



# Board of Adjustment Staff Report

**Meeting Date: April 2, 2015**

Subject: Special Use Permit Case Number SB15-001

Applicant: Scannell Properties

**Agenda Item Number: 8B**

Project Summary: Allow the grading of approximately 81 acres and excavation of a total of approximately 355,417 cubic yards of earth in preparation of construction of two industrial buildings and associated driveways and parking areas.

**Recommendation: Approval with Conditions**

Prepared by: Roger D. Pelham, MPA, Senior Planner  
Planning and Development Division  
Washoe County Community Services Department

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## Description

**Special Use Permit Case Number SB15-001 (Mustang Industrial Grading)** – To allow the grading of approximately 81 acres and excavation of a total of approximately 355,417 cubic yards of earth in preparation of construction of two industrial buildings and associated driveways and parking areas.

- Applicant: Scannell Properties  
Attn: Dan Salzer  
800 East 96<sup>th</sup> Street, Suite 175  
Indianapolis, IN 46240
- Property Owner: Hiatt Land and Development Company  
Attn: Bart Hiatt  
515 Windmill Drive  
Fallon, NV 89406
- Location: South of Mustang Road, between the railroad tracks and the Truckee River.
- Assessor's Parcel Number: 084-370-02
- Parcel Size: ±117.76 acres
- Master Plan Category: Industrial (I)
- Regulatory Zone: Industrial (I)
- Area Plan: Truckee Canyon
- Citizen Advisory Board: East Truckee Canyon
- Development Code: Authorized in Article 438, Grading
- Commission District: 4 – Commissioner Hartung
- Section/Township/Range: Section 15 and 16, T19N, R21E, MDM, Washoe County, NV

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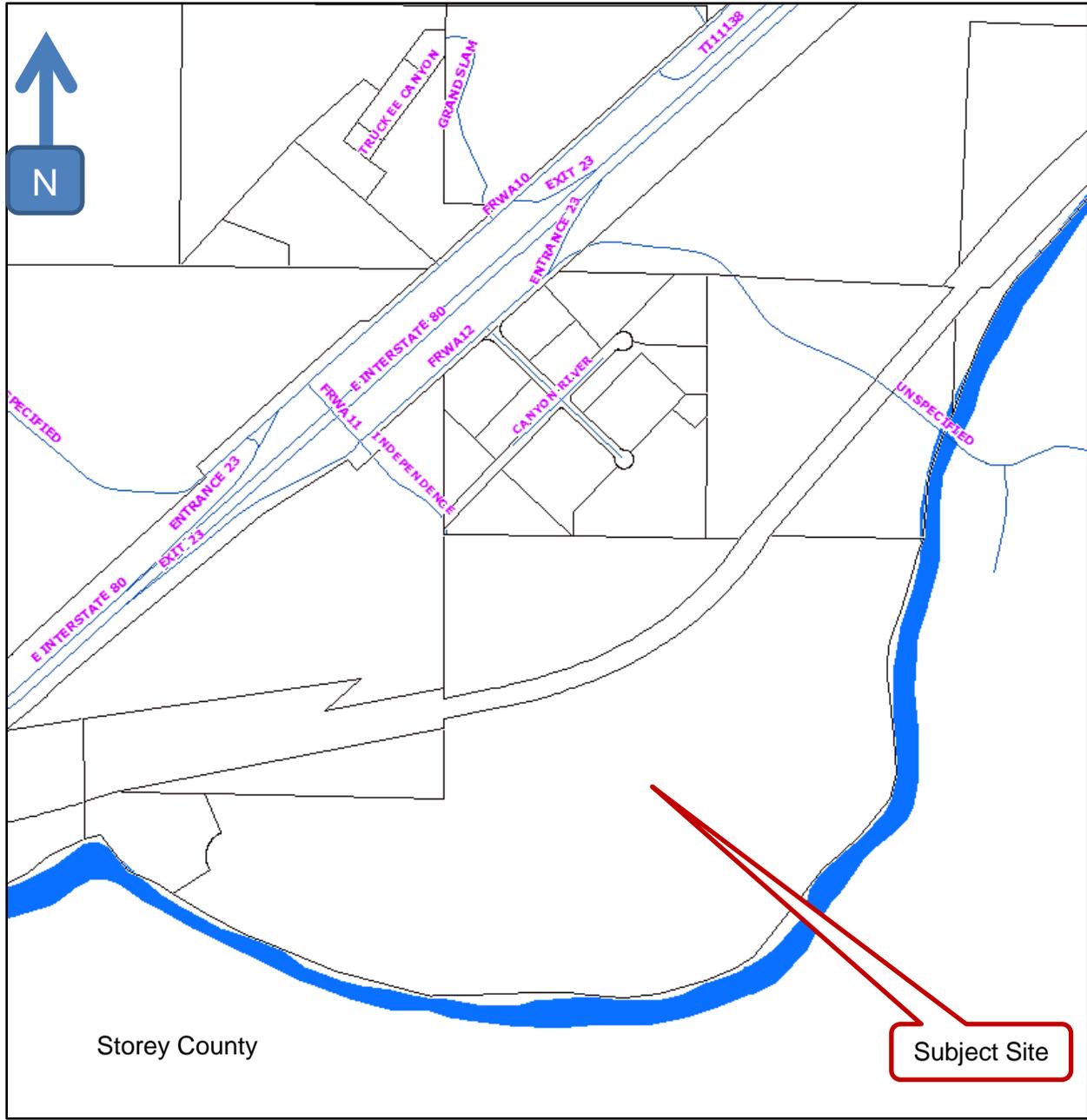
Project Application ..... Exhibit D

**Special Use Permit**

The purpose of a Special Use Permit is to allow a method of review to identify any potential harmful impacts on adjacent properties or surrounding areas for uses that may be appropriate within a regulatory zone; and to provide for a procedure whereby such uses might be permitted by further restricting or conditioning them so as to mitigate or eliminate possible adverse impacts. If the Board of Adjustment grants an approval of the Special Use Permit, that approval is subject to Conditions of Approval. Conditions of Approval are requirements that need to be completed during different stages of the proposed project. Those stages are typically:

- Prior to permit issuance (i.e., a grading permit, a building permit, etc.).
- Prior to obtaining a final inspection and/or a certificate of occupancy on a structure.
- Prior to the issuance of a business license or other permits/licenses.
- Some Conditions of Approval are referred to as "*Operational Conditions.*" These conditions must be continually complied with for the life of the business or project.

The Conditions of Approval for Special Use Permit Case Number SB15-001 are attached to this staff report and will be included with the Action Order.



**Vicinity Map**



## **Project Evaluation**

The applicant has requested to conduct Major Grading. Major Grading is defined as any grading which surpasses certain thresholds established in Article 438, Grading, of the Development Code. The applicable thresholds in this case include grading of more than four acres and excavation of more than 5000 cubic yards of earth (Development Code Section 110.438.35). The grading is proposed to take place adjacent to the Truckee River. The current request is for grading only and does not authorize any subsequent development. Due to the proximity to the river particular care must be taken to ensure that negative impacts are avoided.

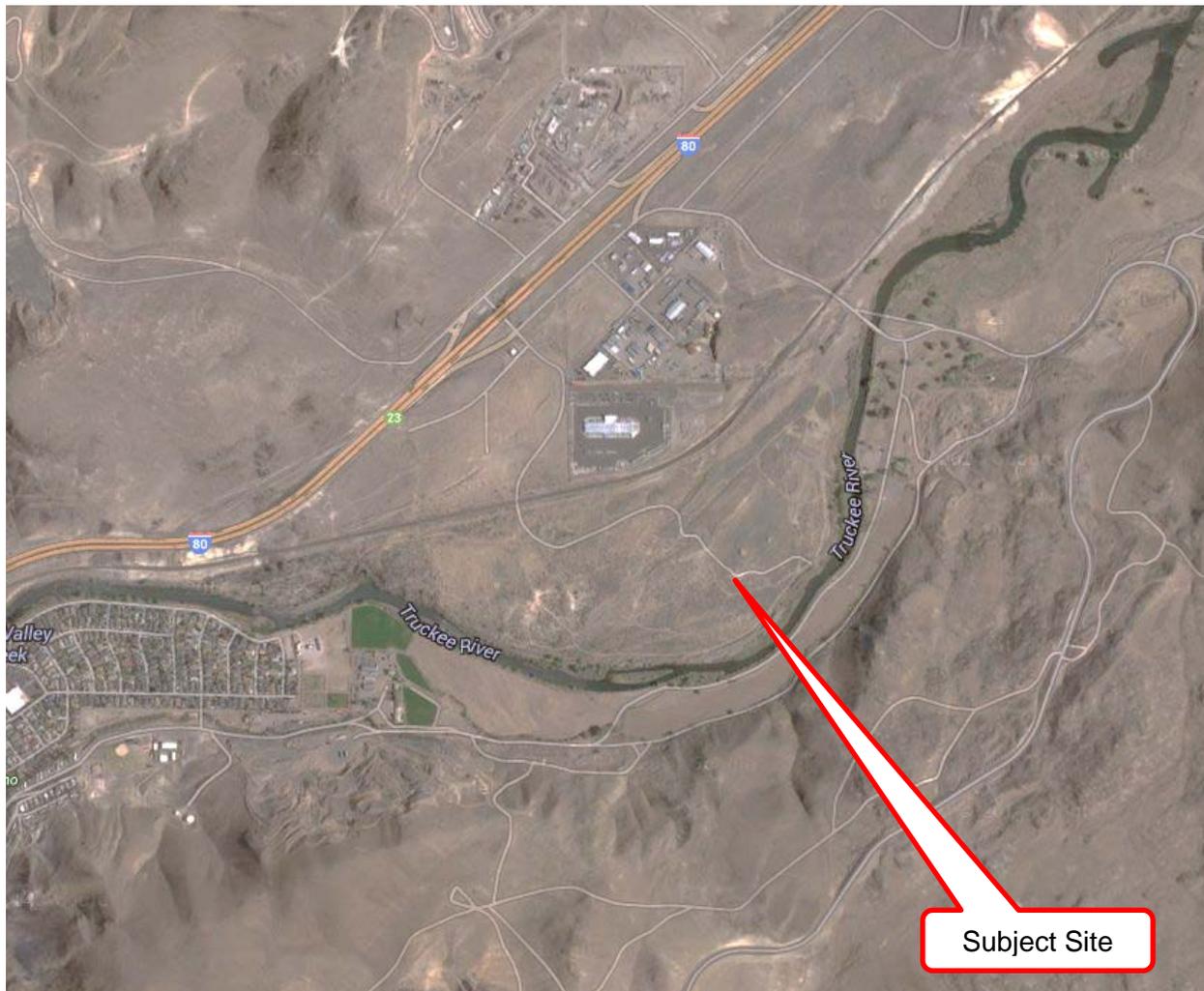
The applicant submitted an initial grading plan with the special use permit application that did not reflect compliance with several requirements of the Grading code (Article 438 of the Development Code). For example, there were proposed to be cut and fill slopes up to 30 feet in height. Many of the slopes proposed to be graded were very long and straight. The revised plans show retaining walls that substantially reduce the cut and fill slopes. The retaining walls and the remaining slopes that are likely to be visible from off of the subject site (from the Truckee River) are designed to undulate such that a more natural appearance is created. Grading was shown up to the property line in several locations on the original plans, the revised plans show compliance with the required grading setback of ten feet, in all but one instance and conditions of approval have been included to address that situation.

The project site shows evidence of significant disturbance in the past as well as recent dumping of rock, gravel, soil, concrete and asphalt. Conditions of approval have been included to require removal of all materials not suitable for grading. Landscaping is proposed to be located between the developed portion of the site and the river. That area also shows significant disturbance and contains large amounts of litter and other debris. Conditions of approval have been included to require removal of litter and debris from that area. Conditions of approval have also been included to require temporary fencing to be established to inhibit construction or grading directly adjacent to the river.

Clean up of significant amounts of litter should have a positive impact on the area. As can be seen on the following overhead photo, the nearest dwelling is approximately ¼ mile to the southwest, in Storey County. The area to the north has railroad tracks and other industrial development. Grading for development of and industrial use in this area is compatible with the nature of the surrounding area.

Article 222, Truckee Canyon Area, of the Development Code requires certain protections for the Truckee River, no buildings are allowed within 300 feet of the centerline, grading requires a special use permit, a water quality report is required prior to issuance of building permits. The plans submitted and the conditions provided ensure compliance with all applicable requirements. While it is not required for approval of this Special Use Permit for grading, the applicant will be required to submit a traffic study for the subsequent industrial development prior to approval of construction permits. If the development will generate 80 peak hour vehicle trips, then a Development Agreement will be required.

It is the opinion of staff that, as conditioned, no significant detriment to the surrounding area or the Truckee River will occur as a result of the requested grading. The area closest to the river will be used for landscaping and a walking path only.



### **East Truckee Canyon Citizen Advisory Board (ETCCAB)**

The proposed project is scheduled to be presented to the East Truckee Canyon Citizen Advisory Board on April 1, 2015. That is one day prior to the BOA hearing on this item. Staff will attend that meeting and will present any comments made to the BOA at the hearing.

### **Reviewing Agencies**

The following agencies received a copy of the project application for review and evaluation.

- US Army Corps of Engineers
- US Bureau of Land Management
- Nevada Department of Environmental Protection
- Nevada Division of Transportation
- Nevada Division of Water Resources
- Nevada Division of Wildlife
- Washoe County Community Services Department
  - Planning and Development
  - Parks and Open Space

- Engineering
- Roads
- Sewer
- Traffic
- Washoe County Health District
  - Vector-Borne Diseases
  - Air Quality Management
  - Environmental Health Services
  - Emergency Medical Services
- Truckee Meadows Fire Protection District
- Regional Transportation Commission
- Washoe-Storey Conservation District
- NV Energy
- Truckee Meadows Water Authority

Eight out of the 21 above listed agencies/departments provided comments and/or recommended conditions of approval in response to their evaluation of the project application. A **summary** of each agency's comments and/or recommended conditions of approval and their contact information is provided. The Conditions of Approval document is attached to this staff report and will be included with the Action Order

- Washoe County Planning and Development addressed grading standards and retaining wall materials and colors.  
Contact: Roger Pelham, 775.328.3622, rpelham@washoecounty.us
- Washoe County Engineering addressed traffic, access, runoff, and technical requirements for submission of a grading permit.  
Contact: Leo Vesely, 775.325.8032, lvesely@washoecounty.us
- Truckee Meadows Fire Protection District addressed requirements for compliance with Chapter 60 of the Washoe County Code.  
Contact: Amy Ray, 775.326.6005, aray@tmfcpd.us
- Nevada Department of Transportation addressed traffic and drainage requirements.  
Contact: Anita Lyday, 775.834.8320, alyday@dot.state.nv.us
- Washoe County Health District addressed standards for drainage basins and rockery walls to inhibit vector habitat.  
Contact: Jim Shaffer, 775.785.4599, jshaffer@washoecounty.us
- United States Army Corps of Engineers addressed the requirements to determine if there are wetlands on the subject site.  
Contact: Kristine Hansen, 775.784.5304, kristine.s.hansen@usace.army.mil
- Washoe-Storey Conservation District addressed landscaping, erosion control and revegetation standards.  
Contact: Kevin Roukey, 775.232.1571, kevinjr@att.net

### **Staff Comment on Required Findings**

Section 110.810.30 of Article 810, *Special Use Permits*, within the Washoe County Development Code, requires that all of the following findings be made to the satisfaction of the Washoe County Board of Adjustment before granting approval of the request. Staff has completed an analysis of the special use permit application and has determined that the proposal is in compliance with the required findings as follows.

1. **Consistency.** That the proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the Truckee Canyon Area Plan.

*Staff Comment: All specific provisions of Article 222 have been addressed by the plans or recommended conditions of approval.*

2. **Improvements.** That adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven.

*Staff Comment: The project has been reviewed by Washoe County Engineering and the Nevada Department of Transportation, appropriate conditions of approval have been included.*

3. **Site Suitability.** That the site is physically suitable for grading to accommodate an industrial development, and for the intensity of such a development.

*Staff Comment: The site is zoned for industrial use and is adjacent to other industrial uses.*

4. **Issuance Not Detrimental.** That issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area.

*Staff Comment: Conditions of approval have been recommended to mitigate potential impacts upon the Truckee River and the surrounding area that may be created by the proposed grading.*

5. **Effect on a Military Installation.** Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.

*Staff Comment: There is no military installation in the surrounding area.*

### **Recommendation**

Those agencies which reviewed the application recommended conditions in support of approval of the project. Therefore, after a thorough analysis and review, Special Use Permit Case Number SB15-001 is being recommended for approval with conditions. Staff offers the following motion for the Board's consideration.

### **Motion**

I move that, after giving reasoned consideration to the information contained in the staff report and information received during the public hearing, the Washoe County Board of Adjustment approve with conditions Special Use Permit Case Number SB15-001 for Scannell Properties, having made all five findings in accordance with Washoe County Development Code Section 110.810.30:

1. **Consistency.** That the proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the Truckee Canyon Area Plan;

2. Improvements. That adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven;
3. Site Suitability. That the site is physically suitable for grading to accommodate an industrial development, and for the intensity of such a development;
4. Issuance Not Detrimental. That issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area;
5. Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.

### **Appeal Process**

Board of Adjustment action will be effective 10 days after the public hearing date, unless the action is appealed to the County Commission, in which case the outcome of the appeal shall be determined by the Washoe County Commission.

xc: Applicant: Scannell Properties  
Attn: Dan Salzer  
800 East 96<sup>th</sup> Street, Suite 175  
Indianapolis, IN 46240

Property Owner: Hiatt Land and Development Company  
Attn.: Bart Hiatt  
515 Windmill Drive  
Fallon, NV 89406

Representatives: Tectonics Design Group  
Attn: Matt Rasmussen  
10451 Double R Boulevard  
Reno, NV 89521



# Conditions of Approval

Special Use Permit Case Number SB15-001

The project approved under Special Use Permit Case Number SB15-001 shall be carried out in accordance with the Conditions of Approval granted by the Board of Adjustment on April 2, 2015. Conditions of Approval are requirements placed on a permit or development by each reviewing agency. These Conditions of Approval may require submittal of documents, applications, fees, inspections, amendments to plans, and more. These conditions do not relieve the applicant of the obligation to obtain any other approvals and licenses from relevant authorities required under any other act or to abide by all other generally applicable Codes.

**Unless otherwise specified**, all conditions related to the approval of this Special Use Permit shall be met or financial assurance must be provided to satisfy the Conditions of Approval prior to issuance of a grading or building permit. The agency responsible for determining compliance with a specific condition shall determine whether the condition must be fully completed or whether the applicant shall be offered the option of providing financial assurance. All agreements, easements, or other documentation required by these conditions shall have a copy filed with the County Engineer and the Planning and Development Division.

Compliance with the Conditions of Approval related to this Special Use Permit is the responsibility of the applicant, his/her successor in interest, and all owners, assignees, and occupants of the property and their successors in interest. Failure to comply with any of the conditions imposed in the approval of the Special Use Permit may result in the initiation of revocation procedures.

Operational Conditions are subject to review by the Planning & Development Division prior to the renewal of a business license each year. Failure to adhere to the Operational Conditions may result in the Planning and Development Division recommending that the business license not be renewed until conditions are complied with to the satisfaction of Washoe County.

Washoe County reserves the right to review and revise the Conditions of Approval related to this Special Use Permit should it be determined that a subsequent license or permit issued by Washoe County violates the intent of this approval.

For the purpose of conditions imposed by Washoe County, “may” is permissive and “shall” or “must” is mandatory.

Conditions of Approval are usually complied with at different stages of the proposed project. Those stages are typically:

- Prior to permit issuance (i.e., grading permits, building permits, etc.).
- Prior to obtaining a final inspection and/or a certificate of occupancy.
- Prior to the issuance of a business license or other permits/licenses.
- Some “Conditions of Approval” are referred to as “Operational Conditions.” These conditions must be continually complied with for the life of the project or business.

**The Washoe County Commission oversees many of the reviewing agencies/departments with the exception of the following agencies.**

- **The DISTRICT BOARD OF HEALTH, through the Washoe County Health District, has jurisdiction over all public health matters in the Health District. Any conditions set by the Washoe County Health District must be appealed to the District Board of Health.**

FOLLOWING ARE CONDITIONS OF APPROVAL REQUIRED BY THE REVIEWING AGENCIES. EACH CONDITION MUST BE MET TO THE SATISFACTION OF THE ISSUING AGENCY.

**Washoe County Planning and Development Division**

1. The following conditions are requirements of the Planning and Development Division, which shall be responsible for determining compliance with these conditions.

Contact Name – Roger Pelham, 775.328.3622, rpelham@washoecouty.us

- a. The applicant shall demonstrate substantial conformance to the plans approved as part of this special use permit. The Planning and Development Division shall determine compliance with this condition.
- b. The applicant shall submit complete construction plans and building permits shall be issued not later than April 2, 2017. Failure to obtain all necessary permits by April 2, 2017 shall result in this approval being null and void. The applicant shall complete construction within the time specified by the building permits. Compliance with this condition shall be determined by the Planning and Development Division.
- c. The applicant shall attach a copy of the action order approving this project to all administrative permit applications (including building permits) applied for as part of this special use permit.
- d. Temporary construction fencing shall be installed at the limits of grading as shown on the approved plans, prior to commencement of grading activity to prevent disturbance in areas shown on the plans to remain undisturbed.
- e. All materials (such as gravel, concrete, soil and other dumped items) not suitable for use as cut-and-fill material shall be removed from the project site to a location approved by Washoe County.
- f. The applicant shall clean up and remove all trash and debris from the area proposed for landscaping and walking path between the proposed driveway and the river.
- g. All disturbed areas shall be stabilized such that there shall be no run-off into the Truckee River, and such that dust is controlled on site.
- h. Prior to issuance of a grading permit the applicant shall submit a water quality report meeting all requirements of Development Code section 110.222(d), for approval by Washoe County.

- i. A note shall be placed on all construction drawings and grading plans stating:

**NOTE**

***Should any prehistoric or historic remains/artifacts be discovered during site development, work shall temporarily be halted at the specific site and the State Historic Preservation Office of the Department of Museums, Library and Arts shall be notified to record and photograph the site. The period of temporary delay shall be limited to a maximum of two (2) working days from the date of notification.***

- j. Boulders unearthed during grading shall be placed on all cut and fill slopes to help stabilize the slopes and to help create a more natural appearance.
- k. The color of all retaining walls on the subject site shall match the color of the surrounding undisturbed geology. Retaining walls constructed of imported rock material and retaining walls constructed of concrete shall be stained with a permanent simulated desert varnish / stain product. Retaining walls constructed of boulders native to the subject site do not require stain.
- l. The graded slope at section "A-A" on sheet C3.1 of the revised plans, shall not be constructed within ten feet of the property line. The slope at that location may be constructed at a slope of 2H:1V with the approval of the County Engineer in accordance with Section 438.45(a)(4) of the Development Code.
- m. Prior to issuance of a grading permit the applicant shall supply an analysis to the Director of Planning and Development sufficient to determine whether the subsequent industrial development will exceed any of the following thresholds:
- Employment by not fewer than 938 employees;
  - Housing by not fewer than 625 units;
  - Hotel accommodations by not fewer than 625 rooms;
  - Sewage by not less than 187,500 gallons per day;
  - Water usage by not less than 625 acre feet per year; or
  - Traffic by not less than an average of 6,250 trips daily.

If any of these thresholds are exceeded then an application for review of a Project of Regional Significance (PRS) is required.

- n. The following **Operational Conditions** shall be required for the life of the project/business/development:
1. This special use permit shall remain in effect until or unless it is revoked or is inactive for one year.
  2. Failure to comply with the Conditions of Approval shall render this approval null and void. Compliance with this condition shall be determined by the Planning and Development Division.
  3. The applicant and any successors shall direct any potential purchaser/operator of the site and/or the special use permit to meet with the Planning and Development Division to review Conditions of Approval prior to the final sale of the site and/or the special use permit. Any subsequent

purchaser/operator of the site and/or the special use permit shall notify the Planning and Development Division of the name, address, telephone number, and contact person of the new purchaser/operator within 30 days of the final sale.

### **Washoe County Engineering and Capital Projects**

2. The following conditions are requirements of the Engineering and Capital Projects Division, which shall be responsible for determining compliance with these conditions.

**Contact Name** – Leo Vesely, 775.325.8032, lvesely@washoecounty.us

- a. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. All grading shall comply with County Code Article 438, Grading Standards. Silts shall be controlled on-site and not allowed onto adjacent property.
- b. The owner/developer shall obtain from the Nevada Division of Environmental Protection a Stormwater Discharge Permit for construction and submit a copy to the Engineering Division prior to issuance of a grading permit.
- c. The owner/applicant shall complete and submit the Construction Permit Submittal Checklist, the Performance Standards Compliance Checklist prior to obtaining a grading/building permit. The County Engineer shall determine compliance with this condition.
- d. A grading bond of \$2,000/acre of disturbed area shall be provided to the Engineering Division prior to any grading.
- e. If the import or export of materials is required, the applicant shall indicate on the plans where the exported material will be taken or where the imported material will be coming from, and a grading permit shall be obtained for the import/export site.
- f. Cross-sections indicating cuts and fills shall be submitted when applying for a grading permit. Estimated total volumes and area of disturbance shall be indicated.
- g. Per the development code, all on site roadway improvements necessary to serve the project shall be designed and constructed to County standards and specifications to the satisfaction of the County Engineer.
- h. A secondary emergency access or approved alternative shall be provided prior to the issuance of a Certificate of Occupancy on the first structure.
- i. A detailed traffic report shall be prepared by a registered engineer and shall address driveway locations and turning movements for truck patterns and movements, and provide recommendations on acceleration/deceleration lanes, storage lanes, and access control. The County Engineer shall be responsible for

- determining compliance with this condition and the traffic improvements that are required.
- j. Driveway location shall conform to BLM/ Bureau of Reclamation requirements and Washoe County Code Article 436 for commercial driveways.
  - k. An access easement, from the BLM/ Bureau of Reclamation and approval from Storey County shall be obtained for access through BLM/ Bureau of Reclamation properties and for any necessary improvements to the existing roadway. Copies of approvals, easements and permits shall be provided to the Engineering Division.
  - l. Applicant/owner shall enter into a maintenance agreement with Storey County for the maintenance of Mustang Road.
  - m. A hydrology/hydraulic report prepared by a registered engineer shall be submitted to the Engineering Division for review and approval. The report shall include the locations, points of entry and discharge, flow rates and flood limits of all 5- and 100-year storm flows impacting both the site and offsite areas and the methods for handling those flows. The report shall include all storm drain pipe and ditch sizing calculations and a discussion of and mitigation measures for any impacts on existing offsite drainage facilities and properties.
  - n. The FEMA 100-year floodplain shall appear on the site plan to the satisfaction of the County Engineer. Building permits for structures and fill in these areas shall be in conformance with the Washoe County Code Article 416.
  - o. No work within the FEMA floodway area will be allowed without specific approval from FEMA.
  - p. Washoe County will only maintain drainage easements which are at least 15 feet wide and piped to the satisfaction of the County Engineer.
  - q. The applicant/owner shall provide pretreatment for petrochemicals and silt for all storm drainage from the site to the satisfaction of the County Engineer.
  - r. All regulatory traffic signs shall meet County standards and the Manual on Uniform Traffic Control Devices.
  - s. Although the SUP for the grading does not require emergency access to the site, the proposed buildings will require approved emergency access to the site per Washoe County Development Code.
  - t. Provide approval from BLM on the permitted use of Mustang Road and any improvements that may be required to the road surface for grading operations and the ultimate build out of the site. At a minimum, Washoe County Development Code for industrial developments will be required for the roads and right of ways to the site.
  - u. Provide recorded documentation of access over BLM parcel 84-172-18 from Mustang Road to the site which meets Washoe County Development Code.

### **Truckee Meadows Fire Protection District**

3. The following conditions are requirements of the Truckee Meadows Fire Protection District, which shall be responsible for determining compliance with these conditions.

**Contact Name** – Amy Ray (775) 326-6005, aray@tmfpd.us

- a. The Truckee Meadows Fire Protection District (TMFPD) will require that this project meet the requirements of Washoe County Code 60 to include infrastructure, access, and water for fire suppression.

#### **Nevada Department of Transportation**

4. The following conditions are requirements of the Nevada Department of Transportation, which shall be responsible for determining compliance with these conditions.

**Contact Name** – Anita Lyday (775)834-8320, alyday@dot.state.nv.us

- a. Prior to any grading adjacent to the Nevada Department of Transportation right-of-way, a Drainage Report, including a grading plan, and a Drainage Form must be submitted to the Permit office for review and acceptance. A Drainage Information Form is attached. Please contact the Permit Office at (775) 834-8330 for more information.
- b. The Nevada Department of Transportation (NDOT) will require an occupancy permit for any work performed within the State's right-of-way. Please contact the Permit Office at (775) 834-8330 for more information regarding the occupancy permit.
- c. Existing approaches are personal and not transferable with the sale of property. All driveway accesses to the state highway system will be required to comply with the NDOT access management guidelines current at the time of application.
- d. The proposed development could have significant impact to FRWA10, 11, 12 and I-80 Mustang Interchange. NDOT currently does not have plans to upgrade this roadway. NDOT suggests consideration of any potential impacts to the roadway and any required mitigation. Any required mitigation will require a permanent encroachment permit and appropriate coordination with NDOT District II Permit staff at (775)834-8330.
- e. The applicant may be required to provide a Traffic Study to determine the impacts of this development to the state highway system and any required mitigation strategies. Developer is encouraged to coordinate traffic study review and seek NDOT traffic study approval early in the development planning process.
- f. Any truck haul operations to access the state highway system will require a temporary permit and coordination with NDOT District Permit staff at (775)834-8330.
- g. Turning exhibits for the design vehicle will be required as part of NDOT permit process. NDOT typically requires the design to accommodate a WB-67 design vehicle.
- h. The state defers to the local municipal government agency for land use development decisions. Public involvement for development related

improvements within the NDOT right-of-way should be considered during the municipal land use development public involvement process. Significant public improvements within the NDOT right-of-way, developed after the public involvement process, may require additional public involvement. It is the responsibility of the permit applicant to perform such additional public involvement. We would encourage such public involvement to be part of a municipal land use development process.

### **Washoe County Health District**

5. The following conditions are requirements of the Health District, which shall be responsible for determining compliance with these conditions. The District Board of Health has jurisdiction over all public health matters in the Health District. Any conditions set by the Health District must be appealed to the District Board of Health.

**Contact Name** – Jim Shaffer, 775.785.4599, jshaffer@washoecounty.us

- a. Any new private catch basins will require a water quality insert placed within all basins to improve water quality downstream and prevent mosquitoes from colonizing this infrastructure (040.013).
- b. The detention basins will require our standard design of a cobble rock lined low flow channel, one foot deep and 2-3 feet wide connecting the inlet(s) to the outlet pipe. In addition, we will require over excavating below the low flow channel with a cobble lined infiltration trench design 2 feet wide and 3 feet deep the length of the basins to reduce the downstream effects of storm water runoff (040.023).
- c. If vegetation is planted in the detention basins, no planting shall occur within one foot on either side of the low flow channel. The following maintenance language shall be noted on the civil plans," all vegetation, debris and blockages shall require removal in the low flow channel including one foot on either side of the channel on an annual basis. The maintenance will mitigate insect development by preventing standing water from ponding longer than 7 days" (040.022).
- d. District Health shall require all voids in the slope stabilization filled to a depth of 3-4 inches with mixed aggregate D size rock 3/4 inch to 1 1/2 inches in range (040.0865).
- e. In the design of rockery walls, voids shall be filled by placing smaller rock within the face of the rock wall for the entire height of the wall (040.081).
- f. Prior to the sign off of the building plans the above detail designs are required on the plans and a scheduled compliance inspection is required for the above condition(s).

### **United States Army Corps of Engineers**

6. The following conditions are requirements of the United States Army Corps of Engineers, which shall be responsible for determining compliance with these conditions.

**Contact Name** – Kristine Hansen, 775.784-5304, Kristine.S.Hansen@usace.army.mil

- a. It is recommended that the applicant complete a delineation of waters of the U.S. to include wetlands for the proposed project site. Due to the proximity of the Truckee River there is potential for wetlands to be present.

### **Washoe-Storey Conservation District**

7. The following conditions are requirements of the Washoe-Storey Conservation District, which shall be responsible for determining compliance with these conditions.

**Contact Name** – Kevin J. Roukey, 775-232-1571, [kevinjr\\_51@att.net](mailto:kevinjr_51@att.net)

- a. The proposed project is located within a designated FEMA Flood Zone and there is no mention of this on the entire application other than an aerial photo showing the area. There is no mention of the applicant's mitigation measures to stay out of the flood zone or prevent flooding of the facilities. Of primary concern is the potential of the proposed sanitary sewer line which traverses the length of the properties along the river's high water line back to the septic tanks and leach fields.
- b. Item 10 – In response to Item 10 the applicant states that once the grading activities have been completed that all disturbed 3:1 slope be treated with 6-12" rip-rap for erosion protection. We would recommend that the County condition the permit to have these areas be stabilized with bio-engineering methods reviewed by the Natural Resources Conservation Service (NRCS).
- c. Item 15 – In response to Item 15 regarding the type of seed mix to be used the applicant responded ... "A native grass and shrub mix per site specific seed mix by Comstock Seed Company will be broadcast at approx. rate of 20lbs/ac and lightly chain dragged. A tackifier will be applied at 200 lbs and the area will be hydro-mulched with Ecoaegis Fiber Matrix at the rate of 2000 lbs. /ac. We recommend the permit be conditioned to require that all seed mixes be provided to the Washoe/Storey Conservation District for coordination with the NRCS. We recommend to ensure that native species of trees shrubs and grasses are planted on the project that the County require that applicant, by Special Condition to the permit, submit their proposed planting plan to the Washoe/Storey Conservation District, who in coordination with the USDA Natural Resources Conservation Service, will review and approve the plants and seed mix to be used
- d. Item 17 – In response to Item 17 regarding the review of the Revegetation plan by the Washoe /Storey Conservation District, the applicant replied ... "No, we are deferring to the expertise of Comstock Seed's local expertise..." We recommend the permit be conditioned to require the applicant to coordinate their Revegetation Plan with the Washoe/Storey Conservation District.
- e. Conceptual Landscaping Plan – Drawing LC2.1 – Revegetation Notes – the drawings indicate that that ... "Revegetated areas shall be acceptable if they exhibit a minimum of 90% coverage by at least three different species within three months of planting"... The Washoe/Storey Conservation District feels that this monitoring period and success criteria are not adequate to develop a

sustainable vegetative cover. We recommend that the County require monitoring for a period of three years with a 90% total cover. If this is not attained then the applicant would be required to reseed and monitor until the success criteria is made. We recommend that the applicant be required to provide a detailed irrigation plan for review. The plan should include the calculations for how much water is proposed for use to maintain the landscaping plan and is there adequate water rights for the amount calculated

- f. The proposed plan drawings do not clearly show where and what type of BMPs will be installed and maintained during the grading operations. We recommend that the County require the applicant to submit a detailed grading plan and SWPP that clearly show the BMPs to be utilized during construction and during operation of the facility to minimize impacts to water quality from storm water runoff.
- g. The project is also located adjacent to the Truckee River which is a jurisdictional water of the United States under Section 404 of the Clean Water Act. We recommend the applicant have a jurisdictional wetland delineation and Ordinary High Water Line determination performed and submitted to the Corps of Engineers for approval. This will allow the applicant to be ensured that his proposed project will not involve the deposition of fill or dredged material into jurisdictional waters of the United States. Should jurisdictional waters and wetlands be identified on the property, the applicant may be required to obtain a Department of the Army Permit unless they can avoid impacts to those areas identified.

\*\*\* End of Conditions \*\*\*

-----Original Message-----

From: Hansen, Kristine S SPK  
[mailto:Kristine.S.Hansen@usace.army.mil]  
Sent: Wednesday, March 04, 2015 11:07 AM  
To: Fagan, Donna  
Subject: RE: February Agency Review Memo II (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Thank you for the opportunity to review these items:

My comment is for the Mustang Industrial Center Item #2:

It is recommended that the applicant complete a delineation of waters of the U.S. to include wetlands for the proposed project site. Due to the proximity of the Truckee River there is potential for wetlands to be present. For more information of preparation of a delineation they can contact me directly at:

Kristine Hansen  
Senior Project Manager  
US Army Corps of Engineers, Sacramento District Reno  
Regulatory Field Office  
300 Booth Street, Room 3050  
Reno, Nevada 89509-1361

(775) 784-5304 (primary) fax: (775) 784-5306

Kristine.S.Hansen@usace.army.mil



**WASHOE COUNTY**  
**COMMUNITY SERVICES DEPARTMENT**  
Engineering and Capital Projects Division

*"Dedicated to Excellence in Public Service"*

1001 East 9<sup>th</sup> Street PO Box 11130 Reno, Nevada 89520 Telephone: (775) 328-2040 Fax: (775) 328-3699

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**INTEROFFICE MEMORANDUM**

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**DATE:** March 05, 2015  
**TO:** Roger Pelham, Planning and Development Division  
**FROM:** Leo R. Vesely, P.E., Engineering and Capital Projects Division  
**SUBJECT:** **SB15-001**  
**APN 084-370-02**  
**MUSTANG INDUSTRIAL GRADING**

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I have reviewed the referenced special use permit and have the following conditions:

1. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. All grading shall comply with County Code Article 438, Grading Standards. Silts shall be controlled on-site and not allowed onto adjacent property.
2. The owner/developer shall obtain from the Nevada Division of Environmental Protection a Stormwater Discharge Permit for construction and submit a copy to the Engineering Division prior to issuance of a grading permit.
3. The owner/applicant shall complete and submit the Construction Permit Submittal Checklist, the Performance Standards Compliance Checklist prior to obtaining a grading/building permit. The County Engineer shall determine compliance with this condition.
4. A grading bond of \$2,000/acre of disturbed area shall be provided to the Engineering Division prior to any grading.
5. If the import or export of materials is required, the applicant shall indicate on the plans where the exported material will be taken or where the imported material will be coming from, and a grading permit shall be obtained for the import/export site.
6. Cross-sections indicating cuts and fills shall be submitted when applying for a grading permit. Estimated total volumes and area of disturbance shall be indicated.
7. Per the development code, all on site roadway improvements necessary to serve the project shall be designed and constructed to County standards and specifications to the satisfaction of the County Engineer.

8. A secondary emergency access or approved alternative shall be provided prior to the issuance of a Certificate of Occupancy on the first structure.
9. A detailed traffic report shall be prepared by a registered engineer and shall address driveway locations and turning movements for truck patterns and movements, and provide recommendations on acceleration/deceleration lanes, storage lanes, and access control. The County Engineer shall be responsible for determining compliance with this condition and the traffic improvements that are required.
10. Driveway location shall conform to BLM/ Bureau of Reclamation requirements and Washoe County Code Article 436 for commercial driveways.
11. An access easement, from the BLM/ Bureau of Reclamation and approval from Storey County shall be obtained for access through BLM/ Bureau of Reclamation properties and for any necessary improvements to the existing roadway. Copies of approvals, easements and permits shall be provided to the Engineering Division.
12. Applicant/owner shall enter into a maintenance agreement with Storey County for the maintenance of Mustang Road.
13. A hydrology/hydraulic report prepared by a registered engineer shall be submitted to the Engineering Division for review and approval. The report shall include the locations, points of entry and discharge, flow rates and flood limits of all 5- and 100-year storm flows impacting both the site and offsite areas and the methods for handling those flows. The report shall include all storm drain pipe and ditch sizing calculations and a discussion of and mitigation measures for any impacts on existing offsite drainage facilities and properties.
14. The FEMA 100-year floodplain shall appear on the site plan to the satisfaction of the County Engineer. Building permits for structures and fill in these areas shall be in conformance with the Washoe County Code Article 416.
15. No work within the FEMA floodway area will be allowed without specific approval from FEMA.
16. Washoe County will only maintain drainage easements which are at least 15 feet wide and piped to the satisfaction of the County Engineer.
17. The applicant/owner shall provide pretreatment for petrochemicals and silt for all storm drainage from the site to the satisfaction of the County Engineer.
18. All regulatory traffic signs shall meet County standards and the Manual on Uniform Traffic Control Devices.

LRV/lrv

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Amy Ray  
*Fire Marshal*



Tim Leighton  
*Deputy Fire Chief*

Charles A. Moore  
*Fire Chief*

March 6, 2015

Washoe County Community Services Department  
1001 East Ninth Street  
Reno, NV 89512

Re: Special Use Permit Case Number: SB15-001 (Mustang Industrial Grading)

The Truckee Meadows Fire Protection District (TMFPD) will require that this project meet the requirements of Washoe County Code 60 to include infrastructure, access, and water for fire suppression.

Please contact me with any questions at (775) 326-6005.

Thank you,

Amy Ray  
Fire Marshal

**TRUCKEE MEADOWS FIRE PROTECTION DISTRICT**  
1001 E. Ninth St. Bldg D 2nd Floor • Reno, Nevada 89512 • PO Box 11130 • Reno, Nevada 89520  
*Office 775.326.6000 Fax 775.326.6003*



BRIAN SANDOVAL, Governor

STATE OF NEVADA  
DEPARTMENT OF TRANSPORTATION

District II  
310 Galletti Way  
Sparks, Nevada 89431  
(775) 834-8300 FAX (775) 834-8390

RUDY MALFABON, P.E., Director

March 3, 2015

Washoe County Dept. of Engineering  
P.O. Box 11130  
Reno, NV 89520-0027

SB15-001  
Mustang Industrial Grading  
I-80/FRWA11 & 12

Attention: Roger Pelham, Senior Planner

Dear Mr. Pelham:

I have reviewed the development application permit to allow the grading of approximately 81 acres and excavation of a total of approximately 355,417 cubic yards of earth in preparation of construction of two industrial buildings and driveways and parking areas. I have the following comments:

1. Prior to any grading adjacent to the Nevada Department of Transportation right-of-way, a Drainage Report, including a grading plan, and a Drainage Form must be submitted to the Permit office for review and acceptance. A Drainage Information Form is attached. Please contact the Permit Office at (775) 834-8330 for more information.
2. The Nevada Department of Transportation will require an occupancy permit for any work performed within the State's right-of-way. Please contact the Permit Office at (775) 834-8330 for more information regarding the occupancy permit.
3. Existing approaches are personal and not transferable with the sale of property. All driveway accesses to the state highway system will be required to comply with the NDOT access management guidelines current at the time of application.
4. The proposed development could have significant impact to FRWA 10, 11, 12 and I-80 Mustang Interchange. NDOT currently does not have plans to upgrade this roadway. NDOT suggests consideration of any potential impacts to the roadway and any required mitigation. Any required mitigation will require a permanent encroachment permit and appropriate coordination with NDOT District II Permit staff at (775)834-8330.
5. The applicant may be required to provide a Traffic Study to determine the impacts of this development to the state highway system and any required mitigation strategies. Developer is encouraged to coordinate traffic study review and seek NDOT traffic study approval early in the development planning process.
6. Any truck haul operations to access the state highway system will require a temporary permit and coordination with NDOT District Permit staff at (775)834-8330.
7. Turning exhibits for the design vehicle will be required as part of NDOT permit process. NDOT typically requires the design to accommodate a WB-67 design vehicle.

Z:\TRAFFIC\Anita's 2010-2014\Development Review 2015\Washoe County\I-80 Mustang Industrial.doc

(NSPO Rev. 8/12)

8.155

8. The state defers to the local municipal government agency for land use development decisions. Public involvement for development related improvements within the NDOT right-of-way should be considered during the municipal land use development public involvement process. Significant public improvements within the NDOT right-of-way, developed after the public involvement process, may require additional public involvement. It is the responsibility of the permit applicant to perform such additional public involvement. We would encourage such public involvement to be part of a municipal land use development process.

Thank you for the opportunity to review this development proposal. The Department reserves the right to incorporate further changes and/or comments as the design review advances. Please feel free to contact me at (775)834-8320, if you have any further questions or comments.

Sincerely,



Anita Lyday, PE, PTOE  
Urban Traffic Engineer

cc: File

From: Corbridge, Kimble  
Sent: Monday, March 02, 2015 11:16 AM  
To: Fagan, Donna  
Cc: Vesely, Leo; Searcy, Adam  
Subject: Special Use Permit Case Number SB15-001 (Mustang Industrial Grading)  
Donna,

The following conditions shall apply for Roads comments.

1. Although the SUP for the grading does not require emergency access to the site, the proposed buildings will require approved emergency access to the site per Washoe County Development Code.
2. Provide approval from BLM on the permitted use of Mustang Road and any improvements that may be required to the road surface for grading operations and the ultimate build out of the site. At a minimum, Washoe County Development Code for industrial developments will be required for the roads and right of ways to the site.
3. Provide recorded documentation of access over BLM parcel 84-172-18 from Mustang Road to the site which meets Washoe County Development Code.

Please let me know if you have any questions.

Thx,

Kimble



# Washoe County Health District

ENVIRONMENTAL HEALTH SERVICES DIVISION



**Public Health**  
Prevent. Promote. Protect.

Washoe County  
Community Development  
C/O Roger Pelham  
1001 E Ninth St.  
Reno, NV 89512

March 9, 2015

Dear Roger,

After having reviewed the special use permit request from Mustang Industrial Grading (SB15-001), please be advised of the following.

1. Any new private catch basins will require a water quality insert placed within all basins to improve water quality downstream and prevent mosquitoes from colonizing this infrastructure (040.013).
2. The detention basins will require our standard design of a cobble rock lined low flow channel, one foot deep and 2-3 feet wide connecting the inlet(s) to the outlet pipe. In addition, we will require over excavating below the low flow channel with a cobble lined infiltration trench design 2 feet wide and 3 feet deep the length of the basins to reduce the downstream effects of storm water runoff (040.023).
3. If vegetation is planted in the detention basins, no planting shall occur within one foot on either side of the low flow channel. The following maintenance language shall be noted on the civil plans, "all vegetation, debris and blockages shall require removal in the low flow channel including one foot on either side of the channel on an annual basis. The maintenance will mitigate insect development by preventing standing water from ponding longer than 7 days" (040.022).
4. District Health shall require all voids in the slope stabilization filled to a depth of 3-4 inches with mixed aggregate D size rock 3/4 inch to 1 1/2 inches in range (040.0865).
5. In the design of rockery walls, voids shall be filled by placing smaller rock within the face of the rock wall for the entire height of the wall (040.081).
6. Prior to the sign off of the building plans the above detail designs are required on the plans and a scheduled compliance inspection is required for the above condition(s).

If there are any questions concerning the aforementioned vector-planning conditions as it relates to environmental health, please call us at 785-4599.

Sincerely,

J. L. Shaffer  
Program Coordinator/Planner  
Vector-Borne Diseases Program  
Environmental Health Division

1001 EAST NINTH STREET / P.O. BOX 11130, RENO, NEVADA 89520 (775) 328-2434 FAX (775) 328-6176

[www.washoecounty.us/health](http://www.washoecounty.us/health)

WASHOE COUNTY IS AN EQUAL OPPORTUNITY EMPLOYER



Sandra Monsalve, AICP, Senior Planner  
Roger Pelham, MPA, Senior Planner  
Chad Gesinger, AICP, Senior Planner  
Grace Sannazzaro, Planner  
Washoe County Community Services Department  
Planning and Development Division  
1001 E. Ninth St., Bldg. A  
Reno, NV 89512

Subject: February Agency Review – Case Nos. AC15-002; SB15-001; SB14-014; VA15-001 and VA15-002

To whom it may concern,

Thank you for providing us the January Agency Review and the opportunity to review and provide comments. We have reviewed the subject proposed projects and we have the following comments:

**Case No. AC15-002– Evans Greenhouse**

The proposed project is to construct two greenhouses, Phase 1 of 4,000 sq. ft. and Phase 3 of 30,000 sq. ft. Phases 2 and 4 are not requested at this time.

1. The plans must include details on what type of BMP's will be utilized and their placement for mitigation of soil erosion.
2. Grading Plan Drawing C-2 – We noted that the applicant has designated the limits of the 100-year flood plain, but does not have the Ordinary High Water Mark of the Truckee River delineated, nor is there any indication of whether or not there are any adjacent wetlands within the flood plain.
3. Grading Plan Drawing C-2 – We also noted that the applicant's note that they are proposing to clear vegetation between the fence line the riverward property line. We have several concerns with this action:
  - a. The removal of vegetation will make this area more susceptible to erosion during periods of high water. We recommend the County condition the permit to maintain a native vegetation in this area and plant native willows along the bank of the river to minimize erosion.
  - b. As mentioned in comment 2 we are concerned that there could be adjacent wetland in the designated flood plain area and that if any work occurs below the Ordinary High Water Mark, permits under Section 404 of the Clean Water Act would be required from the Corps of Engineers and under Section 401 of the Clean Water Act from the Nevada Department of Environmental Protection. We suggest the County add a condition that requires the applicant to have a wetland delineation conducted to delineate the Ordinary High Water Line and any adjacent wetlands prior to any approvals being given.
4. The applicant must provide evidence that they are applying for any and all necessary permits from all state and Federal agencies, including the tribes, and that they have been issued prior to construction.

Natural Resource  
Conservation Service  
1365 Corporate Blvd.  
Reno, NV 89502

Tel: (775) 857-8500  
ext. 131  
Fax: (775) 857-8525

Board of Supervisors:

Bret Tyler  
Chairman

James Shaffer  
Secretary  
County Appointee

Kevin Roukey  
Treasurer

Tory Friedmen  
Supervisor

Spencer Scott  
Supervisor

OPEN  
Supervisor  
City Appointee

**Case No. SB15-001 – Mustang Industrial Development - Special Use Permit**

The proposed project is to construct a light industrial development including two buildings of 344,000 sq. ft. and 517,000 sq. ft. and associated parking and access roads and other accessory features such as storm water ponds on the 117.76 acre project site. The project will involve cut of 355,417 cu. yd. and 356,216 cu. yd. fill requiring a total of 799 cu. yd. of additional fill. Approximately 80.82 acres or 68.63% of the project site will be disturbed.

We have the following comments on this proposed project:

1. The proposed project is located within a designated FEMA Flood Zone and there is no mention of this on the entire application other than an aerial photo showing the area. There is no mention of the applicant's mitigation measures to stay out of the flood zone or prevent flooding of the facilities. Of primary concern is the potential of the proposed sanitary sewer line which traverses the length of the properties along the river's high water line back to the septic tanks and leach fields.
2. Item 10 – In response to Item 10 the applicant states that once the grading activities have been completed that all disturbed 3:1 slope be treated with 6-12" rip-rap for erosion protection. We would recommend that the County condition the permit to have these areas be stabilized with bio-engineering methods reviewed by the Natural Resources Conservation Service (NRCS).
3. Item 15 – In response to Item 15 regarding the type of seed mix to be used the applicant responded ... "A native grass and shrub mix per site specific seed mix by Comstock Seed Company will be broadcast at approx. rate of 20lbs/ac and lightly chain dragged. A tackifier will be applied at 200 lbs and the area will be hydro-mulched with Ecoaegis Fiber Matrix at the rate of 2000 lbs. /ac. We recommend the permit be conditioned to require that all seed mixes be provided to the Washoe/Storey Conservation District for coordination with the NRCS. We recommend to ensure that native species of trees shrubs and grasses are planted on the project that the County require that applicant, by Special Condition to the permit, submit their proposed planting plan to the Washoe/Storey Conservation District, who in coordination with the USDA Natural Resources Conservation Service, will review and approve the plants and seed mix to be used
4. Item 17 – In response to Item 17 regarding the review of the Revegetation plan by the Washoe /Storey Conservation District, the applicant replied ... "No, we are deferring to the expertise of Comstock Seed's local expertise."... We recommend the permit be conditioned to require the applicant to coordinate their Revegetation Plan with the Washoe/Storey Conservation District.
5. Conceptual Landscaping Plan – Drawing LC2.1 – Revegetation Notes – the drawings indicate that that ... "Revegetated areas shall be acceptable if they exhibit a minimum of 90% coverage by at least three different species within three months of planting"... The Washoe/Storey Conservation District feels that this monitoring period and success criteria are not adequate to develop a sustainable vegetative cover. We recommend that the County require monitoring for a period of three years with a 90% total cover. If this is not attained then the applicant would be required to reseed and monitor until the success criteria is made. We recommend that the applicant be required to provide a detailed irrigation plan for review. The plan should include the calculations for how much water is proposed for use to maintain the landscaping plan and is there adequate water rights for the amount calculated
6. The proposed plan drawings do not clearly show where and what type of BMPs will be installed and maintained during the grading operations. We recommend that the County require the applicant to submit a detailed grading plan and SWPP that clearly show the BMPs to be utilized during construction and during operation of the facility to minimize impacts to water quality from storm water runoff.
7. The project is also located adjacent to the Truckee River which is a jurisdictional water of the United States under Section 404 of the Clean Water Act. We recommend the applicant have a jurisdictional wetland delineation and Ordinary High Water Line determination performed and submitted to the Corps of Engineers for approval. This will allow the applicant to be ensured that his proposed project will not involve the deposition of fill or dredged material into jurisdictional waters of the United States. Should jurisdictional waters and wetlands be identified on the

property, the applicant may be required to obtain a Department of the Army Permit unless they can avoid impacts to those areas identified.

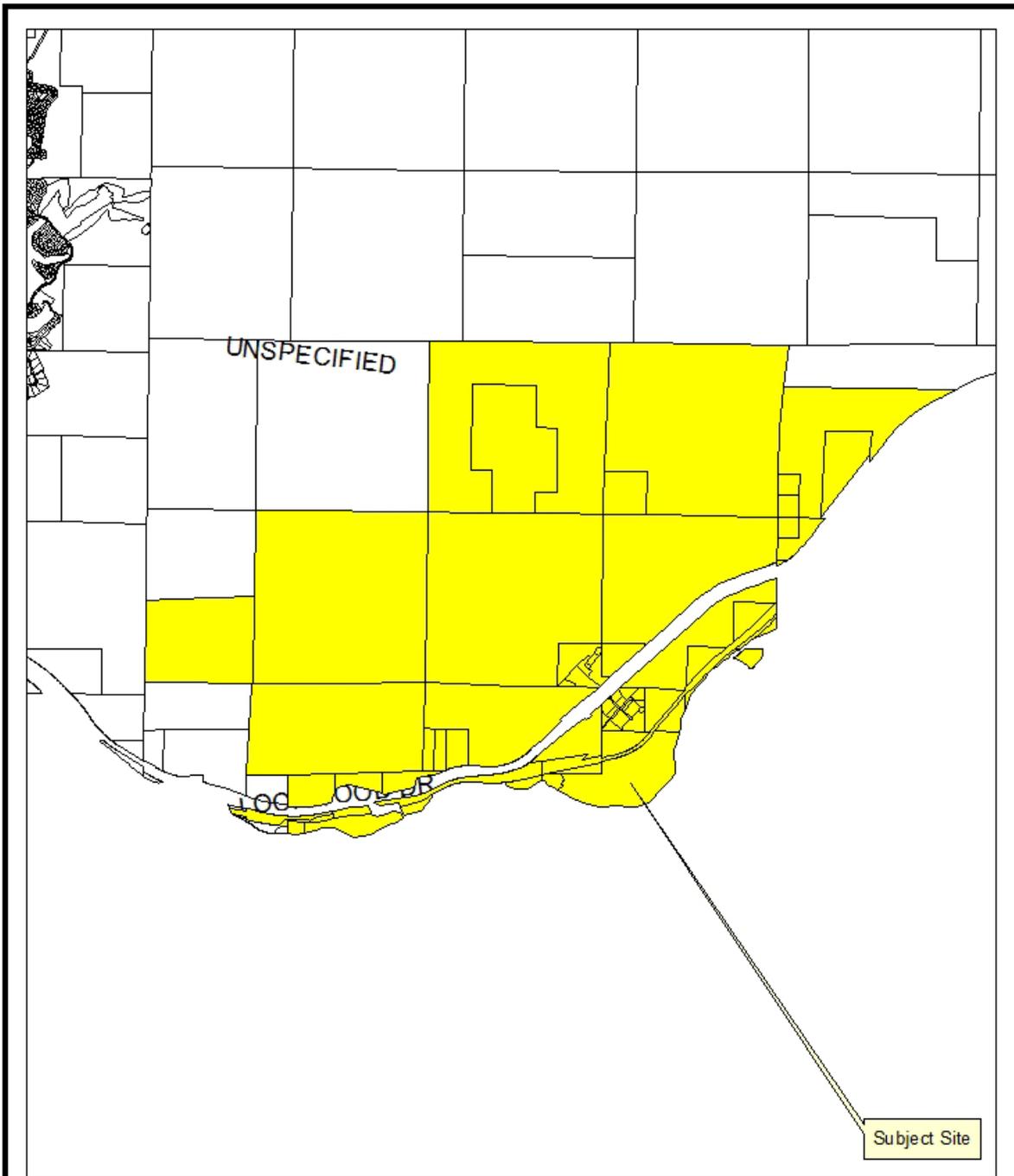
**CASE Nos. SB14-014; VA15-001 and VA15-002** – We have no comments on these actions.

These are our comments and recommendations for the subject projects. We appreciate the opportunity to provide comments and recommendations on projects that may have impacts on our natural resources. Should you have any further questions please contact Kevin J. Roukey by phone at 775-232-1571 or email [kevinjr\\_51@att.net](mailto:kevinjr_51@att.net).

Sincerely,

Kevin J. Roukey  
Washoe/Storey Conservation District

# Exhibit C



Mailing Label Map  
**Special Use Permit SB15-001**  
**Mustang Industrial Grading**  
68 Parcels selected at 8000 feet.



Department of  
Community  
Development  
**WASHOE COUNTY**  
**NEVADA**

Post Office Box 11130  
Reno, Nevada 89520  
(775) 225-2600

Source: Planning and Development

Date: February 2015

# Exhibit D

## Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Development staff at 775.328.3600.

<b>Project Information</b>		Staff Assigned Case No.: <b>SB15-001</b>	
Project Name: Mustang Industrial Development			
Project Description: Light industrial development including two buildings (344,000 SF and 517,000 SF)			
Project Address: No address (near intersection of Mustang Road & Interstate 80)			
Project Area (acres or square feet): 117.76 +/- acres			
Project Location (with point of reference to major cross streets AND area locator): East on Mustang Road from I-80 near the intersection of Mustang Road and Peri Ranch Road. Bound by the Union Pacific Railroad to the north/west and the Truckee River to the south/east.			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No(s):	Parcel Acreage:
084-370-02	117.76 +/-		
Section(s)/Township/Range: Sections 15 & 16, Township 19 North, Range 21 East			
<b>Indicate any previous Washoe County approvals associated with this application:</b>			
Case No.(s). NA			
<b>Applicant Information</b> (attach additional sheets if necessary)			
<b>Property Owner:</b>		<b>Professional Consultant:</b>	
Name: Hiatt Land & Development Company, LTD		Name: Tectonics Design Group	
Address: 515 Windmill Drive, P.O. Box 1059		Address: 10451 Double R Blvd	
Fallon, NV	Zip: 89406	Reno, NV	Zip: 89521
Phone: (775) 423-6085	Fax:	Phone: (775) 824-9988 x11	Fax: 824-9986
Email: bhiatt@akearthmovers.com		Email: matt@tdg-inc.com	
Cell:	Other:	Cell:	Other:
Contact Person: Bart Hiatt		Contact Person: Matthew Rasmussen	
<b>Applicant/Developer:</b>		<b>Other Persons to be Contacted:</b>	
Name: Scannell Properties		Name:	
Address: 800 East 96th Street, Suite 175		Address:	
Indianapolis, IN	Zip: 46240		Zip:
Phone: (763) 331-8854	Fax:	Phone:	Fax:
Email: dans@scannellproperties.com		Email:	
Cell: (763) 331-8854	Other:	Cell:	Other:
Contact Person: Dan Salzer		Contact Person:	
<b>For Office Use Only</b>			
Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

Property Owner Affidavit

Applicant Name: Scannell Properties

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA )
COUNTY OF WASHOE )

I, Bart Hiatt (please print name)

being duly sworn, depose and say that I am the owner\* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Development.

(A separate Affidavit must be provided by each property owner named in the title report.)

Assessor Parcel Number(s): 084-370-02

Printed Name Bart Hiatt

Signed [Signature]

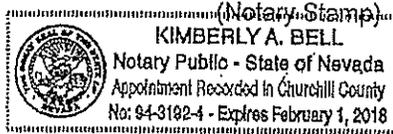
Address 515 Windmill Drive

Fallon, NV 89406

Subscribed and sworn to before me this 16th day of Feb, 2018.

[Signature] Notary Public in and for said county and state

My commission expires: 2/1/2018



\*Owner refers to the following: (Please mark appropriate box.)

- Owner
Corporate Officer/Partner (Provide copy of recorded document indicating authority to sign.)
Power of Attorney (Provide copy of Power of Attorney.)
Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
Property Agent (Provide copy of record document indicating authority to sign.)
Letter from Government Agency with Stewardship

## Special Use Permit Application for Grading Supplemental Information

(All required information may be separately attached)

Chapter 110 of the Washoe County Code is commonly known as the Development Code. Specific references to special use permits may be found in Article 810, Special Use Permits. Article 438, Grading, and Article 418, Significant Hydrologic Resources, are the ordinances specifically involved in this request.

1. What is the purpose of the grading?

The purpose of the grading is to prepare the site for development of two light industrial buildings, associated parking and access roads, and other accessory features such as storm water ponds.

2. How many cubic yards of material are you proposing to excavate on site?

We are about at a balanced site. We currently have 355,417 CY of cut and 356,216 CY of Fill for a total of 799 CY of total fill required.

3. How many square feet of surface of the property are you disturbing?

Our site is 117.76 acres. We are disturbing 80.82 acres or 68.63% of the site.

4. How many cubic yards of material are you exporting or importing? If none, how are you managing to balance the work on-site?

We are planning on having a balanced site, we currently have 799 CY of fill required but should be able to make that up with the spoils throughout the site.

5. Is it possible to develop your property without surpassing the grading thresholds requiring a Special Use Permit? (Explain fully your answer.)

No. The site has a fair amount of change in elevation and is unable to support the flat building pads required for industrial buildings without the proposed grading.

6. Has any portion of the grading shown on the plan been done previously? (If yes, explain the circumstances and the year the work was done.)

No. None of the proposed grading shown on the grading plan has previously been completed.

7. Have you shown all areas on your site plan that are proposed to be disturbed by grading? (If no, explain fully your answer.)

Yes, the plans submitted with our SUP package shows all proposed grades along with existing and proposed contours and spot elevations.

8. Can the disturbed area be seen from off-site? If yes, from which directions, and which properties or roadways?

Yes. The disturbed area can be seen from all directions depending on proximity to the site. Most notably, the disturbed area will be visible from across the Truckee River in Storey County.

9. Could neighboring properties also be served by the proposed access/grading requested (i.e. if you are creating a driveway, would it be used for access to additional neighboring properties)?

The proposed access road from Mustang Road will essentially provide access to the property it crosses, which is owned by the Bureau of Land Management (BLM). It also has the potential to serve other properties to the west/northwest of the subject property in the future, one of which is owned by Washoe County.

10. What is the slope (Horizontal:Vertical) of the cut and fill areas proposed to be? What methods will be used to prevent erosion until the revegetation is established?

Based on Article 438 of the Washoe County Development Code, Grading Standards, the proposed cut/fill slopes will be a maximum of 3:1.

At this time it is proposed that once the grading activities have been completed that all disturbed 3:1 slope be treated with 6-12" rock rip rap for erosion protection.

11. Are you planning any berms?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes, how tall is the berm at its highest?
------------------------------	--	--

12. If your property slopes and you are leveling a pad for a building, are retaining walls going to be required? If so, how high will the walls be and what is their construction (i.e. rockery, concrete, timber, manufactured block)?

At this time we will only require one section of our property to have one retaining wall. Since we will not be able to catch grade with a 3:1 slope before our property line we will need a 500 foot long wall. The highest point will be 6' and averages 4' tall. The wall be be constructed as a rockery wall.

13. What are you proposing for visual mitigation of the work?

To the north of our site we have the main UP railroad. The railroad is approximately 27' higher than our finished floor elevation. This essentially puts our site in hole from the north. Our south property is bound by the Truckee River.

14. Will the grading proposed require removal of any trees? If so, what species, how many and of what size?

No. There are no trees of note that are proposed to be removed.

15. What type of revegetation seed mix are you planning to use and how many pounds per acre do you intend to broadcast? Will you use mulch and, if so, what type?

A native grass and shrub mix per site specific seed mix by Comstock Seed Company will be broadcast at the approx. rate of 20lbs/ac and lightly chain dragged. A tackifier will be applied at 200 lbs/ac and the area will be hydromulched with Ecoaegis Bonded Fiber Matrix at the rate of 2000 lbs/ac.

16. How are you providing temporary irrigation to the disturbed area?

The revegetated areas will be reseeded after Oct. 1 to germinate per natural precipitation. If construction schedule does not allow for this and it must be seeded during the growing season; temporary timer controlled above gradestaked impact spray heads will be utilized for germination.

17. Have you reviewed the revegetation plan with the Washoe Storey Conservation District? If yes, have you incorporated their suggestions?

No, we are deferring to the expertise of Comstock Seed's local expertise.

18. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that may prohibit the requested grading?

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	If yes, please attach a copy.
------------------------------	--	-------------------------------

# Property Tax Reminder Notice

WASHOE COUNTY  
 P O BOX 30039  
 RENO, NV 89520-3039  
 775-328-2510

PIN: 08437002  
 AIN:

Balance Good Through:	02/12/2015
Current Year Balance:	\$5,185.14
Prior Year(s) Balance: (see below for details)	\$0.00
Total Due:	\$5,185.14

AUTO  
 :894072:  
 HIATT LAND & DEVEL CO LTD  
 PO BOX 764  
 FALLON NV 89407

Description:

Situs: UNSPECIFIED  
 WCTY

-----  
 This is a courtesy notice. If you have an impound account through your lender or are not sure if you have an impound account and need more information, please contact your lender directly. Please submit payment for the remaining amount(s) according to the due dates shown. Always include your PIN number with your payment. Please visit our website: [www.washoecounty.us/treas](http://www.washoecounty.us/treas)

Current Charges									
PIN	Year	Bill Number	Inst	Due Date	Charges	Interest	Pen/Fees	Paid	Balance
08437002	2014	269348	1	08/18/2014	5,273.95	0.00	0.00	5,273.95	0.00
08437002	2014		2	10/06/2014	5,185.15	0.00	0.00	5,185.15	0.00
08437002	2014		3	01/05/2015	5,185.14	0.00	0.00	5,185.14	0.00
08437002	2014		4	03/02/2015	5,185.14	0.00	0.00	0.00	5,185.14
Current Year Totals					20,829.38	0.00	0.00	15,644.24	5,185.14

Prior Years									
PIN	Year	Bill Number	Charges	Interest	Pen/Fees	Paid	Balance		
Prior Years Total									



*First American Title*

**First American Title Company of Nevada**  
5310 Kietzke Lane, Suite 100  
Reno, NV 89511-2043

December 08, 2014

Margie Roma  
First American Title - Reno Main Escrow  
5310 Kietzke Lane, Suite 100  
Reno, NV 89511

Phone: (775)823-6200

Fax: (775)823-6250

Title Officer: William Bernard  
Phone: (775)823-6200

Order Number: 121-2476624

Escrow Officer: Margie Roma  
Phone: (775)823-6200

Property: NV, APN 084-370-02

Attached please find the following item(s):

Commitment

Thank You for your confidence and support. We at First American Title Insurance Company maintain the fundamental principle:

*Customer First!*

*First American Title Insurance Company*

**SB15-001  
EXHIBIT D**

## First American Title Company of Nevada

### INFORMATION

The Title Insurance Commitment is a legal contract between you and the company. It is issued to show the basis on which we will issue a Title Insurance Policy to you. The Policy will insure you against certain risks to the land title, subject to the limitations shown in the policy.

The Company will give you a sample of the Policy form, if you ask.

The Commitment is based on the land title as of the Commitment Date. Any changes in the land title or the transaction may affect the Commitment and the Policy.

The Commitment is subject to its Requirements, Exceptions and Conditions.

This information is not part of the title insurance commitment.

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Agreement to Issue Policy	3
Schedule A	
1. Commitment Date	4
2. Policies to be Issued, Amounts and Proposed Insured	4
3. Interest in the Land and Owner	4
4. Description of the Land	4
Schedule B-1 - Requirements	
Schedule B-2 - Exceptions	
Conditions	

**YOU SHOULD READ THE COMMITMENT VERY CAREFULLY.  
If you have any questions about the Commitment,  
please contact the issuing office.**

COMMITMENT FOR TITLE INSURANCE

Issued by

*First American Title Company of Nevada*

Agreement to Issue Policy

We agree to issue a policy to you according to the terms of this Commitment.

When we show the policy amount and your name as the proposed insured in Schedule A, this Commitment becomes effective as of the Commitment Date shown in Schedule A.

If the Requirements shown in this Commitment have not been met within six months after the Commitment Date, our obligation under this Commitment will end. Also, our obligation under this Commitment will end when the Policy is issued and then our obligation to you will be under the Policy.

Our obligation under this Commitment is limited by the following:

The Provisions in Schedule A.

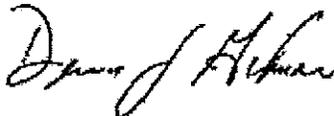
The Requirements in Schedule B-1.

The Exceptions in Schedule B-2.

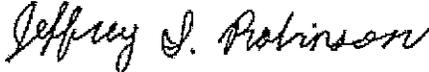
The Conditions.

This Commitment is not valid without Schedule A and Sections 1 and 2 of Schedule B.

*First American Title Insurance Company*



Dennis J. Gilmore  
President



Jeffrey S. Robinson  
Secretary

*First American Title Insurance Company*

Form No. 1068-2  
ALTA Plain Language Commitment

Commitment No. 121-2476624  
Page Number: 4  
Property Address: approximately 113.5 acres,, parcel no: 08-  
370-02  
unincorporated area, NV



By:  
Authorized Signatory

**SCHEDULE A**

1. Commitment Date: December 01, 2014 at 7:30 A.M.
  
2. Policy or Policies to be issued: Amount
  - a. ALTA Owner's Policy \$To Be Determined  
  
Proposed Insured:  
Scannell Properties
  
3. (A) The estate or interest in the land described in this Commitment is:  
  
Fee  
  
(B) Title to said estate or interest at the date hereof is vested in:  
  
Hiatt Land & Development Company, Ltd., a Nevada limited liability company
  
4. The land referred to in this Commitment is situated in the County of Washoe, State of Nevada, and is described as follows:  
  
ALL THAT PORTION OF REAL PROPERTY SITUATE IN THE WEST HALF (W 1/2) OF SECTION 15, AND THE EAST HALF (E 1/2) OF SECTION 16, TOWNSHIP 19 NORTH, RANGE 21 EAST, M.D.B. & M., WASHOE COUNTY, STATE OF NEVADA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:  
  
BEGINNING AT THE ONE QUARTER CORNER COMMON TO SECTIONS 15 AND 16, TOWNSHIP 19 NORTH, RANGE 21 EAST, M.D.B. & M., AS DELINEATED ON RECORD OF SURVEY MAP NO. 1154, FILE NO. 516741, RECORDED IN THE WASHOE COUNTY RECORDER'S OFFICE ON FEBRUARY 28, 1978;  
  
THENCE NORTH 00°02'18" WEST 1340.44 FEET, ALONG THE LINE COMMON TO SECTIONS 15 AND 16;  
THENCE SOUTH 88°58'49" EAST, 2430.89 FEET ALONG THE NORTH LINE OF THE SOUTH HALF (S 1/2) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 15, TO A POINT ON THE WESTERLY LINE OF THE TRUCKEE RIVER;  
  
THENCE ALONG THE WESTERLY AND NORTHERLY LINE OF THE TRUCKEE RIVER THE FOLLOWING COURSES AND DISTANCES:  
  
THENCE SOUTH 16°44'14" WEST 578.44 FEET;  
  
THENCE SOUTH 03°39'39" WEST 132.89 FEET;

unincorporated area, NV

THENCE SOUTH 06°08'18" EAST 498.28 FEET;  
THENCE SOUTH 15°05'25" WEST 135.92 FEET;  
THENCE SOUTH 37°34'15" WEST 256.79 FEET;  
THENCE SOUTH 47°01'01" WEST 204.73 FEET;  
THENCE SOUTH 38°25'16" WEST 342.72 FEET;  
THENCE SOUTH 38°13'57" WEST 240.61 FEET;  
THENCE SOUTH 52°56'10" WEST 117.54 FEET;  
THENCE SOUTH 66°10'08" WEST 159.31 FEET;  
THENCE SOUTH 73°24'23" WEST 233.65 FEET;  
THENCE SOUTH 82°35'49" WEST 175.98 FEET;  
THENCE NORTH 85°19'15" WEST 301.34 FEET;  
THENCE SOUTH 89°10'27" WEST 276.96 FEET;  
THENCE SOUTH 87°35'48" WEST 395.32 FEET;  
THENCE NORTH 77°58'11" WEST 161.87 FEET;  
THENCE NORTH 76°57'03" WEST 341.40 FEET;  
THENCE NORTH 66°45'43" WEST 390.71 FEET;  
THENCE NORTH 61°56'15" WEST 179.52 FEET;  
THENCE NORTH 61°18'50" WEST 162.34 FEET;  
THENCE NORTH 59°40'47" WEST 137.68 FEET;  
THENCE NORTH 57°31'34" WEST 214.54 FEET;  
THENCE NORTH 59°09'08" WEST 153.77 FEET;  
THENCE NORTH 46°11'09" WEST 233.23 FEET;  
THENCE SOUTH 71°22'33" WEST 80.17 FEET TO A POINT ON THE WEST LINE OF THE EAST SEVEN (7) CHAINS OF THE NORTHWEST QUARTER (NW 1/4) OF THE SOUTHEAST QUARTER (SE 1/4) OF SECTION 16;  
THENCE ALONG SAID LINE, NORTH 01°30'39" EAST 191.77 FEET TO A POINT ON THE SOUTHERLY LINE OF CENTRAL PACIFIC RAILROAD COMPANY RIGHT OF WAY;

THENCE, ALONG SAID RIGHT OF WAY LINE, NORTH 71°10'19" EAST 154.10 FEET;

THENCE NORTH 78°57'44" EAST 8.62 FEET TO A POINT ON THE NORTH LINE OF NORTH HALF (N 1/2) OF THE SOUTHEAST QUARTER (SE 1/4) OF SECTION 16;

THENCE ALONG SAID LINE, SOUTH 88°53'05" EAST 1673.80 FEET TO THE POINT OF BEGINNING.

EXCEPTING THEREFROM ALL THAT PORTION OF CENTRAL PACIFIC RAILROAD RIGHT OF WAY, SITUATED IN THE SOUTH HALF (S 1/2) OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 15, TOWNSHIP 19 NORTH, RANGE 21 EAST, M.D.B.&M., AS DELINEATED ON THE ABOVE MENTIONED RECORD OF SURVEY.

ALSO EXCEPTING THEREFROM PARCEL A, AS SHOWN ON THE LIBERTY VILLAGE SUBDIVISION PLAT, TRACT MAP NO. 1878, FILE NO. 636165, RECORDED IN THE WASHOE COUNTY RECORDER'S OFFICE ON AUGUST 29, 1979.

FURTHER EXCEPTING THEREFROM ALL THAT PORTION THEREOF, LYING BELOW THE NATURAL ORDINARY HIGH WAY LINE OF THE TRUCKEE RIVER.

FURTHER EXCEPTING THEREFROM ALL THAT PORTION CONVEYED TO TRUCKEE CANYON PROPERTIES LLC, A NEVADA LIMITED LIABILITY COMPANY, SHOWN IN THAT CERTAIN DOCUMENT RECORDED SEPTEMBER 4, 2003 AS INSTRUMENT NO. 2915992.

REFERENCE IS MADE TO THAT CERTAIN REVERSION TO ACREAGE MAP NO. 2561 RECORDED JANUARY 25, 1989 AS FILE NO. 1301102, OFFICIAL RECORDS.

NOTE: THE ABOVE METES AND BOUNDS LEGAL DESCRIPTION APPEARED PREVIOUSLY IN THAT CERTAIN DOCUMENT RECORDED FEBRUARY 29, 2008, AS INSTRUMENT NO. 3626075, OFFICIAL RECORDS.

## SCHEDULE B

### SECTION ONE

### REQUIREMENTS

The following requirements must be met:

- (A) Pay the agreed amounts for the interest in the land and/or the mortgage to be insured.
- (B) Pay us the premiums, fees and charges for the policy.
- (C) Documents satisfactory to us creating the interest in the land and/or the mortgage to be insured must be signed, delivered and recorded.
- (D) You must tell us in writing the name of anyone not referred to in this Commitment who will get an interest in the land or who will make a loan on the land. We may then make additional requirements or exceptions.
- (E) Releases(s) or Reconveyance(s) of Item(s): 24
- (F) Other:
- (G) You must give us the following information:
  - 1. Any off record leases, surveys, etc.
  - 2. Statement(s) of Identity, all parties.
  - 3. Other:
- Proper showing as to the type of entity and the location of the formation of Scannell Properties. Additional requirements may be necessary upon being supplied with same.

The following additional requirements, as indicated by "X", must be met:

- (H) Provide information regarding any off-record matters, which may include, but are not limited to: leases, recent works of improvement, or commitment statements in effect under the Environmental Responsibility Acceptance Act, Civil Code Section 850, et seq.

The Company's Owner's Affidavit form (attached hereto) must be completed and submitted prior to close in order to satisfy this requirement. This Commitment will then be subject to such further exceptions and/or requirements as may be deemed necessary.

unincorporated area, NV

- (I) An ALTA/ACSM survey of recent date, which complies with the current minimum standard detail requirements for ALTA/ACSM land title surveys, must be submitted to the Company for review. This Commitment will then be subject to such further exceptions and/or requirements as may be deemed necessary.
- (J) The following LLC documentation is required from Hiatt Land & Development Company, Ltd., a Nevada limited liability company.
- Prior to the close of escrow or the issuance of any policy of title insurance, we will require that copies of the Articles of Organization, the Operation Agreement and the Current Appointment of Manager of Hiatt Land & Development Company, Ltd., a Nevada Limited Liability Company, be submitted to the Company for examination.
  - Evidence of proper filing and good standing in the State of Nevada of Hiatt Land & Development Company, Ltd.
- (K) The following partnership documentation is required from :
- (L) The following documentation is required from corporation:
- (M) Based upon the Company's review of that certain partnership/operating agreement dated for the proposed insured herein, the following requirements must be met:
- Any further amendments to said agreement must be submitted to the Company, together with an affidavit from one of the general partners or members stating that it is a true copy, that said partnership or limited liability company is in full force and effect, and that there have been no further amendments to the agreement. This Commitment will then be subject to such further requirements as may be deemed necessary.
- (N) A copy of the complete lease, as referenced in Schedule A, #3 herein, together with any amendments and/or assignments thereto, must be submitted to the Company for review, along with an affidavit executed by the present lessee stating that it is a true copy, that the lease is in full force and effect, and that there have been no further amendments to the lease. This Commitment will then be subject to such further requirements as may be deemed necessary.
- (O) Approval from the Company's Underwriting Department must be obtained for issuance of the policy contemplated herein and any endorsements requested thereunder. This Commitment will then be subject to such further requirements as may be required to obtain such approval.

unincorporated area, NV

- (P) Potential additional requirements, if ALTA Extended coverage is contemplated hereunder, and work on the land has commenced prior to close, some or all of the following requirements, and any other requirements which may be deemed necessary, may need to be met:
  
- (Q) The Company's "Mechanic's Lien Risk Addendum" form must be completed by a Company employee, based upon information furnished by the appropriate parties involved.
  
- (R) The Company's "Indemnity Agreement I" must be executed by the appropriate parties.
  
- (S) Financial statements from the appropriate parties must be submitted to the Company for review.
  
- (T) A copy of the construction contract must be submitted to the Company for review.
  
- (U) An inspection of the land must be performed by the Company for verification of the phase of construction.

## **SCHEDULE B**

### **SECTION TWO**

#### **EXCEPTIONS**

Schedule B of the policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records. Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the public records.
2. Any facts, rights, interests, or claims that are not shown by the public records but that could be ascertained by an inspection of the land or that may be asserted by persons in possession thereof.
3. Easements, liens or encumbrances, or claims thereof, not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, or any other facts which a correct survey would disclose, and which are not shown by the public records.
5. Unpatented mining claims, (b) reservations or exceptions in patents or in Acts authorizing the issuance thereof, (c) water rights or, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records.
6. Any lien or right to a lien for services, labor or material not shown by the public records.

#### **Exceptions 1-6 will be omitted on extended coverage policies**

7. Water rights, claims or title to water, whether or not shown by the public records.
8. Any taxes that may be due, but not assessed, for new construction which can be assessed on the unsecured property rolls, in the Office of the Washoe County Assessor, per Nevada Revised Statute 361.260.
9. Any unpaid charges due the Washoe County Sewer & Water District. Specific amounts may be obtained by calling the Washoe County Water Resources, Utility Services Division at P.O. Box 11130, Reno, NV 89520, (775)954-4601.

10. Those taxes for the fiscal year July 1, 2014 through June 30, 2015, including any secured personal property taxes collected by the County Treasurer.

APN 084-370-02

<b>1st installment</b>	\$	<b>5,273.95</b>	<b>PAID</b>
<b>2nd installment</b>	\$	<b>5,185.15</b>	<b>PAID</b>
<b>3rd installment</b>	\$	<b>5,185.14</b>	
<b>4th installment</b>	\$	<b>5,185.14</b>	

**Total** \$ **20,829.38**

**NOTE:**

Said taxes become a lien on July 1, 2014, each installment will become due and payable on the following dates:

- 1st installment is due on the 3rd Monday of August, 2014.
- 2nd installment is due on the 1st Monday of October, 2014.
- 3rd installment is due on the 1st Monday of January, 2015.
- 4th installment is due on the 1st Monday of March, 2015.

Each installment will become delinquent ten (10) days after due.

11. Reservations and provisions as contained in Patent from the United States of America, recorded February 09, 1889, in Book A, Page 391 of Patents, as Instrument No. N/A.
12. Reservations and provisions as contained in Patent from the United States of America, recorded September 19, 1902, in Book A, Page 746 of Patents, as Instrument No. N/A.
13. An Easement for public utilities and incidental purposes, recorded January 29, 1942 in Book No. 146, Page 21 as Instrument No. 100923 of Deed Records.  
Affects: A portion of the land
14. An Easement for public utilities and incidental purposes, recorded January 11, 1949 in Book No. 228, Page 585 as Instrument No. 170211 of Deed Records.  
Affects: A portion of the land
15. An Easement for pipelines, valves, necessary appurtenances and incidental purposes, recorded June 20, 1956 in Book No. 416, Page 61 as Instrument No. 261281 of Deed Records.  
Affects: A portion of the land
16. An Easement for public utilities and incidental purposes, recorded November 17, 1964 in Book No. 38, Page 260 as Instrument No. 12830 of Official Records.  
Affects: A portion of the land

17. An Easement for public utilities and incidental purposes, recorded March 24, 1965 in Book No. 69, Page 485 as Instrument No. 23503 of Official Records.  
Affects: A portion of the land
18. Easements, dedications, reservations, provisions, relinquishments, recitals, certificates, and any other matters as provided for or delineated on Survey Map #1154 referenced in the legal description contained herein. Reference is hereby made to said plat for particulars.
19. An Easement for public utilities and incidental purposes, recorded August 21, 1979 in Book No. 1421, Page 30 as Instrument No. 624634 of Official Records.  
Affects: A portion of the land
20. Easements, dedications, reservations, provisions, relinquishments, recitals, certificates, and any other matters as provided for or delineated on Subdivision Tract Map #1878 referenced in the legal description contained herein. Reference is hereby made to said plat for particulars.
21. A document entitled "Resolution and Order of Abandonment", recorded January 17, 1989, in Book 2854, Page 851 as Instrument No. 1299517 of Official Records.
22. Easements, dedications, reservations, provisions, relinquishments, recitals, certificates, and any other matters as provided for or delineated on Reversion Tract Map #2561 referenced in the legal description contained herein. Reference is hereby made to said plat for particulars.
23. An Easement for public utilities and incidental purposes, recorded January 23, 1991 in Book No. 3203, Page 407 as Instrument No. 1455378 of Official Records.  
Affects: A portion of the land
24. A Deed of Trust to secure an original indebtedness of \$3,152,227.77, and any other amounts or obligations secured thereby, recorded August 18, 2006, in Book N/A, as Instrument No. 3428040.  
Dated: August 16, 2006  
Trustor: Hiatt Land & Development Company, Ltd., a Nevada limited liability company  
Trustee: Western Nevada Title Company, a Nevada corporation  
Beneficiary: James L. Peri, as Trustee of The James L. Peri Trust dated August 18, 1993 as to an undivided one-half (1/2) interest of and Joseph F. Peri and Patricia L. Peri, as Trustee of The Joseph F. Peri Family Trust dated August 17, 1993 as to an undivided one-half (1/2) interest

25. Easements, dedications, reservations, provisions, relinquishments, recitals, certificates, and any other matters as provided for or delineated on Survey Map #5012 . Reference is hereby made to said plat for particulars.

**NOTE:** Said Map purportedly depicts a 30' wide access easement as granted per BLM-Nevada Serial No. 77824.

26. Covenants, conditions, easements and restrictions in an Easement by Court Order in Settlement of Landowner Action recorded December 09, 2013, in Book N/A as Instrument No. 4306531 of Official Records.

27. Any adverse claim based upon the assertion that:

- (A) Any portion of the land lies below the last natural high water mark of the Truckee River.
- (B) Some portion of the land has been created by artificial means or has accreted to such portion so created.
- (C) Some portion of the land has been brough within the boundaries thereof by an avulsive movement of the Truckee River or has been formed by accretion of any such portion.
- (D) Any rights of access to the Truckee River for recreational purposes which may exist over the land.

28. The existence of any reversionary interest, possibility of reverter, power of termination, right of first refusal, or similar interest, of the United States of America, or any other person or entity in that portion of the land lying within the right of way granted to the Southern Pacific Railroad by the United States Government.

29. Any facts, rights, interests or claims which would be disclosed by a correct ALTA/ACSM Survey.

30. Rights of parties in possession of the land by reason of unrecorded leases and all parties claiming by, through or under said lessees or tenants, if any, that would be disclosed from an inquiry of the parties, or by an inspection of the land.

<b>INFORMATIONAL NOTES</b>
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The map attached, if any, may or may not be a survey of the land depicted hereon. First American expressly disclaims any liability for loss or damage which may result from reliance on this map except to

Form No. 1068-2  
ALTA Plain Language Commitment

Commitment No. 121-2476624  
Page Number: 15  
Property Address: approximately 113.5 acres,, parcel no: 08-  
370-02  
unincorporated area, NV

the extent coverage for such loss or damage is expressly provided by the terms and provisions of the title insurance policy, if any, to which this map is attached.

## CONDITIONS

### 1. DEFINITIONS

(a)"Mortgage" means mortgage, deed of trust or other security instrument.

(b)"Public Records" means title records that give constructive notice of matters affecting the title according to the state law where the land is located.

### 2. LATER DEFECTS

The Exceptions in Schedule B - Section Two may be amended to show any defects, liens or encumbrances that appear for the first time in the public records or are created or attached between the Commitment Date and the date on which all of the Requirements (a) and (c) of Schedule B - Section One are met. We shall have no liability to you because of this amendment.

### 3. EXISTING DEFECTS

If any defects, liens or encumbrances existing at Commitment Date are not shown in Schedule B, we may amend Schedule B to show them. If we do amend Schedule B to show these defects, liens or encumbrances, we shall be liable to you according to Paragraph 4 below unless you knew of this information and did not tell us about it in writing.

### 4. LIMITATION OF OUR LIABILITY

Our only obligation is to issue to you the Policy referred to in this Commitment, when you have met its Requirements. If we have any liability to you for any loss you incur because of an error in this Commitment, our liability will be limited to your actual loss caused by your relying on this Commitment when you acted in good faith to:

comply with the Requirements shown in Schedule B - Section One

or

eliminate with our written consent any Exceptions shown in Schedule B - Section Two.

We shall not be liable for more than the Policy Amount shown in Schedule A of this Commitment and our liability is subject to the terms of the Policy form to be issued to you.

### 5. CLAIMS MUST BE BASED ON THIS COMMITMENT

Any claim, whether or not based on negligence, which you may have against us concerning the title to the land must be based on this commitment and is subject to its terms.

## Privacy Policy

### **We Are Committed to Safeguarding Customer Information**

In order to better serve your needs now and in the future, we may ask you to provide us with certain information. We understand that you may be concerned about what we will do with such information - particularly any personal or financial information. We agree that you have a right to know how we will utilize the personal information you provide to us. Therefore, together with our parent company, The First American Corporation, we have adopted this Privacy Policy to govern the use and handling of your personal information.

### **Applicability**

This Privacy Policy governs our use of the information which you provide to us. It does not govern the manner in which we may use information we have obtained from any other source, such as information obtained from a public record or from another person or entity. First American has also adopted broader guidelines that govern our use of personal information regardless of its source. First American calls these guidelines its *Fair Information Values*, a copy of which can be found on our website at [www.firstam.com](http://www.firstam.com).

### **Types of Information**

Depending upon which of our services you are utilizing, the types of nonpublic personal information that we may collect include:

- Information we receive from you on applications, forms and in other communications to us, whether in writing, in person, by telephone or any other means;
- Information about your transactions with us, our affiliated companies, or others; and
- Information we receive from a consumer reporting agency.

### **Use of Information**

We request information from you for our own legitimate business purposes and not for the benefit of any nonaffiliated party. Therefore, we will not release your information to nonaffiliated parties except: (1) as necessary for us to provide the product or service you have requested of us; or (2) as permitted by law. We may, however, store such information indefinitely, including the period after which any customer relationship has ceased. Such information may be used for any internal purpose, such as quality control efforts or customer analysis. We may also provide all of the types of nonpublic personal information listed above to one or more of our affiliated companies. Such affiliated companies include financial service providers, such as title insurers, property and casualty insurers, and trust and investment advisory companies, or companies involved in real estate services, such as appraisal companies, home warranty companies, and escrow companies. Furthermore, we may also provide all the information we collect, as described above, to companies that perform marketing services on our behalf, on behalf of our affiliated companies, or to other financial institutions with whom we or our affiliated companies have joint marketing agreements.

### **Former Customers**

Even if you are no longer our customer, our Privacy Policy will continue to apply to you.

### **Confidentiality and Security**

We will use our best efforts to ensure that no unauthorized parties have access to any of your information. We restrict access to nonpublic personal information about you to those individuals and entities who need to know that information to provide products or services to you. We will use our best efforts to train and oversee our employees and agents to ensure that your information will be handled responsibly and in accordance with this Privacy Policy and First American's *Fair Information Values*. We currently maintain physical, electronic, and procedural safeguards that comply with federal regulations to guard your nonpublic personal information.

Form No. 1068-2  
ALTA Plain Language Commitment

Commitment No. 121-2476624  
Page Number: 18  
Property Address: approximately 113.5 acres,, parcel no: 08-  
370-02  
unincorporated area, NV

# DRAINAGE REPORT

FOR

## MUSTANG INDUSTRIAL DEVELOPMENT

Washoe County, Nevada

APN  
084-370-02

*Prepared for:*

*Scannell Properties  
821 Meander Court, Suite 200  
Medina, MN 55340*

*Prepared by:*



10451 Double R Blvd.  
Reno, Nevada 89521

February 17, 2015  
Job Number: 14217

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## INTRODUCTION

### LOCATION OF PROPERTY

The Mustang Industrial Development is a proposed development located on a vacant parcel of land off the Mustang Road Exist east of Sparks on Interstate 80. The parcel is bound by the UP Railroad to the north and the Truckee River to the south. Please see attached site plan for location. The site is approximately 117.76 acres with an APN of 084-370-02. The project is located in portions of Section 15 & 16, Township 19 North, Range 21 East, Mount Diablo Meridian in Washoe County, Nevada. See Exhibit 1 for a general Vicinity Map.

### DESCRIPTION OF PROPERTY

The site is presently undeveloped land with the slope falling from the north side of the site to the river along the south side of the property. The undisturbed area of the site is sparsely populated with small weeds and sagebrush up to 2 feet in height.

### PROJECT DESCRIPTION

Scannell Properties is proposing to develop a 117-acre parcel in the Truckee Canyon area of Washoe County, Nevada, near the intersection of Interstate 80 and Mustang Road. The site is bound by the Truckee River to the south and the Union Pacific Railroad to the north. The current zoning, Industrial, allows for the proposed use which includes two light industrial buildings that will be approximately 344,000 square feet and 517,000 square feet. Site development will be supported by infrastructure improvements including the construction of a new road from Mustang Road, a water main extension from the north, on-site sewer collection and treatment, and stormwater ponds to collect runoff. The project is expected to begin late-summer of 2015.

## DRAINAGE BASIN DESCRIPTION

### DRAINAGE DESCRIPTION

The entire site is being planned for development, as per Exhibit 2 attached, our site has been divided into five separate detention basin areas. All site drainage will be routed to each of these basins, each basin has been designed to meet the Washoe County LID standards for water quality and will treat the runoff before being allowed to be discharged back into the natural drainage way.

### FLOODPLAIN INFORMATION

The project site lies in both Flood Zone AE and X. This information is based on the FEMA Flood Insurance Rate Map No. 32031C3069G and 32031C3088G, dated March 16, 2009 for Washoe County, Nevada. Flood Zone AE is defined as base floodplain where base flood elevations are provided. Flood Zone X is defined as "Areas determined to be outside the 500 year flood plain". Please see Exhibit 4 for the FEMA Map.

## PROPOSED DRAINAGE FACILITIES

### COMPLIANCE WITH REGULATIONS AND ADOPTED PLANS

The design criteria which has been used for this drainage report is in compliance with the Washoe County design guidelines, Article 438 Grading Standards.

### HYDROLOGIC CRITERIA

The following design criteria assumptions were used for this analysis:

- Design for on-site facilities is based upon the 100 year storm event.
- Rainfall intensity/duration frequencies were obtained from the Washoe County, NV NOAA Atlas 14 Point Precipitation Frequency (Please see Appendix A)
- Runoff coefficients were obtained from Table 7-7 of the Rational Method QTR-55 Software Program distributed by Hasted Methods.

### METHODOLOGY

The rational method was used to determine the peak flows. The parameters for this method are:

1. The drainage area (A, acres)
2. Time of Concentration ( $T_c$ , minutes)
3. Runoff Coefficient (C)
4. Rainfall Intensity (i, inches per hour)

The time of concentration is calculated based on the equation:

$$T_c = 10 \text{ min or } L / (V \times 60), \text{ whichever is greater,}$$

where

L=The travel distance in feet

V=Channel or overland velocity in feet per second

Due to the relatively small size of the site and sub areas and the high runoff potential within commercial developments, the minimum  $T_c$  of 10 minutes was used in this analysis.

Rainfall intensity/duration frequencies were obtained from the NOAA Atlas 14 Point Precipitation Frequency IDF Curve. For  $T_c=10$  min., the rainfall intensities are  $i_{25}=2.39$  in/hr and  $i_{100}=3.57$  in/hr.

From the Public Works Design Manual (See Appendix A), the following runoff coefficients were used:

Developed C=0.90

Undeveloped C=0.45

The peak runoff is calculated using the following equation:  $Q=CiA$

**FACILITY DESIGN CALCULATIONS**

ON-SITE DRAINAGE CALCULATIONS

Our proposed project will have an on-site storm drainage system consisting of four separate detention pond areas. These areas will have multiple sub basins within each basin but for summary purposes they will be lumped together. Table's 1 and 2 show the net increase in flow due to the development and the detention/retention/retention basin required sizing. All calculations can be found in Appendix B, C and D.

**Table 1 - Peak Basin Flow Summary**  
25 & 100-Year Frequency

Basin	Existing 25Yr(cfs)	Developed 25 Yr(cfs)	Net Increase (cfs)	Existing 100Yr(cfs)	Developed 100Yr(cfs)	Net Increase (cfs)
Basin 1	10.04	20.20	10.16	14.96	30.18	15.22
Basin 2	7.81	18.01	10.20	11.63	26.89	15.26
Basin 3	46.16	95.35	49.19	68.78	142.42	73.64
Basin 4	14.10	26.47	12.37	21.00	39.53	18.53

**Table 2 - Basin Volume Summary**  
25 & 100-Year Frequency

Basin	100 yr Volume Required (cf)	Volume Provided (cf)
Basin 1	9,674	10,500
Basin 2	9,927	10,500
Basin 3	47,023	47,500
Basin 4	11,633	12,000

CONCLUSION

All designed storm drain and flood control facilities are effective in controlling storm runoff and have no impact on existing off-site facilities. Therefore, no mitigation of impacts is required. In addition, the storm drain and flood control facilities are in compliance with the following:

- FEMA requirements - No buildings are proposed within the existing or proposed 100-year flood plain boundaries.
- Drainage Laws – As designed, the drainage system shall promote and preserve the general health, welfare, and economic being of the region.

- The designed facilities are consistent with and integrated with the Washoe County Drainage Master Plan.
- All storm drain and flood control improvements have been designed to meet or exceed the design standards as set forth in the overall Washoe County Master Drainage Plan and in compliance with the Washoe County design guidelines, Article 438 Grading Standards.

DRAWN: FEB

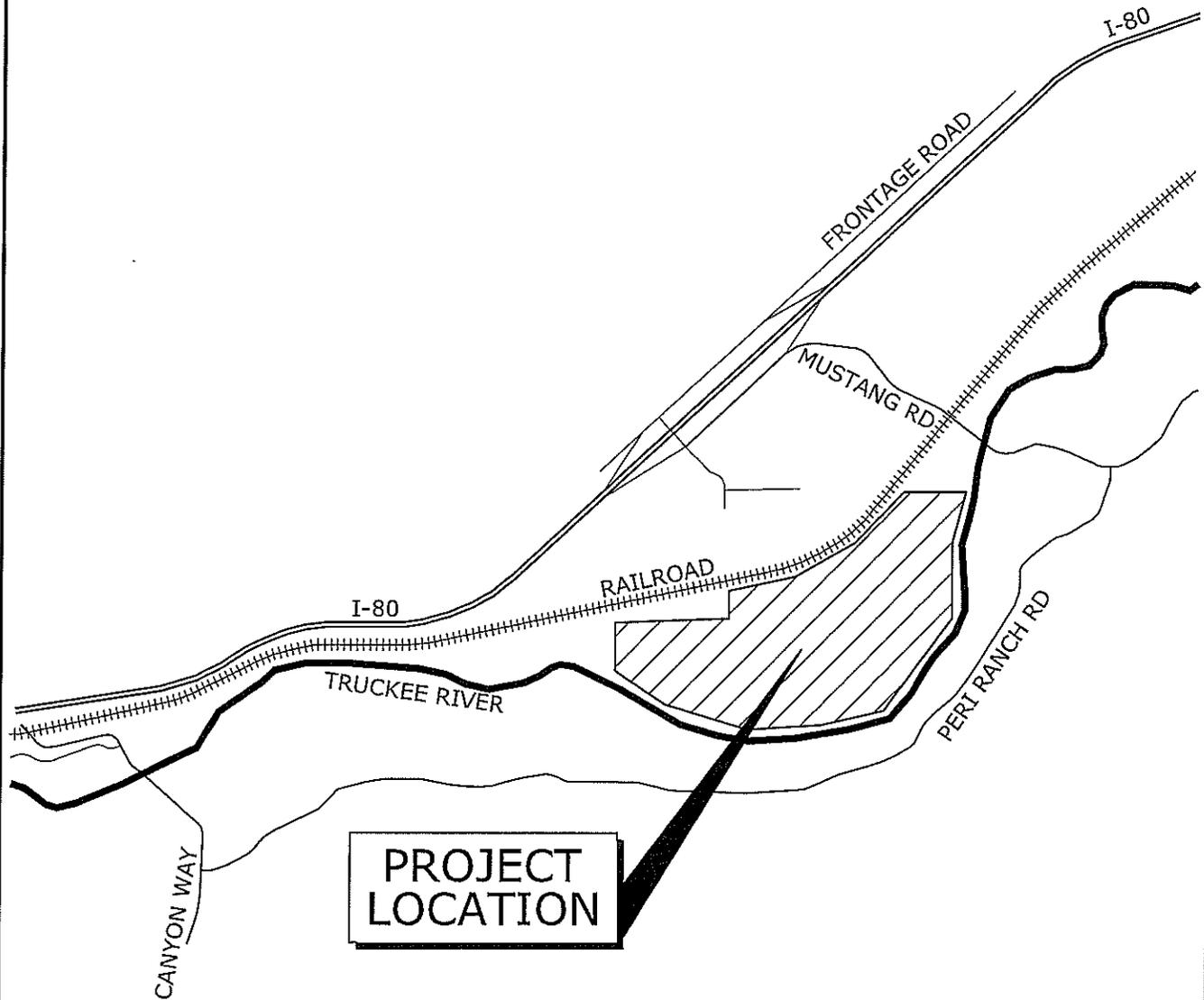
DATE: 2/16/15

DESCRIPTION: VICINITY MAP

APN: 084-370-02

SUBMITTAL:

EX-1



VICINITY MAP

SCALE: N.T.S.



PROJECT/CLIENT:

JOB #: 14217

MUSTANG INDUSTRIAL DEVELOPMENT  
McCarren, NV

**TECTONICS**  
Design Group

SCANNELL PROPERTIES  
821 Meander Court, Suite 200, Medina, Minnesota 55340

6880 South McCarren Blvd, Suite 11  
Reno, NV 89509 www.tdg-inc.net

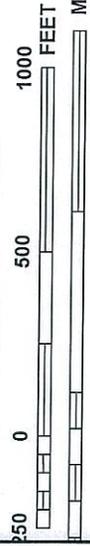
fax 775-824-9986  
tel 775-824-9988



NATIONAL FLOOD INSURANCE PROGRAM AT 1-800-650-0020



MAP SCALE 1" = 500'



NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 3088G

**FIRM**  
FLOOD INSURANCE RATE MAP  
WASHOE COUNTY,  
NEVADA  
AND INCORPORATED AREAS  
PANEL 3088 OF 3475  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:  
COMMUNITY  
WASHOE COUNTY  
NUMBER  
320019  
PANEL  
3088  
SUFFIX  
G

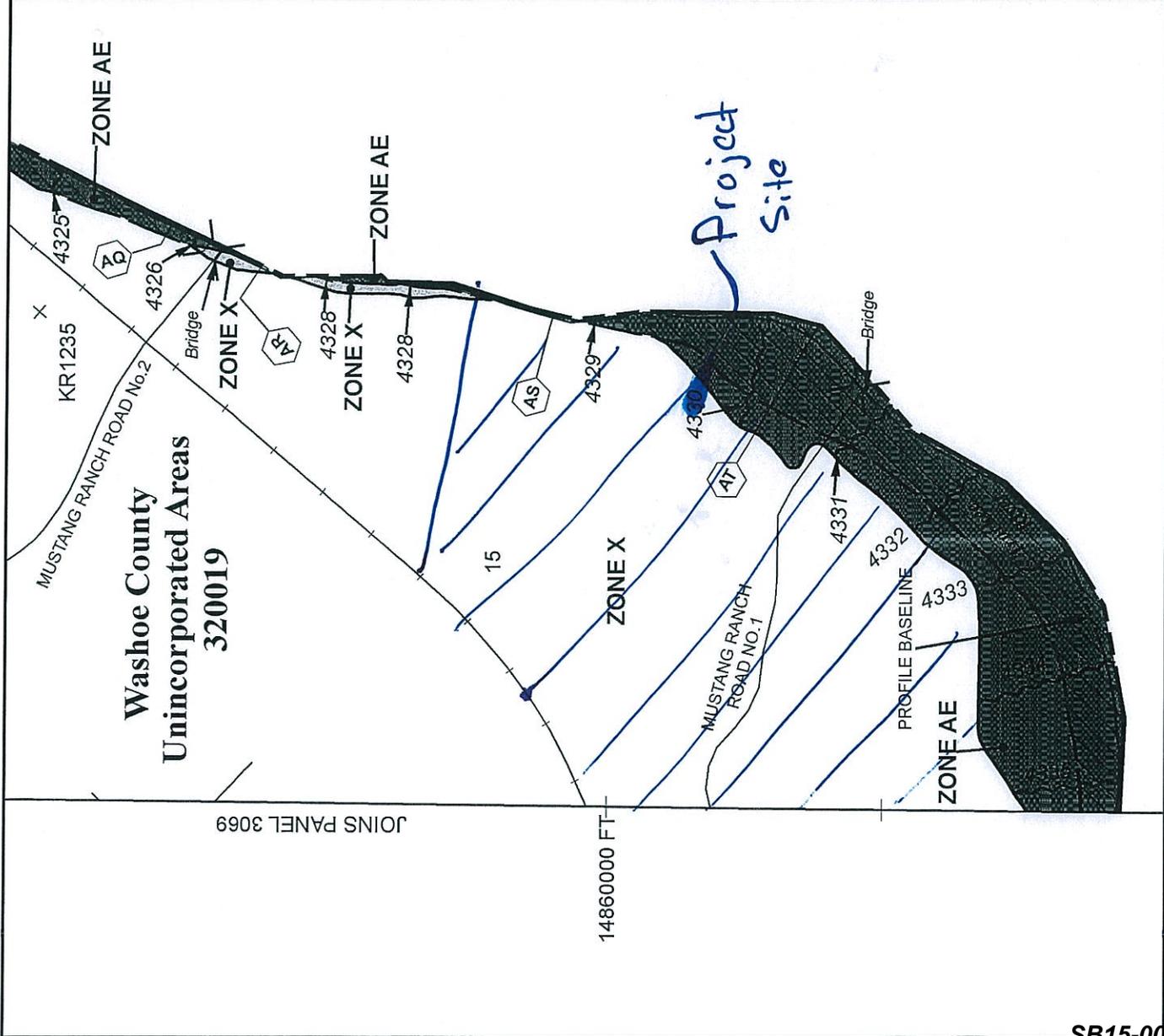
Notice to User: The Map Number shown below should be used, when placing map orders, the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER  
32031C3088G  
MAP REVISED  
MARCH 16, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.nfsc.fema.gov](http://www.nfsc.fema.gov)



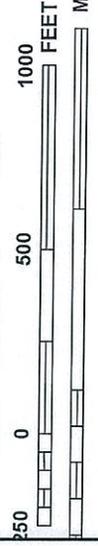
JOINS PANEL 3069

14860000 FT

NATIONAL FLOOD INSURANCE PROGRAM OF 1968 (500-0000)



MAP SCALE 1" = 500'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 3069G

**FIRM**  
FLOOD INSURANCE RATE MAP

WASHOE COUNTY,  
NEVADA  
AND INCORPORATED AREAS

PANEL 3069 OF 3475  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:  
COMMUNITY NUMBER 320019 PANEL 3069 SUFFIX G

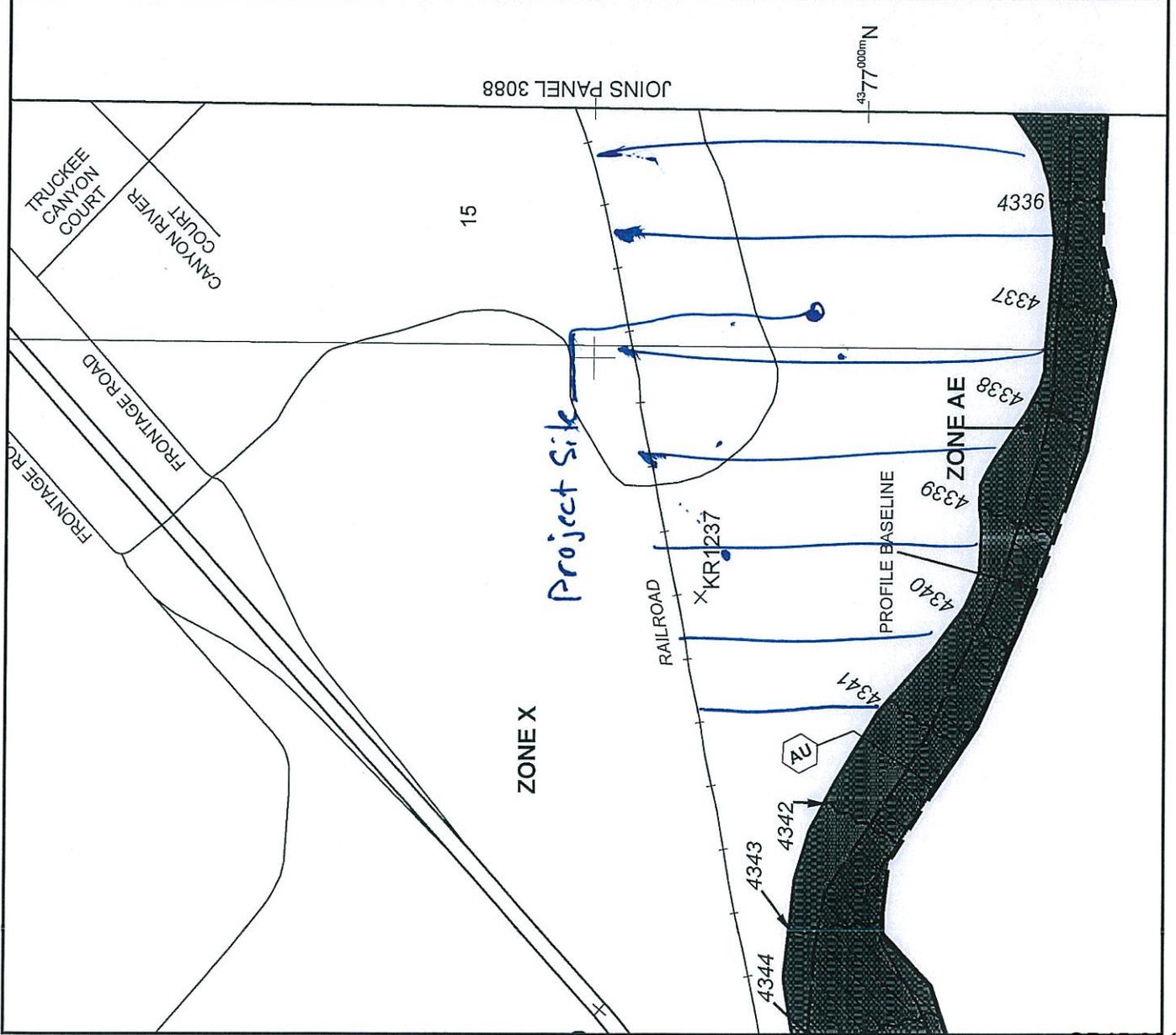
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number should be used on insurance applications for the subject community.



MAP NUMBER 32031C3069G  
MAP REVISED MARCH 16, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov





2 DAYS BEFORE  
TOL FREE 1-800-227-2600

**SLOPE ANALYSIS**

Color	Range	Step	Range	End	Percent	Area
Green	15.00	20.00	20.00	25.00	9.65	494,317 S.F.
Yellow	20.00	25.00	25.00	30.00	6.53	333,183 S.F.



SHEET: EX-5	SHEET TITLE: SLOPE ANALYSIS MAP	SUBMITTAL RECORD: SUBMITTAL	PROJECT/CLIENT: # 14217 Fed Ex Facility Preliminary Design McCarren, NV	DESIGNER: TECTONICS DESIGN GROUP 10415 Double R Boulevard Reno, NV 89521 www.tdg-inc.com tel 775-824-9988 fax 775-824-9986	STAMP: PRELIMINARY DESIGN SB15-001 EXHIBIT D	COPYRIGHT: © Tectonics Design Group, Inc. All rights reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the written permission of Tectonics Design Group, Inc.
			DATE: 02/11/15			

APPENDIX A  
REGIONAL  
DRAINAGE CRITERIA



NOAA Atlas 14, Volume 1, Version 5  
 Location name: Sparks, Nevada, US\*  
 Latitude: 39.5090°, Longitude: -119.6215°  
 Elevation: 4462 ft\*  
 \* source: Google Maps



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aeriels](#)

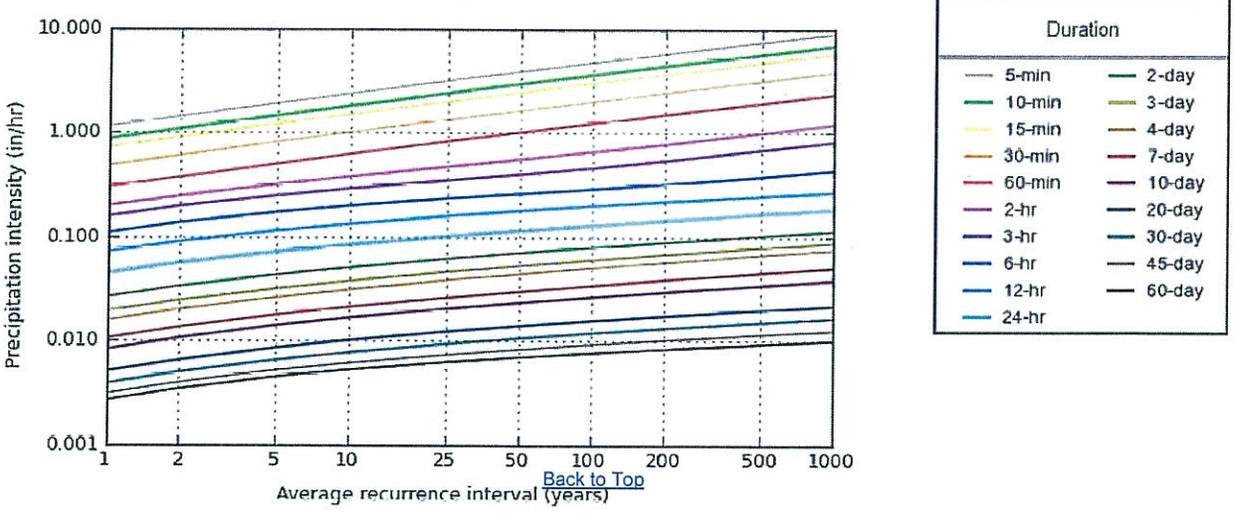
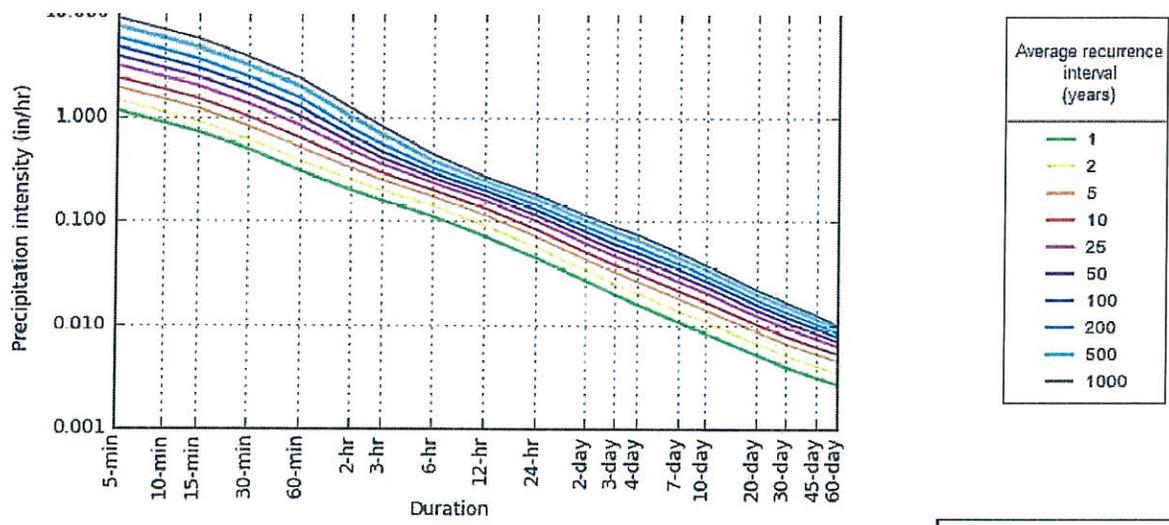
PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.15 (0.960-1.33)	1.43 (1.21-1.69)	1.92 (1.62-2.28)	2.38 (1.99-2.84)	3.14 (2.57-3.79)	3.85 (3.05-4.69)	4.69 (3.60-5.80)	5.71 (4.21-7.19)	7.37 (5.10-9.55)	8.88 (5.87-11.8)
10-min	0.870 (0.732-1.01)	1.09 (0.918-1.28)	1.46 (1.24-1.73)	1.81 (1.52-2.17)	2.39 (1.96-2.89)	2.93 (2.32-3.57)	3.57 (2.74-4.40)	4.35 (3.20-5.47)	5.60 (3.89-7.27)	6.76 (4.46-8.95)
15-min	0.720 (0.604-0.840)	0.900 (0.760-1.06)	1.21 (1.02-1.44)	1.50 (1.26-1.79)	1.98 (1.62-2.38)	2.42 (1.92-2.95)	2.95 (2.26-3.64)	3.59 (2.65-4.52)	4.63 (3.21-6.01)	5.58 (3.69-7.40)
30-min	0.486 (0.408-0.566)	0.604 (0.512-0.714)	0.812 (0.686-0.966)	1.01 (0.846-1.20)	1.33 (1.09-1.60)	1.63 (1.29-1.99)	1.99 (1.52-2.45)	2.42 (1.78-3.04)	3.12 (2.16-4.05)	3.76 (2.48-4.98)
60-min	0.301 (0.252-0.350)	0.374 (0.316-0.442)	0.503 (0.425-0.598)	0.623 (0.523-0.744)	0.824 (0.674-0.993)	1.01 (0.800-1.23)	1.23 (0.944-1.52)	1.50 (1.10-1.88)	1.93 (1.34-2.50)	2.33 (1.54-3.08)
2-hr	0.198 (0.173-0.230)	0.246 (0.216-0.288)	0.318 (0.276-0.372)	0.380 (0.325-0.443)	0.474 (0.394-0.557)	0.558 (0.453-0.664)	0.656 (0.518-0.790)	0.777 (0.595-0.950)	0.993 (0.727-1.26)	1.19 (0.844-1.55)
3-hr	0.157 (0.139-0.180)	0.196 (0.175-0.226)	0.248 (0.218-0.285)	0.289 (0.252-0.333)	0.348 (0.298-0.403)	0.399 (0.336-0.468)	0.461 (0.380-0.546)	0.541 (0.436-0.651)	0.680 (0.532-0.847)	0.809 (0.617-1.04)
6-hr	0.110 (0.097-0.125)	0.138 (0.122-0.157)	0.172 (0.151-0.196)	0.198 (0.174-0.226)	0.233 (0.202-0.268)	0.260 (0.221-0.301)	0.287 (0.241-0.336)	0.321 (0.264-0.380)	0.376 (0.303-0.453)	0.433 (0.348-0.530)
12-hr	0.072 (0.064-0.081)	0.090 (0.080-0.102)	0.115 (0.101-0.130)	0.134 (0.117-0.151)	0.159 (0.137-0.182)	0.178 (0.152-0.205)	0.198 (0.167-0.231)	0.218 (0.180-0.257)	0.244 (0.196-0.294)	0.267 (0.210-0.327)
24-hr	0.045 (0.040-0.050)	0.056 (0.051-0.063)	0.072 (0.065-0.080)	0.084 (0.075-0.094)	0.101 (0.090-0.114)	0.115 (0.102-0.129)	0.130 (0.113-0.146)	0.144 (0.125-0.164)	0.165 (0.141-0.189)	0.182 (0.152-0.210)
2-day	0.027 (0.024-0.030)	0.034 (0.030-0.038)	0.043 (0.038-0.049)	0.051 (0.045-0.057)	0.062 (0.054-0.070)	0.070 (0.061-0.080)	0.079 (0.068-0.091)	0.089 (0.076-0.103)	0.102 (0.085-0.120)	0.113 (0.093-0.134)
3-day	0.019 (0.017-0.022)	0.025 (0.022-0.028)	0.032 (0.028-0.036)	0.038 (0.033-0.043)	0.046 (0.040-0.052)	0.053 (0.046-0.060)	0.060 (0.052-0.069)	0.068 (0.058-0.078)	0.079 (0.065-0.092)	0.087 (0.071-0.103)
4-day	0.016 (0.014-0.018)	0.020 (0.018-0.023)	0.026 (0.023-0.030)	0.031 (0.028-0.035)	0.038 (0.034-0.044)	0.044 (0.038-0.050)	0.051 (0.043-0.058)	0.057 (0.049-0.066)	0.067 (0.055-0.077)	0.074 (0.061-0.087)
7-day	0.011 (0.009-0.012)	0.014 (0.012-0.015)	0.018 (0.016-0.020)	0.021 (0.019-0.024)	0.026 (0.023-0.030)	0.030 (0.026-0.035)	0.034 (0.029-0.040)	0.039 (0.033-0.045)	0.045 (0.037-0.053)	0.050 (0.041-0.059)
10-day	0.008 (0.007-0.010)	0.011 (0.009-0.012)	0.014 (0.012-0.016)	0.017 (0.015-0.019)	0.020 (0.018-0.023)	0.023 (0.020-0.027)	0.027 (0.023-0.031)	0.030 (0.025-0.035)	0.034 (0.029-0.040)	0.038 (0.031-0.045)
20-day	0.005 (0.005-0.006)	0.007 (0.006-0.007)	0.009 (0.008-0.010)	0.010 (0.009-0.012)	0.012 (0.011-0.014)	0.014 (0.012-0.016)	0.016 (0.013-0.018)	0.017 (0.015-0.020)	0.020 (0.017-0.023)	0.022 (0.018-0.025)
30-day	0.004 (0.003-0.004)	0.005 (0.004-0.006)	0.007 (0.006-0.008)	0.008 (0.007-0.009)	0.009 (0.008-0.011)	0.011 (0.009-0.012)	0.012 (0.010-0.014)	0.013 (0.011-0.015)	0.015 (0.013-0.017)	0.016 (0.014-0.019)
45-day	0.003 (0.003-0.004)	0.004 (0.004-0.005)	0.005 (0.005-0.006)	0.006 (0.005-0.007)	0.007 (0.006-0.008)	0.008 (0.007-0.009)	0.009 (0.008-0.011)	0.010 (0.009-0.012)	0.011 (0.010-0.013)	0.012 (0.010-0.014)
60-day	0.003 (0.002-0.003)	0.003 (0.003-0.004)	0.005 (0.004-0.005)	0.005 (0.005-0.006)	0.006 (0.005-0.007)	0.007 (0.006-0.008)	0.008 (0.007-0.009)	0.008 (0.007-0.010)	0.009 (0.008-0.011)	0.010 (0.008-0.011)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

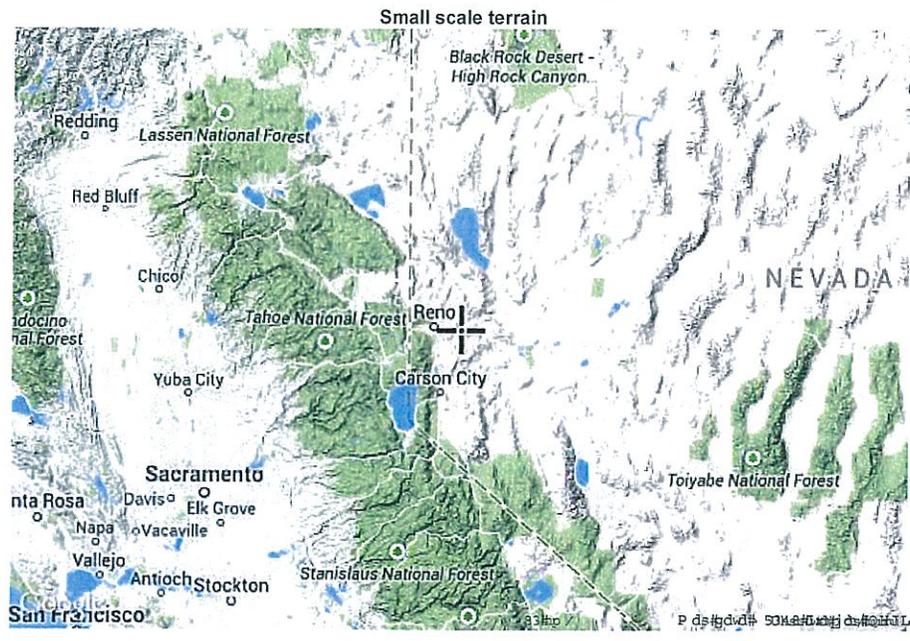
[Back to Top](#)

PF graphical



NOAA Atlas 14, Volume 1, Version 5

**Maps & aeriels**  
Created (GMT): Fri Jan 9 16:59:53 2015



**APPENDIX B**  
**EXISTING BASIN  
CALCULATIONS**

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:14:24 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 1

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 10 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	11.27						
			15.00	0.450	0.450	1.500	11.27	7.61

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:14:24 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 1

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 25 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	11.27	15.00	0.450	0.450	1.980	11.27	10.04

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:14:24 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 1

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	11.27	15.00	0.450	0.450	2.950	11.27	14.96

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:14:55 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 2

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 10 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	8.76						
			15.00	0.450	0.450	1.500	8.76	5.91

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:14:55 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 2

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 25 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	8.76	15.00	0.450	0.450	1.980	8.76	7.81

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:14:55 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 2

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	8.76	15.00	0.450	0.450	2.950	8.76	11.63

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:15:31 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 3

\*\*\*\*\* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \*\*\*\*\*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 10 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	51.81	15.00	0.450	0.450	1.500	51.81	34.97

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:15:31 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 3

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 25 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	51.81	15.00	0.450	0.450	1.980	51.81	46.16

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:15:31 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 3

\*\*\*\*\* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \*\*\*\*\*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	51.81	15.00	0.450	0.450	2.950	51.81	68.78

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:15:56 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 4

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$Q = \text{adj} * C * I * A$   
 Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 10 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	15.82	15.00	0.450	0.450	1.500	15.82	10.68

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:15:56 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 4

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 25 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	15.82						
			15.00	0.450	0.450	1.980	15.82	14.10

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:15:56 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 4

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	15.82						
			15.00	0.450	0.450	2.950	15.82	21.00

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:16:25 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 5

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 10 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	30.08						
			15.00	0.450	0.450	1.500	30.08	20.30

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:16:25 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 5

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 25 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	30.08						
			15.00	0.450	0.450	1.980	30.08	26.80

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:16:25 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 EXISTING SITE  
 OVERALL SUB BASIN 5

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
EXISTING	0.450	30.08						
			15.00	0.450	0.450	2.950	30.08	39.93

APPENDIX C

DEVELOPED BASIN  
CALCULATIONS

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:17:50 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 1

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 10 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELPED	0.750	11.27						
			10.00	0.750	0.750	1.810	11.27	15.30

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:17:50 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 1

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 25 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELPED	0.750	11.27						
			10.00	0.750	0.750	2.390	11.27	20.20

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:17:50 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 1

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELPED	0.750	11.27						
			10.00	0.750	0.750	3.570	11.27	30.18

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:20:17 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 2

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

Q = adj \* C \* I \* A  
 Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 10 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELPED	0.860	8.76						
			10.00	0.860	0.860	1.810	8.76	13.64

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:20:17 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 2

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 25 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELPED	0.860	8.76						
			10.00	0.860	0.860	2.390	8.76	18.01

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:20:17 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 2

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELOPED	0.860	8.76	10.00	0.860	0.860	3.570	8.76	26.89

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:22:27 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 3

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 10 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELPED	0.770	51.81						
			10.00	0.770	0.770	1.810	51.81	72.21

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:22:27 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 3

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 25 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELOPED	0.770	51.81						
			10.00	0.770	0.770	2.390	51.81	95.35

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:22:27 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 3

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELPED	0.770	51.81						
			10.00	0.770	0.770	3.570	51.81	142.42

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:23:41 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 4

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 10 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELOPED	0.700	15.82						
			10.00	0.700	0.700	1.810	15.82	20.04

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:23:41 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 4

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 25 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELOPED	0.700	15.82	10.00	0.700	0.700	2.390	15.82	26.47

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:23:41 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 4

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELOPED	0.700	15.82						
			10.00	0.700	0.700	3.570	15.82	39.53

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:24:46 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 5

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 10 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELPED	0.450	30.08						
			15.00	0.450	0.450	1.500	30.08	20.30

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:24:46 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 5

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 25 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELPED	0.450	30.08						
			15.00	0.450	0.450	1.980	30.08	26.80

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:24:46 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 5

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELOPED	0.450	30.08						
			15.00	0.450	0.450	2.950	30.08	39.93

APPENDIX D  
DETENTION BASIN  
CALCULATIONS

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:19:23 02-16-2015

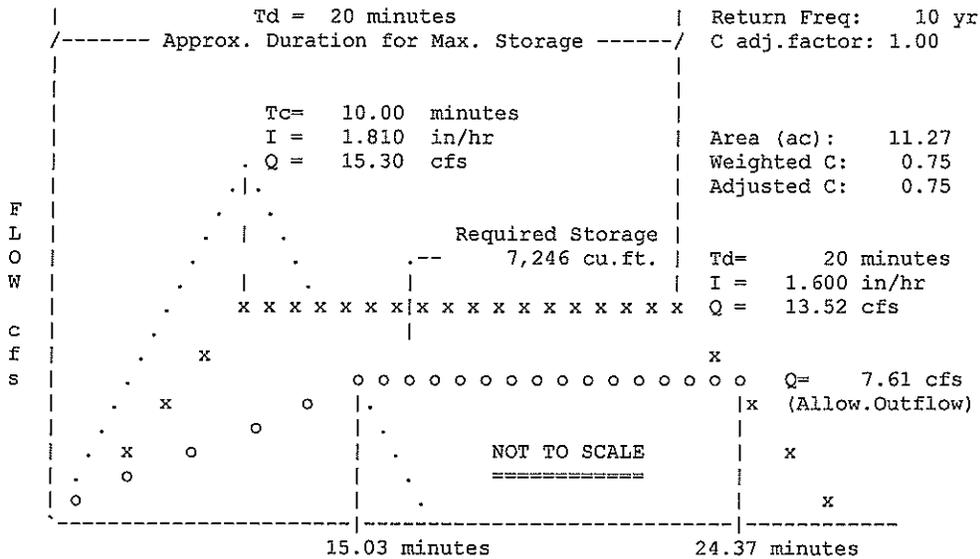
MODIFIED RATIONAL METHOD  
 ---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 1

```

*****
* RETURN FREQUENCY: 10 yr | Allowable Outflow: 7.61 cfs *
* 'C' Adjustment: 1.000 | Required Storage: 7,246 cu.ft. *
*-----*
* Peak Inflow: 13.52 cfs | Inflow .HYD stored: NONE STORED *
*****
  
```



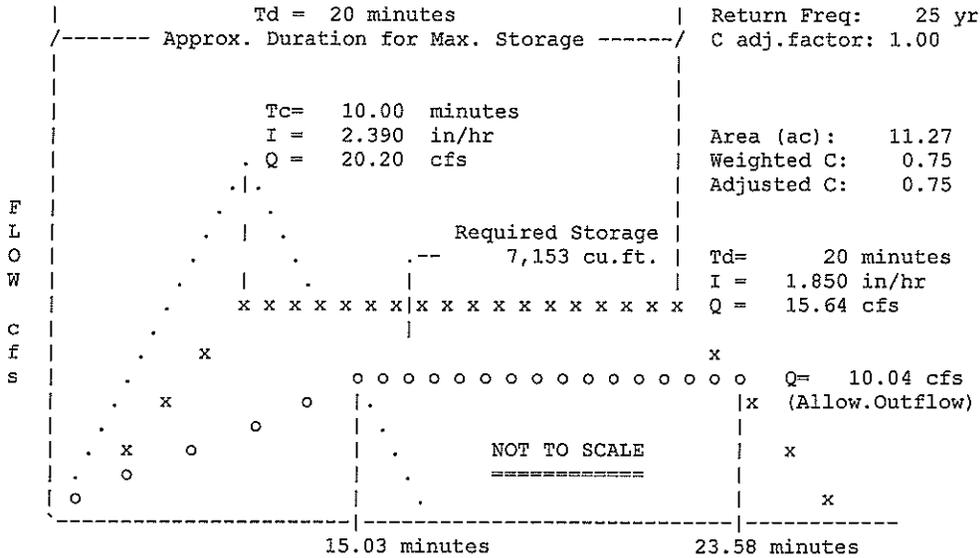
Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:19:23 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 1

```
*****
* RETURN FREQUENCY: 25 yr | Allowable Outflow: 10.04 cfs *
* 'C' Adjustment: 1.000 | Required Storage: 7,153 cu.ft. *
*-----*
* Peak Inflow: 15.64 cfs | Inflow .HYD stored: NONE STORED *
*****
```



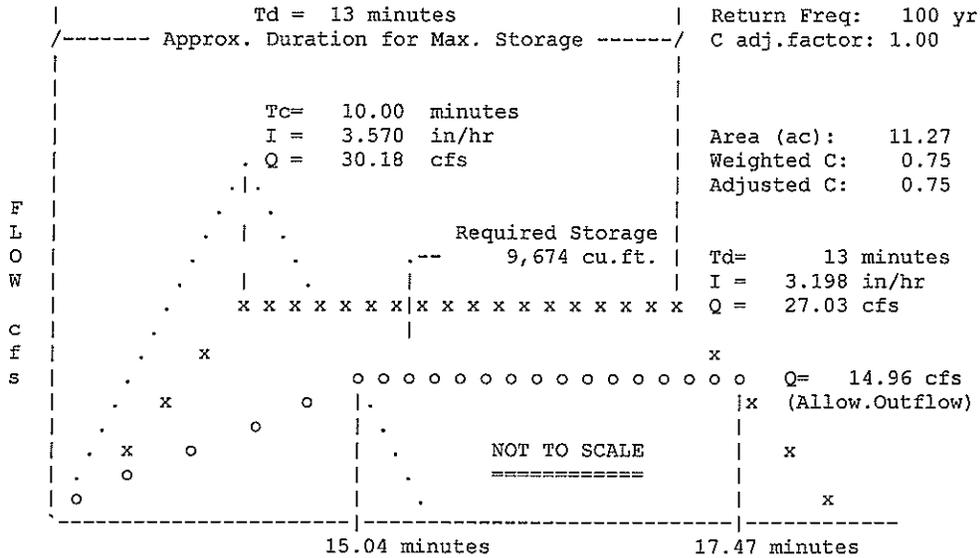
Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:19:23 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 1

\*\*\*\*\*  
 \* RETURN FREQUENCY: 100 yr | Allowable Outflow: 14.96 cfs \*  
 \* 'C' Adjustment: 1.000 | Required Storage: 9,674 cu.ft. \*  
 \*-----\*  
 \* Peak Inflow: 27.03 cfs | Inflow .HYD stored: NONE STORED \*  
 \*\*\*\*\*



Quick TR-55 Ver.5.46 S/N:  
Executed: 13:19:23 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
DEVELOPED SITE  
OVERALL SUB BASIN 1

\*\*\*\* Modified Rational Hydrograph \*\*\*\*  
Weighted C = 0.750 Area= 11.270 acres Tc = 10.00 minutes  
Adjusted C = 0.750 Td= 20.00 min. I= 1.60 in/hr Qp= 13.52 cfs  
RETURN FREQUENCY: 10 year storm Adj.factor = 1.00  
Output file: NONE STORED

HYDROGRAPH FOR MAXIMUM STORAGE  
For the 10 Year Storm

Time increment = 1.00 Minutes  
Time on left represents time for first Q in each row.

Time Minutes	0.00	1.35	2.70	4.06	5.41	6.76	8.11
0.00	0.00	1.35	2.70	4.06	5.41	6.76	8.11
7.00	9.47	10.82	12.17	13.52	13.52	13.52	13.52
14.00	13.52	13.52	13.52	13.52	13.52	13.52	13.52
21.00	12.17	10.82	9.47	8.11	6.76	5.41	4.06
28.00	2.70	1.35	0.00				

Quick TR-55 Ver.5.46 S/N:  
Executed: 13:19:23 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
DEVELOPED SITE  
OVERALL SUB BASIN 1

\*\*\*\* Modified Rational Hydrograph \*\*\*\*  
Weighted C = 0.750 Area= 11.270 acres Tc = 10.00 minutes  
Adjusted C = 0.750 Td= 20.00 min. I= 1.85 in/hr Qp= 15.64 cfs  
RETURN FREQUENCY: 25 year storm Adj.factor = 1.00  
Output file: NONE STORED

HYDROGRAPH FOR MAXIMUM STORAGE  
For the 25 Year Storm

Time increment = 1.00 Minutes  
Time on left represents time for first Q in each row.

Time Minutes	0.00	1.56	3.13	4.69	6.25	7.82	9.38
0.00	0.00	1.56	3.13	4.69	6.25	7.82	9.38
7.00	10.95	12.51	14.07	15.64	15.64	15.64	15.64
14.00	15.64	15.64	15.64	15.64	15.64	15.64	15.64
21.00	14.07	12.51	10.95	9.38	7.82	6.25	4.69
28.00	3.13	1.56	0.00				

Quick TR-55 Ver.5.46 S/N:  
Executed: 13:19:23 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
DEVELOPED SITE  
OVERALL SUB BASIN 1

\*\*\*\* Modified Rational Hydrograph \*\*\*\*  
Weighted C = 0.750 Area= 11.270 acres Tc = 10.00 minutes  
Adjusted C = 0.750 Td= 13.00 min. I= 3.20 in/hr Qp= 27.03 cfs  
RETURN FREQUENCY: 100 year storm Adj.factor = 1.00  
Output file: NONE STORED

HYDROGRAPH FOR MAXIMUM STORAGE  
For the 100 Year Storm

Time increment = 1.00 Minutes  
Time on left represents time for first Q in each row.

Time Minutes	0.00	2.70	5.41	8.11	10.81	13.52	16.22
0.00	0.00	2.70	5.41	8.11	10.81	13.52	16.22
7.00	18.92	21.62	24.33	27.03	27.03	27.03	27.03
14.00	24.33	21.62	18.92	16.22	13.52	10.81	8.11
21.00	5.41	2.70	0.00				

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:19:23 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 1

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 10 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELOPED	0.750	11.27						
			10.00	0.750	0.750	1.810	11.27	15.30

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 Executed: 13:19:23 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 1

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

Q = adj \* C \* I \* A  
 Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 25 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELPED	0.750	11.27	10.00	0.750	0.750	2.390	11.27	20.20

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MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 1

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELOPED	0.750	11.27						
			10.00	0.750	0.750	3.570	11.27	30.18



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 Executed: 13:19:23 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Summary for Single Storm Frequency ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 1

RETURN FREQUENCY: 10 yr 'C' Adjustment = 1.000 Allowable Q = 7.61 cfs

Hydrograph file: NONE STORED Tc = 10.00 minutes  
 ::

VOLUMES							
Weighted 'C'	Adjusted 'C'	Duration minutes	Intens. in/hr	Areas acres	Qpeak cfs	Inflow (cu.ft.)	Storage (cu.ft.)
0.750	0.750	10	1.810	11.27	15.30	9,179	4,613
0.750	0.750	15	1.500	11.27	12.68	11,411	4,797
***** Storage Maximum							
0.750	0.750	20	1.600	11.27	13.52	16,229	7,246
*****							
0.750	0.750	30	1.139	11.27	9.63	17,328	4,299
0.750	0.750	40	0.859	11.27	7.26	Qpeak < Qallow	

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 Executed: 13:19:23 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Summary for Single Storm Frequency ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 1

RETURN FREQUENCY: 25 yr 'C' Adjustment = 1.000 Allowable Q = 10.04 cfs

Hydrograph file: NONE STORED Tc = 10.00 minutes  
 ::

VOLUMES							
Weighted 'C'	Adjusted 'C'	Duration minutes	Intens. in/hr	Areas acres	Qpeak cfs	Inflow (cu.ft.)	Storage (cu.ft.)
0.750	0.750	10	2.390	11.27	20.20	12,121	6,097
0.750	0.750	15	1.980	11.27	16.74	15,062	6,336
***** Storage Maximum							
0.750	0.750	20	1.850	11.27	15.64	18,765	7,153
*****							
0.750	0.750	30	1.450	11.27	12.26	22,061	4,959
0.750	0.750	40	1.200	11.27	10.14	24,343	1,732
0.750	0.750	50	1.100	11.27	9.30	Qpeak < Qallow	

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MODIFIED RATIONAL METHOD  
 ---- Summary for Single Storm Frequency ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 1

RETURN FREQUENCY: 100 yr 'C' Adjustment = 1.000 Allowable Q = 14.96 cfs

Hydrograph file: NONE STORED Tc = 10.00 minutes  
 ::

VOLUMES							
Weighted 'C'	Adjusted 'C'	Duration minutes	Intens. in/hr	Areas acres	Qpeak cfs	Inflow (cu.ft.)	Storage (cu.ft.)
0.750	0.750	10	3.570	11.27	30.18	18,105	9,129
***** Storage Maximum							
0.750	0.750	13	3.198	11.27	27.03	21,084	9,674
*****							
0.750	0.750	15	2.950	11.27	24.93	22,441	9,445
0.750	0.750	20	2.500	11.27	21.13	25,358	8,358
0.750	0.750	30	1.733	11.27	14.65	Qpeak < Qallow	

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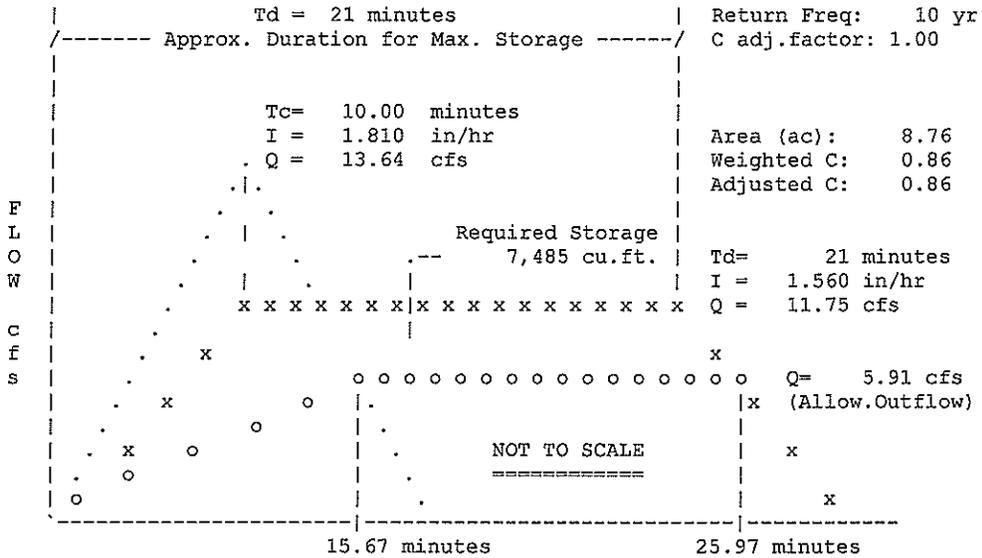
MODIFIED RATIONAL METHOD  
 ---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 2

```

*****
* RETURN FREQUENCY: 10 yr | Allowable Outflow: 5.91 cfs *
* 'C' Adjustment: 1.000 | Required Storage: 7,485 cu.ft. *
*-----*
* Peak Inflow: 11.75 cfs | Inflow .HYD stored: NONE STORED *
*****
  
```



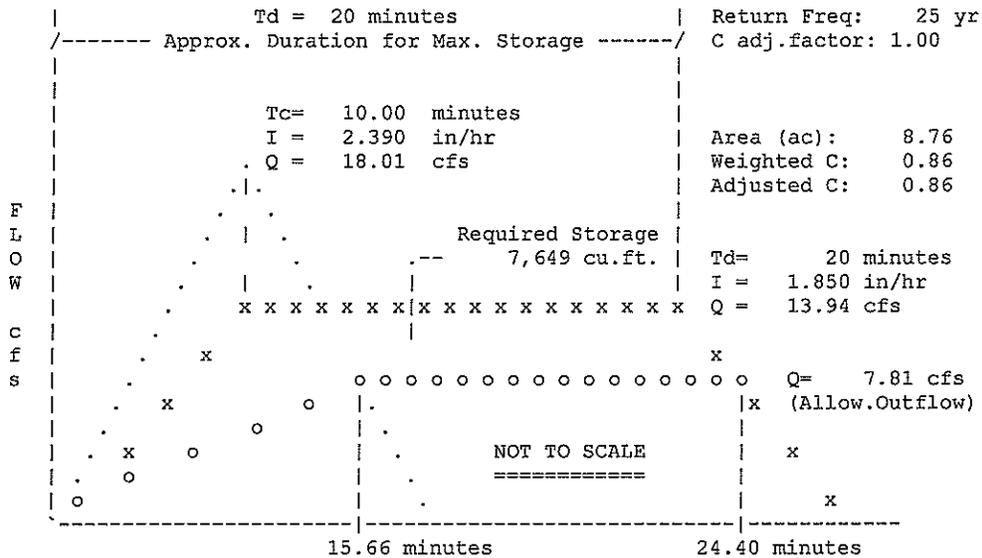
Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:20:49 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 2

```
*****
* RETURN FREQUENCY: 25 yr | Allowable Outflow: 7.81 cfs *
* 'C' Adjustment: 1.000 | Required Storage: 7,649 cu.ft. *
*-----*
* Peak Inflow: 13.94 cfs | Inflow .HYD stored: NONE STORED *
*****
```





Quick TR-55 Ver.5.46 S/N:  
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MUSTANG INDUSTRIAL DEVELOPMENT  
DEVELOPED SITE  
OVERALL SUB BASIN 2

\*\*\*\* Modified Rational Hydrograph \*\*\*\*  
Weighted C = 0.860 Area= 8.760 acres Tc = 10.00 minutes  
Adjusted C = 0.860 Td= 21.00 min. I= 1.56 in/hr Qp= 11.75 cfs  
RETURN FREQUENCY: 10 year storm Adj.factor = 1.00  
Output file: NONE STORED

HYDROGRAPH FOR MAXIMUM STORAGE  
For the 10 Year Storm

Time increment = 1.00 Minutes  
Time on left represents time for first Q in each row.

Time Minutes	0.00	1.18	2.35	3.53	4.70	5.88	7.05
0.00	0.00	1.18	2.35	3.53	4.70	5.88	7.05
7.00	8.23	9.40	10.58	11.75	11.75	11.75	11.75
14.00	11.75	11.75	11.75	11.75	11.75	11.75	11.75
21.00	11.75	10.58	9.40	8.23	7.05	5.88	4.70
28.00	3.53	2.35	1.18	0.00			

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 Executed: 13:20:49 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 2

\*\*\*\* Modified Rational Hydrograph \*\*\*\*  
 Weighted C = 0.860 Area= 8.760 acres Tc = 10.00 minutes  
 Adjusted C = 0.860 Td= 20.00 min. I= 1.85 in/hr Qp= 13.94 cfs  
 RETURN FREQUENCY: 25 year storm Adj.factor = 1.00  
 Output file: NONE STORED

HYDROGRAPH FOR MAXIMUM STORAGE  
 For the 25 Year Storm

Time increment = 1.00 Minutes  
 Time on left represents time for first Q in each row.

Time Minutes	0.00	1.39	2.79	4.18	5.57	6.97	8.36
0.00	0.00	1.39	2.79	4.18	5.57	6.97	8.36
7.00	9.76	11.15	12.54	13.94	13.94	13.94	13.94
14.00	13.94	13.94	13.94	13.94	13.94	13.94	13.94
21.00	12.54	11.15	9.76	8.36	6.97	5.57	4.18
28.00	2.79	1.39	0.00				

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MUSTANG INDUSTRIAL DEVELOPMENT  
DEVELOPED SITE  
OVERALL SUB BASIN 2

\*\*\*\* Modified Rational Hydrograph \*\*\*\*  
Weighted C = 0.860 Area= 8.760 acres Tc = 10.00 minutes  
Adjusted C = 0.860 Td= 14.00 min. I= 3.07 in/hr Qp= 23.16 cfs  
RETURN FREQUENCY: 100 year storm Adj.factor = 1.00  
Output file: NONE STORED

HYDROGRAPH FOR MAXIMUM STORAGE  
For the 100 Year Storm

Time increment = 1.00 Minutes  
Time on left represents time for first Q in each row.

Time Minutes	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00
0.00	0.00	2.32	4.63	6.95	9.26	11.58	13.89	
7.00	16.21	18.53	20.84	23.16	23.16	23.16	23.16	
14.00	23.16	20.84	18.53	16.21	13.89	11.58	9.26	
21.00	6.95	4.63	2.32	0.00				

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MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 2

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 10 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELOPED	0.860	8.76						
			10.00	0.860	0.860	1.810	8.76	13.64

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MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 2

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

Q = adj \* C \* I \* A  
 Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 25 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELOPED	0.860	8.76						
			10.00	0.860	0.860	2.390	8.76	18.01

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MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 2

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELPED	0.860	8.76						
			10.00	0.860	0.860	3.570	8.76	26.89



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MODIFIED RATIONAL METHOD  
 ---- Summary for Single Storm Frequency ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 2

RETURN FREQUENCY: 10 yr 'C' Adjustment = 1.000 Allowable Q = 5.91 cfs

Hydrograph file: NONE STORED Tc = 10.00 minutes  
 ::

VOLUMES							
Weighted 'C'	Adjusted 'C'	Duration minutes	Intens. in/hr	Areas acres	Qpeak cfs	Inflow (cu.ft.)	Storage (cu.ft.)
0.860	0.860	10	1.810	8.76	13.64	8,181	4,635
0.860	0.860	15	1.500	8.76	11.30	10,170	5,010
0.860	0.860	20	1.600	8.76	12.05	14,465	7,473
***** Storage Maximum							
0.860	0.860	21	1.560	8.76	11.75	14,808	7,485
*****							
0.860	0.860	30	1.139	8.76	8.58	15,444	5,259
0.860	0.860	40	0.859	8.76	6.47	15,533	2,199
0.860	0.860	50	0.900	8.76	6.78	20,341	3,388
0.860	0.860	60	0.800	8.76	6.03	21,697	1,391
0.860	0.860	120	0.520	8.76	3.92	Qpeak < Qallow	

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MODIFIED RATIONAL METHOD  
 ---- Summary for Single Storm Frequency ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 2

RETURN FREQUENCY: 25 yr 'C' Adjustment = 1.000 Allowable Q = 7.81 cfs

Hydrograph file: NONE STORED Tc = 10.00 minutes

VOLUMES							
Weighted 'C'	Adjusted 'C'	Duration minutes	Intens. in/hr	Areas acres	Qpeak cfs	Inflow (cu.ft.)	Storage (cu.ft.)
0.860	0.860	10	2.390	8.76	18.01	10,803	6,117
0.860	0.860	15	1.980	8.76	14.92	13,425	6,606
***** Storage Maximum							
0.860	0.860	20	1.850	8.76	13.94	16,725	7,649
*****							
0.860	0.860	30	1.450	8.76	10.92	19,663	6,264
0.860	0.860	40	1.200	8.76	9.04	21,697	3,961
0.860	0.860	50	1.100	8.76	8.29	24,861	2,623
0.860	0.860	60	0.930	8.76	7.01	Qpeak < Qallow	

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MODIFIED RATIONAL METHOD  
 ----- Summary for Single Storm Frequency -----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 2

RETURN FREQUENCY: 100 yr 'C' Adjustment = 1.000 Allowable Q = 11.63 cfs

Hydrograph file: NONE STORED Tc = 10.00 minutes  
 ::

VOLUMES							
Weighted 'C'	Adjusted 'C'	Duration minutes	Intens. in/hr	Areas acres	Qpeak cfs	Inflow (cu.ft.)	Storage (cu.ft.)
0.860	0.860	10	3.570	8.76	26.89	16,137	9,159
***** Storage Maximum							
0.860	0.860	14	3.074	8.76	23.16	19,453	9,927
*****							
0.860	0.860	15	2.950	8.76	22.22	20,002	9,852
0.860	0.860	20	2.500	8.76	18.83	22,601	9,291
0.860	0.860	30	1.733	8.76	13.06	23,505	4,169
0.860	0.860	40	1.262	8.76	9.51	Qpeak < Qallow	

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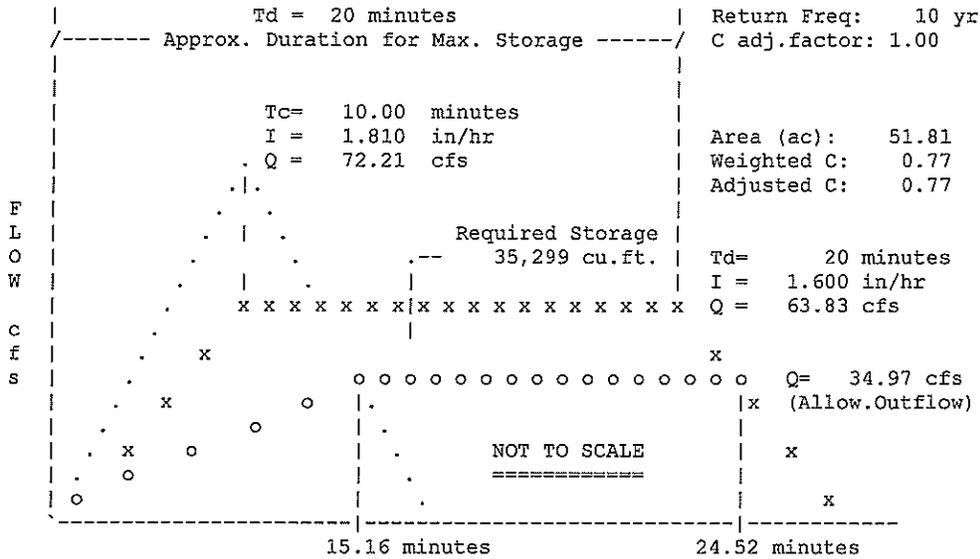
MODIFIED RATIONAL METHOD  
 ---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 3

```

*****
* RETURN FREQUENCY: 10 yr | Allowable Outflow: 34.97 cfs *
* 'C' Adjustment: 1.000 | Required Storage: 35,299 cu.ft. *
*-----*
* Peak Inflow: 63.83 cfs | Inflow .HYD stored: NONE STORED *
*****
  
```



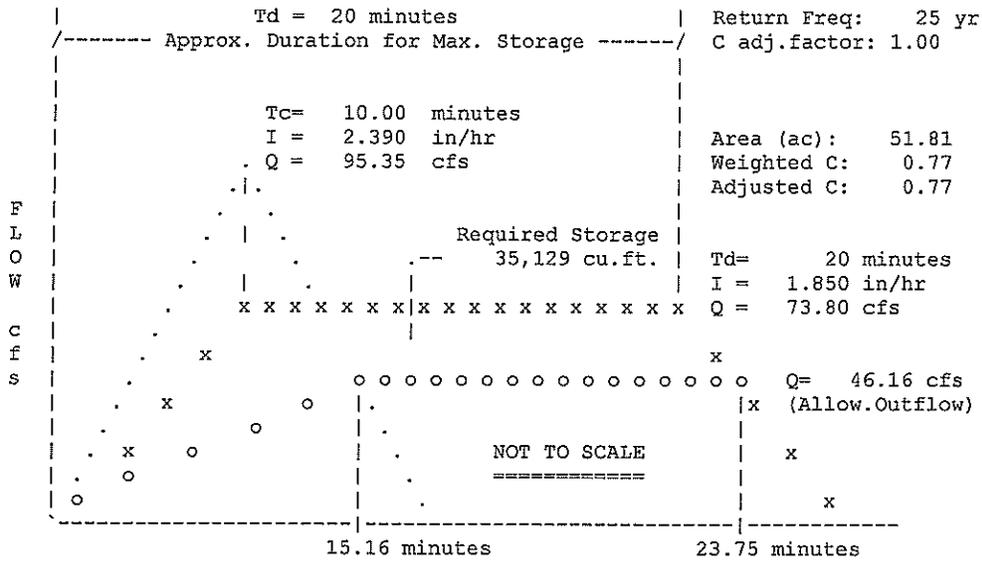
Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:22:49 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 3

\*\*\*\*\*  
 \* RETURN FREQUENCY: 25 yr | Allowable Outflow: 46.16 cfs \*  
 \* 'C' Adjustment: 1.000 | Required Storage: 35,129 cu.ft. \*  
 \*-----\*  
 \* Peak Inflow: 73.80 cfs Inflow .HYD stored: NONE STORED \*  
 \*\*\*\*\*



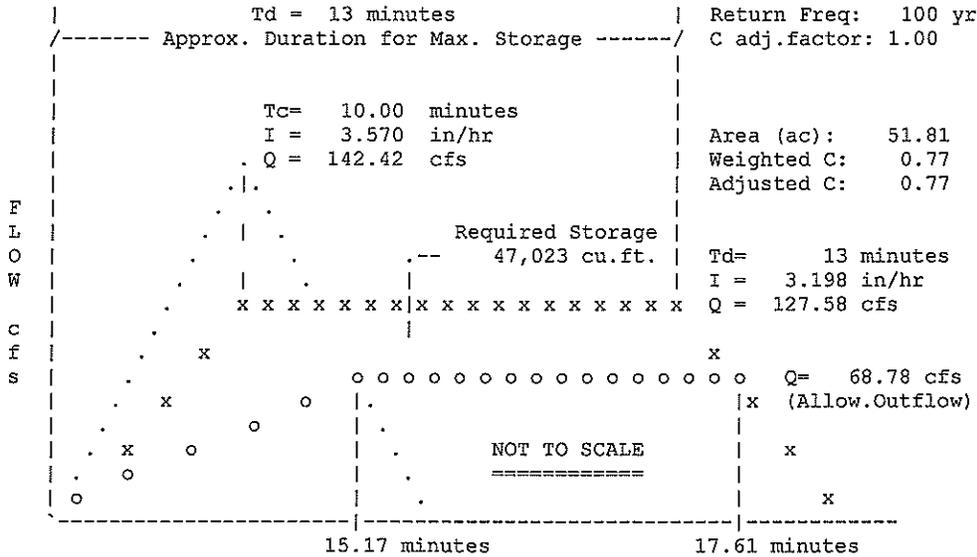
Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:22:49 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 3

\*\*\*\*\*  
 \* RETURN FREQUENCY: 100 yr | Allowable Outflow: 68.78 cfs \*  
 \* 'C' Adjustment: 1.000 | Required Storage: 47,023 cu.ft. \*  
 \*-----\*  
 \* Peak Inflow: 127.58 cfs | Inflow .HYD stored: NONE STORED \*  
 \*\*\*\*\*



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Executed: 13:22:49 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
DEVELOPED SITE  
OVERALL SUB BASIN 3

\*\*\*\* Modified Rational Hydrograph \*\*\*\*  
Weighted C = 0.770 Area= 51.810 acres Tc = 10.00 minutes  
Adjusted C = 0.770 Td= 20.00 min. I= 1.60 in/hr Qp= 63.83 cfs  
RETURN FREQUENCY: 10 year storm Adj.factor = 1.00  
Output file: NONE STORED

HYDROGRAPH FOR MAXIMUM STORAGE  
For the 10 Year Storm

Time increment = 1.00 Minutes  
Time on left represents time for first Q in each row.

Time Minutes	0.00	6.38	12.77	19.15	25.53	31.91	38.30
0.00	0.00	6.38	12.77	19.15	25.53	31.91	38.30
7.00	44.68	51.06	57.45	63.83	63.83	63.83	63.83
14.00	63.83	63.83	63.83	63.83	63.83	63.83	63.83
21.00	57.45	51.06	44.68	38.30	31.91	25.53	19.15
28.00	12.77	6.38	0.00				

Quick TR-55 Ver.5.46 S/N:  
Executed: 13:22:49 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
DEVELOPED SITE  
OVERALL SUB BASIN 3

\*\*\*\* Modified Rational Hydrograph \*\*\*\*  
Weighted C = 0.770 Area= 51.810 acres Tc = 10.00 minutes  
Adjusted C = 0.770 Td= 20.00 min. I= 1.85 in/hr Qp= 73.80 cfs  
RETURN FREQUENCY: 25 year storm Adj.factor = 1.00  
Output file: NONE STORED

HYDROGRAPH FOR MAXIMUM STORAGE  
For the 25 Year Storm

Time increment = 1.00 Minutes  
Time on left represents time for first Q in each row.

Time Minutes	0.00	7.00	14.00	21.00	28.00	35.00	42.00
0.00	0.00	7.38	14.76	22.14	29.52	36.90	44.28
7.00	51.66	59.04	66.42	73.80	73.80	73.80	73.80
14.00	73.80	73.80	73.80	73.80	73.80	73.80	73.80
21.00	66.42	59.04	51.66	44.28	36.90	29.52	22.14
28.00	14.76	7.38	0.00				

Quick TR-55 Ver.5.46 S/N:  
Executed: 13:22:49 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
DEVELOPED SITE  
OVERALL SUB BASIN 3

\*\*\*\* Modified Rational Hydrograph \*\*\*\*  
Weighted C = 0.770 Area= 51.810 acres Tc = 10.00 minutes  
Adjusted C = 0.770 Td= 13.00 min. I= 3.20 in/hr Qp= 127.58 cfs  
RETURN FREQUENCY: 100 year storm Adj.factor = 1.00  
Output file: NONE STORED

HYDROGRAPH FOR MAXIMUM STORAGE  
For the 100 Year Storm

Time increment = 1.00 Minutes  
Time on left represents time for first Q in each row.

Time Minutes	0.00	12.76	25.52	38.27	51.03	63.79	76.55
0.00	0.00	12.76	25.52	38.27	51.03	63.79	76.55
7.00	89.31	102.06	114.82	127.58	127.58	127.58	127.58
14.00	114.82	102.06	89.31	76.55	63.79	51.03	38.27
21.00	25.52	12.76	0.00				

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:22:49 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 3

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 25 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELPED	0.770	51.81						
			10.00	0.770	0.770	2.390	51.81	95.35

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:22:49 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 3

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELOPED	0.770	51.81						
			10.00	0.770	0.770	3.570	51.81	142.42



Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:22:49 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Summary for Single Storm Frequency ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 3

RETURN FREQUENCY: 10 yr 'C' Adjustment = 1.000 Allowable Q = 34.97 cfs

Hydrograph file: NONE STORED Tc = 10.00 minutes  
 :::

VOLUMES							
Weighted 'C'	Adjusted 'C'	Duration minutes	Intens. in/hr	Areas acres	Qpeak cfs	Inflow (cu.ft.)	Storage (cu.ft.)
0.770	0.770	10	1.810	51.81	72.21	43,325	22,343
0.770	0.770	15	1.500	51.81	59.84	53,856	23,434
***** Storage Maximum							
0.770	0.770	20	1.600	51.81	63.83	76,596	35,299
*****							
0.770	0.770	30	1.139	51.81	45.43	81,782	21,830
0.770	0.770	40	0.859	51.81	34.27	Qpeak < Qallow	

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:22:49 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Summary for Single Storm Frequency ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 3

RETURN FREQUENCY: 25 yr 'C' Adjustment = 1.000 Allowable Q = 46.16 cfs

Hydrograph file: NONE STORED Tc = 10.00 minutes  
 ::

VOLUMES							
Weighted 'C'	Adjusted 'C'	Duration minutes	Intens. in/hr	Areas acres	Qpeak cfs	Inflow (cu.ft.)	Storage (cu.ft.)
0.770	0.770	10	2.390	51.81	95.35	57,208	29,512
0.770	0.770	15	1.980	51.81	78.99	71,091	30,935
***** Storage Maximum							
0.770	0.770	20	1.850	51.81	73.80	88,564	35,129
*****							
0.770	0.770	30	1.450	51.81	57.85	104,123	25,381
0.770	0.770	40	1.200	51.81	47.87	114,894	10,758
0.770	0.770	50	1.100	51.81	43.88	Qpeak < Qallow	

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:22:49 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Summary for Single Storm Frequency ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 3

RETURN FREQUENCY: 100 yr 'C' Adjustment = 1.000 Allowable Q = 68.78 cfs

Hydrograph file: NONE STORED Tc = 10.00 minutes  
 :::

VOLUMES							
Weighted 'C'	Adjusted 'C'	Duration minutes	Intens. in/hr	Areas acres	Qpeak cfs	Inflow (cu.ft.)	Storage (cu.ft.)
0.770	0.770	10	3.570	51.81	142.42	85,452	44,184
***** Storage Maximum							
0.770	0.770	13	3.198	51.81	127.58	99,512	47,023
*****							
0.770	0.770	15	2.950	51.81	117.69	105,918	46,110
0.770	0.770	20	2.500	51.81	99.73	119,681	41,410
0.770	0.770	30	1.733	51.81	69.15	124,468	11,223
0.770	0.770	40	1.262	51.81	50.34	Qpeak < Qallow	

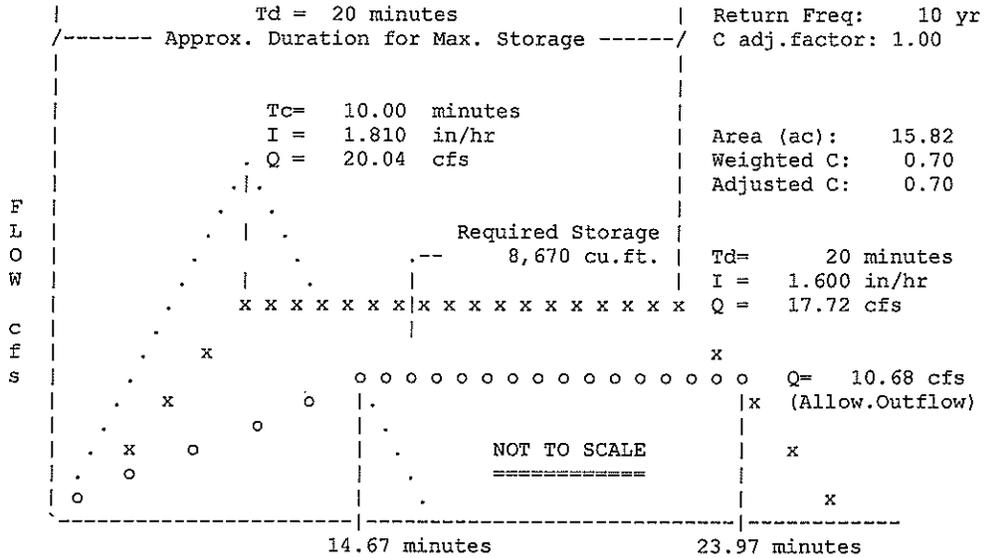
Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:24:00 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 4

\*\*\*\*\*  
 \* RETURN FREQUENCY: 10 yr | Allowable Outflow: 10.68 cfs \*  
 \* 'C' Adjustment: 1.000 | Required Storage: 8,670 cu.ft. \*  
 \*-----\*  
 \* Peak Inflow: 17.72 cfs Inflow .HYD stored: NONE STORED \*  
 \*\*\*\*\*



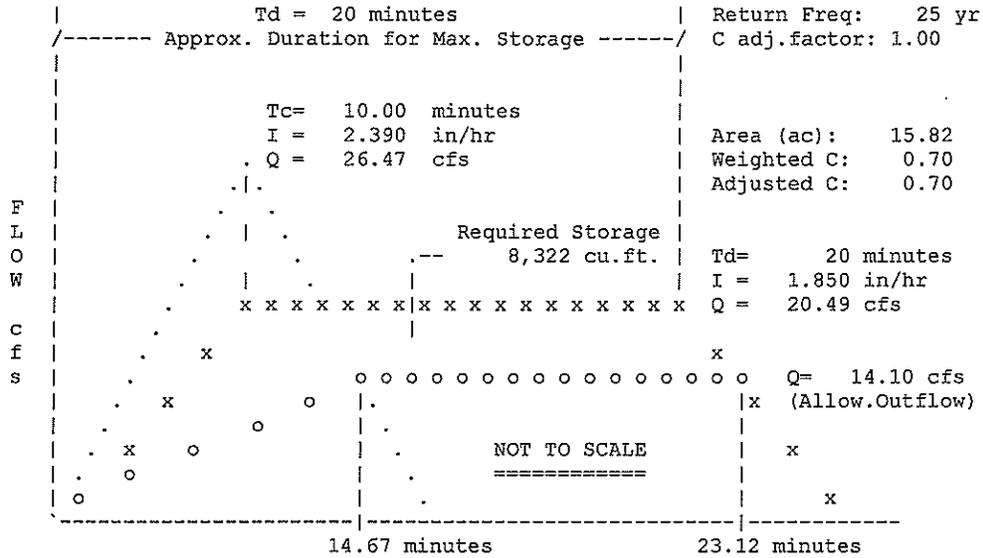
Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:24:00 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 4

```
*****
* RETURN FREQUENCY: 25 yr | Allowable Outflow: 14.10 cfs *
* 'C' Adjustment: 1.000 | Required Storage: 8,322 cu.ft. *
*-----*
* Peak Inflow: 20.49 cfs | Inflow .HYD stored: NONE STORED *
*****
```



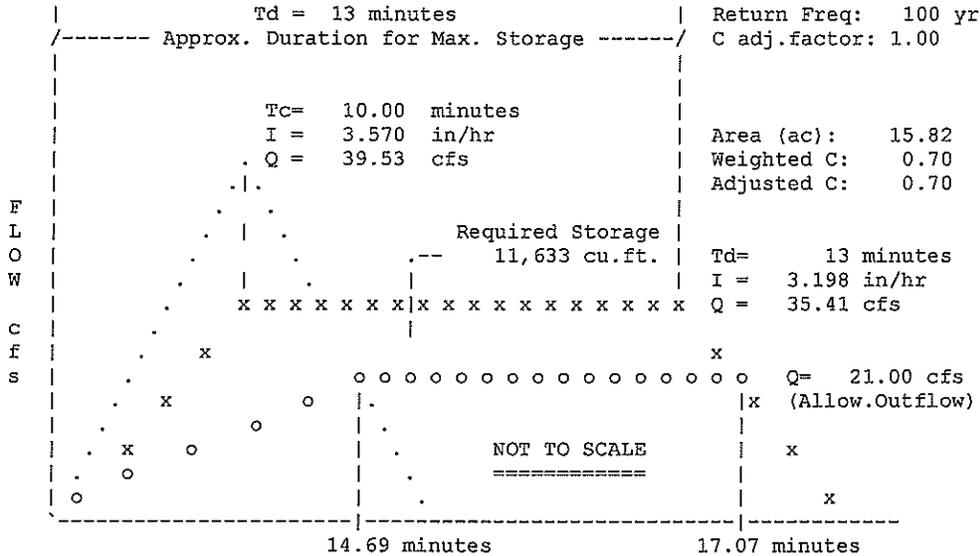
Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:24:00 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Graphical Summary for Maximum Required Storage ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 4

```
*****
* RETURN FREQUENCY: 100 yr | Allowable Outflow: 21.00 cfs *
* 'C' Adjustment: 1.000 | Required Storage: 11,633 cu.ft. *
*-----*
* Peak Inflow: 35.41 cfs | Inflow .HYD stored: NONE STORED *
*****
```



Quick TR-55 Ver.5.46 S/N:  
Executed: 13:24:00 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
DEVELOPED SITE  
OVERALL SUB BASIN 4

\*\*\*\* Modified Rational Hydrograph \*\*\*\*  
Weighted C = 0.700 Area= 15.820 acres Tc = 10.00 minutes  
Adjusted C = 0.700 Td= 20.00 min. I= 1.60 in/hr Qp= 17.72 cfs  
RETURN FREQUENCY: 10 year storm Adj.factor = 1.00  
Output file: NONE STORED

HYDROGRAPH FOR MAXIMUM STORAGE  
For the 10 Year Storm

Time increment = 1.00 Minutes  
Time on left represents time for first Q in each row.

Time Minutes	0.00	1.77	3.54	5.32	7.09	8.86	10.63
0.00	0.00	1.77	3.54	5.32	7.09	8.86	10.63
7.00	12.40	14.17	15.95	17.72	17.72	17.72	17.72
14.00	17.72	17.72	17.72	17.72	17.72	17.72	17.72
21.00	15.95	14.17	12.40	10.63	8.86	7.09	5.32
28.00	3.54	1.77	0.00				

Quick TR-55 Ver.5.46 S/N:  
Executed: 13:24:00 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
DEVELOPED SITE  
OVERALL SUB BASIN 4

\*\*\*\* Modified Rational Hydrograph \*\*\*\*  
Weighted C = 0.700 Area= 15.820 acres Tc = 10.00 minutes  
Adjusted C = 0.700 Td= 20.00 min. I= 1.85 in/hr Qp= 20.49 cfs  
RETURN FREQUENCY: 25 year storm Adj.factor = 1.00  
Output file: NONE STORED

HYDROGRAPH FOR MAXIMUM STORAGE  
For the 25 Year Storm

Time increment = 1.00 Minutes  
Time on left represents time for first Q in each row.

Time	Time increment = 1.00 Minutes						
Minutes	Time on left represents time for first Q in each row.						
0.00	0.00	2.05	4.10	6.15	8.19	10.24	12.29
7.00	14.34	16.39	18.44	20.49	20.49	20.49	20.49
14.00	20.49	20.49	20.49	20.49	20.49	20.49	20.49
21.00	18.44	16.39	14.34	12.29	10.24	8.19	6.15
28.00	4.10	2.05	0.00				

Quick TR-55 Ver.5.46 S/N:  
Executed: 13:24:00 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
DEVELOPED SITE  
OVERALL SUB BASIN 4

\*\*\*\* Modified Rational Hydrograph \*\*\*\*  
Weighted C = 0.700 Area= 15.820 acres Tc = 10.00 minutes  
Adjusted C = 0.700 Td= 13.00 min. I= 3.20 in/hr Qp= 35.41 cfs  
RETURN FREQUENCY: 100 year storm Adj.factor = 1.00  
Output file: NONE STORED

HYDROGRAPH FOR MAXIMUM STORAGE  
For the 100 Year Storm

Time increment = 1.00 Minutes  
Time on left represents time for first Q in each row.

Time Minutes	0.00	3.54	7.08	10.62	14.17	17.71	21.25
0.00	0.00	3.54	7.08	10.62	14.17	17.71	21.25
7.00	24.79	28.33	31.87	35.41	35.41	35.41	35.41
14.00	31.87	28.33	24.79	21.25	17.71	14.17	10.62
21.00	7.08	3.54	0.00				

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:24:00 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 4

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 10 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELPED	0.700	15.82						
			10.00	0.700	0.700	1.810	15.82	20.04

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:24:00 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 4

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

$$Q = \text{adj} * C * I * A$$

Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 25 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELOPED	0.700	15.82						
			10.00	0.700	0.700	2.390	15.82	26.47

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:24:00 02-16-2015

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 4

\* \* \* \* \* SUMMARY OF RATIONAL METHOD PEAK DISCHARGES \* \* \* \* \*

Q = adj \* C \* I \* A  
 Where: Q=cfs, C=Weighted Runoff Coefficient, I=in/hour, A=acres  
 adj = 'C' adjustment factor for each return frequency

RETURN FREQUENCY = 100 years  
 'C' adjustment, k = 1  
 Adj. 'C' = Wtd.'C' x 1

Subarea Descr.	Runoff 'C'	Area acres	Tc (min)	Wtd. 'C'	Adj. 'C'	I in/hr	Total acres	Peak Q (cfs)
DEVELPED	0.700	15.82						
			10.00	0.700	0.700	3.570	15.82	39.53



Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:24:00 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Summary for Single Storm Frequency ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 4

RETURN FREQUENCY: 10 yr 'C' Adjustment = 1.000 Allowable Q = 10.68 cfs

Hydrograph file: NONE STORED Tc = 10.00 minutes  
 ::

VOLUMES							
Weighted 'C'	Adjusted 'C'	Duration minutes	Intens. in/hr	Areas acres	Qpeak cfs	Inflow (cu.ft.)	Storage (cu.ft.)
0.700	0.700	10	1.810	15.82	20.04	12,026	5,618
0.700	0.700	15	1.500	15.82	16.61	14,950	5,691
***** Storage Maximum							
0.700	0.700	20	1.600	15.82	17.72	21,262	8,670
*****							
0.700	0.700	30	1.139	15.82	12.61	22,702	4,484
0.700	0.700	40	0.859	15.82	9.51	Qpeak < Qallow	

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:24:00 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Summary for Single Storm Frequency ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 4

RETURN FREQUENCY: 25 yr 'C' Adjustment = 1.000 Allowable Q = 14.10 cfs

Hydrograph file: NONE STORED Tc = 10.00 minutes  
 ::

VOLUMES							
Weighted 'C'	Adjusted 'C'	Duration minutes	Intens. in/hr	Areas acres	Qpeak cfs	Inflow (cu.ft.)	Storage (cu.ft.)
0.700	0.700	10	2.390	15.82	26.47	15,880	7,420
0.700	0.700	15	1.980	15.82	21.93	19,734	7,511
***** Storage Maximum							
0.700	0.700	20	1.850	15.82	20.49	24,584	8,322
*****							
0.700	0.700	30	1.450	15.82	16.06	28,903	4,984
0.700	0.700	40	1.200	15.82	13.29	Qpeak < Qallow	

Quick TR-55 Ver.5.46 S/N:  
 Executed: 13:24:00 02-16-2015

MODIFIED RATIONAL METHOD  
 ---- Summary for Single Storm Frequency ----

First peak outflow point assumed to occur at Tc hydrograph recession leg.

MUSTANG INDUSTRIAL DEVELOPMENT  
 DEVELOPED SITE  
 OVERALL SUB BASIN 4

RETURN FREQUENCY: 100 yr 'C' Adjustment = 1.000 Allowable Q = 21.00 cfs

Hydrograph file: NONE STORED Tc = 10.00 minutes

.....

VOLUMES  
 Weighted Adjusted Duration Intens. Areas Qpeak | Inflow Storage  
 'C' 'C' minutes in/hr acres cfs | (cu.ft.) (cu.ft.)

-----  
 0.700 0.700 10 3.570 15.82 39.53 | 23,721 11,121

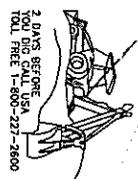
\*\*\*\*\* Storage Maximum  
 0.700 0.700 13 3.198 15.82 35.41 | 27,623 11,633  
 \*\*\*\*\*

0.700 0.700 15 2.950 15.82 32.67 | 29,401 11,205  
 0.700 0.700 20 2.500 15.82 27.68 | 33,222 9,454  
 0.700 0.700 30 1.733 15.82 19.19 | Qpeak < Qallow



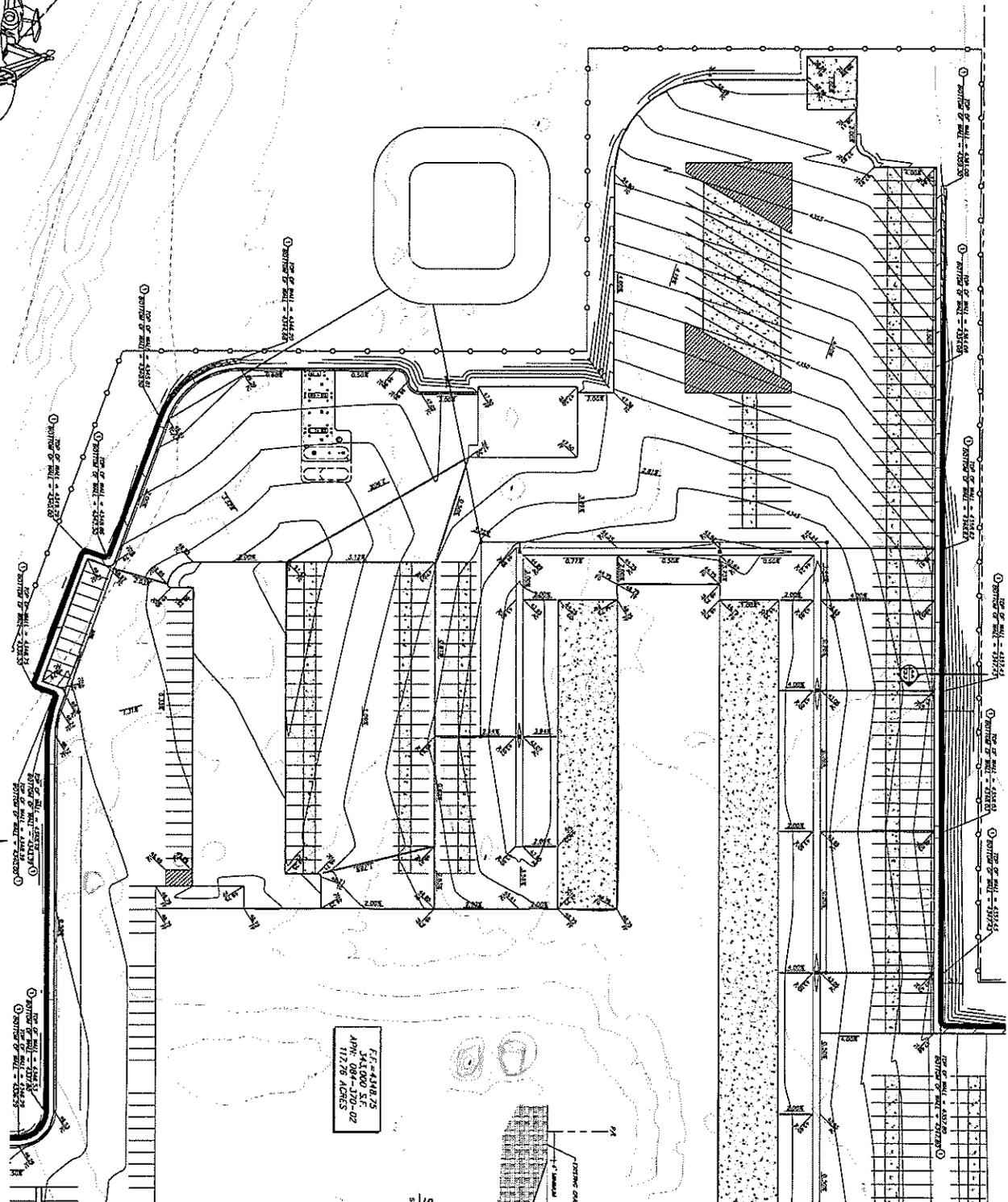
Revised  
Grading Plans  
3/11/2015



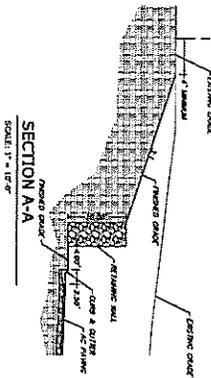


3 DAYS BEFORE  
TODDING SCALE USA  
TOLL FREE 1-800-227-2800

**GRADING PLAN**  
SCALE 1"=40'-0"



151-424875  
APR 084-120-02  
117.76 ACRES

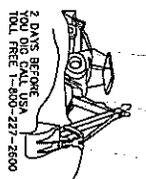


**SECTION A-A**  
SCALE 1"=10'-0"

- NOTES:**
1. EXISTING CHALK TO REMAIN UNLESS OTHERWISE NOTED.
  2. EXISTING CHALK TO BE REMOVED AND REPLACED WITH PROPOSED CHALK.
  3. EXISTING CHALK TO BE REMOVED AND REPLACED WITH PROPOSED CHALK.
  4. EXISTING CHALK TO BE REMOVED AND REPLACED WITH PROPOSED CHALK.
  5. EXISTING CHALK TO BE REMOVED AND REPLACED WITH PROPOSED CHALK.
  6. EXISTING CHALK TO BE REMOVED AND REPLACED WITH PROPOSED CHALK.
  7. EXISTING CHALK TO BE REMOVED AND REPLACED WITH PROPOSED CHALK.

<b>SHEET:</b> C3.1	<b>SHEET TITLE:</b> GRADING PLAN	<b>SUBMITTAL RECORD:</b>	<b>PROJECT/CLIENT:</b> Mustang Industrial Development McCarron, NV	<b>DESIGNER:</b>	<b>DATE:</b> 02/28/13	<b>STAMP:</b>	<b>COPYRIGHT:</b>
			<b>Scannell Properties</b> 821 Meander Court, Suite 200, Medina, Minnesota 55340			TECTONICS DESIGN GROUP 15451 Double A Boulevard Saco, NY 69521 www.td-g.com Tel: 775-824-9598 Fax: 775-824-9946	

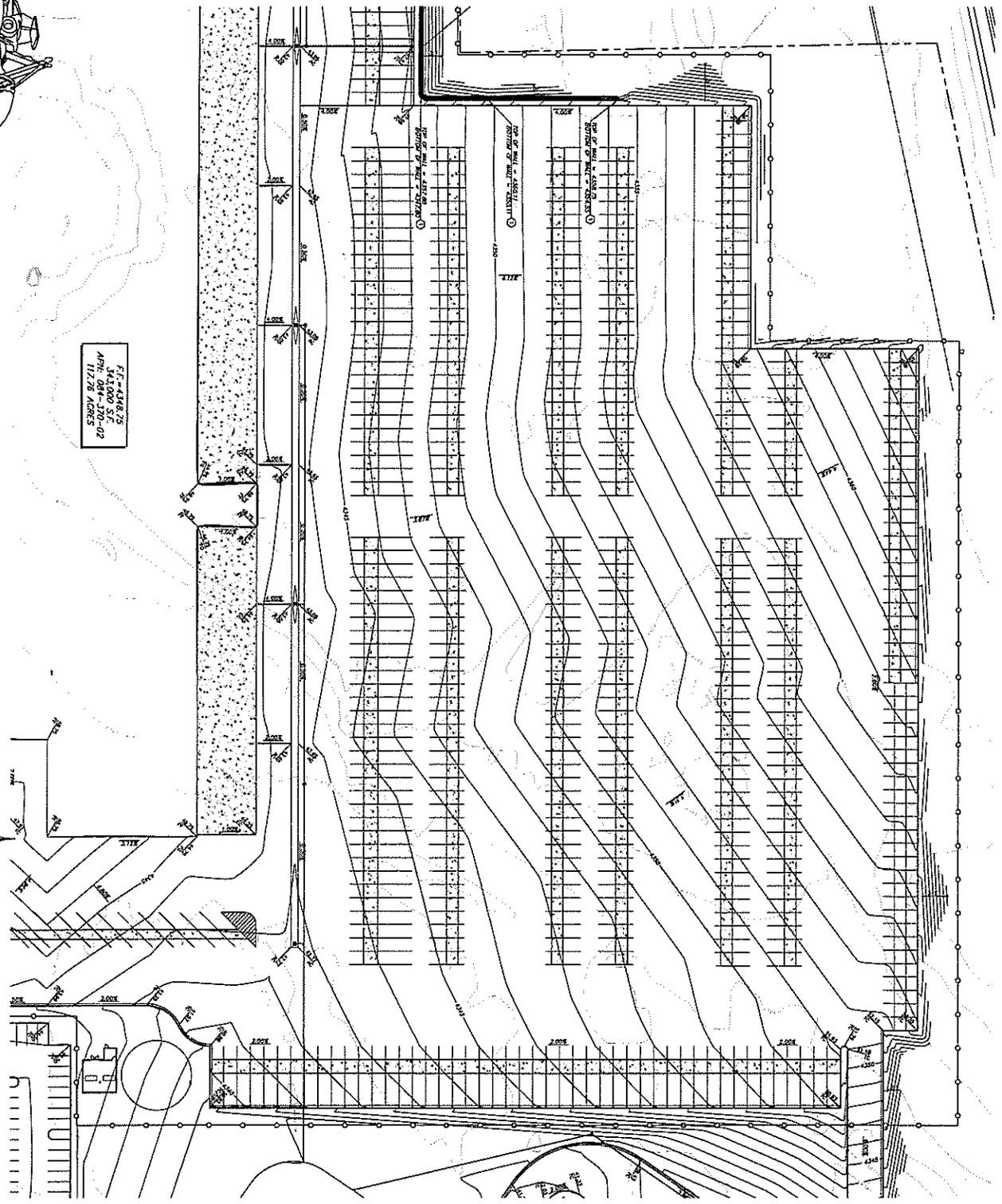
**SB 15-001**  
**EXHIBIT D**



2 DAYS BEFORE  
CONSTRUCTION  
TOLL FREE 1-800-227-2800

F.T. - 4348.75  
34,000 S.F.  
APN: 084-170-02  
117.78 ACRES

GRADING PLAN  
SCALE: 1" = 40'



- CONSTRUCTION NOTES:**
1. EXISTING/PROPOSED ELEVATIONS SHALL BE SHOWN AS SHOWN ON THIS PLAN.
  2. EXISTING/PROPOSED ELEVATIONS SHALL BE SHOWN AS SHOWN ON THIS PLAN.
  3. EXISTING/PROPOSED ELEVATIONS SHALL BE SHOWN AS SHOWN ON THIS PLAN.
  4. EXISTING/PROPOSED ELEVATIONS SHALL BE SHOWN AS SHOWN ON THIS PLAN.
  5. EXISTING/PROPOSED ELEVATIONS SHALL BE SHOWN AS SHOWN ON THIS PLAN.
  6. EXISTING/PROPOSED ELEVATIONS SHALL BE SHOWN AS SHOWN ON THIS PLAN.
  7. EXISTING/PROPOSED ELEVATIONS SHALL BE SHOWN AS SHOWN ON THIS PLAN.
  8. EXISTING/PROPOSED ELEVATIONS SHALL BE SHOWN AS SHOWN ON THIS PLAN.
  9. EXISTING/PROPOSED ELEVATIONS SHALL BE SHOWN AS SHOWN ON THIS PLAN.
  10. EXISTING/PROPOSED ELEVATIONS SHALL BE SHOWN AS SHOWN ON THIS PLAN.

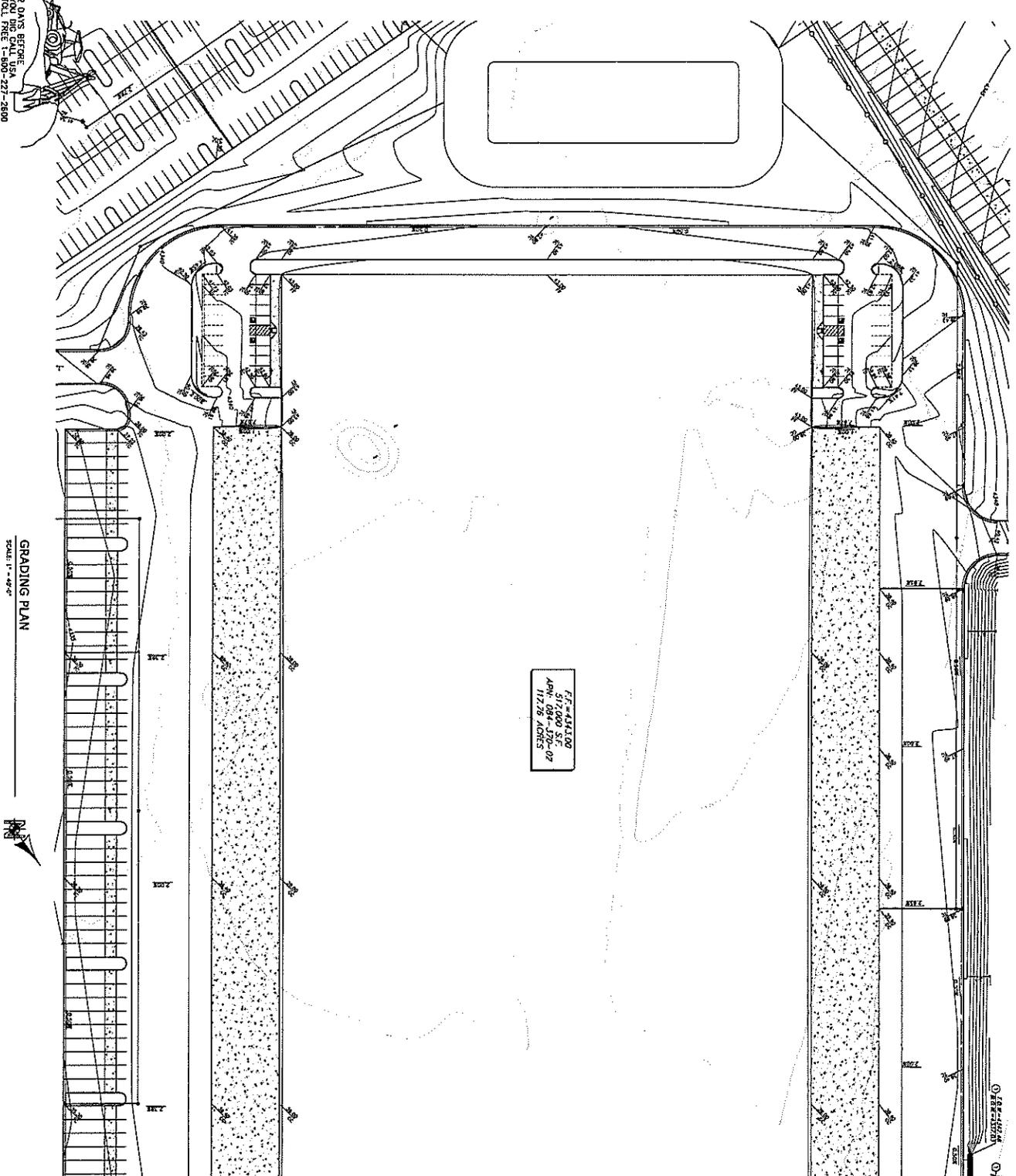
<p>SHEET: C3.2</p>	<p>SUBMITTAL ACCORD: GRADING PLAN</p>	<p>PROJECT/CLIENT: Mustang Industrial Development McCarren, NV Scannell Properties 821 Meander Court, Suite 200, Medina, Minnesota 55340</p>	<p>DESIGNER: TECTONICS DESIGN GROUP 10451 Double A Boulevard Reno, NV 89521 www.tdg-nc.com</p>	<p>STAFF: [Blank]</p> <p>DATE: 03/20/13</p> <p>SCALE: 1" = 40'</p> <p>PROJECT NO: 14217</p> <p>DATE: 03/20/13</p> <p>SCALE: 1" = 40'</p> <p>PROJECT NO: 14217</p>
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SB 75-001  
EXHIBIT D





2 DAYS BEFORE  
TOLLING BEGINS  
TOLL FREE 1-800-227-2800



F.F. = 433.00  
517,000 S.F.  
APN: 084-076-07  
117.78 ACRES

GRADING PLAN  
SCALE: 1" = 40'

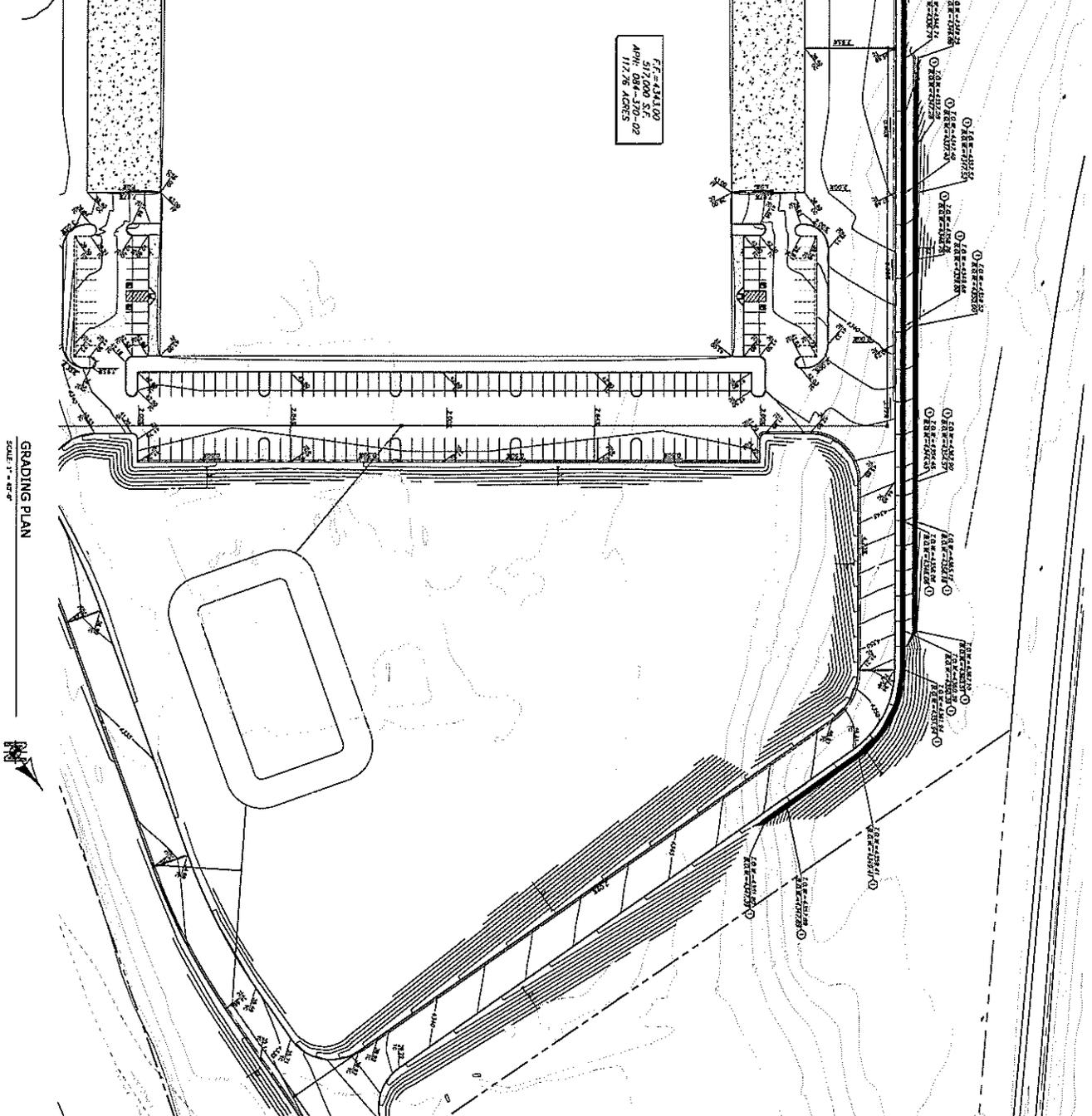


- NOTES:**
1. RETAINING WALLS SHALL BE CONSTRUCTED PER THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION, AS SHOWN ON THE PLAN.
  2. ALL DIMENSIONS SHALL BE IN FEET AND INCHES UNLESS OTHERWISE NOTED.
  3. FINISH GRADE SHALL BE AS SHOWN ON THE PLAN UNLESS OTHERWISE NOTED.
  4. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
  5. ALL DIMENSIONS SHALL BE TO THE CENTER UNLESS OTHERWISE NOTED.
  6. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
  7. ALL DIMENSIONS SHALL BE TO THE CENTER UNLESS OTHERWISE NOTED.
  8. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
  9. ALL DIMENSIONS SHALL BE TO THE CENTER UNLESS OTHERWISE NOTED.
  10. ALL DIMENSIONS SHALL BE TO THE FACE UNLESS OTHERWISE NOTED.
- CONSTRUCTION NOTES:**
1. CONSTRUCT FROM EXISTING WALL SECTION OF CHANGERS.

<p>SHEET: C3.5</p>	<p>SHEET TITLE: GRADING PLAN</p>	<p>SUBMITTAL RECORD:</p>	<p>PROJECT/CLIENT: Mustang Industrial Development McCarren, NV Scannell Properties 821 Meander Court, Suite 200, Medina, Minnesota 55340</p>	<p>DESIGNER: <b>TECTONICS DESIGN GROUP</b> 20455 Double A Boulevard Reno, NV 89521 www.tdpg.com</p>	<p>STAMP:</p>	<p>DATE: 11/27/17 SCALE: 1" = 40' PROJECT: SB75-001 SHEET: C3.5</p>
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SB75-001  
EXHIBIT D

2 DAYS BEFORE  
TOLL FREE 1-800-227-2800

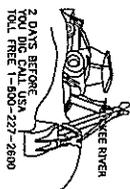


GRAADING PLAN  
SCALE: 1" = 40'-0"

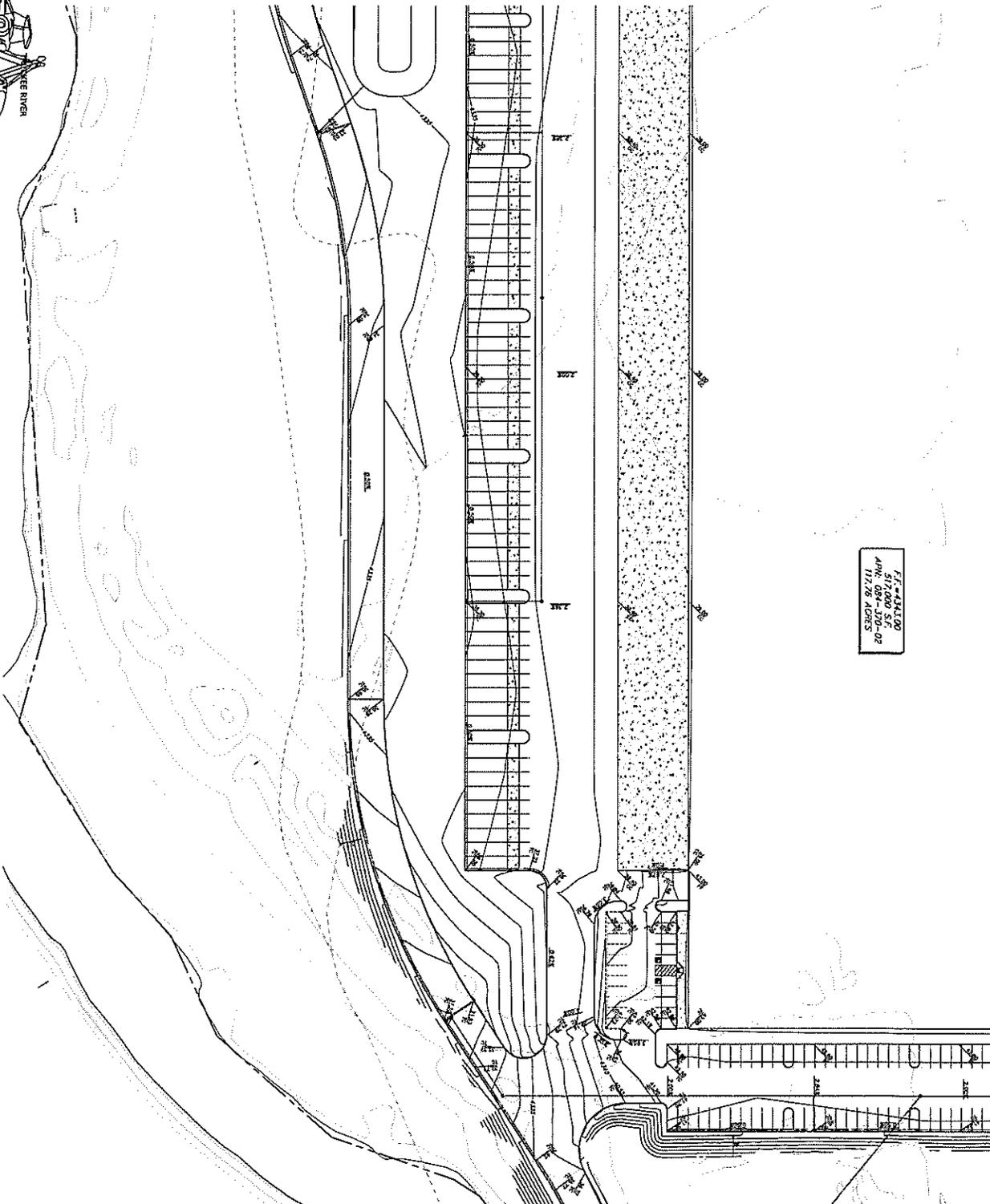


- CONVENTION NOTES:**
1. CONVENTION NOTES SHALL APPLY TO ALL SHEETS.
  2. REFER TO SHEET C3.1 FOR GENERAL NOTES.
  3. REFER TO SHEET C3.2 FOR GENERAL NOTES.
  4. REFER TO SHEET C3.3 FOR GENERAL NOTES.
  5. REFER TO SHEET C3.4 FOR GENERAL NOTES.
  6. REFER TO SHEET C3.5 FOR GENERAL NOTES.
  7. REFER TO SHEET C3.6 FOR GENERAL NOTES.
  8. REFER TO SHEET C3.7 FOR GENERAL NOTES.
  9. REFER TO SHEET C3.8 FOR GENERAL NOTES.
  10. REFER TO SHEET C3.9 FOR GENERAL NOTES.
  11. REFER TO SHEET C3.10 FOR GENERAL NOTES.
  12. REFER TO SHEET C3.11 FOR GENERAL NOTES.
  13. REFER TO SHEET C3.12 FOR GENERAL NOTES.
  14. REFER TO SHEET C3.13 FOR GENERAL NOTES.
  15. REFER TO SHEET C3.14 FOR GENERAL NOTES.
  16. REFER TO SHEET C3.15 FOR GENERAL NOTES.
  17. REFER TO SHEET C3.16 FOR GENERAL NOTES.
  18. REFER TO SHEET C3.17 FOR GENERAL NOTES.
  19. REFER TO SHEET C3.18 FOR GENERAL NOTES.
  20. REFER TO SHEET C3.19 FOR GENERAL NOTES.
  21. REFER TO SHEET C3.20 FOR GENERAL NOTES.
  22. REFER TO SHEET C3.21 FOR GENERAL NOTES.
  23. REFER TO SHEET C3.22 FOR GENERAL NOTES.
  24. REFER TO SHEET C3.23 FOR GENERAL NOTES.
  25. REFER TO SHEET C3.24 FOR GENERAL NOTES.
  26. REFER TO SHEET C3.25 FOR GENERAL NOTES.
  27. REFER TO SHEET C3.26 FOR GENERAL NOTES.
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  31. REFER TO SHEET C3.30 FOR GENERAL NOTES.
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  73. REFER TO SHEET C3.72 FOR GENERAL NOTES.
  74. REFER TO SHEET C3.73 FOR GENERAL NOTES.
  75. REFER TO SHEET C3.74 FOR GENERAL NOTES.
  76. REFER TO SHEET C3.75 FOR GENERAL NOTES.
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  82. REFER TO SHEET C3.81 FOR GENERAL NOTES.
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  86. REFER TO SHEET C3.85 FOR GENERAL NOTES.
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  90. REFER TO SHEET C3.89 FOR GENERAL NOTES.
  91. REFER TO SHEET C3.90 FOR GENERAL NOTES.
  92. REFER TO SHEET C3.91 FOR GENERAL NOTES.
  93. REFER TO SHEET C3.92 FOR GENERAL NOTES.
  94. REFER TO SHEET C3.93 FOR GENERAL NOTES.
  95. REFER TO SHEET C3.94 FOR GENERAL NOTES.
  96. REFER TO SHEET C3.95 FOR GENERAL NOTES.
  97. REFER TO SHEET C3.96 FOR GENERAL NOTES.
  98. REFER TO SHEET C3.97 FOR GENERAL NOTES.
  99. REFER TO SHEET C3.98 FOR GENERAL NOTES.
  100. REFER TO SHEET C3.99 FOR GENERAL NOTES.
  101. REFER TO SHEET C3.100 FOR GENERAL NOTES.

<p>SHEET: C3.6</p>	<p>SHEET TITLE: GRAADING PLAN</p>	<p>SUBMITTAL RECORD: 09/20/03</p>	<p>PROJECT/CLIENT: Mustang Industrial Development McCarran, NV</p>	<p>DESIGNER: Scannell Properties 821 Meander Court, Suite 200, Medina, Minnesota 55340</p>	<p>STAMP: TECTONICS DESIGN GROUP 10453 Dealee R. Boulevard Reno, NV 89521 www.tdpg.com</p>	<p>DATE: 09/20/03</p>	<p>EXHIBIT D</p>
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GRADING PLAN  
SCALE: 1" = 40'-0"



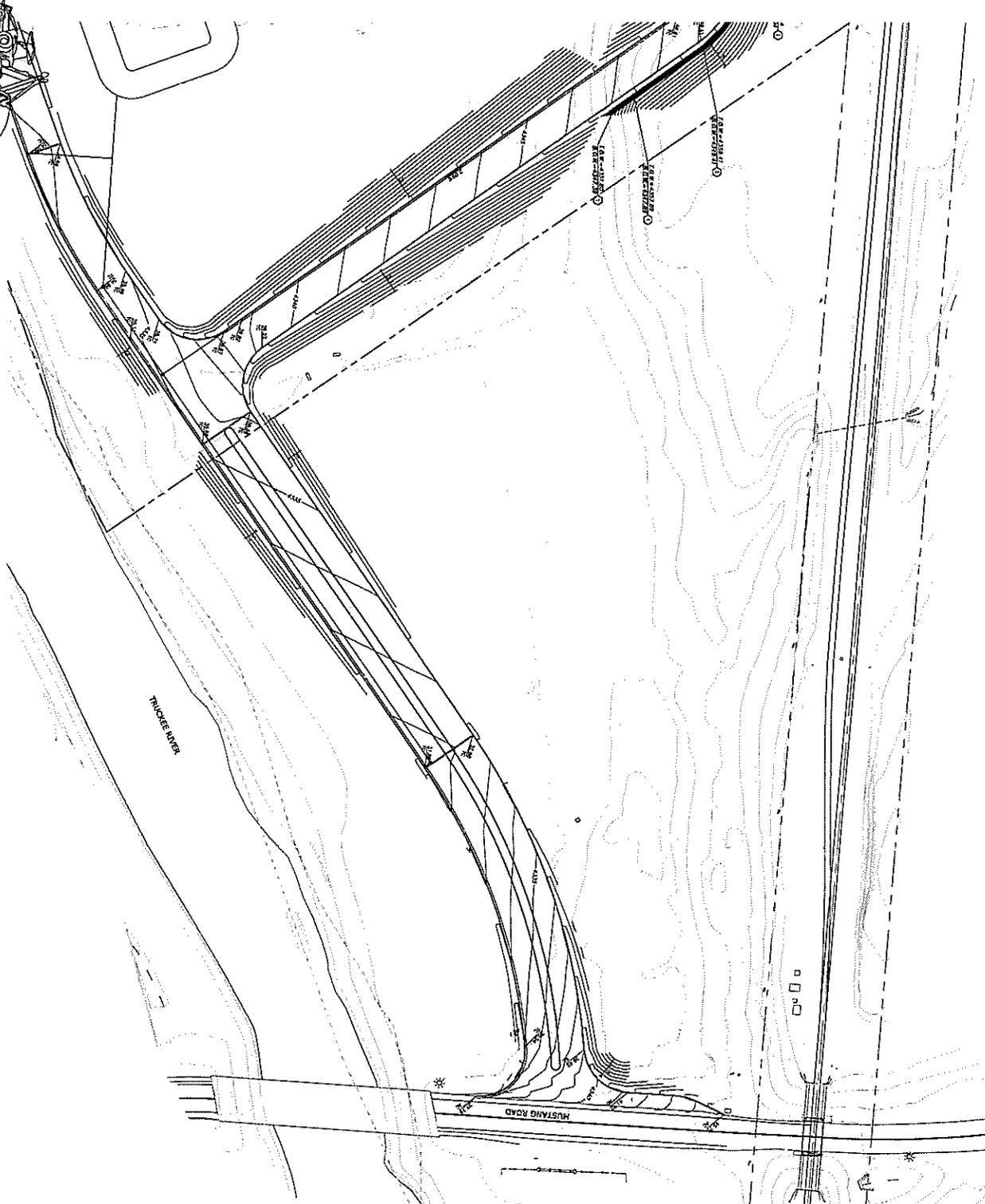
F.I. = 144,100  
S.F. = 57,000  
APRIL 2018  
117.78 ACRES

- CONSTRUCTION NOTES:**
1. RETAINMENT WALLS SHALL BE CONSTRUCTED PER THE CONTRACT DOCUMENTS.
  2. ALL EXISTING UTILITIES SHALL BE MAINTAINED AND PROTECTED.
  3. ALL NEW UTILITIES SHALL BE INSTALLED PER THE CONTRACT DOCUMENTS.
  4. ALL EXISTING UTILITIES SHALL BE MAINTAINED AND PROTECTED.
  5. ALL NEW UTILITIES SHALL BE INSTALLED PER THE CONTRACT DOCUMENTS.
  6. ALL EXISTING UTILITIES SHALL BE MAINTAINED AND PROTECTED.
- CONSTRUCTION NOTES:**
1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
  2. ALL EXISTING UTILITIES SHALL BE MAINTAINED AND PROTECTED.
  3. ALL NEW UTILITIES SHALL BE INSTALLED PER THE CONTRACT DOCUMENTS.
  4. ALL EXISTING UTILITIES SHALL BE MAINTAINED AND PROTECTED.
  5. ALL NEW UTILITIES SHALL BE INSTALLED PER THE CONTRACT DOCUMENTS.
  6. ALL EXISTING UTILITIES SHALL BE MAINTAINED AND PROTECTED.

<p>SHEET: C3.7</p> <p>SHEET TITLE: GRADING PLAN</p>	<p>SUBMITTAL RECORD:</p> <p>DATE: 04/11/17</p> <p>DESIGNER: TECTONICS DESIGN GROUP</p> <p>PROJECT/CLIENT: Mustang Industrial Development, McCarran, NV</p> <p>SCANNELL PROPERTIES, 821 Meander Court, Suite 200, Medina, Minnesota 55340</p>	<p>DESIGNER: TECTONICS DESIGN GROUP</p> <p>10431 Double A Boulevard, Reno, NV 89521   www.tdg-inc.com</p> <p>TEL 775-826-9388   FAX 775-826-9384</p>	<p>STAFF:</p> <p>PROJECT NO. 14317</p> <p>DATE: 04/11/17</p> <p>SB 75-001 EXHIBIT D</p>
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2-DAYS RETURN  
TOLL FREE 1-800-227-7600

GRADING PLAN  
SCALE: 1" = 40'-0"



- CONVENTIONAL NOTES:**
1. CONVENTIONAL NOTES SHALL APPLY TO OTHERS.
  2. ALL DIMENSIONS SHALL BE IN FEET AND INCHES UNLESS OTHERWISE NOTED.
  3. ALL DIMENSIONS SHALL BE TO THE CENTERLINE OF THE ROAD UNLESS OTHERWISE NOTED.
  4. ALL DIMENSIONS SHALL BE TO THE CENTERLINE OF THE ROAD UNLESS OTHERWISE NOTED.
  5. ALL DIMENSIONS SHALL BE TO THE CENTERLINE OF THE ROAD UNLESS OTHERWISE NOTED.
  6. ALL DIMENSIONS SHALL BE TO THE CENTERLINE OF THE ROAD UNLESS OTHERWISE NOTED.
  7. ALL DIMENSIONS SHALL BE TO THE CENTERLINE OF THE ROAD UNLESS OTHERWISE NOTED.
  8. ALL DIMENSIONS SHALL BE TO THE CENTERLINE OF THE ROAD UNLESS OTHERWISE NOTED.
  9. ALL DIMENSIONS SHALL BE TO THE CENTERLINE OF THE ROAD UNLESS OTHERWISE NOTED.
  10. ALL DIMENSIONS SHALL BE TO THE CENTERLINE OF THE ROAD UNLESS OTHERWISE NOTED.

<p>SHEET: C3.8</p>	<p>SHEET TITLE: GRADING PLAN</p>	<p>SUBMITTAL RECORD:</p>	<p>PROJECT/CLIENT: Mustang Industrial Development McCarren, NV Scannell Properties 821 Meander Court, Suite 200, Medina, Minnesota 55340</p>	<p>DESIGNER: <b>TECTONICS DESIGN GROUP</b> 10451 Double R Boulevard Reno, NV 89521 www.tdg-inc.com</p>	<p>STAFF:</p>	<p>COPYRIGHT: SB 05-001 EXHIBIT D</p>
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