



**2026**

# **Environmental and Natural Resources**

# 2026 Updates

Below is a summary of updates to the Environment and Natural Resources CDE Handbook for the 2026 convention cycle. We plan to release handbook changes that may impact instruction in June of the year prior but may finalize smaller updates through February of the competition year. All updates and changes aim to provide a positive, relevant experience for all competitors.

## HANDBOOK UPDATE:

### JULY 2025

### JANUARY 2026

#### Policies and Guidelines

##### I. Eligibility of Students

- Added — Eligibility is based on the **National FFA membership year (August 1–July 31)**—not a school's academic calendar or "rising grade" designation.

*Rationale:* Clarifying that a student must be a 7th-grade member on the date of the qualifying event to compete or qualify at a state qualifying event. A student who is still a 6th-grade member on that date is not eligible to qualify and may compete for 7th-grade consideration only in qualifying events held on or after August 1.

- Reduce the number of points for the Team Activity – Team Presentation from 900 points to 600 points.
- Reduce the Total Team Points from 3,300 points to 3,000 points.

*Rationale:* By reducing the points for the Team Activity – Team Presentation from 900 points to 600 points, the Team Activity – Team Presentation changes the team activity from 29 % to 20% of the Total Team Score.

- Update the Team Activity – Team Presentation rubric with bracketed points for each Indicator.

*Rationale:* Previously, the weights for the Indicators on the Team Activity – Team Presentation rubric ranged from X4 to X20 by providing bracketed points for each indicator the score variations are reduced to 1-point differentials.

Refer to the National FFA Career and Leadership Events webpage on [FFA.org](https://ffa.org) for the most up-to-date career and leadership development handbook edition.

**CONTACT**

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**FFA VISION**

Growing the next generation of leaders who will change the world.

**FFA MISSION**

FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education.

**FFA CODE OF CONDUCT**

FFA members participating in National FFA programs understand and agree to abide by the National FFA Code of Conduct at:  
<https://ffa.app.box.com/s/x6l2lkovv4x9tgiegy73mei30zvlip5j>

## Guiding Principles

National awards and competitive events should:

1. Inspire members to explore, learn, and be prepared for future careers related to the AFNR career pathways and FFA AFNR Value Chain.
2. Recognize achievements in skill development and knowledge, including:
  - a. leveraging relevant technologies
  - b. utilizing creative problem-solving
  - c. meeting developmentally appropriate learning objectives (Bloom's Taxonomy)
  - d. utilizing employability skills (teamwork, communication, collaboration)
3. Be accessible and engaging for all students and FFA members.
4. Provide awards and recognition opportunities for students at all levels.
5. Work with other groups to utilize or partner with existing experiences.
6. Provide feedback that promotes personal and professional growth.

## Agriculture, Food and Natural Resources (AFNR)

### Career Cluster Content Standards

The National Council for Agricultural Education has provided permission to the National FFA Organization to use the National AFNR Career Cluster Content Standards in the development of their educational resource materials. The National Council for Agricultural Education is the owner and developer of the National AFNR Career Cluster Content Standards © 2016 and reserves all rights to the original material used here with permission. In addition, the National Association of State Directors of Career and Technical Education/National Career Technical Education Foundation (NASDCTE/NCTEF) has provided permission to use the Common Career and Technical Core (CCTC) Standards in support of this project. NASDCTE/NCTEF are the owners and developers of the Common Career and Technical Core (CCTC) Standards © 2012 and reserve all rights to the original material used here with permission.

The National FFA Organization has adopted the AFNR Career Cluster Content Standards and integrated them into the national award and recognition programs for the benefit of members, school administration, and agriculture as a whole. For a complete set of the standards, please visit the [2016 AFNR Career Cluster Content Standards](https://ffa.org). You may access the standards alignments for this event at <https://ffa.app.box.com/s/hrxlqv7q6zo54xfi5x5kyltlyusqjhy0>.

## Professional Integrity

FFA members participating in national FFA programs and events understand and agree that all work must result from their own effort and ability, created, and completed alone (except for partner or chapter applications). When outside sources (direct quotes or phrases, specific dates, figures, or other materials) are used for a project, document, or application, the required reference citation must be completed according to the rules specified by the applicable handbook.

While participating in National FFA programs, FFA members are prohibited from:

- Plagiarizing
- Violating copyright
- Cheating
- Falsifying information
- Using another person's results or thoughts as their own, even with this person's permission. This includes work done by a family member or a mentor.
- Using information or data obtained from the internet without proper citation.

Any attempt to gain an unfair advantage will not be tolerated. Non-compliance represents plagiarism and will automatically disqualify a member.

## Use of Artificial Intelligence (AI) for National Programs and Events

Artificial intelligence (AI) refers to computer systems capable of performing complex tasks that historically only a human could do, such as reasoning, making decisions, or solving problems. As AI continues to evolve, it can be a tremendous tool to help companies, organizations and individuals enhance their productivity and work. Therefore, the National FFA Organization allows the use of AI tools. FFA members may use AI tools, such as ChatGPT, Gemini, and CoPilot, to assist them in their learning.

Appropriate uses of AI may include:

- generating ideas for any FFA-related assignments, projects, contests and award applications
- checking facts of a phenomenon
- checking for and correcting grammatical errors in a paper written by a member

For more information, please see the [Standard Operating Procedures on the Use of Artificial Intelligence \(AI\) for National Programs and Events document](#).

## Member Safety

**At National FFA, we're committed to creating a safe, inclusive, and supportive environment for all members— students, educators, and families alike.** We believe in fostering premier leadership, personal growth, and career success, and that starts with a community built on respect and professionalism. These guidelines outline the expectations for behavior and conduct across all FFA activities and spaces. By upholding these principles, members help ensure FFA remains a place where everyone can thrive.

Please take a moment to review these policies, [here](#) (Member Safety at FFA.org), which includes an agreement to abide by the [National FFA Code of Conduct](#). Adherence is essential—violations may result in disciplinary action, including restricted access to events.

# 2026 CAREER AND LEADERSHIP DEVELOPMENT EVENTS GUIDELINES

## POLICIES AND GUIDELINES

### I. Eligibility of Students

- a. Eligibility is based on the National FFA membership year (August 1–July 31)—not a school’s academic calendar or “rising grade” designation.
- b. Each student must be a student FFA member on the current roster in good standing with the local chapter, state FFA association, and the National FFA Organization during the school year in which the student qualified to participate at the national level.
- c. If a student’s name is not on the chapter’s official roster, please work with the National FFA membership team to update the membership before the national event.
- d. The student, at the national event, must be:
  - i. A secondary education (grades 7-12) FFA member during the school year in which the participant qualified to participate at the national level as determined by the roster at the time of qualifying.
  - ii. A graduating senior is eligible to compete in state and national career and leadership development events up to and including their first national convention following graduation.)
  - iii. Participants in the Creed Speaking and Conduct of Chapter Meetings LDEs must qualify as a 7th, 8th, or 9th grade member.
- e. If a student moves to a different chapter or a different state once the student has qualified as a state representative in an event, that student may be allowed to compete in the national event with the school they qualified with during the qualifying year.
- f. A student may only participate in the same official CDE/LDE once. No student may participate in more than one National FFA event each year.
- g. Each student participating in a national event must complete an online Waiver and release of Liability through the convention registration system.

### II. Selection/Certification of State Teams

- a. Each state will submit a team declaration form by July 1, before the national FFA convention. Participation in each declared event will incur an entry processing fee. [State Staff Declaration Instructions](#)
- b. Each team will be composed of the number of members determined by the specific event rules and formats. The members of a state team must be from the same chapter.
- c. All students must be certified online by the designated deadline of Sept. 1 or within 10 days of the qualifying date if after the deadline. Advisors or state staff must certify members in each event by the certification deadline [How to certify a team or member Instructions](#)
- d. Once the original certification has been completed, no member may be added without first deleting a member. (See III. Drop/Add Process).
- e. State staff shall approve students are eligible (See I. Eligibility of Students). [State Staff Certification Approval Instructions](#) If an ineligible student participates in any career or leadership development event, the member will be disqualified, which may also impact the team’s ranking.
- f. States may approve teams comprised of fewer members than the required members.
- g. Substitutions of any student or team are subject to the determination and approval of the state association.
- h. If reputable international competitions invite teams to competition the national organization will certify National FFA Career and Leadership Development Event winners for international competition when states request. This is with the understanding that the state team will provide their travel expenses.

### III. Drop/Add Process

- a. If a student needs to be substituted or dropped, the online drop/add process must be used to substitute or drop the team member. A team member must be dropped before another team member may be substituted. [How to Drop/Add a team member Instructions](#)
- b. The Drop/Add must be submitted one hour before the first event component or official activity of an event as listed in the schedule of events. Changes will not be permitted after this time.
- c. Members added to any team must meet all the eligibility and membership requirements described in this Guide's other sections.
- d. Substitutions may be allowed after the online document submission date (See individual Event Handbooks for details).

### IV. Disqualification

- a. FFA members participating in national FFA programs and events understand and agree that all work must result from their effort and ability, created and completed alone (except for partner or chapter applications). Details about Professional Integrity, the Use of Artificial Intelligence (AI) for National Programs and Events, and the National FFA Code of Conduct are included in event handbooks.
- b. Any verbal or non-verbal communication between students during an event that is not part of the event will be sufficient cause to eliminate the team member involved from the career development event.
- c. Teams or students arriving after the career development event has begun may be disqualified or penalized. This includes a zero or lower score for that team or student for the missed section of the career or leadership development event.
- d. Any assistance given to a student from any source other than the career development event officials or assistants will be sufficient to disqualify that student from the career and leadership development event.
- e. Event superintendents may stop any student if they deem their manner hazardous to themselves or others. Such action may result in a zero or lower score for that student for that section of the career or leadership development event.
- f. Students who start an event and do not complete it without notifying event officials at the time of departure may be disqualified. This can affect the overall team rank and position; in some events, it could also disqualify the entire team.
- g. Students will not be allowed to utilize personal electronic communication devices other than those approved by the event officials during the entire event. Students who access personal electronic communication devices without prior approval from the event officials may be disqualified from the national event.
- h. Any CDE/LDE student, team, advisor, or coach who is proven to have gained access to event materials intended for or utilized by the event committee during the competition will be disqualified from the national event.

## Purpose

Environmental and natural resource education has a responsibility to educate the public and prepare students to enter careers in the environmental and natural resource industry. The purpose of the environmental and natural resource career development event is to foster student interest, promote environmental and natural resource instruction in the agricultural education curriculum, and provide recognition for those who have demonstrated skills and competencies as a result of environmental and natural resource instruction.

## Event Rules

Review the Career and Leadership Development Event Policy and Guidelines for information on eligibility, selection, certification, team member changes, disqualification and more.

[General Information for National Competition](#) can provide general guidance on preparing for national competition.

- Each team will be comprised of four members.
- All four participant scores will determine the total team score.
- Participants must come to the event prepared to work in adverse weather conditions. The event will be conducted regardless of the weather. Participants should have rainwear, warm clothes and appropriate footwear.
- Under no circumstance will any participant be allowed to handle any of the items in the identification portion of the practicums. Any infraction of this rule will be sufficient to eliminate a team from the event.
- Participants will be assigned to group leaders who will escort them to various event-staging sites. Each participant is to stay with his or her assigned group leader throughout the event or until told to change leaders by the event superintendent.
- No team, team member or team coach shall visit the event facilities to observe plant materials and facilities after Sept. 1. Any team, team member or coach reported and proven to do so will cause the elimination of the team from the event.

## Event Format

### Equipment

Teams will be notified in the team orientation packet if students must provide these materials for the current year:

- **Global Positioning System (GPS): EACH PARTICIPANT** will be responsible for bringing his/her own dedicated handheld GPS unit. Team members are **NOT** permitted to share GPS units between teammates or among any other contestants.

### UPDATED

- GPS units that **require** an ancillary or third-party device such as cellular phone, ANT+ device, satellite communicator or any other stand-alone device to achieve communication or data sharing with other GPS units **will be allowed** for use in the event. All ancillary devices or technologies that enable a GPS receiver to engage in communication or data sharing with another GPS receiver are prohibited from the event.

- GPS units with any type of direct communication or data-sharing capabilities are prohibited from use in the ENR CDE. A GPS unit with “**direct communication or data-sharing capabilities**” is defined as any GPS unit that has the inherent ability to communicate or share data with other GPS units **WITHOUT** the use of an ancillary device or technology. This includes, but is not limited to, GPS units equipped with built-in two-way radio or wireless connectivity (e.g., cellular, Bluetooth, inReach Technology, a satellite communicator, or a satellite subscription service) capabilities that enable direct unit-to-unit communication or data sharing.

Participants must use the tools and equipment furnished at the event. Equipment that will be provided:

- A clipboard.
- Two sharpened No. 2 pencils.
- All other tools and equipment will be furnished for the event.

### Team Activity (600 points total)

AFNR Environmental Sustainability Systems Standard ESS.03 is: “Developing proposed solutions to environmental issues, problems and applications using scientific principles of meteorology, soil science, hydrology, microbiology, chemistry and ecology.” The performance indicators and common industry practices make showcasing a student/team’s ability to deliver a presentation an essential skill in Environmental Sustainability Systems careers. Teams will be required to develop an oral presentation with some form of visual aide that addresses the questions in the annual scenario. Teams will be provided with markers, and flip charts and one hour to prepare the presentation. The team will have eight minutes to make the oral presentation followed by five minutes of questions. Students will be provided a scenario that deals with an environmental/natural resource problem from the following areas:

#### *Soils*

- Physical properties.
- Soil erosion.
- Soil analysis.
- Soil sustainability.

#### *Water*

- Importance of water.
- Factors that influence the quality and quantity of water.
- Management practices to ensure water quality and quantity.

#### *Ecosystems*

- Basic ecological concepts.
- Management of ecosystems.

#### *Waste management*

- Preventing and reducing solid waste.
- Disposing of waste.
- Manure management.
- Hazardous waste.

## Individual Activities

### *Objective Written Exam — 60 minutes (100 points)*

The written exam will consist of fifty questions submitted by the event committee.

### *Identification — 60 minutes (100 points)*

Students will complete fifty items. These may include pelts, bone, actual specimens, photos, footprint casts or scat. Identification would include understanding the application of or responding to questions regarding the samples/specimens. This will include items from the following lists:

- Equipment
- Native species
- Invasive/non-native species

## Annual Practicums

Four of the five areas will be selected for the annual practicums.

### *Data Interpretation —30 minutes (100 points)*

- Students will be provided a survey analysis (waste, soil, air or water) and they will be expected to answer questions related to this report.

### *Water Analysis —30 minutes (100 points)*

- Using measuring devices, each participant will measure a sample of water for quality analysis. Four of the following categories will be tested each year: dissolved oxygen, nitrates, nitrites, pH, temperature, phosphates, water hardness, chlorine and ammonia.
- Analyze the results of measurements and determine if it is suitable for a specific use.
- Answer questions using the data collected about water quality and limiting factors.

### *Soil Profile —30 minutes (100 points)*

- Students will be furnished with a scorecard, an interpretation guide and a pre-dug soil pit or core/monolith to judge. The participants will identify the soil horizons, textures, percentage of coarse fragments, pH, horizon colors, slope, geologic origin, soil permeability, irrigation suitability, and soil structure types of the soil present in the given example.
- Using the information from the scorecard and interpretation guide, the student will then identify the most appropriate use for the given area and the erosion control practice that best fits the designated use for the land.

### *GPS Locations —30 minutes (100 points)*

Participants will utilize the global positioning system (GPS) unit (one for each participant) to complete one or more of the following:

- Use GPS unit to identify coordinates of various locations utilizing various coordinate systems and datums.
- Use GPS unit to identify boundaries of a given area including calculation of land area and perimeter of boundary. (Note: Relative area/perimeter formulas may be provided by event staff.)
- Use GPS unit and topographic map to layout location of fence line, pond, drainage structure or other related facilities.

- Use a GPS unit to mark location of a path or road through a given area.
- Use GPS unit to navigate to a given set of coordinates and measure linear distance between various points.

Additionally, participants should be able to demonstrate a working knowledge of global positioning systems and their GPS receiver via written exam.

#### *Waste Management —30 minutes (100 points)*

- Participants will be presented with a scenario (agricultural producer, neighborhood, office building, manufacturing plant, etc.,) that generates waste material creating environmental threats.
- Participants will evaluate the nature of waste output to identify plausible options for reducing the rate of waste generation, recycling or providing potential alternative uses for the waste, treating the waste or disposing of the waste.
- Participants should be able to identify at least one benefit and one deterrent for each possible option that is offered.

## Scoring

Event participants are evaluated as follows:

| ACTIVITY                                                                                                                                                       | Individual Points | Total Team Points |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|
| Written exam                                                                                                                                                   | 100               | 400               |
| Identification                                                                                                                                                 | 100               | 400               |
| Annual Practicums<br>(4 of 5 below) - 100 pts ea.<br>a. Data interpretation<br>b. Water analysis<br>c. Soil profile<br>d. GPS locations<br>e. Waste management | 400               | 1600              |
| Team activity                                                                                                                                                  |                   | 600               |
| <b>TOTAL POSSIBLE POINTS</b>                                                                                                                                   | 600               | 3,000             |

### Tiebreakers

#### *Team*

1. Highest team activity score
2. Highest practicum score
3. Highest combined identification score

#### *Individual*

1. Highest exam score
2. Highest practicum score
3. Highest identification score

## Awards

Awards will be presented to individuals and teams at the awards ceremony based on their rankings. Advisors of cash award recipients will receive information about claiming their award following the convention. Guidelines for amounts and recipients of cash awards can be found [here](#).

## References

*This list of references is not intended to be all-inclusive.*

Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. The following list contains references that may prove helpful during event preparation.

Past CDE materials and other resources are available on [FFA.org](http://FFA.org).

Managing Our Natural Resources. Camp and Daugherty. Delmar Publishers, Inc. 2009. Albany N.Y.

Land Judging in Oklahoma. J.H. Stiegler, 4-H Member's Guide, Oklahoma Cooperative Extension Service, Division of Agricultural Sciences and Natural Resources, Oklahoma State University. 4H.HPS.101., [http://www.landjudging.com/2009/land\\_judging\\_manual\\_2009.pdf](http://www.landjudging.com/2009/land_judging_manual_2009.pdf)

Environmental Science: Fundamentals and Applications. Cengage learning. 2007.

Applied Environmental Science, [FFA.org/thecouncil/resources](http://FFA.org/thecouncil/resources)

GPS

<https://www.gps.gov/>

[https://en.wikipedia.org/wiki/Spatial\\_reference\\_system](https://en.wikipedia.org/wiki/Spatial_reference_system)

# Identification List

## 100 POINTS

### Equipment

#### *Water Quality*

- 101. refractometer
- 102. secchi disk
- 103. water meter for physical/chemical parameters (pH, conductivity and/or DO)

#### *Aquatic*

- 104. bottom dredges
- 105. fish measuring board
- 106. plankton net
- 107. seines
- 108. sieves

#### *Wildlife*

- 109. animal tags/bands
- 110. mammal traps
- 111. snake/reptile stick
- 112. radio telemetry unit

#### *Weather*

- 113. wind speed meters
- 114. barometer

#### *Soils*

- 115. abny level
- 116. push probe
- 117. soil auger
- 118. soil color book

### Native Species

#### *Wildlife*

- 201. armadillo
- 202. badger
- 203. beaver
- 204. bighorn sheep
- 205. bison
- 206. black bear
- 207. blacktail deer
- 208. bobcat
- 209. chipmunk
- 210. cottontail
- 211. coyote
- 212. elk
- 213. fox squirrel
- 214. gray squirrel
- 215. gray wolf
- 216. grizzly bear
- 217. jack rabbit
- 218. mole
- 219. moose
- 220. mountain goat
- 221. mountain lion
- 222. mule deer
- 223. muskrat
- 224. opossum
- 225. pocket gopher
- 226. porcupine
- 227. prairie dog
- 228. pronghorn
- 229. raccoon
- 230. red fox
- 231. skunk
- 232. weasel
- 233. whitetail deer
- 234. woodchuck

#### *Birds*

- 301. bald eagle
- 302. blue jay
- 303. bluebird
- 304. brown thrasher
- 305. Canada goose
- 306. canvasback duck
- 307. cardinal
- 308. Cooper's hawk
- 309. Crissal thrasher
- 310. mourning dove
- 311. great blue heron
- 312. great horned owl
- 313. golden eagle
- 314. hummingbird
- 315. kestrel
- 316. least tern
- 317. mallard duck
- 318. osprey
- 319. pelican
- 320. purple martin
- 321. quail
- 322. red-tailed hawk
- 323. sand hill crane
- 324. blue-winged teal
- 325. turkey
- 326. whooping crane
- 327. wood duck

## Native Species

### *Reptiles/Amphibians*

- 401. alligator
- 402. alligator snapping turtle
- 403. black rat snake
- 404. bullfrog
- 405. collared lizard
- 406. common snapping turtle
- 407. copperhead snake
- 408. coral snake
- 409. corn snake
- 410. cottonmouth
- 411. crocodile
- 412. fence lizard
- 413. garter snake
- 414. green anole lizard
- 415. gray tree frog
- 416. rattlesnake
- 417. red eared slider
- 418. ring neck snake
- 419. rubber boa snake
- 420. scarlet king snake
- 421. Woodhouse's toad

### *Fish and Other Aquatic Animals*

- 501. blue catfish
- 502. bream/bluegill
- 503. brown trout
- 504. carp
- 505. channel catfish
- 506. clam
- 507. crab
- 508. crappie
- 509. crayfish
- 510. flathead catfish
- 511. largemouth bass
- 512. lobster
- 513. salmon
- 514. shrimp
- 515. smallmouth bass
- 516. sturgeon
- 517. trout
- 518. walleye
- 519. yellow bullhead catfish

## Invasive/Non-native species

### *Plants*

- 601. broom snake weed
- 602. cheatgrass
- 603. Chinese tallow
- 604. cogon grass
- 605. English ivy
- 606. Himalaya blackberry
- 607. hydrilla
- 608. juniper
- 609. kudzu
- 610. leafy spurge
- 611. melaleuca
- 612. mimosa tree
- 613. purple loosestrife
- 614. Russian olive
- 615. saltcedar

### *Animals*

- 701. Asiatic clam
- 702. Asian long-horned beetle
- 705. Chinese mitten crab
- 706. chukkar
- 707. English sparrow
- 708. European starling
- 709. feral hog
- 710. feral horse
- 711. fire ant
- 712. Gopher
- 713. Norway rat
- 714. Nutria
- 715. ring neck pheasant
- 716. sea lamprey
- 717. Tilapia
- 718. zebra mussel

# Team Activity - Team Presentation

**600 POINTS**

| Chapter                                                                                                              | State                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                    | Team Number  |
|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Indicator                                                                                                            | Very strong evidence of skill                                                                                                                                                                                                                        | Moderate evidence of skill                                                                                                                                                                                                                                              | Weak evidence of skill                                                                                                                                                                                             | Total Points |
| <b>Visual Presentation (150 points)</b> <i>Online rubric will have 1–3-point increments.</i>                         |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                    |              |
|                                                                                                                      | <b>50-48-46-44-42-40-38-36-34</b>                                                                                                                                                                                                                    | <b>33-31-29-27-25-23-21-19-17</b>                                                                                                                                                                                                                                       | <b>16-14-12-10-8-6-4-2-0 points</b>                                                                                                                                                                                |              |
| Use of visual aid                                                                                                    | <ul style="list-style-type: none"> <li>Visual aids add clarity and support what is being said during the presentation.</li> </ul>                                                                                                                    | <ul style="list-style-type: none"> <li>Visual aids add some clarity and support to what is being said during the presentation.</li> </ul>                                                                                                                               | <ul style="list-style-type: none"> <li>Visual aids add little to no clarity and support to what is being said during the presentation.</li> </ul>                                                                  |              |
| Content                                                                                                              | <ul style="list-style-type: none"> <li>Content is well organized using headings or bulleted lists of group-related material.</li> </ul>                                                                                                              | <ul style="list-style-type: none"> <li>Uses heading or bulleted lists to organize but the overall organization of topics appears flawed.</li> </ul>                                                                                                                     | <ul style="list-style-type: none"> <li>No clear logical organization, just a lot of facts.</li> </ul>                                                                                                              |              |
|                                                                                                                      | <b>25-23-21-19-17 points</b>                                                                                                                                                                                                                         | <b>16-18-14-12- 10-8 points</b>                                                                                                                                                                                                                                         | <b>7-5-3-1-0 points</b>                                                                                                                                                                                            |              |
| Spelling, and grammar/ Mechanics                                                                                     | <ul style="list-style-type: none"> <li>No misspellings or grammatical errors.</li> </ul>                                                                                                                                                             | <ul style="list-style-type: none"> <li>Three or fewer misspellings and or grammatical errors.</li> </ul>                                                                                                                                                                | <ul style="list-style-type: none"> <li>More than three misspellings and or grammatical errors.</li> </ul>                                                                                                          |              |
| Clarity and neatness                                                                                                 | <ul style="list-style-type: none"> <li>Easy to read and elements are clearly written, labeled or drawn.</li> </ul>                                                                                                                                   | <ul style="list-style-type: none"> <li>Easy to read most elements are clearly written, labeled or drawn.</li> </ul>                                                                                                                                                     | <ul style="list-style-type: none"> <li>Hard to read with rough drawings and labels.</li> </ul>                                                                                                                     |              |
| <b>Oral Presentation, Analysis, and Questions (450 points).</b> <i>Online rubric will have 1-3-point increments.</i> |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                    |              |
|                                                                                                                      | <b>10-9-8-7 points</b>                                                                                                                                                                                                                               | <b>6-5-4 points</b>                                                                                                                                                                                                                                                     | <b>3-2-1-0 points</b>                                                                                                                                                                                              |              |
| Introduction (of team members)                                                                                       | <ul style="list-style-type: none"> <li>Exhibited a clear, polite introduction; used correct posture and body language; initiated conversation clearly and professionally</li> </ul>                                                                  | <ul style="list-style-type: none"> <li>Had an introduction; somewhat exhibited correct posture and body language; attempted to maintain clear conversation</li> </ul>                                                                                                   | <ul style="list-style-type: none"> <li>Did not use proper posture and body language; struggled to maintain conversation; was not clear</li> </ul>                                                                  |              |
|                                                                                                                      | <b>50-48-46-44-42-40-38-36-34 points</b>                                                                                                                                                                                                             | <b>33-31-29-27-25-23-21-19-17 points</b>                                                                                                                                                                                                                                | <b>16-14-12-10-8-6-4-2-0 points</b>                                                                                                                                                                                |              |
| Overview of scenario                                                                                                 | <ul style="list-style-type: none"> <li>Begins with an impact statement or question that articulates the focus of the topic area</li> </ul>                                                                                                           | <ul style="list-style-type: none"> <li>Begins with an impact statement or question that is vague concerning the topic area</li> </ul>                                                                                                                                   | <ul style="list-style-type: none"> <li>Begins with a statement or question that is completely irrelevant to the topic area</li> </ul>                                                                              |              |
|                                                                                                                      | <b>65-62-59-56-53-50-47-44-41-38 points</b>                                                                                                                                                                                                          | <b>37-33-30-27-24-21-18 points</b>                                                                                                                                                                                                                                      | <b>17-14-11-8-5-3-0 points</b>                                                                                                                                                                                     |              |
| Presentation of key components                                                                                       | <ul style="list-style-type: none"> <li>All factors that are impacted by problems listed in the scenario are addressed (i.e., economic impact, production factors, etc.)</li> </ul>                                                                   | <ul style="list-style-type: none"> <li>Some factors that are impacted by problems listed in the scenario are addressed (i.e., economic impact, production factors, etc.)</li> </ul>                                                                                     | <ul style="list-style-type: none"> <li>Little or no factors that are impacted by problems listed in the scenario are addressed (i.e. economic impact, production factors, etc.)</li> </ul>                         |              |
| Presentation contains accurate information                                                                           | <ul style="list-style-type: none"> <li>Addresses the problem at hand and conveys viable solutions. Subject knowledge is excellent.</li> <li>Possesses a strong knowledge-base and effectively articulates information regarding situation</li> </ul> | <ul style="list-style-type: none"> <li>Addresses the problem at hand, but solutions may not be as clear or viable. Subject knowledge is average.</li> <li>Possesses a good knowledge-base and for the most part, articulates information regarding situation</li> </ul> | <ul style="list-style-type: none"> <li>No specific focus on the problem. Factual errors are evident.</li> <li>Possesses some knowledge-base but is unable to articulate information regarding situation</li> </ul> |              |
| <b>Total Points page 1</b>                                                                                           |                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                    |              |

|                                                          | 50-48-46-44-42-40-38-36-34 points                                                                                                                                                                                                  | 33-31-29-27-25-23-21-19-17 points                                                                                                                                                                             | 16-14-12-10-8-6-4-2-0 points                                                                                                                                                                                                                 |  |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Solution is relevant to the scenario                     | <ul style="list-style-type: none"> <li>All solutions connect with and support industry best practices</li> </ul>                                                                                                                   | <ul style="list-style-type: none"> <li>Some solutions connect with and support industry best practices</li> </ul>                                                                                             | <ul style="list-style-type: none"> <li>Solutions do not connect with and do not support industry best practices</li> </ul>                                                                                                                   |  |
| Conclusion summarizes the presentation                   | <ul style="list-style-type: none"> <li>Provides a summary statement that provides a clear and concise overview of the topic area</li> </ul>                                                                                        | <ul style="list-style-type: none"> <li>Provides a summary statement that provides a vague overview of the topic area</li> </ul>                                                                               | <ul style="list-style-type: none"> <li>Provides a summary statement that has little relevance to the topic area</li> </ul>                                                                                                                   |  |
|                                                          | 65-62-59-56-53-50-47-44-41-38 points                                                                                                                                                                                               | 37-34-31-28-25-22-19 points                                                                                                                                                                                   | 18-15-12-9-6-3-0 points                                                                                                                                                                                                                      |  |
| Questions and Answers                                    | <ul style="list-style-type: none"> <li>Knowledge is evident and provides a clear, concise, well-thought-out answer to the questions.</li> </ul>                                                                                    | <ul style="list-style-type: none"> <li>Provides answers that are somewhat unclear and at times does not answer the questions.</li> </ul>                                                                      | <ul style="list-style-type: none"> <li>Seems caught off guard by questions and either does not answer the question or provides a rambling answer.</li> </ul>                                                                                 |  |
|                                                          | 20-19-18-17-16-15-14 points                                                                                                                                                                                                        | 13-12-11-10-9-8-7 points                                                                                                                                                                                      | 6-5-4 3-2-1-0 points                                                                                                                                                                                                                         |  |
| The team spoke articulately without hesitation           | <ul style="list-style-type: none"> <li>Speaks very articulately without hesitation.</li> <li>Never has the need for unnecessary pauses or hesitation when speaking</li> </ul>                                                      | <ul style="list-style-type: none"> <li>Speaks articulately but sometimes hesitates.</li> <li>Occasionally has the need for a long pause or moderate hesitation when speaking</li> </ul>                       | <ul style="list-style-type: none"> <li>Speaks articulately but frequently hesitates.</li> <li>Frequently hesitates or has long, awkward pauses while speaking</li> </ul>                                                                     |  |
|                                                          | 15-14-13-12-11 points                                                                                                                                                                                                              | 10-9-8-7-6 points                                                                                                                                                                                             | 5-4-3-2-1-0 points                                                                                                                                                                                                                           |  |
| The team was extremely well-poised                       | <ul style="list-style-type: none"> <li>Poised and in control at all times</li> </ul>                                                                                                                                               | <ul style="list-style-type: none"> <li>Poised and in control most of the time; rarely loses composure</li> </ul>                                                                                              | <ul style="list-style-type: none"> <li>Sometimes seems to lose composure</li> </ul>                                                                                                                                                          |  |
| The team made eye contact with the judge                 | <ul style="list-style-type: none"> <li>Eye contact consistently used as an effective connection.</li> <li>Constantly looks at the entire audience (90–100% of the time)</li> </ul>                                                 | <ul style="list-style-type: none"> <li>Eye contact is mostly effective and consistent.</li> <li>Mostly looks around the audience (60–80% of the time)</li> </ul>                                              | <ul style="list-style-type: none"> <li>Eye contact does not always allow connection with the speaker.</li> <li>Occasionally looks at someone or some groups (less than 50% of the time)</li> </ul>                                           |  |
| The team exhibited confident body language               | <ul style="list-style-type: none"> <li>Gestures are purposeful and effective.</li> <li>Hand motions are expressive and used to emphasize talking points.</li> <li>Great posture (confident) with positive body language</li> </ul> | <ul style="list-style-type: none"> <li>Usually uses purposeful gestures.</li> <li>Hands are sometimes used to express or emphasize.</li> <li>Occasionally slumps; sometimes negative body language</li> </ul> | <ul style="list-style-type: none"> <li>Occasionally gestures are used effectively.</li> <li>Hands are not used to emphasize talking points; hand motions are sometimes distracting.</li> <li>Lacks positive body language; slumps</li> </ul> |  |
| Each member sufficiently contributed to the presentation | <ul style="list-style-type: none"> <li>Each member contributes with smooth handoffs and no redundancy.</li> </ul>                                                                                                                  | <ul style="list-style-type: none"> <li>Most members contribute with some minor overlap or gaps.</li> </ul>                                                                                                    | <ul style="list-style-type: none"> <li>One member carries the consult or roles are unclear.</li> </ul>                                                                                                                                       |  |
| Team Support and Professionalism                         | <ul style="list-style-type: none"> <li>Members use supportive prompts, clarify gracefully and end with a unified and cohesive presentation.</li> </ul>                                                                             | <ul style="list-style-type: none"> <li>Occasionally support each other with some awkward moments.</li> </ul>                                                                                                  | <ul style="list-style-type: none"> <li>Disconnected, undercutting or confusion among members.</li> </ul>                                                                                                                                     |  |
| Points page 2                                            |                                                                                                                                                                                                                                    |                                                                                                                                                                                                               |                                                                                                                                                                                                                                              |  |
| Points page 1                                            |                                                                                                                                                                                                                                    |                                                                                                                                                                                                               |                                                                                                                                                                                                                                              |  |
| Total Points                                             |                                                                                                                                                                                                                                    |                                                                                                                                                                                                               |                                                                                                                                                                                                                                              |  |

Judge's Name

Judge's Signature    Date

# Water Quality Analysis Scorecard

100 POINTS

Name \_\_\_\_\_

Member Number \_\_\_\_\_

Chapter \_\_\_\_\_

State \_\_\_\_\_

Your job today is to analyze the given water sample. You will need to find the given levels of four of the following possible factors: dissolved oxygen, nitrates, nitrites, pH, temperature, phosphates, water hardness, chlorine and ammonia and the current temperature. Using this information you will indicate if the water quality is suitable for specific use and respond to questions using the data collected about water quality and its limiting factors.

| Water Quality                                                                                                                                                                                                                                                                                                                                                                             |  |  |                                                                                        |  |  |                                                                                        |  |  |                                                                    |  |  |                                                                                        |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|----------------------------------------------------------------------------------------|--|--|----------------------------------------------------------------------------------------|--|--|--------------------------------------------------------------------|--|--|----------------------------------------------------------------------------------------|--|--|
| <b>Water Sample #</b>                                                                                                                                                                                                                                                                                                                                                                     |  |  | <b>pH test</b>                                                                         |  |  | <b>Temp test</b>                                                                       |  |  | <b>test</b>                                                        |  |  |                                                                                        |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                           |  |  |                                                                                        |  |  |                                                                                        |  |  |                                                                    |  |  |                                                                                        |  |  |
| (1)<br>(2)<br>(3)<br>(4)<br>(5)<br>(6)<br>(7)<br>(8)<br>(9)                                                                                                                                                                                                                                                                                                                               |  |  | 0 0 0<br>1 1 1<br>2 2 2<br>3 3 3<br>4 4 4<br>5 5 5<br>6 6 6<br>7 7 7<br>8 8 8<br>9 9 9 |  |  | 0 0 0<br>1 1 1<br>2 2 2<br>3 3 3<br>4 4 4<br>5 5 5<br>6 6 6<br>7 7 7<br>8 8 8<br>9 9 9 |  |  | 0 0<br>1 1<br>2 2<br>3 3<br>4 4<br>5 5<br>6 6<br>7 7<br>8 8<br>9 9 |  |  |                                                                                        |  |  |
| <b>Limiting Factors</b>                                                                                                                                                                                                                                                                                                                                                                   |  |  |                                                                                        |  |  |                                                                                        |  |  | <b>test</b>                                                        |  |  | <b>test</b>                                                                            |  |  |
| 1 (A) (B) (C) (D) (E)<br>2 (A) (B) (C) (D) (E)<br>3 (A) (B) (C) (D) (E)<br>4 (A) (B) (C) (D) (E)<br>5 (A) (B) (C) (D) (E)<br>6 (A) (B) (C) (D) (E)<br>7 (A) (B) (C) (D) (E)<br>8 (A) (B) (C) (D) (E)<br>9 (A) (B) (C) (D) (E)<br>10 (A) (B) (C) (D) (E)<br>11 (A) (B) (C) (D) (E)<br>12 (A) (B) (C) (D) (E)<br>13 (A) (B) (C) (D) (E)<br>14 (A) (B) (C) (D) (E)<br>15 (A) (B) (C) (D) (E) |  |  |                                                                                        |  |  |                                                                                        |  |  | 0 0<br>1 1<br>2 2<br>3 3<br>4 4<br>5 5<br>6 6<br>7 7<br>8 8<br>9 9 |  |  | 0 0 0<br>1 1 1<br>2 2 2<br>3 3 3<br>4 4 4<br>5 5 5<br>6 6 6<br>7 7 7<br>8 8 8<br>9 9 9 |  |  |

# Soil Profile Scorecard

**100 POINTS**

Name

Member Number

Chapter

State

| PART 1 (60 POINTS)                            |                                                                                                                                                                                                                                                                                                                                                                                        |                                               |                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Soil Factors – Part 1 (Check Appropriate Box) |                                                                                                                                                                                                                                                                                                                                                                                        | Soil Factors – Part 1 (Check Appropriate Box) |                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Points                                        |                                                                                                                                                                                                                                                                                                                                                                                        | Points                                        |                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 6 + 6                                         | <b>Texture</b><br>Surface      Subsurface<br><input type="checkbox"/> <input type="checkbox"/> 1. Coarse<br><input type="checkbox"/> <input type="checkbox"/> 2. Moderately Coarse<br><input type="checkbox"/> <input type="checkbox"/> 3. Medium<br><input type="checkbox"/> <input type="checkbox"/> 4. Moderately Fine<br><input type="checkbox"/> <input type="checkbox"/> 5. Fine | 6                                             | <b>Permeability</b><br><input type="checkbox"/> 1. Rapid<br><input type="checkbox"/> 2. Moderate<br><input type="checkbox"/> 3. Slow<br><input type="checkbox"/> 4. Very Slow                                                                                                                                                                                                                                   |
| 6                                             | <b>Depth of Soil</b><br><input type="checkbox"/> 1. Deep<br><input type="checkbox"/> 2. Moderately Deep<br><input type="checkbox"/> 3. Shallow<br><input type="checkbox"/> 4. Very Shallow                                                                                                                                                                                             | 6                                             | <b>Surface Runoff</b><br><input type="checkbox"/> 1. Rapid<br><input type="checkbox"/> 2. Moderate<br><input type="checkbox"/> 3. Slow<br><input type="checkbox"/> 4. Very Slow                                                                                                                                                                                                                                 |
| 6                                             | <b>Slope</b><br><input type="checkbox"/> 1. Nearly Level ..... 0-1%<br><input type="checkbox"/> 2. Gently Sloping.....1-3%<br><input type="checkbox"/> 3. Moderate Sloping3-5%<br><input type="checkbox"/> 4. Strongly Sloping5-8%<br><input type="checkbox"/> 5. Steep .....8-15%<br><input type="checkbox"/> 6. Very Steep .....> 15%                                                | 9                                             | <b>Major Factors That Keep Area Out of Class 1</b><br><input type="checkbox"/> 1. Texture<br><input type="checkbox"/> 2. Depth<br><input type="checkbox"/> 3. Slope<br><input type="checkbox"/> 4. Erosion<br><input type="checkbox"/> 5. Permeability<br><input type="checkbox"/> 6. Runoff<br><input type="checkbox"/> 7. Wetness<br><input type="checkbox"/> 8. Flooding<br><input type="checkbox"/> 9. None |
| 6                                             | <b>Erosion – Wind and Water</b><br><input type="checkbox"/> 1. None to Slight<br><input type="checkbox"/> 2. Moderate<br><input type="checkbox"/> 3. Severe<br><input type="checkbox"/> 4. Very Severe                                                                                                                                                                                 | 9                                             | <b>Land Capability Class</b><br><input type="checkbox"/> 1. Class I<br><input type="checkbox"/> 2. Class II<br><input type="checkbox"/> 3. Class III<br><input type="checkbox"/> 4. Class IV                                                                                                                                                                                                                    |
|                                               | <i>Points</i>                                                                                                                                                                                                                                                                                                                                                                          |                                               | <i>Points</i>                                                                                                                                                                                                                                                                                                                                                                                                   |
|                                               |                                                                                                                                                                                                                                                                                                                                                                                        | <b>TOTAL POINTS PART 1</b>                    |                                                                                                                                                                                                                                                                                                                                                                                                                 |

# Soil Profile Scorecard

| PART 2 (40 POINTS)                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recommended Treatment – Part 1 (Check Appropriate Box) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Points                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                        | <p><b>Vegetative</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 1. Row crop/occasional soil conserving crop</li> <li><input type="checkbox"/> 2. Row crop/frequent soil conserving crop</li> <li><input type="checkbox"/> 3. Row crops not more than 2 out of 4 years</li> <li><input type="checkbox"/> 4. Row crops not more than 1 out of 5 years</li> <li><input type="checkbox"/> 5. Return crop residue to the soil</li> <li><input type="checkbox"/> 6. Practice conservation tillage</li> <li><input type="checkbox"/> 7. Establish recommended grass or grasses and legumes</li> <li><input type="checkbox"/> 8. Proper pasture and range management</li> <li><input type="checkbox"/> 9. Protect from burning</li> <li><input type="checkbox"/> 10. Control grazing</li> <li><input type="checkbox"/> 11. Plant recommended trees</li> <li><input type="checkbox"/> 12. Harvest trees selectively</li> <li><input type="checkbox"/> 13. Use only for wildlife or recreation area</li> </ul> <p><b>Mechanical</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 14. Control brush or trees</li> <li><input type="checkbox"/> 15. Terrace and farm on contour</li> <li><input type="checkbox"/> 16. Maintain terraces</li> <li><input type="checkbox"/> 17. Construction diversion terraces</li> <li><input type="checkbox"/> 18. Install drainage system</li> <li><input type="checkbox"/> 19. Control gullies</li> <li><input type="checkbox"/> 20. No mechanical treatment needed</li> </ul> <p><b>Fertilizer and Soil Amendments</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 21. Soil amendments</li> <li><input type="checkbox"/> 22. Phosphorous [P]</li> <li><input type="checkbox"/> 23. Potassium [K]</li> <li><input type="checkbox"/> 24. Nitrogen [N]</li> <li><input type="checkbox"/> 25. Fertilizer or soil amendments not needed</li> </ul> |
|                                                        | <i>Total Points Part 2 (40 points possible)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                                                        | <i>Total Points Part 1(60 points possible)</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                        | <b>GRAND TOTAL POINTS – 100 (points possible)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

Judge's Name

Judge's Signature

Date

# GPS Locations Scorecard

**100 POINTS**

Name \_\_\_\_\_

Member Number \_\_\_\_\_

Chapter \_\_\_\_\_

State \_\_\_\_\_

Team Number \_\_\_\_\_

List your numbers for each location point following the latitude and longitude given. Additionally, participants will demonstrate a working knowledge of global positioning systems and their GPS receiver via written exam.

**Note:** Variance for differential corrections are noted on condition sheet.

| GPS                    |               |
|------------------------|---------------|
| 1 - Multiple Choice    | 2 - LATITUDE  |
| 1 (A) (B) (C) (D) (E)  | 0 0 0 0 0 0 0 |
| 2 (A) (B) (C) (D) (E)  | 1 1 1 1 1 1 1 |
| 3 (A) (B) (C) (D) (E)  | 2 2 2 2 2 2 2 |
| 4 (A) (B) (C) (D) (E)  | 3 3 3 3 3 3 3 |
| 5 (A) (B) (C) (D) (E)  | 4 4 4 4 4 4 4 |
| 6 (A) (B) (C) (D) (E)  | 5 5 5 5 5 5 5 |
| 7 (A) (B) (C) (D) (E)  | 6 6 6 6 6 6 6 |
| 8 (A) (B) (C) (D) (E)  | 7 7 7 7 7 7 7 |
| 9 (A) (B) (C) (D) (E)  | 8 8 8 8 8 8 8 |
| 10 (A) (B) (C) (D) (E) | 9 9 9 9 9 9 9 |
| 11 (A) (B) (C) (D) (E) |               |
| 12 (A) (B) (C) (D) (E) |               |
| 13 (A) (B) (C) (D) (E) |               |
| 14 (A) (B) (C) (D) (E) |               |
| 15 (A) (B) (C) (D) (E) |               |

| 2 - LONGITUDE | 3 - UTM       |
|---------------|---------------|
| 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 |
| 1 1 1 1 1 1 1 | 1 1 1 1 1 1 1 |
| 2 2 2 2 2 2 2 | 2 2 2 2 2 2 2 |
| 3 3 3 3 3 3 3 | 3 3 3 3 3 3 3 |
| 4 4 4 4 4 4 4 | 4 4 4 4 4 4 4 |
| 5 5 5 5 5 5 5 | 5 5 5 5 5 5 5 |
| 6 6 6 6 6 6 6 | 6 6 6 6 6 6 6 |
| 7 7 7 7 7 7 7 | 7 7 7 7 7 7 7 |
| 8 8 8 8 8 8 8 | 8 8 8 8 8 8 8 |
| 9 9 9 9 9 9 9 | 9 9 9 9 9 9 9 |

| 4     | 5     | 6     | 7     | 8     | 9     | 10    |
|-------|-------|-------|-------|-------|-------|-------|
| 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 | 0 0 0 |
| 1 1 1 | 1 1 1 | 1 1 1 | 1 1 1 | 1 1 1 | 1 1 1 | 1 1 1 |
| 2 2 2 | 2 2 2 | 2 2 2 | 2 2 2 | 2 2 2 | 2 2 2 | 2 2 2 |
| 3 3 3 | 3 3 3 | 3 3 3 | 3 3 3 | 3 3 3 | 3 3 3 | 3 3 3 |
| 4 4 4 | 4 4 4 | 4 4 4 | 4 4 4 | 4 4 4 | 4 4 4 | 4 4 4 |
| 5 5 5 | 5 5 5 | 5 5 5 | 5 5 5 | 5 5 5 | 5 5 5 | 5 5 5 |
| 6 6 6 | 6 6 6 | 6 6 6 | 6 6 6 | 6 6 6 | 6 6 6 | 6 6 6 |
| 7 7 7 | 7 7 7 | 7 7 7 | 7 7 7 | 7 7 7 | 7 7 7 | 7 7 7 |
| 8 8 8 | 8 8 8 | 8 8 8 | 8 8 8 | 8 8 8 | 8 8 8 | 8 8 8 |
| 9 9 9 | 9 9 9 | 9 9 9 | 9 9 9 | 9 9 9 | 9 9 9 | 9 9 9 |

Judge's Name \_\_\_\_\_

Judge's Signature \_\_\_\_\_

Date \_\_\_\_\_