AT TWO-FOOT VERTICAL INTERVALS) AND ELEVATIONS ARE BASED ON A LIDAR DATED FROM THE STATE OF MINNESOTA WITH THE EXCEPTION OF THE SUBSTATION WHICH IS BASED ON FIELD SURVEY DATA.
2. THE ELEVATIONS AND CONTOURS SHOWN ON THESE CONSTRUCTION DRAWINGS WERE PREPARED FROM AERIAL PHOTOGRAPHY DATA, AND NOT ACTUAL FIELD SURVEYING (WITH THE EXCEPTION OF THE SUBSTATION). AS SUCH, THE ACCURACY OF THE ELEVATIONS AND CONTOURS IS NOT AS HIGH AS INFORMATION GATHERED USING CONVENTIONAL FIELD SURVEYING PROCEDURES. THE CONTRACTOR MAY FIND THAT GROUND ELEVATIONS DETERMINED DURING FIELD STAKING WILL VARY FROM THE GROUND ELEVATIONS SHOWN ON THE DRAWINGS.
3. WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE OWNER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
4. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRAINAGE THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. CONSTRUCTION ACTIVITIES SHALL NOT BLOCK THE NATURAL OR MANMADE CREEKS OR DRAINAGE SWALES CAUSING RAINWATER TO POND. ADDITIONAL CULVERTS IN EXCESS OF THOSE ON THE PLANS MAY BE REQUIRED. IF THE CONTRACTOR DETERMINES THAT ADDITIONAL CULVERTS ARE NEEDED, THE ENGINEER SHALL BE NOTIFIED AND WILL PROVIDE A DESIGN CONSISTENT WITH THE REST OF THE PROJECT. THE SAUK RIVER WATERSHED DISTRICT SHALL BE NOTIFIED.
5. ANY FACILITIES REMOVED TO ALLOW FOR CONSTRUCTION (MAILBOXES, SIGNS, FENCES, ETC.) SHALL BE REPLACED BY THE CONTRACTOR IN A CONDITION AS GOOD AS EXISTING.
6. THE CONTRACTOR SHALL NOTIFY GOPHER STATE ONE CALL (811) AT LEAST 48 HOURS BEFORE EXCAVATION ACTIVITIES COMMENCE.
7. UTILITY LOCATIONS SHOWN ON THE PLANS ARE BASED ON THE ALTA SURVEY, PREPARED BY EVS AND DATA PROVIDED BY GERONIMO WIND ENERGY. ADDITIONAL UTILITIES COULD EXIST, BOTH ABOVE GROUND AND BELOW GROUND, THAT ARE NOT SHOWN ON THE PLANS OR ARE IN A DIFFERENT LOCATION THAN SHOWN ON THE PLANS. THE CONTRACTOR SHOULD TAKE EXTREME CAUTION WHILE CONSTRUCTING THE PROJECT AND NOTIFY THE OWNER IF ADDITIONAL UTILITIES ARE DISCOVERED THAT ARE NOT SHOWN ON THE PLANS
8. CONTRACTOR TO VERIFY EXISTING CONDITIONS SHOWN ON PLANS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IF THERE ARE ANY DISCREPANCIES.
9. WHILE BUILDING THE ROADS AND EXCAVATING THE TURBINE FOUNDATIONS, EXCESS SOIL WILL RESULT. THE CONTRACTOR SHALL DISPOSE OF THIS EXCESS SOIL IN AN APPROVED MANNER. NO TOPSOIL WILL BE ALLOWED TO LEAVE THE PROPERTY FROM WHICH IT WAS DUG. EXCESS TOPSOIL SHALL BE DISTRIBUTED INTO A THIN LAYER ON LAND IMMEDIATELY ADJACENT TO WHERE THE TOPSOIL ORIGINATED. WHILE DOING SO THE CONTRACTOR SHALL AVOID CAUSING RIDGES OR MOUNDS THAT WOULD MAKE IT DIFFICULT FOR STORM WATER RUNOFF TO DRAIN. THE FINAL SURFACE OF THE DISTURBED TOPSOIL SHALL BE SMOOTH AND FOLLOW THE NATURAL CONTOUR OF THE LAND.
10. UPON COMPLETION OF ALL PROJECT CONSTRUCTION ACTIVITIES, TEMPORARY INTERSECTION WIDENINGS SHALL BE REMOVED UNLESS OTHERWISE NOTIFIED BY THE ENGINEER, CONSTRUCTION MANAGER, OR STATE/COUNTY OFFICIALS. THE DISTURBED AREA FROM THE INTERSECTION WIDENINGS SHALL BE RESTORED TO ITS ORIGINAL LINES AND GRADES WITH THE UPPER FOOT OF THE RESTORED GROUND BEING TOPSOIL.
11. GRADE ALL PROPOSED ROADS AND CRANE PATHS ACCORDING TO THE DETAILS PROVIDED IN THE PLANS. ROAD SLOPES GREATER THAN 8% ARE NOT ALLOWED.
12. FINALIZE GRADING AROUND THE BASE OF TURBINES IN ACCORDANCE WITH DETAIL UP01. ELEVATIONS SHOWN ON PAGE 2 ARE BASED ON THE TOP OF PEDESTAL BEING A MINIMUM OF 1' ABOVE THE EXISTING GROUND PER THE FOUNDATION PLAN.
13. GRADING LIMITS/DISTURBANCE LIMITS/CONSTRUCTION CORRIDORS ARE REPRESENTED ON THE PLANS WITH A "-DL-". ALL CONSTRUCTION ACTIVITY SHALL TAKE PLACE WITHIN THE LIMITS THAT HAVE BEEN PROVIDED. IF THE ENTIRE WIDTH OF THE CORRIDORS IS NOT NEEDED FOR CONSTRUCTION, THE CONTRACTOR SHALL ONLY CLEAR THE AREA THAT IS NECESSARY. LIMITS FOR ACCESS ROADS AND CRANE PATHS ARE TYPICALLY CENTERED ON THE ROAD OR CRANE PATH AND ARE 100' WIDE, FOR TURBINES ARE CENTERED ON THE TURBINE AND HAVE A RADIUS OF 175', AND FOR CROSS COUNTY ELECTRICAL LINES EXTEND 25' ON EITHER SIDE OF THE LINE. REFER TO THE CONSTRUCTION DOCUMENTS FOR EXACT DIMENSIONS. THE CONTRACTOR SHALL NOT GO OUTSIDE OF CONSTRUCTION CORRIDORS WITHOUT WRITTEN PERMISSION FROM THE OWNER.
14. TURBINE SETBACKS ARE NOT IDENTIFIED ON THE CONSTRUCTION PLANS. IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO ENSURE THAT ALL TURBINE SETBACKS MEET PROJECT REQUIREMENTS.
15. GEOTECHNICAL REPORTS WITH RECOMMENDATIONS WILL BE PREPARED BY RENEWABLE RESOURCES CONSULTANTS. THE CONTRACTOR SHALL BE FAMILIAR WITH THE REPORTS AND SHALL REVIEW ALL RECOMMENDATIONS. IF THE RECOMMENDATIONS FOR CIVIL WORK ARE DIFFERENT THAN WHAT IS SHOWN ON THE PLANS, WESTWOOD SHOULD BE NOTIFIED IMMEDIATELY.
16. WETLAND, STREAMS AND NATIVE PRAIRIE INFORMATION SHOWN ON THE PLAN WAS COMPLETED BY WESTWOOD PROFESSIONAL SERVICES. ALL PERMITTING SHALL BE COMPLETED PRIOR TO CONSTRUCTION COMMENCING. THE GENERAL CONTRACTOR SHALL VERIFY THAT ALL PERMITS HAVE BEEN SUBMITTED AND APPROVED PRIOR TO CONSTRUCTION COMMENCING.
17. LOCATIONS MARKED BY "NO DISTURBANCE PAST SILT FENCE" ON PLANS SHALL HAVE NO DISTURBANCE PAST THE FENCE LINE WITHOUT AUTHORIZATION FROM OWNER.
18. CULTURAL RESOURCE REPORTS HAVE BEEN COMPLETED BY 106 GROUP. THESE REPORTS HAVE NOT BEEN PROVIDED TO WESTWOOD BUT IT IS OUR UNDERSTANDING THAT THE PROJECT WILL NOT IMPACT ANY CULTURAL RESOURCES. THE CONTRACTOR SHALL REVIEW ALL REPORTS AND NOTIFY WESTWOOD IF DESIGN CHANGES ARE NEEDED TO AVOID ANY CULTURALLY SIGNIFICANT AREAS.
19. ELECTRICAL INFORMATION SHOWN ON THE PLANS IS FOR REFERENCE ONLY AND WAS PROVIDED BY STANTEC CONSULTING. REFER TO STANTEC CONSULTING'S PLANS FOR SPECIFIC LOCATIONS AND CONSTRUCTION DETAILS FOR THE UNDERGROUND POWER COLLECTION SYSTEM, SUBSTATION, TRANSMISSION LINE AND FIBER OPTIC LINES. WESTWOOD SHOULD BE NOTIFIED IMMEDIATELY IF THERE IS A DISCREPANCY BETWEEN THE STANTEC PLANS AND WESTWOOD PLANS
20. EXISTING DRAINTILE LINES ARE SHOWN ON THE PLANS AND WERE PROVIDED BY GERONIMO ENERGY. THE LOCATION OF THESE LINES HAVE NOT BEEN FIELD VERIFIED. ADDITIONAL DRAINTILE LINES WILL BE ENCOUNTERED WHILE CONSTRUCTING THE PROJECT. FIELD INTAKES WILL ALSO BE ENCOUNTERED WHILE CONSTRUCTING THE PROJECT AND MAY NEED TO BE RELOCATED TO THE EDGE OF PROJECT DISTURBANCE.
21. ANY STORM WATER DRAIN TILES DAMAGED, DISTURBED, BROKEN OR CUT FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED IMMEDIATELY (IN ANY EVENT WITHIN 24 HOURS). CARE SHALL BE TAKEN TO ENSURE THAT SEDIMENT DOES NOT ENTER ANY DRAINTILE SYSTEM. IN THE EVENT SHOULD SEDIMENT ENTER THE DRAINTILE SYSTEM, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT.
22. CONTRACTOR TO COORDINATE WITH PROJECT OWNER FOR THE DESIRED DIRECTION OF TOWER DOORS.
23. CONTRACTOR TO DECOMPACT ALL GROUND THAT IS COMPACTED FOR CONSTRUCTION AT THE COMPLETION OF CONSTRUCTION. DECOMPACTION SHALL BE COMPLETED TO RETURN THE SOIL COMPACTION TO THE PRECONSTRUCTION CONDITION. IT IS ANTICIPATED THAT DECOMPACTION WILL NEED TO BE DONE TO A DEPTH OF APPROXIMATELY 12".

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

1. REFER TO THE SWPPP BOOKLET FOR SEDIMENT AND EROSION CONTROL PROCEDURES, LOCATIONS OF BMPs, DETAILS, AND INSPECTION INFORMATION.
2. ALL PASTURES AND DRAINAGE SWALES DISTURBED DURING CONSTRUCTION ACTIVITIES AND NOT COVERED BY ROAD SURFACING MATERIALS, SHALL BE SEEDED IN ACCORDANCE WITH THE SWPP PLAN.
3. TEMPORARY EROSION CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE TEMPORARY EROSION CONTROL PLAN SHALL BE IN ACCORDANCE WITH THE MINNESOTA POLLUTION CONTROL AGENCY AND THE BLACK OAK GETTY WIND PROJECT STORMWATER POLLUTION PREVENTION PLAN ON FILE.
4. INTERSECTION OF ANY UNDERGROUND COLLECTION LINES, TRENCHES, OR BORE LOCATIONS WITH EXISTING ROADS, DITCHES, WETLANDS, STREAMS SHALL HAVE ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES IN PLACE.

PROJECT CONTACT INFORMATION:

TITLE	COMPANY	NAME	CONTACT NUMBER
OWNER	SEMPRA U.S. GAS & POWER	FLORIANO SOUZA-NETO	619-696-2305
ENGINEER	WESTWOOD	ROB COPOULS	952-906-7470
CONTRACTOR	AMEC FOSTER WHEELER	TAYLOR GOSMAN	612-625-6097
ERECTION CONTRCTOR	.	.	.
MPCA	.	.	218-828-2492
WATERSHED	SAUK RIVER WATERSHED	ZACH GUTKNECHT	320-352-2231

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I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly licensed PROFESSIONAL ENGINEER under the laws of the State of Minnesota.

Robert Stanley Copoulos

Date: 1/18/16 License No. 47876

Designed: KLM
Checked: RSC
Drawn: IJH
Record Drawing by/date:

Revisions:

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Prepared for:

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488 8th Avenue, HQ11,
San Diego, CA 92101

Black Oak/Getty Wind Farm

Stearns County, Minnesota

Construction Notes

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Turbine Array:
~~BOGY_39xV110-80mHH_20140718_r1~~

Date: 1/18/16

Sheet: 11 OF 43

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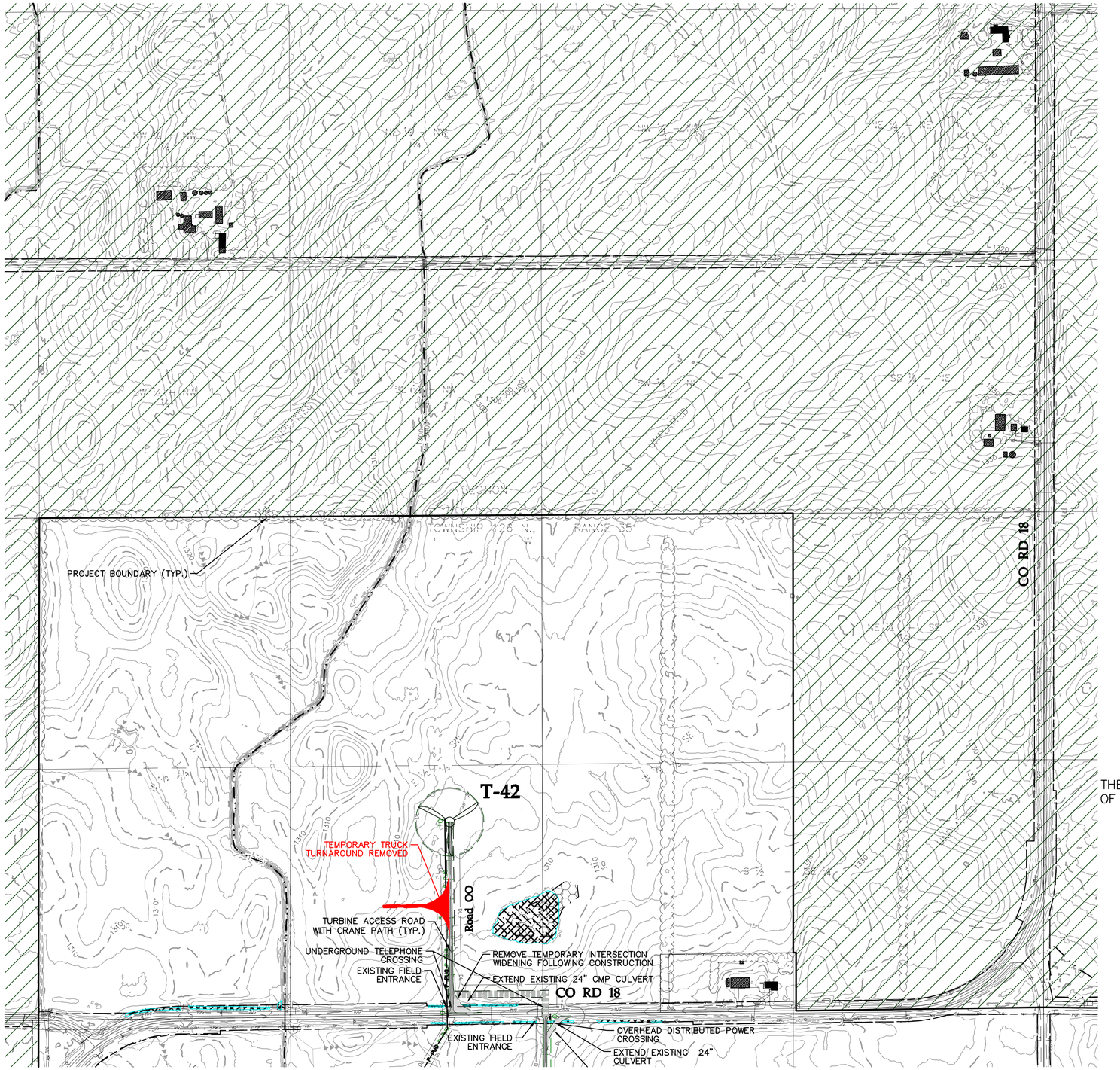


SEE SHEET 14

LEGEND:

- PRIMARY TURBINE LOCATION
- T-XX — PRIMARY TURBINE NUMBER
- ACCESS ROAD
- ALTERNATE ACCESS ROAD
- CRANE PATH
- ALTERNATE CRANE PATH
- TEMPORARY GRAVEL AREA
- GATE
- FENCE
- UNDERGROUND COLLECTION SYSTEM
- UNDERGROUND COLLECTION SYSTEM
- TRANSMISSION LINE
- DISTURBANCE LIMITS
- SILT FENCE
- CULVERT
- EXISTING CULVERT
- EXISTING FENCE
- EXISTING TELEPHONE LINE
- EXISTING OVERHEAD POWER
- EXISTING WATER LINE
- EXISTING GAS PIPELINE
- EXISTING FIBER OPTIC LINE
- EXISTING EASEMENT
- EXISTING RIGHT OF WAY
- EXISTING GRAVEL EDGE
- EXISTING BITUMINOUS EDGE
- EXISTING VEGETATION
- EXISTING 10' CONTOURS
- EXISTING 2' CONTOURS
- EXISTING DELINEATED DITCH LINES
- DELINEATED WETLAND
- NWI WETLAND
- OUTSIDE PROJECT BOUNDARY
- EXISTING DRAIN TILE
- EXISTING MICROWAVE BEAM PATH

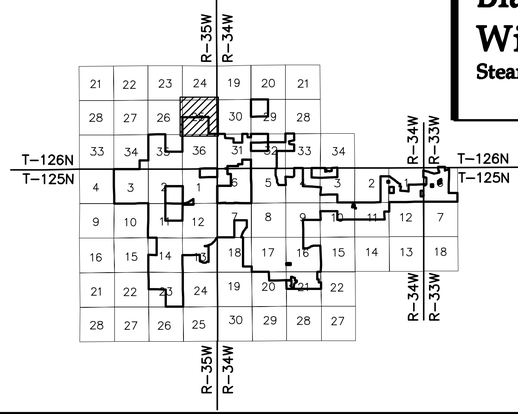
- NO CHANGE FROM THE PREVIOUSLY APPROVED PLANS (REV G PLAN SET FROM 11/13/14)
- ADDED TO THE PREVIOUSLY APPROVED PLANS
- REMOVED FROM THE PREVIOUSLY APPROVED PLANS

* ANTICIPATED DRAINAGE CROSSINGS ARE SHOWN ON THE PLANS BASED LARGELY ON OBSERVATION OF DRAINAGE CHANNELS/DRAINAGE EROSION FROM THE AERIAL IMAGERY, SUPPLEMENTED BY GIS STREAM LINEWORK AND EXISTING CONTOUR DATA AVAILABLE. ADDITIONAL CROSSINGS (LOW WATER CROSSINGS/CULVERTS) MAY NEED TO BE INSTALLED IN AREAS WHERE CONCENTRATED FLOW IS EXPECTED DUE TO CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL USE DISCRETION IF A LOW WATER CROSSING OR CULVERT (REFER TO DETAILS ON SHEET 7) IS NEEDED BASED ON THE TOPOGRAPHY OF THE DRAINAGE CROSSING. IF CONTRACTOR DETERMINES THAT ADDITIONAL CULVERTS ARE NEEDED, THE ENGINEER SHALL BE NOTIFIED AND WILL PROVIDE A DESIGN CONSISTENT WITH THE REST OF THE PROJECT. THE SAUK RIVER WATERSHED DISTRICT SHALL BE NOTIFIED.

** UTILITY CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE ENCROACHMENT AGREEMENT OR REQUIREMENTS OF THE UTILITY OWNER.

*** UNDERGROUND COLLECTION LINES ARE SHOWN FOR REFERENCE ONLY. SEE ELECTRICAL CONSULTANT PLANS FOR CONSTRUCTION DETAILS, INCLUDING BORING LOCATIONS.

THE SECTION OF LAND SHOWN ON THIS PLAN SHEET IS PART OF THE BLACK OAK WIND LLC SITE PLAN PERMIT AREA.



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0' 300' 600' 900'

Black Oak/Getty Wind Farm

Stearns County, Minnesota

Civil Plan - T126-R35-S25

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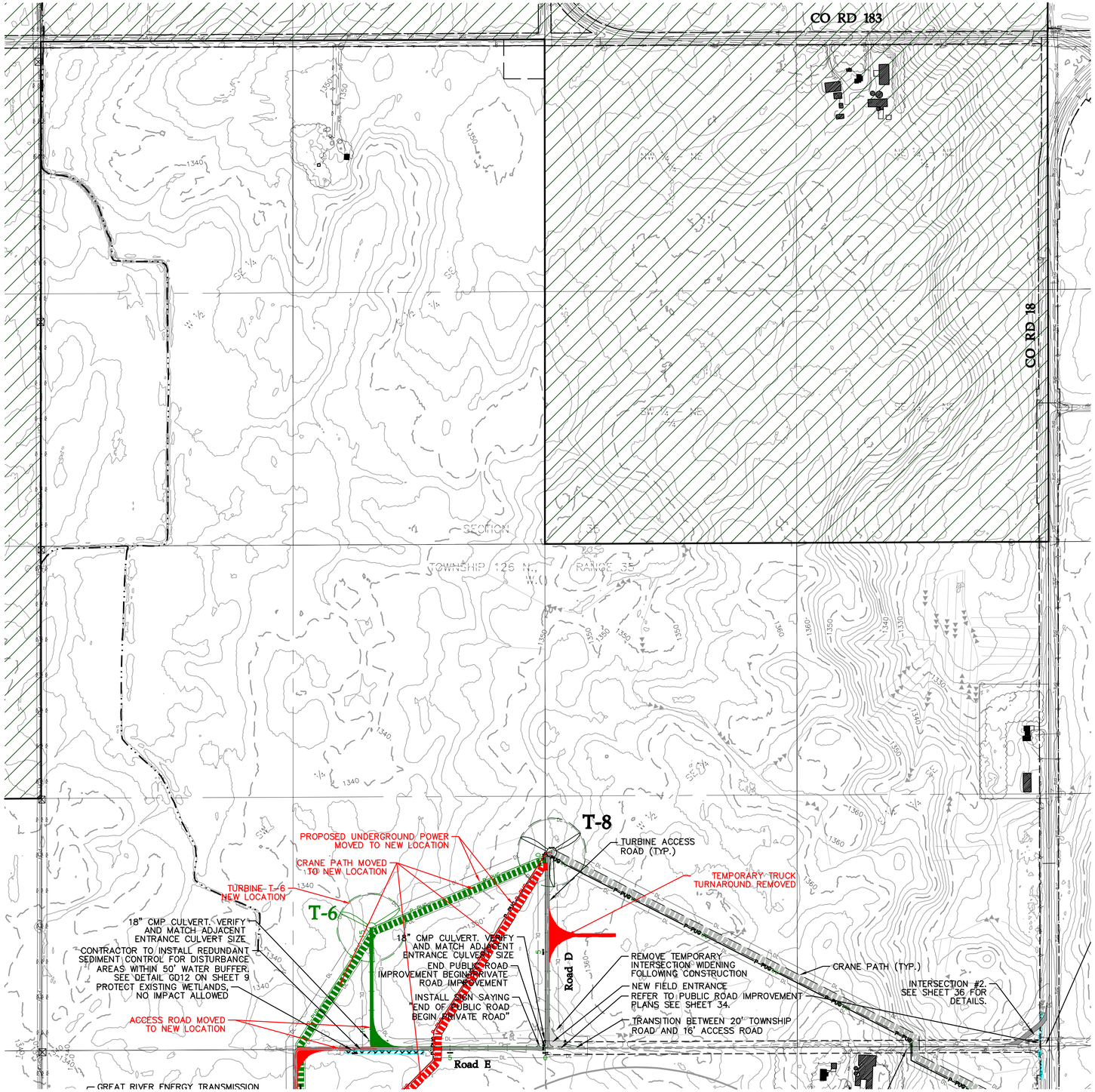

SEE SHEET 14

SEE SHEET 18

LEGEND:

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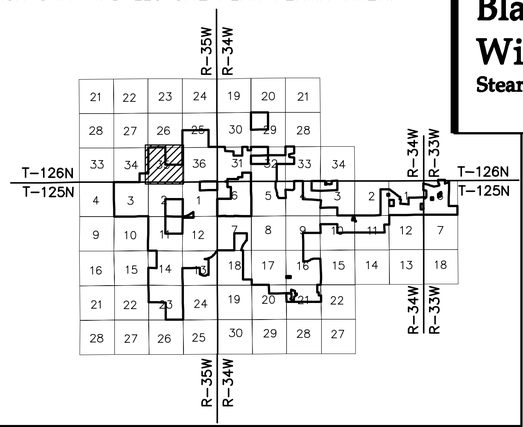

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Prepared for:

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488 8th Avenue, HQ11,
San Diego, CA 92101

0' 300' 600' 900'

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Civil Plan - T126-R35-S35

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Sheet: 13 OF 43

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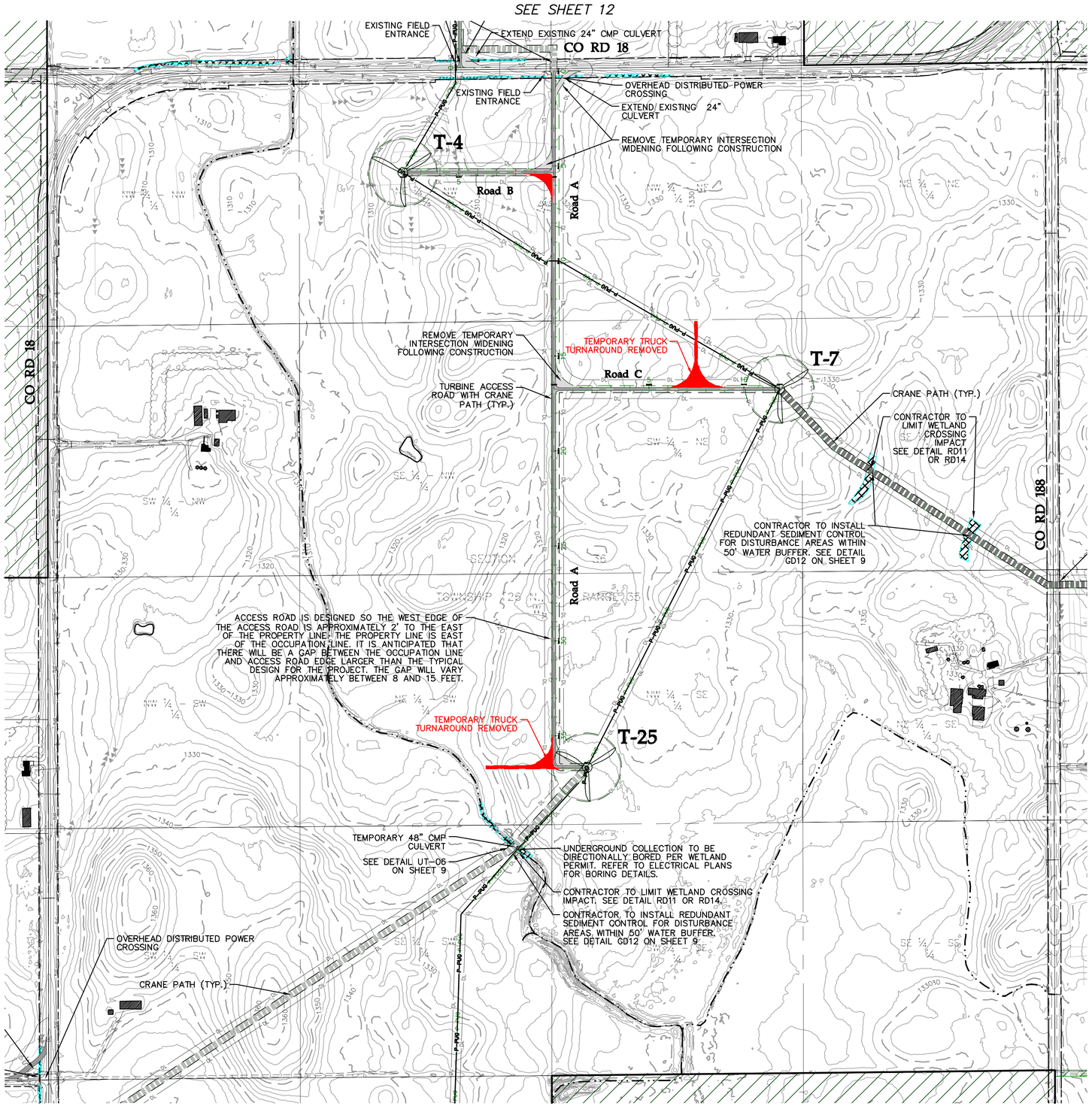

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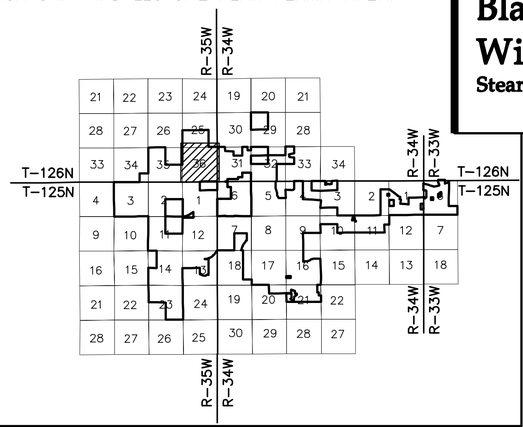

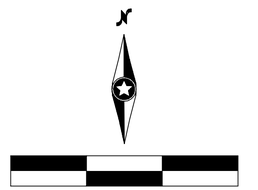

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Civil Plan - T126-R35-S36

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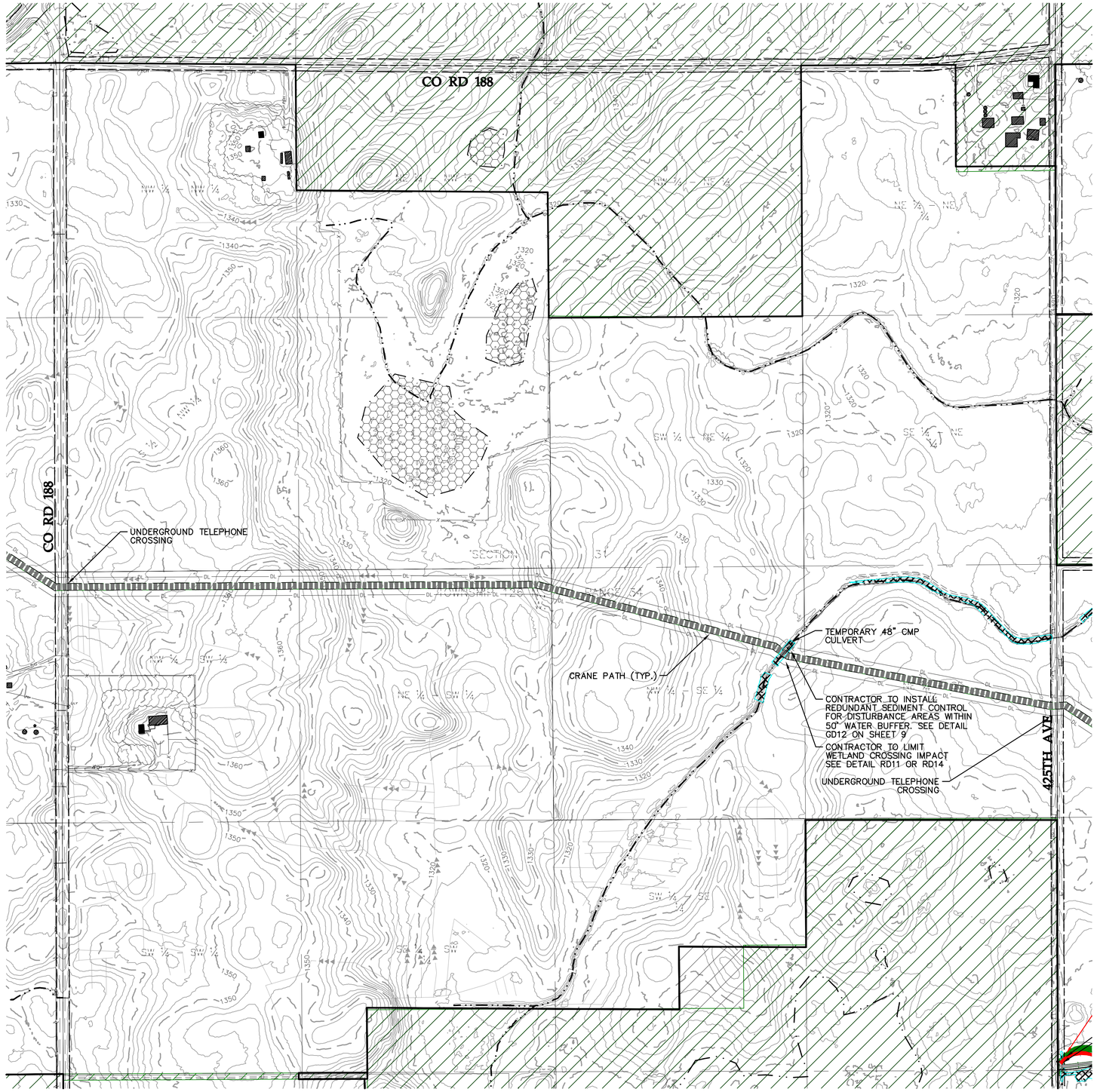

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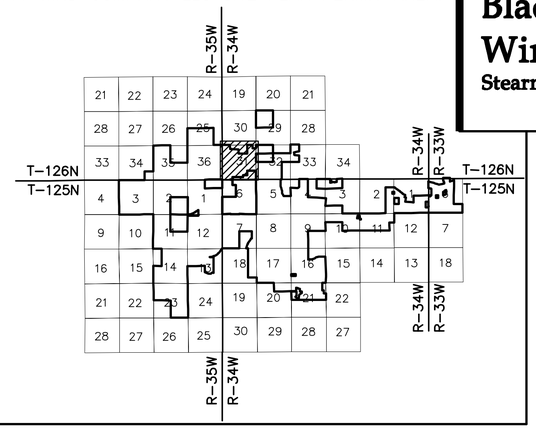

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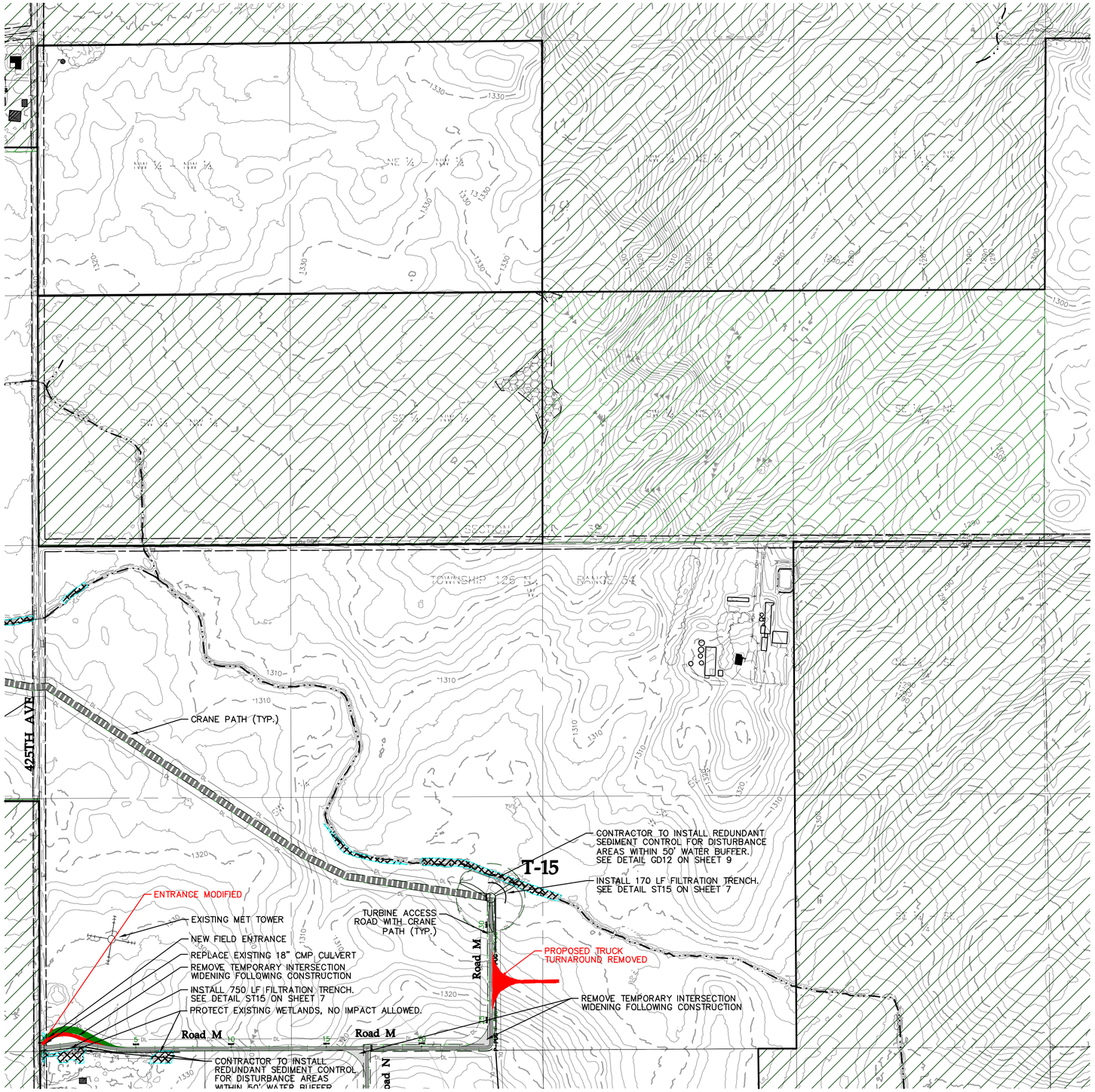

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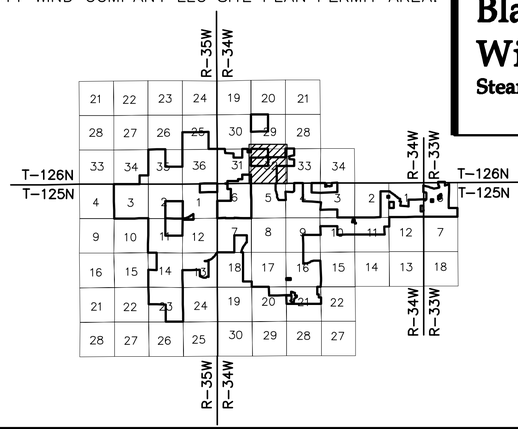

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